

A History of the Hemp Industry in Kentucky

JAMES F. HOPKINS

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of the
Hemp Industry
in
Kentucky

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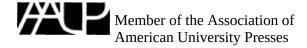
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Manufactured in the United States of America.



To the memory of my father and mother

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PARADOXICALLY, there has lingered over the history of hemp growing in Kentucky an aura of romance and at the same time a cloud of evil. Except for the history of tobacco, no other Kentucky field crop has undergone so many frustrating turns of fortune, or come under such intensive scrutiny. In recent years, and in an era when Kentucky farmers are seeking so diligently for an alternative cash crop to tobacco, some attention has been focused on a renewal of hemp production. Proponents in Kentucky, Missouri, Colorado, and possibly other states have sought legislative sanctions to grow hemp. Some have suggested the crop would eliminate weeds, enrich soils, and lead to the possible discovery of new and as yet unidentified products. The new proposals to legalize the growing of hemp in Kentucky assume some complex social, legal, and economic considerations if not outright barriers.

Up to the close of the 1930s, no Kentucky state or local historian had undertaken the necessary research or the writing of an objective history of hemp growing in Kentucky. Earlier historians gave only slight attention to the subject, if they mentioned it at all. For instance, Richard H. Collins gave more space in his two-volume history to the killing of a huge rattlesnake in Bullitt County than to hemp. Tangentially, James Lane Allen cast a gossamer of romance over the subject in his novel *Reign of Law*. Contemporary newspapers published only brief notices and advertisements on the subject.

A candidate for a master's degree in history at the University of Kentucky in 1936, James F. Hopkins set out to close this important gap in the history of Kentucky agriculture. At that date, the subject had relevance because the cultivation, processing, and marketing of hempen fiber was in a closing phase of its history. Too, the production of hemp historically bore a close relationship to the economic, social, and political history of the Commonwealth.

The growing of hemp had a tradition reaching back to the opening of the Kentucky frontier itself. Hemp seeds were among the baggage brought westward by pioneer settlers. The opening decade of the nineteenth century was an opportune era for the Kentucky hemp producers. This was also the time when the production of cotton was being expanded rapidly in the Old Southwest, and this opened a potentially rich market for hemp farmers in the production of cotton bale rope and bagging instead of cotton materials.

Later as a doctoral candidate at Duke University Hopkins expanded his study of the hemp industry, and the result was the basic text from which this book grew. No other Kentucky field crop, with the exception of tobacco, became involved in so many issues. As Hopkins noted in his introduction to this book, the crop was a mainstay of slavery in Kentucky, and conversely slavery was a mainstay of hemp growing and processing. No other Kentucky agricultural crop was so dependent upon such specialized markets as hemp. Added to this was the fact that its economic feasibility was so dependent on finding a stable market, a favoring political climate, and relative freedom from competing fibers.

The production of hemp, and the processing of its fiber, was always a labor-intensive operation. Every phase of its production, planting, cutting, breaking, and fabrication, required the use of intensive physical labor. The cutting, shocking, rotting, and breaking of the crop were arduous tasks, as was the conversion of the fiber into cotton bagging, coarse fabrics, and bale rope. Throughout the nineteenth century there were only limited mechanical devices for the processing of hemp. When Hopkins began his research, there remained only a limited number of hemp farmers in the Central Bluegrass counties. He did have an opportunity to see the processes of field production. Hemp growing in 1935 was no less laborious than it had been in 1835.

Then, in the late 1930s there appeared a slight suspicion that the hemp plant had a narcotic or mind-altering chemical property. Soon after World War II the Federal Bureau of Investigation appealed to the Department of History at the University of Kentucky to supply possible information about the smoking of hemp blooms and leaves in earlier years. There seemed to have been some on the parts of slaves, and later field laborers. A case of a slave smoking hemp in the neighborhood of Owensboro could be documented, but there was a vagueness about other instances.

No library or archival depository in Kentucky in 1940 contained more than a scattering of primary documentary materials relating to the growing of hemp in the state. No one had investigated the rich lodes of information contained in estate settlement inventories deposited in county clerk offices. The legislative journals and Acts of the Kentucky General Assembly contain only scattered bits of information, as Adelaide Hasse indicated in the Kentucky section of her *Index of Economic Materials in the States of the United States*.

Often it is difficult to differentiate hemp from flax production in some of the statistical tables, since they were frequently listed together. Both fibers had local domestic significance, as indicated by the number of flax spinning wheels and looms noted in estate inventories, and the mention of linsey-woolsey fabric. There appeared in these inventories listings of reap hooks, breaks, stocks of hemp, and fiber seeds.

The weaving of hempen fibers into cordage and baggage in Kentucky was done largely with primitive equipment and an abundance of hand labor. In the descriptive and statistical tables relating to many Kentucky towns during the first half of the nineteenth century there appeared mention of a phenomenal number of rope walks. Strangely there seem to exist no drawings, photographs, or precise descriptions of a rope walk. There did appear in 1841 two illustrations in the *Western Farmer and Gardener* of a somewhat sophisticated breaking machine and of a modified rope fabricating device.

A rope walk was a highly simplified type of fabricating mechanical device and operation. It consisted of a sturdy upright stanchion on which was attached a hand turned twisting hook or loop. Attaching a strand of hempen fiber to the winding device, laborers then walked backward in relays, each one attaching a hand of hemp to the end of the previous one. This primitive operation was literally what the name implied, a long footpath of unspecified rope length. Some walks were inside structures, others were left in the open. The same winding loop that was used to twist individual strands was also used to twist multistrand ropes. On a personal note, I had the opportunity to witness the primitive process of rope-making along a strand of the Malabar Coast in the Persian Sea in India. There the rope twiners were using coir fiber in exactly the same way the old Kentucky rope walkers made hempen rope and cotton bagging.

No doubt the freight manifests of flatboats drifting southward before 1835 carried entries of rope, bagging, and other hempen materials. The ever increasing number of river boats themselves created a ready market for a considerable volume of cordage. The big market, however, was the United States Navy, which required tons of rope in the riggings of its sailing vessels. The naval authorities were arbitrary in their inspection rules and the location of their places of inspection, a fact which virtually shut down Kentucky growers. This was true despite the fact that Kentucky farmers had strong allies in the Congress. They were never able to secure the potentially

profitable contracts for the Navy, a subject of which Hopkins made an analysis of considerable depth.

The naval use of Kentucky cordage proved only a chimera of hope despite the fact that Secretary of the Navy George Bancroft undertook to favor the Kentuckians. In the 1840s he sought to establish an inspection station nearer the growers than the naval station in Charleston, South Carolina, which would free farmers of the ruinous cost of transportation.

By the mid-nineteenth century the growing of hemp in Kentucky had reached its zenith, although the crop was always threatened by the uncertainties pertaining to slavery, shifting uses of bagging and binding materials by cotton farmers, failure to procure naval contracts, and rising competition from foreign jute and coir.

Outbreak of the Civil War was a decisive factor in the reduction of hemp production in Kentucky. This era marked a sharp change in every phase of Kentucky agricultural history, and in the postwar years burley tobacco rapidly became the staple cash crop.

At the date when Hopkins prepared the text of this book for publication he had little more than a glimmer of the impending widespread use of marijuana and the legal and public concerns which it would arouse. He could not in 1951 have anticipated the crisis surrounding tobacco production, or some of the revolutionary changes which would occur in Kentucky agriculture. Even in 1998 there still remain baffling uncertainties as to the future of Kentucky's farm economy. The search for an alternative field crop to cash intensive tobacco has involved the investigation of many crops. It is only natural that farmers and scientists should be searching back in history for such a crop.

The modern hemp associations have turned to the past for answers to the current agricultural dilemma. Many of the promoters of the idea of once again growing hemp on Central Kentucky lands have family histories of having done so in earlier years. Unlike their forebears, however, these people face the challenges of penetrating public resistance and negative legalistic barriers. The gaining of state legislative and congressional approval for the growing of hemp may well prove a daunting task.

The reintroduction of hemp as a field crop no doubt would necessitate the licensing of farmers, the policing of fields, the development of new uses for the fiber, and considerable research and experimentation in the field of plant genetics. In the closing paragraphs of his book, Hopkins discusses the licensing of farmers in that brief interval during World War II to grow hemp to fill the need for fiber caused by the conflict in the Eastern coir- and jute-producing areas. These licenses were issued by the federal government, as described, but they became little more than bragging curiosities, and the end of the war rang down the historic curtain on that second modest phase of hemp growing in Kentucky.

During the latter half of the twentieth century there has arisen broad scale opposition to hemp growing because of the mind-altering effects of marijuana. Too, at mid-century, tobacco was now threatened with extinction because of its ill effects on human health. The historical fact that hemp is a bulky and coarse crop has not been altered by the passage of time. The three major stages of its production, cultivation, harvesting and rotting, and breaking, make heavy demands on human energy. Doubtless the modern age of agricultural mechanization will shift these burdens onto machines, if and when hemp again is produced.

The ancient cordage, bagging, and coarse fabric era in Kentucky history is now no more than a fascinating footnote. There has arisen in the land during the last half century an aggressive, competitive giant in the broad field of plastics. Proponents of the idea of reviving hemp, like the farmers of earlier years, are again faced with the problem of usages. They have advocated research to seek a broader range of uses of hempen fiber than was available in earlier years. Suggested modern uses range from production of paper stock to the extraction of oil and fuel materials. Such envisioned modern uses mark a distinctive departure from those in the historic past. Hopkins, before his death, was aware of the agitation to revive the crop, and perhaps viewed it as a dream difficult of realization.

In 1994, Governor Brereton Jones responded to pressures to legalize the growing of hemp as an alternative field crop by appointing a hemp task force. He instructed its members to consider the feasibility of this historic crop. The task force must have established some kind of time record in its investigation and formulation of a report, for it met only twice and voted twelve-to-four against further consideration. Former state senator Joe Wright was quoted in the press as saying, "Think the bottom line, quite frankly there is no reason to believe for a minute you could produce hemp under the existing laws of the United States." Billy Jo Miles, chair of the task force, was also quoted as saying, "Industrial hemp [is] a worthless

crop." The final report stirred both the emotions and determination of the proponents to revive the crop. They promised to continue efforts to legalize a renewal of hemp production in a fresh context of uses.

Hopkins' careful research and objectively written book may well be considered definitive. He explored this history of a fascinating field crop with dependable thoroughness. No other Kentucky field crop had the particular social, political, and economic ramifications that hemp has had. This book thus has a continuing relevancy in that no future decisions, negative or positive, concerning the revival of hemp growing as an American field crop can approach an intelligent understanding of the historic background of the industry without at least referring to Hopkins's carefully researched and written study.

THOMAS D. CLARK

PREFACE

THE KENTUCKY hemp industry has been discussed by most of the historians of the state and by other writers who deal with the Bluegrass scene, but the treatment which they have given it has usually been brief and seldom more than cursory. Two exceptions stand out. James Lane Allen in his novel, The Reign of Law, a Tale of the Kentucky Hemp Fields (1900), gives a poetic description of hemp culture and an imaginative, inaccurate sketch of the history of hemp in Kentucky. In 1905, Brent Moore followed with a more serious work entitled A Study of the Past, the Present and the Possibilities of the Hemp Industry in Kentucky, a doctoral dissertation in political science at Columbia University. Moore devoted less than half of his 115-page book to the history of hemp; the remainder of the volume contains a discussion of the industry as it existed at the time he wrote and an examination of its possibilities for the future. His brief history is to a large extent based on a newspaper file and some other source materials, but he makes little effort to weigh and interpret the data which he obtained. The book was privately printed and is now something of a rarity.

The objective of the present work is in general to tell as completely as possible the story of the hemp industry in the state where, from the beginning of the nineteenth century to the first World War, the major portion of American hemp grew and was manufactured. Other states participated in the industry to a lesser extent, and in the late 1850's Missouri challenged briefly the leadership of Kentucky in hemp production. In the following pages, attention is centered upon the industry in Kentucky, but an effort is made to relate that industry to the production and manufacture of hemp in other states of the Union. In no other area, however, was the hemp industry as important in the lives of the people over as long a period of time as it was in Kentucky.

This study undertakes to explain the methods of cultivating the crop, of obtaining the fiber from the plants, and of transforming that fiber into a finished product. It traces the rise and decline of the industry, attempts to explain the factors which influenced prices and production, and makes an effort to assign hemp to its proper place in the economic life of Kentucky. A considerable amount of space is devoted to a study of the production and preparation of hemp for marine use, a subject which has not been generally understood. In that connection as elsewhere many of the conclusions reached in this volume do not agree with those of other writers, but an effort has been made to avoid expressing differences of opinion merely for the sake of being different.

The writer wishes to express his thanks for the assistance given him by the staffs of the National Archives, the Lexington Public Library, the Louisville Free Public Library, and the libraries of Duke University, the University of Kentucky, the Kentucky State Historical Society, and the Filson Club. He is indebted to Professor J. Merton England of the University of Kentucky for his indispensable editorial assistance, and to Professor Charles S. Sydnor for the patient advice and constructive criticisms which helped bring this study into existence in its original form as a doctoral dissertation at Duke University.

Special acknowledgement is due the Research Fund Committee of the University of Kentucky, whose generosity has made possible the publication of this book.

To his wife, Bernice Hoey Hopkins, the writer owes an infinite debt of gratitude for her inspiration, cheerful encouragement, and extensive aid in

A History of the Hemp Industry in Kentucky

INTRODUCTION

KENTUCKY, which lies below the sectional dividing line, is usually considered a part of the South. She was for the most part settled by southerners, she was formed from one of the original southern states, and she permitted slavery within her borders during the period when slaveholding, aside from climate, was the chief characteristic which distinguished the South from other sections of the country. It is true that she did not join her sisters when they left the Union in 1860-1861, but many of her sons and daughters sympathized openly with the seceders. Large numbers of Kentuckians joined the Confederate armies, and even now, more than three quarters of a century after the end of the Civil War, martial statues in numerous courthouse squares and the Kentucky Chapters of the United Daughters of the Confederacy still honor the memory of those Bluegrass rebels.

Yet Kentucky is not and never has been completely southern. Even during the time in which the laws of the commonwealth countenanced slavery, James G. Birney, Cassius M. Clay, and others acted as spokesmen for thousands of their fellow Kentuckians who disapproved of human bondage and who worked toward the goal of emancipation for the Negroes. In further contrast to the lower South, comparatively little cotton has been produced within the bounds of the state, Kentucky has never followed a one-crop economy of any kind, and she has on more than one occasion gone on record as advocating the principle of the protective tariff. Moreover, Negroes make up only a small proportion of her total population, and in no section of the state is there such a concentration of them as can be found in many parts of the cotton belt.

Neither typically southern, nor northern, nor midwestern, Kentucky fails to fit the pattern which distinguishes any particular region. She is, rather, a border state with certain characteristics common to each of the great sectional divisions but with differences which establish her individuality. In addition to such basic factors as geography, climate, and the nature of her terrain, her position as a border state has been determined by the economic interests of her people, by agriculture, manufacturing, and the search for markets for her products. Tobacco, livestock, coal, and whisky have long been important to the welfare of the state and to the lives of its people.

An additional commodity, hemp, has virtually no role in the present economy of Kentucky, but its production and manufacture were of considerable consequence for more than a century and had an appreciable influence on the history of the state. Hemp, grown by some of the earliest white settlers in the area, became one of the few commodities which might be depended upon for a cash income. Hemp was important to the farmer who produced the fiber, to the manufacturer who transformed it into cordage and coarse cloth, to the commission merchant who sold the finished product locally or in other areas, and to the politician who had always to bear in mind the interests and desires of his constituents. Since hempen goods were for the most part marketed in the lower South, the interests of the cotton country were of concern to the Kentuckian. Since those same hempen goods met competition from similar goods imported from abroad, the Kentuckian found himself joining the seaboard manufacturer in advocating a tariff high enough to protect the products of American farms and factories.

Without hemp, slavery might not have flourished in Kentucky, since other agricultural products of the state were not conducive to the extensive use of bondsmen. On the hemp farm and in the hemp factories the need for laborers was filled to a large extent by the use of Negro slaves, and it is a significant fact that the heaviest concentration of slavery was in the hemp producing area. Perhaps the nearest approach in Kentucky to the plantation on the southern scale was the large Bluegrass farm upon which hemp was one of the major crops and where virtually all manual labor was performed by slaves. On the other hand, since hemp does not require as much attention as must be given to cotton, the number of Negroes on a Kentucky farm was usually far less than the number necessary on a cotton plantation of comparable size. Consequently, owing to their high birth rate, the slaves

increased faster than they were needed. Sale of the surplus blacks to the lower South brought welcome revenue to Kentucky and led to the unwelcome charge that people in the state were engaged in the breeding of Negroes for market. As a result of the labor practices of ante-bellum days, many Negroes are found today in the old hemp growing region, though their numbers are small in comparison with certain areas farther south, and racial prejudice is less evident than in the cotton country.

The lasting influence of the hemp industry, slight though it may have been in some cases, is evident in other connections. Because the farmer in Central Kentucky produced large numbers of livestock, learned early to plant cover crops in winter, and seeded large fields in hemp which contributed little to soil exhaustion and actually helped prevent erosion, that area retained a high degree of fertility long after less protected lands in other regions had become unproductive and had been abandoned. Again, during the first part of the nineteenth century and until the Civil War many factories both in towns and rural areas processed large quantities of hemp fiber, giving to rural Kentucky an industrial aspect and yielding to their owners returns which in some cases established sound economic foundations for families whose descendants are still prominent. On the other hand, ill-advised speculation in any phase of the hemp industry could, and sometimes did, lead to losses which were never recovered. Even long after the Civil War the hemp industry continued to absorb part of the energies of many Kentuckians and influenced, for good or bad, the development of the state even into the present century.

Though it was long closely identified with Kentucky, hemp (*cannabis sativa*), which is probably of Asiatic origin, is not native to the state or to any part of the Americas. When the early explorers in this hemisphere spoke of the wild flax and hemp which they had seen, they referred to certain fibrous plants from which the Indians made baskets and textiles and which the whites also sometimes used for lack of anything better. Some of the American fibers were thought to offer promise for extensive use and possibly for the development of industries based upon their cultivation and manufacture. At one time the settlers in Virginia envisioned large profits to be made from the "silk grass" growing in their new homeland, and early explorers in the Mississippi Valley described in somewhat glowing terms the fiber-bearing plants, including "enequen," which they found in that region. None of these plants could compare favorably with the flax and

hemp of Europe, however, and none of them contributed appreciably to the economic life of the colonies.¹

The English introduced hemp in their portion of America at the beginning of the colonial period because of its usefulness in making products needed in the home, because the soil and climate were thought to be well suited to the production of the crop, and to a very great extent because the fiber was indispensable to the mother country. From ancient times until steam engines replaced wind and sails in propelling vessels, the seafaring peoples of the world found hemp a necessity. No other fiber, except perhaps flax whose strands are much shorter, could be transformed into strong, flexible sails, ropes, and hawsers which would be as long lasting when subjected to frequent contact with salt water. Even the waste fiber from the manufacturing processes (and old ropes which were picked apart when their strength was gone) became oakum, used in calking the seams of wooden ships.

Hemp became essential to the English at the beginning of the expansion of their navy late in the sixteenth century. They were able to produce in the British Isles some of the fiber, as well as flax, but by far the greater part of their supply came from the Baltic countries. Unfortunately for the English, access to this supply was not always easy, especially when the Dutch or any other enemy could threaten to bar the way to the Baltic region. Consequently, a source of the fiber under English control was highly desirable, and it seemed logical that the new colonies in America should contribute to the welfare of the mother country by producing hemp.

The possibility of growing the crop in America was considered as early as Raleigh's unsuccessful venture in colonization in 1585.² Later, upon the establishment of Jamestown, hemp was listed among the commodities recommended for production in Virginia, and in 1611 the colonists as something of an experiment were instructed to make a special effort to grow flax and hemp. Apparently the results were not encouraging, although John Rolfe reported that the Virginia hemp and flax could compare favorably with that produced in Europe.³

Tobacco rapidly became the main crop of the colony because of the profits derived from its culture, but the emergence of a one-crop system of agriculture was not pleasing to officials of the Virginia Company or to the English government. Under the brief leadership of Sir Edwin Sandys the

Virginia Company tried to discourage the growth of tobacco and to turn the energies of the people to other products. In 1619 a number of new settlers were sent to Virginia with instructions to produce a variety of commodities, including "iron, cordage, hemp, flax, silk-grass, pitch, tar, potash, soap ashes, timber of all sorts, masts, silk, salt, and wine." In the same year the first Virginia assembly attempted through legislation to force the colonists to grow hemp and flax, but all efforts during the existence of the company to break the dependence on one crop were not successful, although small quantities of the fiber-bearing plants were produced for local needs.⁴

The annulment of the Virginia charter did not change the policy of encouragement for hemp production and discouragement for tobacco. An act passed by the assembly in 1633 was intended to compel every planter to grow hemp and flax, although the law probably was not effective because of the scarcity of seed.⁵ Five years later several prominent men in the colony expressed their disapproval of the practice of concentrating on tobacco to the exclusion of other commodities, and shortly afterward Governor William Berkeley, entering his first period as governor of Virginia, brought with him instructions to encourage the production of a number of staples, including hemp and naval stores.⁶

In the New England area hemp also received some attention, especially after shipbuilding became important to that region. It was possible to produce hemp on fertile soils as far north as Maine, although the crop grew better in a more southerly climate.⁷ The legislature of New Plymouth in 1639 enacted a law requiring every householder in the colony to plant a minimum quantity of hemp and flax each year. Shortly afterward Connecticut adopted similar legislation, the requirement concerning hemp resulting in part from a need for fiber to be used in the manufacture of marine cordage.⁸

After the Restoration in England new efforts were made to encourage the production of fiber crops in the colonies and to bring an end to the widespread dependence on tobacco in the South. Charles II urged that tobacco be abandoned in favor of hemp, flax, and silk, and in 1662 certain dissatisfied residents of Virginia requested that the growth of tobacco in both Virginia and Maryland be forbidden in order to encourage the planting of other crops.⁹ Governor Berkeley, back at the head of the Virginia government, had specific orders to promote staples other than tobacco. He

grew hemp and flax upon his own estate, and in 1663 reported that he had succeeded beyond his expectations in inducing others to follow his example. That he had not yet actually secured co-operation for a widespread program may be inferred from his statement that in the colony "mighty numbers will shortly be employed in perfecting those excellent Commodities." ¹⁰ Unfortunately for the success of his program, later in the year he admitted that he had lost a thousand pounds in his venture into the production of fiber crops. ¹¹

Toward the end of the seventeenth century the colonial governments, largely because of acute dissatisfaction with the price of tobacco, became more active in encouraging the cultivation of hemp, flax, and other crops which might be expected to yield a good return. On several occasions Virginia adopted legislation requiring each county to purchase a quart of hemp seed and a like quantity of flax seed for each tithable, who was expected then to produce in the following year a specified minimum quantity of fiber. 12 Virginia, Pennsylvania, Maryland, and other colonies adopted laws making hemp and other staples legal tender, the dual purpose of these acts being to encourage the production of the commodities in question and to relieve the prevalent money shortage. ¹³ In addition, colonial legislatures began to offer special inducement in the form of bounties for hemp and flax. None of these efforts to increase the production of fiber was particularly successful. It is true that during periods when the price of tobacco was depressed, planters turned to other crops, but it was said that "The moment the price of tobacco rises, other produce is laid aside." 14

Laws providing bounties for the production of hemp were common in the colonies over a long period of time, but the purpose behind these subsidies was not the same in every instance. The objective of the earliest bounties was the encouragement of manufacturing as well as the growth of hemp. Maryland in 1671 offered one pound of tobacco for every pound of hemp raised in the colony in order to put an end to the importation of materials which could be made at home; in 1700 Massachusetts attempted to encourage her hemp industry by requiring manufacturers of cordage to use fiber produced within the colony; and other New England colonies followed this example. Another reason which led many of the colonies to offer bounties was a wish to co-operate with England after she began to provide subsidies to producers of naval stores. ¹⁵ In addition, during the

eighteenth century several colonies used bounties on hemp and other crops which were considered suitable for the back country as inducements to attract immigrants and others to the uplands. South Carolina in 1733 employed a certain Richard Hall to devote his time for three years to the promotion of hemp and flax culture, and as late as 1767 Georgia distributed to its farmers free seed and special directions for the cultivation of hemp and flax.¹⁶

England appears to have paid little attention in the seventeenth century to the colonial bounties as a means of encouraging the production of hemp, although in 1664 she offered a subsidy in the form of immunity from duties for five years for all hemp and naval stores imported from Virginia and Maryland. Even the purpose of that act was not primarily to increase the amount of these commodities but to turn the colonists from "the precarious and immoral tobacco industry." After the 1680's England ceased trying to encourage diversification and to curtail the production of tobacco, but she still desired to procure naval supplies from her colonies rather than be dependent upon foreign countries for them. ¹⁸

That desire became more pronounced at the beginning of the eighteenth century and led England to offer bounties for the production of several articles. The balance of trade with countries from which England purchased naval stores was running against her. owing to their failure to import English manufactured goods in exchange for these commodities. During the War of Spanish Succession England was disturbed by the attempt of Sweden to increase the prices of her products, and Parliament decided to make a serious effort to relieve the situation by developing the production of naval stores in the American colonies. In addition, the colonies themselves were showing signs of interest in manufacturing articles which would compete with those turned out by the mother country, and England sought to divert this activity to the production of materials which she needed and which would not offer competition for her own industry. ¹⁹

The British government inaugurated the system of bounties in 1705 with the passage of legislation providing for the payment of six pounds per ton for "water-rotted, bright and clean" hemp and additional premiums for tar, pitch, rosin, turpentine, masts, yards, and bowsprits imported from America. All fiber entering the country under this act was for twenty days after its arrival subject to pre-emption for the use of the navy. The

production of certain of the listed articles was stimulated to such an extent that bounties were no longer considered necessary and were dropped in 1721. The subsidy on hemp, however, brought meager returns and was renewed at that date for a period of sixteen years. At the same time the import duty on fiber, which had been collected even while the bounty was offered, was at last repealed. Because of its long failure to produce the desired results, the bounty on hemp was allowed to lapse at the end of the specified sixteen-year period, and England ceased to offer encouragement to producers of the fiber.²⁰

Interest in the possibility of growing hemp in America revived at the end of the Seven Years' War, when a number of London merchants petitioned for a renewal of the bounty system. Moved by arguments that acquisitions of territory under the Treaty of Paris had opened new areas suitable for hemp production, that new crops should be encouraged because tobacco and rice had been "pushed to their utmost limits," and that bounties on raw fiber would discourage the colonists from competing with English manufacturers, Parliament in 1764 provided that colonial hemp imported into England should receive a subsidy of eight pounds a ton for seven years, six pounds a ton for the next seven years, and four pounds a ton for the third like period. Even when the bounty was highest only a small amount of hemp was sent to England, and at the same time fiber was imported into America from Europe to supply the cordage makers on the seaboard. 22

Like the English, the French and Spanish were interested in developing hemp producing areas in their possessions in America. In the Mississippi Valley it is true that France at first forbade the development of the hemp industry, but by 1736 colonial officials were being urged to encourage the production of hemp. Though some of the fiber was sold to the Spaniards shortly before the Seven Years' War, most of it went to supply domestic needs. Spanish officials in America as early as 1545 were instructed to encourage the production of hemp, but it was not until the latter part of the eighteenth century that a serious effort was made toward that end, the objective being by that time to supply the naval base at San Blas with fiber more satisfactory than that obtained from the native agave plant. Finally, after years of experimentation, the Spanish officials in 1805 decided to offer a subsidy as an incentive to production. From that time until the outbreak of the independence movement in Mexico, production gradually increased,

reaching almost 220,000 pounds in 1810. Withdrawal of the subsidy in the next year brought an end to the commercial production of hemp during the Spanish regime, although small crops were grown for local use.²⁴

In the English colonies the troubled years preceding the Revolution brought an increase in the growing of hemp. Nonimportation agreements fostered the production of that commodity, as well as flax and wool, and led to the formation of societies whose objective was encouragement of manufactures of these fibers. The outbreak of war further stimulated the production of hemp and other necessary articles which could not be imported in adequate quantities, and the increased output continued for some time after the return of peace.²⁵ The seaboard states continued to grow hemp, but as increasing number of settlers crossed the mountains into the Mississippi Valley and opened new lands to cultivation, Kentucky soon became foremost among the hemp producing areas in the United States.

¹ Lewis C. Gray, *History of Agriculture in the Southern United States to 1860* (2 vols., Washington, 1933), I, 5-6.

² Wesley F. Craven, *The Southern Colonies in the Seventeenth Century*, 1607-1689 (Baton Rouge, 1949), 45, 56.

³ Gray, *History of Agriculture*, I, 16, 25.

⁴ *Ibid.*, 25, 180; George L. Beer, *The Origins of the British Colonial System*, 1578-1660 (New York, 1933), 244n, 245n.

⁵ Gray, *History of Agriculture*, I, 180.

 $^{^{6}}$ Beer, Origins of the British Colonial System, 248n.

⁷ Victor S. Clark, *History of Manufactures in the United States* (3 vols., New York, 1929), I, 82.

 $^{^{8}}$ Beer, Origins of the British Colonial System, 286n.

⁹ George L. Beer, *The Commercial Policy of England* (reprint, New York, 1948), 46.

¹⁰ George L. Beer, *The Old Colonial System*, 1660-1754, Part I, *The Establishment of the System*, 1660-1688 (2 vols., New York, 1933), II, 125-126.

¹¹ Gray, History of Agriculture, I, 181.

¹² Ibid., 180; Beer, Old Colonial System, II, 155.

¹³ Clark, *History of Manufactures*, I, 44-45.

¹⁴ Gray, *History of Agriculture*, I, 231.

 $^{^{\}rm 15}$ Clark, History of Manufactures, I, 33, 39.

¹⁶ Gray, History of Agriculture, I, 89, 180-181.

¹⁷ Beer, *Commercial Policy of England*, 92n.

¹⁸ Gray, *History of Agriculture*, I, 232.

- ¹⁹ Beer, *Commercial Policy of England*, 55-56, 91, 93; Ernest L. Bogart, *The Economic History of the United States* (2nd ed., New York, 1914), 54.
 - ²⁰ Gray, History of Agriculture, I, 153-156, 179; Beer, Commercial Policy of England, 95, 101.
- ²¹ Gray, *History of Agriculture*, I, 180; George L. Beer, *British Colonial Policy*, 1754-1765 (New York, 1922), 215-218.
- ²² Clark, History of Manufactures, I, 34; Gray, History of Agriculture, I, 182; Beer, British Colonial Policy, 217-218n.
 - ²³ Gray, History of Agriculture, I, 75-76, 81.
- 24 Sanford A. Mosk, "Subsidized Hemp Production in Spanish California," in *Agricultural History*, XIII (1939), 171-175.
 - ²⁵ Gray, *History of Agriculture*, II, 574, 611, 783.

CHAPTER I

THE HEMP FARM

LOCATION

HEMP will grow after a fashion in almost every region of the United States, as Federal Narcotic Agents know all too well from their experience in the war on marihuana, but its successful cultivation for commercial purposes depends largely on a favorable climate and on fertile soil. An abundant rainfall, coming fairly regularly during the growing season, is desirable since the rapidly developing plants require a large amount of moisture. On the other hand, a water-logged soil will not produce a satisfactory crop. Prolonged periods of drought are detrimental to both the quality and quantity of the fiber, but if the season is favorable until the plants are about a foot high, there is a strong probability of a good yield. For decades Kentucky led the nation in the production of hemp, and yet her climate is not particularly suited to the crop. In almost every year heavy rainfalls occur at the beginning of the growing season with occasional injury to tender young plants, while later there are periods of dry weather during which the development of the plants practically ceases. Kentucky's general temperature is rather high, which is well enough in the growing season but disadvantageous when the crop is being rotted, since heat tends to cause fermentation of the gum or sap in the stalks with a consequent weakening of the fiber.²

Early settlers were struck by the great fertility of the soil in Kentucky. Both John Filson and Gilbert Imlay noted that it was very favorable to the production of hemp as well as other crops;³ and one pioneer in Mason County tantalized a stay-at-home friend in New Hampshire with the statement that "The fruit in this country is far more delicious than yours: I suppose the best Country for Corn, wheat, rye Oats, Barley, flax, hemp, & grass: in the United States. . . ."⁴ Tench Coxe remarked early in the

nineteenth century that any state in the Union could produce hemp but that in Kentucky the industry had made more progress than in any other area;⁵ and half a century later a writer recalled that the virgin soil of this state was "as well adapted to the growth of this plant as any in Europe or America."

Suitable land for the production of hemp must be deep, loamy, and warm and should contain an appreciable amount of humus.⁷ The crop will grow in poorer types of soil, but the plants produced on them are short and contain a relatively large amount of wood, while the fiber is close knit and exceedingly hard to separate from the stalk. "Breaking," the process of freeing the lint, is consequently more difficult because of the thick wood and the small hollow space found in the stunted plants. A rich rank growth is necessary to produce the long, fine fibers which are easier to handle and which were in demand in the markets. The Bluegrass region of Kentucky, owing to its deep, calcareous, and highly fertile soil, was well adapted to the production of this staple. Because of this fact, and because the droughts usually ended before crops were ruined, for many years more hemp was grown in that region than in all the remainder of the United States.

A statement composed by Henry Clay in 1830 will serve to give a closer view of the main hemp producing region:

The district of the country in which the plant is most extensively cultivated, is the Elkhorn region, around and near Lexington. . . . It is also produced in considerable quantities in the counties of Jefferson, Shelby, Mercer, Madison, Clarke, Bourbon and Mason. The soil of that region is a rich, deep vegetable loam, free from sand with but little grit. It lies on a bed of clay, interspersed with small fragments of iron ore, and this clay in its turn reposes on a mass of limestone lying many feet in depth in horizontal strata. The general surface of the country is gently undulating. The rich land, (and there is but little that is not rich,) in the whole region, is well adapted to the growth of hemp, where it has not been too much exhausted by injudicious tillage. The lands which produce it best, are those which are fresh, or which have lain sometime in grass or clover. The character of the soil in the other counties above mentioned, does not vary materially from that in the Elkhorn district.⁸

Outside the area described by Clay hemp could grow and was grown, whether for home use or for sale as a cash crop, for fertile soil could be found at least in small areas in virtually every county in the state. From Daviess County, which was never known as a prominent fiber producer, came a report in 1857 to the effect that hemp of a superior quality could be raised there, its texture allegedly "finer, more pliable, having a more silky gloss, and . . . heavier than Hemp grown in the upper counties." In the central part of Washington County a "marked soil of the blue limestone formation" produced good hemp and a rank growth of tobacco too coarse to

be considered of good quality.¹⁰ Land in Bath County was said to be as productive as that of the blue limestone areas for corn, wheat, and oats, but hemp grew well there only in the southwestern part of the county.¹¹ In one section of Nelson County hemp grew "tall and coarse . . . , but not of the fine quality produced in Woodford; in 1842 as much as one thousand two hundred pounds was raised to the acre; the tobacco plant grows, also too coarse."¹² Indeed, in every section of the state the crop was reported occasionally, though sometimes only one farmer in a county might produce it, as was the case in 1850 when E. Hook's six tons represented the only hemp produced in Christian; or it might be grown in small quantities on several farms as in Boone in the same year, when thirteen farms produced less than one ton each.¹³

Fayette was consistently the leading county in hemp production, though others, particularly Mason and Woodford, were close behind her. In fact, a resident of Maysville claimed, and no reliable figures are available to confirm or refute his statement, that Mason in 1842 produced more fiber than any other county; and in 1845 a magazine gave publicity to a statement that Maysville had at that time "the most extensive hemp market in the Union."14 In the 1850's Woodford County attracted attention as one of the foremost hemp growing areas. According to the director of the geological survey, the "Blue limestone soil" of that locality was peculiarily adapted to the growth of hemp, and on some farms the land had produced twenty successive crops of the fiber without showing appreciable signs of deterioration.¹⁵ Writing from Dorsey's Post Office in 1856, a resident of Woodford said that "There never were, in my knowledge, so many acres of land in hemp" in that region, and he further stated that "The hemp crop in this county, as you are aware, is the all important one to the farmer, since more attention is given to its culture than everything else. Hemp might truly be termed the staple article of Woodford. She is the second county in the State, I believe, in the growth of hemp—Fayette being the first." ¹⁶ In 1859 Fayette, Woodford, Garrard, and Montgomery counties were reported to be the leaders in hemp production, while Boyle, Jessamine, Bourbon, and Clark were not far behind.¹⁷

OUTWARD APPEARANCE OF THE FARM

The first hemp in Kentucky was produced in fields cleared near the forts and stations and in small "patches" planted by the venturesome frontiersmen near the cabins in which they had established their homes outside and in certain cases some distance away from the protection of the forts. As the population increased, more land was put into cultivation, and by 1787 Thomas M'Clanahan, Jr., was trying to attract a renter for his "plantation on Harrod's run about three miles from Danville, containing about forty acres of cleard [sic] land . . . in good order for raising corn, hemp, flax and tobacco." Francois A. Michaux, who traveled in Kentucky during Jefferson's first administration, found that most of the inhabitants of the state were living "in the woods," cultivating their own lands, and producing tobacco, rye, oats, flax and hemp; but another writer reported at the end of the War of 1812 that the farms near Lexington were well cultivated and that the farmers were "generally rich and opulent." 21

A distinguished historian referring to ante-bellum Kentucky wrote that "Food crops and pasturage permitted the handling of large acreage by small personnel; and in tobacco and hemp culture there was little advantage in largeness of scale. Kentucky therefore did not develop great plantations nor import hordes of slaves to till them."22 Large farms did exist, as is evidenced by the fact that in 1850 among the hemp producers of Bourbon, Fayette, Franklin, Garrard, Harrison, Hart, Jefferson, Scott, and Woodford counties were owners of approximately one thousand or more acres of land.²³ Additional examples may be found in the census schedules of 1860, but in both cases such large acreages were exceptional.²⁴ Even farms of more than one thousand acres each, large though they were for Kentucky, were dwarfed by some of the huge cotton plantations of the lower South. More common among the farms which grew hemp were those of less than five hundred acres, but on the other hand few were as small as two tracts in Fayette County, one of thirty acres owned by William Frazer and the other of only ten acres belonging to O. H. Anderson.²⁵

A visitor wrote in 1825 that the farms of Kentucky frequently gave the appearance of neglect and blamed that condition on the reliance of the farmers on the richness of their soil rather than on industry and skill in management,²⁶ but most of the people who came to the main hemp producing region were favorably impressed with the scene. One lyrical

description of the country around Lexington was couched in the following words:

The woodlands are all inclosed; the underwood, and the useless trees are removed, while the valuable timber trees are left, standing sufficiently wide apart to admit the rays of the sun, and the free circulation of the air, between them. The ground is then sown with grass and extensive tracts, which would otherwise have been mere wilderness, are thus converted into spacious lawns, studded with noble trees. These are so numerous, and of such extent, as to form a prominent feature in the scenery, and it is hardly possible to imagine anything more beautiful, than the alternations of woodland and meadow, with hemp and cornfields, and orchards, which the eye here meets in every direction.²⁷

In other large hemp producing areas the scene was somewhat similar. When Solon Robinson visited Adam Beatty of Mason County in 1841, his conveyance deposited him and his baggage at the entrance to the lane which led to Beatty's home. Calling a slave from a near-by hemp field to take charge of his baggage, the visitor proceeded to walk up the lane to the house, which he found situated "according to Kentucky fashion" in the approximate center of the 450-acre farm, "about a half mile back from, and out of sight of the road."28 Robert W. Scott of Franklin County was said to have owned "one of the best ordered farms in the state," which he operated in a businesslike manner, keeping for each field a strict account of expenditures and income. His fences were in good condition, his fields were laid out methodically and numbered, his orchards were well tended, his stock showed evidence of care, and his lawn with its "fine fish-pond" was a center of attraction.²⁹ Scott was a student of practical agriculture, an experimenter, and an occasional contributor to periodicals of articles on some phase of hemp culture. One of the show places of Woodford County was "Spring Hill," owned in 1856 by Colonel William Hart. A portion of this extensive farm had been set aside as a woodland park in which grazed cattle, horses, and deer, and the remainder was devoted to diversified crops, including hemp.³⁰

In many other localities of Kentucky there were numerous farms which were famous in their day for beauty and fertility, but a large proportion of them was concentrated in the Bluegrass. Frederick Law Olmsted found that Lexington gave the impression of "irresistible dullness" because of the lack of extensive trade, but he also discovered that it was "the focus of intelligence and society for Kentucky." He was struck by the fact that this intelligence and society were not concentrated in the town but spread over the surrounding countryside, where "the rolling woodland pastures come

close upon the city and on almost every knoll is a dwelling of cost and taste."³¹ A visiting editor of a farm journal in 1856 recommended this area to "any one who would see American agriculture in one of its most refined and successful phases." At the same time he wrote that in other states farms might be found as beautiful to the eye and possibly more "profitable to the bank account of the farmer; but probably in no other one locality of equal extent, are natural advantages so universally great and so uniformly well improved."³²

The woodland parks with their tall trees, their lack of underbrush, their smooth bluegrass sod, and their herds of grazing livestock were doubtless as much a source of pride to the owner as they were a delight to the visitor. Their beauty was not altogether natural, for a large amount of labor was required to keep them in good condition. Dr. Robert J. Breckinridge, whose home was approached "through a gate, in the usual Kentucky fashion, [along] a carriage way . . . into his spacious lawn, down a slope, past a spring-house, and up a short hill on to the table land, where stands his plain, yet commodious dwelling, surrounded with those rural appendages, which give to the best of these Kentucky homes an air of repose and dignity," explained that for approximately three months each year his "hands" were engaged in the task of eradicating weeds from his pasture, or woodland park. Moreover, as a further indication of the time and labor expended on the upkeep of such areas, Dr. Breckinridge stated that this practice had been carried on for about thirty years, and the parks "still require constant labor to keep them clean."33 On occasion, when a greater production of hemp was thought to be desirable, the more "lightly timbered" bluegrass pastures might be converted to the growth of that crop.³⁴

PRODUCTIVITY OF THE SOIL

The amount of fiber which could be produced per acre depended on weather conditions and on the preparation and fertility of the soil. It was not unusual for good hemp land in Kentucky to produce one thousand pounds of clean lint per acre.³⁵ Instances have been recorded in which especially fertile Bluegrass soil yielded over twelve hundred pounds,³⁶ and an authority on agriculture stated in 1942 that a return of two thousand pounds per acre had been obtained.³⁷ The ordinary crop, however, ranged

downward from one thousand to about five hundred pounds per acre.³⁸ Though writers on the subject disagreed in their estimates, approximately eight hundred pounds per acre seems to have been about the average over a period of years.³⁹ An agricultural bulletin in 1942 estimated the average yield in the Bluegrass region to have been approximately one thousand pounds and predicted that "better average yields than 1,000 pounds will be obtained in the future because of the use of larger amounts of fertilizer."⁴⁰

The proportion of fiber in each stalk is in the ratio of one to six by weight; that is, "about six tons of hemp straw, in the unrotted condition, are required to make one of broken hemp." According to Henry Clay, a hemp farmer of long experience, a rough estimate of the probable yield of a hemp field could be made before harvesting by observing the average height of the matured plants. Each foot in height of the plants was said to correspond to one hundredweight of the fiber. Thus, if the hemp in a field was eight feet tall on the average, the yield per acre would be approximately eight hundredweight of the finished product. 42

Despite the fact that hemp for its most successful growth requires soil of great fertility, observers frequently noted that crops were produced year after year upon the same fields with little or no fertilization of any kind. Henry Clay once wrote that "Hemp exhausts the soil slowly, if at all. An old and successful cultivator told me that he had taken thirteen or fourteen successive crops from the same field, and that the last was the best. That was probably, however, owing to a concurrence of favorable circumstances." The director of the state's geological survey wrote in 1857 that "On some farms this crop has been grown, almost without interruption, for twenty successive years, and still the land is exceedingly productive." Relating a personal experience in this connection, Adam Beatty of Mason County wrote that

A field containing twelve and a half acres, upon which nine or ten successive crops have been grown, produced last season 9809 lbs. of hemp, equal to 789 lbs. per acre, though the season had become very dry sometime before the hemp had attained its growth. This was quite as good a yield, taking into consideration the unfavorableness of the season, as I ever had from the same ground.⁴⁵

As late as 1942 the Agricultural Extension Division of the University of Kentucky published a statement to the effect that hemp did not exhaust the soil because "much of the plant food removed from the soil during the growth is returned when the hemp is retted."⁴⁶ The same idea was

expressed much earlier by a director of the geological survey, who pointed to the large proportion of the hemp plant which was restored to the land and found there an explanation of the fact that the crop was "by no means an exhauster of the soil, like wheat, corn, and tobacco."⁴⁷ The most convincing statement along this line, convincing because it represented conclusions based on extensive analyses of the hemp plant, was made in 1880 by Dr. Robert Peter, long an outstanding scientist and teacher in Kentucky.

Dr. Peter explained that successive crops could be grown without fertilization only when the hemp was spread for dew rotting upon the field which produced it. Although the plants grew luxuriantly and required an abundance of fertilizing elements to produce the tall stalks with their dense foliage, the greater part of these elements was restored to the soil during the rotting process. While lying exposed to the weather, all soluble matter in the plants was leached out by the dews, rains, and perhaps melting snows, and it seeped back into the ground. Humus was added to the land by the leaves which fell or were beaten off the stalks and by the roots which remained after the crop was harvested. Finally, the hurds, or fragments of stalks which had been separated from the fiber, were burned and their ashes left to add their bit to soil restoration. ⁴⁸

By analyzing the ashes of hemp plants in both the unrotted and dew rotted states, Dr. Peter found that the process of rotting removed from the stalks and restored to the soil about one-half of their lime, nearly two-thirds of their magnesia, more than nine-tenths of their potash, about one-half of their soda, more than one-half of their phosphoric acid, about two-thirds of their sulphuric acid, ten-elevenths of their chlorine, and nearly two-thirds of their silica. After comparing hemp to other crops, he announced that an average yield of hemp of 800 pounds per acre removed from the soil only slightly above 13 pounds of "ash ingredients," while 20 bushels of wheat took almost 20 pounds in the grain alone, 50 bushels of corn removed more than 30 pounds in the grain alone, and 1,000 pounds of tobacco, the most rapid depleter of the soil, removed more than 176 pounds. The practice of burning the hurds, in his opinion, was a mistake based on an erroneous belief that they would have "an injurious or poisonous" effect on the land if they were spread over it; and he believed that they should be scattered over the fields and thus be allowed to add appreciably to the restoration of humus and fertility.⁴⁹

When hemp was prepared for market by dew rotting it where it grew, only the fiber, a relatively small percentage of the whole plant, was carried away from the field. If that fiber was well cleaned, it contained only a very small amount of fertilizing qualities, and its removal caused but little deterioration of the soil. If, however, instead of being dew rotted, the hemp was removed from the field to be water rotted, its culture became tremendously exhausting to the land "mainly because so much of elements of fertility is necessarily carried off in the water used." According to Dr. Peter, it was thus in one respect fortunate that the majority of farmers did not follow the latter practice, although it would have enhanced their immediate income. ⁵⁰

While the cultivation of hemp as practiced by most of Kentucky farmers depleted the fertility of the land very slowly, yet over a long period of time soil exhaustion did occur to an appreciable extent. R. W. Scott of Franklin County was said to have taken over a "poor, worn-out, badly arranged farm" more than a decade before the middle of the nineteenth century and by the use of manures to have restored its capacity to produce good crops of hemp. ⁵¹ By the middle of the century a change in the color of Bluegrass soil had been noted, the rich dark loam turning to a lighter hue as continuous cropping removed humus and fertility from the land. ⁵² As remedies for the situation, farmers in the nineteenth century relied upon crop rotation, cover crops which could be plowed under, and barnyard manure. ⁵³ Dr. Peter in 1880 stated, however, that no regular system had been adopted by which the fertility of land devoted to hemp culture could be restored and maintained, and he added that "future profitable hemp culture will depend greatly on the adoption of a judicious rotation of crops suited to our soil and markets." ⁵⁴

In the same year a report of the state geological survey stated that Kentucky had not yet adopted the use of manures on its hemp land.⁵⁵ Indeed, there was some doubt as to the advisability of using manure because it was thought to make the fiber "grow too coarse,"⁵⁶ a belief supported by the Kentucky Agricultural Experimental Station, which in 1889 stated that "Old land cannot be 'brought up' by applying fresh barnyard manure; as, while a rank growth may be obtained, the fiber is generally coarse, and of an inferior quality."⁵⁷ The Experiment Station was at that time undertaking a study of the effectiveness of commercial fertilizers in restoring tired lands to successful hemp production, and after

about a decade of observation it reported that "The results of the experiments show conclusively that the fiber of the hemp is better where fertilizer is used, even if the yield be the same." More recently the College of Agriculture of the University advised farmers that excellent crops of hemp could be expected from land fertilized heavily with nitrate of soda, sulfate of ammonia, or other soluble nitrogen fertilizer, and in areas deficient in phosphorus 300 to 400 pounds of superphosphate per acre should be used. Two to three hundred pounds of nitrate of soda or 180 to 240 pounds of sulfate of ammonia were recommended as the proper application, depending on the soil to be treated. An even distribution of the nitrogen fertilizer was said to be necessary; "otherwise much variation in height and diameter of stalks may result, which is objectionable." ⁵⁹

LABOR

Kentuckians sometimes referred to hemp as a "nigger crop," owing to a belief that no one understood its eccentricities as well or was as expert in handling it as the Negro. ⁶⁰ A Lexingtonian stated in 1836 that it was almost impossible to hire workmen to break a crop of hemp because the work was "very dirty, and so laborious that scarcely any white man will work at it," and he continued by saying that the task was done entirely by slave labor. Among the slaves, the men held a monopoly on all the tasks connected with the production of fiber because, in the words of this observer, "Negro women cannot labor at hemp at all, and are scarcely worth anything."61 Another commentator a few years later concluded that "none but our strong able negro men can handle it to advantage."62 To a considerable extent that belief was based on fact, for the tasks connected with hemp culture were for the most part laborious and sometimes unpleasant, and such work was given to the slave or, after the Civil War, to the Negro tenant or "hired hand." As long as hemp was produced in the state, at least certain types of work, such as breaking the stalks, were largely reserved for the Negro. After years of repetition of these tasks, he did become expert at their performance, though the complaint was sometimes made that he was undependable. Among the slaves most in demand in Kentucky were those who were able to work in manufacturing establishments where hemp was turned into bale rope and bagging,⁶³ but the agricultural skill which most contributed to the value of the Negro was the ability to hackle hemp fiber in preparing it for market.⁶⁴

On many farms, of course, neither slaves nor, later, freedmen were available or desired, and in such cases the men of the family performed all tasks for themselves. If a landowner was not willing to do this work and would not depend on slaves, he could follow the example of Nathaniel Hart of Woodford County, who explained his decision as follows:

For several years I turned my attention to the raising of hemp, and succeeded very well in it; but being in the possession of a considerable tract of land well adapted to grazing, and finding that to extend the raising of Hemp, so as to make it an object, in my situation, would require an increase of a description of labourers that I was unwilling to be taxed with, I declined the culture of it as a leading crop, and turned my attention chiefly to grazing.⁶⁵

Slavery was introduced in Kentucky at least as early as 1775, shortly after the first permanent settlement was established, by immigrants from the seaboard who brought their small groups of Negroes with them to their new homeland.⁶⁶ In the early 1800's a visitor to Kentucky noted that many of the residents of the state helped one another in performing heavy tasks on their farms, while others who were "in more easy circumstances" depended upon slaves in the cultivation of their land.⁶⁷ When William Bradshaw of Jessamine County died in 1813, he left an estate which included livestock, farming and blacksmith tools, "several tons of good Hemp well baled," several hogsheads of tobacco, and slaves whose number was not stated.⁶⁸ After the War of 1812 the number of Negroes increased, as did the population as a whole, and in fact the ratio of slaves to the total population of the state increased gradually from 1790 to 1830, when it began to decline.⁶⁹ Travelers sometimes found that slaves were treated "rather like children than servants,"70 but one could also see evils in the system, particularly because it caused the rich to "hold labor in contempt" and because often a person was judged by the number of slaves he possessed, regardless of his other property and his personal characteristics.⁷¹

Compared to those found in states of the cotton producing South, the number of slaves in Kentucky was not large, because farming conditions were not conducive to an extensive growth of the institution. Planters who left the coastal area, brought their Negroes to Kentucky, and undertook the production of tobacco found that the prices brought by that commodity were not large enough to make the use of land and slaves profitable.⁷²

Consequently, in the Bluegrass region, where the majority of slaves were concentrated, farmers turned to livestock, hemp, and grains rather than to tobacco as the major crop. Hemp in particular was produced to a large extent by slave labor, in spite of the fact that during the seasons of the year in which it did not require attention other tasks had to be found for the workmen. Diversified farming of the type carried on in Kentucky did not require large groups of slaves as laborers, and the number of blacks owned by the average individual in the state was much less than the number found on a plantation in the lower South.

Elias P. Fordham stated that in 1818 the wealthy Bluegrass farmer owned twenty or thirty slaves whom he employed on his plantation of two or three thousand acres, but it is doubtful that many such planters were to be found.⁷³ Weathers Smith of Bourbon County owned 400 acres of "first rate" land" which was cultivated by thirty to forty Negroes,⁷⁴ while George Edwards of the same county, whose farm was almost the same size, owned only 11 slaves, men, women, and children.⁷⁵ John Taylor's estate in Franklin County included 200 acres of land and 4 slaves,⁷⁶ but when William Curd of Fayette decided to dispose of his 260-acre farm he offered 20 "Likely Negroes" for sale at public auction. 77 A sale of property in Garrard County included 500 acres of land and 8 slaves; another in Franklin, 252 acres and 4 slaves; one in Woodford, 300 acres and 27 Negroes; and a smaller transaction in Woodford, 150 acres and 3 Negro boys.⁷⁸ Somewhat unusual was the farm of Robert Burbridge of Scott, which included 1,000 acres on which were employed 50 "valuable family servants," in addition to "several" house servants. ⁷⁹ Manifestly, the number of slaves on a farm did not depend on the acreage, but rather on the crops which that farm produced.

The connection between slavery and the production of hemp may be noted from the fact that the counties which consistently were outstanding in their output of the fiber were also the counties in which large numbers of slaves were to be found. Fayette, always a leader in hemp production, in 1830 was the most populous county in the state, its inhabitants including 14,165 whites and 10,933 slaves. In 1850 the whites were slightly outnumbered by slaves and free Negroes, and in 1860 the population included a very few more whites than blacks. Approximately the same ratios existed in Bourbon, another large fiber producer of smaller total

population than Fayette. A third leader in the growth of hemp, Woodford, was the only county in Kentucky in which the slaves alone outnumbered the whites, both in 1850 and 1860. A large proportion of slaves to whites was also to be found in Franklin, Garrard, Madison, Montgomery, Scott, Shelby, Jefferson, and other counties in which hemp was grown extensively.⁸⁰

Of the leading fiber producing counties, Mason reported the smallest proportion of slaves to the total population in the prewar period. In a part of that area, however, more land was devoted to hemp production as time passed, and more slaves were used in its culture. A former resident who revisited his old home near Mayslick in 1845 described the change as follows;

It is a remarkable fact that in the earlier period of which I am writing, from 1794 to 1800, the white population was greater in that neighborhood than I found it in the visit referred to. In a single solitary walk of two miles, which included the spot of our old home, I passed over the foundations . . . of no less than twelve cabins. . . . Besides, I saw two of a better kind than the first, erected of hewed logs, which were tenantless and surrounded by hemp.

The loss of white population . . . has occurred in various parts of Kentucky, and must be referred to the influence of slavery. In a slave state, new investments are constantly made in land and negroes, and hence the soil is constantly passing from the many to the few; slaves take the place of freemen, "negro quarters" replace the humble habitations of happy families; . . . and the hired man with his axe or sickle is replaced by the overseer with his thong. 81

On specific farms for which statistics are available the use of slave labor in the culture of hemp is evident. The Smith farm in Bourbon County, where from thirty to forty Negroes were employed, devoted approximately twenty acres to hemp in 1829.82 Seventeen acres of hemp were cultivated by the workmen among the eleven slaves owned by George Edwards in 1835, and William Curd of Fayette in 1842 proposed to sell his 260 acres of land "in a high state of cultivation, well adapted to the growth of Hemp, and having about 60 Acres newly cleared. There are upon the place, a fine two story Brick Dwelling, Negro Houses, Barn Stables, Hemp House, and all other necessary outbuildings." Curd's property included six adult Negro men and four boys from eight to fifteen years old.⁸³ On the extensive plantation of Dr. R. J. Breckinridge in 1856 Negroes numbered 10 men, 7 women, and 4 boys, "besides which there are a number of slaves too young, and a few too old to work, and some household servants." The crops on the 300 acres which were commonly cultivated consisted of about 120 acres in corn, 80 acres in small grain, 50 acres in "meadow, orchard, vegetables, &c.," and 50 acres in hemp.⁸⁴ Some farms were managed by overseers,

whose main qualification, according to an advertisement published by W. P. Hart of Lexington, was experience in the culture of hemp and in the management of slaves.⁸⁵

At least one Kentuckian, William C. Bullitt of Jefferson County, believed that slavery was necessary for the production of hemp. As a delegate to the constitutional convention of 1849, he joined the debate on slavery and argued that "The free states do not, and will not raise hemp and tobacco. Kentucky and Missouri have the monopoly of this great article, hemp. This, as long as slavery remains must be the case." Slaves would not become too numerous in Kentucky because sales to the southern market would always keep their number down "to a healthy point." Meanwhile, he claimed, emancipation by Great Britain in the West Indies was "destroying the tropical products" whose cultivation in the United States was being increased. In addition, the demand for hemp was being increased by the growth of the American navy and merchant marine, which meant that the importance of that crop to Kentucky was increasing. Finally, Bullitt warned his fellow members of the convention in the following words: "Take away slaves, and you destroy the production of that valuable article, which is bound to make the rich lands of Kentucky and Missouri still more valuable."86 The state retained slavery, of course, and, as suggested by Bullitt, sales to the South resulted in only a slight increase in the number of bondsmen in Kentucky during the last three decades before emancipation. In the main hemp producing counties, with the exception of Jefferson, the census reports show that changes in the number of white inhabitants and of slaves were slight from 1830 to 1860.

THE PROFITS OF HEMP CULTURE

S. R. Jones of "Mulberry Cottage, Ky.," a propagandist for the extension of silk culture in Kentucky, wrote in 1839 that "The loose manner in which farm books are kept, and, indeed, in most instances, the entire absence of any regular record of agricultural pursuits, render it exceedingly difficult to obtain authentic statistics of the hemp crop," and the condition of which he complained makes it difficult to determine how profitable the growth of hemp was to the Kentucky farmer.⁸⁷ No doubt the profits from the crop varied from time to time with the fluctuations in the several factors which affected the yield and the relative price of the fiber. To the Civil War

most farmers of the Bluegrass generally considered hemp worth cultivating, not as the sole crop, perhaps, but as a commodity which could be turned into cash if desired or which could be withheld from the market until favorable adjustments in prices had occurred.⁸⁸

At the time he made the statement quoted above, Jones undertook to compute the profit which might be derived from a crop of hemp, which he characterized as the staple then considered most remunerative to the farmer for his land and labor. Choosing for some obscure reason to compute the expenses and returns from 51 acres planted in hemp and worked by three "hands," he estimated the yield at seven hundredweight per acre which, at \$5 per hundred, would bring an income of \$1,785. Deductions from this sum included \$510, representing 10 per cent interest on 51 acres of land valued at \$100 per acre; \$900, the cost of labor of three men for 300 days at one dollar each per day; \$200, the value of the labor of two horses for 200 days at fifty cents each per day; and incidental expenses to the amount of \$22. The total expenses, \$1,632, deducted from the income leaves a balance of \$153 as the profit from the crop. This profit represents only three dollars per acre, or \$51 per hand, figures so small that one suspects Jones of overestimating the costs and underestimating the returns in order to prove that silk culture was more profitable. Nevertheless, after arriving at these figures he added: "This to the individual who farms his own land with his own hands, is a very handsome income, and one which, could it be generally realized, should remove all repinings from the farmer's home."89

The calculations made by Samuel Chew of Lexington a few years earlier showed a greater profit from hemp culture. Since the crop takes the best land, he said, the rent on one acre should be counted at four dollars a year. A minimum of two days of plowing, two days devoted to cutting the matured plants, one and one-half days spent in tying the dried stalks into bundles and stacking them, and one day in spreading the crop to rot made a total of six and one-half days' labor, which he estimated at \$6.50 altogether. An additional sum of \$5.60 was set aside to cover the cost of breaking out the fiber, and the one and one-half bushels of seed used in planting the acre were valued at \$1.50, making a total expenditure of \$17.60 in producing the finished product. Estimating a conservative yield of 500 pounds, and selecting \$5.00 per hundredweight as the average price, Chew concluded that the hemp farmer could expect a net profit of \$7.40 an acre from his

land.⁹⁰ Had the yield been estimated at 700 pounds per acre or at 800 pounds, neither of which was uncommon on fertile land in a good season, the profit could have been calculated at a figure approximately nine to thirteen dollars higher per acre than that estimated.

From Pleasant Hill, Mercer County, Micajah Burnett of the United Society of Shakers reported in 1853 that hemp grown in his neighborhood averaged a yield of 700 pounds to the acre. The cost of production included rent, \$4.00; cost of seed and "putting in the crop," \$4.00; cutting and stacking, \$2.00; rolling the land preparatory to planting, \$1.00; and preparing the fiber for market, \$6.50; making a total expenditure of \$71.50. At five dollars per hundred, the product of this effort would be worth \$35; therefore the profit per acre was \$17.50. Since Burnett was not trying to promote the increased production of any crop, his estimate may be considered relatively accurate, at least for the year in which he made it.

Two years later somewhat similar results were obtained by L. E. Dupuy of Shelby County who averred that "Hemp is a valuable crop with us." He estimated the necessary expenses per acre for the production of fiber as \$4 for interest on land, \$2 for plowing and harrowing, \$2 for seed and sowing, \$2 for cutting, \$2 for "Stacking and re-spreading to dew-rot," and \$8 for breaking at \$1 per hundred pounds. The total expense would thus be \$20. He declared the average product of an acre to be 800 pounds of fiber, which at \$5 per hundredweight would bring \$40 on the market. His estimate of the profit was \$20 per acre, which he thought should be "considered a fair average, though the product is often more or less, and the price also is fluctuating." ⁹²

Estimates of the profit to be derived from each acre of hemp may give a distorted picture unless it is recalled that other crops were also produced on the Kentucky farms and that the labor, the expenditures, and the income for the farm as a whole related to all. A letter to Thomas B. Stevenson of Frankfort from an unidentified friend living on the outskirts of the Bluegrass describes in some detail the financial aspects of the operations on a farm of 450 acres, of which 300 were cleared. The owner of this plantation fixed \$32,000 as his investment in land, slaves (5 men at \$800 each, 3 women at a total of \$1,500, and 3 boys from two to six years old, \$1,000), livestock, poultry, carriages, and farming implements. On the cleared land he cultivated approximately 60 acres in hemp, 60 in corn, 3 in

seed hemp, and 7 in pumpkins and vegetables. In addition 60 acres were devoted to rye, 10 to rye for seed every other year, 25 to meadow, and the remainder of the cleared land to pasture.

The cash income for the farm was derived from hemp, 60 acres of which produced an annual average of 20 tons valued at that time at \$2,400, from 350 sheep whose wool averaged only \$1 per fleece or a total of \$350, from the coarse parts of wool and the increase of the flock which brought \$50, from the sale of hogs, bacon, and lard which returned a sum estimated to average \$400 per year, from the sale of cattle which brought \$100, and from other sales netting \$622. The total income from all phases of farm activity was \$3,922. Deductions from this sum included \$200 for "wages of a young man to work and superintend the negro laborers," \$200 for cutting and breaking hemp, \$160 for clothing and tax for slaves, \$30 for taxes on land and other property, and \$60 for blacksmiths' and wagonmakers' charges. From this total expense of \$650 the author of the letter deducted \$500, which represented the "saving in family expenses by living on a farm," leaving only \$150 to be subtracted from the income in order to arrive at the profit. The final figure, \$3,772, represented only \$120 less than a 12 per cent annual income from the investment and caused its computer to exclaim: "Do not the facts herein detailed, show that estimating land at \$50 per acre, farming is a most profitable business? And do they not show the additional fact, that the raising of hemp is more profitable than the culture of cotton or grazing of cattle?"93

The account given by Dr. Breckinridge in 1856 of the operation of his Fayette County farm is not as complete as that mentioned above, but to some extent it is enlightening. Of his 600-acre holding, worth at least \$45,000, he usually cultivated about 300 acres. In the year in which he made his report the areas planted to the crops on his plantation were 120 acres to corn, 80 acres to small grains, 50 acres to hemp, and the remaining 50 acres to meadow, orchard, and vegetable garden. From his corn land he received from 60 to 70 bushels per acre, or a minimum of 7,200 bushels which at one dollar a barrel (of five bushels each) was valued at \$1,440. Wheat was worth one dollar a bushel, but the amount produced was not stated, as was true of wool which brought a return of twenty-five cents per pound "in the grease." Hemp, which Breckinridge described as "the most variable of our crops, both in quantity and value," brought the highest return of any product of the farm, at least in the year under discussion. At

an average of slightly more than 700 pounds of fiber per acre, and at the prevailing price of \$135 per ton, the hemp crop could be expected to yield a monetary return of \$2,265. After making his survey, Dr. Breckinridge came to the conclusion that "The present condition of the agricultural interest with us is highly prosperous." Whether the prices and expenditures given in these examples are accurate or not, they do indicate that hemp, when prices were at a satisfactory level, was the most lucrative crop produced on the farm and possessed the advantage of being a cash crop which, moreover, was not perishable and could be held awaiting an improvement in the market when prices were low.

THE DIVERSITY OF CROPS

The farmers who produced hemp did not confine their efforts to the growth of that staple, nor did those who grew large amounts of other crops concentrate exclusively on their chief product. Consequently the large plantation devoted to the production of one crop did not exist in Kentucky. It is true that in certain areas outside the Bluegrass tobacco loomed larger and larger among farm products as time passed. Nineteen counties in 1850 reported more than one million pounds of tobacco each, while ten years later the number reached twenty-three. The largest producers of this commodity, with more than three million pounds each at the latter date, were Caldwell, Christian, Daviess, Graves, Henderson, Hopkins, and Logan. Diversified farming rather than a one-crop system was, however, more nearly the rule; and it may be noted that the leading crop in one section might appear only slightly in another. None of the counties in which large amounts of tobacco were grown produced hemp to any great extent, and of the counties notable for their production of the fiber only Mason reported a large yield of tobacco.⁹⁵

Corn, cultivated for the most part for home use, grew well in all sections of the state, and among the leaders in its production were counties from both the tobacco and the hemp growing regions. Barren, Logan, Mercer, Scott, and Warren, with slightly more than one million bushels each, produced approximately an equal amount of this grain in 1850, while Bourbon, Christian, Fayette, Madison, and Shelby boasted higher yields. Again, of the hemp and tobacco counties, Bourbon, Christian, Daviess, Fayette, Graves, Henderson, Logan, Madison, Mason, Scott, and Shelby

harvested more than one million bushels of corn each in 1860. A similar pattern, though on a smaller scale, was followed in the production of wheat and other grains which were grown in approximately the same quantities in both hemp and tobacco counties. Of all other farm products livestock seems to have thrived best in areas which also contributed most of the hemp. Christian and Logan were the only two tobacco producing counties in 1860 whose valuation of livestock was larger than one million dollars each, but that figure was surpassed by each of eight localities which produced relatively large quantities of hemp: Bourbon, Fayette, Garrard, Lincoln, Mason, Scott, Shelby, and Woodford.⁹⁶

The fact that the Bluegrass was the main hemp producing area does not mean that all farmers in that section devoted attention to the crop. Fayette County in 1850, for example, reported a total of 844 farms of which 503 produced fiber in quantities ranging from less than one ton to over sixteen tons each, and in the same year hemp was cultivated on less than half the farms in Bourbon County.97 Moreover, both in central Kentucky and in other parts of the state a number of farmers on occasion turned to or from the production of the fiber. William Dougherty of Bath reported twenty tons of hemp in 1850, none in 1860. Again, none was reported in 1860 by Wash Webb of Bourbon, by Isaac Wingate of Franklin, by J. S. Todd of Shelby, and by others who at one time did engage in the cultivation of the crop, while James B. Mann of Mercer and others reported hemp in 1860 but not in 1850. On the other hand, the planting of hemp became something of a tradition on certain farms where the owners, descendants of earlier hemp growers, continued to produce the crop in small quantities long after the industry had almost disappeared.⁹⁸

Some idea of the kind of diversified farming practiced in Kentucky may be obtained from an examination of a few hemp producing farms, large and small, in the Bluegrass and in other areas. In 1850 Robert Todd of Fayette reported that his farm consisted of 175 acres, all improved, valued at \$10,500, cultivated with machinery worth \$150. His livestock included 8 horses, 4 milch cows, 2 work oxen, 8 other cattle, 13 sheep, and 30 swine, all valued at \$765. From his acres he produced 250 bushels of wheat, 1,500 bushels of corn, 500 bushels of oats, 50 pounds of wool, 100 bushels of hemp seed, and 10 tons of hemp. By the end of the next decade Todd's holdings had increased to 240 acres of improved land, the numbers of his

livestock had grown, and his crops were 410 bushels of wheat, 2,000 bushels of corn, 150 bushels of oats, 400 bushels of barley, and 19 tons of hemp.

A larger unit of 1,110 acres in the same county was operated by Neal McCann, who in 1860 owned 40 horses, 140 asses and mules, 21 milch cows, 6 oxen, 60 other cattle, 40 sheep, and 50 swine. His crops consisted of 1,400 bushels of wheat, 250 bushels of rye, 3,500 bushels of corn, 1,800 bushels of oats, 35 pounds of wool, 2,000 pounds of butter, 25 tons of hay, and 15 tons of hemp. The production of 30 tons of fiber in 1850 made hemp a major crop on the farm of Stephen Ormsby of Jefferson County, and yet he too followed the practice of diversification. Included in his livestock were 26 horses, 4 asses and mules, 40 milch cows, 10 other cattle, 75 sheep, and 100 swine. In addition to the hemp he also produced 900 bushels of wheat, 5,200 bushels of corn, 225 pounds of wool, 1,000 pounds of butter, and 40 tons of hay.

The largest producer of fiber in Woodford County in 1850 was R. B. Bohannon, whose 1,200-acre farm was valued at \$60,000. Among the animals owned by him were 100 horses and mules, 49 cattle of various kinds, 30 sheep, and 150 swine. Fifty-two tons of hemp were produced by him in the previous year in addition to 2,500 bushels of corn, 800 bushels of small grain, 100 pounds of wool, 200 pounds of Irish potatoes, 300 pounds of butter, and 14 tons of hay. In the same year Merit Williams of Scott County, owner of 564 acres of improved land, devoted more attention to sheep than did many others, obtaining 500 pounds of wool from 140 animals. He also produced 6,000 bushels of corn and 1,000 bushels of oats to feed his livestock, which in addition to the sheep consisted of 29 horses and mules, 55 cattle, and 120 pigs. His 24 tons of hemp represented one of the largest yields of that crop in the county.

Small farmers also practiced diversification. Thomas Wheat of Mercer County reported in 1850 a farm of 100 acres, approximately half of which were improved, valued at \$2,500. His modest array of livestock included 3 horses, 1 milch cow, 1 "other cattle," and 15 pigs; while he produced upon his acres 150 bushels of wheat, 700 bushels of "Indian corn," 120 bushels of oats, 25 bushels of sweet and Irish potatoes, 2 tons of hay, and 5 tons of hemp. In less favorable circumstances was Sarah Culbertson of Lincoln County, owner in 1850 of 24 acres of improved land, 2 horses, 3 milch

cows, 2 other cattle, and 16 pigs. From her farm she obtained 500 bushels of corn, 60 bushels of oats, 4 bushels of potatoes, and 2 tons of hemp.

Exceptions to the general rule existed, of course, but instances in which farmers concentrated mainly on hemp production were relatively rare, according to available statistics. A few examples may be noted. In Mason County in 1860 M. C. Smith grazed on his 110-acre farm 4 horses, 2 cows, 3 other cattle, 27 sheep, and 16 pigs; and he produced 325 bushels of wheat, 900 bushels of corn, and 25 tons of hemp. A better illustration may be found in the case of William Frazer of Fayette, owner of 30 acres of land, 9 horses, 7 milch cows, and 8 swine. In 1850 he reported from his farm yields of 400 bushels of corn, 30 tons of hay, and 12½ tons of hemp. One rather strange example of concentration on hemp may be found in the report of O. H. Anderson of Fayette, who in 1850 stated that he owned a farm of only 10 acres, livestock consisting of one horse and one cow, and that he produced 60 bushels of hemp seed, 250 pounds of wool from sheep which must have been sold before the report was made, 20 tons of hemp, and nothing more. Manifestly, since a crop of that size could not have come from a 10-acre farm, he had rented other land, or perhaps had disposed of part of his farm before the report was made, or was the victim of an error in the census returns. At any rate he seems to have devoted his attention almost exclusively to the production of hemp.

Outside the main fiber producing areas, hemp for the most part was only a small crop which contributed to the diversity of farming interest. On the small estate of E. Hook of Christian County in 1850 the leading crops were tobacco, which yielded 14,500 pounds, and corn, which returned 2,000 bushels, while enough land was devoted to hemp to produce 6 tons of fiber. In the same year Ellis Duncan of Nelson, owner of 525 improved and 305 unimproved acres, produced 800 bushels of wheat, 250 bushels of rye, 6,300 bushels of corn, 250 bushels of oats, 50 bushels of potatoes, and 7 tons of hay in addition to 5 tons of hemp. An occasional farmer in other sections of the state did at times seem to make hemp his major crop, but such cases were exceptional.⁹⁹

Examples similar to all those just cited in each category could be listed extensively, yet they are limited to the years for which statistics are available. On occasion, as in the early 1840's when a wave of interest in hemp production swept over Kentucky, a number of farmers may have

tended to make hemp their major crop. Even in that case, however, the tendency was probably not extensive since falling prices would check it. The fact that hemp was so variable, both in yield per acre and in financial return, caused some farmers to abandon its production. In the Bluegrass, however, and in certain other areas in northern and northwestern Kentucky it early became one of the major crops and remained in that position until the outbreak of the Civil War. It is doubtful that the production of the fiber alone produced extensive wealth for anyone, but it did contribute to the income from many Kentucky farms and to the ease and comfort of many Kentucky families.¹⁰⁰

- ¹ "When they [the plants] attain that height, but few articles sustain the effect of bad seasons better than hemp." H[enry] C[lay], open letter, October, 1830, in Hamilton County (Ohio) Agricultural Society, *The Western Agriculturist*, and Practical Farmers Guide (Cincinnati, 1830), 229. (Cited hereafter as Western Agriculturist.) For a concise description of methods of hemp culture, see S. S. Boyce, *Hemp (Cannabis Sativa)*, a Practical Treatise on the Culture of Hemp for Seed and Fiber, with a Sketch of the History and Nature of the Hemp Plant (New York, 1900).
- ² L. J. Bradford, "Hemp Culture," in United States Department of Agriculture, *Annual Report of the Department of Agriculture* (Washington, 1861-), 1863, p. 92.
- ³ John Filson, *Kentucke and the Adventures of Col. Daniel Boone* (reprint, Louisville, 1934), 25; Gilbert Imlay, "Some Particulars Relative to Kentucky, and Other Interior Parts of America," in *The American Museum* . . . , XII (1792), Part II, 265.
- ⁴ Edward Harris to Thomas Christie, April 11, 1797, in *Filson Club History Quarterly*, II (1928), 165.
- ⁵ "Digest of Manufactures," in *American State Papers* (38 vols., Washington, 1832-1861), *Finance*, II, 672.
 - ⁶ Bradford, "Hemp Culture," *loc. cit.*, 92.
- 7 Robert Peter, Chemical Examination of the Ashes of the Hemp and Buckwheat Plants (Frankfort, 1880), 3.
- 8 *Western Agriculturist*, 226-227. See also H[enry] Clay to Henry Coleman, March 4, 1842, in *Genesee Farmer*, III (1842), 59.
- ⁹ William Bell to R. W. Scott, August 8, 1857, in Kentucky State Agricultural Society, *Report of the Kentucky State Agricultural Society to the Legislature of Kentucky, for the Years 1856 and 1857, carefully prepared by Robert W. Scott, Corresponding Secretary* (Frankfort, 1857), 539.
- ¹⁰ David D. Owen, Second Report of the Geological Survey in Kentucky, made During the Years 1856 and 1857 (Frankfort, 1857), 43.
- ¹¹ David D. Owen, *Third Report of the Geological Survey in Kentucky, made During the Years* 1856 and 1857 (Frankfort, 1857), 133.
 - ¹² *Ibid.*, 90.
- 13 Seventh Census, 1850, Schedule IV, Productions of Agriculture. Original manuscript returns for Kentucky in Duke University Library.

- ¹⁴ Frankfort *Daily Commonwealth*, January 12, 1844; *The Merchants' Magazine and Commercial Review*, II (1845), 491.
 - ¹⁵ Owen, Second Report of Geological Survey, 30, 40.
 - ¹⁶ Western Farm Journal, I (1856), 81.
 - ¹⁷ See below, p. 111 and note.
 - ¹⁸ See below, Chapter III.
 - ¹⁹ Lexington *Kentucke Gazette*, December 20, 1787.
- ²⁰ Francois A. Michaux, *Travels to the Westward of the Allegany Mountains* (London, 1805), 74-75.
 - ²¹ Niles' Weekly Register . . . , VII (1815), 340.
 - ²² Ulrich B. Phillips, *Life and Labor in the Old South* (Boston, 1929), 80.
 - ²³ Seventh Census, 1850, Agriculture, original returns.
- ²⁴ Eighth Census, 1860, Schedule IV, Productions of Agriculture. Original manuscript returns for Kentucky in Duke University Library.
- ²⁵ Seventh Census, 1850, Agriculture, original returns. The accuracy of some of the figures in these returns is open to suspicion. For example, O. H. Anderson was reported to have produced twenty tons of dew rotted hemp, which is an incredible amount to obtain from a ten-acre farm, since 1,000 pounds per acre was considered an excellent return.
- ²⁶ Earl G. Swem (ed.), Letters on the Condition of Kentucky in 1825. Reprinted from the Richmond Enquirer (New York, 1916), 71.
- ²⁷ James Hall, Notes on the Western States; Containing Descriptive Sketches of their Soil, Climate, Resources and Scenery (Philadelphia, 1838), 65-66.
- ²⁸ Herbert A. Kellar (ed.), *Solon Robinson, Pioneer and Agriculturist. Selected Writings* (2 vols., Indianapolis, 1936), I, 251.
- ²⁹ The Western Farmer and Gardener, Devoted to Agriculture, Horticulture, and Rural Economy, II (1841), 125, 181.
 - ³⁰ Country Gentleman, VIII (1856), 58; Western Farm Journal, I (1856), 51.
- ³¹ Frederick L. Olmsted, A Journey Through Texas; Or, A Saddle-Trip On the Southwestern Frontier; with a Statistical Appendix (New York, 1860), 17.
 - ³² Country Gentleman, VIII (1856), 122.
 - ³³ *Ibid.*, 121, 345.
 - ³⁴ Frankfort *Commonwealth*, January 9, 1844.
- ³⁵ John R. Procter, *Culture of Flax and Hemp. Part II of Report on the History, Culture and Manufacture of Flax and Hemp* (Frankfort, 1880), 168; Hall, *Notes*, 132; *American Farmer*, I (3rd Ser., 1840), 266.
- ³⁶ Peter, *Chemical Examination*, 3; Adam Beatty, *Essays on Practical Agriculture*, *Including his Prize Essays*, *Carefully Revised* (Maysville, Ky., 1844), 113; Imlay, "Some Particulars Relative to Kentucky," *loc. cit.*, 265.
 - ³⁷ Edmund J. Kinney, *The Production of Hemp* (mimeographed bulletin, Lexington, 1942), 7.
- ³⁸ United States Patent Office, *Annual Report of the Commissioner of Patents* (Washington, 1840-), 1851, Part II, *Agriculture*, 360.
- ³⁹ Imlay, "Some Particulars Relative to Kentucky," *loc. cit.*, 265; Henry A. and Kate Ford, *History of the Ohio Falls Cities and Their Counties* (2 vols., Cleveland, 1882), I, 69; U. S. Pat. Off., *Report*, 1843, p. 69; Peter, *Chemical Examination*, 3.

- ⁴⁰ Kinney, *Production of Hemp*, 7.
- ⁴¹ O. S. Leavitt, "Culture and Manufacture of Flax and Hemp," in U. S. Pat. Off., *Report*, 1861, *Agriculture*, 102; Frankfort *Western World*, July 22, 1808.
 - ⁴² Western Agriculturist, 235.
 - ⁴³ Ibid.
 - ⁴⁴ Owen, Second Report of Geological Survey, 30.
- ⁴⁵ Beatty, Essays, 113. See also American Farmer, V (1823), 99; *ibid.*, I (3rd Ser., 1840), 266; Peter, Chemical Examination, 3; Kentucky, Senate Journal, 1838-39, p. 220.
 - ⁴⁶ Kinney, *Production of Hemp*, 4.
 - ⁴⁷ Owen, Second Report of Geological Survey, 40.
- ⁴⁸ Peter, *Chemical Examination*, 4, 12-13. See also Kentucky Geological Survey, 1873-1891, *Reports on the Progress of the Survey*...(10 vols., Frankfort, 1874-1890), I, Series II, 205-206.
 - ⁴⁹ Peter, *Chemical Examination*, 15-16, 18.
 - ⁵⁰ *Ibid.*, 4-6, 15.
 - ⁵¹ Western Farmer and Gardener, II (1841), 125.
- ⁵² Western Farm Journal, I (1856), 25. See also an article written by Robert Peter in William H. Perrin (ed.), History of Fayette County, with an Outline Sketch of the Blue Grass Region by Robert Peter, M. D. . . . (Chicago, 1882), 16.
- ⁵³ Lexington *True American*, June 10, 1845; *Western Farm Journal*, I (1856), 25; Peter, *Chemical Examination*, 18, 21-22, 25; Beatty, *Essays*, 104.
 - ⁵⁴ Chemical Examination, 18, 25.
 - ⁵⁵ Procter, *Culture of Flax and Hemp*, 114.
 - ⁵⁶ Beatty, *Essays*, 104.
- ⁵⁷ Kentucky Agricultural Experiment Station of the State College of Kentucky, *Bulletin* No. 18 (Lexington, 1889), 3.
- 58 Kentucky Department of Education, Report of the Superintendent of Public Instruction (Frankfort, etc., 1850-), 1899-1901, p. 109.
 - ⁵⁹ Kinney, *Production of Hemp*, 5.
 - ⁶⁰ New York *Times*, March 14. 1926.
 - ⁶¹ *The Farmer's Register*, III (1836), 612.
 - ⁶² H. Blanton, open letter, December 19, 1839, in *American Farmer*, VI (2nd Ser., 1840), 266.
 - ⁶³ See below, Chapter IV.
- ⁶⁴ Numerous newspaper advertisements may be found similar to the following: "NEGROES FOR SALE.—A negro Man, who is a first rate hemp hackler. Also a negro Woman who is a first rate house servant. . . ." Lexington *Kentucky Reporter*, December 12, 1827.

Perhaps somewhat unusual was the "likely" young Negro offered for sale in 1840 and said to be a "good farm hand, fine house servant, and a good hackler." Lexington *Observer and Reporter*, January 1, 1840.

- ⁶⁵ American Farmer, IV (1833), 304.
- ⁶⁶ J. Winston Coleman, Jr., *Slavery Times in Kentucky* (Chapel Hill, 1940), 3-4, 42-43.
- ⁶⁷ Michaux, *Travels*, 74.
- ⁶⁸ Lexington *Reporter*, January 1, 1814.

- ⁶⁹ Perhaps because of a law passed in 1833 prohibiting the further importation of slaves into the state. See the discussion of the statistics of slavery in Ivan E. McDougle, *Slavery in Kentucky, 1792-1865* (Lancaster, Pa., 1918), 8-13.
- ⁷⁰ Elias P. Fordham, *Personal Narrative of Travels in Virginia, Maryland, Pennsylvania, Ohio, Indiana, Kentucky; and of a Residence in the Illinois Territory: 1817-1818*, edited by Frederic A. Ogg (Cleveland, 1906), 180.
- Samuel R. Brown, *The Western Gazetteer; or, Emigrant's Directory Containing a Geographical Description of the Western States and Territories* . . . (Auburn, N. Y., 1817), 113-114; David B. Warden, *Social and Statistical Account of the United States of America; from the Period of their first Colonization to the Present Day* (3 vols., Philadelphia, 1819), II, 327.
 - ⁷² Coleman, *Slavery Times*, 3-4, 42-43.
- ⁷³ *Personal Narrative*, 180. He added that this mythical farmer "lives in a bad house, keeps a plentiful table, which is covered three times a day with a great many dishes. Brandy, Whisky, and Rum are always standing at a side table. He is hospitable, but rather ostentatious, plain in his manners, and rather grave; a great politician, rather apt to censure than to praise, and a rather bigoted republican."
 - ⁷⁴ Frankfort *Commentator*, January 5, 1830.
 - ⁷⁵ Frankfort *Commonwealth*, September 26, 1835.
 - ⁷⁶ *Ibid.*, August 15, 1835.
 - ⁷⁷ *Ibid.*, January 21, 1842.
- ⁷⁸ Danville *Kentucky Tribune*, October 6, 1843; Frankfort *Commonwealth*, January 9, 23, 1844, October 17, 1860.
 - ⁷⁹ Frankfort *Commonwealth*, September 5, 1856.
- ⁸⁰ "Abstract of the Returns of the Fifth Census . . . ," *House Executive Documents*, 22 Cong., 1 Sess., no. 263, pp. 25-26; *Seventh Census*, 1850, pp. 611-612; *Eighth Census*, 1860, *Population*, 180-181.
- ⁸¹ Charles D. Drake (ed.), *Pioneer Life in Kentucky. A Series of Reminiscential Letters from Daniel Drake*, M. D., of Cincinnati, to his Children (Cincinnati, 1870), 182-183.
 - ⁸² Frankfort *Commentator*, January 5, 1830.
 - ⁸³ Frankfort *Commonwealth*, September 26, 1835, January 21, 1842.
 - 84 The Southern Planter, XVII (1857), 141.
 - ⁸⁵ Lexington *Observer and Reporter*, November 2, 1844.
- ⁸⁶ Kentucky Constitutional Convention, 1849-1850, *Report of the Debates and Proceedings of the Convention for the Revision of the Constitution of the State of Kentucky. 1849* (Frankfort, 1849), 118.
 - ⁸⁷ Franklin Farmer, II (1839), 356.
- ⁸⁸ One farmer estimated his hemp at \$120 per ton, stating that he had selected that figure "because it will average that price by holding on to my crop a year or two, when it goes below that price." Frankfort *Commonwealth*, May 11, 1841.
 - ⁸⁹ Franklin Farmer, II (1839), 356.
 - 90 Farmer's Register, III (1836), 612.
 - ⁹¹ U. S. Pat. Off., *Report*, 1853, *Agriculture*, 205.
 - ⁹² *Ibid.*, 1855, p. 242.
 - 93 Frankfort Commonwealth, May 11, 1841.

- ⁹⁴ Southern Planter, XVII (1857), 140-141.
- ⁹⁵ Seventh Census, 1850, pp. 627-628; Eighth Census, 1860, Agriculture, 58-65.
- ⁹⁶ Seventh Census, 1850, pp. 626-628; Eighth Census, 1860, Agriculture, 58-65.
- 97 In the remainder of this chapter all figures on crop production are from the original census returns.
- 98 The Hudson family of Boyle, the James brothers of Fayette, and the Yocums of Woodford were among the last to cultivate hemp before the outbreak of the Second World War.
- ⁹⁹ The census returns credit William Denny and J. J. Shaw of Christian County with 50 and 100 tons respectively in 1860. Since the improved portion of each man's farm was not above 100 acres, and since both men produced other crops, it is doubtful that the census returns are correct.
 - ¹⁰⁰ Wealth was derived from the manufacture of hemp. See below, Chapter V.

CHAPTER II

MANAGEMENT AND SALE OF THE CROP

DURING the entire period in which hemp was a crop of some importance in Kentucky, most of the processes connected with its culture remained unchanged. Enterprising farmers down through the years searched for improvement, trying by experimentation to devise more satisfactory methods of producing the staple and of preparing it for market. Many and varied machines, some of which were practical, were devised for facilitating the various processes necessary to bring the hemp from seed to fiber. Information was exchanged among farmers, meetings were held, favorite theories were expounded, tested, and proved or exploded. Some useful discoveries were made, although only a few were put into practice by the average farmer, and most of the improvements came long after the hemp industry had ceased to play a significant role in the economy of the state. Until the Civil War the old, rather primitive methods were generally found to be practicable, and they continued in use even in the streamlined twentieth century. In many respects the crops of recent years were handled in much the same manner as were those of pioneer times.

THE PRODUCTION OF SEED

The primary object in cultivating hemp was, of course, to obtain the fiber from the stalks. Before a crop could be planted, however, the farmers had to procure a supply of seed. In recent years they have found it possible to purchase seed with a guarantee of its fertility, but earlier each farm produced at least enough to answer its own needs. It was considered advisable to plant each year that of recent growth, since it was apt to lose its vitality with age. Usually, unless spread out on a dry floor, during the summer following the year in which it was raised it tended to generate an internal heat which destroyed its power of reproduction. The first step, therefore, in hemp

culture was the production of good sound seed in quantities sufficient at least for home use.

In some instances the seed for planting was obtained from the crop grown for fiber, but there was always a dispute regarding its quality. Some farmers held that, since hemp is essentially a wild plant, cultivation was detrimental to it. Others professed to see no difference between crops grown from lint seed (obtained from plants grown primarily for fiber) and from that produced by hemp which had been cultivated solely for its yield of seed. Most farmers preferred the latter.² At any rate, the plants being grown primarily for fiber ordinarily were harvested before they had fully matured, thus preventing the ripening of most of the seed and causing it to be light in weight and of inferior quality.³ It was therefore found advisable to set aside a small plot of ground for the production of seed alone. Good yields were often obtained from fertile upland fields planted to this crop, but bottom land was as a rule more productive.⁴ The Kentucky River bottoms are especially well suited for this purpose, and it has been said that "in the past most of the hemp seed used in this country has been grown in the narrow strips of alluvial or bottom land along the Kentucky River from High Bridge north about 50 miles."5

Seed growers endeavored to produce large, rugged stalks of hemp with many branches in order to obtain as large a quantity of seed as possible. Consequently, in the uplands they considered the richest soil available best suited to this crop, and that which had been highly manured was thought to be better than newly cleared land, even of the most fertile quality.⁶ Fields which had been long in grass and pastured by cattle and sheep, or very fertile fields upon which corn had previously been planted, were considered suitable for the purpose.⁷ In the lowlands, especially along the Kentucky River, growers generally used no fertilizer because the soil was naturally highly productive.⁸

The process of cultivation was in many ways similar to that for cotton and corn. The ground was prepared by repeated plowings until thoroughly pulverized, loose, and friable. If grassland were to be used, it was found to be better if broken in the preceding autumn and replowed before planting. After the field was thoroughly prepared, it was laid off in rows about four feet apart, in which the seed, about two quarts per acre, was sown in drills; or, possibly more commonly, it was planted in hills containing seven or eight

seeds each. Early April was usually the season in which this was done. Continual care when the plants were small prevented the growth of grass and weeds, and frequent plowings kept the soil from becoming packed. After the plants had reached a height of six to eight inches, they were thinned, leaving three or four in each hill. 10 Usually thinning was considered essential while the plants were young, 11 but sometimes the process was postponed until the male plants were pulled out.¹² In either case, after the hemp had grown enough to enable the farmer to distinguish between the male and female stalks, he thinned the former. This task, in the words of Henry Clay, could best be performed "in the blooming season, when the sexual character of the plants is easily discernible; the male alone blossoming, and, when agitated, throwing off farina, a yellow dust or flour which falls and colors the ground, or any object that comes in contact with it." ¹³ By pulling or cutting, workmen eliminated most of the male plants, leaving one every few feet along the row to pollinate the females. After the remaining males had shed their pollen, all of them were removed in order to allow as much space as possible for the seed bearing stalks.¹⁴ Many farmers followed the practice of cutting the tops from the latter before they reached maturity in order to cause them to branch profusely. 15

The seed began ripening in an ordinary year within 120 to 130 days after planting, although the growing season varied with different varieties of hemp. For the common type it usually extended from April to about the first of September. A gradual change in color of the seed pods and leaves, from dark green to light brown, signalized the approach of the time for harvesting. When the first pods began to open and drop their contents, the harvest began immediately, for a further delay meant waste. The stalks were cut by means of a scythe or "hemp hook," 16 used very carefully in order not to shatter out and lose any more seed than necessary. Early morning was the best time for this labor, since the seed was less likely to shatter when damp with dew. 17

After cutting the stalks, some farmers carefully placed them upright against a horizontal pole until partially dry, then removed them to cover to finish curing. Others placed the stalks in shocks during this time, but the danger of loss from wind and birds was great. When completely dry, the seed was removed by one of several processes. The use of machinery was not feasible because of the large size of the stalks and because of the loss from shattering if the plants were handled excessively. Possibly the most

common method was to thresh the stalks by means of a flail upon a clean floor. A recent recommendation calls for a crew of four to six men using clubs about five feet long to beat out the seed on a tarpaulin spread in the field. According to Adam Beatty, the most convenient method was to beat the stalks against a slanting plank and allow the seed to fall upon the floor. In either case the chaff was removed by the use of coarse sieves, by winnowing, or by the use of machines to fan out the lighter impurities and leave the seed. The clean seed was then spread to dry thoroughly in order to lessen the danger of its heating when stored, and, finally, it was placed in sacks or in barrels with open heads and stored in a dry place, carefully secured against rats, mice, and birds, all of which displayed a greedy fondness for the tiny nutlike ovules. 23

Under favorable conditions hemp grown in this manner produced from twenty to forty bushels of seed per acre, and it was claimed that on especially fertile soil with careful cultivation the yield at times reached fifty to sixty bushels.²⁴ In recent years twelve bushels an acre have been considered the average for land not located in the river bottoms.²⁵

The "fruits, commonly called seeds . . . are nearly egg-shaped in outline, flattened at the margins. Color, dark gray, with fine, netlike, whitish markings on the smooth and shiny surface. Each fruit is completely filled with seed proper." Besides being needed for planting the fiber crop, hemp seed was always in demand for other purposes. It is valuable as a food for birds and poultry. When pressed it yields from 30 to 35 per cent of its weight as a peculiar-smelling oil, mild in taste and in color a greenish yellow which turns to brownish yellow with age. After the liquid, which is useful in manufacturing paint, varnish, and soap, has been extracted by crushing, the residual seed cake may be employed as fertilizer or stock food.²⁷

PRODUCTION OF THE FIBER CROP

The cultivation of hemp for fiber was an entirely different process from that practiced in raising seed. Farmers who engaged in the production of fiber desired tall, slender plants with long internodes and with as few branches as possible. There was, however, one point of similarity: it was necessary in both cases that the ground be well prepared by plowing and harrowing before planting began. If sod land were to be used, it was broken during the preceding autumn so that the actions of frosts, freezes, and winter rains would pulverize it, leaving it in good condition for further plowing in the spring.²⁸ Growers also discovered that when fall plowing was practiced, the ensuing crop suffered little from the depredation of cutworms, which often attacked young hemp on sod or clover lands.²⁹ An old hemp field could not be treated in this manner, since it would be covered during the fall with the crop, which was spread out to go through the process of dew rotting. In that event nothing could be done to the soil until spring. In either case the early spring brought intensive conditioning of the land preparatory to seeding it. It was deeply plowed and cross-plowed, harrowed, and perhaps rolled, until a fine state of tilth had been attained.³⁰

Sometimes fertilizers of various kinds were used, but until recent years this practice was not adopted generally.³¹ According to the usual custom the farmer cleared a field, sowed it in hemp year after year until it no longer yielded a profitable return, and then resorted to other newly cleared fields, preferably woodland pasture, there to carry on the same process. Often old land, which had previously been abandoned for hemp culture, was used again after having its humus and fertility restored by two or three years in clover or by a longer period in open bluegrass fields. Progressive agriculturists learned to practice crop rotation or to plant cover crops which might be plowed under to replenish the soil, but the ordinary farmer failed to adopt a regular system by which the natural fertility of the soil might be maintained at a high level.³²

Several reasons may account for this failure to follow the teachings of modern agriculture. First, the depreciation in fertility of the soil of a hemp field was hardly noticeable from year to year, especially if the crop was dew rotted on the land which produced it. Thus the farmer would be able to see no sudden, immediate reason why he should cease planting hemp on a given field when the yield was almost as good as that of the preceding year. Moreover, young hemp growing on clover land was subjected to attacks by cutworms, which rarely molested fields which had been planted to hemp during the previous year. There was also considerable inconvenience connected with planting the crop on new land unless the farmer had several fields well fenced. Growing and rotting hemp always had to be secured against livestock, and crop rotation in many cases would present the necessity of constructing new fences.³³ Finally, there was, of course, the

ever-present tendency to resist change as long as the old practices answered fairly well.

Opinions varied as to the proper time for planting. It appears that the task ordinarily began about the middle of April, although it was often postponed until May, depending upon the weather and the condition of the soil. Hemp sown as late as the first few days of June would produce a crop in Kentucky, but, according to the general belief, it was inferior to that planted earlier. Where a large crop was grown, the farmer found it best not to plant all of it at one time. By seeding different parts of his field at intervals of several days, he thereby precluded the possibility that the whole crop would ripen and be ready for harvesting at the same time. The exercise of this forethought avoided a press of labor during the harvest and thereby saved money and the quality of a part of the fiber.

At the proper time, when the ground was neither too wet nor too dry, planting began.³⁶ The farmer had selected, as far as possible, good sound seed of which the most desirable kind was of a bright gray color, well filled, which had not undergone heating in any way.³⁷ The soil already had been thoroughly conditioned and lay awaiting the seed. Since the latter is small and of a color similar to that of the Bluegrass soil, it becomes almost invisible after having been sown. Consequently, it was necessary to have guiding lines for the sower to follow in order that he might plant the field as evenly as possible. It is said that years ago a method was followed whereby several men were tied at regular intervals along a rope to insure their distributing the seed evenly.³⁸ On some farms a log chain was dragged over the ground, leaving marks plain enough to be followed, yet not deep enough to make an uneven surface.³⁹ Probably the most common method was to run very shallow furrows a convenient distance apart. 40 Following these lines, the sower, with a bag of seed hanging by his side, walked across the field, back and forth, scattering the seed with majestic sweeps of the arm. More recently, of course, grain drills were used for planting.⁴¹

The quantity of seed used varied with the quality of the land and sometimes with the purpose for which the hemp was intended. The majority of farmers sowed from a bushel (44 pounds) to 50 pounds per acre, although as much as 70 pounds per acre was often planted on very fertile soil.⁴² Careful judgment was necessary in determining the proper amount to be used. If not sown sufficiently thick, the hemp stalks would grow too large,

producing a coarse and inferior lint, while the relatively large amount of wood in each plant caused it to be difficult to break. On the other hand, if too much seed was used, the growth would be so thick as to prevent the crop from reaching the proper height, or it would thin itself by smothering out a part of the plants, with an accompanying waste of the surplus.⁴³ A smaller quantity of seed might be used when the crop was destined to be manufactured into coarse cordage.⁴⁴

A harrow which covered the seed lightly followed the sower in the field. At times, especially in dry weather, a roller was also run over the soil, packing it to a slight degree and insuring rapid germination.⁴⁵ If there was doubt concerning the presence of sufficient moisture in the ground to cause all the seed to sprout, some farmers considered it safer to cover them with shovel plows. In the event of extremely dry weather, there was no alternative other than to wait for rain before sowing.⁴⁶

Within four to six days after planting, depending upon temperature and moisture, the young plants began to emerge from the ground, presenting at first the appearance of a light green carpet spread over the field. For a short time their visible growth was slow, while the long taproots and numerous feeders pushed deep into the soil. Within the first thirty days the undulating mass of dark green hemp attained a height of from two to three feet.⁴⁷ During the next two months it reached its full stature of from six to ten feet, its maximum length depending upon the variety of seed planted, the amount of rainfall, and the fertility of the soil. Under favorable conditions it was of the most rank and luxuriant growth, the stalks at times attaining a length of fourteen feet, even when closely crowded together.⁴⁸

The best fields of hemp were considered to be those in which the plants grew thick enough to prevent branching along the stalks. It was desirable that the lower leaves drop off, leaving only those at the top, and that the internodes be as long as possible, since they determine the length of the lint. The fibers grow from the base upward, a part of them ending at each node.⁴⁹ Although the farmer was rarely able to produce it,

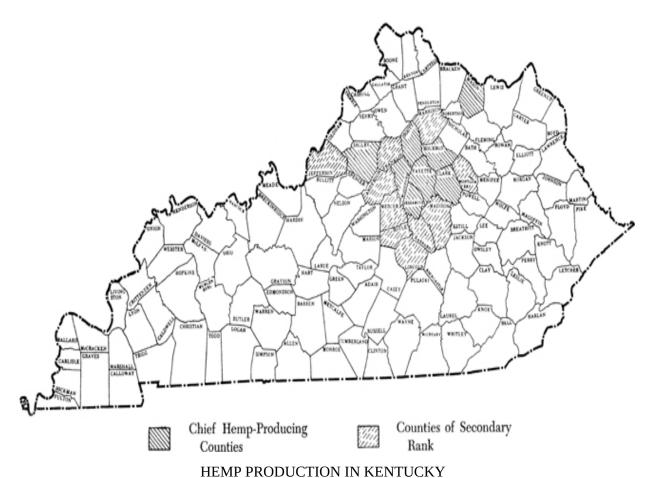
An ideal hemp plant should be 10 to 12 feet in height, one-fourth to three-eighths inch in diameter near the base, with internodes 10 inches or more in length, and stems prominently fluted, with comparatively large hollows, making them thin-shelled and easily broken. The fiber is generally tougher on the thin shelled stalks. 50

Cultivation was not necessary, nor was it possible, during the growing season. Ordinary weeds and grass could not compete with the rapidly developing hemp and were killed by shading and starvation. In fact, a crop of hemp was considered to be an excellent means of eradicating weeds from a field which they had overrun.⁵¹ The plant had few enemies to interfere with its growth.⁵² Because of its exudation of protective resin, insects rarely attacked it. Cutworms sometimes ruined a crop planted on clover land, but seldom bothered that on old hemp fields or on bluegrass sod.⁵³ Rains and droughts frequently injured it to some extent, and occasionally spring hailstorms destroyed the growing crop, making it necessary to plant again. Hemp's worst foe, aside from adverse weather conditions, was a parasitic plant called chokeweed or broomrape, which proved troublesome at times by feeding upon its roots and thereby sapping its vitality. Apparently this pest, which also preys upon tobacco, was imported accidently with hemp seed from the Orient.⁵⁴ It was said to have existed earlier but did not become a source of concern to Kentuckians until after the Civil War.⁵⁵ When the large hemp seed producing areas in the state became infested, broomrape was spread to all parts of the country where the seed was used for planting.⁵⁶ Control and eradication of the parasite proved difficult; as it grew worse whole fields of hemp were made worthless, and in many cases its appearance was interpreted to mean that the soil had become "hemp sick" or exhausted and that it must be turned to other crops.⁵⁷

HARVESTING THE CROP FOR LINT

Ordinarily, from 100 to 120 days were required for the crop of hemp to mature, although for some varieties the growing season extended over a longer period. There was always some question as to the proper time for harvesting, since the male plants ripened about ten days earlier than the female. If cut when the males matured, there would be a loss of fiber because of the immaturity of the females. If the cutting were postponed until the female stalks were at the peak of perfection, the fiber of the males would have become dry and brittle, thus to a considerable extent destroying its value. In pioneer times, and where only small patches were grown, the male plants were sometimes pulled out by hand, leaving the females to reach maturity, and making it possible to secure the maximum amount of lint from both. This method was, of course, impracticable where large fields were sown in hemp and when there was a scarcity of labor. The Kentucky farmers attempted to pursue a middle course, harvesting the crop about midway

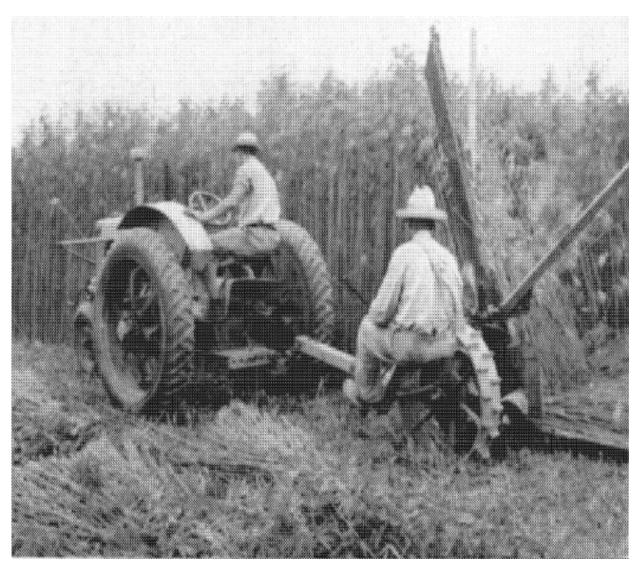
between the maturity of the two types.⁶⁰ According to their usual practice, the proper moment for reaping the hemp was indicated by clouds of pollen hanging over the fields; by a change of color in the leaves, a gradual fading from deep green into a paler hue; and by a shedding of the foliage from the male plants, beginning with the leaves nearer the ground.⁶¹ When the first ripe seeds made their appearance it was high time for the cutters to be at their task, for any further delay meant a gradual deterioration of the quality of the fiber.⁶²



HARVESTING HEMP

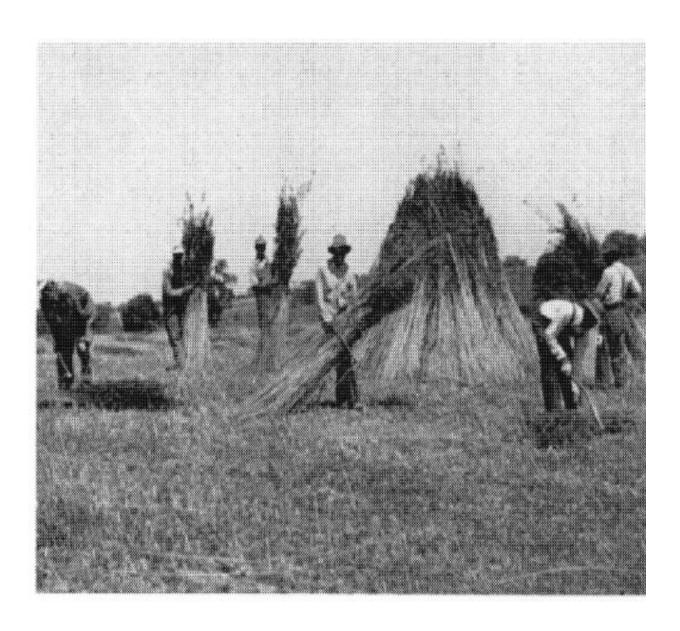


Cutting and Shocking Seed Hemp



Cutting the Fiber Crop

AFTER THE HARVEST

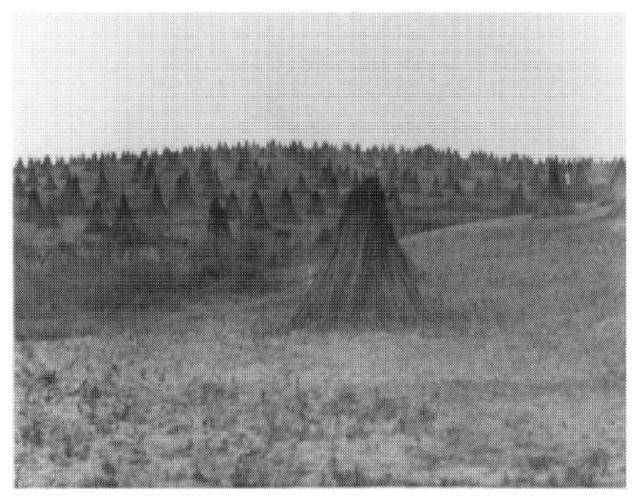




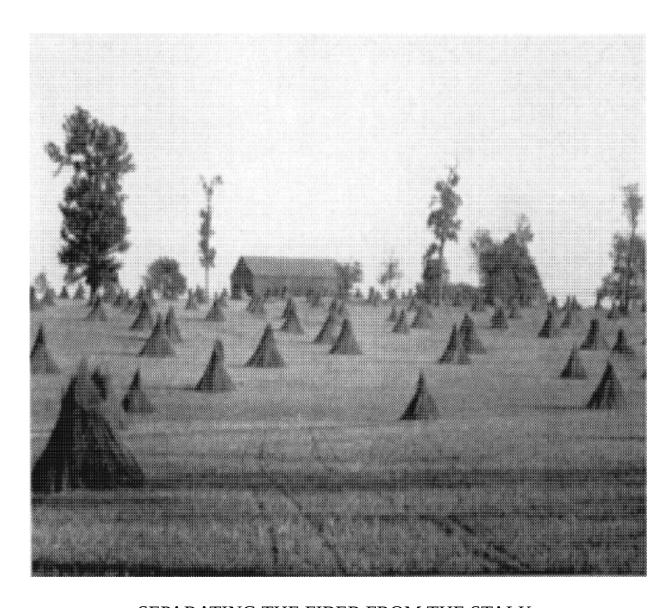
Placing Cured Stalks in Shocks

Bottom photo courtesy of Audio-Visual Archives, Special Collections and Archives, University of Kentucky Archives

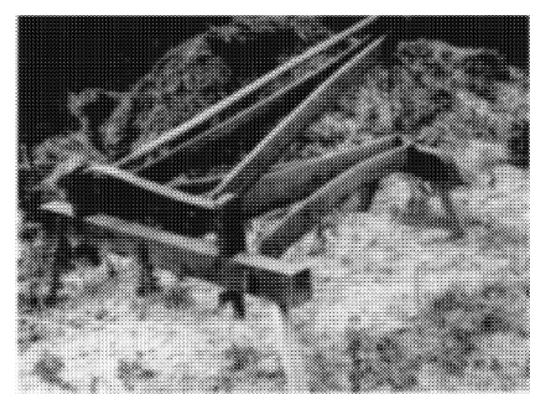
THE TENTED FIELDS



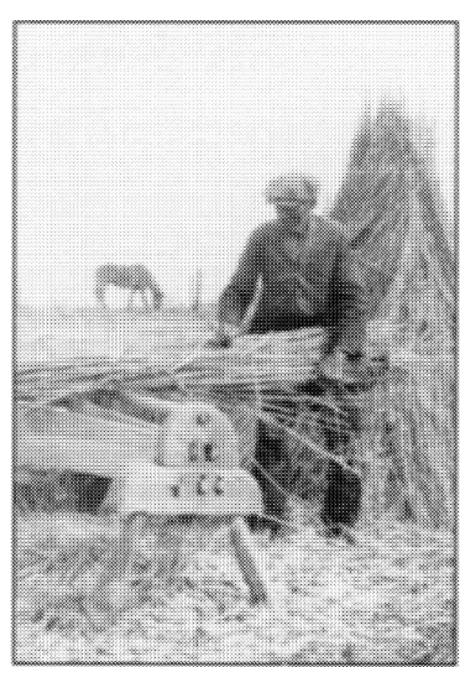
Above photo courtesy of Audio-Visual Archives, Special Collections and Archives, University of Kentucky Archives



SEPARATING THE FIBER FROM THE STALK



The Hemp Brake.



Above photo courtesy of Ruth Gaitskill



Two Scenes of the Hemp Brake in Use

HEMP FIBER



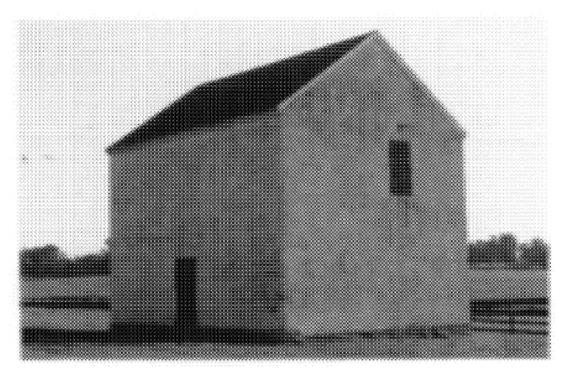
Fresh from the Brake



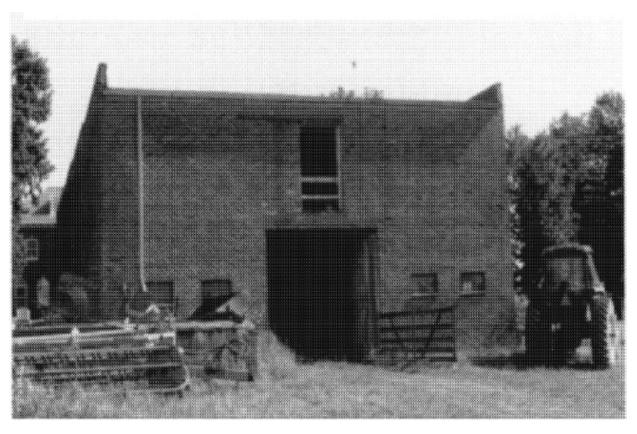
Weighing Bundles of Fiber



 ${\it Courtesy~of~Ruth~Gaitskill}$ Hemp Fiber Loaded on a Truck.



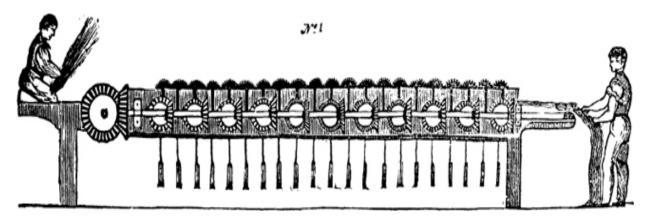
 ${\it Courtesy \ of \ John \ Van \ Lennep}$ Civil War Era Hemp Warehouse near Lexington.



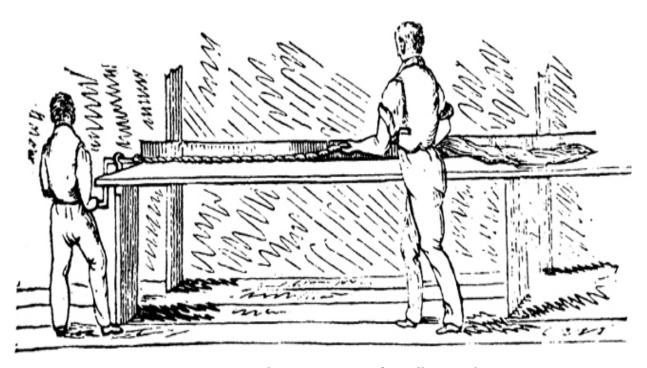
Courtesy of Jane Blackford

World War II Era Hemp Warehouse near Lexington.

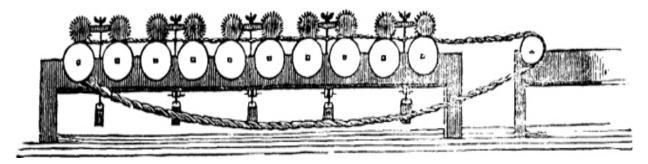
MACHINERY FOR THE PREPARATION OF HEMP AND FLAX



A Side View of a Breaker, through Which the Hemp or Flax Is Passed, in Order to Crush and Deprive it of Most of the Wood.



Hemp Being Converted to Roves to Fit It for Milling Machines.



Side View of Milling Machine with Hemp Roving in It.

From The Western Farmer and Gardener, Devoted to Agriculture, Horticulture, and Rural Economy, Thomas Affleck, ed. Vol. 11: From October, 1840, to September, 1841. Cincinnati: Charles Foster, 1841.

Some growers cut the plants raised on poor soil just before they reached maturity, on the theory that by so doing they would be easier to break. Poorland hemp was short and had a relatively large amount of wood in each stalk. Its fiber was of finer texture and closer grain and had a greater affinity for the woody portion than that grown under more favorable conditions. By harvesting it a few days earlier than was ordinarily the case, the stalks would contain a considerable amount of sap which assisted materially in the rotting process. ⁶³

Various methods were used in harvesting the crop. Sometimes in pioneer Kentucky, workmen pulled the plants by hand, and it was said that this labor was no more fatiguing than that involved in cutting the crop with a blade.⁶⁴ It possessed one advantage in that it preserved all of the fiber, whereas cutting unavoidably lost the two or three inches of lint immediately above the ground. Pulled hemp was difficult to handle in the subsequent operations because of the added weight and mass of the roots. The roots, by this process, were taken from the field; but if the hemp were cut, they were left to be plowed under and to restore an appreciable amount of humus to the soil.⁶⁵

In the course of time cutting became the generally accepted mode of reaping hemp.⁶⁶ The most common practice was to use a rather primitive reaping knife, called a hemp hook. This instrument assumed slightly different forms in different localities, but it was ordinarily composed of a

blade about eighteen inches long, slightly curved, with a handle placed at right angles to the blade.⁶⁷ In using the hook the laborers followed a set procedure, almost ritualistic in its nature, as the following description illustrates:

In cutting the left arm should be thrown around the hemp, so as to gather it near the top, under the arm and next to the body; the knife held in the right hand should then be applied in the opening which is thus made in the hemp, and so much as is gathered should be cut close to the ground, with a steady drawing motion, and not with a violent stroke.⁶⁸

The more skillful workers acquired great deftness in throwing the stalks in such a manner that they fell, butt ends even, into long smooth rows.⁶⁹ An experienced laborer could average about one-half acre per day by this process.⁷⁰ Cradles were also tried, but their use was never widespread because of the difficulty experienced in attempting to cut coarse or very tall hemp.⁷¹

After mowing machines and reapers, such as are used for cutting hay and small grain respectively, came into general use, they were employed in the hemp fields. They were successful, however, only if the stalks were small in diameter and if the ground was fairly even and free from stones and other obstructions. Mowers did the work in a relatively short time, being capable of harvesting from seven to ten acres per day.⁷² Since the early years of the twentieth century another machine, the "self-rake" or "sweep-rake" reaper has been extensively used.⁷³ Its construction is similar to that of the mowing machine, with an additional attachment for raking the stalks into small bundles as they are cut. Under favorable conditions from five to seven acres per day could be covered with this reaper.⁷⁴

The work tended to be destructive to any kind of machinery, and only that of the most rugged construction could be used for any length of time.⁷⁵ None of the early reapers was widely used, and most of the farmers continued to harvest their crops by hand.⁷⁶ One reason for this fact may be found in the following statement: "There are machines for cutting hemp, but I have never seen one which cut it as well as it can be cut with a knife by hand. The knife cuts closer to the ground, wastes less, and permits it to be spread more evenly upon the ground, resulting in better curing."

After being cut, the stalks were allowed to lie on the ground until they were dry, being turned after two or three days if necessary to insure uniform curing. Some farmers welcomed a hard rain during this time in order that the foliage might be beaten off; some stripped the leaves from the stalks as the hemp was taken up after drying; and others preferred that they remain until the crop was spread for rotting. Usually those few leaves which were not shaken off in the processes of stacking, hauling, and spreading the hemp were permitted to remain. ⁷⁹

When the plants had become thoroughly dry, they were taken up, stacked, and left until late fall or early winter. Using a rake or a crude wooden hook, a laborer bunched an armful of stalks together, bound them into sheaves by means of a cord or by tying them with other stalks of the hemp itself, and dropped them to await disposal by other workmen.⁸⁰ The bundles were placed either in relatively small shocks, ⁸¹ in long ricks such as are used for storing hay,⁸² or in large round stacks. The last method was probably most commonly used where large crops were grown. Building these stacks was an art in itself. First a platform about ten feet square, designed to keep the hemp from resting on the moist earth, was constructed by placing one layer of fence rails or other similar lengths of wood upon another. A few short bundles of hemp were then crossed on the center of the platform in order to cause every cross section of the completed structure to slope from the center toward the circumference. Upon this foundation a layer of bundles, hauled to the selected spot upon a rude wooden sled, or "slide," was placed, each as a radius of a compact circle, with the tops in the center and the lower ends outside. Other layers were placed upon these, care being taken to keep the butts even. In this manner the mound was built to a height of six or seven feet, when it was covered by a rainproof thatch of sheaves well tied to resist displacement by winds.⁸³ A large field would contain several of these mammoth shocks, in which the crop remained until the time for spreading arrived. A few hemp growers permitted their crops to lie in stacks or ricks for a year before exposing them to be rotted, claiming as a result that the fiber compared favorably with that imported from Russia.⁸⁴ The practice was, however, never adopted generally.

SEPARATING THE FIBER FROM THE STALK

Hemp fiber lies immediately underneath the outer bark and is attached to the woody inner portion of the plant by a resinous gum. Where hand brakes were used for separating the lint from the remainder of the stalk, which was usually the case in Kentucky, it was necessary to loosen the fiber before the breaking process began. To accomplish that purpose the growers used three methods of eliminating the gum: dew rotting, water rotting, and rotting by the use of chemicals. Of these alternatives, the first was by far the most common in Kentucky.

For dew rotting, the sheaves were taken from the stacks where they had remained for several weeks, broken open, and spread out evenly, usually upon the ground which grew them.⁸⁵ The farmer began this task about the first of November, or as soon as he judged that warm weather had gone. If spread too early, the stalks tended to rot unevenly, owing to fermentation of the gum, with a resulting impairment of the quality of the fiber. Cold rains, frosts, and melting snows acted upon the plants to dissolve and leach out without fermentation the substance binding the lint to the wood. Hemp rotted in cold weather produced a finer, white fiber of more even texture than that subjected to the action of warm rains and atmosphere. After having been spread, the hemp for some time usually required no further attention, although, if it lay thickly upon the ground, it might become necessary to turn the layers of stalks in order that they might rot evenly. Rotting was usually completed within a month or six weeks.⁸⁶

When the fiber became loose upon the stalks, the time had come for taking them up again in order to stop their decomposition. This was a critical moment, since for want of care and prompt attention the crop might be greatly damaged. If the stalks were allowed to remain on the ground too long, the strength of the fiber would be reduced, while if they were taken up too soon, it could not be cleaned well. An experienced farmer could tell at a glance when his hemp had rotted enough. If the stalks had lost their "sticky" appearance, and if the lint had begun to separate from the wood, appearing somewhat similar to a bow string attached to the stalk at both ends and separated from it in the middle, the process was completed. The novice could solve the question easily by breaking a few stalks by hand or upon the hemp brake. If the fiber could be separated readily from the stalk, and if the wood broke squarely off without splintering, the hemp was ready to be removed from the ground. It was again raked into small bundles, taken up, and stacked in small shocks to await the breakers. It was necessary that the

hemp be thoroughly dry before being shocked, because dampness would cause heating and decomposition of the fiber.⁸⁸

Water rotting, or steeping, was an entirely different process, about which there were many theories as to the best method. It was possible to place green hemp, with no preliminary drying, into water immediately after it had been cut, but usually it was first cured as in preparation for dew rotting. ⁸⁹ In rare instances the dried stalks, before immersion, were run through a breaking machine consisting of from ten to twenty sets of fluted rollers which crushed the wood, allowing rotting to occur quickly. In any case, the hemp straw, ⁹⁰ bound into small bundles, was placed in ponds, running streams, or in tanks or vats especially constructed for the purpose. ⁹¹ It was very buoyant, and weights or a framework of some sort were necessary to keep it submerged. ⁹² In extremely cold water six or seven weeks might be required for steeping, while in warm water a week was ordinarily sufficient to dissolve the glutinous matter and leave the fiber lying loosely along the stalk. ⁹³

Modifications of the generally accepted procedure for water rotting were often introduced experimentally without any great or long-continued success. Hemp steeped in water heated to a steady temperature of 105° F. could be broken after three days or less, but the practice was too expensive and troublesome to be adopted generally. Slightly different was the "Barlow Process," a method of producing within sixty hours hemp "of superior quality" by steeping it in warm water, which at the proper time was raised to the boiling point to stop the rotting. Steam pipes running through the vats supplied the necessary heat. By another method the hemp was allowed to remain immersed for twenty-four hours; then the water was withdrawn long enough for the mass of damp stalks to become permeated with an internal heat, after which it was again submerged. This process, it was claimed, prevented fermentation and yielded a fine, strong product suitable for naval use. Be a long of the process of the strong product suitable for naval use.

Rotting by means of chemicals was merely a variation of the above processes. Potash, soap, or other agent could be added to the water to hasten the steeping and to yield a bright, soft fiber. ⁹⁷ At one time certain ingenious farmers conducted experiments with the "liquid waste product from oil refineries." The discovery that hemp immersed for about twenty minutes in this solution, and then dried, was ready for breaking led to the wishful

statement that the method "seemed likely to do away with the tedious, uncertain, and unsatisfactory process of dew retting." In a long-continued search for a means of preparing fiber for use without its undergoing the tedious period of steeping, many attempts were made to break and manufacture unrotted hemp. Few of them were successful, however, since the lint, unless treated with some chemical such as chloride of zinc, was found to rot after being manufactured into cordage or cloth. Whether rotted in water or in some solution, the sheaves, after having been submerged long enough for the stalks to be broken easily, were removed, opened, spread to dry, and then shocked to protect them from the weather until they could be broken. Whether the stalks is to be broken from the weather until they could be broken.

Although the product obtained from water rotting was lighter in color, softer, and commanded a higher price than that from dew rotting, the amount of hemp annually prepared in that manner was comparatively small. A number of reasons accounted for this fact. The farmer, unless his land lay near a running stream, was confronted with the problem of obtaining a sufficient amount of water for the purpose. There was some reluctance about using ponds and streams, since all the fish in them would be destroyed by the poisonous resin, and the water would be unfit for livestock to drink¹⁰¹ In addition, the steeping hemp gave off a highly disagreeable odor, "bearing a very strong resemblance to that of rotten eggs," which was believed to be a "miasma" detrimental to all animal life in the vicinity. 102 Consequently, there was a widespread conviction that the labor connected with water rotting the crop endangered the lives of the slaves and was doubly perilous for whites. 103 Even if such beliefs were merely superstitions, it was nevertheless true that placing the bundles into water and then removing them were decidedly messy and unpleasant tasks which were avoided when the practice of dew rotting was followed.

There was also an economic reason, perhaps much weightier than any other, for not steeping the crop. Most of the Kentucky hemp, until the latter part of the nineteenth century, was manufactured into bale rope and bagging for the cotton of the lower South. The dew rotted product was usually satisfactory for this purpose, besides being cheaper and less trouble to prepare. Since the cotton planters naturally desired to pay as little as possible for the materials used in baling their staple, the southern market demanded dew rotted hemp rather than the costlier water rotted. Moreover, when made

into ship rigging the American cordage came into competition with manila hemp, or with the bright snow rotted hemp of Russia which was preferred by seamen.¹⁰⁴ Under such conditions it is not surprising that most of the Kentucky hemp was dew rotted.

After the crop had been rotted, dried, and stacked, the farmer next devoted his attention to separating the lint from the wood, a task accomplished by "breaking" the stalks and "hackling" the fiber. As in other processes connected with hemp culture, there were many attempts to improve the method of preparing the fiber, but the old, primitive hand "brake" continued to be used through the years, even almost to the middle of the twentieth century.

This device was rather simply constructed. The lower portion usually consisted of a horizontal grid made of three boards or slats, "about six or seven feet in length, six inches in depth, and about two inches in thickness in their lower edges," set edgewise, wider apart at one end than at the other ("about six inches apart in the rear, and gradually approaching to about two inches in front"). The topmost edges of these slats were somewhat sharpened, though rounded to avoid cutting the fiber as the stalks of hemp were broken. The upper framework was similarly constructed, but was composed of only two boards whose lower edges were rounded and which were arranged in such a manner that, when moved up and down, they passed midway in the spaces between the slats of the lower grid. The wider ends of the two jaws were hinged together, and a small round pole placed lengthwise a few inches above the upper boards served as a handle. Four sturdy legs of convenient height, usually about two and a half feet in length, supported the $machine.^{105}$ The better models were made of well-seasoned white or burn oak, carefully put together and painted. 106 They were usually built upon the farm, since anyone with a knack for carpentry could do the work satisfactorily. They might be purchased, however, at a price which ordinarily ranged between five and six dollars each. 107

A number of machines for breaking hemp were tried at various times, but few proved successful enough to merit long-continued use. One contrivance, called a "hemp mill," was a modification of an apparatus used sometimes in breaking flax. It consisted of a circular platform, whose radii were small logs or hardwood timbers edged on top, upon which revolved a large fluted log or a millstone, "cut in the form of a circular cone," whose

horizontal axle was fastened at one end of a vertical shaft standing in the center of the platform. The heavy roller, when turned by horsepower around the central shaft, broke the hemp which had been placed in thin layers on the platform; and the shives, or fragments of wood, fell through the spaces between the logs to the ground underneath. Another power-driven device, soon forgotten despite the enthusiastic statement of an admirer that of about thirty different machines for breaking hemp that I have seen, this is the only one worth a cent, was operated upon the same principle as that of the common hand brake.

The majority of machine brakes, all somewhat alike, were constructed upon a different principle. By them the stalks were crushed while passing through a series of fluted rollers, after which the shives were loosened by a rapidly vibrating mechanism, and the fiber was rather poorly cleaned by "a kind of carrier which gives a scraping motion." Because of their crudeness and in many cases because of their flimsy construction these old contrivances were never satisfactory. In recent years modern machine brakes have been used successfully in other states, notably Wisconsin, and in 1941 they were brought to the Bluegrass by a company which established a breaking plant at Versailles. They necessitate, however, a rather heavy investment, and until comparatively recent times the Kentucky farmers ordinarily had sufficient labor available to break by hand. An article written in 1859 may be applied with equal truth to almost any period in the earlier history of hemp:

Quite a variety of machinery has been tried for hemp breaking, together with Dutch, Irish and Natives, but a stout negro man, with a good hand brake, a fair task before him, and prompt pay for his overwork, now has a decided preference, if not a complete monopoly. Breaking and cleaning by horsepower machinery is a possible achievement, but will hardly be profitable in practice except where there is some other inducement for bringing much of the hemp to one place, besides to break it. 113

Numerous disadvantages attended the use of the hand brake. It was necessarily a slow process. Where there was a large amount of hemp to be processed, and when frequent rains interrupted the work, there was a possibility that the previous year's crop would not be off the ground when the time arrived for preparing the soil for the next. Moreover, the use of the hand brake transformed a comparatively large proportion of fiber into cheaper tow; and it necessitated an undue amount of rotting in order that the power supplied by manual labor might be capable of cleaning the fiber properly. By the time the dews and rains had dissolved the gums, the action

of the weather usually had caused the lint to become discolored, coarsened, weakened, and dirty, thereby to a great extent lessening its market value. 114

Another difficulty, pessimistically described in the following quotation, was very similar to that which is faced by cotton planters who hire labor for harvesting their staple:

It cannot be said that the proper reliance can be placed upon hand labor to properly clean the hemp fiber, in view of the fact that it is broken out by the pound and the addition of the maximum amount of hurds is greatly to the advantage of the breaker. The combination of over-retting, coarse fiber, excess amount of dirt and uneven quality of Kentucky hemp are tending gradually to displace it from the more desirable uses in the manufacturing field and to allow its displacement of fibers produced in other states and handled by machinery. ¹¹⁵

Nevertheless, the hand brakes continued to be used, while consumers of hemp frequently uttered complaints about the quality of the Kentucky product.

The laborious task of hemp breaking began as soon after Christmas as possible in order that it might be completed before the arrival of the season for spring plowing. The brakes were moved from shock to shock over the field to avoid the necessity of carrying the hemp straw, and often the operator kept a fire burning near by for the double purpose of keeping himself warm and of drying the hemp. The work was monotonous and fatiguing, requiring considerable strength and skill on the part of the laborer. Holding a small bundle of stalks in his left hand, he placed their tops across the lower slats of the brake, then with repeated strokes brought the upper frame down sharply upon them. This shearing action broke the wood into small pieces, called hurds or shives, which were shaken out by whipping the bundle against the machine or against a stake, or by striking it with a paddle. By continuing the process of alternately breaking and whipping, the lint was freed from the wood along its entire length. Sometimes it was then "scutched," although this process, not considered profitable to the farmer, was usually left to the manufacturer, "as well as that of beating and heckling it."116 When cleaned and straightened as much as possible, the bundle of fiber, or "hand," was twisted, folded in the middle, and tied. It was then placed upon a layer of shives which prevented it from coming into contact with the moist earth, after which another bundle of stalks was subjected to the same treatment. This work could be carried on only in dry weather, since dampness caused the wood to lose its brittleness and the hurds to adhere closely to the fiber.

When slave labor was used, each man was tasked from eighty to one hundred pounds of lint per day, but the average worker found little difficulty in exceeding his assignment if the hemp was well dew rotted. Both cutting and breaking were sometimes thought to be injurious to the health of the workmen owing to the dust which issued from the blossoms in the first instance and from the stalks in the latter, 118 vet it was said that "they were the two kinds of work the negroes liked most. The reason was that both were task work, and a reward followed good work." 119 Payment for overwork, usually at the rate of one cent per pound for all fiber broken out in addition to the task, proved a practical incentive to diligence. ¹²⁰ Two hundred pounds was not an unusually high production for a skilled workman, ¹²¹ in at least one case a slave is known to have broken 360 pounds, ¹²² and in recent years from one to three hundred pounds was considered the average. 123 The amount processed each day depended upon the condition of the hemp as well as the ability of the laborer and his willingness to apply himself to his task. Water rotted stalks were more difficult to break, about ninety pounds of fiber a day being the average output of an experienced workman. 124

As the close of day approached, the hemp breaker plunged into his work with renewed energy, seeking before nightfall to complete the shock upon which he was working. A stack from which part of the stalks had been removed was no longer protected against the weather, and a shower of rain coming at that time might injure the fiber. At dusk the men assisted one another in tying the day's output into bundles, each of which weighed from 100 to 150 pounds. These were then hauled to a "hemp house" or other shelter where they were weighed and the results credited to the proper workers. A comparison of figures usually followed, often to the accompaniment of practical jokes and good-natured raillery among the men. The nightly weighing was of especial interest on farms where prizes were offered for the cleanest and largest product of the day's labor. 126

The practice of tying the fiber into bundles by hand was in many cases supplanted in time by the use of power presses which packed it in bales, weighing from 200 to 500 pounds each, which were covered with cotton

bagging.¹²⁷ After baling machines came into general use, they, too, were used for compressing the lint. The bales, similar to those into which hay is now packed, weighed about 550 pounds each and provided a convenient method of handling the finished product.¹²⁸ After the fiber had been baled, it was ready for marketing.

Before leaving the fields at the end of a hemp breaking day, the workers usually set fire to the piles of shives. ¹²⁹ When hemp production was in its heyday in the Bluegrass, the burning hurds presented a picturesque scene in the deepening dusk. In every direction could be seen the glowing mounds, from the roaring blazes in the nearby fields to the pinpoints of light on the distant horizon. Silhouetted figures moved to and fro as they ended their labors for the day, and the pungent odor of smoke permeated the cool night air. ¹³⁰

MARKETING

Selling the fiber was the final step in the management of the hemp crop. Methods of marketing and the markets themselves changed from time to time, from transportation by flatboat to New Orleans, to sales made to local manufacturers, and to shipment by rail to the eastern seaboard. When Kentuckians first began exporting their hemp and other agricultural products, they tried to establish a minimum standard of quality which all shipments had to meet. One of the acts passed by the first legislature, after Kentucky had attained statehood in 1792, concerned the exportation of hemp, flour, and tobacco. This law provided for the appointment of three suitable persons to serve as inspectors at warehouses in Clark County and at Cleveland's and Stafford's landings according to the Virginia laws in force at the time of the separation of Kentucky from that state. ¹³¹

In 1794 the legislature wrote its own law regarding inspections, stating that

It is necessary, and good policy requires, that our flour and hemp trade should be put upon a respectable footing, which can only be done by establishing such regulations as will prevent the manufacturer from bringing to market such flour and hemp as will not pass inspection, and entitle the merchant to preference in a foreign market.

County courts were directed to appoint two inspectors and to establish inspections at suitable points in Washington, Jefferson, Harrison, Fayette, Woodford, Hardin, and Nelson. Section 4 provided "That no hemp shall be deemed merchantable, that is not winter or water rotted, dry, bright and clean, and well bound in bundles of at least one hundred weight each; and the inspectors shall receive for their services three pence per hundredweight."¹³²

The legislature at its next session created new inspections, empowered the governor to make the necessary appointments, and required that the fiber be bound in bundles of at least 112 pounds, each of which should be labled with its weight, the name of its owner, and a warehouse number. More important was a provision that "no person shall export or lade on board of any vessel for exportation, any hemp but what shall have been so inspected and passed, under the penalty of six dollars for every one hundred and twelve pounds weight." As exportation increased, new inspections were established by the legislature until 1809, when county courts were empowered to attend to this matter, subject to the regulations prescribed by the laws then in force. ¹³⁴

It is doubtful that these laws were strictly observed. In 1796 the general assembly noted that inspections had not been established at some of the designated places, and it stated rather plaintively that "it is but reasonable that all flour put on board of any boat or vessel for exportation . . . ought to be inspected." One Kentuckian, "Aristides," demanded publicly in 1804 that the laws be revised immediately. In his opinion the lack of attention to that subject had resulted in injury to the reputation of Kentucky products. Especially, he said, "in the articles of flour, beef, pork, bacon and hemp, that reputation has been almost ruined by the exportation of many cargoes to market, without being inspected at all." No revision was forthcoming, and soon the exportation of raw fiber declined as Kentucky manufacturers consumed larger quantities of it in the manufacture of bale rope and bagging.

Because of the way in which it was prepared, hemp went to market in a great variety of conditions. "Some is not rotted enough, some too much. Sometimes the breaking is not thoroughly done, and again it is imperfectly done, and again it is imperfectly cleaned and carelessly handled." Probably because of this situation no official grades were ever established in the United States for American-grown hemp, although that which was

imported from Europe and the Philippines was well graded. According to a bulletin published in 1915,

The trade has roughly divided Kentucky hemp into several not well defined grades and this condition allows of individual judgment in the matter. The grades under which Kentucky rough hemp is commonly sold are No. 1 Kentucky rough prime, No. 2 Kentucky rough prime, No. 1 two and No. 2 tow, while a fifth grade is reserved for tangled and matted fiber mixed with considerable dirt and shives. 139

Since the grades were not sharply defined, the marketing of hemp was usually a process of bargaining between the buyer and seller. 140

The farmer usually bartered his crop to a merchant or sold it to a local dealer, who hackled the fiber by drawing it lengthwise across clusters of upright, sharp steel needles. The long fiber combed in this manner was known as "Kentucky double dressed hemp." The shorter fibers were graded as single and double dressed tow. ¹⁴¹ After being thus processed, the lint was sold by the middleman to the manufacturer. Before the local dealers were established, and after their business declined until it was no longer profitable, hemp passed directly from the grower to the manufacturer.

Occasional complaints were voiced to the effect that the farmer was at a disadvantage in marketing his hemp. In 1835 "Penn" charged that the manufacturers, being few in number, could fix the price of fiber to suit themselves, ¹⁴² and in 1919 the head of the markets division of the Kentucky Agricultural Experiment Station staff wrote that

There is probably no crop which the farmer raises upon which he has so little information regarding price levels, points of consumption and uses, as is the case with hemp, and this condition has been generally brought about by the exclusion of the farmer from contact with any but the local market and the absence of price quotations on hemp, such as are commonly given on livestock and other products. It has, therefore, been unsatisfactory to the farmer to raise a crop concerning whose uses he knew little and finally to place it upon the market without knowing whether the price offered was the price current or a local quotation. ¹⁴³

Illustrative of the dependence of the farmer upon the buyer in marketing hemp is a sale made by William Taylor of Oldham County in 1832. When he sent a wagon loaded with fiber to a Louisville firm, he dispatched a note asking that the driver be given \$20 or \$25 with which to buy salt. He also asked that a receipt be given for the weight of the hemp, and he added: "when it is all Delivered I will come down and draw the money for the whole." On the other hand the buyer often had a grievance against the

farmer. In 1843 a newspaper warned that "Planters should be careful in cleaning their hemp properly, as much has been refused in this market on account of the proper care not having been taken in preparing it.¹⁴⁵

One early proposal for a remedy for the farmer's unhappy situation was to form a producers' co-operative to store fiber and regulate its price. The suggestion was not carried out, nor apparently was it even considered seriously. Much later, in 1917, an experiment in co-operative marketing of hemp was attempted. In each of ten counties a farmers' hemp association was formed "for the purpose of grading, baling and storing the fiber at local points," and a central association was then established to inspect and sell it. The venture was not successful, partly because the manufacturers refused to "make purchases on samples from the farmers," and partly because the farmers deserted their association and sold to local dealers when the price began to rise. 147

¹ Beatty, Essays, 103; Western Agriculturist, 228.

² Brent Moore, A Study of the Past, the Present and the Possibilities of the Hemp Industry in Kentucky (Lexington, 1905), 73.

³ United States Department of Agriculture, *Yearbook of Agriculture* (Washington, 1895-), 1901, p. 250.

⁴ Banks Hudson, Sr., Danville, Kentucky, written statement, March 30, 1938.

⁵ Kinney, *Production of Hemp*, 2. High Bridge is located near and downstream from the junction of the Dix and Kentucky rivers.

⁶ Beatty, *Essays*, 98.

⁷ *Ibid.*; Bradford, "Hemp Culture," *loc. cit.*, 92.

⁸ Kinney, *Production of Hemp*, 2.

⁹ Boyce, *Hemp*, 71; Bradford, "Hemp Culture," *loc. cit.*, 92; Beatty, *Essays*, 98. A discussion of methods of planting may be found in Kinney, *Production of Hemp*, 2.

¹⁰ Bradford, "Hemp Culture," *loc. cit.*, 92.

 $^{^{11}}$ Kinney, *Production of Hemp*, 3.

¹² Western Agriculturist, 227.

¹³ *Ibid*.

¹⁴ Beatty, *Essays*, 100; Kinney, *Production of Hemp*, 3. Adam Beatty in 1843 contended that only one stalk should be left in each hill. *American Agriculturist*, III (1844), 16.

¹⁵ U. S. D. A., *Yearbook*, 1901, p. 250.

¹⁶ For a description of this implement, see below, p. 50.

¹⁷ Beatty, *Essays*, 101.

¹⁸ "If transported on a cart or wagon a sheet should be spread to catch the seeds as they shatter out." *Western Agriculturist*, 228.

- ¹⁹ Kinney, *Production of Hemp*, 3.
- ²⁰ *Ibid.*, 3-4.
- ²¹ Essays, 102.
- ²² Kinney, *Production of Hemp*, 4.
- ²³ Beatty, *Essays*, 102; Bradford, "Hemp Culture," *loc. cit.*, 92; Boyce, *Hemp*, 67-73.
- ²⁴ U. S. D. A., *Yearbook*, 1895, p. 199.
- ²⁵ Banks Hudson, Sr., written statement; Kinney, *Production of Hemp*, 4.
- ²⁶ U. S. D. A., *Yearbook*, 1895, p. 198.
- ²⁷ *Ibid.*; Boyce, *Hemp*, 73.
- ²⁸ Procter, *Culture of Flax and Hemp*, 164; Bradford, "Hemp Culture," *loc. cit.*, 93; *American Farmer*, I (3rd Ser., 1840), 266; Dr. R. J. Spurr, "Premium Essay upon the Cultivation and Preparation of Hemp," in Frankfort *Commonwealth*, May 23, 1854; *Western Agriculturist*, 227.
 - ²⁹ Procter, *Culture of Flax and Hemp*, 164.
- ³⁰ Bradford, "Hemp Culture," *loc. cit.*, 92; *American Farmer*, I (3rd Ser., 1840), 266; Frankfort *Commonwealth*, May 23, 1854.
- ³¹ In 1880 a writer declared that "We have not yet in Kentucky adopted the use of manures on our hemp-land." Procter, *Culture of Flax and Hemp*, 114. See also *Western Agriculturist*, 227.
- ³² Peter, *Chemical Examination*, 18. See also *ibid.*, 3; Lexington *True American*, June 10, 1845; *American Farmer*, I (3rd Ser., 1840), 266; *Western Agriculturist*, 227. A plea for better methods of growing hemp may be found in Peter, *Chemical Examination*, 21-25.
 - ³³ Beatty, Essays, 104.
- ³⁴ *Ibid.*, 106; *American Farmer*, I (3rd Ser., 1840), 266; Gen. R. B. McAfee to Chilton Allan, December 19, 1838, in *Franklin Farmer*, II (1839), 154; Procter, *Culture of Flax and Hemp*, 164; Bradford, "Hemp Culture," *loc. cit.*, 92-93; A. B. Shelby to Editor of the Nashville *National Banner*, March 30, 1827, in *American Farmer*, IX (1827), 52; Frankfort *Commonwealth*, May 23, 1854; *Western Agriculturist*, 229.
 - ³⁵ Beatty, Essays, 106-107; Western Agriculturist, 229.
- ³⁶ "An experienced and successful hemp-grower, in the neighborhood of Lexington, being asked the best time to sow hemp, answered, immediately before a rain.—And undoubtedly it is very fortunate to have a moderate rain directly after sowing." *Western Agriculturist*, 228.
 - 37 Procter, Culture of Flax and Hemp, 164.
 - ³⁸ Moore, *Hemp Industry*, 75.
 - ³⁹ Beatty, Essays, 106n.
 - ⁴⁰ Frankfort *Commonwealth*, May 23, 1854.
 - ⁴¹ Lyster H. Dewey, "Hemp," in U. S. D. A., *Yearbook*, 1913, p. 322.
- ⁴²Beatty, *Essays*, 104; Bradford, "Hemp Culture," *loc. cit.*, 92; Frankfort *Commonwealth*, May 23, 1854, *American Farmer*, IX (1827), 52; *ibid.*, I (3rd Ser., 1840), 266; Procter, *Culture of Flax and Hemp*, 164. Henry Clay stated (in *Western Agriculturist*, 229) that "the usual quantity is a bushel and a half to the acre; but here again the farmers differ, some using two bushels or even two and a half. Much depends on the strength and fertility of the soil, and the care with which it has been prepared, as well as the season."
- ⁴³ Bradford, "Hemp Culture," *loc. cit.*, 93; Procter, *Culture of Flax and Hemp*, 164; *Western Agriculturist*, 228.
 - ⁴⁴Procter, Culture of Flax and Hemp, 164.

- ⁴⁵ At least one writer, however, advised against the use of a roller after planting, arguing that packed land would not hold moisture well in dry weather. Frankfort *Commonwealth*, May 23, 1854.
 - ⁴⁶ Procter, Culture of Flax and Hemp, 164; Beatty, Essays, 104; Western Agriculturist, 228-229.
 - ⁴⁷ Boyce, *Hemp*, 87.
- ⁴⁸Peter, *Chemical Examination*, 4. See also Dewey, "Hemp," *loc. cit.*, 303; Frankfort *Commonwealth*, May 23, 1854.
 - ⁴⁹ Frankfort *Commonwealth*, May 23, 1854.
 - ⁵⁰ U. S. D. A., *Yearbook*, 1901, p. 554.
- ⁵¹ "Nothing cleanses and prepares the earth better for other crops (especially for small grain or grass) than hemp. It eradicates all weeds, and when it is taken off, leaves the field not only clean, but smooth and even." *Western Agriculturist*, 235-230.
 - ⁵² *American Farmer*, V (1823), 99.
 - ⁵³ Banks Hudson, Sr., written statement.
- ⁵⁴ H. Garman, *The Broom-Rape of Hemp and Tobacco*, Kentucky Experiment Station, *Bulletin* No. 24 (Lexington, 1890), 4; H. Garman, *The Broom-Rapes*, Kentucky Experiment Station, *Bulletin* No. 105 (Lexington, 1903), 7.
 - ⁵⁵ Garman, *Broom-Rape of Hemp and Tobacco*, 3-4.
 - ⁵⁶ Garman, *The Broom-Rapes*, 8-9.
 - ⁵⁷ Boyce, *Hemp*, 28.
- ⁵⁸ Peter, Chemical Examination, 20; Kentucky Farmer, I (1858), 26; U. S. D. A., Annual Report, 1890, p. 465.
 - ⁵⁹ Bradford, "Hemp Culture," *loc. cit.*, 93; Procter, *Culture of Flax and Hemp*, 164.
 - ⁶⁰ Bradford, "Hemp Culture," *loc. cit.*, 93; Procter, *Culture of Flax and Hemp*, 165.
- ⁶¹ Bradford, "Hemp Culture," loc. cit., 93; Kentucky Farmer, I (1858) 26; Procter, Culture of Flax and Hemp, 165; American Farmer, IX (1827), 52; Genesee Farmer, III (1842), 59.
- ⁶² "If permitted to stand until these [male] stalks die, and become of a uniform dark brown color, the lint will forever after retain this color, and give to the hemp a striped appearance, which will be prejudicial to it in market." Charles Buford, open letter, July 15, 1842, in Louisville *Journal*, July 28, 1842.
 - ⁶³ Western Farmer and Gardener, II (1840), 27-28.
- ⁶⁴ "G. W. W.," open letter, January 29, 1838, in *Franklin Farmer*, VI (1838), 179; *Genesee Farmer*, III (1842), 59; *Western Agriculturist*, 229-230.
 - 65 Beatty, Essays, 107-108. See also Western Agriculturist, 230.
- 66 Western Agriculturist, 230; Franklin Farmer, VI (1838), 179; Procter. Culture of Flax and Hemp, 165.
- ⁶⁷Procter, *Culture of Flax and Hemp*, 165. This instrument was called a round or stroke hook. Also in use was a square or drag hook, the blade of which was not curved. *Franklin Farmer*, VI (1838), 179. Another description of a "hemp knife" may be found in *Kentucky Farmer*, I (1858), 26.
 - ⁶⁸ Kentucky Farmer, I (1858), 26. See also Procter, Culture of Flax and Hemp, 165.
- ⁶⁹ Procter, *Culture of Flax and Hemp*, 165. It was desirable to keep the stalks straight, since all tangled fiber would be lost during the hackling process. One authority declared that "no laborer should ever, in any handling of the hemp, be permitted to pass a bundle out of his hands without first lightly tapping its but[t] on the ground." Frankfort *Commonwealth*, May 23, 1854.

- 70 U. S. D. A., Yearbook, 1901, p. 547; Franklin Farmer, VI (1838), 179; Kentucky Farmer, I (1858), 26; Procter, Culture of Flax and Hemp, 165.
- ⁷¹ Many advantages were claimed for the cradle over the hemp hook, among them the doubled acreage which could be cut in a given time. See advertisement of "Lari-more's Improved Patent Hemp Cradle," in Frankfort *Commonwealth*, July 28, 1840, and "G. W. W.," open letter, January 29, 1838, in *Franklin Farmer*, VI (1838), 179. Solon Robinson in 1841 found a cradle being used quite successfully on the farm of Robert W. Scott of Franklin County. Kellar, *Solon Robinson*, I, 249-250. Most of the farmers who tried it, however, "soon laid it aside." Louisville *Journal*, September 4, 1843.
- ⁷² Louisville *Journal*, September 4, 1843; U. S. Pat. Off., *Report*, 1843, p. 72; U. S. D. A., *Yearbook*, 1901, p. 547; *Kentucky Farmer*, I (1858), 26.
- ⁷³ Banks Hudson, Sr., written statement. Hemp cutting machines were in existence at a much earlier period, but were not adopted generally until comparatively recently. In 1834 a reaper was "invented in East Tennessee, by Dr. Thomas A. Anderson, and constructed on very simple principles —and which by the aid of two horses, will cut from eight to ten acres a day, in the best possible and most satisfactory manner." *Niles' Register*, XLVI (1834), 393; Lexington *Kentucky Gazette*, January 10, 1835. See also Frankfort *Tri-Weekly Commonwealth*, June 28, 1858; Procter, *Culture of Flax and Hemp*, 165; and U. S. D. A., *Yearbook*, 1901, p. 547.
 - ⁷⁴ U. S. D. A., *Yearbook*, 1901, p. 547.

⁷⁵Where reapers or mowers were used, a problem was presented by the presence of volunteer stalks which were nearly always found in fields on which successive crops were grown. During the previous harvest a certain amount of seed would be unavoidably shattered out and would lie upon the ground all winter. The few which escaped being consumed by birds and rodents would be plowed under in preparing the soil for the next planting and would germinate before those sown for the next crop. By having this time advantage, the volunteer plants grew rapidly, often attaining a height of four feet above the rest of the hemp. They were likely to be too large and coarse to be cut by the machines and had to be pulled out by hand in order to keep the mower blade from becoming jammed. Boyce, *Hemp*, 89.

- ⁷⁶ U. S. D. A., *Yearbook*, 1901, p. 547; *ibid.*, 1902, p. 24.
- ⁷⁷ Thomas W. Scott, "Hemp Growing in Kentucky," in Kentucky Bureau of Agriculture, Labor and Statistics, *Report* (title varies. Louisville and Frankfort, 1878-), 1906-1907, p. 122.
- ⁷⁸In dry weather only three or four days were required for curing. See Procter, *Culture of Flax and Hemp*, 165; *Western Agriculturist*, 230.

A slight variation in the method of curing was practiced by some farmers, who let the hemp lie on the ground for two or three days, then tied it into small bundles, and set it up in loose shocks where the drying was completed. *American Farmer*, IX (1827), 52; Louisville *Journal*, July 28, 1842.

- ⁷⁹ Beatty, Essays, 109; Western Farmer and Gardener, II (1840), 28; Western Agriculturist, 230.
- 80 Kentucky Farmer, I (1858), 27; Bradford, "Hemp Culture," loc. cit., 94.
- ⁸¹Usually the hemp was allowed to remain in small shocks only after a late harvest, although some farmers consistently stored their crops in this manner. Large stacks or ricks were considered preferable. Procter, *Culture of Flax and Hemp*, 165; *Western Agriculturist*, 230-231.
- ⁸²"The best way which I have found to preserve a crop of Hemp, is to stack it in ricks of convenient size; when these are as high as they can be handily made, project the last course or two 12 or 18 inches over the sides, so as to form eaves, then top them off with rye or wheat straw, very securely." Nath'l Hart to J. S. Skinner, March 18, 1822, in *American Farmer*, IV (1822), 304. See also Procter, *Culture of Flax and Hemp*, 165.
 - ⁸³ Kentucky Farmer, I (1858), 27; Genesee Farmer, III (1842), 59.

- Henry Clay in 1830 stated his experience in this regard: "I have frequently done it with advantage, and have at this time two crops in stacks. By remaining that period in stacks, the plants go through a sweat, or some other process, that improves very much the appearance, and I believe, the quality of the lint, and this improvement fully compensates the loss of time in bringing it to market. The lint has a soft texture and a lively hue, resembling water rotted hemp; and I once sold a box of it in the Baltimore market at the price of Russian hemp. In every other respect, the plants are treated as if they were not kept over a year." *Western Agriculturist*, 231. For similar statements see *American Farmer*, IV (1822), 304; and Nath'l Hart to the Editor of the Lexington *Reporter*, February 8, 1823, in *American Farmer*, V (1823), 53.
- ⁸⁵ Procter, *Culture of Flax and Hemp*, 166; Peter, *Chemical Examination*, 13. Henry Clay (in *Western Agriculturist*, 232) declared that "The best ground to expose the plants upon is meadow or grass land," while others believed clean ground to be preferable, pointing out that the hemp was likely to rot slowly and unevenly if spread upon grass. *Kentucky Farmer*, I (1858), 90.
- ⁸⁶ Kentucky Farmer, I (1858), 90; Procter, Culture of Flax and Hemp, 166; Bradford, "Hemp Culture," loc. cit., 94; American Farmer, IX (1827), 52; Frankfort Western World, July 22, 1808; Niles' Register, I (1811), 86; Statement of W. B. Hawkins of Lexington, Ky., in U. S. D. A., Annual Report, 1890, p. 465; Western Agriculturist, 231-232.
 - ⁸⁷ Beatty, *Essays*, 110-111; Procter, *Culture of Fkx and Hemp*, 166.
- ⁸⁸ Beatty, *Essays*, 111; *Kentucky Farmer*, I (1859), 105; Procter, *Culture of Flax and Hemp*, 166; *American Farmer*, IX (1827), 52; *Genesee Farmer*, III (1842), 59. Small crops, after being rotted, might be protected from rains by being stacked in sheds, but this practice was not widespread. Sometimes, in dry weather and when the breaking was to begin immediately, the stalks were merely set up against a neighboring fence. *Western Agriculturist*, 232.
- ⁸⁹ "If the hemp is to be water-rotted, the drying is unnecessary, and some authorities think that better results are obtained when the hemp is rotted immediately after harvesting. It is said that hemp steeped green will require only four days, but if allowed to dry, eight days will be required to steep it in water." Procter, *Culture of Flax and Hemp*, 165. See Frankfort *Commonwealth*, April 25, 1843, for a description of the Russian method of rotting hemp.
 - ⁹⁰ Commonly used synonym for stalks.
- ⁹¹ The earliest method of water rotting hemp, by which the bundles of stalks were placed in ponds or running streams, was not satisfactory because of the fact that mud and dirt were likely to injure the quality and the color of the fiber. In addition, hemp submerged in creeks was subject to the danger of being swept away by freshets. Lucien Beckner (ed.), "Reverend John D. Shane's Interview with Pioneer William Clinkenbeard," in *Filson Club History Quarterly*, II (1928), 114; Frankfort *Western World*, July 22, 1808; *Niles' Register*, I (1811), 86.

The more progressive farmers appear to have resorted to vats in which to steep their hemp. These containers were dug in firm clay soil or built of plank, and varied in size according to the taste or needs of the individual. Henry Clay used vats "50 feet long, 12 feet wide at the bottom and 14 at the top, and 4½ feet deep"; Charles Buford believed the depth of the container should not exceed three feet; but Dr. R. J. Spurr advised the use of larger tanks. H. Clay to Bernard Myers, May 28, 1843, in U. S. Pat. Off., *Report*, 1843, p. 144; Louisville *Journal*, July 28, 1842; Frankfort *Commonwealth*, May 23, 1854. See also *Niles' Register*, XXXIV (1828), 405; and Wm. L. Graddy to Joel Scott, April 27, 1842, in Frankfort *Commonwealth*, May 3, 1842.

- ⁹² Weights of logs or stones would answer the purpose, although not as satisfactorily as crossbeams, the ends of which were secured to opposite sides of the vats. U. S. Pat Off., *Report* 1843, p. 144; Louisville *Journal*, July 28, 1842.
- ⁹³ Louisville *Journal*, July 28, 1842; Frankfort *Commonwealth*, May 23, 1854; U. S. Pat. Off., *Report*, 1843, p. 144; Frankfort *Commonwealth*, May 3, 1842; *Niles' Register*, I (1811), 86.

- 94 Frankfort Commonwealth, May 3, 1842.
- ⁹⁵ Thomas H. Barlow to A. P. Upshur, October 25, 1842, in *Senate Documents*, 27 Cong., 3 Sess., no. 6, pp. 43-44. The Barlow experiments ended when the navy suspended the purchase of Kentucky hemp. Procter, *Culture of Flax and Hemp*, 167.
 - ⁹⁶ De *Bow's Review*, XI (1851), 302.
 - ⁹⁷ Boyce, *Hemp*, 103-104; Frankfort *Western World*, July 22, 1808; *Niles' Register*, I (1811), 86.
 - ⁹⁸ U. S. D. A., *Annual Report*, 1907, p. 327.
- ⁹⁹ James Anderson to John S. Skinner, August 1, 1846, in *Journal of Agriculture*, II (1846), 140-141; U. S. Pat Off., *Report*, 1847, pp. 163-164; *ibid.*, 1848, pp. 146-147; *ibid.*, 1861, pp. 107, 110; U. S. D. A., *Yearbook*, 1901, p. 552.
- ¹⁰⁰ If, after having been removed from the vats, the hemp was found not to be rotted sufficiently, it was allowed to lie on the ground until the dew and rain had completed the process. Beatty, *Essays*, 111; U. S. Pat. Off., *Report*, 1843, p. 144; Frankfort *Commonwealth*, May 23, 1854; Louisville *Journal*, July 28, 1842.
- 101 Beckner (ed.), "Reverend John D. Shane's Interview with Pioneer William Clinkenbeard," *loc. cit.*, 108.
- ¹⁰² One writer spoke of "the infectious nature of the air generated from this putrifying substance." Frankfort *Western World*, July 22, 1808. Another declared that "fevers are often occasioned by it." U. S. Pat. Off., *Report*, 1861, *Agriculture*, 107. Henry Clay mentioned "a persuasion which has some foundation that handling the plants, after their submersion in water during that month [September] is injurious to health." *Western Agriculturist*, 231. Another cautious farmer stated that "At that time [twelve years earlier] the opinion prevailed that the business was unhealthy, and I did not feel at liberty to expose my hands to the supposed danger of dabbling in water, and of breathing a tainted, or at least an extremely offensive atmosphere in August and September, when ordinary causes were operating to produce bilious disease. At this day, gentlemen of experience assert that, although the miasm [*sic*] or effluvia is unpleasant, it is not promotive of disease at any season. Be this as it may, I deem it safer not to try it in the *dog days*." Louisville *Journal*, July 28, 1842.
- 103 J. K. Paulding to David Myerle, March 22, 1849, in *Congressional Globe* (Washington, 1834-1873), 33 Cong., 1 Sess., 1027.
 - ¹⁰⁴ Proctor, Culture of Flax and Hemp, 167; Beatty, Essays, 111.
 - ¹⁰⁵ Western Agriculturist, 233; Dewey, "Hemp," loc. cit., 330.
 - ¹⁰⁶ Kentucky Farmer, I (1859), 138.
 - ¹⁰⁷ Dewey, "Hemp," *loc. cit.*, 330.
- ¹⁰⁸ Procter, *Culture of Flax and Hemp*, 143; William S. Webb, "Old Millstones of Kentucky," in *Filson Club History Quarterly*, IX (1935), 218; *Senate Executive Documents*, 38 Cong., 2 Sess., no. 35, p. 33.

The Lexington *Kentucky Gazette* of February 5, 1819, carried an account of a tragedy connected with the operation of one of these machines: "Melancholy Accident! On Friday, January 22, James Scott, aged 19 years, son of Mr. John Scott of this county in attending a hemp mill, was by some means drawn into the way of the stone, which in rolling round, struck his head, and instantaneously killed him."

- ¹⁰⁹ Joel Scott, open letter, in Frankfort *Commonwealth*, April 15, 1845.
- 110 U. S. D. A., *Yearbook*, 1901, p. 551; James Anderson to Lewis Sanders, April 3, 1849, in *De Bow's Review*, XI (1851), 301-302; *Western Agriculturist*, 344-345.
 - ¹¹¹ Lexington *Herald*, June 17, 1941; Lexington *Sunday Herald-Leader*, January 11, 1942.
 - ¹¹² Banks Hudson, Sr., written statement.

- ¹¹³ Kentucky Farmer, I (1859), 138.
- ¹¹⁴ *De Bow's Review*, XI (1851), 301-302; John R. Humphrey, *Marketing Hemp*, Kentucky Agricultural Experiment Station, *Bulletin* No. 221 (Lexington, 1919), 29.
 - ¹¹⁵ Humphrey, *Marketing Hemp*, 29.
- ¹¹⁶ "Scutching is done, by the laborer taking in his left hand a handful of the lint and grasping it firmly and then laying the middle of it upon a semi-circular notch of a perpendicular board of the scutching frame, and striking with the edge of the scutch that part of the lint which hangs down on the board. After giving it repeated strokes, he shakes the handful of lint, replaces it on the notch, and continues to strike and turn all parts of it, until it is sufficiently cleansed, and the fibers appear to be even and straight." *Western Agriculturist*, 233-234.

The "heckle" or "hackle" was simply a board covered on one side with small, sharp, upright spikes, similar to a wool "card." In using it "the hand of hemp, not exceeding three fourths of a pound in weight, (half a pound is better) is grasped firm as near as practicable to the root end, not farther from this than will suffice to have the end of all the fibres composing the hand within the grasp. Then a few times drawing it through the heckle, from as near the hand as possible, will finish the operation with this end. Reverse the hand, grasping it just above the point reached by the heckle in the first instance, and clean the root end of tow. Any little switch which may be at each end must be chopped off and thrown with the tow." Frankfort *Commonwealth*, May 23, 1854.

- 117 Kentucky Farmer, I (1859), 138; Western Agriculturist, 233; Procter, Culture of Flax and Hemp, 166.
- ¹¹⁸ One gloomy correspondent to the Lexington *Kentucky Gazette* (June 13, 1835) wrote that this dust "corrodes and oppresses the lungs and produces a cough like an approaching consumption; and its injurious effects are not removed sometimes for months afterwards." A more cautious comment was that work with hemp was "not unhealthy unless from the quantity of dust arising from it, persons inclined to consumption may be more exposed, than when engaged at other occupations." *American Farmer*, I (3rd Ser., 1840), 266.
- ¹¹⁹ Thomas W. Bullitt (ed.), My Life at Oxmoor. Life on a Farm in Kentucky Before the War (Louisville, [c1911]), 45.
- ¹²⁰ Franklin Farmer, I (1838), 267; Genesee Farmer, III (1842), 59; Kentucky Farmer, I (1859), 138; Procter, Culture of Flax and Hemp, 166.
- ¹²¹ Western Agriculturist, 234; Procter, Culture of Flax and Hemp, 166; Kentucky Farmer, I (1859), 138.
 - ¹²² Bullitt, *Life at Oxmoor*, 46.
 - ¹²³ Banks Hudson, Sr., written statement.
 - ¹²⁴ Louisville *Journal*, July 28, 1842.
 - ¹²⁵ Procter, Culture of Flax and Hemp, 166; Genesee Farmer, III (1842), 59.
 - ¹²⁶ Kentucky Farmer, I (1859), 138.
 - ¹²⁷ U. S. Pat. Off., Report, 1843, p. 144; Frankfort Commonwealth, May 23, 1854.

The firm of Todd & Crittenden advertised in 1846 that "We have in operation at our Warehouse, one of Bullock's Progressive Power Presses for baleing [*sic*] Hemp, &c, and we are prepared to bale Hemp for shipping, in the very best manner, and on reasonable terms." Frankfort *Commonwealth*. December 1, 1846.

- ¹²⁸ Banks Hudson, Sr., written statement.
- ¹²⁹ Kentucky Farmer, I (1859), 138; Bullitt, Life at Oxmoor, 47.
- ¹³⁰ See James F. Hopkins, "A History of the Hemp Industry in Kentucky" (M. A. thesis, University of Kentucky, 1938), 22.

Indulging in memories of days long past, George M. Spears, in "Kentucky Hemp Fields" (*Register of the Kentucky State Historical Society*, XIX [19211, 115), wrote:

"Safe at home, and supper eaten, I run quickly to the gate,

There to swing and watch the skyline with a joy too full for words;

In the darkening porch behind me all the others watch and wait,

Till the sky is red and glowing with the burning of the hurds."

- ¹³¹ William Littell, *The Statute Law of Kentucky* (5 vols., Frankfort, 1809-1819), I, 135.
- ¹³² *Ibid.*, 258-259.
- ¹³³ *Ibid.*, 330-335.
- ¹³⁴ *Ibid.*, IV, 13-14.
- ¹³⁵ *Ibid.*, I, 379.
- ¹³⁶ Lexington *Kentucky Gazette*, February 28, 1804.
- ¹³⁷ American Agriculturist, XIX (1860), 13.
- ¹³⁸ Humphrey, *Marketing Hemp*, 36-38; *Senate Documents*, 18 Cong., 2 Sess., no. 12, p. 34.
- ¹³⁹ Humphrey, *Marketing Hemp*, 36.
- ¹⁴⁰ *Ibid.* During the second World War, hemp broken by machines was placed in either of two classifications: "The long stands of fiber are called 'line' fiber to distinguish them from 'tow' fiber, which consists of shorter, broken tangled pieces." B. B. Robinson, *Hemp*, United States Department of Agriculture, *Farmers' Bulletin* no. 1935 (Washington, 1943), 4.
- ¹⁴¹ U. S. D. A., *Yearbook*, 1901, p. 552; Humphrey, *Marketing Hemp*, 36; Liberty H. Bailey (ed.), *Cyclopedia of American Agriculture* . . . (4 vols., 4th ed., New York, 1912), II, 379.
 - ¹⁴² Lexington *Kentucky Gazette*, July 18, 1835.
 - ¹⁴³ Humphrey, *Marketing Hemp*, 32-33.
- ¹⁴⁴ William Taylor to Charles W. Thruston, August 9, 1832, in Thruston Papers, MSS. in Filson Club Library, Louisville, Kentucky.
 - ¹⁴⁵ Louisville *Journal*, April 15, 1843.
 - ¹⁴⁶ Lexington *Kentucky Gazette*, August 1, 1835.
 - ¹⁴⁷ Humphrey, *Marketing Hemp*, 33-34.

CHAPTER III

PRICES AND PRODUCTION TO 1861

FROM the latter part of the eighteenth century to the outbreak of the Civil War hemp was a crop of considerable importance to the farmers and manufacturers of Kentucky. The price of the fiber was undependable, but during the period under consideration it was usually high enough to encourage production, which reached its greatest height around 1850. Hemp was important not only to Kentucky but to the United States as a whole. It helped speed the greatest export, cotton, to market; and potentially it was an important item in national defense. Statistics on the crop are not reliable, but it appears that until about the 1850's Kentucky produced most of the hemp grown in this country although other states reported increasing quantities of the total annual harvest. As Kentucky's production increased, her relative importance as a hemp growing state declined. According to estimates and census returns, few of which are accurate, she contributed all the hemp reported in 1810, three-fourths of the crop of 1840, one-half the yield in 1847 and in 1849, and about one-third the total production of 1859. Most of the American hemp outside her borders grew in Missouri, which in 1849 produced slightly less, and in 1859 slightly more, than Kentucky.¹

PRODUCTION FOR HOME USE

The hemp industry began in Kentucky with the establishment of the first permanent homes in the wilderness, although for many years after the planting of the first crop the production and manufacture of the fiber were conducted upon a very limited scale. Earlier adventurers who entered the region had had little need for textiles, since they followed the example of the Indian by clothing themselves in the skins of wild beasts. When whole families began moving into the country, however, skins alone would no longer answer the purpose, and there was an acute need for materials from

which to make clothing as well as the other fabrics and the cordage necessary in a pioneer home.

For a time many families were impelled by circumstances to manufacture cloth from fibers native to their new homeland. Nathan Boone, son of the famous hunter, recalled that in his early days in Kentucky the family "used to gather nettles, a sort of hemp, towards Spring, when it became rotted by the wet weather" and spin the fiber into thread.² Combined with buffalo wool, the nettle lint found general use on the frontier; and as late as 1786 or 1787 Francis F. Jackson wore a suit of clothing made of that material.³ At best, however, the product was crude, and no doubt the pioneer housewives often thought longingly of the hemp, cotton, and flax of the seaboard and planned to have them produced on their own newly cleared fields as soon as possible.

One of the obstacles to the production of these fiber-bearing plants was the scarcity of seed. At least one pioneer, Archibald McNeill, was farsighted enough to provide himself with hemp seed from which on Clark's Creek, near Danville, in 1775 he raised the first recorded crop of hemp in Kentucky.⁴ Others followed his example when possible, although at first the industry expanded slowly because of the scarcity of seed. In later years one reminiscing pioneer, formerly a resident of Strode's Station, stated that he was first able to procure seed about 1780,⁵ and another, speaking of the events of 1781, said:

Hemp: Same year, raised 200 pounds of hemp. Mother's sifter had gotten rubbed and spoiled bringing it out, and she made it new by running across horse-hair with a darning needle. Mrs. Fisher saw it and said Mother should have hemp and flax seed, if she had to steal it for her, if Mother would fill her one.⁶

As the population of the West increased, land was cleared and homes were built farther and farther away from the forts and stations. The crops planted upon the new farms included hemp when the settlers were fortunate enough to obtain seed, which commanded a high price. In Jefferson County in 1781 sixteen quarts of hemp seed, left as part of the estate of John Westervall, victim of an Indian raid, were appraised at \$320 (probably in Continental paper money). Despite the cost of seed, however, the production of this important crop gradually became more widespread. Other estates appraised in the same county included seed, growing crops, fiber, yarn, and hackles for cleaning the lint. A frontiersman, who had begun farming on a small scale five miles from Fisher's Station, saved his life in 1781 by hiding in his hemp field when hostile Indians swarmed into his cabin. At Gilmore Lick, about

three miles from Whitley Station, a group of redskins concealed themselves in a hemp patch while awaiting a favorable opportunity to attack the home of Samuel Davis. During the siege of Bryan's Station in 1782, the renegade Simon Girty approached the fort through a field in which the hemp, high as a man's head, concealed him from the eyes of the besieged marksmen. The fiber was plentiful enough at Strode's Station for the women of the community to co-operate in making thirty yards of hemp linen for an aged widower; and by 1785, if not earlier, hemp was being produced at Hood's Station.

After the American colonies had won their independence, the influx of immigrants into the Kentucky country became greater than ever. So rapid was the westward movement that the population, estimated to be about 30,000 in 1784, rose to 73,077 within the next six years. ¹⁴ New settlers were attracted by reports of the salubrious climate and fertile soils of the region. Filson, the first Kentucky historian, declared that it was "the most extraordinary country that the sun enlightens with his celestial beams." ¹⁵

During the decade following its introduction into Kentucky, hemp began to assume the proportions of a major crop. Filson, who wrote in 1784, found that it was produced in abundance. In 1787 a landowner, offering for rent a plantation on Harrod's Run, about three miles from Danville, was careful to state that it was "in good order" for producing hemp, as well as corn, flax, and tobacco. A few months later Robert Barr, a merchant of Lexington, advertised that he had a quantity of hemp seed for sale, an indication that there was no longer a serious scarcity of that commodity. Imlay, in his advice to the Kentucky immigrant, counseled him to grow corn for food as his first crop, then for the second to clear more land and sow one acre with flax or hemp seed, "in order to give employment to his wife, and to provide linen for domestic uses." By 1790 "a correspondent" could state in the *Kentucky Gazette* that hemp was "the most certain crop and the most valuable commodity" produced in the region. 20

In pioneer times the fiber was produced primarily to answer the domestic needs for clothing, linen, and rope. Besides these uses, it also served, as did other products of farm and forest, as a medium of exchange at a time when money was scarce and of doubtful value. The editor of the first newspaper in the region announced in 1788 that he would accept in payment for subscriptions to the paper "Beef, Pork, Flour[,] Wheat[,] Rye, Barley, Oats,

Indian Corn, Cotton, Wool, Hackled Flax or Hemp, Linen or good Whiskey" at the market prices which prevailed in Lexington.²¹ A short time later a stock breeder advertised that his stallion, Tippoo Saib, would stand the season at his farm in Fayette County, near the mouth of Hickman Creek, and that the fee of forty shillings might be paid in cattle, tobacco, pork, hemp, or butter.²²

Pioneer merchants announced in the *Gazette* their willingness to exchange goods for hemp and other country produce, the first advertisements of that nature appearing early in 1790. Peyton, Short, and Company stated their desire to sell their dry goods, hardware, and groceries for cash or to barter them for "tobacco, corn, wheat, rye, pork, beef, bacon, hemp, flour, furs of every kind, tar, pitch and turpentine. &c. &c. &c."²³ Robert Barr in the same edition of the paper published the following advertisement, the first in which the price of hemp was mentioned:

HEMP

Wanted a quantity of hemp in a short time for which twenty five shillings per hundred will be given if delivered at Frankfort, or twenty three shillings in Lexington, payment will be made in Merchandise at the lowest Cash price.²⁴

Other merchants were not slow to follow these examples, and similar advertisements appeared regularly thereafter. The price offered for the fiber soon fell below the level established at this time. Early in 1791 Peter January and Son offered only twenty shillings per hundred, in merchandise, for "a quantity of hemp"²⁵ which was obtained within two months.²⁶

BEGINNING OF EXPORTATION

The desire of these merchants to obtain hemp resulted not so much from an increased demand within Kentucky, where the fiber might be grown by virtually any person who had need for it, as from the opening of new markets for the produce of the western country. As the flow of immigrants crossed the mountains after the Revolution, the increase in population soon brought such an increase in staple agricultural products that enterprising spirits on the frontier began casting about for markets.²⁷ Attractive prices could be obtained in the eastern cities, where until the Civil War hemp brought roughly twice as much as in Kentucky, but for years the hazards of communication prevented almost entirely the exportation of bulky goods directly to the seaboard. In about 1792 a traveler noted that flax and hemp were being carried across the

mountains by pack horses to the inland towns of Pennsylvania and Maryland; hundredweight28 but this traffic was doubtless negligible, since another visitor a few years later found that hardly anything produced in Kentucky except ginseng would bear the high cost of transportation by way of Pittsburgh to the East—the route over which a regular freight service by wagon had been established.²⁹

Since shipments directly to the eastern seaboard were impracticable, the attention of the would-be trader was necessarily focused upon the Mississippi River, for only down its helpful current could freight be carried profitably to market. Before Kentucky was settled, French traders had sent canoes and barges filled with furs and skins downriver to New Orleans, and it was natural that the Anglo-Americans should look to the waterway as a route over which to transport their produce to the port from which the Spanish carried on a sea trade with the east coast and with Europe. One of the first Anglo-Americans to use this route was Jacob Yoder, a Pennsylvanian, who in May, 1782, floated a flatboat loaded with produce down the river system to New Orleans. Upon his return the success of the venture became noised about and set others to speculating on the possibility of further commerce in that direction. 31

The greatest obstacle to using the Mississippi as a commercial highway lay in the fact that, after 1763, Spain held possession of its lower reaches and of the port of New Orleans, and the Spaniards regulated in a most annoying manner the use of their waterway and port by the westerners. They imposed a fluctuating policy of taxes and restrictions, and in 1784 the authorities in New Orleans announced that until the boundaries between the United States and Spanish territories should be settled, the river would be closed to American shipping.³² In the face of this Spanish prohibition of American trade, however, the month of June, 1787, found General James Wilkinson in New Orleans with a fleet of flatboats loaded with Kentucky tobacco. There this engaging personage began his intrigues with the Spanish authorities, who granted him the privilege of trading regularly in their territory. He thus became the agent for all Kentucky tobacco and flour carried into the Spanish domain.³³ For some time all the trade from the Ohio was carried on in his name, and a recommendation from him sufficed to insure the owner of a boat every privilege and protection he could desire in New Orleans.³⁴

The Court of Spain approved the steps toward opening the river trade taken by its representatives in America, and on December 1, 1788, decreed

that the inhabitants of the western country might export their produce to New Orleans, where it was admitted upon the payment of a duty of 15 per cent. In certain cases the duty was reduced to 6 per cent in order to attract to Spain the favor of influential westerners. Upon the further payment of the usual 6 per cent export tax, the produce might then be reshipped to any port with which New Orleans was permitted to trade.³⁵ Under the terms of this order western produce began to flow into the Louisiana city. "From the Ohio, the province of Louisiana was not only supplied with a sufficient stock of flour, whiskey, and salted provisions, hemp, and latterly, cordage, but a considerable quantity of some of them was often shipped from hence."³⁶ In 1790 eighteen frontier traders arrived in the port with flatboats loaded with cargoes of beef, tobacco, pork, flour, hemp, lard, and mill wheels.³⁷

Among the early traders was Elisha Winters, a Lexington merchant who, according to a resident of Louisiana, "was certainly a great favorite with the Spanish officers, and possessed as much their confidence as any American that traded to New Orleans." Winters, who accepted hemp and other country produce at his store in Lexington and engaged in the downriver trade, in 1790 or soon thereafter began operating a ropewalk in the city of New Orleans. His ventures prospered; and in 1793 he opened another store at Tate's Creek Mills in Madison County, at the same time advertising his wish to hire craftsmen to construct boats which would carry his goods southward. 40

The Spanish governor in 1793 abolished the 15 per cent duty on imports from the upriver country and in addition permitted all western Americans, regardless of their relations with Wilkinson, to enter the New Orleans trade. ⁴¹ The opportunity was seized immediately, and the shipment of Kentucky produce, including hemp, increased at a rapid pace. Merchants urged farmers to barter their fiber for goods and in some cases offered to contract in advance for crops, even before they had been planted. ⁴² In June, 1794, James Morrison advertised for "a quantity of well cleaned HEMP," for which he proposed to pay 23 shillings per hundredweight, a price somewhat higher than the evaluation of the fiber earlier in the year by a stock breeder who offered the services of his stallion for 30 shillings in cash or for "200 weight of merchantable hemp or 40 shillings worth of young cattle." ⁴³ Kentucky farmers were impressed by the opportunities for producing commodities for export. On September 13, 1794, a group met at Harrodsburg, organized the

Mercer Society for the Encouragement of Agriculture, and began an inquiry into the culture of and the profits to be derived from flax, cotton, hemp, indigo, and rice. Highly important to Kentuckians was the Pinckney Treaty of 1795, which gave Americans the privileges of free navigation of the Mississippi and a place of deposit for their goods at New Orleans. Although the latter concession was revoked some years later, never again was the free navigation of the river called into question. Not all the clauses of the treaty were put into effect at once. In fact, the deposit at New Orleans was not formally established until 1798, although in the meantime the Spanish governor allowed the Americans to carry on their trade unrestricted.

News of the Pinckney Treaty was received in the West with general rejoicing.⁴⁷ Since the downriver traffic was now open to all, the commerce increased. Merchants in Kentucky eagerly advertised for hemp to be taken in exchange for their goods; new traders launched their craft upon the Ohio and its tributaries; and the era of the notorious Kentucky boatmen began. The following advertisement illustrates the activity of the time:

NEW ORLEANS

THE Subscribers well [*sic*] engage a number of Able Bodied MEN, to conduct their Boats to New Orleans. Liberal wages will be given—Apply to SEITZ & LAUMAN.

A generous price will be given for clean WHEAT, HEMP, and TALLOW, in Merchandise. Apply as above. 48

Much of the hemp sent to New Orleans was reshipped, but a considerable amount was manufactured there, and to encourage that industry the Spanish officials allowed the Kentucky fiber to enter the city duty free, even before the Treaty of San Lorenzo.⁴⁹

As the eighteenth century drew to a close new markets for Kentucky hemp were provided as capitalism and industrialism on a small scale gradually won a place alongside the self-sufficiency of frontier economy. Ropewalks had already sprung up in several communities, and other manufacturing establishments were soon to create an increasing demand for the fiber. Colonel David Meade, proprietor of the famous estate, Chaumiere des Prairies, foresaw a prosperous future for those who produced hemp. Considering it a "fine article" for Kentucky and believing that exportation of the fiber would continue to increase, in 1797 he wrote, "I am so well convinced of the advantages to be derived from the cultivation of it, that I propose saving seed enough this year to sew [sic] at least ten Acres the next.

—which will be a pretty good begining $[sic]^{51}$ Increased demand brought higher prices, at least for a time; and at Frankfort in 1798 hemp sold for twenty-six shillings per hundredweight. Shortly afterward seed was valued at one dollar a bushel, a price which was repeated perhaps more frequently than any other down through the years.

New Orleans, where hemp sold for six dollars per hundredweight in June, 1799,⁵⁴ became increasingly important as a market and entrepot for goods manufactured from hemp as well as for the raw fiber. According to the records of the customhouse at the Port of Louisville, the commodities entered for exportation from January 22 to May 6, 1801, included 34,007 pounds of cordage and 2,387 pounds of hemp, both of which together constituted only a small portion of the total amount of produce shipped.⁵⁵ Since these figures were said to represent only approximately one-half the produce which actually passed the Falls of the Ohio during that period, ⁵⁶ perhaps the register of the customhouse at Loftus Heights, within the Spanish domain, gives a more accurate picture.⁵⁷ The officials at that point recorded that the commerce from the Ohio River region during the first six months of 1801 included 25,000 pounds and thirty additional bales of hemp and 196,000 pounds of cordage.⁵⁸ During the first half of the next year the Surveyor of the Port of Louisville reported that the Kentucky commodities, valued at over half a million dollars, shipped to Louisiana and the Floridas included 42,048 pounds of hemp and 2,402 hundredweight, 73 pounds of cables and cordage.⁵⁹ A traveler found that Kentucky merchants were making large profits and were adopting every method in their power to obtain the small amount of money then in circulation, even to the extent of refusing to sell their goods except for specie or for such produce as had an "inevitable sale." Within this category were included hemp and homespun linen.⁶⁰

The hopes of Kentuckians who had expected the river commerce to bring prosperity were shaken by a proclamation which closed the deposit at New Orleans. The measure, published on October 18, 1802, was looked upon by the American people as a violation of treaty rights, and throughout the country it caused ill feeling toward Spain.⁶¹ The proclamation did not interfere with the right of free navigation of the river, and the Americans were permitted to transfer their produce from flatboats directly into vessels anchored in the stream, without landing.⁶² There appears to have been no difficulty in finding ocean-going vessels to take all the produce shipped

downriver that season. A report from Natchez stated that western boats were arriving daily at that port and that many vessels were "lying opposite to Orleans" awaiting cargoes.⁶³

The deposit remained closed for seven months, after which, by a proclamation issued May 17, 1803, it was reopened. The closure caused Kentucky exports to diminish but did not stop them, nor did it put an end to American business interests in Louisiana. Early in 1803 William MacBean of Lexington announced that he intended soon to go to New Orleans, and he tendered his services, for a price, to all who might have business to transact there, at Natchez, or in the eastern states.⁶⁴ During the first quarter of 1803 only five hundred pounds of hemp, 820 hundedweight of cordage, and proportionally small quantities of other commodities were shipped from Kentucky. Exports in the second quarter, during which the deposit was reopened, were larger and included 13,810 pounds of fiber and 835 hundredweight of cordage. 65 Westerners continued to avail themselves of the privileges granted by Spain until the province was transferred to the United States late in 1803. The peaceful acquisition of Louisiana settled the Mississippi Question, and Kentuckians were thenceforth free to send their hemp and other produce to the southern market at will.

The right of navigation of the Mississippi was not the only problem which vexed the farmers, manufacturers, and traders of the West. Early in the nineteenth century, when a truce occurred in the almost continuous European wars of the period, large quantities of the products of foreign agriculture and industry, not exported to any great degree during the conflict, were again made available to the United States. As a result commodity prices dropped over the entire country. He Kentucky farmers considered themselves especially hard hit. They believed that the distance which separated them from markets caused them to suffer more than the rest of the country from the fall of the prices of flour and tobacco, "these articles which have hitherto been most usually exported from this State." Many of them considered it necessary to turn to hemp, which already had "formed a considerable object of attention to the cultivator" and which was "more likely to give encouragement to industry and commerce."

On the other hand, the producer of fiber was faced with renewed importation of Russian hemp, which was, because of the method by which it was prepared, so superior to the American that cordage makers and shipowners preferred it in spite of the import duties which it was forced to pay. Early in 1802 Thomas Wallace and other citizens of Kentucky presented to Congress a request that additional duties be imposed on hemp and hempen goods, "adequate to prevent or lessen the importation of them, and to give encouragement to the husbandmen and manufacturers of our own country." The committee to which the petition was referred advised against the increase for fear that it would force shipbuilders to equip their vessels abroad, and thus cause even greater injury to American farmers and manufacturers. The attempt to secure further protection failed, but the production of hemp in Kentucky at the moment suffered less from foreign competition than from the closure of the deposit at New Orleans.

It was, in fact, at about this time that hemp began to enter the period of its greatest importance, for the invention of the cotton gin had created a new and extensive market for hempen goods. Prior to 1793 the use of cotton had been limited by the difficulty of separating the lint from the seed. As the gin came into general use throughout the lower South, cotton replaced hemp and flax as a fiber for making clothing, owing to its being more easily woven. The expanding production of cotton, however, caused hemp to assume an importance greater than it had previously held in this country. Cotton, after being ginned, had to be compressed into bales in order that it might be transported easily, and each bale had to be held together by a binding of some strong material. Hemp was found to be well suited for that purpose, and bale rope and bagging became the forms into which by far the greater part of the Kentucky fiber was manufactured. Shortly after the United States acquired Louisiana, New Orleans prices current began quoting market prices on cotton bagging and "Kentucky cordage," 70 and by 1809 Kentuckians claimed to be supplying nearly the whole South with baling materials.⁷¹ Since most of the Kentucky hemp came to be manufactured within the state, the exportation of fiber diminished in importance, whereas the amount of bale rope and bagging sent down the river increased.

EFFECT OF THE NAPOLEONIC WARS

When, after a short interval of peace, war was resumed in Europe in 1803, American trade with the Old World again faced difficulties which caused importation of foreign goods to diminish. During the following years the United States government, seeking unsuccessfully to remain out of the conflict, imposed the Embargo and Nonimportation acts, and the country was

thrown largely upon its own resources. In the long run the interruption of foreign commerce promoted the cultivation of hemp in Kentucky, as well as in other states, although never to the extent necessary to supply entirely the needs of the nation.⁷²

The renewal of the war in 1803 had little immediate effect upon the Kentucky industry, and the price of hempen cordage dropped in the South during that year. 73 By 1804, however, a slight increase in activity could be noted in the hemp producing area. In January, Lewis Sanders advertised his desire to purchase "Clean Merchantable HEMP—for Exportation," 74 and "Aristides" wrote that the West should concentrate on the production of nonperishable goods which could be exported at any season of the year. In this classification he included tobacco, whisky, and goods manufactured from hemp.⁷⁵ In 1804 hemp was valued in Lexington at four dollars per hundredweight, a price which was below the average usually considered necessary for profit, and it remained at that figure through 1806. 76 During the next few years the value of the fiber remained most of the time below a profitable level, and in 1809 a group of Kentuckians, believing that protection would improve prices, petitioned Congress for a higher duty on hemp. They declared that the farmers of their state, if properly encouraged, could produce the staple in quantities sufficient to supply the needs of the whole United States. They pointed out that this policy, if followed, would render the nation independent of foreign hemp growing countries and prove especially beneficial in time of war.⁷⁷ Despite its logic and the urgent manner in which it was presented, the request was not granted.⁷⁸

Though not awarded additional tariff protection at that time, hemp rose in value during the years immediately preceding the War of 1812. After the passage of the Nonintercourse Act, an anonymous observer in Washington wrote that the new policy of the government would be beneficial to the West in that it would cause advances in the prices of hemp, cordage, flour, and other commodities. The correctness of his prediction was soon apparent. On March 21, 1809, a Lexington manufacturer paid \$6 per hundredweight for hemp, by April 6 the price had risen to \$6.50, it stood at \$7 on April 12, at \$7.50 on April 14, and by April 20 it had reached \$8.80 There was no change from the last figure through May of that year, though from the seaboard came news of falling prices. By September hemp brought only \$5 per

hundredweight on the Lexington market, but its value rose to \$6 late in October and for several months remained fairly stable at from \$6 to \$7.83

On the seaboard prices were for a time exceedingly high. In July, 1810, a small shipment of hemp from John W. Hunt of Lexington, Kentucky, brought \$330 per ton, and Hunt's agents clamored for more of the fiber. Even the arrival of one vessel from Russia and the expectation of another within the immediate future had little effect on the market at the moment. Later in the year, when the lower house of Congress instructed its Committee on Commerce and Manufacturers to inquire into the expedience of encouraging the cultivation of hemp by protective duties or by prohibiting the importation of the fiber from abroad, a representative from New York protested that "the interruption of commerce with the Baltic, created an extraordinary price, which was bounty enough for the present."

The profits which could be derived from hemp culture led, of course, to accelerated production of the fiber. By 1810 the annual crop in Kentucky had risen to 5,755 tons, according to census returns which were admittedly "doubtless very short." The greater part of the total grew in the fertile Bluegrass region, where Bourbon County led the way with 796 tons, followed by Scott with 599, Fayette with 595, Mercer with 433, and Woodford with 417. Outside the central part of the state, Mason, reporting 581 tons of the fiber, established itself among the foremost hemp producing counties. At the price generally prevailing at that time, \$120 per ton, the crop was worth \$690,622 to Kentucky.⁸⁶ The interest and activity in Kentucky agriculture in 1810 was noted by a visitor to the state, who wrote that "The inhabitants [of Lexington] now turn their attention almost entirely to the cultivation of hemp, for which they find their soil adapted, and which is more profitable than anything else they can cultivate."87 According to another report, "The Marshal of Kentucky represents the production of hemp, their greatest raw material, as doubled in many places, in 1811."88

The extent of the growing volume of downriver traffic, even granting that available figures are not accurate, indicates that the census returns for 1810 are not complete. Between October 5, 1810, and May 5, 1811, over eight hundred vessels of various kinds, the majority of which were flatboats, passed the Falls of the Ohio on their way to New Orleans. The total number which passed that point bound for all southern ports during the season was estimated to be 1,200. Included in the cargoes of these boats, according to estimates which in some cases were far too high, were 1,050,492 hundredweight of

hemp, 189,020 pounds of yarn and cordage, 4,320 pounds of shoe thread, and 13,066 pounds of country linen.⁸⁹ During the first five months of 1812 New Orleans received from the up-country produce valued at \$1,824,028, of which rope yarn alone amounted to \$111,510.⁹⁰

Early in 1811 the price of hemp began to decline. In February the *Kentucky Gazette*, relying upon information obtained "from a source deemed correct," warned prospective shippers of the fiber that Philadelphia prices currently quoted were merely nominal and could not be realized on the seaboard and that the dangers of speculation in that commodity were great. ⁹¹ By September, 1811, only \$180 per ton was being offered in Philadelphia for Kentucky hemp, although John W. Hunt's agent expected the price to rise if the European war continued. ⁹² In the Bluegrass the *Gazette* pointed out that "Hemp—this staple commodity of the state has lately experienced considerable depression in value.—Five dollars per cwt. is the most current, and we believe the highest price given at this time." ⁹³ Five dollars per hundredweight was not to be offered again for hemp until 1814.

Henry Clay on March 14, 1812, wrote to his constituents a reassuring letter, predicting that the country would go to war and stating that "The effect of doubling the existing duties, will be to subject foreign Hemp to a duty of 40 dollars per ton, instead of 20, which it now pays. In the event of war, I am inclined to think that article will command a better price than it now does."⁹⁴ War came, but the market for hemp failed to react as Clay had expected, and less than a year later a Philadelphia firm authorized its agent in Maysville, Kentucky, to pay no more than three dollars per hundredweight for the fiber. 95 By January, 1813, the price had begun to rise, and buyers reluctantly paid four dollars per hundredweight when necessary. A buyer in Paris, Kentucky, informed his employer two months later that "We have made some trial to purchase Hemp for you lately but find it more difficult than was expected. Since there appears to be some small prospect of Hemp rising, a part of the Hemp holders will not yet take four dollars. Some of them will take that price but no part in cut money or goods." Four dollars continued to be the advertised price offered by buyers through the remainder of 1813 and the first half of 1814.96 On July 11 of the latter year R. Megowan and Company of Lexington finally recognized an advance in prices by offering five dollars in cash for good hemp delivered to their ropewalk on "Russell's Road."97

Foreign hemp again became available to the United States upon the restoration of commerce with Europe at the end of the War of 1812, and it supplanted the domestic fiber in many uses, especially for naval purposes. As a result, the future of the hemp industry seemed uncertain, and production was slightly curtailed for a time. ⁹⁸ This indecision proved to be in reality merely the preface to a new period of expansion, for following the war came the movement which has been described as the "Great Migration" to the West, where new acres were opened to cultivation.

The loss of sales to European hemp ceased to have an adverse effect on production in Kentucky because another market was demanding more fiber than the country could grow. European textile manufacturers, who had experienced a serious shortage of cotton prior to 1815, now demanded an increased supply, and the southern planters responded by opening a vast acreage of new lands for the production of their staple. The relation between cotton and hemp was pointed out at the time by a writer who said:

As long as cotton is extensively cultivated in the southern part of the valley of the Mississippi, hemp will be profitably produced in the northern. Every twenty lbs. of the former will demand at least one of the latter, or the necessary quantity of hemp in bailing [sic] and cordage, is about 5 per cent. of the weight of the cotton. A bale weighing three hundred, will have 285 lbs. of cotton, and 15 lbs. of baling and rope.

Mr. Niles calculates the quantity of cotton produced in the United States in 1816, at 320,000 bales. This would demand 4,800,000 lbs. of hemp, formed into duck and cordage. ⁹⁹

Cover for the cotton bales was urgently needed, and the upriver region found itself unable to supply fully the requirements of the lower South for bale rope and bagging. Manufacturers of these commodities found hemp far from plentiful on the market, especially in 1817 and 1818. Consequently, the price of the fiber, which had declined to \$80 per ton at about the time hostilities ceased, soon enjoyed an upward trend, and by the end of the first year of peace hemp was again selling in Lexington for \$100 per ton. As was ever the case when prices rose, merchants and manufacturers advertised their desire to obtain hemp at the highest market price, which reached \$6.50 per hundred in Lexington and Louisville early in 1816, receded to \$6 later in the year, and finally surged as high as \$8 before the boom ended. A writer of the time noted the general feeling of prosperity and stated that "The great object of all who establish themselves in this state is agriculture, for in this employment the poorest labourer soon finds ease and independence."

The unusually high returns for hemp lasted only a short time, and the panic of 1819 temporarily paralyzed all phases of the industry. From New Orleans came news of deflation and great losses to speculators in western produce, 106 many rope and bagging factories in Kentucky ceased or curtailed operations, the price of hemp dropped to \$80 per ton, and a smaller acreage was devoted to the crop. 107 Apparently the worst effects of the panic lifted from the hemp industry earlier than from many others, for throughout 1820 the *Kentucky Gazette* carried offers of several manufacturers to pay "the highest price in CASH for HEMP"; 108 and William Wiseman, operator of a ropewalk in Lexington, stated in the same year that the cost of his raw material was \$100 per ton. 109 Early in 1821 the Lexington Price Current quoted hemp at from five to six dollars per hundredweight, 110 but the illusive nature of the apparent return of prosperity to the hemp growers was decisively proved by the fact that their product by early 1825 had fallen to a new low price of from \$40 to \$60 per ton. 111

THE TARIFF AND POLITICS

At around \$50 per ton hemp was not a profitable crop. To those who produced it, either or both of two proposals seemed to offer some promise of more adequate compensation for their toil: new markets and a greater measure of protection from competing fiber imported from abroad. In regard to the former, producers especially desired to furnish ship rigging for the navy, since fiber used for that purpose commanded a much higher price than that made into bale rope and bagging. Their influence caused Congress occasionally to show an interest in the matter; but not until 1842, when an agent was sent to Kentucky to buy hemp suitable for naval use, was the movement successful. Even after that date only a small proportion of the Kentucky fiber was prepared by water rotting and sold to the navy, for the majority of farmers refused to alter their ancient methods. 112

Meanwhile, the desire to restrict or eliminate foreign competition caused Kentuckians to applaud the "American System" and to join the ranks of those who favored import duties high enough to protect American agriculture and industry. The high tariff in existence during the War of 1812, achieved by doubling the existing rates, ¹¹³ had been lowered by the act of 1816 which levied a duty of \$30 per ton on hemp. ¹¹⁴ When the price of the fiber dropped after the war, Kentuckians placed part of the responsibility upon the low

import duties on that commodity. Nathaniel Hart of Versailles wrote in 1822 that "In this country there is a strong sentiment in favour of increasing the tariff," and further stated that

There is one of the staples of the Western and Southern States, which could be increased to almost any extent, and for the greater production of which I feel much anxiety, to wit: Hemp. We are certainly guilty of great folly in suffering our market to be supplied with Russia Hemp, when it is in our power to furnish it of a better quality and at least \$100 in the ton lower than that of Russia. We should act as inconsistently with our interests were we to encourage the importation of foreign Cotton, Tobacco, and Flour, as we do by favoring that of Hemp. ¹¹⁵

Almost a year later, Hart, after quoting an estimate of the value of imported hemp and hempen goods, again expressed the western viewpoint:

This sum distributed among the farmers, ropemakers and weavers, of the west, would indeed cause the wilderness to blossom like the rose. Yet for the sake of the paltry revenue derived from these articles, the country is deprived of the profits of raising, manufacturing, and distributing such articles. 116

An observer stated of Kentucky in 1825 that "The people of this state are strong friends to the tariff,"117 and he might also have noted that their friendship for the tariff seemed to have little, if any, bearing upon their political affiliations. The followers of Henry Clay were, of course, strong supporters of the American System, which was being evolved by that statesman with the Kentucky situation in mind. The Clay faction had, however, no monopoly on that side of the issue, for the Jackson supporters in the Bluegrass believed also in the efficacy of the tariff and went to some lengths to publicize the fact that their hero stood with them. Fortunately for their peace of mind, he voted for the tariff of 1824, though the Clay group was able to find fault with his stand on certain amendments added to the bill. Jackson, in a letter written before the passage of the act, stated his position on the tariff, emphasizing the desirability of protective duties to bolster the national defense. Many Kentuckians were doubtless pleased by his specific reference to hemp as one of the "grand materials of our national defense" which "ought to have extended to them adequate and fair protection." ¹¹⁸

Meanwhile, Kentuckians in Congress attempted to act on the tariff question in accordance with the wishes of their constituents, and largely because of their aggressiveness in trying to protect the products of their state, hemp was mentioned prominently in the tariff debate of 1824. Soon after the revenue bill of that year was introduced, and after brief debate on the provisions concerning iron and whisky, Representative William L. Brent of Louisiana introduced hemp into the argument by voicing opposition to the

proposed duty on cotton bagging.¹¹⁹ The Kentucky delegation took up the challenge, and a lively debate of several days' duration ensued on that item. Southerners from the cotton-producing area argued strongly in both House and Senate against increased protection for the hempen goods. One Senator claimed that in 1816 Kentucky had promised to "supply the market" if a duty of \$1.50 per hundredweight were placed on imported fiber, but that after the desired rate was imposed the state produced less hemp than before. Daniel Webster aligned himself with the representatives from the cotton states, his opposition to increased duties on hemp being based on his concern for the shipping interests of his own section, whose expenses would grow should a higher tariff prevail.¹²⁰

Ranged against the advocates of a low tariff were the westerners, chief among whom was Henry Clay, champion of protection and of the hemp industry throughout his career. The protectionists eventually carried the day in the lower house, and the bill then ran the gantlet of senatorial opposition. The suggestion of Senator James Lloyd of Massachusetts that the duties on hemp be stricken from the measure opened the controversy in that house. He and his cohorts were defeated, however, and the bill became law. Under its provisions the duties levied specifically covered the importation of raw fiber and the most commonly used manufactures of hemp; and, to make the act more inclusive, it placed a general 25 per cent *ad valorem* tax on goods not otherwise specified in the measure that were manufactured of cotton, flax, hemp, or silk. The duty on raw fiber was raised to \$35 per ton; on tarred cordage, five cents per pound; and on cotton bagging, 3¾ cents per square yard. Even the oil pressed from hemp seed (and the seed of certain other plants) was subjected to an impost of twenty-five cents per gallon. 122

The victory won by advocates of protection was pleasing to Kentuckians, one of whom expressed his sentiments in a toast offered at an Independence Day celebration at Owenton: "*The Tariff Bill*. The Western delegation protected Kentucky hemp for the use of the United States in disposing of their New England tories." On the same occasion another toast expressed in stronger words the western attitude toward New Englanders: "*The Hartford Convention*—Some of the strong hemp of Kentucky for their necks and the strong arm of Jackson to tie the knot." Nathaniel Hart, as might have been expected, applauded the law, stating that "Hemp is the only article in Kentucky in demand, (except our livestock), and this in consequence of the protecting duty it has received." On the other hand, cotton planters of the

South decried the "venal legislation of Congress," and at least one southerner proposed the erection at public expense of factories to produce bagging and other coarse fabrics. Such a program, in his opinion, would have given "a lesson to our brethren of the west, and to our brethren of the east, which they would feel much more than our strongest appeals to the constitution, which they have ceased to value, or to our rights, which they have taught themselves sneeringly to trample upon." 125

During the four-year presidential campaign after 1824, Kentuckians might disagree on the merits of Clay and Jackson, but they for the most part agreed on the desirability of protection for Kentucky's hemp. 126 Clay was not in Congress to lead the way in 1828, but when the tariff bill was being debated others were eager to take up the fight. T. P. Moore of Mercer County, a member of the Committee on Manufactures of the House of Representatives, claimed credit for the high duties and the sliding scale of increases of those duties on hemp which were included in the act of 1828, and he boasted to his constituents that "the duty on hemp was adopted as I had proposed it in the committee." The rates imposed on hemp by this "Tariff of Abominations" were higher than those effective at any other time, but, instead of raising the price, they served merely to halt temporarily a downward trend in the price of the fiber. 128 The act provided that after June 30, 1828, the rate on unmanufactured hemp should be raised to \$45 per ton for one year, after which a further levy of \$5 per ton would be added each year until the total should reach \$60 per ton. The duty on cotton bagging was fixed at 4½ cents per square yard for one year, after which it would be raised to five cents per square yard. 129

The revision of the tariff in 1832 brought lower rates on hemp, although they still were high enough to be protective. The act imposed duties of \$40 per ton on fiber, $3\frac{1}{2}$ cents per square yard on cotton bagging, and 15 per cent *ad valorem* on unspecified articles manufactured from hemp. The rates established by this measure were applied only for a short time, and, because of southern opposition, a new, compromise tariff law went into effect in 1833. The changes it brought did not affect at once the existing rates but provided a systematic schedule of reduction which would bring all duties to a uniform 20 per cent *ad valorem* by July 1, 1842. 131

The decrease in protection pleased neither Clay, who drew up the act of 1833, nor many of his fellow Kentuckians; and agitation began for an increase in rates. A "Great Tariff Meeting" at Maysville in May, 1842, at

which Adam Beatty played a leading role, adopted resolutions which reflected the protectionist philosophy. Declaring it to be the duty of Congress to pass a tariff bill which would afford "ample and efficient protection to our agriculture, manufactures, mechanic arts, mining operations, fisheries, commerce, navigation, and all other American interests," the meeting further resolved

That the Farming interest in the United States can be efficiently protected *only* by giving such encouragement to mechanical arts, and domestic manufactures, as will enable them to compete successfully with, and gradually overcome foreign competition; and that the Planting interest, having the home market secured, by an ample protecting duty, cannot fail to feel the effect, and participate in the general prosperity of the whole Union which would result from such protection. ¹³²

The act of 1842 was somewhat more satisfactory to hemp growers and manufacturers. The rate of \$40 per ton on fiber, which had been imposed in 1832, was restored; manila hemp, jute, and other such fibers were subjected to an import tax of \$25 per ton; and a levy of \$20 per ton was placed on hemp and flax tow. Manufactured goods were protected by the following schedule: tarred cables and cordage, 5 cents per pound; untarred cordage, 4½ cents per pound; cotton bagging, 4 cents per square yard; any unspecified fabric made of hemp or flax and suitable for bagging, 5 cents per square yard; and all other unspecified manufactures of hemp, 20 per cent ad valorem. Four years later this Whig tariff was superseded by another act formulated and passed by the Democrats. Specific rates were removed from hemp and hempen products in favor of *ad valorem* duties which included levies of 30 per cent on fiber, 25 per cent on cables and cordage, 20 per cent on manufactures of hemp not otherwise covered by the bill, and 15 per cent on tow. 133 No further change in the tariff was made until 1857, when the ad valorem rates were reduced to 24 per cent on fiber, 19 per cent on cables and cordage, 15 per cent on manufactures of hemp not otherwise specified, and 12 per cent on tow. 134 The duties established by the act of 1857 remained in effect until the seccession of the southern states made possible the enactment of a high tariff law.

FLUCTUATING PRICES

The extent to which the price of hemp reacted to the tariff at any time is impossible to determine because of the many other factors which influenced the market. The size of the hemp crop in any one year, the carryover of fiber or manufactured goods from a previous year, and the size of the current crop of cotton in the South helped to determine the sum the hemp grower received

from the product of his year's labor. Meanwhile the size of the crop also was affected by numerous factors, including the price of the fiber, the price of other crops which could be produced in Kentucky, and the farmer's constant object of concern, the weather.

As has been noted, early in 1825, shortly after the passage of the tariff act of 1824, the market price of hemp fell to the distressingly low level of from \$40 to \$60 per ton. In the following year a notable increase occurred, causing the value of the fiber to reach \$120 per ton in the Louisville market and to remain near that mark during most of the year. 135 The price rose fairly steadily during 1827, moving from \$140 per ton on the Lexington market in the late winter and early spring to peaks of \$180 and \$190 per ton at Louisville (where the returns from hemp were usually higher than at Lexington) during the autumn months. 136 In 1828 the price did not recover from the usual seasonal decline, and hemp sold at Louisville for \$110 per ton from April to June, rose waveringly to \$120 per ton during the summer, and fluctuated between those two figures for the remainder of the year. ¹³⁷ Early in 1829 the downward trend was resumed, and before it ceased the price of hemp had returned to the extremely low level which had caused concern in Kentucky four years earlier. In January the fiber brought \$80 per ton, June brought no change in price, a \$10 per ton increase was recorded in midsummer, and no further change occurred during the remainder of the year. 138 The appearance on the market of the crop of 1829 forced the price early in 1830 down to \$60 per ton. Though some hemp sold for \$70 per ton, there was no upward movement during the entire year, and at least one allotment of fiber brought only \$40 per ton on the Louisville market in Mav. 139

Writing of market conditions at that time, Henry Clay stated that

The price is not uniform. The extremes have been as low as three, and as high as eight dollars, for the long hundred—the customary mode of selling it. The most general price, during a term of many years, has been from four to five dollars. At five dollars it compensates well the labor of the grower, and is considered more profitable than anything else the farmer has cultivated. ¹⁴⁰

Clay's summary was valid, yet in spite of fluctuations in the prices of her products, Kentucky was carrying on an extensive trade. The exports of the Bluegrass alone in 1831 were estimated to be worth \$2,750,000, of which hemp and hempen goods accounted for \$750,000, being second only to livestock. At the end of the next year Governor John Breathitt congratulated his people upon their abundant crops, stating that the surplus of

agricultural products was as great as usual and noting that prices were "rather better than for some years past." At about the same time a writer referred to hemp and tobacco as the staples of the state, declaring that both were "raised in the greatest perfection." ¹⁴³

As Governor Breathitt pointed out, prices of agricultural products were much better in the 1830's than they had been for some time. To hemp growers the beginning of 1831 brought a cheerless outlook, their fiber bringing from \$60 to \$70 per ton at Louisville, but as the selling season for the crop passed the price began to rise. By early April an observer noted an increased desire to purchase it. This increased demand brought results immediately, and the market price of the fiber advanced to \$80-\$90 per ton within that week, continued to \$100 per ton late in May, 144 and jumped to \$120-\$140 per ton in the latter part of July. 145 On the whole the level of prices remained high throughout the remainder of that year and the next, though a slight decrease brought it to \$100-\$120 per ton during the late fall and winter of 1831-1832.¹⁴⁶ During the spring of 1832 the prevailing price was well above \$100 a ton, as a Louisville firm learned from its agents, who wrote, "yours of the 11th inst. ordering hemp was duly recd and as you limit us to 5\$ we find it impossible to supply the order, as it comes in but slowly." Indicative of the trend in prices is another letter written by the same agents in June which stated that "in buying too close we let one of the best crops in the County slip through our fingers as we wanted to get a part of it for less than six dollars."147

In January, 1833, purchasers offered \$100-\$120 per ton for fiber, but as the months passed they found it necessary to offer less and less, until in August a Louisville merchant was able to procure an allotment at only \$60 per ton. From that point the price began to climb, even before that year had ended. In September a group of farmers at Maysville decided to hold their hemp until they could obtain \$110 per ton for it, and in 1834 the buyers were forced to give from \$100 to \$120 per ton for the fiber. These increases mark the beginning of a period of extremely high prices for hemp which continued until the panic of 1837. In 1835 the market rose from \$150 to \$180 per ton for the commodity; the next year saw prices equally as high, although the average varied from \$150 to \$160; by the beginning of 1837 it had declined to \$120 to \$140; and after the country fell into the depression it dropped to \$80, then to \$70 per ton. Since a good grade of fiber was worth

more than the ordinary variety, a Louisville manufacturer offered \$95 per ton for a Lexington farmer's hemp in 1838, cautioning him, however, to keep the proposition secret "because it is not in accordance with the views of some of my Lexington friends and manufacturers." In December the offer was raised to \$100 per ton. ¹⁵²

Though no reliable estimates of the extent of hemp production exist for the years between the census of 1810 and the appearance of the Patent Office *Reports* in 1840, it is evident that the production of the fiber in Kentucky increased as the years passed. In 1833 an advocate for the construction of turnpike roads, seeking to demonstrate the value of such means of communication, stated that "from data that I know to be nearly correct" Woodford County produced annually 900 tons of hemp, Fayette twice as much, and other neighboring counties as much together as Woodford. Two years later a contributor to a Lexington paper referred to hemp as "the first article of our traffic, source of our wealth, and the first object of our labor, skill and improvement," and further declared that

The article, hemp, has now become the decided staple of Kentucky. It is not necessary to constitute a staple that it should be the most profitable commodity, . . . but, that it should be the most certain and ready sale—and a cash article. Hemp in that point of view, may be fairly considered a staple; though, it has labored under such disadvantages, that the grower has derived but very inadequate profit from it. 154

Unfortunately, in the census of 1840 hemp and flax are listed together, with the result that the statistics have little meaning. They do show that in 1839 the United States produced a total of 91,251 tons of both fibers, of which Kentucky contributed 9,992½ tons. The leading hemp and flax producing counties in the state were Fayette, Mason, Scott, and Woodford, each of which reported a yield of over 1,000 tons Referring to the inaccuracy of the census, a Kentucky newspaper claimed that "The truth of the matter is that near about three-fourths of the whole hemp crop of the United States, in 1840, was produced in Kentucky." Even if the census figures were approximately correct in portraying the yield of hemp for that year, they would not give an accurate impression unless accompanied by a statement that hemp production in Kentucky dropped in 1839 because of a drought. A writer pointed out in July of that year that "The hemp crop is below par for the season and the quantity in the ground is considerably less than heretofore." ¹⁵⁶

As time was to prove, 1839 was but the first of a three-year period in which insufficient rainfall caused hemp crops to be very poor, or as expressed

by official report, "quite deficient, and . . . almost a failure." Since similar conditions prevailed in Missouri, Kentucky's chief rival as a hemp producing area, the supply of the domestic fiber became extremely limited. This situation was reflected in the market price of the fiber, which in 1841 rose from the low of the depression years to \$180 per ton at Louisville. 158 Prices were not maintained at this high level for any appreciable length of time, and before the year had ended they had declined gradually until the fiber brought in December about \$112 per ton in spite of the fact that the crop was not as large as the average. 159 The next year brought much more favorable conditions, and the crop of hemp, said to be the largest ever planted in the state to that time, 160 was described as "very fine," "the best ever raised," and "25 or 50 per cent increase on the average one." ¹⁶¹ In view of the prospect for a bumper yield, the price of the fiber by early summer, 1842, had moved slowly downward to \$80 per ton, where it remained until the first of the new crop began to come on the market, when it slumped further to a level ranging from \$60 to \$70 per ton. 162

THE SEARCH FOR NEW MARKETS

To add to the trials of hemp growers, already troubled by fluctuating prices, competition for the Kentucky staple appeared in the 1830's and 1840's in ever larger quantities in the form of jute and abaca. The latter, more commonly called Manila hemp, was known and sold in Kentucky in 1830, when it was valued at the high price of \$240 per ton. In the next year Bruce and Newton of Louisville offered for sale Manila cordage which had been made on the east coast and imported into Kentucky by that firm. Slightly more than seven million pounds of the raw fiber were imported into the United States in 1839, and the amount increased yearly thereafter. None was used by the navy, which continued to depend mainly on Russian hemp, but merchant shipping consumed much of it because of its light weight, cheapness, and flexibility. In the next year

At the same time, hemp production was thriving in other states. When Kentucky crops were damaged by the drought of 1839, a small amount of fiber was imported into the state from Missouri in order to supply the factories which could not have continued to operate had they been forced to depend altogether on the local supply. Indicative of the rising production elsewhere, as well as in Kentucky, was the increasing amount of hemp

shipped down the Mississippi River. In the winter of 1841-1842 the total receipts of the fiber at New Orleans were 1,211 bales of undetermined weight; in 1842-1843 they reached 15,000 bales; in 1843-1844 they rose to 38,062 bales; and in 1846-1847 slightly more than 60,000 bales were shipped to the great southern port from the interior. Most of the increase came from the expanding hemp fields of Illinois and Missouri. According to a farm journal, in 1860 "many farmers in Minnesota have undertaken the cultivation of hemp, with very promising results. Heretofore this crop has been mainly confined to Missouri, and Kentucky where it forms a staple. The demand exceeding the home grown supply, makes this a profitable article where it succeeds." Other states joined this group, and by the eve of the Civil War virtually every state in what is now called the Midwest produced at least a small quantity of hemp. 169

Competition and, to a greater extent, low prices caused a general awakening of interest among Kentuckians in improving the methods of cultivating hemp and in finding new markets for their fiber. They had been concerned about the advisability of instituting better farming practices as early as 1794, when the "Mercer [County] Society for the encouragement of Agriculture" was organized; this was followed by a society in Lexington in 1818 and by the Kentucky Society for promoting agriculture, which in 1819 gave a silver cup for the "Best Hemp or flax linen manufactured in private families."170 The greatest interest in such organizations occurred after the first one-third of the nineteenth century, and they continued their activities until the outbreak of the Civil War. The Franklin County Agricultural Society, organized in 1835, began in the next year to hold annual fairs at which prizes were given for the best crops of hemp, corn, wheat, and other products, and for the best samples of home manufactures and tools.¹⁷¹ Other counties quickly followed this example. In 1836 the Shelby County Agricultural Society was formed for "the promotion of industry and improvement in Agriculture and the Mechanic Arts," 172 in the same year a very active organization came into being in Bourbon County, and by 1857 twenty-seven local societies were in existence in the state. 173

Since the earlier Kentucky Society had gone out of existence, in 1838 delegates from thirty-four counties met and organized the second State Agricultural Society. Its program was ambitious, calling for periodic reports on the crops of the various sections of the state, undertaking to encourage the water rotting of hemp for naval use, and offering premiums for essays, one of

which referred to "water rotting hemp, showing the advantages resulting to producer and consumer from this method of preparing the staple, and practically describing the mode of conducting the process." After four years of activity, the society disappeared, allegedly because it could not pay the premiums which it had offered and because the state legislature refused to grant financial assistance to it. After its demise the Bourbon County Agricultural Society stepped into the breach with an offer to "the Hemp Growers of the United States" of "a premium of a Silver Mug, worth \$20, for the best article of Hemp for Naval Purposes, also a Cup worth \$10, for the second best, and a Spoon worth \$5, for the third best, the growth of the United States." The prizes were won by Isaac Wright, who produced 1,355 pounds of hemp on one acre, by Michael Neff with 1,200 pounds, and by John Allen Gano with 1,192 pounds. 1777

A third Kentucky State Agricultural Society was organized in 1856, and it remained active to the Civil War. Fairs were numerous in Kentucky on the eve of the war, for in addition to those held by this organization and by the county associations others were operated by the Kentucky Society, which conducted an exhibition in Louisville in 1857. Since the purpose of all these organizations was to encourage agriculture and industry, all offered premiums for crops and manufactured articles, and always hemp and hempen goods received a large share of attention. ¹⁷⁸

The agitation of the agricultural societies for improvement in methods of crop management, the desire to capture the market for marine cordage, and the fluctuating and frequently low prices obtainable for fiber sold to the local manufacturers of bale rope and bagging caused some hemp growers occasionally to try to prepare their product for a different market by methods other than dew rotting. No doubt a small quantity of lint was prepared by water rotting all through the period to the Civil War, but no mention of it is to be found save at infrequent intervals until the 1840's. Except for the census years, it is virtually impossible to estimate the amount of hemp prepared by this process in any season because contemporary estimates are extremely rare. Nevertheless, small quantities were offered for sale occasionally, as is evidenced by infrequent quotations of prices for the commodity. A factory in Lexington offered \$120 per ton in 1811 for water rotted hemp, and in 1813 Robert Megowan & Co. advertised a desire to obtain "a few tons" of the commodity at the same price. During the first half of the 1830's the price

revolved around the same figure, rising to \$180, then to \$200 per ton after 1835. 180

Water rotted hemp always brought a better price than that offered for the dew rotted fiber. The difference varied from time to time, however, because the two products generally were sold in different markets, and factors influencing those markets were not identical. When dew rotted hemp brought as much as two-thirds the price of water rotted, as in 1811 and 1812, or more, as in the 1830's, there was little disposition on the part of farmers to undertake the expense and unpleasantness of water rotting their crop. When, on the other hand, the value of the dew rotted fiber fell to approximately one-half the price of the other variety, as in the 1840's, the incentive to adopt the practice of water rotting was much greater. Consequently, beginning about 1840 more attention than ever before was given to this method of preparing the fiber, the activity being noted by an observer who described it as follows:

The water-rotting of hemp is exciting great interest amongst the farmers of Kentucky. The efforts made in the South to do away with the use of domestic bagging and bale-rope [have led] some of the planters . . . [to the] length of baling their cotton in thin cottonwood boards, bound together with hoops! The Scotch and Russia articles, . . . made of tow, having also lately been used to a great extent, together with the experiments recently made at the Navy-yard, proving incontestibly, that the hemp of Kentucky and Missouri, properly prepared, is infinitely superior to that of any foreign growth; ought to be convincing proofs to the hemp growers of the west, that that article can be turned into much better and profitable uses than the mere manufacture of cotton bagging. ¹⁸¹

The Frankfort *Commonwealth* noted that the hemp crop of 1842 promised to be greater than any ever before produced in a single season. It urged the farmers for their own sakes as well as for the good of the bagging and rope industry to water rot a large portion of their product and went so far as to say that "they will be given over to unredeemable stupidity if they do not avail [themselves] of so tempting a means of promoting their solid prosperity." Variations on the process of water rotting hemp were publicized in the newspapers, and hemp growers held meetings in several counties to discuss their problems. No doubt other farmers could sympathize with Henry Clay who in 1843 regretfully declined an invitation because he was "so busy at home with my vats for water rotting hemp . . . that I cannot conveniently leave it." Though much of this fiber was probably prepared with the hope that it might be sold to the navy, most of it was sold in the local market. The price was higher than that obtained for dew rotted hemp, but all prices sank to low levels during much of the decade before 1850. Water rotted

hemp brought \$100 to \$110 per ton during most of the year in 1844, dropping gradually by as much as \$20 per ton as the year ended. 184

The price rose again to about \$100 per ton early in the next year and did not change radically until late in 1848, when it rose above \$200.¹⁸⁵ By the latter date dew rotted hemp had risen to more than \$100, the mark at which the production of that commodity was generally considered to be profitable.¹⁸⁶ Perhaps largely for that reason, the production of water rotted hemp seems to have attracted less attention, at least in the press, during the following decade. After 1850 prices for that kind of fiber were rarely quoted, while surveys of the market continued to mention dew rotted hemp. At no time was a relatively large amount of the Kentucky hemp prepared by water rotting. In 1849 only 1,356 tons, or less than 10 per cent of the total hemp reported by the state for that year, were classified as water rotted hemp.¹⁸⁷ The census returns for 1860 are inaccurate, but apparently the proportion of water rotted hemp in that year was approximately the same as it had been ten years earlier.¹⁸⁸

Discussing the state of the hemp industry in 1845, a writer commented that "besides the amount [of hemp] used by our extensive manufacturing establishments, a large quantity is constantly baled and sent to other markets."189 Most of it, after the rise of the Kentucky rope and bagging manufacturing establishments, was consumed in the state, but there was a continuing trickle of exports to other areas of the United States. In the 1840's, as Kentuckians sought new outlets for their produce, that trickle was larger than at any other time to the Civil War. Henry Clay in 1843 sent a shipment of water rotted hemp to Baltimore, where it brought a high price and praise as being "the best American hemp that has ever appeared in this market." ¹⁹⁰ Not only was water rotted hemp sold on the seaboard, but a market was found there for a relatively small quantity of the dew rotted fiber. Northern markets, said to be bare of hemp in 1845, imported some of the Kentucky staple by way of New Orleans, and at that time it was even being manufactured in Boston into standing rigging for sailing vessels. 191 A small amount of hemp was shipped to Europe in 1844 as something of an experimental venture, leading the American Agriculturist to daydream that "If the article be liked upon trial, large orders from abroad will follow; and that it will be liked we entertain not a doubt, as American hemp is known to be stronger than the Russian, or indeed any other grown in a foreign country." Unfortunately, the venture was not successful, the shippers receiving only \$40 per ton above the

expenses attending the shipment and sale of the fiber. ¹⁹² Consequently, the shipments abroad were limited, but Kentucky continued to export hemp to the eastern market. In 1857 a superior type of fiber brought \$280 per ton, an extremely high figure, at New York, but late in the next year a firm of commission merchants in St. Louis remarked that "The Cordage Manufacturers at the East are not consuming Ky. Hemp and the market there for Hemp is *flat* even at 6 months credit." ¹⁹³ Until the Civil War the Kentucky farmer continued to depend for the most part on the manufacturers of bale rope and bagging to consume his hemp fiber.

INTRODUCTION OF NEW VARIETIES OF HEMP

Apparently most of the hemp grown in Kentucky, at least until the 1840's, was of the type which had been produced there from the beginning of the industry. In the numerous articles on hemp culture published in early newspapers and farm journals no reference to new varieties has been discovered, and the many newspaper advertisements offering seed for sale make no statement which would lead to a belief that new types of hemp were being introduced. If any seed was imported from abroad, little or no publicity was given to the fact during the first four decades of the nineteenth century. In 1843 "Bologna hemp," doubtless from Italian seed, was being cultivated to some extent in Kentucky, where it won praise for being of a whiter color, finer, stronger, and more easily broken than "common hemp." 194

Rare among the producers and distributors of the seed grown in Kentucky was an individual such as A. G. Munn, operator of a "Seed and Agricultural Store" on Market Street in Louisville, who in 1847 offered for sale 250 bushels of seed "in good new barrels and in prime order," with a guarantee that "Every bushel of this Seed has been purchased and carefully examined and tested by myself, and purchasers may rely on getting a fresh and clean article." Had all dealers been so careful, there would perhaps have been less ground for a belief, expressed in 1854 in a "Premium Essay upon the Cultivation and Preparation of Hemp" by Dr. R. J. Spurr of Fayette County, that the Kentucky hemp seed had deteriorated. Dr. Spurr suggested that the Navy Department co-operate by obtaining seed from Russia or Italy for the use of the farmers of Kentucky. ¹⁹⁶

Even before Dr. Spurr composed his essay, a new variety of hemp had been introduced. In the summer of 1851 L. Maltby of Mason County, while

visiting in France, learned that *So-na*, or Chinese hemp, had been introduced there with very satisfactory results. Its yield of fiber was much greater than that of Russian hemp, but the French growing season was not long enough for the seed to mature perfectly. Consequently, the seed was raised in Algiers and imported into France to be sown for the production of the fiber crop. Maltby, envisioning the possible production of seed in the lower South and its planting in Kentucky for lint, brought some *So-na* seed to America. In 1852 both he and C. A. Marshall planted it, and some was sent to Louisiana. It was easily produced in the latter state, and it even matured in Kentucky, about three weeks later than the seed hemp commonly grown. In 1853 Peyton J. Key of Mason County sowed an acre with this seed and found it to mature some ten days later than other hemp on the farm and to yield a much greater quantity of fiber per acre. ¹⁹⁷

Because of an extended drought in 1854 only a small quantity of hemp seed was produced in Kentucky, far short of the amount necessary for planting the fiber crop for the next year. Some of the more enterprising farmers formed a "company" which sent Anthony Kilgore as its agent to Europe to purchase a quantity sufficient for planting. He was said to have tried to buy 30,000 bushels, but actually he was able to procure only 4,300 bushels of Russian hemp seed, hardly enough to plant more than half a crop. ¹⁹⁸ Others may have been able to secure small amounts of the Russian seed independently of Kilgore, for in March, 1855, Gardner & Co., 419 Main Street, Louisville, advertised that "We are in receipt of about 225 bushels genuine Russia Hemp Seed grown in 1854. It was selected by the shipper especially for sowing, and has arrived here in prime condition. It sprouts as though every seed is perfect." ¹⁹⁹

Spurr's prize essay on "Some of the Crops of Kentucky" stated that the crops grown from the Russian seed were inferior, maturing very early and being hardly worth harvesting. Since the seed came from northern Europe, however, and since he was attempting to prove that plants of northern growth were inferior to those of southern origin, his statement may not be dependable. At least not everyone agreed, for a few years later another writer described the Russian hemp as being "about equal to the common hemp, perhaps a little less, say in a good season from 600 to 800 pounds." He declared that the fiber produced by these plants was much finer than that of other varieties, comparing it to flax in its "fine, soft and glossy texture," and

stated that it was suitable for making delicate fabrics as well as coarser goods.²⁰¹

The most widely accepted new variety of hemp in Central Kentucky was a type of Chinese hemp, perhaps similar to or the same as Maltby's *So-na* but imported separately at a later date and produced from the so-called "Vance seed." The appearance of this hemp in Kentucky resulted from the visit of a Frenchman in the home of William L. Vance, Woodford County, in 1853 or 1854. The visitor spoke of the remarkably productive Chinese hemp whose seed had lately been introduced in France, and upon his return to his native land he procured a spoonful of the seed at the Jardin des Plantes and sent them to his friend in Kentucky.²⁰² This hemp proved to be more productive than any which had been grown in that area, and its fame and its culture spread rapidly within a short time. "C. B. C." of Woodford County wrote to the editor of a farm paper in 1857 that "The hemp crop, as you know, is the special one in this country, and the Vance Seed is all the rage with farmers here."203 He attributed its popularity to its ability to grow on second-rate land and to its large yield, which was due in part to its long growing season. Others agreed, and extravagant claims were made in regard to its productivity of fiber. The lint was long and coarse but very strong, which made it desirable for manufacturing bale rope and bagging.²⁰⁴ In spite of importations, hemp seed was still scarce early in 1859 and was bringing \$2-\$2.50 a bushel on the Louisville market at that time.²⁰⁵

THE PREWAR YEARS

The bumper crop of 1842, estimated conservatively by the Kentucky legislature to exceed 12,000 tons,²⁰⁶ came on the market slowly because of unfavorable weather during the early part of the breaking season, and the price remained almost stationary at \$60 per ton until March, 1843, when it sank to \$55. By early May it had risen again to approximately \$60 per ton, and it remained at that general level until autumn, when it reached \$65 per ton for the remainder of the year.²⁰⁷ An observer of market trends wrote in November as follows:

Hemp—Is in fair demand at \$3 to 3 25 per cwt. The manufacturers manifest no disposition to advance the price, but rather the reverse; for the reason, that bagging and rope are duller and at lower prices, than when hemp could be bought at \$2 75 and there is not much prospect of an improvement in those articles, whilst any is imported or whilst so much is manufactured in this country.²⁰⁸

Nature intervened to diminish the production of hemp in 1843 when heavy rains, falling when the young plants were two or three inches high, "beat down and baked the ground in a remarkable manner." In view of the "short and sickly" nature of the crop, there was an expectation that prices would advance beyond their level for the previous year. Unfortunately, however, rains and floods wreaked such damage in the lower South that the cotton crop fell short of the average.²⁰⁹ Consequently, the demand for hemp was also below average, with the result that the crop, which was estimated at from 12,000 to 14,000 tons,²¹⁰ brought no more on the market than did that of the previous year.²¹¹ In fact the price changed relatively little until the autumn of 1847, when for the first time since early 1842 it rose to and above \$100 per ton.²¹² Meanwhile, estimates varied as to the amount of the crop. Perhaps the most reliable is that of the Patent Office, which stated that 30,000 tons of hemp, "not a large crop," were produced in the United States in 1847, and that fully half of the total grew in Kentucky.²¹³ The production for the succeeding year was said to be even smaller, only 11,000 tons being credited to Kentucky.²¹⁴ The price obtained for the crop of 1848 was, however, much better than for some years past, ranging from \$115 to \$135 per ton at Louisville.²¹⁵

The United States in 1849 produced 34,871 tons of hemp. Over one-half of this total, or 17,787 tons, was produced by Kentucky, which led Missouri, its nearest competitor, by almost 2,000 tons. Fayette, Woodford, Mason, Scott, Jessamine, Bourbon, and Shelby counties, in order, were the outstanding hemp producing localities in the Bluegrass State. Most of the fiber was dew rotted, only 1,355 tons being prepared by other methods. There were 3,520 hemp plantations operating in the state, on which the average yield per acre was estimated to be 650 pounds. Because of its dependence on the southern market, where a shortage in the cotton crop lessened the demand for hemp, the price again dropped below \$100 per ton and did not rise above that mark until 1853.

The cultivation of hemp in Kentucky was said in 1851 to be "on the increase," although market reports indicate that the fiber, worth from \$90 to \$95 per ton during the winter of 1851-1852, was relatively scarce. The small stock on hand in 1853, the "unsatisfactory accounts received, from all sections, as to the condition of the growing crop in Kentucky," and the anticipated decrease in the importation of Russian hemp owing to European

troubles combined to cause the price of hemp to rise to \$125 for medium and \$140 for prime in the autumn of that year. In 1854 it reached \$160 per ton, and Kentuckians could enjoy their increased income as well as the news that one of their number, John J. Hunter of Lexington, had won first prize at the World's Fair in New York for the best American dressed hemp over competition which was "stronger . . . in this staple than in any other American production." The returns from hemp continued to be unusually high during the next two years, the peak occurring in September and October, 1856, when the fiber brought \$175-\$180 per ton. It moved gradually downward in the following months, dropping to \$100 per ton in 1858, but it rose again almost immediately and sold for \$112.50 per ton in 1859.

The annual production of hemp in Kentucky during the decade before the outbreak of the Civil War did not again reach the peak which had been reported in 1850. Several poor crop years occurred, and in 1856 the market was almost bare of the fiber. In that year one farmer probably spoke for others when he said that his crop was so poor that it would not pay for the seed sown and the labor expended upon it.²²⁴ During the next two years production increased, but importations of bagging from India and the expansion of the hemp industry in Missouri caused prices to decline and the production of hemp to seem less attractive to Kentucky farmers.²²⁵ The Kentucky State Agricultural Society in 1859 reported that "in the product of *hemp* in this State, every one will be prepared to find a great reduction." It continued by stating that wheat had taken the place of hemp in some parts of the state, and in other parts it had been supplanted by potatoes and corn, "better paying crops." The society conceded that "Missouri is now the great hemp State, and will probably long remain so."²²⁶ On the eve of the war Kentucky probably produced about 15,000 tons of fiber, or less, although no reliable figures exist to substantiate this estimate. 227

¹ For a view of the industry after the Civil War, see Chapter VI.

² Boone Papers, Draper MSS., 6S92, in Library Wisconsin State Historical Society (Photostats in Kentucky State Historical Society Library, Frankfort, Kentucky). Hereafter references to the Draper MSS. will identify the MS. cited and give the location of the photostats.

³ Shane Papers, Draper MSS., 15CC10 (Filson Club).

⁴ Lewis Collins, *History of Kentucky* (2 vols., Covington, Ky., 1882), I, 514.

⁵ He recalled that during the next year he "raised a right smart patch." Beckner (ed.), "Reverend John D. Shane's Interview with Pioneer William Clinkenbeard," *loc. cit.*, 108.

- ⁶Lucien Beckner (ed.), "Rev. John Dabney Shane's Interview with Mrs. Sarah Graham of Bath County," in *Filson Club History Quarterly*, IX (1935), 228.
- ⁷ Alvin L. Prichard (ed.), "Minute Book A, Jefferson County, Kentucky, March, 1781-September, 1783," *ibid.*, Ill (1929), 68 and note.
- ⁸ *Ibid.*, 148-149, 152, 177-179. Eight pounds of fiber were valued at £40 in the depreciated currency of the time.
- ⁹ Beckner (ed.), "Rev. John Dabney Shane's Interview with Mrs. Sarah Graham of Bath County," *ibid.*, IX (1935), 230.
 - ¹⁰ Whitley Papers, Draper MSS., 9CC39 (Ky. State Historical Society).
- ¹¹ Shane's interview with Father Badin, Draper MSS., 16CC267 (Filson Club). See also Lexington *Kentucky Gazette*, November 17, 1826.
- ¹² Beckner (ed.), "Reverend John Dabney Shane's Interview with Pioneer William Clinkenbeard," *loc. cit.*, 119.
 - ¹³ Shane's interview with Henry Parvin, Draper MSS., 11CC174 (Filson Club).
 - ¹⁴ Filson, *Kentucke*, 28; *Fifth Census*, 1830, p. 16.
 - ¹⁵ Filson, *Kentucke*, 21.
 - ¹⁶ *Ibid.*, 25.
 - ¹⁷ Lexington *Kentucke Gazette*, December 20, 1787.
 - ¹⁸ *Ibid.*, April 12, 1788.
- ¹⁹ Gilbert Imlay, A *Topographical Description of the Western Territory of North America* (London, 1793), 165-170.
 - ²⁰ March 15, 1790.
 - ²¹ Lexington *Kentucke Gazette*, November 22, 1788.
 - ²² *Ibid.*, February 21, 1789.
 - ²³ Lexington *Kentucky Gazette*, March 6, 1790.
 - ²⁴ *Ibid*.
 - ²⁵ *Ibid.*, January 15-February 12, 1791.
 - ²⁶ *Ibid.*, February 19, 1791.
- ²⁷ John M. Brown, *The Political Beginnings of Kentucky* (Louisville, 1889), 87; Mary Verhoeff, *The Kentucky River Navigation* (Louisville, 1917), 52.
 - ²⁸ Imlay, *Topographical Description*, 95.
- ²⁹ Francois A. Michaux, "Travels to the Westward of the Allegany Mountains," in Reuben G. Thwaites (ed.), *Early Western Travels*, *1748-1846* (32 vols., Cleveland, 1904-1907), III, 204.
- ³⁰The tablet erected over his grave gives Yoder credit for making the trip in the first flatboat ever to descend the Mississippi. Collins, *History of Kentucky*, II, 723.
 - ³¹ Brown, *Political Beginnings*, 87-88.
- ³² Samuel F. Bemis, *Pinckney's Treaty: A Study of America's Advantage from Europe's Distress*, 1783-1800 (Baltimore, 1926), 52 and note.
 - ³³ Brown, *Political Beginnings*, 91; *Annals of Congress*, 10 Cong., 1 Sess., 2733-2734.
 - ³⁴ Annals of Congress, 10 Cong., 1 Sess., 2734.
- ³⁵ Arthur P. Whitaker, *The Mississippi Question*, *1795-1803: A Study in Trade*, *Politics and Diplomacy* (New York, [c1934]), 83. For the decision of the Spanish Council of State on Wilkinson's first memorial, see William R. Shepherd (ed.), "Papers Bearing on James Wilkinson's Relations with Spain, 1787-1789," in *American Historical Review*, IX (1904), 749-750.

- ³⁶ Annate of Congress, 10 Cong., 1 Sess., 2735.
- ³⁷ Whitaker, *Mississippi Question*, 84.
- ³⁸ Statement of Joseph Walker of Concordia, September 10, 1816, in *House Ex. Docs.*, 15 Cong., 1 Sess., II, no. 36, p. 16.
 - ³⁹ Petition of Gabriel Winter, December 19, 1815, *ibid.*, 1.
- ⁴⁰Lexington *Kentucky Gazette*, November 9, 1793. Earlier in the year Winters asked all "who incline to bring in Hemp" to deliver it soon, since he intended being out of the country for a few months. During his absence from the United States he was probably in New Orleans attending to his business affairs. *Ibid.*, February 9, 1793.

After his ropewalk was destroyed by fire, Winters obtained from the Governor General of Louisiana in 1797 a grant of land in Arkansas for the "cultivation of wheat, flax, and hemp." In the next year he moved to his new lands, bringing with him from Kentucky his family, slaves, personal property, and a piece of limestone to use as a cornerstone for his "estate." *House Ex. Docs.*, 15 Cong., 1 *Sess.*, II, no. 36, pp. 1-2, 25.

- ⁴¹ Whitaker, *Mississippi Question*, 83-84.
- ⁴² Lexington *Kentucky Gazette*, June 8, November 9, December 14, 1793.
- ⁴³ *Ibid.*, March 1, June 6, 1794.
- ⁴⁴ *Ibid.*, October 11, 1794.
- ⁴⁵ Whitaker, *Mississippi Question*, 89. For a summary of the rules of deposit, see *ibid*., 90-91.
- ⁴⁶ "Governor Carondelet was so eager to promote his separatist intrigue with Kentucky that he gave the Westerners every facility for their export and import trade on the lower Mississippi; but it does not appear that he had the deposit formally opened." *Ibid*., 90.
 - ⁴⁷ Mann Butler, *A History of the Commonwealth of Kentucky* (Cincinnati, 1834), 228-229.
 - ⁴⁸ Lexington *Kentucky Gazette*, November 26, 1796.
 - ⁴⁹ Annals of Congress, 10 Cong., 1 Sess., 2735.
 - ⁵⁰ See below, Chapter IV.
 - ⁵¹ To Mrs. Ann Randolph, June, 1797, in William Bolling Papers, Duke University Library.
 - ⁵² Lexington *Kentucky Gazette*, May 3, 1798.
 - ⁵³ *Ibid.*, May 30, 1799.
 - ⁵⁴ *Ibid.*, July 25, 1799.
 - ⁵⁵ Lexington *Kentucky Gazette*, May 18, 1801.
 - ⁵⁶ *Ibid*.
- ⁵⁷ Loftus Heights was situated on the east bank of the Mississippi, about ten miles north of the Red River. John W. Monette, *History of the Discovery and Settlement of the Valley of the Mississippi* . . . (2 vols., New York, 1846), I, 403-404.
- 58 John W. Monette, "The Progress of Navigation and Commerce on the Waters of the Mississippi River and the Great Lakes. A. D. 1700 to 1846," in Mississippi Historical Society, *Publications*, VII (1903), 487 and note.

These figures do not, of course, include shipments to Natchez, which was the destination for a part of the Kentucky produce sent downriver. See prices on the Natchez market which are quoted in Lexington *Kentucky Gazette*, January 18, May 17, June 21, 1803.

- ⁵⁹ Lexington *Kentucky Gazette*, August 6, 1802.
- ⁶⁰ Michaux, *Travels*, 59.
- ⁶¹ Whitaker, *Mississippi Question*, 189, 222-224; Timothy Flint, *The History and Geography of the Mississippi Valley* (2 vols., 2nd ed., Cincinnati, 1832), I, 170.

- ⁶² W. C. C. Claiborne to James Madison, December 21, 1802, in Dunbar Rowland (ed.), *Official Letter Books of W. C. C. Claiborne*, 1801-1816 (6 vols., Jackson, Miss., 1917), I, 250-251.
 - ⁶³ Claiborne to Madison, March 5, 1803, *ibid.*, 277.
 - ⁶⁴ Lexington *Kentucky Gazette*, February 8, 1803.
 - ⁶⁵ *Ibid.*, August 23, 1803.
- ⁶⁶ Arthur H. Cole, *Wholesale Commodity Prices in the United States*, *1700-1861* (Cambridge, Mass., 1938), 135, 146, 156, 170. Even the price of cotton declined, but tobacco showed no change until its value dropped late in 1802. Arthur H. Cole, *Wholesale Commodity Prices in the United States*, *1700-1861. Statistical Supplement, Actual Wholesale Prices of Various Commodities* (Cambridge, Mass., 1938), 129-130.
 - ⁶⁷ Annals of Congress, 7 Cong., 2 Sess., 1232.
- ⁶⁸The tariff of 1789 included duties on hemp and hempen goods, the rates were increased in 1790, and by the act of May 2, 1792, the following rates were fixed: on hemp, \$1 per 112 pounds, on cables and tarred cordage, \$1.80 per 112 pounds, on untarred cordage and yarns, \$2.25 per 112 pounds, and on twine and pack thread, \$4.00 per 112 pounds. 1 *U. S. Stat.* 25-26, 180, 259.
 - ⁶⁹ Annals of Congress, 7 Cong., 2 Sess, 1231-1233.
- ⁷⁰ See Lexington *Kentucky Gazette*, January 1, 1805, and following issues. It should be noted that "cotton bagging" refers to bagging which is used in baling cotton and not to the raw material used in manufacturing it. Only a very small portion of the bagging used in this country has even been made of cotton. See below, Chapter IV.
 - ⁷¹ American State Papers, Finance, II, 367; Eighth Census, 1860, Manufactures, cvi.
 - ⁷² American State Papers, Finance, II, 428.
- ⁷³ At Natchez cordage sold for \$12 to \$15 per hundredweight in June and for only \$8 to \$10 in September, 1803. Lexington *Kentucky Gazette*, June 21, September 27, 1803.
 - ⁷⁴ *Ibid.*, January 3, 1804.
- ⁷⁵ He maintained that hemp in its raw state should never be exported. See his "Reflections on Political Economy, and the Prospect before Us," *ibid.*, March 20, 1804.
- ⁷⁶ The fee of eight dollars the season for the services of Americanus could be discharged in hemp at that rate in 1804 and 1805. Similar arrangements could be made to pay for the services of "The full blooded English race horse, TUP," in the next year. *Ibid.*, March 27, 1804, April 9, 1805, April 2, 1806.
 - ⁷⁷ American State Papers, Finance, II, 367-368.
- ⁷⁸ "Of all petitions which had come before Congress none stated the case of the protectionists as clearly and forcibly as the one from Kentucky." John B. McMaster, *A History of the People of the United States, from the Revolution to the Civil War* (8 vols., New York, 1883-1913), III, 507-508.
 - ⁷⁹ Lexington *Kentucky Gazette*, April 4, 1809.
- 80 Invoice dated April 20, 1809, in John Wesley Hunt Papers, Filson Club Library, Louisville, Kentucky.
- ⁸¹ Lexington *Kentucky Gazette*, May 16, 23, 30, 1809. In the columns of the *Gazette* for April 25, 1809, a writer predicted that the higher prices would prevail year after year, and he urged farmers to increase their production of the fiber.
 - ⁸² *Ibid.*, May 30, 1809.
- ⁸³ *Ibid.*, September 5, 12, 19, October 17, 24, November 28, December 26, 1809, January 30, February 6, 1810.
 - ⁸⁴ Howell to Hunt, July 13, July 17, August 4, 1810, in Hunt Papers.
 - 85 Annals of Congress, 11 Cong., 3 Sess., 460.

- ⁸⁶ American State Papers, Finance, II, 672n, 794.
- ⁸⁷ Thomas R. Joynes, "Memoranda made by Thomas R. Joynes on a Journey to the States of Ohio and Kentucky, 1810," in *William and Mary Quarterly*, X (1902), 225.
- ⁸⁸ *American State Papers, Finance*, II, 713n. This report was probably the basis for the statement, found in *Niles' Register*, VI (1814), 249, that "The hemp raised in 1811, was nearly double the quantity raised the preceding year."
- ⁸⁹ E. W. Gould, *Fifty Years on the Mississippi* . . . (St. Louis, 1889), 195. Although this hemp doubtless originated in other states as well as in Kentucky, the figures are excessively high. Nevertheless, another and more indefinite estimate states that 743 boats carried past the Falls 630,562 cwt. of hemp, 113,015 pounds of yarn and cordage, and 8,140 yards of country linen, adding that "a Mr. Bowman, a pilot at Jeffersonville, took 106 boats over the falls of the Ohio, during the aforesaid period, of whose cargoes no notice is taken in the above." *Niles' Register*, I (1811), 10. See also Lexington *Kentucky Gazette*, July 2, 1811.
 - ⁹⁰ Niles' Register, VI (1814), Supplement, 393.
- ⁹¹ February 12, 1811. The *Gazette* intimated that the baneful influence of the Bank of the United States was to some degree responsible for the uncertainties of the times.
 - ⁹² Howell to Hunt, September 9, 1811, in Hunt Papers.
 - ⁹³ Lexington *Kentucky Gazette*, January 8, 1811.
 - ⁹⁴ *Ibid.*, March 24, 1812.
 - ⁹⁵ Chambers & Co. to John W. Hunt, January 23, 1813, in Hunt Papers.
- ⁹⁶ *Ibid.*; Saml. January to Hunt, January 30, 1813, *ibid.*; E. H. Fields to Hunt, March 24, 1813, *ibid.*; Lexington *Kentucky Gazette*, December 27, 1813; Lexington *Reporter*, January 1, 1814. R. Megowan and Company advertised regularly in the columns of the *Kentucky Gazette* from February 7 to July 11, 1814, their offer of four dollars for the fiber.
 - ⁹⁷ Lexington *Kentucky Gazette*, July 11, 1814.
- ⁹⁸ William Darby, *The Emigrant's Guide to the Western and Southwestern States and Territories* (New York, 1818), 185. "Cordage, yarn, and bagging, have been important businesses but European competition has materially decreased their consumption," was the report of Henry B. Fearon in his *Sketches of America* (London, 1819), 238.
- ⁹⁹ Darby, *Emigrant's Guide*, 184-185. Darby also stated that "Steamboat navigation will aid the commercial and manufacturing interest of Kentucky, to an extent beyond our means to calculate." *Ibid.*, 205.
 - ¹⁰⁰ Victor S. Clark, *History of Manufacturers in the United States* (3 vols. New York, 1929), I, 346.
- ¹⁰¹ "Rope very scarce and no Hemp to make any." James Wier to Messrs. Joseph and R. Woods, November 21, 1817. Wier later wrote that he expected a rise in prices, "Hemp being scarce and not a full supply." Memorandum of a letter to J. Henderson, June 16, 1818, in James Wier Letter Books, in Kentucky Papers, Draper MSS., Wisconsin State Historical Society (microfilm copy in possession of the present writer).
 - ¹⁰² Niles' Register, VII (1815), 339; Lexington Kentucky Gazette, December 4, 1815.
- ¹⁰³ See advertisements published by Barton & Craig; E. Warfield; Cornelius Coyle and William Robinson; Holderman, Pearson, & Co.; Wm. R. Morton & Co.; Morrison & Bruce; Henry Watt; and others in Kentucky newspapers from 1816 to 1819.
- ¹⁰⁴ Lexington *Kentucky Gazette*, January 22, December 23, 1816; Lexington *Reporter*, February 21, November 27, 1816. In Petersburg, Virginia, according to the *Kentucky Gazette* of May 6, 1816, the price ranged from \$160 to \$180 per ton. A list of prices on various commodities in Lexington on December 15, 1818, is given in James Flint, "Letters from America, Concerning Observations on the Climate and Agriculture of the Western States . . . ," in Thwaites (ed.), *Early Western Travels*, IX, 140.

- ¹⁰⁵ Warden, *Statistical Account*, II, 338.
- ¹⁰⁶ Extract of a letter, dated March 1, 1819, from a New Orleans mercantile house to a firm in Lexington, in Lexington *Kentucky Gazette*, March 26, 1819.
- ¹⁰⁷ Warden, *Statistical Account*, II, 338. In listing the chief exports from Louisville in 1819, a writer stated that they formerly had included hemp. The same author further declared that "the great losses sustained in the sales of cordage . . . has discouraged the rope maker, and consequently, offered no inducement to the farmer, to plant an article for which there was but little demand." Henry McMurtrie, *Sketches of Louisville* . . . (Louisville, 1819), 162.
- 108 This particular wording was used by Morrison and Bruce, and it is similar to that published by other firms.
- ¹⁰⁹ Fourth Census, 1820, Manufacturers. Original manuscript returns for Kentucky in National Archives, Washington, D. C.
 - ¹¹⁰ Lexington *Public Advertiser*, January 10, 13, 27, 1821.
 - ¹¹¹ Lexington *Kentucky Gazette*, March 10, 1825.
 - ¹¹² For a discussion of the use of Kentucky hemp by the navy, see below, Chapter V.
 - ¹¹³ U. S. Stat. 768.
 - ¹¹⁴ U. S. Stat. 312.
 - ¹¹⁵ To J. S. Skinner, March 18, 1822, in *American Farmer*, IV (1822), 304.
 - ¹¹⁶ To the Editor of the Lexington *Reporter*, in *American Farmer*, V (1823), 53.
 - ¹¹⁷ Swem (ed.), *Letters*, 72.
- ¹¹⁸ To Dr. L. H. Coleman, April 26, 1824, in John S. Bassett (ed.), *Correspondence of Andrew Jackson* (5 vols., Washington, 1926-1931), III, 249-250.
 - ¹¹⁹ Annals of Congress, 18 Cong., 1 Sess., 1515-1516.
 - ¹²⁰ *Ibid.*, 741, 1888.
 - ¹²¹ *Ibid.*, 594.
 - ¹²² U. S. Stat. 26-28.
 - ¹²³ Frankfort *Argus of Western America*, July 28, 1824.
 - ¹²⁴ Hart to Skinner, October 1, 1827, in *American Farmer*, IX (1827), 242.
- ¹²⁵ Thomas Spalding to "Mr. Crawford," October 13, 1827, in *Southern Agriculturist*, *Horticulturist*, and *Register of Rural Affairs*, I (1828), 435.
- 126 In 1828 attacks on Jackson, because of his stand on the tariff, appeared in the Frankfort *Commentator*. During the same year the pro-tariff Frankfort *Argus* carried articles in his defense.
 - 127 Paris Weekly Advertiser, July 12, 1828.
 - ¹²⁸ See below pp. 93-94.
 - ¹²⁹ U. S. Stat. 272.
 - ¹³⁰ *Ibid.*, 588, 590.
- ¹³¹ *Ibid.*, 629; Frank W. Taussig, *The Tariff History of the United States* (6th ed., New York, 1914), 110-111.
- ¹³² Article from the Maysville *Eagle* quoted in the Frankfort *Commonwealth*, May 24, 1842. This resolution is interesting in connection with a statement by Taussig that "In the farming States the enthusiasm for the home-market idea had cooled perceptibly" by 1842. *Tariff History*, 113.
 - ¹³³ U. S. Stat. 550; 9 U. S. Stat. 42, 45-47.
 - ¹³⁴ U. S. Stat. 192.

- 135 Lexington *Kentucky Gazette*, March 17, 1826; memorandum of a purchase of hemp, September 6, 1826, in Thruston Papers.
- ¹³⁶ Lexington *Kentucky Reporter*, January 24, 27, March 3, 1827; Louisville *Focus*, August 14, 1827; invoice dated October 6, 1827, in Thruston Papers.
- ¹³⁷ Frankfort *Commentator*, April 12, June 7, November 25, 1828; Lexington *Kentucky Reporter*, April 23, 30, September 10-December 31, 1828; Louisville *Focus*, April 29, 1828; Louisville *Public Advertiser*, July 26, August 9, 16, 1828.
- ¹³⁸ *American Farmer*, X (1829), 244; *Niles' Register*, XXXV (1829), 366; Frankfort *Commentator*, July 14, October 27, 1829; invoices dated June 17, July 9, July 31, November 5, 1829, in Thruston Papers.
- ¹³⁹ Invoices dated March 30, May 15, June 2, July 19, 1830, in Thruston Papers; Louisville *Daily Journal*, November 26, 27, December 4, 11, 25, 1830.
 - ¹⁴⁰ Western Agriculturist, 234.
 - ¹⁴¹ Niles' Register, XXXVI (1831), 194.
 - ¹⁴² Kentucky *House Journal*, 1832, p. 11.
 - ¹⁴³ Flint, *History and Geography*, I, 351.
- ¹⁴⁴ Louisville *Daily Journal*, January 15, 29, February 5, 14, 26, March 5, 19, 26, April 2, May 28, 1831; Frankfort *Commentator*, April 5, 1831.
 - ¹⁴⁵ Louisville *Daily Journal*, July 23, 1831.
- ¹⁴⁶ *Ibid.*, October 24, November 7, 14, December 5, 10, 26, 31, 1831; Frankfort *Commentator*, February 7, 21, March 13, April 24, 1832; Day Book, 1832-1846, in Thruston Papers.
 - ¹⁴⁷ M. Langhorne & Sons to C. W. and A. Thruston, May 18, June 22, 1832, in Thruston Papers.
- 148 Day Book, 1832-1846, ibid.; Receipt for purchase of hemp from Anderson Bell & Co., August 8, 1833, ibid.
 - ¹⁴⁹ R. J. Langhorne to C. W. and A. Thruston, September 17, 1833, *ibid*.
 - ¹⁵⁰ Day Book, 1832-1846, *ibid*.
- ¹⁵¹ Entry of April 2, 1835, Day Book, 1832-1846, *ibid.*; Frankfort *Commonwealth*, May 16, 1835, April 20, 1836; Lexington *Kentucky Gazette*, September 26, 1835; Louisville *Daily Journal*, May 10, 17, 24, 31, June 7, 14, July 4, 12, 19, 26, August 2, 23, 30, September 27, October 18, 25, November 1, 15, 1836, January 10, 1837, May 21, 1841; Hall, *Notes*, 132.
- ¹⁵² W. A. Richardson to Isaac Shelby, November 6, December 11, 1838, in Samuel M. Wilson Collection, University of Kentucky Library.
 - ¹⁵³ Frankfort *Commonwealth*, December 24, 1833.
 - ¹⁵⁴ Lexington *Kentucky Gazette*, June 13, 1835.
- ¹⁵⁵ Sixth Census, 1840, Compendium of . . . the Sixth Census (Washington, 1841), 260; Louisville *Journal*, January 1, 1844.
 - ¹⁵⁶ Franklin Farmer, II (1839), 378.
- ¹⁵⁷ U. S. Pat. Off., *Report*, 1842, p. 20. On June 19, 1841, the Louisville *Journal* cheerfully reported "very copious showers of rain," but five days later it referred to the injury of the hemp crop by the drought.
- ¹⁵⁸ Louisville *Journal*, June 19, 1841. This paper at the same time reported that some contracts for the new crop had been made in the interior of the state at \$6 to \$6.50 per hundredweight.
- ¹⁵⁹ The diminishing value of hemp during this year may be noted in Louisville *Journal*, July 3, August 28, September 4, November 13, December 19, 1841.

- ¹⁶⁰ The Louisville *Journal* on November 15, 1841, made the assertion that "This year, there was probably thirty per cent. more ground laid down in hemp than in any previous year. The sowing of next year will exceed that of the present by full twenty per cent." On June 28, 1842, the Frankfort *Commonwealth* in a survey of the general prospect for agriculture for that year observed that "The hemp crop pitched the present year is far larger than ever before, and we believe that every farmer who could, has increased his tillage operations in other departments."
 - ¹⁶¹ U. S. Pat. Off., Report, 1842, p. 20.
- ¹⁶² A spot check on prices may be made by consulting the Louisville *Journal*, February 12, March 5, April 9, May 7, August 20, October 1, 29, November 26, December 21, 1842.
 - ¹⁶³ Invoices dated January 11, 1830, in Thruston Papers.
 - ¹⁶⁴ Louisville *Daily Journal*, February 24, 1831.
 - ¹⁶⁵ Senate Docs., 27 Cong., 3 Sess., II, no. 6, pp. 58-59.
 - ¹⁶⁶ House Reports of Committees, 27 Cong., 2 Sess., II, no. 551, p. 6.
- ¹⁶⁷ James D. B. De Bow, *Industrial Resources etc*, *of the Southern and Western States* . . . (3 vols., New Orleans, 1853), II, 143. This last figure represents the largest receipts of hemp at New Orleans in any one year during the first half of the century. By the winter of 1850-1851 receipts had fallen to 25,000 bales.
 - ¹⁶⁸ Western Farmer and Gardener, VII (1845), 130; American Agriculturist, XIX (1860), 299.
- ¹⁶⁹ Seventh Census, 1850, pp. 629-631; Western Farm Journal, I (1856), 114; Eighth Census, 1860, Agriculture, 56-63.
- ¹⁷⁰ Lexington *Kentucky Gazette*, October 11, 1794, June 25, 1819. See "Historical Sketch of Early Fairs and Agricultural Societies in Kentucky," in Kentucky State Agricultural Society, *Report*, 1856-1857, pp. 124-130.
 - ¹⁷¹ Frankfort Commonwealth, October 10, 1835, August 19, 1840; Franklin Farmer, I (1837), 7.
 - ¹⁷² Frankfort *Commonwealth*, September 21, 1836.
 - ¹⁷³ Kentucky State Agricultural Society, *Report*, 1856-1857, pp. 304, 312,
- ¹⁷⁴ Ibid., 5; Franklin Farmer, II (1839), 153-154; Western Farmer and Gardener, II (1841), 116-117; Frankfort Commonwealth, January 28, June 21, 1842.
 - ¹⁷⁵ Kentucky State Agricultural Society, *Report*, 1856-1857, p. 5.
 - ¹⁷⁶ Frankfort *Commonwealth*, November 25, 1845.
 - ¹⁷⁷ Collins, *History of Kentucky*, I, 55.
- ¹⁷⁸ Kentucky State Agricultural Society, *Report*, 1856-1857, pp. 1, 32-54, 132-527; United States Agricultural Society, *Fifth National Exhibition to be Held in the City of Louisville* . . . (Louisville, 1857), 29, 40; Kentucky Agricultural and Mechanical Association, *List of Premiums to be Awarded at the Eighth Fair . . . at Lexington* . . . (Lexington, 1857), 3-4.
 - ¹⁷⁹ Lexington *Kentucky Gazette*, December 3, 1811, May 18, 1813.
- ¹⁸⁰ Louisville *Daily Journal*, January 12, 1830, March 28, 1831; Frankfort *Commonwealth*, July 22, 1834, May 16, 1835; Lexington *Kentucky Gazette*, April 18, 1835.
- 181 *Western Farmer and Gardener*, II (1841), 133. For an explanation of the reference to the use of substitutes for bagging and bale rope, see below, Chapter VI.
 - ¹⁸² April 19, 1842.
 - 183 To Robert P. Letcher, August 15, 1843, in Henry Clay Papers, Duke University Library.
- Notices of meetings of hemp growers may be found in Frankfort *Commonwealth*, November 1, 1842, January 3, 24, 1843; Danville *Wednesday Mercury*, November 30, 1842.

- ¹⁸⁴ Prices are given weekly in the Louisville *Journal*, beginning February 17, 1844. On September 28, 1844, the *Journal* noted that water rotted hemp had fallen to \$90 to \$100 per ton, on November 23 it had declined further to \$70 to \$90, and on December 7 it was quoted at \$80 to \$90 per ton "in good demand."
- ¹⁸⁵ The two figures given were taken from the Louisville *Daily Journal*, February 22, 1845, and the Louisville *Weekly Courier*, October 28, 1848. The fluctuations of hemp prices may be followed in the columns of these papers during this period.
 - ¹⁸⁶ Louisville *Weekly Courier*, October 28, 1848.
 - ¹⁸⁷ Seventh Census, 1850, pp. 629-631.
 - ¹⁸⁸ See below, p. 111 and note.
 - ¹⁸⁹ Louisville *Journal*, February 15, 1845.
 - ¹⁹⁰ *Ibid.*, August 24, 1843.
 - ¹⁹¹ Frankfort *Commonwealth*, May 6, 27, November 25, 1845.
- ¹⁹² *American Agriculturist*, III (1844), 357. The quantity exported was probably 100 tons. U. S. Pat. Off., *Report*, 1845, p. 700.
- ¹⁹³ Western Farm Journal, II (1857), 157; Chiles and Carr to Isaac Shelby, September 8, 1858, in Wilson Collection.
 - ¹⁹⁴ U. S. Pat. Off., Report, 1843, p. 71.
 - ¹⁹⁵ Louisville *Weekly Courier*, March 20, 1847.
 - ¹⁹⁶ Frankfort Commonwealth, May 23, 1854.
 - ¹⁹⁷ *Ibid.*, September 6, 1853.
- ¹⁹⁸ *Congressional Globe*, 33 Cong., 2 Sess., 656; Collins, *History of Kentucky*, I, 74; R. J. Spurr, "Some of the Crops of Kentucky," in Kentucky State Agricultural Society, *Report*, 1856-1857, p. 93.

In Congress on February 9, 1855, Representative Stanton of Kentucky asked unanimous consent to introduce "A bill to remit the duties upon a lot of hempseed imported into the United States by Anthony Kilgore and other farmers of the State of Kentucky, for agricultural purpose." Representative Pringle of New York objected, and after Stanton made a futile effort to explain the circumstances the House passed on to other business. *Congressional Globe*, 33 Cong., 2 Sess., 656.

- ¹⁹⁹ Frankfort *Tri-Weekly Commonwealth*, March 14, 1855.
- ²⁰⁰ Kentucky State Agricultural Society, *Report*, 1856-1857, pp. 92-93.
- ²⁰¹ "H. P. B." in *Country Gentleman*, XXI (1863), 219.
- ²⁰² Country Gentleman, VIII (1856), 25; ibid., XXI (1863), 219.
- ²⁰³ Western *Farm Journal*, II (1857), 157.
- References to the Vance seed and to the crops raised from it may be found in *Country Gentleman*, VIII (1856), 25; *ibid.*, XXI (1863), 219; *Western Farm Journal*, I (1856), 78, 81, 114; *ibid.*, II (1857), 157; Collins, *History of Kentucky*, I, 192.
 - ²⁰⁵ Kentucky Farmer, I (1859), 113.
- Resolutions submitted to Congress by the Kentucky Legislature and Governor, in *House Ex. Docs.*, 28 Cong., 1 Sess., III, no. 34, p. 2.

The word "conservatively" is used in this sentence because a yield of 12,000 tons is no larger than that estimated for the years immediately following, and yet that particular yield was so outstanding that more than a decade later a Kentuckian still referred to "that memorable year of 1842." "C. B. C." to the Editor, August 10, 1856, in *Western Farm Journal*, I (1856), 81. Moreover, the Louisville *Journal* on June 18, 1843, stated that the receipts of hemp that season were "far heavier than any previous season, and equal to the last five or six seasons together."

- Another estimate placed the figure at 14,000 tons. Hunt's Merchants Magazine, IX (1843), 98.
- ²⁰⁷ Louisville *Journal*, February 4, 11, 25, March 4, 11, April 29, May 13, June 3, July 1, August 5, September 2, October 14, November 11, December 9, 1843.
 - ²⁰⁸ *Ibid.*, November 11, 1843.
- ²⁰⁹ *Ibid.*, August 28, 1843; Danville *Kentucky Tribune*, September 15, 1843; *Western Farmer and Gardener*, IV (1843), 46.
- ²¹⁰ U. S. Pat. Off., *Report*, 1843, p. 71; *ibid.*, 1844, p. 96. There is another estimate which lists the hemp production of 1843 in the United States at 161,007.75 pounds, and in Kentucky at 9,508 pounds. Even though it was published, the tabulation was admitted to be worthless. *Ibid.*, 1843, pp. 13, 69.
- ²¹¹ Surveys of the market may be found each week throughout the year in the Louisville *Journal*, beginning with the issue of January 6, 1844. In addition, the price paid for hemp at frequent intervals through 1844 by a manufacturing establishment may be seen in Ford and Haws, Cash Book, 1835-1844, in Filson Club Library.
 - ²¹² See weekly surveys of the market in the Louisville *Journal* during this period.
- ²¹³ *Report*, 1847, pp. 85, 161-162. The same report quoted a statement from the West to the effect that "The crop of Kentucky, is more certainly known to be short of the usual average. Some estimate the deficiency at *one-half*."
 - ²¹⁴ U. S. Pat. Off., *Report*, 1848, pp. 93, 145.
- ²¹⁵ See the market summaries in the Louisville *Weekly Courier*, December 9, 1848, and throughout the next year, beginning with January 6, 1849.
 - ²¹⁶ Seventh Census, 1850, pp. 629-631; Ninth Census, 1870, III, Wealth and Industry, 90-91.
 - ²¹⁷ Report of the Superintendent of the Census for December 1, 1852 . . . (Washington, 1853), 178.
- ²¹⁸ Owing to late frosts, excessive rains, and the prevalence of cholera and other diseases, the cotton crop of 1849 fell below the usual average. U. S. Pat. Off., *Report*, 1849, p. 307.
- For a view of prices, see *ibid.*, 1850, p. 548; Louisville *Daily Courier*, November 4, December 18, 1851; January 7, February 20, March 4, 1852; Frankfort *Commonwealth*, August 16, 1853.
- ²¹⁹ U. S. Pat. Off., *Report*, 1851, Part II, *Agriculture*, 360; Louisville *Daily Courier*, November 8, 20, December 4, 1851, January 7, February 20, 1852; Frankfort *Commonwealth*, August 16, 1853.
 - ²²⁰ U. S. Pat. Off., Report, 1854, Agriculture, 186.
 - ²²¹ Frankfort *Commonwealth*, January 31, 1854.
 - ²²² Western Farm Journal, I (1856), 156, 168, 180.
- ²²³ Glass Marshall to I. C. Baker, September 14, 1858, in Daniel Baker Papers, Duke University Library; Frankfort *Commonwealth*, December 29, 1858, December 15, 1859. A statement of average monthly prices of hemp in New York, where it brought more than in Kentucky, from 1855 through 1858 may be found in *Senate Ex. Docs.*, 35 Cong., 2 Sess., VI, Part I, no. 2, pp. 54-58.
- ²²⁴ *Western Farm Journal*, I (1856), 12, 44. The same magazine reported in September of that year that the crop was short in both Kentucky and Missouri. *Ibid.*, 144.
 - ²²⁵ *Ibid.*, II (1857), 306; Chiles and Carr to Isaac Shelby, September 8, 1858, in Wilson Collection.
 - ²²⁶ Kentucky Legislative Documents, 1859-1860, no. 20, p. 22.
- The production of hemp in Kentucky according to the census of 1860 was 39,409 tons. That this figure is far too high can easily be demonstrated. Most of the counties which had consistently produced large quantities of the fiber reported less of it in 1860 than in 1850; yet Garrard, which produced a total of only 84 tons in 1850, reported a yield of 28,436 tons in 1860. *Seventh Census*, 1850, pp. 629-631; *Eighth Census*, 1860, *Agriculture*, 56-65.

Reference to the original returns for Garrard in 1860 show that an egregious error was made in the reports, as the following table illustrates:

Landowner	Size of farm in acres	Production of hemp in tons
N. H. Teater	200	800
J. G. Denny	670	1,200
G. Taylor	313	1,030
C. J. Spillman	500	1,500
Charles Bowman	254	13,000
Merrill Smith	263	1,200

Further extension of the list is unnecessary to show that the tonnage reported could not have been produced on the acreage owned by the farmers. The "tons" of hemp produced in that county should probably be "pounds" in most cases, although the figures given for some farms not listed above are doubtless accurate.

The annual report of the state auditor, which in 1859 began to include a statement on certain farm products, was for that year no more accurate than the Federal census. It listed hemp production in that year at approximately 5,000 tons, which is an incredibly small figure. *Kentucky Documents*, 1859-1860, no. 1, p. 235.

CHAPTER IV

MANUFACTURING TO 1861

DOMESTIC MANUFACTURES

HEMP early became one of the staple crops of Kentucky largely because of its suitability for home manufactures. The pioneers developed skill in manufacturing it as well as flax into cordage and cloth,¹ but in a short time cotton, owing to its greater suitability for weaving by machinery, largely supplanted other vegetable fibers in the manufacture of clothing. Meanwhile, cotton, by creating an enormous demand for bale rope and bagging, caused a rapid expansion of hemp manufacturing to a height which otherwise would not have been reached, since other products such as ship rigging, binder twine, plow lines, and bed cords consumed only a small part of the hemp grown. Hemp manufacturing was the source of wealth for many Bluegrass families between 1790 and 1860,² and throughout that period the industry played a vital part in the economy of the state.

The manufacture of the fiber began in Kentucky in the homes of the settlers who produced it and processed it upon their spinning wheels and looms as an improvement upon the nettle lint and buffalo wool from which earlier fabrics had been made.³ As the cultivation of hemp became more general, the domestic manufactures which consumed it loomed large in the economic life of the area. As early as 1788 Adam M'Ferson established a "blue diers business" at Hopewell in Bourbon County for the purpose of dying thread made of cotton, flax, and hemp.⁴ By the next year a fulling mill was in operation in Georgetown,⁵ and country linen and tow cards were among the many articles offered for sale by Tegarden and M'Cullough of Lexington.⁶ Hemp fiber, seed, and yarn were included in the appraisals of the estates of certain Kentuckians who had been killed by Indians.⁷ As it became more plentiful, hempen cloth as well as the raw fiber was used as a

medium of exchange. Stock breeders allowed payment of fees to be made in hemp linen; and merchants were glad to accept it in return for their goods and for the settlement of accounts.⁸

Hemp, as well as flax, wool, and cotton, went into the manufacture of the homespun generally used as clothing for slaves, and in the form of "Kentucky jeans" it continued to be sold until the Civil War. Stores offered for sale coarse linen suitable for Negro wear,⁹ and it was often included in the descriptions of clothing worn by fugitive blacks. The latter may be illustrated by an advertisement published by Eli Cleveland, which is similar to many others:

Run away the 23d inst. a negro fellow, named Jack, 26 years of age, straight well made fellow, has on an old black wool hat, coarse hemp linen shirt, his breeches and jacket is [sic] linsey filled with white wool. . . . 10

ESTABLISHMENT OF FACTORIES

Cordage of various kinds was another necessity of the frontier which was manufactured from hemp. The smaller types of twine and rope could be made in the home with little special equipment, but the larger cordage was produced by "ropewalks," which were the first establishments for the manufacture of hemp to be erected in Kentucky. The possibilities of transforming some of the raw material of the region into manufactured products began to attract attention about 1790. A correspondent to the Lexington *Kentucky Gazette* urged for "the good of the district" that the cultivation of hemp be extended, and he claimed to have the "best authority" for saying that a "commercial Gentleman on the Atlantic equal in fortune to any in America" intended coming to Kentucky to engage in the manufacture of cordage and sail duck as soon as a sufficient quantity of fiber was offered to justify the expense of such an enterprise. A few months later the following advertisement appeared:

JOHN HAMILTON

ROPE MAKER

Respectfully informs the public, that he has erected a rope walk at Mr. Francis Dill's about two miles from Lexington, where he carrieson [*sic*] the rope making business in different branches. Any gentleman may be furnished with any kind of cordage (except tarred) or twine on the most reasonable

terms: He flatters himself, that from his skill in the art, and attention to business, together with the quality of his manufacture, will sufficently recommend him to the attention of the public. ¹³

One of the early ropewalks in Kentucky was established in 1793 in Georgetown by Elijah Craig, who had begun operating a fulling mill in the region in 1789.¹⁴ Thomas Hart and Son, who later became substantial merchants of Lexington, announced in 1794 that they intended moving into the state in the following spring to begin manufacturing flour, nails, and rope.¹⁵ By July of the next year they had become established in their new location, and they advertised that they would pay a generous price in cash or merchandise for good, well-cleaned hemp brought either to their store or to the store of Samuel Price and Company. The Harts also offered employment to "a few journeymen rope-makers." Peter January, who with his son, Thomas, had established himself in Lexington as a merchant and exporter as early as 1790, began in 1795 operating a ropewalk on Mill Street, between Second and Third, in partnership with William Bealert, under the firm name "Peter January and Company." The partnership was dissolved in 1802. Bealert withdrew, and January promised the public that under his management "orders shall be punctually and carefully complied with and forwarded, as he shall prosecute the business in all its various branches."18

Elijah Craig and Son in 1798 opened on the north bank of the Kentucky River one mile above Frankfort their second ropewalk and advertised for white and Negro labor at their establishments both there and at Georgetown.¹⁹ Thus by the end of the century five cordage factories were operating in Kentucky.²⁰ At least one of the number, owned by Thomas Hart and Son of Lexington, was spinning rope yarns for export, winding it on reels of approximately five hundred pounds each, and shipping it down the river. The high price of tar, two shillings six pence per gallon at that time, raised some question concerning the future of the Kentucky cordage industry, and an easterner suggested hauling the yarn to the southern coastal region where it could be tarred and made into rope.²¹ Nevertheless, manufactories continued to thrive, and Michaux observed in Lexington that "two fine rope-walks, which are always employed, supply rigging for the vessels that are built on the Ohio."²² He might have added that the Kentucky ropewalks also furnished the cordage for ships constructed on the Kentucky River.²³

Kentucky exports during the first half of 1802, according to records of the Port of Louisville, included 240,273 pounds of cables and various other kinds of cordage.²⁴ The expanding crops of cotton in the South after the invention of the gin afforded a market for Kentucky rope, which could be used in tying cotton bales. The Natchez and New Orleans prices current, as published in the columns of the Lexington Kentucky Gazette, began including quotations on the price of cordage in 1800, and at least by that date the term "bale rope" was in use.²⁵ The Natchez market for cordage in 1803 was "dull," 26 and in New Orleans Kentucky cordage at from nine to ten dollars per hundredweight sold for from three to four dollars less than other varieties.²⁷ At the same time, however, the number of rope manufacturers in Kentucky increased. Early in 1805 Charles Wilkins opened a store opposite the courthouse in Lexington, offered to exchange his merchandise for cash or hemp, and stated his desire to employ four or five journeymen rope-makers.²⁸ In the same year David Dodge, James Wier, and John W. Hunt also operated ropewalks in Lexington and possibly had established them at an earlier date.²⁹ In Louisville, meanwhile, Fitzhugh and Rose were manufacturing cordage by 1806,³⁰ and in the next year Dudley and Trotters advertised for hemp to be delivered "at the Ropewalk, one mile above Frankfort."³¹ Dodge's establishment in Lexington was destroyed in 1806 by a fire which "seemed to threaten the whole town with conflagration,"³² but he must have rebuilt it almost immediately, since in December of that year a person who wished to sell a lot in Lexington advertised that it was on High Street, "nearly opposite Mr. D. Dodge's ropewalk."33 Late in 1809 Dodge moved his establishment to Winchester.34

At the same time that ropewalks were coming into existence, other factories were being established to transform hemp fiber into cloth. A lottery was conducted in 1796 to raise \$10,000 for the purpose of erecting a duck and linen manufacturing plant in Georgetown. A duck factory was in operation in Lexington until 1800, when the brick building, 160 feet long, in which it was located was blown down. Two workers were killed and several "much bruised," the overseer suffered a broken thigh, the proprietor lost approximately \$5,000, and the loss to the public was said to be "incalculable."

One of the earliest manufactories, if not the first, of cotton bagging was established by John W. Hunt and John Brand in Lexington in 1803.³⁷ Brand, a Scot who had failed as a manufacturer of sailcloth while still a young man in Dundee, emigrated to America, bringing with him a gift from his father in the form of machinery for the manufacture of hemp. Advised by friends in Philadelphia to go west, he continued to Lexington, where in partnership with Hunt he began the manufacture of bagging.³⁸ The firm prospered; after eight years Brand returned briefly to Scotland and paid his debts, and at his death he left an estate valued at almost one-half million dollars. Hunt, the other partner, "prospered in all his undertakings and probably the wealthiest merchant and manufacturer became Lexington."³⁹ Charles Wilkins, James Wier, Fitzhugh and Rose, and other makers of rope expanded their establishments to include the manufacture of bagging, and price quotations on that product appeared frequently in Kentucky newspapers.⁴⁰

A factory "for the purpose of spinning hemp and flax by machinery conducted by water" was erected on Silver Creek in Madison County in 1806. The proprietors, finding that their limited resources would not allow full operation of the plant, asked the legislature for and received in 1808 permission to form a corporation and to sell stock. Section 1 of the act provided that

William Macbean, Henry Clay, Robert Frazier, and James and David Maccoun, the present proprietors of the Madison hemp mill company, together with such persons as shall hereafter become shareholders in manner herein directed, shall be, and are hereby erected into and made a corporation and body politic by the name, style and title of "The Madison Hemp and Flax Spinning Company," and shall so continue until the first day of January, 1820. . . .

The corporation was authorized to issue a thousand shares of stock at \$25 each, and the law required the stockholders to meet annually "at the tavern now kept by John Downing in Lexington" to elect officers. No manufactured goods could be sold on credit without good security, the company was required to pay cash for purchases of raw materials, and it was forbidden to "trade, buy or deal in any article or articles" except those relating directly to the processing of hemp, hemp seed, flax, flax seed, and cotton.⁴¹

Having been persuaded that these regulations were too stringent, the legislature in 1809 repealed a part of them and allowed the corporation to give promissory notes for raw materials, to borrow money, and to

manufacture wool in addition to "the articles enumerated in the before recited act." One hundred and sixty spindles were placed in operation immediately, and the owners hoped to have 1,200 running within a short time. Each was capable of spinning daily one-half pound of fine thread suitable for linen or four pounds of coarse yarn for bagging. As its name indicates, the factory produced only thread, some of which was offered for sale, and some of which was "let out" to be "wove at the usual prices."

In minor phases of the hemp industry factories were also established at an early date. John Bobb in 1804 desired to purchase flax seed, for manufacturing and exportation, and "a quantity of Hemp Seed, to be delivered after the first of September next, at my Oil mill, where LINSEED OIL of the first quality may always be had."45 At the same time William Bobb offered to purchase flax and hemp seed at "George Leibe's oil mill" which was located on the Limestone road about one-half mile from the Fayette County courthouse. 46 Several years later, in 1810, Levett and Smith established in Lexington a factory to produce oil floor cloth for "rooms, passages, stairs, carriages, &c." In addition to these carpets "of the most durable and elegant kind" the company manufactured wagon covers and reels of spun varn for exportation.⁴⁷ The partners in the venture appealed to the community for support and patronage, not only because of the excellence of their product, but also because their establishment promoted "the interest of the Hemp grower, spinner, weaver and the domestic comforts of its inhabitants."48

WAR AND ITS AFTERMATH

The wars in Europe early in the nineteenth century aided the manufacturers as well as the producers of Kentucky hemp. During the years of conflict, the importation of fiber into the United States from Europe was often curtailed, and the Kentuckians eagerly sought to fill as far as possible the vacuum thus created. Consequently, cordage manufactured in the Bluegrass found its way to the east coast even before the United States became a belligerent, whereas had the world been at peace the difficulties and expense of transportation would probably have prevented Kentucky hemp from competing to any great extent with European fiber on the American seaboard. In addition, the lack of a constant and adequate supply

of baling materials from Europe caused the cotton producers of the South to turn to Kentucky for bale rope and bagging.

One early manufacturer of cordage who availed himself of the opportunity to sell in both the southern and eastern markets during the Napoleonic era was James Wier, a native of North Ireland, who moved to Lexington in 1788.⁴⁹ In February, 1805, he shipped 124 coils of baling rope, 33 dozen plow lines, and two bales of twine to Thomas Fitzpatrick of Natchez with instructions to sell the whole shipment for cash or to barter it for cotton. ⁵⁰ He also sent goods to New Orleans and to Philadelphia by way of New Orleans after an experimental shipment eastward via Pittsburgh had proved that route impracticable.⁵¹ In June he sent 66 bales and 5 hogsheads of spun yarns and 60 coils of bale rope to John Clay at New Orleans, instructing him to forward the yarns to Alexander Henry of Philadelphia and to sell the rope in New Orleans for cash or to trade it for sugar, coffee, and other articles which could be sold on the Lexington market. Wier manufactured "deep sea lines," "housings," "hand lead lines," and "log lines" for the seafaring trade; he shipped by wagons bagging, country linen, and bale rope into the cotton country in 1808; he bartered his goods in Nashville for cotton, which he then forwarded to John Clay in New Orleans with instructions to sell it for him; and in 1810 some of his yarns were sold in New York.⁵²

John W. Hunt of Lexington also shipped "baling linen" in 1806 to Nashville, where his agent encouraged him by predicting a cotton crop twice as large as that of the previous year.⁵³ In addition to these commodities, he stored in the Shippingport (Louisville) Warehouse, perhaps preparatory to shipment by boat, "lash rope," twine, bed cords, and linen.⁵⁴ No doubt other manufacturers followed the example of Wier and Hunt, although the greatest impetus to such activity came after 1806.

The virtual exclusion of European hemp and hempen goods from the United States by the Embargo and Nonintercourse acts resulted in greater interest in Kentucky in the establishment of factories. In Lexington Morrison, Boswell, and Sutton began operating a plant for the manufacture of bagging and rope in about 1807, Richard Higgins established another in 1810, and Thomas Hart, Jr., and Company followed in 1811. Peyton Short in 1809 offered for sale a tract of land five miles from Frankfort on which were a flour mill, a distillery, and "an extensive rope walk." From

Winchester in 1809 and 1810 hemp and yarns were shipped to Norfolk,⁵⁷ possibly by David Dodge, whose ropewalk was moved from Lexington in the former year. According to a petition submitted to Congress by a group of Kentucky manufacturers in 1809, the baling linen made in their state was "sufficient for the consumption of the greater part of the cotton country."⁵⁸

The value of the state's manufactures of all kinds in 1810 exceeded \$4,000,000. Although Massachusetts produced the greatest weight of cordage, Kentucky possessed more ropewalks than any other state. Kentucky's thirty-eight establishments turned out 1,991½ tons of cordage, valued at \$398,400. Thirteen were located in Fayette County, four in Jefferson, three in Mercer, three in Woodford, two each in four counties, and one each in seven counties. At the same time there were in the state thirteen bagging factories which produced 453,750 yards of baling cloth, worth \$159,445. Nearly 300,000 yards of the total, including some duck, was made by five mills in Fayette County, while the two at Paris, in Bourbon County, produced 50,000 yards. In addition, much of the bagging continued to be manufactured upon the old hand looms, about one thousand of which, according to one estimate, were located in Fayette County alone.

Lexington was the principal industrial city of the state. The sail duck factory there drew special comment from a visitor, ⁶² another noted that one manufacturer of baling cloth employed 38 workmen and produced 36,000 yards annually,⁶³ and a third commented on the steam rope factory and stated that the total manufactures of hemp in the city in 1811 were valued at \$900,000.⁶⁴ In the same year, Samuel R. Brown found that the ropewalks in Lexington were extensive, though he estimated the total value of all hempen goods at only \$500,000. Brown guessed that about sixty ropewalks existed in the state. He mentioned one at Georgetown, another at Stanford, an "extensive rope walk" at Danville, several at Frankfort, several at Louisville, and at Shippingport "one of the finest ropewalks in the United States, being twelve hundred and fifty feet long."65 A Lexington manufacturer stated in 1810 that over the entire state "the manufacture of hemp has increased as forty is to one, in eleven years." Referring to the ropewalks in his own city, he reported eight in operation and others being constructed, and added that "as far as appears they are all profitable." 66

John W. Hunt, who was shipping cordage to Philadelphia, lost no time in rebuilding his factory when it was destroyed by fire in 1812, shortly before the United States entered the war, and he continued shipments to the east.⁶⁷

The beginning of the second war with England brought on a period of uncertainty among manufacturers of hemp and their commission agents in the various markets. Although foreign commerce was almost nonexistent, and no European hemp could reach the American market, the supply of hempen goods on hand at the outbreak of hostilities was large, and the possibility of a cessation of war at almost any time caused apprehension among the hemp manufacturers who were expanding their activities. In addition, the lack of a foreign market for cotton lessened the need for bagging, and manufacturers of that commodity did not receive the revenue they felt should have been theirs.

In January, 1813, Brown and Hollins of Baltimore notified a Lexington manufacturer that they had succeeded in selling his yarns at a fair price, in spite of the fact that they found "a few in the parcel that came in wagons from Pittsburg a little injured." They then invited him to send more cordage to them, pointing out that, although there had been no great increase in prices, there was "some little demand" for cordage. In their opinion the price would rise within a few months because of the lack of hemp from Russia, and the United States would have to furnish its own supply of hempen goods. ⁶⁸ John Moore of Augusta, Georgia, was somewhat less optimistic. He refused to handle any cordage for Hunt because of the depressed market in his region, and he advised the manufacturer to hold his product for better prices. Moore stated that "imported bagging of an inferior quality is plentiful," but he expected a greater demand for American bagging during the next autumn because the doubled import duties would "prevent transportation from England" even if the war should end. ⁶⁹

During the whole of 1813 and 1814 Kentucky manufacturers sold their products in the South and on the east coast at prices which were far from spectacular. Late in the former year the prospect brightened for a time, and from Natchez came the prophecy that "your Country produce will generally bear a good price this season" both there and at New Orleans. Fine flax and tow linens were already in demand, the price of bagging had been increased by the merchants though there was at that time no demand for the product, and rope sold slowly even at low prices. ⁷⁰ Speculation ran wild for a time in

Philadelphia, where ordinary seine twine from Frankfort, Kentucky, sold for forty-nine cents per pound, and where "a Cobler —by trade—who Knows nothing beyond his last" made a fortune within a few days by dealing in coffee and sugar. From that city came a prediction that cordage would be in demand by spring and remain scarce until supplies arrived from India or Russia.⁷¹

Events proved that there was slight justification for the optimistic viewpoint. When John W. Hunt in April, 1814, sent twelve boxes of twine to Philadelphia, his agent offered no encouragement for an immediate sale because the "measures and conduct" of the government had "thrown a complete damp on sales of every article of this kind." A few weeks later the agent predicted that news of the blockade of the American coast would reduce the price of cotton, and he added that there was "nothing doing in Hemp or Yarns." By autumn "great distress in money matters" was reported, and the prospect of selling yarns and hemp was dull. James Wier refused to sell his products at the prices obtainable at that time, and another Lexington businessman wrote that "the probability of a continuance of the war has alarmed the people . . . pretty much—how it is to be carried on I can not so clearly see at present."

Nevertheless, the war had brought about an expansion in Kentucky manufacturing establishments. An estimate published in 1814 stated that the number of ropewalks in the state had doubled since 1810 and that some of these manufactories were "*very* extensive establishments." About one million yards of bagging were being made annually, and other sections of the country had come to look to Kentucky for a supply of the hempen goods which before the war had been received from abroad. Ben Warfield of Lexington was among those who founded extensive establishments in 1813, and in the same city John Hart, Thomas P. Hart, Luke Usher and Company, M. Flournoy, and the Lexington Manufacturing Company were active in advertising their product or searching for laborers. Thomas Garrett of Mount Sterling was among numerous manufacturers in other cities who exported cordage and other products during this period. 80

The return of peace brought further confusion for a time. In February, 1815, sales of hempen goods were made infrequently as buyers waited to learn the terms of the treaty and to see the effects of the resumption of trade

with Europe. Yarns sold for fourteen and sixteen cents a pound in Philadelphia, and "in New York (where the inhabitants are crazy)" they brought from seventeen to eighteen cents. A Philadelphia firm advised against speculation in hemp and cordage, although it thought there was a possibility that American commerce would expand and thereby create a demand for these products.⁸¹ The unsettled state of the market had its effect in Kentucky. From Lexington in June a manufacturer of hemp wrote that "there is nothing doing in the yarn way here this season. Not one walk in this place making yarns formerly there was 14 walks at work."82 A visitor to the state remarked that "cordage, yarn, and bagging, have been important businesses; but European competition has materially decreased their consumption." According to an estimate which he said "may be considered correct," of the \$4,782,000 worth of products of all kinds shipped from Kentucky in 1816, hemp and hempen products accounted for only \$500,000. Tobacco held first place in exports and was followed by flour and wheat, with whisky and hemp tied for third place.⁸³

BALE ROPE AND BAGGING

As early as August, 1815, James Wier of Lexington recognized that a quantity of his yarn which was in Philadelphia would not sell there, and he considered transferring it to Baltimore. At the same time he noted that cordage was "looking up" at New Orleans.⁸⁴ His experience was indicative of the fact that with the reopening of foreign trade after the War of 1812, when European hemp and manufactures of the fiber once more began entering the United States in large quantities, the Kentuckians lost the eastern market which they had helped supply during the period of the Napoleonic wars. Henceforth the greater part of their product moved southward, overland and by water, to a region which demanded cheap cordage and coarse linen. Peace brought an enormous increase in the demand for bale rope and bagging in the lower South, where the production of the staple crop of that region was being rapidly expanded in order to meet the needs of cotton-starved European textile mills. Farmers and manufacturers in Kentucky often complained of low prices and foreign competition, but they had reason to believe after 1815 that they had a lasting market for their products, since bale rope and bagging were vitally necessary as royal robes to enclose the girth of King Cotton, whose domain was increasing yearly.

An average of six yards of bagging, which was usually forty inches wide, was used on each bale of cotton. So Cotton should be packed in square bales, weighing from 400 to 425 pounds each, according to a Georgia planter, and should be enclosed in "two breadths of wide bagging, pressed until the side seams are well closed, or a little lapped, and then secured with six good ropes, the heads neatly sewed in, so that when complete and turned out of the press, no cotton should be seen exposed. Another southerner cautioned planters to put the bagging on loosely "to allow for the swelling of the bale," and to put the six ropes on as tightly as possible "to prevent undue expansion of the bale. So Bale rope and bagging composed about 5 per cent of the weight of a bale of cotton, and thus a bale weighing 300 pounds was composed of 285 pounds of cotton and fifteen pounds of hemp. As the production of cotton increased, therefore, the market for bale rope and bagging grew.

Kentuckians were not able to reap the greatest advantage from this situation because much of the demand was supplied by the importation of foreign fibers and baling materials. In addition other states produced a part of the bale rope and bagging consumed by the South, but before 1860 most of these materials originated in Kentucky. In 1810, according to incomplete census returns, Kentucky contributed nearly 98 per cent of all the bagging produced in the United States. As late as 1860 she still manufactured 60 per cent of the total, with Missouri at that time holding second place in the manufacture of bagging. In the production of cordage Kentucky lagged behind Massachusetts in 1810 and behind Massachusetts, New York, and Missouri in 1860, but she led all states in 1840 and in 1850.⁸⁹ Since the cordage produced in the eastern states went primarily to marine use, it is reasonable to suppose that Kentucky led in the manufacture of bale rope, at least until the period immediately preceding the Civil War.

From 1815 to 1820 the manufacture of bale rope and bagging in Kentucky was not profitable to most of the smaller establishments. James Wier, who noted a decline in the price of bagging in 1816,⁹⁰ carried on the practice of bartering his hempen goods for cotton, which he then manufactured and sold.⁹¹ Many others were not so fortunate or so farsighted. Morrison, Boswell, and Sutton, who had operated a factory for

about ten years, closed the doors of their establishment on December 31, 1817 because of the low prices obtainable for their product. ⁹² Warfield's rope and bagging factory ceased operations in the same year, and the proprietor blamed the importation of Scotch bagging for the adversity he had met. ⁹³ Other factories in Lexington which were discontinued in 1818 and 1819 included those owned by Thomas January, which had been in operation for almost twenty-five years; John Smith, which was established in 1815 and which still had on hand, unsold, the production of its second and third years; Richard Higgins, who had turned out bagging and sail duck; and Charles Wilkins, who had processed 144 tons of hemp annually. ⁹⁴

John Brand wrote in 1820 that in the previous year he abandoned the manufacture of bagging, but in order to give employment to his slaves he took it up again a few months later in spite of the low prices which then prevailed. He stated that in 1813 about eight bagging factories were in operation in Lexington, turning out approximately 480,000 yards of their product, but that in 1820 there was "not any in operation but my own." Brand's interpretation of the distressing condition at the time was that Scotch bagging could be transported to American coastal cities at rates equal to about one-third the cost of shipments from Kentucky to New Orleans. White and Castleman, proprietors of a bagging factory located on Tick Creek in Shelby County, suspended operations and explained that the price of bagging was low because of "Urope being able to Furnish sd article much cheaper" than it could be produced in America. Will Alexander of Bourbon County continued to manufacture a small quantity of baling materials, for which the only market was at Huntsville, Alabama, since "English importations" had driven American hempen products out of other areas. One establishment in Woodford County, operated by J. R. and A. J. Alexander, reportedly still made a small quantity of bagging, although that product had been "reduced to almost nothing" because of foreign competition.

Conditions in regard to the manufacture and sale of rope were little better, although several ropewalks continued to operate. John and James Bradshaw of Shelbyville produced spun yarns, bale rope, bed cords, plow lines, twine, etc., but said that their output was far short of capacity. Similar conditions prevailed in the rope-walks of Henry Watt, James Wier, and Morrison and Bruce of Lexington, George J. Brown of Nicholasville, and two anonymous manufacturers, one of whom operated in Danville and the other in Franklin County. Only one factory owner appeared optimistic in 1820. William Wiseman of Lexington began manufacturing rope in May, 1819, and his experience was so satisfactory that he contemplated enlarging his establishment within a short time.⁹⁵

Since they suffered from importation of hemp and its manufactures, the Kentucky farmers and manufacturers supported the principle of the American System and favored high import duties on products which competed with their own. Their petitions and the pressure they exerted upon their Representatives and Senators caused Congress frequently to consider the tariff problem. The act of 1816 taxed imports at the rate of three cents per pound on tarred cables and cordage, four cents on untarred cordage, yarns, twine, packthread and seines, and \$1.50 per hundredweight on hemp. The protection afforded by this law was inadequate, and friends of the hemp industry brought up the tariff issue again in 1820. Not until four years later were their labors further rewarded, and on that occasion higher duties were imposed over the protests of southerners, one of whom said in debate that

I . . . represent a cotton country; and all the gentlemen representing the same description of country will unite in testifying that the bagging of Kentucky is of so inferior a quality that we prefer paying forty cents a yard for the foreign article, to making use of the bagging of Kentucky, at twenty-five cents per yard. 98

The tariff act of 1824 raised the duty on tarred cordage to four cents per pound, on untarred cordage to five cents, and on hemp to \$35 a ton. Of greatest benefit to Kentucky manufacturers was the duty of 3% cents a square yard on bagging, ⁹⁹ a level at which the domestic product was protected to a large degree from foreign competition. The extent to which these rates affected the market is difficult to determine. In 1821 Kentucky bagging was valued at from eleven to fourteen cents at New Orleans, ¹⁰⁰ and after the act of 1824 was put into effect the price rose to twenty-two and twenty-three cents on the same market, ¹⁰¹ but it should be noted that even before the passage of the act the production of bagging had again become profitable. ¹⁰²

Southerners blamed the tariff for the rise in the price of bagging. The Natchez *Ariel* in 1827 declared that the duties had virtually excluded Scotch

bagging from the market and that the cotton planters were forced to rely on Kentucky for that necessity. The Kentuckians, the newspaper complained, "may put what price they please on it, and we must pay it, so long as they know we cannot be supplied through other channels." Speculators in Kentucky were said to be buying the commodity at 26 cents and holding it for a profit of from four to six cents a yard. A rumor to the effect that Henry Clay was extensively engaged in manufacturing bagging was current in Virginia in 1825, and a Lexingtonian who sent two wagons loaded with baling materials to South Carolina in the previous year found difficulty in selling the shipment because of a belief that it was the vanguard of a caravan of 300 wagons bringing Clay's bale rope and bagging to a market from which competition had been excluded by Clay's tariff. 104

By August, 1827, bale rope brought twelve cents a pound at Louisville, and bagging had risen to 27 cents a yard and was scarce at any price. The quotations for these two products began declining almost at once. In New Orleans on November 10 bagging was valued at 26 to 27 cents, it dropped one cent during the next week, and by December it had declined three cents more. On the eve of the passage of a new tariff law the price of bagging rallied slightly to 23 or 24 cents in New Orleans. Despite the fact that these figures are comparatively high, a complaint was voiced that "the manufacturers of cotton bagging and cordage do not appear to have received a fair compensation for their labor." At the same time, however, a Kentucky newspaper referred to baling materials as "the principal manufacture, and, now most valuable export" of the state.

The tariff act of 1828 granted further protection to Kentucky industry by raising the duty on bagging to $4\frac{1}{2}$ cents per square yard until June 30, 1829, and after that date to five cents. The rate was lowered to $3\frac{1}{2}$ cents in 1832, and the compromise tariff of 1833 in providing *ad valorem* duties of 20 per cent continued approximately the same degree of protection. The response to these enactments may be noted to some extent in the receipts at New Orleans of western goods over a period of years: less than 3,000 pieces of Kentucky bagging reached that port in 1827, nearly 6,000 pieces arrived in 1828, approximately 13,500 pieces in 1829, slightly less in the next year, almost 26,000 in 1831, and approximately the same amount in each of the next three years.

Because of the many factors affecting it, the price was unstable. Shortly after the passage of the tariff act of 1828 bagging in Louisville was scarce at 22 to 23 cents, but its price fell about four cents below these figures the next year, possibly because of a short cotton crop in 1828. The arrival of "an abundant and timely supply" of baling materials early in 1830 was the signal for another drop in prices, and the market for these products remained dull during the first half of the next year as large quantities of rope and bagging poured into Louisville for shipment southward. Quite a good demand" for bagging and rope was noted in the spring of 1833, prices began rising, and by late spring in 1835 bagging was quoted at 38 to 40 cents a yard and rope at 12½ cents a pound in the New Orleans market. Values dropped in 1837, of course, but by 1839 the two products again brought good prices, which, however, did not approach the excessively high level of 1835.

During the decade after 1820 Kentucky hemp manufactures aroused from their lethargic condition, and they were especially active in the 1830's. The exports of the Bluegrass section of the state in 1831 reached an estimated value of \$2,750,000 of which hempen fabrics, second only to livestock, accounted for \$750,000. 117 Lexington, still the industrial center of the state, produced annually around one million yards of bagging and two million pounds of cordage. Its nearest rival, Louisville, which had become the most important commercial city, processed about six hundred tons of hemp each year. 118 Besides its own products, Louisville exported a large amount of goods sent there from the interior of the state. In the eight months preceding August, 1832, almost 27,000 coils of bale rope and over 33,000 pieces of bagging were brought into the city for reshipment. 119 During the first six months of 1835 the city exported 42,030 coils of bale rope and 65,348 pieces of bagging. 120 Between one hundred and two hundred tons of hemp annually were manufactured in Mason County, where Maysville was considered second only to Louisville in commercial importance. 121 Nearly half a million yards of cotton bagging were made in Newport and Covington in 1836, and Frankfort and Georgetown were also producing substantial amounts of hempen goods during the decade. 122 It was said at the time that relatively little raw hemp was exported, since the fiber was "being mostly manufactured in the State into bale rope and bagging." ¹²³

So rapid was the expansion of the hemp industry during the decade that in 1840, in addition to the linen, duck, and bagging factories, which were not included in the census returns, there were 111 ropewalks in operation within the state. Fayette was the leading cordage making county, possessing 21 ropewalks, 9 of which were in the city of Lexington. Second in the number of establishments was Woodford, which reported 19, and Jessamine was third with 14. In value of product Fayette ranked first, Jefferson second, Jessamine third, Woodford fourth, and Scott fifth. Slightly more than one million dollars was invested in the establishments which produced Kentucky's rope, 1,888 laborers were employed, and the output for the year was valued at \$1,292,276. 124

THE FACTORIES IN OPERATION

In the 1830's new machinery was introduced in the manufacturing of bale rope and bagging in Kentucky, though for years afterward many establishments continued using more primitive methods, depending on hand labor to do most of the work. Ropemaking, before the industry was mechanized, was performed in a long, narrow building called a "ropewalk," whose dimensions varied from one establishment to another. A description written in 1873, possibly referring primarily to the walks found in New England, stated that they were "twelve or thirteen hundred feet in length." John B. McIlvaine's cordage factory in Carlisle, Kentucky, extended across "the whole square on Water street, from Main Cross to Second Cross," and Charles W. Thruston's walk in Louisville was about 26 feet wide and 570 feet long in 1837 and seems to have been extended to 770 feet by 1849.

The method of manufacturing has been described as follows:

The first part of the process of rope making by hand, is that of spinning the yarns or threads, which is done in a manner analogous to that of ordinary spinning. The spinner carries a bundle of dressed hemp round his waist; the two ends of the bundle being assembled in front. Having drawn out a proper number of fibres with his hand, he twists them with his fingers, and fixing this twisted part to the hook of a whirl, which is driven by a wheel put in motion by an assistant, he walks backwards down the rope-walk, the twisted part always serving to draw out more fibres from the bundle around his waist. . . . The spinner takes care that these fibres are equably supplied, and that they always enter the twisted parts by their ends, and never by their middle. As soon as he has

reached the termination of the walk, a second spinner takes the yarn off the whirl, and gives it to another person to put upon a reel, while he himself attaches his own hemp to the whirl hook, and proceeds down the walk. When the person at the reel begins to turn, the first spinner, who had completed his yarn, holds it firmly at the end, and advances slowly up the walk, while the reel is turning, keeping it equally tight all the way, till he reaches the reel, where he waits till the second spinner takes his yarn off the whirl hook, and joins it to the end of that of the first spinner, in order that it may follow it on the reel. ¹²⁸

The next step in ropemaking was to "warp" the yarns, or to stretch all of them to the same length and at the same time to put a "slight turn or twist" in them. If the cordage was intended for marine use, it was wound from one reel to another, meanwhile passing through a vessel containing boiling tar. If "white work" was desired, the tar was omitted. Finally, the last step, called "laying the cordage," was carried out:

For this purpose two or more yarns are attached at one end to a hook. The hook is then turned the contrary way from the twist of the individual yarn, and thus forms what is called a strand. Three strands, sometimes four, besides a central one, are then stretched at length, and attached at one end to three contiguous but separate hooks, but at the other end to a single hook; and the process of combining them together, which is effected by turning the single hook in a direction contrary to that of the other three, consists in so regulating the progress of the twists of the strands round their common axis, that the three strands receive separately at their opposite ends just as much twist as is taken out of them by their twisting the contrary way, in the process of combination. ¹²⁹

During the first third of the nineteenth century most of the rope made in Kentucky was spun and twisted by hand and by the use of horse power at one end of the walk. In 1838 David Myerle, formerly of the firm of Tiers and Myerle, Philadelphia, established upon a new principle a large steamdriven factory at Louisville. The method of manufacture had been invented earlier by Robert Graves of Boston, from whom Myerle had bought the patent right, and it

consisted, in part, in winding the threads upon revolving spools, from which they were conducted through a cast-iron tube of a diameter suitable for the size of rope required. In the opinion of officers of the United States navy and others the cordage made by the Graves machinery was stronger than that made by the old method. 130

Myerle's establishment, called the "Washington Steam Patent Cordage Factory," included several buildings and was valued by him at \$28,650. The ropewalk, housed in a frame building one story high, was 1,100 feet long and 25 feet wide. Down the length of the walk ran tracks on which the patented machinery operated as it spun the yarns and twisted them into rope. Three tons of cordage per day, or at least 600 tons annually, could be manufactured by this machinery.¹³¹

A factory for making bagging by machinery was established in Newport in 1832. Prior to that time most of the bagging had been made upon the old hand looms, but the new machines turned out a product which was claimed to be superior to that woven by manual labor. The cloth was strong, compact, uniform in texture, and consistently weighed twenty-six ounces to the yard. As first set up, the manufactory could process 450 tons of hemp annually, and the owners stated their intention shortly to add other machinery for making Kentucky jeans. The writer who described this plant said that "no doubt is entertained now of the practical success of this mode of manufacturing bagging of hemp, though heretofore it has been considered as a visionary speculation." In 1835 this enterprise employed two hundred workmen and was manufacturing wool and cotton in addition to hemp. Its total annual output was valued at over a quarter of a million dollars. At the same time a factory located at Covington was producing \$25,000 worth of finished hempen goods each year. ¹³³

Andrew Caldwell of Lexington invented, and in 1841 began the operation of, machinery which received raw fiber, hackled it, spun it into thread, and then wove it into bagging. He claimed that its output was thirty yards per hour, which was far more than any other loom of the time could produce. Caldwell also professed to be able to manufacture bagging for three cents a yard, or at a saving of five or six cents over the cost of other methods of manufacturing. Most of the innovations in the manufacturing of hemp were adopted slowly by those engaged in the industry, probably because most of the changes did not yield the results claimed for them. Even in 1860 only a few factories were run by steam, most of them relied on horse power, and a few were still operated by hand. 135

Only a comparatively few manufacturers specialized in either bale rope or bagging, and the majority of them produced both in their factories. One of the larger establishments, operated by Gratz and Bruce in Lexington, included for the manufacture of bagging a "Calender and Hemp House, capable of storing 60 tons Hemp;" a hackling house 18 feet wide and 30 feet long; a "Factory" 195 feet long, 25 feet wide, and two stories high, "calculated for 12 Spinners each story;" and, attached to the factory, a weaving house which contained spindles and looms. For making rope the company had a brick hemp house 40 feet long, 50 feet wide, and two stories high, capable of storing 200 tons of hemp, a brick spinning house 180 feet

long and 32 feet wide, and a ropewalk "extending 100 fathom," or 600 feet. 136

Slave labor was used to a large extent in the manufacture of hemp, the Negroes being owned by the operator of the business or hired by him for a period of time. In either case the task work plan was used to promote diligence, and the slave who applied himself could earn in the 1850's two or three dollars per week which he was free to spend as he chose. 137 The price paid for the hire of such laborers varied according to the ability of the slave. In Louisville in 1834 one Negro, George, was hired for \$30 per year, whereas Henry cost his employer \$80 for the same period of time. Two years later the extremes were George, at \$40, and Sullivan, at \$180. 138 "The exceedingly low price of twenty-five cents per day," was the figure set in 1836 by a Nicholasville manufacturer who, wishing to retire from business, offered to sell his factory and hire out his "thirty old hands well skilled in the manufacture of *Hemp*." 139 Wishing to protect insofar as possible the valuable property he was hiring to another man, the owner of a slave sometimes required a contract which obligated the employer to treat the laborer well, clothe and feed him, "pay his taxes & physician Bill Should the Same be necessary, & return the Boy as usual well clothed at the End of the time" for which he was hired. 140

Early in the nineteenth century Thomas Bodley and Company of Lexington wanted to hire ten Negro boys, from 12 to 15 years of age, and five men, from 17 to 25, "the boys to spin & the men to weave and heckle in a Coarse Linen Manufactory." In the same year Tom, a ropemaker by trade, ran away from his master in Danville, and shortly afterward Thomas H. Pindell advertised a desire to purchase or hire several Negro boys, age 14 to 18, to work in a ropewalk. When John W. Hunt of Lexington decided to retire from the manufacture of bagging, he advertised an auction sale of 60 men, boys, and women, "all the Negroes employed in said manufactory." Before 1861 only a few women were employed in the factories, where they may have served as cooks and housekeepers for the slaves who were housed and fed on the premises. 142

David Myerle, who employed both whites and blacks at his factory near Louisville, stated that the cost of manufacturing cordage was one-third less with slave labor. Others must have been of somewhat the same opinion, since large numbers of Negroes were used in the factories. On the other

hand there were certain disadvantages, one of which was the poor quality of product turned out by slave labor. Olmsted noted that the work was done "very rudely," and plantation owners complained frequently of the quality of Kentucky baling materials. Additional troubles which faced the employer of slave labor in the factories are referred to in the following letter written by a foreman to his absent employer:

I announce to you with pleasure, that we are doing as well I believe as could be expected, we have had manny of the boy's sick, and at this time there is three of the weavers off sick, we have . . . from 2 to 3 of the spinners constantly off since you left home there complaints has been much as usual Roy has been sick ever since you started and I doubt very much wheather he lives much longer or not he is very low with an inflamation of the lungs. The boy's has all behaved well excepting Umphry who got offended and started off one evening and was caught and brought home the next night. I am in hopes that we shall do as well as if you were with us. . . . I this day finished making Mr. Colemans Eight thousand three hundred & eighteen yards of bagging which should of finished last week if health had been on our side. ¹⁴⁵

Other manufacturers of hemp also found that their workmen were susceptible to some kind of ailment of the lungs. Dr. J. L. Phythian, who served as physician at the state penitentiary during the Civil War, applied the name "hemp pneumonia" to what he described as "a very rapid and fatal disease" which seemed to affect mainly those prisoners employed in hackling the fiber. He attributed the trouble to "fine particles of dust settling upon and irritating the body" and prescribed, with complete success according to his own report, a thorough bath before bedtime for each person engaged in that work. ¹⁴⁶

One Kentucky manufacturer who had no worries regarding the purchase or hire of laborers was the keeper of the state penitentiary, who in the 1830's ceased being a salaried officer and became a contractor who guaranteed a minimum sum to the state in return for the labor of the prisoners. Bagging and rope became the most important products of the institution, and the extent to which they were manufactured is indicated by a statement issued in 1844 which showed \$14,310.47 in cash received from the sale of these commodities and \$9,000.14 worth of goods still unsold in the hands of commission merchants. The keeper maintained that the quality of his bale rope and bagging was better than that obtainable elsewhere, and that it "always commanded the highest market price, and met with ready sale."

When its hemp manufactories burned in 1844,¹⁵⁰ the penitentiary suffered a loss which occurred frequently among other participants in the industry. The dry fiber was highly inflammable, and after it started burning the fire was almost inextinguishable. When the ropewalk owned by Hart and Dodge in Lexington burned in 1806, the fire started at ten o'clock in the evening. Flakes of burning fiber, rising in the updraft, covered houses a quarter of a mile distant, and the people carried water all night in order to protect their property. At nine o'clock the next morning a breeze sprang up, the smoldering mass of hemp and ashes again burst into flames, and several people were injured in fighting the fire.¹⁵¹

In 1812 John W. Hunt's factory was burned for the second time, and two Negro boys, both under fifteen years old, were charged with the serious crime of arson. They were tried, sentenced to be hanged, and finally reprieved by the governor because of their age and "some representations relative to the testimony" which had been made to him. At least one newspaper questioned the wisdom of the pardon, stating that the boys had been found guilty after a fair trial and that an example should have been made of them. The paper pointed out that no less than nine factories had burned within a short time, inferred that incendiarism had been responsible, and stressed the fact that no one had been punished. 152

In a small town a fire which destroyed a hemp factory injured not only the proprietor but also the whole community, for often it was the only industry located there. One disastrous fire consumed the bagging and bale rope factory of Samuel S. Smith and Company in Carlisle, Nicholas County, in 1832, According to an eyewitness, who wrote his account years afterward, the alarm was given at ten o'clock at night, and the town's new fire engine rushed into action; "but alas! owing to the great headway it had obtained, and the perishable nature of the buildings and their contents, nothing could be done to arrest the fire in its stronghold." The lasting effect of this disaster was noted by the same writer: "It has always been the misfortune of Carlisle that no manufactories of any kind to amount to anything have ever been established here since the burning of the hemp factory in 1832." ¹⁵³

So frequently did fires occur, and so great was the danger, that insurance rates were higher "on buildings in which are usually deposited considerable quantities of hemp or flax" than on any other type of structure. The rates

charged by the Kentucky Mutual Assurance Society in 1814 on buildings used for the storage of hemp were approximately three times as high as those levied on less combustible property. Within the category paying the highest rates there were also differences. Three per cent was charged on hemp houses constructed of brick, slate, or tile, 4 per cent on brick veneer, 5 per cent when the first floor was constructed of brick or stone and the second of wood, and 6 per cent on wooden buildings. 154

PROFITS

In times of stress, such as the period following the War of 1812, the manufacture of hemp was not a profitable venture, and many people who tried it were forced to retire from the business. In normal years, however, after the adoption of protective duties on hempen goods, the Kentucky manufacturer derived a healthy profit from his enterprise. Bale rope and bagging were the main products, although some manufacturers, including David Myerle in 1838 and the Thruston family of Louisville, devoted much of their energies to turning out cordage for the river and ocean trade, and many produced miscellaneous items, as plow lines, bed cords, twine, and Kentucky jeans, in addition to baling materials.

The profits derived from factories operated by hand, by horse power, and by steam may be illustrated by a few specific examples. Thorn and Company of Boyle County in 1850 operated with hand labor a ropewalk valued at \$2,000. The cost of the 40 tons of hemp which it consumed annually was estimated to be \$3,000, and the wages averaged \$56 per month, or \$672 for the year. The product, 30,000 pounds of rope, was valued at \$5,000. The difference between the value of the product and the cost of raw material and labor was \$2,328, a profit which, if it was clear, was greater than the capital invested in the enterprise. A similar situation existed at the rope factory of Nicholas Arthur of Mason County, which was operated by horse power and which was worth \$6,000. Arthur's establishment processed 300 tons of fiber per year, employed 15 workers whose wages were valued at \$3,600 annually, and turned out 600,000 pounds of rope worth \$41,000. The apparent profit was therefore \$7,400, which again was more than the valuation of the property. Chapman Coleman and Company, who operated a steam-driven ropewalk in Jefferson County, processed 430 tons of hemp which cost \$40,000, worked 60

Negroes for an estimated wage of \$12,000 for the year, and produced 8,000 coils of rope with a market value of \$65,000. In this case the profit, \$13,000, though large, was much less than the capital invested in the concern, \$30,000. 155

The manufacture of bagging, according to reports in 1850, was not as profitable as ropemaking. In Fayette County Samuel A. Kidd processed 130 tons of hemp and turned out 150,000 yards of bagging, valued at \$16,500. Since labor and raw materials cost him \$15,000, his profit was only \$1,500. In the same county, however, John McCauley indicated that his gain in the same type of factory was \$4,400. Large profits were sometimes made by establishments which turned out bagging, rope, and perhaps other products. Newton Craig of Franklin County, for instance, expended \$46,200 in the manufacture of baling materials which were valued at \$62,700 and recorded a profit of \$16,500, but on the other hand Albert Shouse of Woodford suffered a loss of about \$8,000, if his report was correct. ¹⁵⁶

In 1860 Bonte and Company of Campbell County reportedly manufactured \$40,000 worth of cordage from Kentucky and Manila hemp at an expense of \$36,000. Wesly Hamilton of Fayette spent \$26,160 in turning out bagging valued at \$30,000, and the largest manufacturer of the time, Thomas H. Hurt and Company of Jefferson, produced 20,800 coils of bale rope and 4,900 pieces of bagging from 2,500 tons of hemp and profited to the extent of \$45,225. 157

Less conservative than these reports was the statement made by David Myerle concerning the operation of his cordage factory at Shippingport in 1838. His estimate of the cost of manufacturing one ton of fiber included: hemp, \$110; labor, \$40; loss of 15 per cent in hackling, \$17.48; and three barrels of tar, \$10.50; making a total cost of \$177.98. The cordage made from this ton of hemp was valued at \$267.63, which would seem to indicate a profit of \$89.65. From the latter figure, however, certain charges for freight, commission, and insurance were deducted, diminishing the profit to \$60.07 for each ton of hemp manufactured. Since Myerle claimed to be able to process from 300 to 600 tons per year, his annual net income would have ranged from \$18,021 to twice that figure. 158

As illustrated by Myerle's statement, the cost of raw material and labor were not the only expenses connected with the manufacture of hemp, unless the factory owner sold his product to local merchants without seeking a better market. 159 Many manufacturers, who did not operate on a scale large enough to allow them to deal with agents in distant cities, turned their goods over to local commission merchants, who exported the material to the market and charged a fee for their services. Among the firms of the latter type was John C. Bucklin and Company of Louisville, which in 1828 "opened an establishment expressly for the purpose of selling American Manufactures on commission." They solicited consignments of baling materials, linsey, tow linen, twine, ticking, iron castings, manufactured tobacco, and other articles, promising that "goods will be received and forwarded to any place on the usual terms." 160 Occasionally the manufacturers became dissatisfied with the charges levied by the commission houses, as in 1837 when a meeting was called in Lexington to protest against an advance in the rates imposed by Louisville merchants. On this occasion the manufacturers resolved to seek new agents or to cooperate in establishing a commission house of their own, if the merchants persisted in charging the higher rates. 161

The larger manufacturers, as James Wier, John W. Hunt, Charles W. Thruston, and others, found it profitable to deal directly with merchants and agents in the markets without the help of intermediaries. James Wier, as has been noted, had far-flung connections which enabled him to sell goods in the South, in Philadelphia, and even in New England for a time. 162 Under such circumstances he could manufacture goods which were in demand and ship them to the spot where they brought the highest price. In addition he often bartered his products for cotton or other goods from which he expected to enhance his total profits. His cordage was usually not sold for cash but on credit terms which allowed the buyer from three to six months to pay. Wier drafted on his agents on occasion, and frequently they sent checks or bills in payment for materials they had sold. Since drafts were sometimes not honored and banknotes had no uniform value, Wier often experienced difficulty in obtaining money which was rightfully his. 163 John W. Hunt's experiences were similar to those of James Wier, since he, too, shipped goods directly to agents in distant markets. 164 In the 1830's Hunt also sold his products through commission merchants in Louisville. 165

Some insight into a large hemp manufacturing concern's methods of buying raw material and selling the finished product may be gained from a brief examination of the business conducted by Charles W. Thruston and other members of his family in Louisville during the 1820's and 1830's. Purchases of some hemp were made at the factory from merchants and farmers, and sums as little as \$1.25 and as large as \$190.66 were paid for individual lots of fiber during one month. 166 Much of the fiber processed by the establishment was purchased in Mason County by M. Langhorne and Sons, who charged a commission for their efforts and forwarded shipments of hemp by boat—flat, keel, or steam. The expenses connected with purchases of this kind appear in a bill of lading dated June 7, 1832, covering a shipment of 50 bales of hemp, weighing 13,619 pounds, on the steamboat Versailles. The hemp was received in good order by the master of the boat who promised to deliver it "in similar order, and without delay, (the dangers of the river and unavoidable accidents only excepted,)" to the Thrustons, who were to pay freight charges at the rate of 12½ cents per hundred pounds. For their services M. Langhorne and Sons charged 2½ per cent commission for purchasing the fiber and six dollars per ton for baling, storage, drayage, and shipping. 167 The freight rate varied from time to time, and in July, 1832, the Watchman charged fifteen cents per hundred pounds for transporting hemp over the same route. 168

The cost of bringing to Louisville the small quantities of Manila hemp which C. W. Thruston manufactured was high. In 1828 he bought a ton of this fiber in New York for \$300 and paid 50 cents for drayage to ship, \$10.90 for insurance to Louisville, \$10 for freight from New York to New Orleans, 50 cents for drayage in the latter city, \$16.80 for transportation from New Orleans to Louisville, \$1.25 for drayage in Louisville, \$7.78 to a commission house in New York for making the purchase, \$20.63 for handling charges in New Orleans, and \$3.63 for two months' storage. As Manila hemp became more common, it could be imported directly from New Orleans without having to pay charges for shipment from the east coast to that city. 170

The manufactured goods were disposed of by several different methods, including sales from the factory, consignments to local merchants who sold on commission, and consignments to commission houses or agents in other cities. A number of sales of rope, twine, marline, packing yarns, lead lines, Manila rope, sewing twine, and hawsers were made directly to steamboats, of which at least forty-three purchased goods from Thruston from 1829 to 1831.¹⁷¹ Louisville firms such as Gray and Stewart, McIlvaine and

Caldwell, Forsyth and Company, and Adams, Reynolds, and Company received Thruston's products on consignment, sold them, deducted charges for labor and advertising, took out 5 per cent commission for making the sales, and credited Thruston with the balance. In addition to the types of merchandise sold to steamboats the merchants disposed of bed cords, plow lines, and flatboat cables.¹⁷²

When consignments, mainly of bale rope and bagging, were made to agents in other cities, the Louisville establishment was charged with transportation costs to the destination, drayage from vessel to storage house, insurance, advertising, and commission on the sales made. The manufacturer could pay 2½ per cent commission and run the risk of losing money on credit sales, or he could pay 5 per cent commission to the agent in exchange for a guarantee that the charge accounts would be paid. Periodically, the commission houses submitted statements showing the balance in favor of Thruston, on which he was at liberty to draft.

THE HEIGHT OF THE INDUSTRY

Manufacturers of bale rope and bagging were in an enviable position in the late summer of 1840, when prices for their products were high and prospects appeared bright for a large cotton crop and a consequent heavy demand for baling materials. ¹⁷⁶ Though the market declined to some extent, sales remained profitable until the autumn of the following year, 177 when many factories, including the "large steam-mill" at Louisville and "a large majority of the looms in the State" were forced to suspend operations because of the lack of hemp. 178 By that time a surplus had already been produced, which, added to the normal production for the next year and to the imports of baling materials, caused prices to drop. During 1841 the steam factory in Louisville had turned out goods at the rate of 700,000 vards of bagging and 1,000,000 pounds of bale rope annually, and another of even greater capacity was prepared to go into operation when a supply of hemp again became available. Altogether Kentucky was able to produce 9,600,000 yards of bagging per year upon her 400 hand looms and in her eight steam factories. 179

Shipments of baling material were heavy in the beginning of the next year, but the demand in the South was light, and business soon became stagnant. After the passage of the Tariff of 1842, raising the duty on imported bagging to four cents a square yard, speculators caused a temporary flurry in the market, but soon a report of the situation revealed that one-fourth of the looms in the state had suspended operations for lack of hemp and that "the prospects of bagging and rope are so gloomy that it is somewhat doubtful if they commence, even after fresh supplies arrive. The present prices of bagging and rope certainly will not justify their giving near the present price of hemp." In December the same "review of the market" declared that "one of the most disastrous years ever known to the manufacturer of these articles has just closed." ¹⁸⁰

One of the reasons for the depression in the bale rope and bagging trade was that many planters purchased imported materials because some of the Kentucky product was virtually worthless. A Louisiana planter, buying from a Kentucky manufacturer in 1842, wrote to him as follows:

I have been planting in this State for a number of years past, and I have been in the habit of uniformly purchasing Kentucky bagging and rope, until within a few years past, when I commenced purchasing East India and Scotch, in consequence of the Kentucky being so inferior. It would appear good on the outside of the roll, but, after taking off a little, it would present another quality greatly inferior. The rope generally ran the same way; the outside smooth and even, within coarse and gouty.

It has always been my wish to encourage the manufactures of my own country in preference to any other: but, by being deceived so often, I had almost concluded not to purchase again from Kentucky. Many of my neighbors had come to the same conclusion; but I have reason to believe, from what you write me, that there will be no cause of complaint in the articles you will furnish me with: if so the "extra price" is a matter of but little consequence. ¹⁸¹

Commenting on this statement, the Louisville *Journal* deplored the dishonesty of some Kentucky manufacturers and stated that For the reasons pointed out in this letter three-fourths nearly of the cotton-planters have used foreign bagging for the last two seasons, avoiding the fabrics from Kentucky, as they would a base coin; firmly believing that, however superior in quality the outside of the article was, the inside was entirely different, being as thin and flimsy as tow and trash could make it. This deception has been practised more especially in the manufacturing of rope than of bagging. . . . It is not surprising this trade has become so paralyzed and the prices have become so ruinously low. ¹⁸²

As early as March, 1842, the statement had been made that, since planters had become "more particular as to the quality of the articles manufactured in Kentucky," the manufacturers had determined to make their product "superior to any former year's work." Nevertheless, two years later southern planters were still complaining of the wretched quality of bagging being sent to them from Kentucky, 184 and in 1851 "A Louisville Merchant" wrote that "the miserable plated bagging and rope" produced in Kentucky had created a prejudice detrimental to trade. He stated that he had

seen "many specimens of rope that consisted of nothing but knots and trash *entirely worthless*, all esconced [*sic*] away in the middle of a coil, the *outside* of which was choice rope." ¹⁸⁵

The outlook for manufacturers became somewhat brighter than they had been in the previous year when in 1843 sales and shipments of bagging and rope again became extensive. 186 The price, ranging from eleven to fourteen cents for bagging and from four to six cents for rope, ¹⁸⁷ was not as high as might have been desired, yet it caused large quantities of these commodities to be produced. According to one estimate, 6,500,000 yards of bagging and 7,000,000 pounds of rope were made in the state during that year, and, according to another, 6,880,000 yards of bagging were produced by 350 hand looms in Kentucky, 700,000 yards by the power looms in Maysville, and 1,400,000 yards by the power looms in Louisville. 188 A third estimate is interesting mainly because it purports to give the location of the various hemp factories in the state. Of the 420 hand looms, 146 were in Fayette County, and 40, the next largest number, were in Franklin. Fayette also led in the number of ropewalks, having 42 of the total of 104. Two power looms in Louisville and one in Maysville added to the manufactories of the state, which processed about 12,000 tons of hemp annually. 189

Whatever the exact number of manufactories and their capacity, their output in 1844, it was claimed, was "more, both of bagging and rope . . . than will be called for this season. We observe that the better qualities of both articles are more than heretofore preferred, inferior rope, especially, is wholly rejected." Almost immediately prices started falling slowly, until they reached the extremely low marks of seven cents a yard for bagging and 3½ cents a pound for bale rope in 1846. Some factories suspended operations or turned to other products, but within a few months the market was appreciably better, and by June, 1847, bagging at thirteen cents and rope at 5¾ cents were again attractive to manufacturers. An announcement in 1847 that the expectation of a large cotton crop should result in an increased demand for baling materials prefaced a further rise in prices. By 1849 bagging was valued at seventeen cents and rope at eight, a height from which the price level once more began a slow recession.

Meanwhile, 159 bagging, bale rope, and cordage factories, over one-third of the total number in the United States, were located in Kentucky.

There they employed more than two thousand workers and produced goods valued at \$2,311,199 during the year. Fayette County led in the number of establishments, with Woodford close behind her, and with Jefferson, Jessamine, and Shelby also reporting numerous factories. Thomas Hemingway of Fayette, who produced bale rope and dressed hemp, handled 960 tons of fiber, more than any other manufacturer. Two manufacturers of bagging, Shultz and Company of Mason County with 825 tons and Pepper and Blair of Kenton County with 800 tons, were also among the largest processors of hemp. The total amount of fiber manufactured by all the Kentucky establishments was more than 16,000 tons.

The market for bagging and rope was dull during the greater part of 1850 and 1851, but late in 1851 sales and shipments from Louisville began increasing, chiefly to Memphis, the Tennessee River ports, New Orleans, and Mobile, although the highest prices at the time were 13½ cents per yard for bagging and 6½ cents per pound for rope. 197 By the end of the year the two commodities, termed "hitherto our leading staples," had declined one cent each in value and were selling slowly, "with ample stocks on hand for the demand of consumers." 198 The downward trend soon was reversed, and by the summer of 1856 bagging was quoted at seventeen to eighteen cents and bale rope at eight to ten cents, rates which were current through the remainder of the year. 199 In 1856, at the end of the season in which the largest sales usually occurred, the merchants and manufacturers in Kentucky were left with large stocks of baling materials on hand. Their failure to dispose of their products was attributed to the fact that "Southern purchasers have dealt to a considerable extent in India Bagging and used iron hoops instead of Bale Rope."²⁰⁰

The next year saw prices of the Kentucky manufactures dropping once again, and the revision of the tariff gave little encouragement to the producers of hempen goods.²⁰¹ In August, 1857, an observer noted that the season had been unfavorable for manufacturers of bagging, largely because of the importation of "immense quantities" of India bagging which had been "offered on more favorable terms" than the Kentuckians could afford to match. Consequently, he wrote, "several" of the Kentucky manufacturers had decided to abandon the business and turn to something more profitable.²⁰² A Missouri commission house stated in 1858 that the stock of rope in existence was so large that it was "without any regular market price

and could be bought at a low figure." Bagging was in no better condition because the cotton planters were using bagging imported from India in preference to the Kentucky product.²⁰³

Although the prices of bagging, 11½ to 14 cents a yard, and bale rope, 7 to 8 cents a pound, 204 were not as low as they had been occasionally in the past, a large number of Kentucky factories ceased operations before 1860. 205 At that date Missouri, Kentucky, and Ohio were the largest producers of bale rope and other cordage in the United States, only 101 tons having been made elsewhere. Kentucky, in third rank in the value of all types of cordage, had sixteen establishments in which a total capital of \$351,500 was invested. These ropewalks employed 323 men and 44 women and turned out 6,839 tons of finished goods, valued at \$1,240,801. Of the 34 bagging factories in the nation, 26 were located in the Bluegrass State and processed 3,542 tons of hemp in making nearly six million yards of bagging, which was valued at \$699,450. 206

The total number of Kentucky factories which processed hemp in 1860 was 117 less than the number in existence ten years earlier, but the value of the product had decreased by only \$370,000 during the same period. It appears, therefore, that most of the smaller establishments had been crowded from the field, and, indeed, only sixteen of those which annually handled less than 100 tons of hemp each remained in 1860. Most of the fiber was manufactured by only five factories: L. C. Randal and Company of Fayette, which consumed 1,200 tons of hemp and produced 400,000 yards of bagging and 7,500 coils of rope, valued at \$116,000; J. M. South of Franklin County, 800 tons of hemp, 100,000 yards of bagging, \$12,500; Roberts and Company of Jefferson County, 950 tons of hemp, an unspecified amount of bagging and rope, \$168,000; Thomas H. Hurt and Company of Jefferson County, 2,500 tons of fiber, 20,800 coils of rope and 4,900 pieces of bagging, \$369,600; and Allen and Company of Shelby County, 900 tons of hemp, 2,000 bales of twine and 5,000 coils of rope, \$150,000. Fayette led the state in the number of factories, but Jefferson produced most of the finished goods, with Fayette in second place. The amount of fiber processed in each county in 1860 follows: 3,550 tons in Jefferson, 2,980 in Fayette, 912 in Franklin, 900 in Shelby, 480 (including Manila hemp) in Campbell, 355 in Jessamine, 303 in Woodford, 275 in Scott, 160 in Mercer, and 60 in Kenton.²⁰⁷

- ¹ Humphrey, *Marketing Hemp*, 26. As late as the early part of the twentieth century women in isolated communities still followed the examples of their forebears by weaving the fiber into clothing for their families. Verhoeff, *Kentucky River Navigation*, 140.
 - ² Kentucky Bureau of Agriculture, Labor and Statistics, *Report*, 1900-1901, p. 332.
 - ³ See above, Chapter III.
 - ⁴ Lexington *Kentucke Gazette*, March 8, 1788.
 - ⁵ Collins, *History of Kentucky*, I, 516.
 - ⁶ Lexington *Kentucky Gazette*, November 21, 1789.
 - ⁷Prichard (ed.), "Minute Book A, Jefferson County, Kentucky," *loc. cit.*, 179.
- ⁸ Lexington *Kentucke Gazette*, November 22, 1788, April 5, 12, 1790, December 3, 1791, June 6, 1794; Michaux, *Travels*, 59.
 - ⁹ Lexington *Kentucky Gazette*, April 5, 1790.
 - ¹⁰ *Ibid.*, April 30, 1791.
 - ¹¹ See below, pp. 132-33.
 - ¹² March 15, 1790.
 - ¹³ Lexington *Kentucky Grazette*, July 19, 1790.
- ¹⁴ Collins, *History of Kentucky*, I, 516; B. O. Gaines, *The B. O. Gaines History of Scott County* (2 vols., n. p., 1905), II, 224, 235.
 - ¹⁵ Lexington *Kentucky Gazette*, April 12, 1794.
 - ¹⁶ *Ibid.*, July 11, 1795.
- Fourth Census, 1820, Manufactures, original returns. See also Perrin, *History of Fayette County*, 529; Lexington *Kentucky Gazette*, February 5, 1802.
 - ¹⁸ Lexington *Kentucky Gazette*, February 5, 1802.
- ¹⁹ *Ibid.*, April 25, 1798. The Craigs were disappointed with the quality of the fiber obtainable on the Kentucky River. After having offered 26 shillings for hemp, they soon found it necessary to state publicly that they could not give that price for such fiber "as the inspectors generally pass, as it will not answer our purpose, without great expense and loss in cleaning," but they stated their intention to continue purchasing clean hemp at that figure. *Ibid.*, May 16 1798. Later in the same year the legislature authorized the establishment of a ferry across the Kentucky River at the Craigs' ropewalk. Littell, *Statute Law*, II, 231.
- ²⁰ Elijah Craig and Son owned two, and John Hamilton, Thomas Hart and Son, and Peter January and Company each operated one. Henry Clay said in 1810, however, "ten years ago there were but two rope manufactories in the State." *Annals of Congress*, 11 Cong., 2 Sess., 628. He was either suffering from a lapse of memory or had been misinformed.
 - ²¹ Lexington *Kentucky Gazette*, January 9, 1800.
 - ²² *Travels*, 57.
- ²³ Late in February, 1803, the schooner *Go-By*, 80 tons burden, was launched at Frankfort, and in 1805 the *General Scott*, 260 tons, was completed on the river twenty miles from Lexington. Lexington *Kentucky Gazette*, March 1, 1803, May 28, 1805.
- ²⁴ *Ibid.*, August 6, 1802. The estimate was doubtless as unreliable as one, covering a shorter period, made in the preceding year. Of that statement the *Gazette* said: "It may be observed that the above statement contains but little more than half the produce which has past the Falls within the time mentioned." *Ibid.*, May 18, 1801.
 - ²⁵ *Ibid.*, September 1, 1800.

- ²⁶ *Ibid.*, June 21, September 27, 1803.
- ²⁷ *Ibid.*, April 24, 1804. "Kentucky flour" also brought less than "Superfine" or "Monongahela" flour. *Ibid.*, May 8, 1804.
 - ²⁸ *Ibid.*, January 7, 1805.
- ²⁹ *Ibid.*, March 5, 1805. James Wier was shipping cordage from Lexington in February, 1805. Wier Letter Books. Hunt sold cordage at least as early as March, 1806. See invoice to Sam'l. Downing and Co., March 15, 1806, in Hunt Papers.
 - ³⁰ Fitzhugh and Rose, Journal, 1806-1808, in Thruston Papers.
 - ³¹ Frankfort *Western World*, December 9, 1807.
 - ³² Lexington *Kentucky Gazette*, June 24, 1806.
 - ³³ Frankfort *Western World*, December 25, 1806.
 - ³⁴ Lexington *Kentucky Gazette*, October 3, 1809.
 - ³⁵ *Ibid.*, April 9, 1796.
 - ³⁶ *Ibid.*, April 24, 1800.
- ³⁷ Perrin, *History of Fayette County*, 566, states that the factory was established in 1802, and that it turned out in that year "the first piece of hemp bagging ever made in the United States." Brand, on the other hand, said in 1820 that he and Hunt had formed their partnership in 1803. Fourth Census, 1820, Manufactures, original returns.
 - ³⁸ Perrin, *History of Fayette County*, 566; Fourth Census, 1820, Manufactures, original returns.
 - ³⁹ Perrin, *History of Fayette County*, 276, 566.
 - ⁴⁰ Lexington *Kentucky Gazette*, January 1, 1805, and subsequent issues.
 - ⁴¹ Littell, *Statute Law*, III, 532-534.
 - ⁴² *Ibid.*, IV, 74.
 - ⁴³ Fortescue Cuming, *Sketches of a Tour to the Western Country* (Pittsburgh, 1810), 187.
 - ⁴⁴ Lexington *Kentucky Gazette*, May 15, 1810.
 - ⁴⁵ *Ibid.*, August 14, 1804.
 - ⁴⁶ *Ibid.*, September 11, 1804.
 - ⁴⁷ *Ibid.*, May 29, 1810.
 - ⁴⁸ *Ibid.*, January 15, 1811.
 - ⁴⁹ Perrin, *History of Fayette County*, 276.
- ⁵⁰ Wier to Fitzpatrick, February 23, 1805, in Wier Letter Books. In a letter written the next day Wier stated his intention to ship a hogshead of plowlines which could not be conveniently sent at that moment. *Ibid*.
 - ⁵¹ Wier to Alexander Henry, June 21, 1805, in Wier Letter Books.
- ⁵² Wier to John Clay, June 7, 1805, April 25, June 2, 1808, *ibid.*; Wier to P. Culbertson & R. Bloom, October 10, 1808, *ibid*; Wier to Carp, Ellis, and Shaw, April 22, 1810, *ibid*.
 - ⁵³ George Poyzer to Hunt, June 24, 1806, in Hunt Papers.
 - ⁵⁴ Shippingport Warehouse statement to John W. Hunt, marked "paid" on January 22, 1808, *ibid*.
 - ⁵⁵ Fourth Census, 1820, Manufactures, original returns.
 - ⁵⁶ Lexington *Kentucky Gazette*, January 3, 1809.
 - ⁵⁷ Senate Documents, 18 Cong., 2 Sess., II, no, 12, p. 33.

- ⁵⁸ *American State Papers, Finance*, II, 367. This is probably the foundation for the frequently quoted statement made by *Eighth Census*, 1860, *Manufacturers*, cvi: "Kentucky supplied nearly the whole cotton country with baling linen in 1809."
 - ⁵⁹ *Third Census*, 1810, pp. 36, 125-126.
 - ⁶⁰ *Ibid.*, 121-122.
 - ⁶¹ George W. Ranck, *History of Lexington, Kentucky* (Cincinnati, 1872), 241.
 - ⁶² Joynes, "Memoranda," *loc. cit.*, 225.
 - ⁶³ Cuming, *Sketches*, 186.
 - ⁶⁴ Warden, Statistical Account, 341.
 - ⁶⁵ Brown, Western Gazetteer, 93-112.
 - ⁶⁶ Lexington *Kentucky Gazette*, September 18, 1810.
- ⁶⁷ *Ibid.*, January 14, 1812; Bill of Materials for Building Rope Walk, January 28, 1812, in Hunt Papers; Brown and Hollins to Hunt, January 8, 1813, *ibid*.
 - 68 Brown and Hollins to Hunt, January 8, 1811, in Hunt Papers.
 - ⁶⁹ Moore to Hunt, February 25, 1813, *ibid*.
 - ⁷⁰ John Henderson to Hunt, November 13, 1813, *ibid*.
 - ⁷¹ Elijah W. Craig to Hunt, December 13, 1813, *ibid*.
 - ⁷² Benjamin B. Howell and Company to Hunt, April 22, 1814, *ibid*.
 - ⁷³ Benjamin B. Howell and Company to Hunt, May 12, 1814, *ibid*.
 - ⁷⁴ Benjamin B. Howell and Company to Hunt, September 22, 1814, *ibid*.
 - ⁷⁵ James Wier to Smith, Dorsey and Company, October 13, 1814, in Wier Letter Books.
 - ⁷⁶ J. McKinley to Hunt, October 26, 1814, in Hunt Papers.
 - ⁷⁷ Niles' Register, VI (1814), 249.
 - ⁷⁸ Fourth Census, 1820, Manufactures, original returns.
- ⁷⁹ Lexington *Kentucky Gazette*, May 18, 1813, February 7, April 25, August 29, 1814; Lexington *Reporter*, April 2, June 25, 1814.
 - ⁸⁰ Receipt given by Garrett to Hunt, November 8, 1813, in Hunt Papers.
 - ⁸¹ Benjamin B. Howell and Company to Hunt, February 12, 18, 23, 1815, *ibid*.
 - ⁸² James Wier to Adams, Knox, and Nixon, June 1, 1815, in Wier Letter Books.
 - ⁸³ Fearon, *Sketches*, 238.
 - ⁸⁴ Wier to John P. Pleasants, August 6, 1815, in Wier Letter Books.
 - ⁸⁵ Eighth Census, 1860, Manufactures, cxv.
 - ⁸⁶ A. Turner (comp.), *The Cotton Planter's Manual* . . . (New York, 1857), 19-20.
 - ⁸⁷ De Bow, *Industrial Resources*, I, 159.
 - ⁸⁸ Darby, *Emigrant's Guide*, 184-185.
 - ⁸⁹ See census returns cited elsewhere in this chapter.
 - ⁹⁰ Wier to Bartlett and Co., October 25, 1816, in Wier Letter Books.
 - ⁹¹ Wier to William Anderson, February 13, 1817, *ibid*.
 - ⁹² Fourth Census, 1820, Manufactures, original returns.
- ⁹³ *Ibid.* Scotch bagging was manufactured in Scotland from hemp and hemp tow. Bagging of German manufacture also competed with the Kentucky product. See extract from Levy's New

Orleans Prices Current in Louisville Daily Journal, December 10, 1836.

- ⁹⁴ Fourth Census, 1820, Manufactures, original returns. The material in the next two paragraphs is also derived from this source.
- ⁹⁵The published census of 1820 is virtually worthless in regard to manufacturing in Kentucky. It includes no returns from twenty-six counties. The returns from Jessamine, Madison, and Monroe were too defective for a satisfactory report. It includes establishments which had ceased operations before the census year, and at least one proprietor refused to divulge any information about his factory. See *American State Papers*, *Finance*, IV, 178-183, 296, 299.
 - ⁹⁶ 3 *U. S. Stat.* 311-312.
 - ⁹⁷ Annals of Congress, 16 Cong., 1 Sess., 1663, 1666.
 - ⁹⁸ *Ibid.*, 18 Cong., 1 Sess., 1515.
 - ⁹⁹ 4 U. S. Stat. 27.
 - ¹⁰⁰ Lexington *Kentucky Gazette*, August 16, 1821.
 - ¹⁰¹ *Ibid.*, February 24, 1826.
 - ¹⁰² Frankfort *Argus*, March 3, 1824.
 - ¹⁰³ *American Farmer*, IX (1827), 219.
 - ¹⁰⁴ Swem, *Letters*, 72.
 - ¹⁰⁵ Louisville *Focus*, August 14, 1827.
- ¹⁰⁶ Lexington *Kentucky Reporter*, December 1, 1827; Paris *Weekly Advertiser*, December 6, 1827, January 5, 1828.
 - ¹⁰⁷ Frankfort *Commentator*, April 12, 1828.
 - ¹⁰⁸ Niles' Register, XXXIII (1828), 432.
 - ¹⁰⁹ Frankfort *Commentator*, April 20, 1828.
 - ¹¹⁰ 4 *U. S. Stat.* 272.
 - ¹¹¹ *Ibid.*, 588, 629.
 - ¹¹² Hall, *Notes*, 276.
- ¹¹³ Louisville *Public Advertiser*, July 26, 1828; Frankfort *Commentator*, July 14, 1829; John McKinley to John W. Hunt, November 12, 1828, in Hunt Papers.
- ¹¹⁴ Louisville *Daily Journal*, January 12, 1830, February 5, March 19, 1831; Frankfort *Commentator*, July 26, 1831.

Steamboat arrivals are noted frequently in the Louisville *Daily Journal*, 1831, and most of the vessels included bale rope and bagging in their cargoes.

- ¹¹⁵ Frankfort *Commonwealth*, April 23, 1833, May 23, 1835.
- ¹¹⁶ Bagging brought 18 cents in 1837 and 22 cents in 1839. Louisville *Daily Journal*, June 27, 1837; Frankfort *Commonwealth*, April 23, 1839.
 - ¹¹⁷ Niles' Register, XL (1831), 194.
 - ¹¹⁸ Flint, *History and Geography*, I, 264, 352-357.
- ¹¹⁹ De *Bow's Review*, XIV (1853), 216. ". . . A piece of bagging is from 50 to 75 yards, and a coil of rope about 100 pounds. . . ." *House Reports of Committees*, 27 Cong., 2 Sess., II, no. 551, p. 7.
 - 120 Ford, History of the Ohio Falls Cities, I, 278.
- ¹²¹ *Niles' Register*, XLII (1832), 91; Flint, *History and Geography*, I, 356. Between 1830 and 1840 the culture, marketing, and manufacture of hemp ranked as the leading industry in Mason County. G. Glenn Clift, *History of Maysville and Mason County* (Lexington, 1936), 181-182.

- ¹²² Eighth Census, 1860, Manufactures, cxix; Flint, History and Geography, I, 352, 357.
- ¹²³ *American Farmer*, I (3rd Ser., 1840), 266.
- ¹²⁴ Sixth Census, 1840, Compendium, 262-273.
- ¹²⁵ Horace Greeley, et al., The Great Industries of the United States . . . (Hartford, Conn., 1873), 286-287.
- ¹²⁶ William H. Perrin (ed.), *History of Bourbon, Scott, Harrison, and Nicholas Counties, Kentucky* (Chicago, 1882), 408.
- ¹²⁷ Lease of Property on the northeast corner of Floyd and Lafayette streets by Charles W. Thruston to Nicholas W. Ford and Henry W. Hawes, January 1, 1837, in Thruston Papers; agreement by which Hawes agreed to surrender possession of the property to A. J. Ballard and S. C. Thruston, September 29, 1849, *ibid*.
- ¹²⁸ Andrew Ure, A Dictionary of Arts, Manufactures, and Mines; containing a Clear Exposition of their Principles and Practice (New York, 1842), 1075-1076.
 - ¹²⁹ *Ibid.*, 1076. Essentially the same process is described in Greeley, *Great Industries*, 286-287.
 - ¹³⁰ Eighth Census, 1860, Manufactures, cxv-cxvi.
 - ¹³¹ Reports of the Court of Claims, 34 Cong., 3 Sess., no. 81, pp. 59-62.
 - ¹³² *Niles' Register*, XLIII (1832), 205.
 - ¹³³ *Ibid.*, XLIX (1835), 83.
 - ¹³⁴ *Eighth Census*, 1860, *Manufactures*, cxix.
- ¹³⁵ Eighth Census, 1860, Manufactures. Original manuscript returns for Kentucky in Duke University Library.
 - ¹³⁶ Lexington *Observer and Kentucky Reporter*, March 23, 1836.
 - ¹³⁷ Olmsted, *Journey Through Texas*, 19.
 - ¹³⁸ Day Book, 1832-1846, in Thruston Papers.
 - ¹³⁹ Lexington *Observer and Kentucky Reporter*, May 11, 1836.
- ¹⁴⁰ Contract between John W. Coleman, hemp manufacturer, and Nelson Prewitt, slaveowner, September 19, 1829, in collection of J. Winston Coleman, Jr. Numerous similar contracts are to be found in this collection.
 - ¹⁴¹ Lexington *Kentucky Gazette*, January 3, 1809, January 8, 1811, November 22, 1813.
- ¹⁴² The original census returns for 1850 and 1860 show that a small number of women were employed by the bagging and rope manufactories.
 - 143 Reports of the Court of Claims, 34 Cong., 3 Sess., no. 81, pp. 60, 64.
 - ¹⁴⁴ Olmsted, *Journey Through Texas*, 19. See above, p. 91.
 - 145 Thomas H. Burbridge to John W. Hunt, June 29, 1813, in Hunt Papers.
 - 146 Kentucky Documents, 1863-1864, no. 18, p. 8.
 - ¹⁴⁷ Frankfort *Commonwealth*, October 17, 1835.
 - $^{148}\ Kentucky\ Documents,\ 1843-1844,\ p.\ 413;\ ibid.,\ 1844-1845,\ p.\ 359.$
 - ¹⁴⁹ *Ibid.*, 1853-1854, no. 6, p. 3.
 - ¹⁵⁰ *Ibid.*, 1844-1845, p. 339.
 - ¹⁵¹ Lexington *Kentucky Gazette*, June 24, 1806.
 - ¹⁵² *Ibid.*, January 14, 21, February 25, 1812.
 - ¹⁵³ Perrin (ed.), *History of Bourbon, Scott, Harrison, and Nicholas*, 369-370, 381.

- ¹⁵⁴ Lexington *Reporter*, April 9, 1814.
- ¹⁵⁵ These examples are taken from Seventh Census, 1850, Manufactures. Original manuscript returns for Kentucky in Duke University Library. That they are not accurate is evident in the inconsistencies in the price of hemp, the estimates of monthly wages, the product per ton of the fiber in the finished form, and the value of the goods produced.
 - ¹⁵⁶ Seventh Census, 1850, Manufactures, original returns.
 - ¹⁵⁷ Eighth Census, 1860, Manufactures, original returns.
 - ¹⁵⁸ Reports of the Court of Claims, 34 Cong., 3 Sess., no. 81, pp. 62-64.
- ¹⁵⁹ Manufacturers could sell to merchants like Cornelius Coyle and William Robinson, who established a commission house in Lexington in 1815 and advertised a desire to purchase hemp, bagging, yarns, tobacco, flour, and other produce for export. Lexington *Kentucky Gazette*, December 11, 1815.
 - ¹⁶⁰ Frankfort *Commentator*, August 2, 1828.
 - ¹⁶¹ Lexington *Kentucky Gazette*, April 27, 1837.
 - ¹⁶² See above, pp. 119-20.
- ¹⁶³ Wier to Bartlett and Cox, February 7, 1811, in Wier Letter Books, discusses one of many occasions when Wier's drafts were not paid. See the list of banknotes forwarded to Alex. Henry, Jr., and Company, January 30, 1811, in Wier Letter Books.
 - ¹⁶⁴ See above, pp. 120, 122-23.
- ¹⁶⁵ Adams, Reynolds, and Company to Hunt, September 2, 1833, in Hunt Papers; William G. Bakewell to Hunt, September 12, 1833, *ibid*.
 - ¹⁶⁶ May, 1832. Day Book, 1832-1846, in Thruston Papers.
 - 167 Thruston Papers.
 - ¹⁶⁸ Bill of Lading, July 3, 1832, *ibid*.
 - ¹⁶⁹ Statement from Ormsby and Company to C. W. Thruston, July 3, 1828, *ibid*.
- 170 Statement from W. H. Pope and Company to C. W. Thruston, January 11, 1830, *ibid*. The Manila cordage was used on the river boats.
 - ¹⁷¹ Steamboat List, *ibid*.
- 172 See memorandum books and statements of accounts of the firms mentioned for 1827-1831, *ibid*.
 - ¹⁷³ Statement from Wallace, Lambeth, and Pope to C. W. and A. Thruston, August 22, 1833, *ibid*.
- 174 Compare charges listed on two statements from Wallace, Lambeth, and Pope to Thruston dated October 19, 1830, and August 22, 1833, *ibid*.
- 175 For example, see Wallace, Lambeth, and Pope to C. W. and A. Thruston, August 24, 1833, ibid.
 - ¹⁷⁶ Frankfort *Commonwealth*, September 22, 1840.
- ¹⁷⁷ In April bagging sold for 24 and 25 cents at New Orleans, in August it brought 26 cents in Louisville, and the prices of rope were in proportion. Frankfort *Commonwealth*, April 13, August 31, 1841.
 - ¹⁷⁸ Louisville *Journal*, October 30. 1841.
 - ¹⁷⁹ *Ibid.*, November 3, December 25, 1841.
 - ¹⁸⁰ *Ibid.*, May 24, October 14, November 19, December 31, 1842.
 - 181 *Ibid.*, July 11, 1842. The names of the planter and the manufacturer were not published.

- ¹⁸² *Ibid*.
- ¹⁸³ *Ibid.*, March 19, 1842.
- ¹⁸⁴ *Ibid.*, March 27, 1844.
- ¹⁸⁵ Louisville *Daily Courier*, November 17, 1851.
- ¹⁸⁶ Louisville Journal, April 1, June 17, 1843.
- ¹⁸⁷ Frankfort *Commonwealth*, May 23, July 18, December 19, 1843.
- ¹⁸⁸ U. S. Pat. Off., *Report*, 1843, pp. 71, 86.
- ¹⁸⁹ Frankfort *Kentucky Yeoman*, February 8, 1844.
- ¹⁹⁰ Louisville *Journal*, December 7, 1844.
- ¹⁹¹ Louisville *Weekly Courier*, November 21, 1846.
- ¹⁹² *Ibid.*, December 5, 1846, June 19, 1847.
- ¹⁹³ *Ibid.*, September 4, 1847.
- ¹⁹⁴ *Ibid.*, May 19, June 23, July 14, August 25, December 29, 1849.
- ¹⁹⁵ Eighth Census, 1860, Manufactures. cxvii.
- ¹⁹⁶ Seventh Census, 1850, Manufactures, original returns.
- ¹⁹⁷ Louisville *Daily Courier*, November 27, 1851.
- ¹⁹⁸ *Ibid.*, December 11, 1851.
- ¹⁹⁹ Western Farm Journal, I (1856), 12, 36, 84, 108, 276.
- ²⁰⁰ *Ibid.*, 276. See below, Chapter VI.
- 201 Fluctuations in prices may be followed in the *Western Farm Journal* through 1857. The Tariff Act of 1857 is published in 9 *U. S. Stat.* 192.
 - ²⁰² Western Farm Journal, II (1857), 306.
 - ²⁰³ Chiles and Carr to Isaac Shelby, September 8, 1858, in Wilson Collection.
 - ²⁰⁴ Kentucky Farmer, I (1859), 113, 129.
- ²⁰⁵ A comparison of the original census returns for 1850 and 1860 reveals that by the latter date all the establishments in Anderson, Bourbon, Boyle, Madison, Mason, and Nelson counties had gone out of existence. Twenty Fayette County firms had disappeared or had been transferred to new ownership during that period, and none of the Jefferson County factories of 1850 reported in 1860 although four establishments were operating. In general, most of the small establishments of 1850 had disappeared. The records also show that a number of firms existed in 1860 that had not been reported ten years earlier.
 - ²⁰⁶ Eighth Census, 1860, Manufactures, cxii, cxix, 168-191.
 - ²⁰⁷ Eighth Census, 1860, Manufactures, original returns.

CHAPTER V

PRODUCTION OF HEMP FOR MARINE USE

CANVAS AND CORDAGE

IN ADDITION to the market afforded by cotton bagging, bale rope, plow lines, and other manufactures of fiber for domestic use, there was another in the form of cordage and sails for the navy and for merchant shipping which attracted the attention of the grower and others connected with the hemp industry. This market was always limited in the quantity it could consume; yet it paid high prices for fiber of the best quality, and it seemed very attractive to farmers, particularly when the market value of dew rotted hemp dropped below the margin of profit. Moreover, from the point of view of the government and private shipping interests, a domestic supply of hemp was desirable—indeed many thought it essential—because of the danger that in case of war the United States might be cut off from the fiber-producing countries of Europe. Nevertheless, imported hemp, mainly from Russia, predominated in equipping American seagoing vessels, much to the dissatisfaction of Kentucky farmers and politicians.

Opportunities for selling fiber for marine use were offered to Kentuckians very early in their history. In March, 1790, a Lexington newspaper pointed to the growing number of cordage manufactories on the seaboard and suggested a more widespread cultivation of hemp, "the most certain crop and most valuable commodity" in the district, to supply the expected increase in demand.¹ As has been noted, by the beginning of the nineteenth century a portion of the cordage produced by the five ropewalks in Kentucky was used to equip vessels constructed on the Ohio and Kentucky rivers, and a part of it was exported in the form of cables and rope yarns.²

During this period a group of Kentucky citizens, seeking protection for their infant industry against foreign competition, petitioned Congress for increased duties on hemp, cordage, and sail duck. The voice of the West was not yet strong enough to have large influence in the national legislature, however, and the committee to which the plea was referred voiced its disapproval, at the same time expressing an apprehension, destined to be of long duration, that higher import duties on those articles would tend to cause shipowners to equip their vessels abroad and result in injury to American agriculture and manufactures.³

Meanwhile, both the navy and private shipping interests had to depend on foreign hemp for the greater part of the cordage and sail duck which they consumed. Because of continued warfare in Europe, however, the imported fiber became scarce, and by 1809 little was to be found in the American market. To encourage the farmers of the West to provide the needed supply, the Secretary of the Navy in 1808 advertised that, during the latter part of the year, sealed bids would be received for furnishing the navy with hemp of American growth. Emphasis was placed on the requirement that the hemp be water rotted and well cleaned; and though no specific figure was mentioned, the Secretary stated his willingness to pay prices above those obtainable for dew rotted fiber. After the raw fiber was purchased, it was apparently his intention to have it manufactured by private concerns, since not until thirty years later did the navy establish a ropewalk of its own, and at no time did it manufacture sailcloth.

Looking apprehensively beyond the approaching end of the Nonimportation Act, John Allen and other manufacturers of hemp linens petitioned Congress in 1809 to give protection to their trade, promising that, if properly encouraged, the Kentucky hemp growers could furnish a "never failing resource" of fiber for the whole Union, a condition desirable both in peace and war.⁷ Meanwhile, rope manufacturers on the seaboard were using Kentucky dew rotted hemp, although they found it inferior to that prepared by water rotting.⁸ Though declared to be only "nearly equal" to the Russian product, the sailcloth turned out by the factory in Lexington was used by the navy, which in 1810 contracted for five hundred bolts of the material at \$24 each.⁹

In view of the position of the United States in the quarreling world of that period, Congress could not afford to ignore the need for encouraging the use of domestic hemp in the American navy. On March 26, 1810, the Senate, while debating a bill for procuring munitions of war, approved an

amendment offered by Senator John Pope of Kentucky appropriating money for furnishing in the next year sails, cordage, and hemp of American growth and manufacture for the use of the navy.¹⁰

The House of Representatives in the same year instructed its Committee on Commerce to inquire into the culture and use of hemp for naval purposes. The resulting report included a letter written by Paul Hamilton, Secretary of the Navy, who explained in some detail the preference for water rotted hemp. He denounced the "pernicious practice of what is commonly called 'dew-rotting'," declaring that hemp prepared in that manner was strong in some places, weak in others, and had a dark color. Experience in other nations, he said, had shown the advisability of steeping the plants in clear, running water, which

 \dots in a much shorter period of time than any other system heretofore practised, produces this dissolution [of the substance causing the fiber to adhere to the stalk] over all parts of the plant equally, makes it equally strong in all places, renders it more flexible, gives it a lively bright color, and \dots [causes it to] receive and retain a greater portion of tar than when prepared by "dewrotting."

Nevertheless, Hamilton continued, cordage made of dew rotted hemp was at that time being used by the navy, answering "very well" the need for standing and running rigging but not for cables. In his opinion American water rotted hemp was equal to the best which could be obtained from Russia, but the navy had not been able to procure it in quantities sufficient to justify the exclusion of the latter. He further stated that he would consider it his duty to give preference to the American fiber if it were properly prepared, and he suggested that Congress offer encouragement to the farmers by an annual appropriation to enable the Secretary of the Navy to contract for a supply of domestic water rotted hemp. Congress, however, was not yet ready to take this step, although Tench Coxe in his "Digest of Manufactures" pointed out the value of American hemp to the public defense and declared it to be no less important than arms and gunpowder. Coxe advocated better methods of preparing it and suggested that it be manufactured in Kentucky and other areas where it grew.

No such scheme was adopted, yet the navy consumed increasing quantities of the domestic variety because of the critical scarcity of the foreign product after the United States entered the War of 1812; and the urgent need for hemp resulted in the use of a large amount of the Kentucky staple. In 1813 and 1814 at least 182 tons of "Kentucky yarns, and cordage

manufactured from Kentucky hempen yarns" were supplied under contracts to the government. Of this amount 100 tons of cordage were delivered to New York, 50 tons of yarn were sent to Baltimore by Henry Clay and Richard Pindell, and nearly 32 tons of yarn were shipped by W. Garret to New Orleans. To supplement the supplies obtained through contract, the Navy Department found it necessary to authorize its agents to make purchases in the open market. Consequently, throughout the war there was a demand for hemp for naval purposes, and, according to *Niles' Register*, the country expected Kentucky to supply the fiber and yarns which previously had been imported from Russia.

The conclusion of the war brought to an abrupt end this extensive market, and the effects were felt immediately. Government agents discontinued their purchases, and a firm of commission merchants on the seaboard reported to its client in Kentucky that, though it was doing its utmost to sell hemp and yarns, "really the articles are so completely at a stand that we can do nothing with them." Manufacturers of yarns and cordage suffered great losses in trying to dispose of their stocks, and many of them in Kentucky abandoned the business altogether. The loss of this market affected the farmers, who diminished their acreage of hemp until a growing demand for materials for baling cotton induced them again to produce larger crops. ¹⁹

To the end of the War of 1812 Kentucky hemp was consumed to a small extent in the manufacture of sailcloth; but it is doubtful that any was afterward used for that purpose. The Navy Commissioners in 1816 issued proposals for a supply of canvas "fabricated of hemp grown in the United States," but in 1824 they reported that the sailcloth manufactured in the United States was made generally of flax, although hemp, if sowed unusually thick in order to produce a fine lint, might answer the purpose. At the same time a New Jersey canvas manufacturer stated that, although he used flax in his business, his machinery could be adapted to spinning hemp of good quality. Declaring it to be his desire to use American hemp, if it could be produced equal to the foreign, he pointed out, however, that since "the reputation of a manufacturer depends on the quality of his goods, it is absolutely necessary the raw material should be of the best quality; and it is a fact, that neither the flax nor hemp of this country are of such a quality as to justify their general use for manufacturing purposes." 22

Cotton appeared as a rival to flax and hemp in sailcloth when experiments conducted by the navy in 1829 at the behest of the national House of Representatives indicated that it made satisfactory canvas, though the Navy Commissioners were not willing to recommend the use of cotton sails on large vessels.²³ Further experimentation in the following years led to similar conclusions,²⁴ and in 1835 the Secretary of the Navy declared that it was important to substitute cotton for flax and hemp in sailcloth, since it could be produced in large quantities at home; whereas the other fibers were imported from abroad, and the supply might be cut off in case of war.²⁵ After the 1840's Kentucky hemp was rarely considered for canvas, and later the growing number of steamships diminished the need for sails.

From the depression of the hemp trade in 1815 to the fever of excitement that began to grip Kentucky farmers in 1840, the use of American fiber rather than Russian attracted no more than sporadic interest. Some planters, such as Nathaniel Hart in 1822 and C. S. Todd a few years later, made hopeful trials to sell to the navy, but the majority seemed content with the market found in the cotton producing South. Late in 1823 a group of manufacturers in New York, opposing a higher duty on imported hemp, averred that, in spite of the protection it had enjoyed for more than thirty years, "not a single ton" of domestic hemp was at that time being used for cordage; and a similar aggregation of Philadelphians maintained that no nation could compete with Russia in the preparation of hemp for marine use. ²⁸

When the Senate in 1824 requested the Navy Department to furnish information relative to the hemp which it consumed, the Board of Commissioners reported that it had no knowledge of any cordage made of American hemp being used since the establishment of the board in 1815, and, furthermore, that in making contracts for rope it always stipulated that it be manufactured from the best Russian fiber.²⁹ The board insisted that its members had offered "every encouragement in their power, consistently with a due regard to economy," to induce American hemp growers to adopt the Russian method of preparing their fiber, or any other equally as good; and, if this end could be effected, they would be happy to exclude all foreign hemp and rely solely on the domestic.³⁰

Later in the same year the Senate, prompted by Thomas H. Benton of Missouri, whose constituents were devoting some attention to the

production and sale of hemp, directed the Secretary of the Navy to explain why the American fiber was not being used in equipping national vessels.³¹ In response Secretary Samuel L. Southard submitted quotations from men of experience in manufacturing cordage for marine purposes. Of this group, some said that the dew rotted fiber produced in Kentucky would not retain the tar necessary for its preservation, others complained of its coarseness and the slovenly manner in which it was prepared, another pointed out that the Russian method of grading fiber gave assurance of its quality while that produced in this country was not classified, and all agreed that only by adopting the practice of water rotting could the American farmer hope to compete in the sale of hemp for marine use.³² One spokesman went so far as to say, "I would not use cordage made of Kentucky hemp, even if I could procure it at half the price of cordage made from Russia."33 In concluding his report Secretary Southard firmly maintained that canvas, cables, and cordage of American hemp, as then prepared, were "inferior in color, strength, and durability, to those manufactured from imported hemp, and consequently are not as *safe* or proper for use in the navy."³⁴ Upon reading this report a resident of Frankfort protested that most of the objections to Kentucky hemp were based on nothing more substantial than prejudice, yet even he had to admit that dew rotting was not the best method of freeing the lint from the stalk.³⁵

In an effort to discover means to insure a domestic supply of fiber suitable for naval use, Congress in 1828 instructed the Navy Department to consider the advisability of establishing facilities for water rotting its own hemp, which would be purchased in the stalk from American farmers. The response from the Board of Commissioners and from Secretary Southard was emphatic in its disapproval. The board stated that it had not even inquired into the subject because such establishments had never been connected with navies either here or in Europe, but it feared that the proximity of water rotting hemp would render the navy yards unhealthy, and besides, if carried out, the proposal would upset all existing plans for future improvements of those yards. The Secretary was even more positive, stating that

A careful consideration has been given to the resolution, and it has been found impracticable, in any view which the Department can take of the subject, to unite the proposed establishments for water-rotting hemp and flax to our navy-yards, and therefore a plan for this connexion is not and cannot be given.³⁶

Through the next decade occasional tests of American hemp, conducted to determine its fitness for marine use, attracted but little attention. In about 1826 part of the rigging for the frigate *Constellation* was made of Russian and the remainder of Kentucky hemp which had been stacked for one year previous to being dew rotted. After two years, the commander of the vessel indicated that he preferred the Russian, although his statement seemed to indicate that the other was almost as good.³⁷ On the *Natchez* ordinary dew rotted hemp was used in a part of the rigging, but after eight or nine months of service it was condemned as unfit for further use.³⁸ A trial was also made on the *North Carolina* of unrotted hemp which had been treated with pyroligneous acid, but, though strong when new, a hawser made from this material was found to be rotten after one cruise to the Mediterranean.³⁹

On the other hand American water rotted hemp was still considered equal to that produced in any other country; and William D. Porter found by tests conducted on the *Erie* that rigging made from this fiber was the best he had ever used. A small amount each year was produced in Kentucky, the majority of hemp growers seemed little concerned with the possibility of selling their product to the navy, although their representatives in Congress were never willing to agree to a reduction of the duty on imported fiber. In fact, the tariff was increased in 1828 and remained at a high level despite protests from importers of hemp and from manufacturers of cordage, who maintained that the foreign product did not actually compete with the domestic, since the latter was unfit for naval use. Further, they declared that the existing duty on raw fiber encouraged the importation of cordage, caused shipowners to rig their vessels abroad, and therefore worked to the detriment of the American ropemaker.

The cordage manufacturers themselves might well have assumed part of the responsibility for driving owners to buy rigging in foreign ports, for the navy, after almost fifty years of purchasing its cables and cordage, finally decided that, in order to be certain of material of good quality, it would have to manufacture its own. As early as 1827 Secretary Southard expressed an opinion that it would perhaps be advisable in time for the navy to undertake the manufacture of hemp,⁴³ and in 1828 he submitted plans for buildings and machinery which could be erected at an estimated cost of more than \$33,000.⁴⁴ Secretary Levi Woodbury in his annual report of

December, 1831, emphasized the need for such an establishment, stating that

All observation and experience in the navy show, that in nothing does it suffer more at this time than from bad cordage. The impositions in the quality of the hemp, in the manufacture and in the tar, are numerous, are difficult of detection, productive of injurious delays when detected, and, when not detected, exceedingly hazardous to the safety of both crews and vessels. Indeed, the reasons seem more powerful in favor of making our own cordage, than of building our own vessels, or manufacturing our blocks and anchors.⁴⁵

At last, in 1838, a ropewalk was completed at the Charlestown, Massachusetts, Navy Yard, and the navy began manufacturing its own cordage. Although in its first contracts for hemp the government specified that it be the best Russian fiber, the completion of the national ropewalk set the stage for a resurgence in Kentucky of interest in producing hemp for marine use. The intense nature of the revival of the old desire to capture the market for naval cordage was due in the main to two persons, neither of them natives of the West, James K. Paulding, Secretary of the Navy under President Van Buren, and David Myerle, a strange personality whose connection with the Kentucky hemp industry was brief yet important.

THE CASE OF DAVID MYERLE

David Myerle was at one time a member of the firm of Tiers and Myerle, Philadelphia ropemakers, who had contracted to supply cordage to the navy in 1823 and again in 1827.⁴⁸ A few years later he operated a "steam patent cordage factory" at Wheeling, Virginia, and in 1838 he completed an extensive ropewalk at Louisville, Kentucky, operated by sixteen slaves and eight or ten white persons.⁴⁹ When the government decided to construct its own factory in Massachusetts, Myerle went to Washington to try to sell his patent machinery to the navy. At the time, he thought he had been successful, but as the months passed he heard no more about the matter until he returned to the capital in 1839 to find that the purchase had been made elsewhere.⁵⁰

While in Washington on the latter occasion he approached Secretary James K. Paulding, who was unable to give him any comfort in the matter of the machinery, but who was eager to discuss with anyone the need for a domestic supply of hemp for naval cordage. Myerle, a manufacturer with no experience in growing and preparing the crop for market, expressed confidence that American hemp of good quality could be produced in large

quantities by water rotting; and, before the conversation ended, Paulding had persuaded him to undertake experiments designed to demonstrate the practicability of this process in the hemp growing areas of the United States. In order to encourage him in the venture and to make it remunerative to him, the Department gave Myerle a contract under which he agreed to deliver to the Charlestown Navy Yard by March 1, 1841, two hundred tons of American water rotted hemp, for which he was to receive \$300 per ton, a price \$91 higher than that being paid for Russian fiber at the time the contract was made. At the same time the terms of the agreement placed him somewhat at a disadvantage, since he was required to deliver the fiber at his own risk and expense, it had to be equal to the best Riga Rein, and unless the inspectors found it entirely to their satisfaction it was to be rejected. S2

Having committed himself to the undertaking, Myerle plunged into it with vigor and with an abandonment which caused a friend later to remark, "I know that you had the deepest interest in trying to introduce the water-rotting of hemp. It seemed to be almost a mania with you; it seemed to absorb your whole thoughts almost." So exuberant was his confidence in himself that, after beginning his work in Kentucky, he wrote as follows to Commodore Charles Morris, president of the Board of Navy Commissioners:

Dear Sir: Agreeable to promise, I submit you the following:

I am happy to state without *doubt*, there will be no difficulty in accomplishing the object I have in hand.

I shall send you 2,000 tons of hemp without fail, (or thereabouts.)

Although there have unpleasant circumstances arisen between us, we are to be friends.

Commodore Morris in the east, and Napoleon in the West.⁵⁴

He had no time thereafter to devote to such minor considerations as his own once-prosperous cordage factory in Louisville, which without his experienced management ceased to be profitable and was soon lost to him. ⁵⁵

In carrying out his mission Myerle assumed the roles of propagandist, leader of a movement, middleman between the planter and the navy, and, incidentally, entrepreneur who expected to make his fortune while serving country and fellow citizen. For approximately two years he traversed the Kentucky Bluegrass, urging farmers to adopt the practice of water rotting

their hemp, constructing pools for purposes of demonstration, and purchasing fiber which had been prepared according to his specifications.

He found that his first task was to drive from the region a widespread prejudice against water rotting the crops of hemp, based on a belief that the process was unhealthful. In 1840 he established near Midway in Woodford County facilities for large-scale operations. Many of the local residents, fearful that Myerle's pools would "create a pestilence in the country," held a mass meeting and threatened to destroy them if he did not discontinue the work. Cooler heads prevailed, and the group agreed to take no action until Myerle, who was then absent, could be consulted. When notified of the trouble, he rushed to the scene and at another public meeting promised that, if his pools affected the health of the community, he would tear down the dams and abandon the program. The people "admitted this to be a fair offer, and agreed for him to go on with the work, and he did so, and overcame their prejudices entirely." His operations in other localities, although they did not destroy all prejudice, convinced many people that no injury to health resulted from the practice of water rotting hemp. ⁵⁷

Favorable reports from Charlestown regarding samples he had submitted for testing encouraged him to continue his energetic operations.⁵⁸ On August 25, 1840, he negotiated a contract with the firm of Montmollin and Cornwall of Lexington, under the terms of which he received an immediate loan of \$5,000, with the promise of more money as needed, for the purchase of 200 tons of hemp, and his creditors received as security a lien on all fiber which he should buy.⁵⁹ Thus fortified, he felt no hesitancy in offering high prices to farmers for their hemp.⁶⁰

These activities naturally attracted attention throughout the hemp producing region of Kentucky. The newspapers printed Myerle's letters and articles, made favorable comments on his work, and gave publicity to the desire of the Navy Department to procure at home the raw material for its cordage. The State Agricultural Society gave its official approval by a resolution "expressing the sense of the meeting in favor of the practicability, healthfulness and policy of adopting this method of preparing, at least a portion of the next season's crop of hemp." Observers noted that "the water-rotting of hemp is exciting great interest amongst the farmers of Kentucky," where preparations were being made to plant a large

acreage to that crop.⁶² Appearances indicated that a new era of prosperity was dawning in the Bluegrass, and David Myerle was its prophet.

The future looked rosy indeed, but Myerle found performance more difficult than the formulation of visionary plans. When the date arrived for the expiration of his contract with the navy, he had delivered not one pound of hemp, with the exception of a small amount which he wished tested, although he had made a shipment from Kentucky a few days earlier. His friend, Secretary Paulding, already had foreseen this eventuality and in January, 1841, had stated his intention to protect Myerle by an extension of the contract. Accordingly, on Paulding's last day as Secretary of the Navy, March 3, 1841, Myerle signed with the Board of Navy Commissioners a new contract which included not only the original 200 but also an additional 300 tons of hemp at \$300 each, to be delivered before December 1, 1841. Again he was to transport the fiber at his own expense to Charlestown, Massachusetts, where it would be inspected, and again the board required that it be equal to the best Riga Rein. Accordingly plans.

At approximately the same time a shipment of Myerle's hemp, some twenty tons, arrived at Charlestown, and it appeared that at last he stood on the threshold of success. Even as he awaited his reward, however, calamity overwhelmed him. In the presence of four examining officers, workmen broke open a bale of the fiber and removed a sample from it. After this specimen had been hackled, it was spun into yarns, which in turn were then manufactured into rope. A series of tests showed the finished cordage to be stronger than the best Riga Rein, but the fiber contained a much greater proportion of tow and waste than either the Russian or other American hemp which had been purchased on the open market for purposes of comparison. After completion of the examination, the inspectors, exercising their power under the terms of the contract, rejected Myerle's hemp on the ground that it was not equal in all respects to the best Riga Rein. ⁶⁵

This action on the part of the examiners was the subject of a dispute which lasted many years. In Congress and elsewhere opinions were voiced to the effect that the fiber had been unfairly rejected, perhaps because of corrupt influence exercised upon the inspectors. Commodore John Nicholson, a member of the Board of Commissioners in 1841, afterward said to Myerle, "You have been damned badly treated, and your hemp should never have been rejected"; 66 and James K. Paulding wrote that, had

he still been head of the Navy Department, he would have ordered the hemp to be accepted, "not with standing it was reported somewhat inferior—not in quality, I believe, but in cleanliness, or something of that sort." Both accused the inspectors of venality in their decision, a charge which was never substantiated. 68

Discouraging as it must have been to Myerle, the rejection of his first shipment might not have proved ruinous if it had not been followed by another blow which destroyed his fond dreams. The foreman of the Charlestown ropewalk, who himself had made from Myerle's hemp the cordage for the tests, explained that it had been simply "too much prepared; that is, he [Myerle] had put so much work in the preparation, that he had over broken his hemp and broke a good many fibers, so that it made much more tow than it would if it had been less broken." Consequently, if he had been given an opportunity to improve the much larger quantity which he had purchased and which was still in Kentucky, Myerle might yet have succeeded in making it fit for naval use.

Before he could digest the new situation and lay plans to relieve it, however, his creditors, Montmollin and Cornwall, took matters entirely out of his hands. In order to protect their investment in the enterprise, they seized not only the hemp that had been rejected at Charlestown, but also that which had not yet been shipped from Kentucky. Myerle entreated them to make no disposition of it until he could go to Washington, lay the facts before the Secretary of the Navy, and endeavor to get the order of rejection set aside. Montmollin and Cornwall refused to grant the request and undertook to dispose of the fiber themselves. Luck was against them, their losses were heavy, and by their action Myerle was ruined financially.⁷⁰

Though deprived of the fruits of his labor and of his holdings in Kentucky, Myerle still did not abandon the idea of producing hemp for naval use. Changing the locale of his activities, he moved to Missouri where he tried to recoup his losses by inducing farmers in that state to prepare their crops according to his instructions and to turn it over to him for sale to the government; and, promising high prices, he was able to gain control over a large amount of fiber. Again he made a shipment, of seventy tons on this occasion, to the navy yard, and again his product was rejected.⁷¹ Further heavy losses on shipments to Boston, New York, and Europe rendered him unable to pay for the crops which he had induced the

farmers to raise, and he became discredited in the region where once he had enjoyed great popularity.⁷²

Bankrupt and disillusioned, Myerle in 1846 turned for relief to Congress, thereby placing before that body a problem which agitated it periodically for almost fifteen years. Although he continued to accumulate through the years evidence to support his case, his first memorial stated the grounds upon which he based his claim against the government. In relating the story of his connection with the hemp industry, he stressed the fact that the Secretary of the Navy had persuaded him, despite his reluctance to abandon his factory, to undertake experiments to test the practicability of water rotting American hemp in preparing it for naval use. After Secretary Paulding had appealed to his patriotism and had promised protection against loss, Myerle signed a contract with the navy, gave up his business, and devoted his whole time to serving the nation. When at last he sent a quantity of fiber to the navy yard the inspectors refused to accept it, although it should not have been rejected. Further, he maintained that his efforts had been highly successful, that not only had he demonstrated the possibility of water rotting hemp but also had overcome a deep-seated prejudice against the process. In return for the services he had rendered and in considertion of the heavy losses which he had suffered and the promises which had been made to him, he now asked Congress for an appropriation to relieve his distressed condition.⁷³

From the date of its first presentation the case annually met favorable consideration in one or the other house of Congress, but until 1860 it failed to pass both at the same time. Few private claims have been as enduring, and few have occasioned the acrimonious debate which often followed the introduction of a bill for "the relief of David Myerle." Some of the greatest men of the day spoke in his behalf, and only a small number of legislators proposed to dismiss the case without aiding to some extent the aging man. The opposition to payment was led by the Senators and Representatives from Kentucky. Few of them denied the justice of the claim, but they steadfastly maintained that Myerle should not be paid unless a portion of the appropriation be set aside for payment to his creditors, Montmollin and Cornwall. Friends in Kentucky to whom he appealed for aid in creating a more favorable attitude toward him on the part of their Senators and Representatives were unable to help him, though one confided that he

would "Endeavor to contract an acquaintance with [Congressman] John B. Thompson and approach him in regard to your Interest" and that

Coln C I Sanders of Lexington is a Particular friend of yours and an Ememy [*sic*] to Montmollin and I Presume from his conversations to me that he is very desirous [that] you Should Succeed in your Efforts[.]

I will make it my Business in [the] future to find out in a cautious manner who in Kentucky, is favorable to your Interest—I trust I will hear from you again as Early as it may Suit your Convenince [*sic*] and any course you desire me Pursue that will Promote your Interest you Shall find me willing to Serve you.⁷⁵

On one occasion Myerle appealed to the Court of Claims, which considered his case with sympathy but decided that he had no legal claim against the government. Instead of disposing summarily of the case, Chief Justice John J. Gilchrist of the Court submitted the whole matter to the consideration of Congress, which took no action on it in that year. Not until 1860 did the Senate and the House of Representatives, both in the same session, act favorably on a bill to aid the destitute Myerle. Doubtless moved less by the justice of the claim than by pity for a man "now old, poor, afflicted with blindness, and threatened with the infirmities incident to advanced age," Congress in 1860 passed an act which directed the Secretary of the Treasury to pay David Myerle the sum of \$30,000 "for losses, sacrifices, and expenses incurred by him in testing and establishing the practicability and safety of the process of water-rotting hemp, under the direction of the Navy Department."

Myerle's presence in Kentucky had been of short duration, but in that time he had stirred the farmers with his promises of prosperity, and, long after he had disappeared from the scene, the interest which he had fostered in water rotting hemp for naval use remained alive. Other men had tried to attain the same ends, and others had lost money by their efforts, but no one else threw himself into the project as wholeheartedly as did Myerle and no one else suffered such losses. He was discredited, but the program upon which he had worked so enthusiastically still seemed attractive to many of the producers of hemp. For more than a decade after the rejection of his fiber at Charlestown, Kentucky was vigorous in its efforts to capture the market for naval cordage, although in their final results these efforts came but little nearer success than had those of David Myerle.

One of the greatest disadvantages confronted in producing hemp for naval use grew out of the requirement that it be sent to the Charlestown Navy Yard for inspection. Upon the shipper fell the cost of transportation to that point, and, should his fiber be rejected and he be constrained to sell it on the open market, his losses were certain to be extremely heavy. Many farmers, uncertain of the exact quality of product required and of their knowledge regarding the preparation of it, were unwilling to undertake the water rotting of hemp in spite of the high prices to be obtained for it from the navy. Myerle, of course, had come to Kentucky to teach as well as to produce fiber for naval cordage, but his experience was far from reassuring to observers, although it demonstrated that the steeping of hemp in water had no ill effect on the health of the community. If an adequate supply of hemp were to be established in this country, a closer contact between the producer on the one hand and the Navy Department on the other was vitally necessary.

The government was slow to act, though from the very founding of the Republic the need was recognized. The western Senators and Representatives were active in support of the theory that the navy should be furnished with home-produced materials, but Congress as a whole did not become seriously concerned until after 1840. Perhaps David Myerle was to a great extent responsible for the awakening of interest when it did come; at least, the Kentucky and Missouri delegates to Congress led the way, and they were being prodded by the situation at home where farmers who had prepared their hemp for the navy suddenly found themselves without a market after Myerle's failure. At any rate Congress became concerned and in several instances directed the Secretary of the Navy to take positive steps to obtain domestic fiber to fill the needs of his department.

Officials of various degrees of responsibility in the Navy Department often spoke of the desirability of using American hemp, but their actions frequently led farmers to believe that their real preference was for a continuation of purchases of the foreign product. Doubtless the navy was only trying to protect itself, but it must be said that it moved with exasperating caution in its dealings with the hemp producing areas, that it showed no hesitancy in rejecting fiber which did not meet high standards, that rarely did it modify its policy to conform to the wishes of the producers until forced by Congress to take action, and that it continued to purchase most of its hemp from foreign sources in spite of laws, Congressional

resolutions, and announcements from the department itself. The West blamed the navy for failing to co-operate with the farmers, the navy blamed the farmers for not producing hemp of good quality, and no doubt there was justice in both accusations.

Since the national establishment for manufacturing cordage had been constructed on the seacoast, since there was no early prospect of another being set up in the West, and since farmers were reluctant to take the gamble of sending their hemp to the navy yard, many people believed that a representative of the navy should be sent to the hemp producing area to encourage production of fiber of good quality. Already, under a system of long standing, the department appointed agents whose duty it was to purchase supplies for naval use, and Colonel James Morrison of Lexington had once served in that capacity.⁷⁹ David Myerle had been thought by some to be an agent of the government, an erroneous idea that was of short duration and that was dispelled with emphasis; and until forced by Congress to take action, the navy failed to send a representative to the West even for the purpose of surveying the possibility of obtaining large quantities of water rotted hemp.

Apparently it was willing to go no further than a public notice, after the rejection of Myerle's product, that sealed proposals would be received for furnishing during the next five years 400 tons of water rotted hemp. The announcement asserted that "in deciding upon offers, preference will be given to American hemp, if offered at equal or lower price than may be asked for Foreign hemp," and that the fiber must be delivered to Charlestown, where it would be subject to inspection and approval. On The ominous warning that "none will be received which shall not pass such inspection" possibly added nothing to the attractiveness of the offer. Secretary Abel P. Upshur of the Navy Department believed, however, that he had done as much as possible to encourage the farmers, and he reported to Congress late in the same year that

Every effort has been made, in compliance with the law, to obtain water rotted American hemp for the use of the navy; but hitherto without success. One contract has been made, but the contractor has been unable to comply with its terms. We are, therefore, for the present . . . thrown upon our former resources for a supply of this article. . . . 81

A short time before this report was submitted, Congress made known more clearly than ever before its intention to give encouragement to the American hemp grower. By a joint resolution approved September 11,

1841, it directed the Secretary of the Navy to purchase domestic water rotted hemp for his department, provided that it could be found of suitable quality to be used with benefit to the service, and with due regard to the cost, strength, and durability of the article. The outstanding feature of the resolution, and one which was new to such directives, was the specific provision that the Secretary should "cause purchases of such hemp to be made in the different hemp-growing regions of the Union."

The latter clause would seem to require the presence of agents in the areas where purchases were to be made, although Secretary Upshur was slow to interpret it in that manner, suggesting that further legislation was required to enable him to provide facilities for testing, storing, and transporting fiber purchased at points distant from the seaboard. On the ground that the whole country already "well understood" that the department was eager to carry out the will of Congress, he took no steps to send a buyer into the West until early in 1842, when it had become apparent that no hemp was to be obtained under the existing policy.⁸³ On February 4, 1842, A. G. Brown, described as an experienced dealer in hemp and well qualified for his new duties, received an appointment as hemp agent for the navy for a term of one year.⁸⁴

Brown's instructions, received from the Board of Commissioners a month later, directed him to proceed through the interior, making inquiries concerning the amount of hemp then growing, the amount that could be produced suitable for naval use, and the price at which it could be obtained at points convenient for transportation by water. For the purpose of encouraging the water rotting of hemp, he was to tell the farmers that the navy used at least 700 tons of the fiber each year, that the government was disposed to adopt the use of American hemp exclusively, and that at the moment a price of \$280 per ton would be paid for hemp of satisfactory quality delivered to the Charlestown Navy Yard. The Board instructed him to make inspections, but only for the purpose of giving assurance "of the great probability" of the material passing the official inspection at the national ropewalk. 85

Thus the agent was to have no real authority save to answer inquiries, and, in spite of his presence in the hemp producing region, the fundamental policy of the navy remained unchanged. Secretary Upshur wrote to Southard that "These instructions are, it is believed, as favorable to the

hemp growers, as the Department can safely make them at this time. It seems to be their wish that positive contracts should be made in the hemp-growing country, and I shall be ready to gratify them in this wish, whenever it can be done with justice to the Department."⁸⁶

In Kentucky the joint resolution of 1841 was accepted as an indication that the government was now in earnest regarding the purchase of its hemp in the United States. The newspapers of the state publicized the action of Congress, the reports of the Secretary of the Navy, the instructions issued to the agent, descriptions of methods of water rotting, and other items of interest to the hemp grower.⁸⁷ The Kentucky State Agricultural Society viewed "with great satisfaction" the action of Congress and recommended to the farmers that they take advantage of the market about to be opened to them. Public meetings held in the Bluegrass counties adopted resolutions approving the desire of the government to purchase hemp at the scene of its growth, and promising that a full supply could be obtained within a short time.⁸⁸

Among those who began preparing their crops for the navy and who publicized their methods for the benefit of other planters were Henry Clay and Thomas H. Barlow of Fayette County, Charles Buford of Scott, Nathaniel Hart and William L. Graddy of Woodford, Adam Beatty of Mason, and Sands Olcott of Newport. ⁸⁹ The state legislature reflected the prevalent interest of the time by ordering an investigation to determine the probable amount of hemp which could be prepared in Kentucky for the navy. The committee which conducted the inquiry reported that there was hardly a hemp growing county in the state which alone could not produce enough fiber to supply the navy, besides the grain and other crops necessary for subsistence. The great difficulty in production lay in the necessity for water rotting the crop, many farms being without facilities for this process, although sufficient inducement would produce an adequate supply of the staple. ⁹⁰

Shortly after receiving his instructions, Brown, the newly appointed hemp agent, set out to tour the huge territory which had been allotted to him. In Lexington he purchased a small quantity of fiber as a sample and expressed satisfaction with the facilities which Kentucky could offer for the water rotting of hemp, and in Newport he was very favorably impressed with Sands Olcott's factory, where hemp was broken by machinery before

being placed in pools of water to undergo the rotting process.⁹¹ Finding in many localities "much ignorance" in regard to the proper method of preparing the fiber, he publicized a process which he considered satisfactory; and on every possible occasion he tried to impress on farmers the importance of producing fiber of quality suitable for the use of the navy. Kentucky and Missouri were, and in his opinion would continue to be, preeminent among the fiber producing states. Although he reported that the whole country was awake and interested in his mission, he believed that the free states could never compete with slaveholding areas in the production of hemp.⁹²

There was, however, another side to the picture, as he soon discovered. The farmers had expected to receive \$300 per ton for their hemp and, moreover, were under the impression that it was to be inspected and paid for on the spot. Disappointed to learn that the navy still required it to be delivered for inspection at Charlestown, they manifested "great repugnance" to shipping it. In addition, Brown had a few unpleasant experiences when he advised certain growers that their water rotted fiber was poorly prepared. His refusal to approve some specimens was met with ill feeling on the part of the owners; at least one irately denounced him "as being partial"; and several led him to believe that they intended sending their crops to the national ropewalk in spite of his disapproval. He informed the Board of Commissioners that the producers desired their hemp to be inspected in the West rather than on the seaboard; that there were many who produced only a few tons, yet whose fiber was of the finest quality, who would not consider making shipments to the East; and that an offer of \$180 or \$200 per ton, delivered at some point convenient for transportation by water, would be preferred to \$280 per ton at the navy yard. Brown believed that any desired quantity of hemp could be obtained, but he warned that "Should it be determined to have a final inspection in the hemp region, I have no doubt, the agent would find himself very unpleasantly situated."93

Even before the presentation of this report, a committee of the lower house of Congress, speaking through its chairman, J. B. Thompson of Kentucky, recommended the establishment of a government inspection and, if possible, a government factory at Louisville, stating that "The grower will not be willing to hazard an inspection at the East, however fairly conducted, even by sworn inspectors; the fear and suspicion that partiality and combination would be practised would deter him from an uncertain market."⁹⁴ Later in the year Secretary Upshur adopted the same point of view and spoke of the "indispensable necessity" of at least two agencies, one in Kentucky and the other in Missouri, to purchase, store, and forward hemp to the national ropewalk. He expressed doubt, however, that he possessed the power to create such establishments, which would increase the expenditures of his department, and he asked Congress to grant him the required authority.⁹⁵

The Senators and Representatives from the West were quite willing not only to grant the authority he wished but also to require him to use it. Senator John J. Crittenden of Kentucky led the way by offering a resolution which required the Senate Committee on Naval Affairs to inquire into the expediency of creating in his state an agency for the purchase of hemp as well as an establishment for manufacturing cordage. 96 In the course of the next few months he and other Congressmen from Kentucky, Missouri, and Indiana submitted to their colleagues numerous petitions and memorials from groups of private individuals and from the legislatures of their respective states, documents which were at times notable for their plain speech.⁹⁷ Congressman J. C. Edwards of Missouri, speaking for a select committee which had considered one of the petitions, accused the Secretary of the Navy of thwarting the determination of Congress, expressed in the joint resolution of September 11, 1841, to supply the navy with domestic water rotted hemp.⁹⁸ After a brief debate, Congress by joint resolution approved February 18, 1843, authorized the Secretary of the Navy to establish an agency in Kentucky and another in Missouri "for the inspection, test, and purchase of water rotted hemp for the use of the American navy; *Provided*, That domestic hemp shall not cost more than foreign hemp of the same quality in the seaport towns of the United States."99 An appropriation of \$4,000, approved March 3, 1843, was made to cover the expense of establishing the agencies; and at the same time Congress instituted a requirement that all hemp and every other material for the navy, when time should permit, should be furnished by contract, by the lowest bidder in each instance. 100

Again Congress had indicated its intention to have the navy purchase its hemp in the West, although it should be noted that the resolution "authorized" but did not "direct" such action, and again the Navy

Department frustrated the Congressional will. For a short time, however, it seemed that the petitions of the hemp producers were being granted. Brown, the first hemp agent, resigned his office at the expiration of the term for which he had been appointed, and on July 1, 1843, James Hamilton of Lexington became agent for the state of Kentucky.¹⁰¹

After visiting the ropewalk at the Charlestown Navy Yard for the purpose of familiarizing himself with the quality of fiber desired and the method of testing its strength, Hamilton returned to the Bluegrass and prepared to begin the purchase of hemp. His advertisement should have convinced even the most skeptical that the navy was in earnest at last:

Notice is hereby given that I am fully authorized and empowered to *Inspect* and *purchase* two hundred tons of Water Rotted Hemp, suitable for naval purposes, for the use of the Navy of the United States—for which a liberal price will be paid on delivery at Lexington, or places contiguous thereto, as may be agreed upon. Persons sending samples of hemp for inspection are requested to send not less than ten pounds of a fair average of the parcel offered. ¹⁰²

Hardly had the news had time to penetrate the whole region, however, when Hamilton published another announcement of a different tenor, dated December 29, 1843:

Notice is hereby given that I am compelled to decline for the present, further purchases of Water Rotted Hemp, for the use of the Navy of the U. States. I hope, however, soon to be enabled to resume purchasing, at which time due notice will be given. ¹⁰³

Reasons for this hasty reversal of position were given by Secretary of the Navy David Henshaw, who explained to Congress that the funds which were used to buy hemp had been so much reduced by the time a suitable agent was chosen and the stock of hemp on hand had become so large that the department considered it inexpedient to make further purchases. Moreover, under those conditions, he continued, it was "of course, needless to incur the expense of an agency in the State of Missouri." ¹⁰⁴ A more logical, and perhaps a more correct, reason may be discovered in a statement made by Commodore Morris of the Bureau of Construction and Equipment, who frankly admitted that experience had satisfied the Department of the inexpediency of allowing the final inspection of hemp or any other article to be held at any place except where it was to be used. He then advanced the theory that the farmer would be in a better position if the navy bought, not directly from him, but from middlemen who would purchase his fiber and thereby assume all risks connected with handling, transportation, and inspection. ¹⁰⁵

Commodore Morris in this statement completely ignored a national law which was only one month old at the time he wrote. To the act making appropriations for the navy for the fiscal year ending June 30, 1845, Congress added a section appropriating \$50,000 for the purchase of American water rotted hemp and for the maintenance of the "agencies of purchase as established by Law." Congress further clarified its position by adding "And no further purchases of foreign hemp shall be made for the navy of the United States, except so far as a supply of American hemp of proper quality and at as cheap a price cannot be obtained." Yet in the face of this act, the Bureau of Construction and Equipment issued to Hamilton, a duly appointed agent "of purchase," instructions which allowed him authority only to make preliminary inspections and to give information to those who might request it. In addition, the official advertisements for contracts made reference to the agents in Louisville and St. Louis but also stated baldly that

It must be distinctly understood, however, that the inspection and opinion of these agents is merely to diminish the risk to contractors by furnishing useful information. The only inspection by which the hemp can be finally received and paid for, will be that at the navy-yard where it is to be delivered. 108

Naturally, under those conditions, bidders were few in number. Only one, Nathaniel Hart, a planter of long experience in the production and water rotting of hemp, was a Kentuckian; two were residents of Indiana; and the fourth and last was a hemp dealer in Boston. The contract went to the easterner, whose offer at \$195 per ton was five dollars cheaper than that of Hart, his closest rival.¹⁰⁹

When James K. Polk became President of the United States in 1845, he appointed his friend and supporter, the American historian George Bancroft, Secretary of the Navy. A month later two new appointees took charge of the hemp agencies in the West. Lewis Sanders, who succeeded Hamilton in Kentucky, was an energetic farmer and stockman, well known and respected in agricultural circles. Sanders took seriously the duties of his new office and began an aggressive program designed to increase the amount of water rotted fiber for the use of the navy. From his predecessor he obtained a box of samples of Russian and American hemp, a few articles of office equipment, and an apparatus for testing the quality of fiber. On a tour through the Bluegrass he left at strategic points the samples with which he had been furnished, and after conversing with the farmers of the

region he concluded that a large portion of the growing crop would be water rotted (partly because of the low price being offered for the dew rotted fiber) and that the needs of the navy could be supplied thereafter. In Louisville, where he established his base of operations, he made extensive use of his testing apparatus and reported enthusiastically both to his superiors and to the public that the Kentucky water rotted hemp was stronger than that imported from Russia. 12

Though Sanders was optimistic, others in Kentucky and Missouri were not, especially after the Bureau of Construction and Equipment in its advertisment for contracts, dated April 18, 1845, again stated that the final inspection would be held in Charlestown. Of the four bids received, not one came from the West, three offered foreign rather than American hemp, and the lowest, which was accepted, proposed to fill the contract with domestic fiber if it could be procured, or with 250 tons of Riga Rein and 150 tons of American hemp. The newspapers pointed out that the policy then in opperation was not at all satisfactory to the producers, who were not willing under such conditions to undertake the labor and expense of preparing fiber of good quality. They charged that the Navy Department was guilty of violating the law of the land; and they contended that, if the government had confidence in its agent, he should be given the power to purchase hemp on the spot; and, if he were not worthy of trust, his appointment was unjustifiable. The

Secretary Bancroft, an ardent nationalist, was more favorably disposed toward the use of American hemp than were his immediate predecessors. After he had been in office long enough to become acquainted with the problem, to study the Congressional resolutions, and to talk with some of the legislators who assisted in passing them, he concluded that the law was intended to encourage the culture of hemp by opening to the farmers a market in their own region. The requirement that they sell at an inspection more than a thousand miles away, therefore, tended to defeat the will of Congress. By means of a very conciliatory letter to Commodore Morris he ordered that "the inspection and test that may be made at the several agencies in the hemp-growing regions . . . be final and conclusive, instead of requiring them to be repeated at Boston." Deliveries thereafter should be made at the agencies, and the expense and risk of transporting the hemp to Charlestown should devolve upon the Department. Advertisements for bids

should specify American hemp exclusively, and foreign fiber should be used only when the domestic could not be obtained. ¹¹⁵

Bancroft was surprised at the reaction to his statement of policy. The people of Kentucky and Missouri, disappointed by previous fair promises which had lacked fulfillment, received his words with suspicion, 116 and, when the Department advertised for contracts to deliver 150 tons of hemp to Louisville and a like amount to St. Louis, there was not one bid in response.¹¹⁷ The Secretary requested Lewis Sanders to explain why there had been no bids, and Sanders submitted the problem to the Kentucky legislature as well as to prominent farmers in the state. Actually, it was not difficult to discover a plenitude of reasons. George W. Williams, president of the Bourbon County Agricultural Society, blamed the cumbrous machinery employed by the government in regulating the bids; a "Mr. Stone-street" of Clark County pointed to the "inadequate and baffling regulations of the Navy Department"; Lewis Sanders reported a belief in Kentucky that the department was "not in earnest as to their intention to purchase hemp in the West"; and Thomas S. Forman of Louisville wrote to the Commissioner of Patents that "very many farmers have made the experiment of water rotting; but owing to bad success in watering, and worse success in selling, they have nearly abandoned it." All agreed that the minimum of thirty tons required for a contract was too large, and both Sanders and the St. Louis agent advised that, when the farmer had prepared his crop, it was his wish to take it to market and sell it for cash without further ado. Sanders also recommended that he be given authority to make contracts of four or five years' duration in order that the guaranteed market might induce large-scale producers to water rot their crops. 118

The advice given by the two hemp agents received more than cursory attention in the capital. Commodore Morris expressed to Secretary Bancroft his regret that the efforts of the department to procure American hemp had not succeeded, and he stated that there was little prospect of success under the present mode of purchase. He then admitted that the best method to accomplish the object desired by Congress might be to give the agents authority for a limited period to make open purchases at fair prices without resort to contracts. On March 12, 1846, that authority was granted, supposedly only for a short time although in reality it was not withdrawn until December, 1848. ¹¹⁹ Furthermore, the suggestion regarding long-term

contracts was enacted into a law, approved March 30, 1846, which authorized the Secretary of the Navy to make contracts for a period not exceeding three years for the purchase of American water rotted hemp.¹²⁰

The new policy of combining the principles of contract and direct purchase produced for the navy more American water rotted hemp than it had been able to obtain by any other method, though by no means enough to answer the need for cordage. In 1846 contracts for 1,170 tons of American fiber, deliverable during the next three years, were concluded by the Bureau of Construction, Equipment, and Repairs as follows: with an organization known as the American Hemp Company for 750 tons, with Gideon J. Pillow of Tennessee for 90 tons, and with George W. Billings for 330 tons. 121 None of the contracts was filled; Pillow's was annulled because of his entry into service during the War with Mexico; Billings was not able to deliver a pound of fiber before the expiration date; and the American Hemp Company, after delivering a small portion of its pledge, declared its inability to furnish American hemp and received permission to submit 429 tons of Russian instead. 122 During the same period the agency in Louisville shipped to Charlestown approximately 300 tons of fiber, while that in St. Louis was able to procure about one-sixth as much. 123

In an effort to offer more inducement to the farmers to undertake a longrange program Congress passed, and the President approved on May 9, 1848, a resolution extending from three to five years the maximum term of contracts to furnish domestic fiber to the navy. The old provision, that it be equal in quality to the best foreign hemp, was repeated; and a new condition, that the price must not exceed the average for such hemp during the past five years, was added. 124 The effect of this resolution was the reverse of what Congress must have intended it to be. The navy, because of the large supply of fiber on hand after the American Hemp Company had filled its contract with the Russian staple, did not advertise immediately for an additional quantity, although Lewis Sanders was allowed to continue purchases in the open market in Kentucky. After being prodded by a Congressional inquiry, however, Secretary John Y. Mason of the Navy Department ordered Sanders to suspend activities and published requests for bids to furnish American hemp for a period not to exceed five years. 125 The hemp growers of the West not only failed to respond, but forwarded to the Navy Department "numerous petitions and communications,

remonstrating in the strongest terms against the proposed plan." Of the eight bids which were received only two came from producers, whereas the remainder emanated from business concerns and individuals who proposed to furnish each year the total quantity of hemp required. All bids were rejected because of alleged errors in the method of bidding, and the Secretary recommended that the government announce an intention "to purchase American water rotted hemp *alone*, if it can be procured at a price not exceeding the average . . . paid for the last five years for foreign hemp." 126

The westerners in Congress lost little time in taking up the fight in behalf of their constituents. Humphrey Marshall of Kentucky protested against the limitation of prices imposed by the resolution of 1848 and pointed out that American hemp was not compared with the average foreign fiber but had to be equal to the best. He advocated abolition of the contract system in its entirety. 127 Following a series of debates in which Marshall's arguments were supported by Missouri Congressmen as well as by his colleagues from Kentucky, the policy of supplying hemp for the navy was again changed. The annual appropriation for the support of the navy, approved September 28, 1850, included a section setting aside \$1,750,000 for the repair of vessels and the purchase of American water rotted hemp, which should be bought by the Secretary of the Navy in open market. In spite of opposition to the maximum limit for prices, this act included the provision that "the price of the American hemp shall not exceed the average price of the foreign article, for the last five years." 128 The act making appropriations for the naval service in 1851, however, failed to include this limitation and merely provided that "the Secretary of the Navy shall hereafter purchase for the use of the navy, in open market, if to be procured, American hemp of a quality equal to the best foreign article." ¹²⁹

The policy as constituted after passage of the latter act was more favorable to the hemp grower than any which had gone before. It included most of the suggestions which had emanated from the West, and it excluded the features of earlier laws which had been the subject of violent objections among the farmers. The hemp agents resumed their purchases, and the government at the same time took another step toward instituting a new program for equipping American vessels with cordage made from American hemp. Even as Congress was debating and formulating the details

of the act of 1851, the Navy Department was constructing a navy yard and ropewalk at Memphis, Tennessee, and thereby was turning into reality one of the visions of Kentuckians who hoped to see their hemp manufactured into naval cordage near the place of its growth.

THE MEMPHIS NAVY YARD

When the navy opened its first cordage factory at the Charlestown Navy Yard, a convenient location for the manufacture of imported fiber, westerners began agitating for the establishment of one or more national ropewalks near the American hemp growing region. In time their visions expanded, and, when at last their ideas bore fruit, a complete navy yard was erected at a point hundreds of miles from the nearest salt water.

More modest results would have satisfied the Kentuckians. When the farmers of Woodford County assembled in October, 1841, to consider a program of hemp production for the navy, they only went so far as to express an opinion that the government should employ a rope spinner in Kentucky for the purpose of converting the fiber into yarns, which could be transported much more cheaply and safely than the bulky raw material. The Committee on Agriculture of the Kentucky House of Representatives inquired into the matter early in 1842 and reported that it would serve the interests of both producer and consumer to have the fiber spun into yarn in the region where it grew. Agreeing with the conclusions reached by the Woodford farmers, it further maintained that the cost of manufacturing in Kentucky would be less than in the East because of "our means of cheaper subsistence," and it emphasized that "a manufacturing establishment, under the direction of the Navy Department, can surely be as well conducted on the spot where the hemp is grown as elsewhere." ¹³¹

Both houses of the General Assembly sent to the Senators and Congressmen from Kentucky a request that they use their "best exertions" to have established in the state one or more agencies for the inspection and manufacture of hemp for the navy. A select committee of Congress, appointed to consider the resolutions from Kentucky, reported three resolutions of its own: that the navy be directed to construct a factory at Louisville "for the purpose of depositing and manufacturing . . . such hempen fabrics of domestic water-rotted hemp as the public service may require"; that inspectors be appointed to test the fiber that might be offered

for sale; and that, after due notice to the public, purchase of the necessary amount of fiber be made at the factory. The Committee contended that its plan would build up during peacetime a source of hemp which would be vitally important in case of war, encourage American agriculture and manufactures, and decrease the unfavorable balance of trade. Louisville, moreover, was in the center of the western hemp growing region, conveniently located for water transportation, where tar of good quality for treating cordage might easily be obtained. But not to be ignored was the probability that a small outlay of cash would produce far-reaching results.¹³³

When Congress failed to enact the recommendations of its committee, the westerners continued their campaign. In the forefront were the Kentuckians, whose state, producing more hemp than any other, had most at stake. John J. Crittenden in December, 1842, submitted to the Senate a resolution which proposed not only a ropewalk in Kentucky, but also a complete navy yard "at some suitable point on the Ohio or Mississippi rivers"; 134 and the four memorials from his constituents which he presented in January, 1843, helped keep the question before Congress. 135 The most aggressive pronouncement came from the General Assembly in the form of resolutions which, though approved in February, did not reach the floor of Congress until December, 1843. This document declared that in the opinion of the Kentucky legislature it was the duty of Congress to give encouragement to the agriculture and manufacturing of its own country by using their products in preference to importations from abroad. Not only would such encouragement give life and energy to individual enterprise, but it would also benefit the whole country by retaining here the money expended for foreign products and by stopping the increase in the national debt. Among the products deserving of the fostering care of the government was hemp, and a factory for processing it for naval cordage should be erected at some point in Kentucky. Frankfort was mentioned specifically as a suitable location because it was in the center of a hemp producing area and located on the Kentucky River, which, owing to the recent completion of a program of improvement, was navigable by steamboat all year. In event of war the supply of cordage would be assured, since both the area which produced the fiber and the plant which manufactured it would be located far inland, away from the danger of invasion. In conclusion the legislature complained that most of the money for public works previously had been

expended by the government on the seaboard, and that little or none had reached Kentucky and the West. Consequently, "the establishment of the proposed manufactory would be some equivalent for the heavy contributions which have been made by the west to the support of the Federal Government."¹³⁶

The legislature of Tennessee late in 1842 sent to Congress a memorial which proposed that a naval depot and a dockyard be established at Memphis, a strategic location which was near the live oak timber of Louisiana and which would open a market for the hemp of Kentucky as well as for the coal, the metals, the agricultural products, and the mechanical skill of all the states of the West. ¹³⁷ In December of the same year Secretary Upshur of the Navy Department, who had directed the appointment of the first hemp agent, gave weighty support to proponents of the plan to erect a national ropewalk in the West. Reporting to Congress on the use of hemp for the navy, he stressed the importance of establishing a navy yard at some point on the lower Mississippi. Among the reasons for his proposal was a statement that "this would prove of great advantage to the hemp growers of that region, and would save the country the heavy cost of transporting the hemp to Boston." ¹³⁸ Congress early in 1843 responded to this pressure by authorizing the Secretary of the Navy to conduct an examination and survey of the harbor at Memphis to determine its suitability as a site for a depot and a yard for building and repairing "steamships and other vessels of war." Three thousand dollars were appropriated to defray the expenses of the investigation. 139 One year later, on June 15, 1844, President Tyler approved an act of Congress which appropriated \$100,000 to be expended in establishing a navy yard and depot at or adjacent to the city of Memphis and "to erect such improvements thereon as may be necessary for the construction and repair, and for the accommodation and supply, of vessels of war of the United States." 140

Congress might provide the money for, authorize the construction of, and even designate the site (whether appropriate for the purpose or not) for a navy yard, but, if the Navy Department did not approve, the yard would come into being very slowly indeed. The first official note of disapproval came from Secretary Bancroft, who in his annual report of December 1, 1845, stated that the harbor at Memphis was not suitable as a location for facilities which could repair ships of war because the depth of water there

was not sufficient to accommodate large vessels. He had, therefore, disapproved some of the details of the plan for a navy yard at Memphis, believing that they would merely mean extravagant expenditures which would bring no beneficial results. On the other hand, he thought the establishment might well be used for the construction and repair of steamers, which at that time were lighter than the regular war vessels, and he was almost enthusiastic in his recommendation that naval cordage be manufactured there. To him, according to his statement to Congress, the most advantageous feature of Memphis as the site of the new yard was that it lay just below the great hemp growing region and was recommended by its position for the manufacture of cordage. He therefore recommended that Congress "confine the use of the moneys it may appropriate, first to the immediate construction of a ropewalk, and next to simple arrangements for building and equipping steamers. To introduce at the west the manufacture of American hemp for the navy, will prove a national benefit." 141

Tennesseans noted with surprise and regret the proposals of Secretary Bancroft and insisted that the duty of officers of the Federal government was clearly "to commence and vigilantly prosecute" the construction of the naval depot "on a scale commensurate with the spirit and the great objects of the law." Kentuckians, on the other hand, cared nothing for any part of the yard save the facilities for manufacturing cordage, in which they were intensely interested. The Kentucky Senate stated its position on the matter in the following words:

Resolved, That the establishment of a National Ropewalk in the West, at a point of easy access to the hemp-growing region, is of itself right and proper, is due to the West, and will be a national benefit.

Resolved, That the Government of the United States should use American water-rotted hemp only for the Navy.

Resolved, That the Members of Congress from Kentucky, be respectfully but earnestly requested to urge the speedy completion of the National Rope-walk at Memphis, and early commencement there of manufacturing all the cordage for the Navy of the United States.¹⁴³

The Frankfort *Commonwealth* also urged haste in completing the ropewalk, citing the danger of war and the possibility that the importation of foreign hemp might become impossible, and warning that "we are sick and tired of dead letter statutes, holding a promise to the ear and breaking it to the heart."¹⁴⁴

Even after Congress adopted Secretary Bancroft's recommendation and restricted the expenditure at Memphis to the construction of a ropewalk, the work moved at a snail's pace. 145 The act authorizing the navy yard had been passed in 1844; plans had been drawn up in the next year, and in 1846 Congress approved curtailments in the original plans. No work was completed at the yard in 1847, allegedly because certain contractors had failed to comply with their engagements, but a promise was made that the ropewalk would be ready for the installation of machinery "in the course of the season." ¹⁴⁶ Congress in August, 1848, authorized part of an appropriation to be expended on this machinery, ¹⁴⁷ which, however, had not been purchased at the end of the year. 148 The Secretary of the Navy was able to report in December of the next year that the machinery, with the exception of a steam engine, had been completed. Although the building was still under construction, he predicted hopefully that the ropewalk would be ready for operation by June, 1850.¹⁴⁹ Further delays occurred, however, and it was not until 1852, seven years after the passage of the original act, that the manufacture of cordage actually began at the Memphis Navy Yard. 150

The agents at Louisville and St. Louis were instructed to send directly to the new manufacturing plant all the fiber which they purchased, and Kentuckians could now see their hemp float down the river system to Memphis, where it was to be manufactured and shipped to other United States navy yards. Realization, however, fell far short of expectations. In spite of the apparent advantages offered to the hemp grower by the liberal terms of the act of March 3, 1851, the government still was not able to procure enough domestic fiber to fill its requirements. In 1850 the agents had done little more than explore the possibilities, without meeting encouraging results. During the year ending June 30, 1851, they shipped 156 tons of fiber, 135 of which were purchased in Kentucky; they procured less than eighty tons in the subsequent year; and in the next the total quantity which they were able to buy dropped to about five tons. Officials of the Navy Department complained of the quality of that which was obtained, and in February, 1853, the two agencies were suspended. 151

A three-man commission, working under orders from the Navy Department, reported in 1851 that the Memphis yard was unfit for any purposes except for the manufacture of rope, and that it was doubtful if the foundations of the buildings which housed the rope-walk could long withstand the vibration of machinery. This report was submitted to Congress, as was a letter written in 1852 by the superintendent of the Memphis ropewalk, who had become disgusted with the poor grade of fiber which was sent to him by the agents in Kentucky and Missouri, and who spoke without equivocation:

I regret being obliged to call your attention again to the unsuitableness of the hemp sent here by the agents, for the use of the navy, on account of its general inferior quality. With the exception of a lot of ten tons received from the Kentucky Agency, (marked "Weir,") none has yet been found equal to the Russian "half-clean;" while "outshot," the poorest quality of Russian hemp, would be preferable to most of it.

In working a bale, a few days since, the "bar" or short pullings from the tow, was found packed in the center of the bale, which is nothing uncommon. From the manner in which American hemp is packed, it is difficult to inspect it properly unless the bales are opened, the center of the bale being often packed with refuse stock. ¹⁵³

In the face of such criticism and in view of the small amount of water rotted hemp which the navy was able to obtain in the West, Congress began to lose interest in the Memphis Navy Yard. It took no action on the recommendations of the Senate Committee on Naval Affairs, which reported favorably on a memorial from the Tennessee legislature requesting that the vard be completed. 154 Furthermore, charges by Senator Frederick P. Stanton of Tennessee that certain naval officials at Boston had boasted of their intention to cause the abandonment of the ropewalk at Memphis within five years attracted no more than passing attention. ¹⁵⁵ In 1854, after the hemp agencies had been suspended, Congress appeared willing to appropriate only about \$13,000 for repairs and upkeep for the Memphis yard, although Senator Joiner C. Jones of Tennessee pointed out that the sum would hardly be sufficient to keep in repair the machinery of the ropewalk, which was the finest in the world. 156 As the debate waxed warmer Senator Jones in exasperation declared that if Congress would not appropriate enough money to enable the establishment to operate, there was no need in trying to maintain the yard. Consequently, he offered an amendment to the naval appropriation bill to give the grounds, buildings, and machinery to the city of Memphis. 157 Perhaps to his surprise, the proposal met immediate favor, and the act of August 5, 1854, making appropriations for the naval service, ceded all grounds and appurtenances of the Memphis Navy Yard to the mayor and aldermen of that city and ordered the commandant of the yard to surrender the property. 158

The Secretary of the Navy lost no time in giving up the yard, although the city officials accepted it reluctantly and disclaimed any intention of holding it for their own use. Expressing regret at the hasty action of Congress, they attempted to give it back to the government with a provision that the yard be reinstated, not as a ropewalk alone but as a "depot of construction and equipment of government vessels for the navy." Secretary James C. Dobbin advised against accepting the offer with this condition attached to it, and, although a select committee of the lower house urged that in fairness to the West the yard should be re-established and completed, Congress took no further action in the matter. ¹⁶⁰

Seven years of planning and construction had gone into the yard; a sum estimated at from \$800,000 to \$1,000,000 had been expended upon it; and yet it passed out of existence after only approximately two years of part-time operation. The West in general, and Kentucky in particular, at one time had expected great things from it, but by 1854 only a very few were interested in trying to keep it alive. Dew rotted fiber was bringing prices high enough to keep the farmers from seeking other markets, while in Congress other and larger problems had arisen to push from the stage the question of a domestic supply of hemp for American vessels of war. ¹⁶²

IMPORTED FIBER THE NAVY'S MAIN SOURCE OF CORDAGE

After the abandonment of the Memphis Navy Yard, there was little sustained agitation for the navy to use American water rotted hemp in the manufacture of cordage, although, approximately two years after their suspension, the agencies in the West were revived for a time. The naval appropriations act of 1853 contained no specification in regard to the kind of hemp that might be purchased; and in 1854 the chief of the Bureau of Construction stated that he was unable to obtain domestic water rotted fiber, explaining that the high prices of bagging and bale rope were so attractive that few farmers were willing to expend the time and the labor necessary to produce hemp for naval use. Since the Bureau had only a limited appropriation, it could not allot more than a small sum to the purchase of hemp, and most of the fiber which was used by the navy was, therefore, imported. Secretary Dobbin reported at the end of the next year that three-tenths of the hemp used during the previous twelve months had been

of American growth, and he considered that the prospect of furnishing the navy altogether with domestic fiber was encouraging. 166

The Secretary's optimism was ill founded. The hemp agency in Missouri, which had been suspended temporarily in 1853, was abolished in November, 1856. The Kentucky agency, likewise inoperative for a brief time in 1853, continued in existence, but its activities were extremely limited. No water rotted hemp was purchased by the navy in Missouri from 1853 to 1858, and during the same period the Kentucky agency purchased only 73 tons—27 tons in 1855, 34 in 1856, and 12 in 1857. According to the chief of the Bureau of Construction, Equipment, and Repair the cost of this fiber delivered at the Charlestown ropewalk averaged \$311.68 per ton and "if expenses of the two agencies be added," the cost would amount to \$444.86 per ton. After quoting those figures, he remarked pointedly that "the best 'Russia Hemp' is at present offered at the Rope Walk in the Boston Yard at 215 dollars per ton." ¹⁶⁷ Under the circumstances the next step taken by Congress was ineffectual. In 1858 an appropriation bill was amended to include a provision that foreign hemp should be purchased for the use of the navy only in amounts required to meet the deficiency in the supply of American fiber, if the domestic variety could be obtained of comparable quality and price. 168 As was doubtless expected, the navy continued to manufacture most of its cordage from hemp imported from Russia. 169

The increase in the size of the navy after the outbreak of the Civil War caused also an increased need for cordage to equip the vessels, although a large number of them were propelled by steam and therefore required less hemp than did those of the older types. Congress again attempted to encourage the use of domestic fiber by requiring, by an act approved July 14, 1862, that "all hemp, or preparations of hemp, used for naval purposes by the Government of the United States, shall be of American growth or manufacture, when the same can be obtained of as good quality and at as low a price as foreign hemp." After that date, however, Congress did not attempt to influence the navy in its purchases of fiber. During the war and afterward the navy from time to time bought small quantities of the domestic staple, when it was found to be of the requisite quality. For the most part, however, naval cordage continued to be manufactured from foreign fibers.

- ¹ Lexington *Kentucky Gazette*, March 15, 1790.
- ² See above, Chapter IV.
- ³ American State Papers, Finance, I, 732.
- ⁴ Petition of Lewis Sanders and 112 others, January 22, 1811, *ibid.*, II, 467.
- ⁵ Extract from a letter written by a "Manufacturer of Hemp," Norfolk, Virginia, in 1824. *Senate Docs.*, 18 Cong., 2 Sess., II. no. 12, pp. 32-33.
 - ⁶ Frankfort Western World, July 22, 1808.
 - ⁷ American Stale Papers, Finance, II, 368.
- ⁸ Hemp and yarns from Winchester, Kentucky, found their way to Norfolk in 1809-1810, when the manufacturer stated that, had they been properly prepared, they would have been equal to any he had seen. *Senate Docs.*, 18 Cong., 2 Sess., II, no. 12, p. 33.
 - ⁹ Joynes, "Memoranda," *loc. cit.*, 225.
 - ¹⁰ Annals of Congress, 11 Cong., 2 Sess., 626.
 - ¹¹ Hamilton to Thomas Newton, January 21, 1811, *ibid.*, 11 Cong., 3 Sess., 985-986.
 - ¹² *Ibid.*, 987-988.
 - ¹³ American State Papers, Finance, II, 672-680.
- ¹⁴ Const[ant] Freeman to Samuel L. Southard, February 12, 1824, in *Senate Docs.*, 18 Cong., 1 Sess., II, no. 39, p. 6.
 - ¹⁵ Benj. B. Howell & Co. to John W. Hunt, May 20, 1815, in Hunt Papers.
 - ¹⁶ Bartlett & Cox to John W. Hunt, March 15, 1813, *ibid*.
 - ¹⁷ VI (1814), 249.
 - ¹⁸ Benj. B. Howell & Co. to John W. Hunt, May 20, 1815, in Hunt Papers.
- ¹⁹ A writer during the immediate postwar period noted that in Louisville and Shippingport, Kentucky, "nearly all" the ropewalks had been abandoned and that hemp was no longer one of the principal articles of export from that area. McMurtrie, *Sketches of Louisville*, 55, 162.
 - ²⁰ *Niles' Register*, IX (1816), p. 332.
- ²¹ John Rodgers to Samuel L. Southard, November 17, 1824, in *Senate Docs.*, 18 Cong., 2 Sess., II, no. 12, p. 6.
 - ²² Extract of a letter to the Secretary of the Navy, August 9, 1824, *ibid.*, 31.
 - ²³ *House Ex. Docs.*, 20 Cong., 2 Sess., III, no. 102, pp. 1-3.
 - ²⁴ Senate Docs., 21 Cong., 1 Sess., I, no. 1, p. 38; House Ex. Docs., 28 Cong., 1 Sess., III, no. 16.
 - ²⁵ *House Ex. Docs.*, 23 Cong., 2 Sess., IV, no. 148, p. 1.
- ²⁶ Hart stated to J. S. Skinner in a letter written March 18, 1822, that he intended sending a sample of hemp to the Navy Board. *American Farmer*, IV (1822), 304. Todd in about 1826 sent to Baltimore a consignment of fiber prepared by the process known as "fair dew rotting," which was pronounced equal to the Russian. Todd to A. P. Upshur, October 13, 1842, in *Senate Docs.*, 27 Cong., 3 Sess., II, no. 6, p. 45.
 - ²⁷ *House Ex. Docs.*, 18 Cong., 1 Sess., I, no. 9, pp. 3-4.
 - ²⁸ *Ibid.*, 17 Cong., 1 Sess., III, no. 49, p. 3.
- ²⁹ The Board of Commissioners for the Navy was established by an Act of Congress approved February 7, 1815, and existed until a reorganization of the Department in 1842 created in its place five bureaus. 2 *U. S. Stat.* 202-203; 5 *U. S. Stat.* 579-581.

- 30 John Rodgers to Samuel L. Southard, January 27, 1824, in *Senate Docs.*, 18 Cong., 1 Sess., II, no. 39, pp. 5-6.
 - ³¹ Annals of Congress, 18 Cong., 1 Sess., 749-754.
 - ³² Senate Docs., 18 Cong., 2 Sess., II, no. 12, pp. 26-27, 32-34.
 - ³³ John Rodgers to Samuel L. Southard, November 17, 1824, *ibid.*, 8.
 - ³⁴ Southard to the President of the United States, January 5, 1825, *ibid.*, 5.
 - ³⁵ John G. Baxter to R. M. Johnson, February 9, 1825, in Frankfort *Argus*, March 2, 1825.
 - ³⁶ *House Ex. Docs.*, 20 Cong., 2 Sess., II, no. 28, pp. 1-2.
- $^{\rm 37}$ John Rodgers to Samuel L. Southard, December 17, 1827, $ibid.,\,20$ Cong., 1 Sess., III, no. 68, p. 5.
- ³⁸ Deposition of William D. Porter in the case of David Myerle *vs.* the United States, April 11, 1856, in *Reports of the Court of Claims*, 34 Cong., 3 Sess., no. 81, p. 54.
- ³⁹ Rodgers to Southard, December 17, 1827, in *House Ex. Docs.*, 20 Cong., 1 Sess., III, no. 68, p. 6; *House Reports of Committees*, 27 Cong., 2 Sess., II, no. 551, p. 4.
 - ⁴⁰ Reports of Court of Claims, 34 Cong., 3 Sess., no. 81, p. 54.
- ⁴¹ At least a few Kentuckians in the late 1820's looked forward with some eagerness to the day when transportation by rail would enable farmers to send water rotted hemp to the seaboard so cheaply that they would find it remunerative to prepare their crops for marine use rather than for bale rope and bagging. Nathaniel Hart to J. S. Skinner, October 1, 1827, in *American Farmer*, IX (1827), 242; *ibid.*, X (1829), 344; Frankfort *Argus*, March 3, 1830.
- ⁴² Senate Docs., 21 Cong., 1 Sess., I, no. 1, p. 238; *ibid.*, no. 143, pp. 4-5; *ibid.*, 24 Cong. 1 Sess., III, no. 237, p. 1; *ibid.*, II, no. 90, p. 4; *House Reports of Committees*, 22 Cong., 1 Sess., V, no. 481, p. 27; *House Ex. Docs.*, 22 Cong., 2 Sess., II, no. 56, pp. 1-2.
 - ⁴³ *House Ex. Docs.*, 20 Cong., 1 Sess., III, no. 68, p. 3.
 - ⁴⁴ *Ibid.*, 20 Cong., 2 Sess., II, no. 28, pp. 2-3.
 - ⁴⁵ *Ibid.*, 22 Cong., 1 Sess., I, no. 2, p. 39.
- ⁴⁶ A contract for the necessary machinery was let in July, 1836. *Ibid.*, 24 Cong., 2 Sess., III, no. 90, p. 9. A description of the ropewalk and the whole yard at Charlestown may be found in James S. Buckingham, *America, Historical, Statistic, and Descriptive* (3 vols., London [1847]), III, 379-381.
 - ⁴⁷ Senate Docs., 25 Cong., 3 Sess., II, no. 128, p. 3.
 - ⁴⁸ American State Papers, Naval Affairs, I, 939; House Ex. Docs., 20 Cong., 1 Sess., III, no. 128.
 - ⁴⁹ Reports of Court of Claims, 34 Cong., 3 Sess., no. 81, pp. 11, 59-60.
 - ⁵⁰ Deposition of James Owner, May 1, 1856, *ibid.*, 64.
- ⁵¹ Deposition of Paulding, December 19, 1855, *ibid.*, 16-17; Brief of the United States Solicitor, *ibid.*, 83; extract of letter, Paulding to Myerle, February 28, 1849, in *Cong. Globe*, 33 Cong., 1 Sess., Appendix, 1027; *House Reports of Committees*, 29 Cong., 1 Sess., IV, no. 702, pp. 1-2.
 - ⁵² Reports of Court of Claims, 34 Cong., 3 Sess., no. 81, pp. 5-6.
 - ⁵³ Isaac H. Sturgeon to Myerle, November 11, 1852, *ibid.*, 54.
 - ⁵⁴ Letter dated August 6, 1840, *ibid.*, 13.
- ⁵⁵ Isaac H. Sturgeon to Myerle, March 25, 1852, *ibid.*, 55-56; deposition of Willis Stewart, February 15, 1845, and letter of same date from Stewart to Myerle in *Cong. Globe*, 32 Cong., 1 Sess., 2219. Sturgeon was a bookkeeper and Stewart a partner in the ropewalk at Louisville.

- ⁵⁶ Depositions of Henry Wallace, April 24, 1855, and of James Story, December 4, 1855, in *Reports of Court of Claims*, 34 Cong., 3 Sess., no. 81, pp. 26, 29.
- ⁵⁷ Sturgeon to Myerle, March 25, 1852, and deposition of Charles B. Lewis, April 11, 1856, *ibid.*, 34, 56; *Western Farmer and Gardener*, II (1841), 117; Isaac N. Yarnall to Myerle, April 11, 1853, in collection of J. Winston Coleman, Jr.
- 58 One of the samples proved to be stronger than the best Riga hemp, while the others were "highly satisfactory." Paulding to R. M. Johnson, January 15, 1841, in *Senate Docs.*, 26 Cong., 2 Sess., III, no. 91, p. 1.
- ⁵⁹ A copy of the contract may be found in *Senate Misc. Docs.*, 30 Cong., 1 Sess., no. 138, pp. 3-4. Secretary Paulding tried to assist Myerle by suggesting to Congress that it authorize the Navy Department to make advances of money to Myerle from time to time. The proposal was not adopted. Deposition of Paulding, December 19, 1855, in *Reports of Court of Claims*, 34 Cong., 3 Sess., no. 81, p. 17; Paulding to R. M. Johnson, January 15, 1841, in *Senate Docs.*, 26 Cong., 2 Sess., III, no. 91, p. 2; *Cong. Globe*, 26 Cong., 2 Sess., 107.
- 60 Deposition of Jacob Hall, December 17, 1855, in *Reports of Court of Claims*, 84 Cong., 3 Sess., no. 81, p. 21.
- ⁶¹ Sample articles may be seen in Louisville *Journal*, November 1 and August 12, 1841; Danville *Clarion*, October 9, 1841; and Frankfort *Commonwealth*, March 22, 1842.
 - ⁶² Western Farmer and Gardener, II (1841), 117, 133, 161.
- 63 Paulding to R. M. Johnson, January 15, 1841, in *Senate Docs.*, 26 Cong., 2 Sess., III, no. 91, p. 1.
- ⁶⁴ House Ex. Docs., 27 Cong., 2 Sess., II, no. 46, p. 4; House Reports of Committees, 29 Cong., 1 Sess., IV, no. 702, pp. 3-4; Reports of Court of Claims, 34 Cong., 3 Sess., no. 81, pp. 6-7.
- ⁶⁵ John Pope, *et al.*, to Commodore Charles W. Morgan, March 15, 1841, in *Reports of Court of Claims*, 34 Cong., 3 Sess., no. 81, p. 8; Joel Abbot to Board of Navy Commissioners, March 17, 1841, *ibid.*, 7-8. For the report of the test see *ibid.*, 10.
 - ⁶⁶ Deposition of William D. Porter, U. S. N., April 11, 1856, *ibid.*, 52.
 - ⁶⁷ Paulding to Myerle, March 8, 1848, *ibid.*, 4-5.
- ⁶⁸ Under the circumstances the examiners might have shown more leniency, but, even if they were prejudiced in favor of imported hemp, it is doubtful that they were guilty of anything worse than a strict interpretation of Myerle's contract.
- ⁶⁹ Deposition of William Caban, March 1, 1856, in *Reports of Court of Claims*, 34 Cong., 3 Sess., no. 81, p. 47.
- ⁷⁰ *Senate Misc. Docs.*, 30 Cong., 1 Sess., no. 138, pp. 1-3; *Cong. Globe*, 30 Cong., 2 Sess., 364; *ibid.*, 32 Cong., 1 Sess., 2218.
- ⁷¹ His agent stated that "The only particular reason for the rejection assigned to me was that the fiber was too long to work to advantage. The general answer to my inquiries was, that it would not answer." Deposition of Israel Lombard, March 3, 1856, in *Reports of Court of Claims*, 34 Cong., 3 Sess., no. 81, p. 49.
- 72 W. W. Thompson and Company to Myerle, December 14, 1843, *ibid.*, 40, *Cong. Globe*, 32 Cong., 1 Sess., 2223.

The Louisville *Journal*, which at one time had been glad to publish his letters and articles, declared on March 16, 1844, that "Mr. Myerle writes much about hemp, on which subject he is wholly ignorant, and we are sorry that circumstances at length compel us to expose his ignorance."

- 73 Cong. Globe, 29 Cong., 1 Sess., 987, 1139; House Reports of Committees, 29 Cong., 1 Sess., IV, no. 702.
- ⁷⁴ The *Congressional Globe* from 1846 through 1860 reports the debates on Myerle's petitions. Documents in the case may be found in *House Reports of Committees*, 29 Cong., 1 Sess., IV, no. 702; *ibid.*, 31 Cong., 1 Sess., II, no. 204; *ibid.*, 32 Cong., 1 Sess., no. 80; *ibid.*, 35 Cong., 1 Sess., V, no. 478; *ibid.*, 35 Cong., 2 Sess., I, no. 125; *ibid.*, 36 Cong., 1 Sess., I, no. 93; *Senate Reports of Committees*, 30 Cong., 1 Sess., no. 95; *ibid.*, 33 Cong., 1 Sess., I, no. 60; *ibid.*, 35 Cong., 1 Sess., I, no. 49; *ibid.*, 36 Cong., 1 Sess., I, no. 31; *Senate Misc. Docs.*, 30 Cong., 1 Sess., no. 138; *Reports of Court of Claims*, 34 Cong., 3 Sess., no. 81.
 - ⁷⁵ I. N. Yarnall to Myerle, April 11, 1853, in collection of J. Winston Coleman, Jr.
 - ⁷⁶ Reports of Court of Claims, 34 Cong., 3 Sess., no. 81, pp. 84, 88.
 - ⁷⁷ House Reports of Committees, 36 Cong. 1 Sess., I, no. 93, p. 15.

The most lugubrious appeal in the whole history of the case was uttered in 1852 by Representative Thomas B. Florence of Pennsylvania, who begged his colleagues to

"Pity the sorrows of a poor old man

Whose trembling limbs have borne him to your door,

Whose days are dwindled to the shortest span;

Oh, give relief, and Heaven will bless your store."

Cong. Globe, 32 Cong., I Sess., 2219

- ⁷⁸ 12 *U. S. Stat.* 861. The act was approved on June 16, 1860.
- ⁷⁹ American State Papers, Naval Affairs, I, 588.
- ⁸⁰ Frankfort *Commonwealth*, May 6, 1841.
- ⁸¹ *Cong. Globe*, 27 Cong., 2 Sess., II, Appendix, 18. The contract which he mentions was, of course, that with David-Myerle.
- 82 5 *U. S. Stat.* 467-468. The resolution was to remain in force for a period of seven years after its passage.
- ⁸³ Inquiries had been received, but no one appeared willing to undertake a contract to furnish hemp to the navy. Upshur to Samuel L. Southard, March 9, 1842, in *Senate Docs.*, 27 Cong., 2 Sess., III, no. 240, pp. 1-2.
 - ⁸⁴ *Ibid.*; *House Ex. Docs.*, 31 Cong., 1 Sess., VII, no. 36, p. 2.
- ⁸⁵ L. Warrington to A. G. Brown, March 3, 1842, in *House Ex. Docs.*, 29 Cong., 1 Sess., V, no. 160, p. 6.
 - ⁸⁶ Senate Docs., 27 Cong., 2 Sess., III, no. 240, p. 1.
- ⁸⁷ Among these items were communications from Colonel C. S. Todd, United States Minister to Russia, member of the Kentucky Agricultural Society, describing the culture of hemp in Europe. Frankfort *Commonwealth*, August 9, 30, 1842.
- ⁸⁸ Frankfort *Commonwealth*, November 2, 1841, January 28, November 1, 1842; Danville *Wednesday Mercury*, November 30, 1842.
- ⁸⁹ A discussion of some of the methods practiced at this time may be found above, Chapter II. See also Glyndon G. Van Deusen, *The Life of Henry Clay* (Boston, 1937), 359; *Western Farmer and Gardener*, II (1841), 131-133, 165; Nathaniel Hart to Lyman C. Draper, August 2, 1842, in the Kentucky Papers of the Draper MSS., 2CC27.
 - 90 Kentucky *House Journal*, 1841-1842, pp. 126, 130, 164, 204, 511-513.
- ⁹¹ Louisville *Journal*, April 9, 1842; Frankfort *Commonwealth*, April 19, 1842; Brown to the Commissioners of the Navy, June 11, 1842, in *Western Farmer and Gardener*, III (1842), 262.

- ⁹² *Ibid.*, 262-263; Brown to "Dr. Brainard," May 16, 1842, *ibid.*, 209.
- ⁹³ Brown to the Commissioners of the Navy, June 11, 1842, *ibid.*, 263.
- ⁹⁴ House Reports of Committees, 27 Cong., 2 Sess., II, no. 551, p. 5.
- ⁹⁵ Upshur to W. P. Mangum, December 17, 1842, in *Senate Docs.*, 27 Cong., 3 Sess., II, no. 6, pp. 7-8.
 - ⁹⁶ Cong. Globe, 27 Cong., 3 Sess., 75.
- ⁹⁷ Frankfort *Commonwealth*, January 3, 24, 1843; *Cong. Globe*, 27 Cong., 3 Sess., 141, 266; *Senate Docs.*, 27 Cong., 3 Sess., III, no. 157; *House Ex. Docs.*, 28 Cong., 1 Sess., III, no. 31.
 - ⁹⁸ House Reports of Committees, 27 Cong., 3 Sess., II, no. 184, p. 102.
- ⁹⁹ 5 *U. S. Stat.*, 648. During the debate Senator Levi Woodbury of New Hampshire remarked that, if the principle of establishing hemp agencies was good, why not send agents to buy bacon, iron, and other supplies where they were produced? Senator James Buchanan used the occasion to give credit publicly to David Myerle, who had proved that water rotting hemp was not deleterious to health. *Cong. Globe*, 27 Cong., 3 Sess., 262-263.
 - ¹⁰⁰ 5 *U. S. Stat.* 617; 18 *U. S. Stat.* 739-740.
- 101 House Ex. Docs., 31 Cong., 1 Sess., VII, no. 36, p. 2; Cong. Globe, 28 Cong., 1 Sess., Appendix, 15.
 - ¹⁰² Frankfort *Commonwealth*, from November 7 through December 26, 1843.
 - ¹⁰³ *Ibid.*, January 9, 1844.
- ¹⁰⁴ *Cong. Globe*, 28 Cong., 1 Sess., Appendix, 15; Henshaw to John W. Jones, February 6, 1844, *House Ex. Docs.*, 28 Cong., 1 Sess., IV, no. 107, p. 1.

Instead of purchasing fiber in the West, Secretary David Henshaw employed a Russian immigrant to undertake experiments in the culture and preparation of hemp in the vicinity of Washington, D. C., and he announced that his protege was on the verge of perfecting a machine for processing unrotted hemp. *Cong. Globe*, 28 Cong., 1 Sess., Appendix, 15.

- ¹⁰⁵ *House Ex. Docs.*, 29 Cong., 1 Sess., V, no. 160, p. 8.
- ¹⁰⁶ 5 *U. S. Stat.* 703.
- ¹⁰⁷ *House Ex. Docs.*, 29 Cong., 1 Sess., V, no. 160, p. 9.
- ¹⁰⁸ *Ibid.*, 28 Cong., 2 Sess., II, no. 64, p. 8.
- ¹⁰⁹ *Ibid.*. 9.
- ¹¹⁰ At Lexington he had an interview with Hamilton, who said that "he had closed his accounts with the department; that he had no money belonging to the government; that he had kept no book of his transactions as agent." He might have added that he had been allowed to perform very few functions during his tenure of office. Sanders to Charles Morris, June 9, 1845, in *Senate Docs.*, 29 Cong., 1 Sess., VI, no. 307, p. 718.
 - Sanders to Morris, June 6, 1845, in Frankfort *Commonwealth*, July 1, 1845.
- ¹¹² Senate Docs., 29 Cong., 1 Sess., VI, no. 307, pp. 716-718; Frankfort Commonwealth, May 27, June 24, 1845; Louisville Courier, May 17, 1845. Sanders was especially impressed by the quality of the fiber produced by James Anderson of Louisville, who was experimenting with heat and steam as substitutes for the old processes of retting.
 - ¹¹³ Senate Docs., 29 Cong., 1 Sess., I, no. 1, pp. 723-724.
 - ¹¹⁴ Frankfort *Commonwealth*, June 10, July 1, August 26, 1845.
 - ¹¹⁵ Letter dated July 18, 1845, in *House Ex. Docs.*, 29 Cong., 1 Sess., V, no. 160, pp. 11-12.
 - ¹¹⁶ Frankfort *Commonwealth*, August 26, September 30, 1845.

- 117 Charles Morris to Bancroft, December 27, 1845, in *House Ex. Docs.*, 29 Cong., 1 Sess., III, no. 46, p. 1.
- ¹¹⁸ *Senate Docs.*, 29 Cong., 1 Sess., VI, no. 307, p. 700; *House Ex. Docs.*, 29 Cong. 1 Sess., V, no. 160, pp. 12, 14-15, 17-18; Kentucky *Senate Journal*, 1845-1846, pp. 322-323.
- ¹¹⁹ Morris to Bancroft, March, 1846, *House Ex. Docs.*, 29 Cong., 1 Sess., V, no. 160, p. 3; Charles W. Skinner to William B. Preston, February 1, 1850, *ibid.*, 31 Cong., 1 Sess., VII, no. 36, p. 3.
 - ¹²⁰ 9 *U. S. Stat.* 5.
 - ¹²¹ Senate Docs., 29 Cong., 2 Sess., I, no. 1, pp. 501-503.
 - ¹²² *House Ex. Docs.*, 31 Cong., 1 Sess., VII, no. 36, p. 3.
 - ¹²³ *Ibid.*, 6-7.
 - ¹²⁴ 9 U. S. Stat. 334.
- ¹²⁵ Annual report of the Secretary of the Navy, December 4, 1848, in *Cong.*, *Globe*, 30 Cong., 2 Sess., Appendix, 26; Mason to George M. Dallas, January 27, 1849, and Charles W. Skinner to Lewis Sanders, December 22, 1848, in *Senate Docs.*, 30 Cong., 2 Sess., I, no. 20, pp. 1-2; "Proposals for American Water-rotted Hemp," March 1, 1849, in *House Ex. Docs.*, 31 Cong., 1 Sess., VII, no. 36, p. 12.
- ¹²⁶ William Ballard Preston, who became Secretary of the Navy on March 7, 1849, stated that the Department would have rejected the bids, even if there had been no doubt of the legality of form, because such a contract would have created a monopoly in the hands of an individual or association to the exclusion of the hemp growers. *Senate Ex. Docs.*, 31 Cong., 1 Sess., I, no. 1, pp. 434-435, 547; *House Ex. Docs.*, 31 Cong., 1 Sess., VII, no. 36, pp. 3-4.
 - ¹²⁷ Cong. Globe, 31 Cong., 1 Sess., Appendix, 193-195.
 - ¹²⁸ 9 U. S. Stat. 513-514.
 - ¹²⁹ *Ibid.*, 621-622. The act was approved on March 3, 1851.
 - ¹³⁰ Frankfort *Commonwealth*, November 2, 1841.
 - ¹³¹ Kentucky *House Journal*, 1841-1842, pp. 511-512.
 - ¹³² *House Ex. Docs.*, 27 Cong., 2 Sess., II, no. 81, p. 1.
 - ¹³³ House Reports of Committees, 27 Cong., 2 Sess., II, no. 551.
 - ¹³⁴ *Cong. Globe*, 27 Cong., 3 Sess., 75.
 - ¹³⁵ *Ibid.*, 141.
 - ¹³⁶ *House Ex. Docs.*, 28 Cong., 1 Sess., III, no. 34.
 - ¹³⁷ House Reports of Committees, 27 Cong., 2 Sess., V, no. 991.
 - ¹³⁸ Senate Docs., 27 Cong., 3 Sess., II, no. 6, p. 8.
 - ¹³⁹ Approved March 3, 1843. 5 *U. S. Stat.* 626.
 - ¹⁴⁰ *Ibid.*, 665.
 - ¹⁴¹ Senate Docs., 29 Cong., 1 Sess., 1, no. 1, p. 648.
 - ¹⁴² *Ibid.*. IV. no. 183.
 - ¹⁴³ Kentucky *Senate Journal*, 1845-1846, p. 323.
 - ¹⁴⁴ February 16, 1846.
- ¹⁴⁵ See annual report of Secretary John Y. Mason, December 5, 1846, in *Senate Docs.*, 29 Cong., 2 Sess., I, no. 1, p. 384.

- ¹⁴⁶ Joseph Smith to John Y. Mason, October 25, 1847, *ibid.*, 30 Cong., 1 Sess., I, no. 1, pp. 1105, 1112.
 - ¹⁴⁷ 9 U. S. Stat. 269.
 - ¹⁴⁸ *House Ex. Docs.*, 30 Cong., 2 Sess., I, no. 1, p. 617.
 - ¹⁴⁹ *Senate Ex. Docs.*, 31 Cong., 1 Sess., I, no. 1, p. 435.
- ¹⁵⁰ At the end of 1850 the building was still unfinished, and not until late in 1851 was the Secretary of the Navy notified that the ropewalk was ready for operation. *Ibid.*, 31 Cong., 2 Sess., I, no. 1, pp. 318-319; *ibid.*, 32 Cong., 1 Sess., II, no. 1, Part II, 78.
- ¹⁵¹ *Senate Ex. Docs.*, 31 Cong., 2 Sess., I, no. 1, pp. 210, 232; *ibid.*, 32 Cong., 1 Sess., II, no. 1, Part II, 77-78; *ibid.*, 33 Cong., 1 Sess., III, no. 1, Part III, 546; *House Ex. Docs.*, 32 Cong., 2 Sess., I, Part II, no. 1, p. 352.
 - ¹⁵² Senate Ex. Docs., 32 Cong., 1 Sess., II, no. 1, Part II, 41-43.
- ¹⁵³ Robert Gardner, Jr., to Commodore William C. Nicholson, September 1, 1852, in *House Ex. Docs.*, 32 Cong., 2 Sess., I, Part II, no. 1, pp. 352-353.
 - ¹⁵⁴ Senate Reports of Committees, 32 Cong., 1 Sess.. II. no. 215.
 - ¹⁵⁵ Cong. Globe, 32 Cong., 1 Sess., 2221.
 - ¹⁵⁶ *Ibid.*, 33 Cong., 1 Sess., 2154.
 - ¹⁵⁷ *Ibid.*, 2179.
 - ¹⁵⁸ 10 U. S. Stat. 586.
- 159 Senate Ex. Docs., 33 Cong., 2 Sess., II, no. 1, Part II, 401; House Ex. Docs., 33 Cong., 2 Sess., V, no. 28, p. 3.
- ¹⁶⁰ *House Ex. Docs.*, 33 Cong., 2 Sess., V, no. 28, p. 2; *House Reports of Committees*, 33 Cong., 2 Sess., no. 61. The question was brought up again when an unsuccessful effort was made in March, 1855, to add to the new naval appropriation bill an amendment setting aside \$30,000 for the Memphis Navy Yard. *Cong. Globe*, 33 Cong., 2 Sess., 1127.
- ¹⁶¹ Cong. Globe, 33 Cong., 2 Sess., 1127; House Reports of Committees, 33 Cong., 2 Sess., no. 61, p. 1.
- ¹⁶² It is interesting to note that during the Civil War the Navy Department wished to establish a navy yard at some point on the rivers of the Mississippi Valley. After Memphis was captured by the Federals, the Navy took possession once more of the old yard. It was found to be in very poor condition, and the site itself had been changed by the washing of the river. *House Ex. Docs.*, 37 Cong., 3 Sess., III, no. 1, p. 37; *ibid.*, 38 Cong., 1 Sess., IV, no. 1, p. xviii; *Senate Ex. Docs.*, 38 Cong., 2 Sess., no. 19, p. 11.
- ¹⁶³ John Lenthall to John C. Dobbin, October 16, 1855, speaks of reports from the hemp agents. *Senate Ex. Docs.*, 34 Cong., 1 and 2 Sess., III, No. 1, Part III, 131.
 - ¹⁶⁴ 10 U. S. Stat. 221.
 - ¹⁶⁵ Senate Ex. Docs., 33 Cong., 2 Sess., II, no. 1, Part II, 478.
 - ¹⁶⁶ *Ibid.*, 34 Cong., 1 and 2 Sess., III, no. 1, Part III, 22.
- ¹⁶⁷ John Lenthall to Isaac Toucey, February 20, 1858, in Navy Department, Bureaux Letters, January-June, 1858, MSS., I.
 - ¹⁶⁸ 11 *U. S. Stat.* 315.
 - ¹⁶⁹ U. S. Pat. Off., *Report*, 1861, *Agriculture*, 106.
 - ¹⁷⁰ 18 U. S. Stat. 741.

¹⁷¹ See the annual appropriations for the naval service in 1863 and afterward. *Ibid.*, XII, 815; *ibid.*, XIII, 80; *ibid.*, XIII, 463; etc.

CHAPTER VI

THE DECLINE OF THE INDUSTRY

THE CIVIL WAR

THE HEMP industry, at a standstill or already beginning to decline during the late 1850's, suffered during the next decade a blow from which it never fully recovered. The roar of guns in Charleston harbor in the early morning of April 12, 1861, signalized the end of hemp production as one of the major pursuits of Bluegrass farmers. The fiber, manufactured into bagging and bale rope, had long been to a great degree dependent upon cotton for a market, and, when that market no longer was open, hemp growers found themselves with greatly restricted opportunities for sales of their commodity. The Federal blockade of southern ports, the Confederate embargo on cotton, and the voluntary curtailment of the acreage devoted to that staple in the South combined to diminish the need for baling materials. In addition, the United States forbade the shipment of rope and bagging into the South, thereby outlawing the trade from which a part of Kentucky had derived its livelihood.

Since the crop of 1861 was planted at approximately the time hostilities began, the outbreak of war had little effect on the acreage devoted to hemp, and the yield was larger than that of the previous year.² The market, however, was described as "very dull with nothing doing," and by the end of the year Isaac P. Shelby of Fayette County wrote that most of the farmers in his section of the state had decided to "quit raising hemp, as the shipment South has been stopped by our government." The tariff acts passed during the early years of the war gave no relief to the hemp grower, and the price of his product fell to \$80 a ton early in 1862, and, because of a limited demand, it continued downward to \$75 before the end of the year.⁶

Manufacturers were affected even more adversely than the farmers by the outbreak of war. Many ropewalks and bagging factories closed, never to be reopened, and the capital invested in them was lost. One sufferer among the manufacturers, the keeper of the state penitentiary, was able to appeal to the state legislature for relief on the ground that "the circumstances now existing were wholly unforeseen by your petitioner or the Legislature" at the time his contract was made. He stated that the chief business of the prison was the manufacture of bagging and that there was no trade with the market to which the product was exclusively sold. He pleaded that he had "on hand (and utterly unable to dispose of it) a considerable quantity of bagging," and that the trade and business of the prison were paralyzed in general.⁷

On the other hand the scarcity of cotton soon caused the outlook for Bluegrass farmers to appear somewhat brighter, even as it closed one market to them. Textile fibers were needed in the United States and in the world, and, if southern cotton was to be withdrawn from the market, substitutes had to be found. The possibility that hemp might help fill the growing need for fiber shed a ray of light into the gloom. Congress in 1862 appropriated \$60,000 for the use of the Patent Office in performing its regular duties in connection with agriculture and required that a part of the sum be expended in conducting investigations "to test the practicability of preparing flax and hemp as a substitute for cotton . . . ; *Provided*, *however*, that in the expenditure . . . due regard shall be had to . . . the agricultural and rural interests in all parts of the United States."8 An additional sum of \$20,000 was appropriated for the same purposes in the next year,⁹ and in 1864 Congress provided that for one year any machinery "designed for and adapted to the manufacture of woven fabrics from the fibre of flax or hemp" could be imported free of duty. 10

The practice of weaving flax and hemp upon the old hand looms experienced a revival, and factories began making the fibers into cloth. From Fayette County in 1863 came a statement that high prices were being offered for hemp, and a hopeful opinion was expressed that "a vast source of profit will be derived by our farmers who will cultivate this crop, as from the present scarcity of cotton, it will doubtless be used to a large extent for clothing as well as for the many purposes for which it has entered into competition as one of the great staples of our country." The market value

of hemp rose to \$140 per ton, and a claim was made that it was one of the most profitable crops which could be grown. Before the war ended, however, it had become apparent that hemp, because of its coarseness and intractability to processing by machinery, did not respond to the need for textile fibers as readily as did flax. The Federal commission which had been appointed to investigate substitutes for cotton stated in 1865 that the chief value of hemp was for cordage, bagging, and sailcloth, though the fiber was similar to that of flax. The commission then reported that, since the suspension of the manufacturing of bale rope and bagging, "the extent of the crop has also been diminished, and the fibre has been largely worked into tow, and shipped in the bale to eastern and European factories." 14

The exigencies of war also created a demand for ship rigging, but again the Kentucky hemp industry was not greatly benefited. Congress offered encouragement by a provision in the tariff act of 1862 requiring that hemp used by the navy should be of domestic growth or manufacture if its quality and price compared favorably with imported fiber. The majority of Kentucky farmers, however, still held to the traditional practice of dew rotting, which yielded fiber whose unfitness for naval use had been demonstrated time after time, and only a small amount of Kentucky hemp was consumed by the navy. Merchant shipping, decreasing during the war, offered small prospect for a market for Kentucky hemp.

Among the troubles which beset the hemp farmer during the war and after was the undependability of his labor supply. As early as 1864 Isaac P. Shelby of Fayette County wrote that "causes over which we have had no control, growing out of our unhappy civil war, have rendered our slave labor to a certain extent, unavailable and unprofitable." He believed that conditions called for a change in the system of farming in the Bluegrass, and he suggested that farmers who had depended on slave labor, particularly the cultivators of hemp and corn, devote more of their land to grass and clover for the purpose of raising livestock. One year later "W. M. T." of Woodford stated that only a small amount of hemp and timothy hay had been produced in his section of the state "owing to the scarcity of labor." After the slaves were freed, the situation was summarized with some asperity by a woman who lived in Central Kentucky. In response to a question asking why there was a lack of labor when the Negroes were still present, she exclaimed, "I answer, they will not work." The problem still

existed approximately twenty years later and drew the following comment in a discussion of agriculture in Nicholas County: "The difficulty of commanding the kind of labor necessary to handle and prepare hemp for market has been the obstacle in the way of raising it more extensively." In the early part of the twentieth century a student of the hemp industry, commenting on the scarcity and uncertainty of labor, stated that the Negroes had "no fears of being out of work," and he professed to see a comparison between labor unions and the somewhat mysterious "societies" which existed among the colored people in Kentucky. ²¹

At the end of the Civil War southern farmers returned to their homes to resume the production of cotton, which commanded a high price in the markets of the world. Again bale rope and bagging were urgently needed, and the effects of this renewed demand were felt in Kentucky. The price of hemp in 1866 rose to slightly more than \$300 per ton, a level which stimulated the production of the fiber. The crop of that year turned out well, and large yields per acre were reported but the price dropped to about \$200 per ton. Even at the latter figure hemp was a profitable crop. Good times apparently had returned, and a reporter on agricultural matters in Woodford County was able to say, "our farmers are thriving, with good crops of hemp, corn, oats, and hogs, now selling at remunerative prices." 23

Possibly because of the strong demand for bale rope and bagging, the Lexington market offered almost as much for hemp as could be obtained on the seaboard, as a resident of Fayette County discovered in 1868 when a Boston firm told him that a consignment of his fiber would bring from \$200 to \$210 per ton.²⁴ It was in "great demand" in Lexington in 1869, bringing \$200 per ton, and in the Cincinnati market from \$190 to \$200 was offered later in the year.²⁵ Toward the end of the decade hemp seed advanced in price to the extraordinarily high level of \$5 per bushel.²⁶

By 1869 Kentucky, reporting a harvest of 7,777 tons of fiber, had regained her leadership in hemp production. Her crop for that year accounted for more than half the national total and greatly surpassed that of her nearest competitor, Missouri, which produced only 2,816 tons. The output of the entire nation was 12,746 tons, an amount less than that contributed by Kentucky alone ten years earlier. Fayette reported 2,370 tons; Mason, 1,105; Jessamine, 899; Woodford, 849; Anderson, 603;²⁷ Bourbon, 569; Scott, 338; Franklin, 238; Clark, 155; Shelby, 148; and

Madison, 106. The remainder, less than 400 tons, was divided among seventeen other counties, where production ranged from two tons in Bracken to 62 in Boyle.²⁸ The price early in 1870 was for a time \$170 per ton, but in March of that year it declined to \$150, and hemp moved slowly even at that figure. At the same time at least one firm was able to purchase about 75 tons at the rate of \$140 each.²⁹

In 1870 thirty-three factories in the United States were engaged in making bagging, using more hemp than any other single fiber but less than the combined total of jute and flax. Eleven of these establishments were located in Kentucky, employing 1,228 laborers and manufacturing almost five million yards of baling cloth from 105 tons of jute, 357 tons of flax, and 6,292 tons of domestic hemp. Of the 201 cordage and twine factories in the nation at that time, Kentucky possessed only nine, in which 120 workers turned out a product valued at \$168,182 during the year. Two factories produced both bagging and cordage, and one, located in Louisville, manufactured from 25 tons of fiber 6,000 dozen "hemp dusters" for household use, valued at \$18,000. Of the various establishments eight were located in Fayette County, six in Jefferson, three in Campbell, two each in Kenton and Woodford, and one each in Franklin and Jessamine.

LOSS OF THE SOUTHERN MARKET

The decrease in the manufacturing of bale rope and bagging at a time when cotton production was rising indicates that the Kentucky hemp industry after the Civil War rapidly lost the market which it had supplied with baling materials since the beginning of the century. As has been noted, the southern planters, because of poor quality or high prices of the Kentucky product, had not always been pleased to buy it, and imported goods had found their way into the United States in growing quantities despite tariff duties giving preference to domestic manufactures. Even bale rope and bagging of the best quality, however, were not altogether satisfactory to the cotton producers because of their elasticity. A bale of cotton wrapped in these materials, when removed from the gin press, would expand to an extent that made further handling more difficult and transportation more expensive than was thought necessary. Consequently,

for at least a half century a search went on for materials to substitute for bale rope and bagging, especially bale rope and bagging made in Kentucky.

During the debate in Congress on the tariff in 1824, a representative from Tennessee recalled that "on a late occasion," when river traffic had been largely cut off by low water, speculators had raised the price of bagging to such an extent that the planters in his area refused to buy it. Instead, they made "split mats for covering their cotton" and, instead of using hemp cordage, bound the bales with rope made of white oak bark or with "split hoops."³⁴ This occasion was not the last on which crude substitutes of that nature were used instead of the orthodox baling materials. In 1841 a writer noted that some planters had "even gone the length of baling their cotton in thin cottonwood boards, bound together with hoops!"³⁵ Colonel J. Dunbar of Mississippi at about the same time sent one crop of cotton to market "put up in thin boards bound round with ropes like common baling."³⁶

After the outbreak of war in 1861, when the flow of bale rope and bagging to the Confederacy was halted, the southern farmer had to make more extensive use than ever before of substitutes. "The Confederate States Cotton Tie," invented by E. Davis of Holly Springs, Mississippi, was an "exceedingly simple band, made of hickory or oak, for the purpose of baling cotton." The ends of each band were held together by a clasp, called a "lock." Another Mississippian, James C. Pickett of Natchez, constructed a machine to manufacture wooden hoops which could be used in baling cotton. In Laurens, South Carolina, at the same time Captain H. N. Carter displayed cotton "enveloped in white oak bagging, and bound with hickory ropes." Captain Carter's bagging had been made from splits produced by a machine in his possession, and the "hickory ropes" were in reality hoops similar to those used "to hoop a barrel or hogshead." ³⁹

Similar materials were in use in Memphis, where a firm received a number of bales of cotton which were "neatly bound round with hickory of the dimensions of a barrel hoop." One novel feature of this method of baling cotton was that the ends of the hoops, "instead of being fastened with a tie, had five or six ten-penny nails driven through. The ends of these entering the cotton, are supported there and the fastening is secure." Editorial comment approved the hoops but suggested that a tie or clasp would be superior to nails in holding the ends of the hoops together.⁴⁰

The use of wooden hoops and matting was of little significance, being in every case a temporary expedient necessitated by conditions which were not expected to be lasting. More dangerous to the Kentucky hemp grower and manufacturer were substitutes which threatened to drive their products permanently from the market. "A Cotton Planter," deploring the low price of cotton, the tariff, and the necessity of using Kentucky bagging, suggested in 1827 that the South should manufacture its own bagging from inferior grades of cotton. Not only would factories devoted to this purpose turn out bagging at a low price, but they would also increase the consumption of cotton. If southerners could not or would not undertake the manufacture of the product themselves, "Cotton Planter" favored encouraging some northern factory to do it.⁴¹

"An Observer" from Camden, South Carolina, stated in the late 1820's that "many hundreds" of bales of cotton had recently been tied with rope made of cotton, which was found "to answer well." He predicted that a large amount of it would be used, and he stated his intention to try cotton bagging on his next crop. 42 "Considerable quantities" of bagging were made in 1830 "from the waste of the cotton mills" in New England. The product, which was said to be "strong and stout," sold in the South at prices slightly under those demanded for bagging made of Kentucky hemp. A factory in Natchez, Mississippi, shortly before the middle of the century manufactured bagging from "refuse cotton" which Colonel Dunbar considered "much handsomer and tighter than hemp, but a little more liable to be torn by handling; by the constant use of those abominable cotton hooks, which open great rents in the bags." 43

The Louisville *Journal* in 1841, taking notice of a campaign by certain southern newspapers to increase the use of bagging manufactured from cotton, protested that "the writers in the cotton planting region, in their exasperation at the occasional high prices of bagging, seem bereft of all sense." Ordinarily, the Kentucky paper maintained, hemp could be produced much cheaper than cotton, and hempen bagging and rope had some market value after being removed from cotton bales. Finally, it warned the southerner that he should not forget "that by purchasing *our* bagging, he makes us large consumers of *his* cotton."

The threat of large-scale substitutions of cotton for hemp in the manufacture of bagging was not carried out in spite of the fact that

southerners might believe in 1845 that "if cotton planters understand their own interest, they never would use any other than bagging made of cotton that will hardly pay for sending to market,"⁴⁵ and in spite of similar arguments which may be heard to the present day. The fiber which replaced Kentucky's hemp in most of the bagging consumed by the South was not cotton but jute, which was not as strong as either of the others but which was cheaper. So rapid was the adoption of jute bagging in the South in the 1870's that by 1880 only one bagging factory was still in operation in Kentucky, and even that factory used some jute in its operations.⁴⁶

Bale rope, too, disappeared after the Civil War, replaced not by split hickory strips but by bands made of iron. "Iron hoops" for baling cotton were introduced by 1841 and became at once a subject of controversy. AR. Abbey, a Mississippi cotton planter, stated in 1846 that he had fully tested the hoops and had found them superior to bale rope. In his opinion, the only two reasons which kept them from coming soon into general use were that the "cotton interests" of New Orleans and Mobile opposed them and that a lack of "substantial information" on the subject existed among the planters. Opposed to the use of iron hoops was "the entire community of cotton sellers and buyers of Mobile," who controlled the establishments for compressing the cotton in preparation for shipment. Their main objection was that the hoops had to be removed when the bales were compressed and bale rope substituted for them. Shortly before 1850 all cotton entering that city for reshipment was "pronounced unmerchantable" if it had "other than good grass or hemp ropes on it."

Numerous advantages could be claimed for the use of iron bands in baling cotton. They were said in 1857 to be cheaper than rope, they were less likely to break, and they helped make a neater bale.⁵⁰ Shipowners and managers of storage warehouses could appreciate the resistance to fire of cotton baled with iron bands. When hemp rope was exposed to flame, it burned, and the bale which it surrounded burst to cause a greater conflagration; but iron hoops held the bale in compact form with the result that the cotton burned slowly.⁵¹ Numerous disadvantages were also listed by those who opposed the use of the substitute for bale rope, but the most valid criticism of the iron hoop was that its ends had be riveted together, a process which was slow and somewhat expensive. According to the Vicksburg *Whig*, "in consequence of the difficulty in adjusting the rivets

and the time lost in securing them, most persons abandoned the use of iron and returned to the rope."⁵²

In 1857 David McComb of Memphis patented an invention which abolished the need for rivets in securing the ends of the bands or "ties." His method consisted in bending each of the ends "so as to form two hooks, and when one is placed over the other, a sliding clasp is placed over them which confines them immovably." Other inventions followed, some of them made by Kentuckians, ⁵⁴ and the manner of fastening together the ends of each strap improved as time passed. In 1861 G. D. Harmon of Milliken's Bend, Louisiana, reported that he had tested a number of iron ties and had finally come to the conclusion that the "Merrill Tie" was superior to all others. He stated that he had "timed the baler the other day, and he banded a bale of Cotton with this tie in *forty seconds*" Moreover, "any negro can adjust it with ease, and when adjusted, no sort of handling will burst it." ⁵⁵

The Civil War interfered with the manufacture and use of the bale ties and clasps, and at the return of peace large quantities of Kentucky bale rope were again in demand in the cotton country. When the metallic bands and clasps returned to the market, however, the production of bale rope in Kentucky declined. The product is not listed specifically in the census returns for 1880, although some of it is probably included in the cordage which was reported.⁵⁶ An official report made by a bureau of the state government in 1879 stated that "the introduction of other substitutes for bagging and rope, and the use of wire-rigging upon sea vessels, have seriously injured the trade in hemp products, and the present outlook is, that this will even become more apparent in the future."⁵⁷ A small amount of Kentucky hemp continued for a time to be consumed in the manufacture of baling materials, but since the 1870's jute bagging and iron ties have been used almost exclusively by the cotton planters.

HEMP BECOMES A MINOR CROP

In general the average price of hemp experienced a slow decline for approximately a decade after 1870, but the amount of fiber produced each year changed little until 1879, when it suddenly dropped. At Frankfort in 1871 hemp was valued at \$125 per ton, a price slightly less than that offered at Cincinnati.⁵⁸ By 1874 it sold in Kentucky for \$100 to \$120, and toward

the end of the decade it was reported as "being sold at very low rates, which will cause this year's crop to be sown not over an average in amount." ⁵⁹ In 1871 Fayette County harvested more than 2,000 tons of fiber, which was said to be one-third of the yield of the entire state in that year. ⁶⁰ According to reports made by the state auditor the crops of 1872 and 1873 each rose above 9,000 tons, and approximately 7,000 tons were produced annually from 1876 through 1878. ⁶¹

A comparatively small amount of hemp was produced in the country as a whole in 1879, when the entire nation reported a harvest of only 5,025 tons. Almost the whole of this amount, 4,583 tons, was contributed by Kentucky, the remainder coming from Missouri, Michigan, Kansas, Illinois, Minnesota, and North Carolina. Fayette, Woodford, and Jessamine counties reported more than 1,000 tons each; Shelby and Scott, slightly more than 300 tons each; Bourbon, 243 tons; Clark and Garrard, approximately 140 tons each; and nine other counties, less than 100 tons each.⁶²

During the same decade there was also a further reduction in the number of manufactories, although as in 1870 there were still nine producing cordage and twine. Four of this number were located in Jefferson County, two in Kenton, and the others in Campbell, Fayette, and Franklin. Only one bagging factory, as has been noted, remained in the state. It was, according to a contemporary account, "a pretty large factory . . . employing one hundred and seventy-five hands, with \$150,000 capital, and using a like value of material in 1880." This description might have stated also that it operated at full capacity during the whole year, using at least some imported fiber among its raw materials.

The state auditor reported the production of less than 3,500 tons of hemp in Kentucky in 1880,⁶⁶ and the industry seemed to be growing still more feeble. Lexington, in the center of the traditional hemp growing region and once the most important industrial city in the state, ceased manufacturing the fiber in the eighties, although two concerns for making cordage had been in operation there in 1881.⁶⁷ A writer, moralizing on conditions in that city in 1887, pointed out that

A HEMP FACTORY is another thing which ought to be running in Lexington. The question has often been asked why there is not a rope or twine factory here. It is argued that we are not near enough to the source of consumpt [*sic*]; the shipping of the seaport towns, and the cost of imported hemp, which in some seasons is largely used, is too great.

It is . . . a sad reflection upon Lexington enterprise that the vast quantities of twine and binder twine used in America and right in our own agricultural districts is made in New England out of Kentucky hemp. 68

As may be inferred from this statement, the growing use of wheat binders had created a demand for twine, and the product made from hemp was found to be of good quality. In fact, a manufacturer of harvesting machinery stated in 1890 that there was "no fiber in the world" better suited than hemp to the manufacture of binder twine, and that when it was "spun 525 feet long" it was the "equal of sisal, half each sisal and manilla, or pure manilla." The high prices obtainable for binder twine for a few years before 1890 brought "into greater prominence the cultivation of the common, or American hemp," and seemed to give new life to the hemp industry in Kentucky.

Although only eight states reported the production of hemp in 1889, the total yield of the United States was double that of 1879. Nearly 94 per cent of the whole crop, which amounted to 11,511 tons, grew in Kentucky on approximately an equally high percentage of the total acreage devoted to its cultivation. Specifically, on 23,468 acres Kentucky raised 10,794 tons, valued at over a million dollars. A total of 1,306 Kentucky farmers were engaged in the industry, each cultivating an average of 17.97 acres and producing an average of 8.26 tons, worth \$800.22.

Ten counties in the Bluegrass accounted for over 90 per cent of the yield of the whole country. Fayette contributed the largest amount, 2,773 tons, while Mercer reported the highest yield per acre, 1,264 pounds. Clark, Fayette, Jessamine, and Woodford produced over 1,000 tons each; Boyle, Garrard, Mercer, Scott, and Shelby, more than 500 tons; Bourbon, 311 tons; and eight other counties, less than 100 tons each.⁷¹

Because of the high price of binder twine, several new factories came into existence in the late 1880's. Over \$100,000 was raised in 1888 for the erection of a twine factory in Georgetown "right in the heart of the hemp growing section of the state," and the stockholders twice sent William Fleming to Scotland to purchase what was thought to be the best machinery available. The establishment was capable of processing more than one thousand tons of hemp annually, and its warehouses had a storage capacity of half as much. Other new plants were erected, and in 1890, in addition to the lone bagging factory which was still in operation, there were in the

state sixteen establishments for making cordage and twine.⁷³ The American Cordage Company was formed, and "through the commercial force exerted by this great corporation the consumption and consequent output were for a time greatly stimulated."⁷⁴

Most of the cordage and twine factories were short-lived, and since the 1890's hemp manufacturing has played a minor role in the industry of Kentucky. The extensive factory at Georgetown lasted only a short time before "the fact of bad management caused it to fail." At least ten others also went out of existence, for at the beginning of the new century only six twine factories remained in operation and the bagging factory had closed permanently. Again, six factories were reported in operation in 1910, of which one disappeared by 1914 and another by 1919, in spite of an increase in hemp production occasioned by the first World War. By 1927 the number had again increased to six, none of which used a substantial quantity of native fiber in its operations.

After the brief flurry of excitement over the possibility of supplying fiber for binder twine had passed, the production of hemp in Kentucky again decreased. One viewpoint was that new machinery which was coming into use would revive the industry, 80 but in 1894 a report on "Farming in the Blue Grass Country" stated that the cultivation of tobacco was becoming more important, and that tobacco was "taking the place of the one-time favorite,—hemp—as a money crop. Of the latter, the acreage has been recently decreased." The crop of that year was estimated to be about 3,000 tons, and the price was \$100 per ton. 81 On the eve of the War with Spain hemp brought only about \$65 per ton, but during the course of that brief struggle its value rose again to \$100.82

A comparatively large acreage was devoted to the crop in 1899, but a severe drought injured it, according to the State Weather Bureau, to such an extent that only three-fourths of a normal yield per acre was expected. The state in that year produced approximately 5,000 tons of the fiber, or less than one-half the amount grown ten years earlier. More than 14,000 acres were devoted to the crop, which was valued at \$468,454. Less than 1,000 tons were reported by other states. Three Kentucky counties, Fayette, Jessamine, and Woodford, produced more than half the hemp grown in the whole country at that time. 84

According to estimates, not altogether trustworthy, published by the Kentucky Bureau of Agriculture, Labor, and Statistics, about 7,000 tons of hemp were grown in Kentucky in 1902, roughly half that amount in 1904, and slightly less than 3,000 tons in 1905. The suitability of American hemp for binder twine again attracted attention in 1907, and a part of the production of fiber for the next two years was manufactured into that commodity. The incentive, however, was not great enough to overcome the adversities which farmers faced in raising the crop, and by 1909 hemp production had dropped to a new low. In that year the harvest of the United States was less than 4,000 tons of fiber, valued at \$412,699, grown on 536 farms. Kentucky reported 490 farms, or 6,855 acres, devoted to the crop, which yielded more than 3,000 tons, valued at \$348,386. Fayette and Boyle counties, contributing over 500 tons each, led the remainder of the state. During the next five years the annual production of hemp averaged less than 5,000 tons for the entire country.

HEMP IN AND BETWEEN TWO WORLD WARS

After the outbreak of the World War in 1914 the exportation of hemp from Russia and Italy declined, and American manufacturers necessarily turned to domestic production for the fiber. Prices soared, rising from \$160 per ton in 1915 to \$250 early in 1916, and hemp seed, which was scarce, sold "at the unheard-of price of twenty dollars a bushel." The United States harvested 4,200 tons of hemp in 1915, 9,390 tons in 1916, and 20,600 tons in 1917. In Kentucky 6,500 acres, 13,500 acres, and 18,000 acres respectively were planted to the crop each year from 1915 to 1917 inclusive. During the same time the total acreage of the entire country doubled annually, reaching an estimated height of 42,000 acres in 1917.

"From a position of insignificance," wrote a student of the industry in 1918, "hemp has become within the past few years a crop of national importance—second only to cotton as the greatest fiber crop of the United States." From it came "thread for army shoes, twine for the grain harvest, calking for our ships—surely hemp should be reckoned among our foremost war crops." The war had furnished the stimulus for the increased production, but that growth largely had been made possible by the introduction of machinery designed to perform the expensive and

burdensome tasks connected with hemp culture.⁹⁴ Unfortunately for the future of the industry in Kentucky, most of the farmers in that state continued to depend on inefficient hand labor, which turned out a product inferior to the "long line fiber and tow" produced by the breaking plants which had been erected in Wisconsin, Ohio, and Indiana.⁹⁵

Kentucky in 1917 probably produced over 7,000 tons of hemp,⁹⁶ but when the war ended the industry again declined. Many farmers turned to other crops less difficult to handle, for which high prices were being paid. The acute shortage of farm labor forced a decrease in acreage, especially in Kentucky where the fiber was broken and hackled by hand, and another limiting factor was the scarcity of good seed for planting in 1918 and 1919.⁹⁷ Marketing methods were not satisfactory, and Kentucky fiber could not compete with cheaper fibers in certain uses nor with Italian hemp when lint of good quality was desired. Shortly after the first World War a member of the staff of the Kentucky Agricultural Experiment Station wrote: "Opinion seems to prevail at the present time that the hemp industry is a thing of the past and that the stable demand for the fiber has been usurped by other fibers imported from foreign countries." ⁹⁸

The United States reported only about 3,500 tons of hemp in 1919. Of this amount Kentucky produced approximately 300 tons of 721 acres, divided among 44 farms. Wisconsin, where hemp culture had experienced a rapid expansion during the war, had by 1919 assumed first place in the industry, harvesting nearly 1,500 tons of the fiber. 99 Almost the entire crops of hemp seed in both 1909 and 1919 were produced in Kentucky, though the annual yield of that commodity was also decreasing. 100 A "hemp campaign," which was designed to revive the industry, failed to arouse interest among the farmers, 101 and the production of fiber continued to diminish. The whole American crop in 1929 amounted only to about 600 tons, the greater part of which grew in Wisconsin. In Kentucky only five farms produced the fiber. On those farms 233 acres were devoted to the crop, which amounted to about 100 tons, valued at \$23,219.102 Approximately the same number of farmers continued to plant hemp through 1937. At least one of them sold that year's harvest to the Kentucky River Mills, Frankfort. 103 Three others failed to get a bid for their fiber and were forced to store it for a while. At that time there was doubt that any of them planned to include hemp among their crops in 1938, and the industry apparently had expired. 104

The next Federal census showed, however, that it still lingered. In the whole country in 1939 only 91 farms reported production of hemp, and the harvest amounted to about 425 tons. In Kentucky the crop was produced on a total of four farms, or on 158 acres, and the harvest was less than 90 tons of fiber. The hemp seed growers had also diminished their activities to such a degree that in the same year only 30 acres on six farms were devoted to that crop. Three cordage and twine factories were still operating in the state, though most of the fiber used by them was imported from abroad. Perhaps the best known of these factories was the Kentucky River Mills, which consumed large quantities of sisal and jute but through 1937 continued to purchase Kentucky hemp directly from the growers. In February, 1941, this establishment received an order to manufacture \$148,500 worth of "marine oakum" for the navy.

Early in 1941 the hemp industry in the Bluegrass began to some extent to take on new life, when arrangements were made by the Kentucky-Illinois Hemp Company to construct a breaking plant at Versailles in Woodford County. Each farmer who expected to sell to this plant signed a contract by which he agreed to "prepare the seed bed, plant, harvest and deliver in accordance with the Company's instructions, the acreage of Hemp" which he was willing to specify. The company agreed to furnish seed at \$7 per bushel, to provide mechanical harvesters at a rental of \$3 per acre, and to furnish for a like sum per acre "pickup and tying machinery if same can be had in time." Twenty-five dollars was the stipulated price to be paid by the company for each ton of dried hemp in the straw. In 1941, 2,000 acres of hemp in Woodford and surrounding counties were under contract to the concern, which placed four binders and sixteen reapers in the area to harvest the crop.

The conquest of the Philippines by Japan caused in the United States a serious shortage of fiber. The government feverishly brought about a tremendous expansion in the domestic hemp industry, although most of the fields opened to hemp and most of the plants erected for processing it were located in states other than Kentucky. Early in 1942, realizing that the shortage of hemp must be overcome, government agencies formulated a program which a news magazine termed "the agricultural fantasy of the

century."¹¹² The Department of Agriculture furnished about 3,000 bushels of seed, which was said to have been kept under guard until distributed, and which was used, mainly in Kentucky, to grow more seed in preparation for the next crop year. ¹¹³ Later in 1942 the War Production Board approved plans for planting 300,000 acres in hemp in the next year and for building 71 mills for cleaning the fiber. ¹¹⁴ The Defense Plant Corporation paid for the erection of the mills, and the Commodity Credit Corporation bought the hemp. ¹¹⁵

Sites were selected for 42 mills, which were to be of temporary construction, since it was recognized that when cheaper fibers returned to the market they would be abandoned. Only one of these establishments was located in Kentucky, near Winchester, for the effort to produce fiber was concentrated mainly in the Corn Belt. The Department of Agriculture appealed to farmers to co-operate in planting hemp, that it had to curtail its proposed acreage because autumn rains in Kentucky in 1942 caused the supply of seed to be about half the anticipated quantity. Nevertheless, the acreage planted in 1943 for the production of lint proved to be more than ample because of increased importation of fibers from Latin America and India; and the conquest of Italy led to the prospect of renewing the importation of Italian hemp. By October, according to one account, "a \$25,000,000 hemp headache . . . [was] beginning to beat upon the financial temples of the Commodity Credit Corp. and the Defense Plant Corp." 119

The governmental agency contracted for only 60,000 acres of hemp straw and for no seed in 1944, but allowed work to continue on the mills which were still not completed. Is pite of the cutback in production, a large surplus of fiber had accumulated in government-owned warehouses at the end of the war. Because of improper handling, much of the hemp had spoiled before it could be processed, and "in some instances it was necessary to burn almost one-third [of] the crop." In every way the wartime hemp program was extremely costly, the expenditures for "support prices," promotion costs, and construction of new mills having surpassed \$30,000,000, according to one estimate. Small benefit was derived from it, yet it did serve as insurance against a lack of fiber, without which the war effort would have been seriously impaired. Since it was an emergency measure, the program was abandoned at the return of peace. Most of the newly constructed mills were declared surplus and offered for lease or

sale.¹²¹ The plant near Winchester, Kentucky, which processed only one crop, was sold by the War Assets Administration for \$63,525 early in 1948 to a purchaser who stated that he intended to use the existing structure to house a plant for the manufacture of prefabricated aluminum buildings.¹²²

MARIHUANA

Between the two world wars hemp assumed a sinister aspect in the United States owing to a growing use of the drug, marihuana, which is produced by the same plant from which fiber is obtained. 123 It was recognized in the 1920's as a menace, and during the next decade a large amount of controversial literature was published on the subject. Government officials and the public have viewed with alarm the spread of indulgence in marihuana, especially among young people. 124 In 1944 a survey made by the Mayor's Committee on Marihuana in New York City indicated that both the effects of the drug and the extent of its use had been exaggerated, 125 but this report was condemned by a spokesman for the American Medical Association, who warned that "Public officials will do well to disregard this unscientific, uncritical study, and continue to regard marihuana as a menace wherever it is purveyed." 126 Dr. Laurence Kolb, Assistant Surgeon General of the United States Public Health Service and an authority on the subject of narcotics, stated in 1945 that "We may sum up the general situation by saying that marihuana is a potentially dangerous drug that does very little harm in the United States because it has been so little used. A potent marihuana cigarette, properly smoked, has about the same effect as one or two highballs." 127 As a result of a study conducted at its hospital at Lexington, Kentucky, the United States Public Health Service in 1946 stated that it had no proof that the use of marihuana was habitforming and that "although the drug lessens inhibitions, it does not incite normally law-abiding people to crime." ¹²⁸

Both the United States and Kentucky have passed laws regulating the growth, sale, and possession of this dangerous drug.¹²⁹ All producers of hemp, including those who participated in the hemp program during the second World War, are required by the Federal law to pay a tax of one dollar per year and to keep such records as the Bureau of Narcotics of the Treasury Department may prescribe. Wartime expansion of the hemp

industry threatened to bring about an increased narcotic traffic long after the extensive production of fiber was abandoned. According to a weekly magazine, "the Bureau of Narcotics will continue to require licenses for hemp growing, but so long as pushers can get \$50 a gunnysack for leaves and flowers in illegitimate deals, peddling of marihuana will continue as one of the war's contributions to increased crime and juvenile delinquency."¹³⁰ There is no evidence that hemp was used as a drug in Kentucky until after the first World War, in spite of earlier knowledge that it had been grown for centuries in Asia for that purpose.

CONCLUSION

The government's hemp program during the second World War, which depended mainly on the states of the Corn Belt for the production of large amounts of fiber, demonstrated the extent to which Kentucky has retired from her former position as the country's foremost producer of hemp and hempen goods. For well over a century, however, the state was the heart and center of the American hemp industry. Most of the fiber produced in this country grew in Kentucky, and most of the manufactories of domestic hemp were concentrated there. Numerous ropewalks and sail duck factories existed on the east coast, but these establishments, which manufactured cordage and sails for marine use, for the most part consumed imported hemp.

Not only did most of the hemp of the United States grow in Kentucky, but most of it was produced by a small area of that state. The plants will grow in virtually any location where the seed will germinate, but for generations the cultivation of the crop was concentrated in the Bluegrass and in Mason, Shelby, and Jefferson counties. In those areas are located the best soils of Kentucky, which were considered necessary for the production of luxuriant fields of hemp. Even there, however, farmers did not depend solely on hemp for a livelihood. Livestock, corn, and small grains were also produced in the diversified farming practiced in that section. Hemp was simply a nonperishable crop which was rarely a failure and which could be depended upon to bring a cash income to the farm. Its price was variable, but before the Civil War it usually was considered a profitable crop.

The methods of hemp culture in Kentucky changed little from the eighteenth to the twentieth centuries, although in other states machinery

was introduced to take care of the hardest tasks in the production of the fiber. In general on the Kentucky farm the hemp was sowed by hand, cut by hand, and broken by hand. Slaves were allotted these tasks until slavery was abolished, after which in his new status as a freeman the Negro was still depended upon to perform practically all the operations in connection with the cultivation of hemp for fiber. When produced for seed, the plants were treated in much the same manner as was corn, and the labor was not as heavy as that required by the fiber crop. Much seed was produced on the large farms where Negro labor was used, although most of it grew on smaller plots of land in the fertile bottomland along the Kentucky River.

Hemp was introduced in Kentucky by the first immigrants, some of whom brought into their new homeland seed for fiber crops as well as for the necessary food crops. For years hemp and flax were used at home, being manufactured into cloth and cordage on the farms where they grew. When the exportation of Kentucky products began, hemp found its way downstream to market. Its traditional use in the world was for sails and marine cordage, and some of the Kentucky fiber went to that purpose. Kentucky farmers and legislators sought to capture the market for naval cordage, but the navy as well as private shipping interests depended for the most part on imported fiber.

Of the imported materials which competed with the domestic, the Russian hemp was considered the best, and its excellence was one of the primary reasons that the Kentucky farmer was never able to monopolize sales to the American navy. The serfs of Russia exercised great care in every step of hemp culture. They prepared the soil well, planted seed with a view to producing soft fiber rather than tall stalks, pulled the male plants before the female in order to harvest each variety at the most opportune time, water rotted in clear streams in the cold autumn and early winter, carefully separated the fiber from the woody portion of the stalk, and packed the lint into bales for shipment. Hemp prepared in that manner was bright in color, soft, strong, and had the ability to absorb and retain the tar that was necessary to its protection against the action of water. When ready for sale, it was examined by government inspectors who classified it into rigid grades according to quality. A purchaser could, therefore, buy with confidence, knowing from the classification the kind of fiber he would obtain. 131 Riga Rein, considered the best of the Russian hemp, was the

standard of excellence which the Navy Department always required American fiber to meet.

Except when warfare or embargo interfered with transportation, Russian hemp was usually plentiful in the United States. It was, of course, subject to high import duties which the domestic fiber escaped, but freight from Europe to the Atlantic ports of the United States was cheaper than from Kentucky. Consequently, importers were able to sell foreign hemp at prices which compared favorably to those obtained for the domestic staple of good quality. Except for a desire to promote American self-sufficiency, or to encourage American agriculture and industry, there was actually little reason to prefer domestic hemp over that produced elsewhere.

Russian hemp was not the only fiber that competed with the Kentucky staple in marine cordage. Other areas in Europe also exported hemp to the United States, and from the opposite side of the world came another fiber, called Manila hemp, which in reality is not hemp but abaca, obtained from a plant related to the banana. Abaca was used to some extent by merchant vessels early in the nineteenth century, and by the time David Myerle had aroused Kentuckians with visions of fortunes to be had from water rotted hemp, the merchant service used the Philippine fiber almost to the exclusion of all other kinds. 132 The navy refused to adopt it so quickly, although after the ropewalk at Charlestown began operations, Manila hemp was manufactured there in quantities which were small when compared to the consumption of Russian fiber but which were larger than the amounts of domestic hemp purchased. 133 In 1869 more naval cordage was made from abaca than from all other types of hemp, and in 1871 the navy purchased that fiber exclusively. 134 After the War with Spain, abaca was more easily obtained than before, and its use expanded in the United States.

During the period in which Manila hemp was coming into general use, metal chains, rods, and ropes also entered into competition with hempen fiber. As early as 1838 Kentucky manufacturers lost one market, for which they had supplied some cordage, when the United States Congress ordered that "iron rods or chains shall be employed and used in the navigation of all steamboats, instead of wheel or tiller ropes," and provided a fine of \$300 for violators of the act. ¹³⁵ Meanwhile, metal was competing with vegetable fiber to such an extent that in 1842 a navy agent wrote that "in the merchant service, except for standing rigging, rotted hemp cordage is almost entirely

out of use."¹³⁶ The tremendous and rapid expansion of the American navy during the Civil War led to the adoption of innovations which would have come into general use more slowly had the country remained at peace. One of the changes was the introduction of wire rope in the place of hemp cordage in standing rigging. Because of its lightness, sturdiness, strength, and low cost, it met immediate favor and soon came to be "universally preferred to hemp" for the uses to which it was adapted.¹³⁷ By 1870 it had been adopted for standing rigging on all naval vessels, and in that year the navy purchased machinery with which to manufacture its own wire rope.¹³⁸ Since steamships do not require the cordage needed to manipulate sails, and since wire rope is used for standing rigging, the quantity of hemp required by a modern vessel is infinitesimal in comparison with that which was needed by a sailing ship.

The fundamental reason the navy and merchant service did not use domestic hemp was, of course, that the American farmer did not offer for sale an adequate amount of fiber which had been properly prepared. The dew rotted hemp produced in Kentucky would not answer the purpose, yet relatively little fiber was prepared by water rotting in that state because of the labor, expense, and unpleasantness connected with the practice. In addition, the lower South offered a market for large quantities of dew rotted fiber at prices which usually allowed the Bluegrass farmer some margin of profit. From the end of the War of 1812 to the outbreak of the Civil War most of the domestic hemp went into the manufacture of bale rope and bagging for the expanding cotton crops of the South. Ropewalks established in Kentucky turned out most of the cordage, and the bagging was also manufactured there by hundreds of hand looms as well as by power-driven machinery.

Imported fibers and manufactured goods competed with Kentucky's baling materials as well as with her hemp for marine use, but, thanks largely to Kentucky's favorite son, Henry Clay, the policy of protection for domestic agriculture and industry prevented the foreign products from monopolizing the markets until after the Civil War. In spite of the tariff, prices were sometimes extremely low, and occasionally they fluctuated extensively in a short period of time, the movements probably being caused by speculators.

The industry had passed its peak by the eve of the Civil War. The war halted temporarily the shipment, and consequently the manufacture, of bale rope and bagging, and hemp failed to respond to any great extent to the need for fibers to replace cotton in the North. When the war ended, the market for baling materials was again open, but Kentucky reaped small benefit from it. During the next decade iron ties and jute bagging replaced hemp as baling materials, and the Kentucky industry thereby lost its most dependable market.

Though revived sporadically by new uses, such as for the manufacture of binder twine, and by war, the hemp industry played a diminishing role in the agriculture and industry of Kentucky after the Civil War. During the first World War, leadership in the production of the fiber passed to other states, where the use of machinery helped diminish the costs of harvesting and preparing the crop for market. Kentuckians, until they participated in the government's hemp program during the second World War, continued to depend for the most part upon hand labor, which was expensive and which turned out fiber whose quality was inferior to that produced by machines. Meanwhile, burley tobacco became more profitable to the Bluegrass farmer, who turned to it as his cash crop.

At the end of World War II the hemp industry in Kentucky appeared to have vanished. In time of stress, however, when fiber is needed and prices are high, it may appear again. Once more perhaps the distinctive odor of growing hemp will hang heavily in the summer air, and the fields of emerald green may once again add beauty to the Kentucky landscape.

¹ 12 U. S. Stat. 257.

² *Kentucky Documents*, 1861, no. 1, p. 237; *ibid.*, 1861-1862, no. 1, p. 253. L. J. Bradford, president of the State Agricultural Society, stated that all crops in Kentucky showed a large increase over those of 1860. *Country Gentleman*, XVIII (1861), 385.

³ Louisville *Daily Courier*, July 25, 1861.

⁴ Country Gentleman, XVIII (1861), 340.

 $^{^{5}}$ The provisions of the acts which applied to hemp may be seen in 12 U. S. Stat. 185-186, 292, 554.

⁶ Country Gentleman, XIX (1862), 116; ibid., XXI (1863), 219.

⁷ Kentucky *Senate Journal*, 1861-1863, p. 188.

⁸ 12 U. S. Stat. 350.

⁹ *Ibid.*. 691.

- ¹⁰ 13 *U. S. Stat.* 216, This period was extended another year by an act passed in 1865. *Ibid.*, 494.
- ¹¹ Isaac P. Shelby to Luther Tucker and Son, n. d., in *Country Gentleman*, XXI (1863), 155.
- ¹² *Ibid.*, 219.
- ¹³ U. S. D. A., *Annual Report*, 1869, p. 57.
- ¹⁴ *Senate Ex. Docs.*, 38 Cong., 2 Sess., no. 35, p. 30. Most of the report is devoted to flax rather than to hemp.
 - ¹⁵ 12 U. S. Stat. 554.
 - ¹⁶ U. S. D. A., Annual Report, 1863, pp. 91-92; Country Gentleman, XXI (1863), 219.
 - ¹⁷ Country Gentleman, XXIII (1864), 90.
 - ¹⁸ *Ibid.*, XXV (1865), 52.
 - ¹⁹ *Ibid.*, XXVII (1866), 130.
 - ²⁰ Perrin (ed.), *History of Bourbon*, *Scott*, *Harrison*, *and Nicholas*, 346.
 - ²¹ Moore, *Hemp Industry*, 85, 92-96.
 - ²² Collins, *History of Kentucky*, I, 172, 178.
 - ²³ Country Gentleman, XXIX (1867), 20.
- ²⁴ Thayer, Brigham and Company to Isaac P. Shelby, May 8, 1868, in Wilson Collection. At the same time Manila hemp was quoted at only \$220 per ton at New York. New York *Herald*, May 8, 1868.
 - ²⁵ Paris *True Kentuckian*, February 3, 1869; Covington *Journal*, July 3, 1869.
 - ²⁶ Paris *True Kentuckian*, February 3, 1869.
- ²⁷ The returns from Anderson County were probably not correct. Of the total production reported, 603 tons, R. B. Swing was supposed to have produced 100 tons on a farm which included only 50 acres of improved land, and Mary Champion reported the enormous quantity of 500 tons on 130 acres of improved land. Ninth Census, 1870, Agriculture, original manuscript returns for Kentucky in Duke University Library.
- ²⁸ Ninth Census, 1870, III, The Statistics of the Wealth and Industry of the United States, 85, 158-165.
 - ²⁹ Paris *True Kentuckian*, March 9, 1870.
- 30 Jute, a plant of Asiatic origin, produces a bast fiber which is cheaper and less strong than hemp.
 - ³¹ *Ninth Census*, 1870, III, *Wealth and Industry*, 429-430, 520-521, 590.
- ³² Ninth Census, 1870, Manufacturers, original manuscript returns for Kentucky in Duke University Library. It is not clear whether the two factories producing both cordage and bagging are included in the published census.
 - ³³ Ninth Census, 1870, Manufactures, original returns.
- ³⁴ He asserted that "he mentioned this as a hint to gentlemen not to go too far in laying duties on bagging." *Annals of Congress*, 18 Cong., 1 Sess., 1546.
 - ³⁵ Western Farmer and Gardener, II (1841), 133.
 - ³⁶ Kellar, Solon Robinson, I, 488.
 - ³⁷ Southern Cultivator, XIX (1861), 294.
 - ³⁸ *Ibid*.
 - ³⁹ *Ibid.*, 309.

- ⁴⁰ *Ibid*.
- ⁴¹ Niles' Register, XXXII (1827), 267.
- ⁴² Southern Agriculturist, II (1829), 18-19.
- ⁴³ Eighth Census, 1860, Manufactures, cxix; Kellar, Solon Robinson, I, 488.
- ⁴⁴ November 15, 1841.
- ⁴⁵ Kellar, *Solon Robinson*, I, 488.
- ⁴⁶ Tenth Census, 1880, Manufactures, original manuscript returns for Kentucky in Duke University Library.
- ⁴⁷ The Commissioner of Patents in his report for 1841 referred to the introduction of iron hoops, although he does not state when they were first used. U. S. Pat. Off., *Report*, 1841, p. 17.

In its argument in defense of bale rope and bagging made of hemp, the Louisville *Journal* on November 15, 1841, attacked the use of iron hoops and bagging manufactured from cotton.

- ⁴⁸ To J. D. B. De Bow, July 15, 1846, in *De Bow's Review*, II (1846), 133, 140.
- ⁴⁹ *Ibid.*, III (1847), 558. R. Abbey stated that this objection was so ridiculous that he considered it written in jest. To J. D. B De Bow, January, 1848, *ibid.*, V (1848), 290-291.
 - ⁵⁰ "A Subscriber" to the Editors, May, 1857, in *Southern Cultivator*, XV (1857), 225.
- ⁵¹ Report of John S. Brown, Secretary of the Board of Supervising Inspectors, New Orleans, Louisiana, to Howell Cobb, Secretary of the Treasury, November 15, 1859, in *Senate Ex. Docs.*, 36 Cong., 1 Sess., no. 3, pp. 365-366.
 - ⁵² Southern Cultivator, XV (1857), 240.
 - ⁵³ *Ibid.*, 239-240.
- ⁵⁴ A. O. Broad of Louisville in 1857 won a prize at a fair in his home city when he showed a "Mettalic Cotton Bale Tie," which he manufactured and which the exhibition committee termed "the best for the purpose, of any yet used." *Report of Exhibition Committee of Kentucky Mechanics Institute* . . . (Louisville, 1857), 24-25.

A number of inventions of bale ties and clasps to 1873, including some made by Kentuckians, are listed in M. D. Leggett (comp.), *Subject-Matter Index of Patents* . . . *from 1790 to 1873*, *Inclusive* (3 vols., Washington, 1874), I, 37-38.

- ⁵⁵ Southern Cultivator, XIX (1861), 40.
- ⁵⁶ Tenth Census, 1880, Manufactures, original returns.
- ⁵⁷ Kentucky Bureau of Agriculture, Horticulture, and Statistics, *Report*, 1879, p. 255.
- ⁵⁸ Frankfort *Commonwealth*, November 24, 30, 1871; statement, January 5, 1872, of sales by Wasson and Emerson, Cincinnati, of hemp consigned to them by Isaac P. Shelby, Lexington, Kentucky, in Wilson Collection.
- ⁵⁹ *Country Gentleman*, XXXIX (1874), 36, 100; Kentucky Bureau of Agriculture, Horticulture, and Statistics, *Report*, 1879, p. 255.
 - ⁶⁰ Ranck, *History of Lexington*, 413.
- ⁶¹ *Kentucky Documents*, 1873, I, 102, 104; Kentucky Bureau of Agriculture, Horticulture, and Statistics, *Report*, 1879, p. 263.
 - ⁶² Tenth Census, 1880, III, Statistics of Agriculture, 212-213, 225-227.
- ⁶³ *Ibid.*, II, *Manufactures*, 32, 244. The published report does not agree completely with the original returns, though it may be based on corrections received after the first returns had been submitted to the Census Bureau.
 - ⁶⁴ Ford, *History of the Ohio Falls Cities*, I, 519.

- ⁶⁵ Tenth Census, 1880, Manufactures, original returns.
- ⁶⁶ Kentucky Bureau of Agriculture, Horticulture, and Statistics, *Report*, 1881, pp. 204-205.
- ⁶⁷ The *Lexington City Directory, 1881-1882* (Lexington, 1881), lists two cordage manufacturers and eight "Hemp Manufacturers." The latter may have operated establishments for preparing dressed hemp for market.
 - 68 Lexington the Central City, a Review of Lexington, Kentucky, As She Is (New York, 1887), 19.
- ⁶⁹ Statement by G. W. Allen, Treasurer of D. M. Osborne and Company, March 29, 1890, in U. S. D. A., *Annual Report*, 1890, p. 467.
 - ⁷⁰ U. S. D. A., *Annual Report*, 1890, p. 463.
 - ⁷¹ Eleventh Census, 1890, Statistics of Agriculture, 64-65, 402.
 - ⁷² Gaines, *History of Scott County*, II, 490.
- ⁷³ Eleventh Census, 1890, Manufacturing Industries, Part I, Totals For States and Industries, 122, 174.
 - ⁷⁴ Country Gentleman, LIX (1894), 679.
- ⁷⁵ "Those who saw this great plant in operation and seeing the hundreds of people it gave work cannot help but have a sad feeling when passing these grounds and seeing those magnificent building's [*sic*] going to ruin. The failure of this great factory was very detrimental to Georgetown." Gaines, *History of Scott County*, II, 490.
- ⁷⁶ Twelfth Census, 1900, IX, Manufactures, Part III, Special Reports on Selected Industries, 241-242.
- ⁷⁷ Thirteenth Census, 1910, IX, Manufactures, Reports by States, with Statistics for Principal Cities, 406.
- ⁷⁸ Fourteenth Census, 1920, IX, Manufactures, Reports by States, with Statistics for Principal Cities, 496.
 - ⁷⁹ Fifteenth Census, 1930, Manufactures, II, Reports by Industries, 242.
 - ⁸⁰ Lexington *Kentucky Leader*, April 30, 1893.
 - ⁸¹ Cultivator and Country Gentleman, LIX (1894), 670, 679.
 - ⁸² Ibid., LXII (1897), 387; ibid., LXIII (1898), 447, 538, 587.
 - ⁸³ *Ibid.*, LXIV (1899), 418, 578, 667.
 - ⁸⁴ Twelfth Census, 1900, VI, Agriculture, Part II, Crops and Irrigation, 419, 436.
 - ⁸⁵ Report, 1902-1903, pp. 476-479; *ibid.*, 1904-1905, pp. 788-791; *ibid.*, 1906-1907, pp. 784-787.

These reports are not accurate. For example in computing the hemp production of 1902, Fayette County is credited with the amount she had produced in 1899 according to the Federal census. Fayette is omitted from the computation of the yield in 1904.

- ⁸⁶ U. S. D. A., *Annual Report*, 1909, p. 78.
- ⁸⁷ Thirteenth Census, 1910, V, Agriculture, General Report and Analysis, 698; ibid., VI, Agriculture, Reports by States with Statistics for Counties, Alabama-Montana, 646-657.
 - ⁸⁸ U. S. D. A., *Yearbook*, 1913, p. 284; *Literary Digest*, January 27, 1923, p. 26.
 - ⁸⁹ R. T. Gunn, "The Come-Back of Hemp," in *Country Gentleman*, LXXXI (1916), 1323.
 - ⁹⁰ *Literary Digest*, January 27, 1923, p. 26.
- ⁹¹ A. H. Wright, *Wisconsin's Hemp Industry* (Agricultural Experiment Station of the University of Wisconsin, *Bulletin*, no. 293, Madison, 1918), 13.
 - ⁹² U. S. D. A., *Yearbook*, 1917, p. 526.

- ⁹³ A. H. Wright, "Hemp for Shoes, Ships and Twine," in *Country Gentleman*, August 17, 1918, p.
- ⁹⁴ *Ibid*.

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- ⁹⁵ Humphrey, *Marketing Hemp*, 28.
- ⁹⁶ The Kentucky Board of Equalization estimated the production of that year at only slightly more than 4,000 tons, but the list of counties from which the estimate was made does not include Fayette, Madison, Garrard, and other hemp producing areas. The "Government Estimate of Acreage of Hemp Grown in Kentucky in 1917" showed a total of 19,200 acres, which could have produced from 6,000 to 9,000 tons in a good crop year. Kentucky Bureau of Agriculture, Labor, and Statistics, *Report*, 1916-1917, pp. 284-287, 294.
 - ⁹⁷ U. S. D. A., *Annual Report*, 1920, p. 184.
 - ⁹⁸ Humphrey, *Marketing Hemp*, 26.
- ⁹⁹ *Fifteenth Census*, 1930, *Agriculture*, IV, *General Report*, *Statistics by Subjects*, 823. The first permanent breaking mill in the nation was erected at Brandon, Wisconsin, in 1916. Others were soon established in that state, as well as in Ohio and Indiana. Wherever these plants were built, the hemp industry tended to become stabilized. Seventy per cent of the total crop of 1922 was grown in Wisconsin. Humphrey, *Marketing Hemp*, 28; *Literary Digest*, January 27, 1923, p. 27.
 - ¹⁰⁰ Fourteenth Census, 1920, V, Agriculture, General Report and Analytical Tables, 790.
 - ¹⁰¹ Lexington *Herald*, June 12, 1922.
 - ¹⁰² Fifteenth Census, 1930, Agriculture, IV, 823.
 - ¹⁰³ Banks Hudson, Sr., written statement.
 - ¹⁰⁴ Louisville *Courier-Journal*, March 13, 27, 1938.
- ¹⁰⁵ Sixteenth Census, 1940, Agriculture, III, General Report, Statistics by Subjects, 698; ibid., I, Part 4, Statistics for Counties, 13.
 - ¹⁰⁶ *Ibid. Manufactures*, III, *Reports for State and Outlying Areas*, 356.
- ¹⁰⁷ Garth K. Ferguson, Commissioner, Department of Agriculture, Labor and Statistics to J. F. Hopkins, May 10, 1938; Banks Hudson, Sr., written statement, March 30, 1938.
 - 108 Lexington $\it Sunday \, Herald\text{-}Leader$, January 11, 1942.
 - ¹⁰⁹ *Ibid.*; Lexington *Herald*, June 17, 1941.
 - ¹¹⁰ A copy of "Hemp Grower's Contract, 1941" is in the possession of the present writer.
 - ¹¹¹ Lexington *Herald*, August 21, 1941.
 - ¹¹² *Time*, March 30, 1942, pp. 63-64, 66.
 - ¹¹³ Science News Letter, XLI (May 30, 1942), 340.
- ¹¹⁴ *Newsweek*, October 5, 1942, p. 60; Brittain B. Robinson, "Dew Retting of Hemp Uncertain West of Longitude 95°," in *Journal of the American Society of Agronomy*, XXXVIII (1946), 1106.
 - ¹¹⁵ Business Week, April 24, 1943, p. 62.
- 116 *Ibid.*; John H. Garland, "Hemp; a Minor American Fiber Crop," in *Economic Geography*, XXII (1946), 129.
 - ¹¹⁷ See Robinson, *Hemp*.
 - 118 Business Week, April 24, 1943, p. 62.
 - ¹¹⁹ *Ibid.*, October 23, 1943, p. 40.
 - ¹²⁰ *Ibid.*, January 22, 1944, pp. 29-30.
 - ¹²¹ *Ibid.*, January 12, 1946, p. 48; Garland, "Hemp," *loc. cit.*, 130, 132.

- ¹²² Winchester *Sun*, January 21, February 26, 1948.
- ¹²³ Frederick T. Merrill, *Marihuana*, the New Dangerous Drug (Washington, 1938), 5-6.
- ¹²⁴ See, for example, H. J. Anslinger and Courtney R. Cooper, "Marihuana, Assassin of Youth," in *American Magazine*, CXXIV (July, 1937), 18-19, 150-153.
- 125 The Marihuana Problem in the City of New York . . . (Lancaster, Pennsylvania [c1944]), 213-220.
 - ¹²⁶ Journal of the American Medical Association, CXXVII (1945), 1129.
 - ¹²⁷ "Marihuana," in *American Journal of Psychiatry*, CII (1945-1946), 281.
- ¹²⁸ *Newsweek*, November 18, 1946. See also Herbert S. Gatskill, "Marihuana, an Intoxicant," in *American Journal of Psychiatry*, CII (1945-1946), 202-204; Walter Bromberg and Terry C. Rodgers, "Marihuana and Agressive Crime," *ibid.*, 825-827.
- 129 50 *U. S. Stat.*, Part 1, pp. 551-556; William E. Baldwin (ed.), *Carroll's Kentucky Statutes*, *Annotated* (Cleveland, Ohio, 1936), 1347-1348.
 - ¹³⁰ Business Week, January 12, 1946, p. 49.
 - ¹³¹ Annals of Congress, 11 Cong,, 3 Sess., 986; Senate Docs., 28 Cong., 1 Sess., I, no. 1, p. 665.
- ¹³² L. Warrington to Abel P. Upshur, November 28, 1842, in *Senate Docs.*, 27, Cong., 3 Sess., II, no. 6, p. 53.
- ¹³³ During the period from 1839 through 1843 the ropewalk consumed in manufacturing cordage over 5,000,000 pounds of Russian hemp, almost 400,000 pounds of Manila hemp, and only 66,074 pounds of American. *House Ex. Docs.*, 28 Cong., 1 Sess., IV, no. 107, p. 2.
 - ¹³⁴ *Ibid.*, 41 Cong., 2 Sess., I, no. 1, p. 41; *ibid.*, 42 Cong., 2 Sess., IV, no. 1, p. 90.
 - ¹³⁵ 5 *U. S. Stat.* 306.
- 136 J. Vincent Browne to Abel Upshur, December 10, 1842, in *Senate Docs.*, 27 Cong., 3 Sess., II, no. 6, p. 58.
- ¹³⁷ A. N. Smith to Gideon Welles, November 6, 1865, in *House Ex. Docs.*, 39 Cong., 1 Sess., V, no. 1, p. 200; Melancton Smith to Welles, October, 1866, *ibid.*, 39 Cong., 2 Sess., IV, no. 1, p. 151.
 ¹³⁸ *Ibid.*, 41 Cong., 3 Sess., III, no. 1, p. 63.

BIBLIOGRAPHICAL NOTE

The manuscript sources for a story of the Kentucky hemp industry, as well as for any other phase of Kentucky history which reaches back beyond the twentieth century, are widely scattered, and many of them are found in libraries outside the state. Photostats and microfilms have made much of this material more readily available to scholars everywhere and give reason for the Kentuckian to regret less keenly the indifference which in former

days permitted the loss of valuable manuscripts to institutions in other states. Happily, the period of indifference has passed, and in more recent years certain public and private institutions as well as individuals have worked to preserve in Kentucky the sources for the history of the Commonwealth.

The most fruitful source for a history of the hemp industry is the original manuscript census returns for Kentucky, which for the years they cover yield rich rewards to the researcher who seeks the materials for social and economic history. The original returns for the Fourth Census, 1820, Manufacturers, were found in the National Archives, Washington, D. C. The other manuscript returns used in the preparation of this study are in the Duke University Library and include the Tenth Census, 1880, Manufactures, and both Agriculture and Manufactures for the Seventh Census, 1850, the Eighth, 1860, and the Ninth, 1870.

Material of great value was gleaned from the fine collection of papers in the Filson Club Library, Louisville, Kentucky. There one may find the Cash Book, 1835-1844, and Journal, 1841-1844, of Ford and Hawes, hemp dealers and manufacturers, who for a time operated business establishments both in Vicksburg, Mississippi, and in Louisville. More extensive are the papers of John Wesley Hunt, who was a merchant and manufacturer in Lexington and whose records give a close insight into the hemp industry during a good part of the first half of the nineteenth century. Of equal or greater importance are the Charles W. Thruston Papers, also in the Filson Club Library, which cover about the same period. Members of the Thruston family operated hemp factories in Louisville during a part of this time, purchased hemp fiber through dealers in Maysville and in the central part of the state, sold some of the finished product locally, and shipped the remainder of their output by river boat into the cotton producing South.

No history pertaining to early Kentucky can be written without reference to the great Draper Collection of Manuscripts, which is among the holdings of the Wisconsin State Historical Society. Information useful in preparing the present study was found in the Daniel Boone Papers, the Kentucky Papers, the John Dabney Shane Papers, and the Whitley Papers, all from this collection. Of particularly great value are the James Wier Letter Books, which are also among the Draper manuscripts. Wier was a Lexington merchant and hemp manufacturer in the early nineteenth century

who had far-flung connections and who, fortunately for the researcher, preserved copies of much of his business correspondence.

References to the hemp industry in Kentucky were found in the following additional collections: the Daniel Baker Papers, the William Bolling Papers, and the Henry Clay Papers in the Duke University Library; the Navy Department, Bureaux Letters, in the National Archives; the private collection of Colonel J. Winston Coleman, Jr., Lexington; and the Samuel M. Wilson Collection of the University of Kentucky Library. The present writer has in his possession a few additional items, the most important of which is a statement, dated March 30, 1938, written by Banks Hudson, Sr., of Danville, Kentucky, a hemp grower of long experience.

The publications of the United States government contain countless references to the hemp industry. The American State Papers (38 vols., Washington, 1832-1861) contain material relating to the production of hemp for naval use and to tariff rates on imported fiber. Until the Civil War hemp often was discussed during congressional debates, which may be followed in the Annals of the Congress of the United States, 1789-1825 (42 vols., Washington, 1834-1856), the Register of Debates in Congress, 1825-1837 (14 vols, in 29, Washington, 1825-1837), and the *Congressional* Globe, 1834-1873 (46 vols., Washington, 1834-1873). A wealth of information, particularly on the use of hemp by the navy, may be gleaned from House Executive Documents, House Reports of Committees, Senate Senate Executive Documents. Senate Documents, Miscellaneous Documents, and Senate Reports of Committees. The United States Census publications are indispensable in studying various phases of the industry, as are the Annual Report of the Commissioner of Patents (Washington 1840-), the Annual Report of the Department of Agriculture (Washington,), and the Yearbook of Agriculture (Washington, 1895-1861pertaining to hemp are found in The Statutes at Large of the United States . . . (Boston, 1845-1873, Washington, 1875-). Details concerning the case of David Myerle are printed in Report of the Court of Claims, 34 Congress, 3 Session, No. 81. Other helpful government documents are M. D. Leggett (comp.), Subject-Matter Index of Patents for Inventions Issued by the United States Patent Office from 1790 to 1873, Inclusive (3 vols., Washington, 1874) and B. B. Robinson, Hemp (United States Department of Agriculture, Farmers' Bulletin No. 1935, Washington, 1943).

Several publications of the State of Kentucky provide information on this subject. Legislation dealing mainly with the exportation of fiber is to be found in William Littell (ed.), The Statute Law of Kentucky (5 vols., Frankfort, 1809-1819). Laws concerning the production and use of marihuana are published in William E. Baldwin (ed.), Carroll's Kentucky Statutes, Annotated (Cleveland, 1936). Some information may be extracted from the Kentucky House and Senate Journals, and the Kentucky *Legislative Documents* are particularly useful because of the various reports which are published therein. Many of the Kentucky Geological Survey Reports contain references to hemp and its production. The most enlightening of the Geological Survey publications are Robert Peter, Chemical Examination of the Ashes of the Hemp and Buckwheat Plants (Frankfort, 1880), and John R. Procter, Culture of Flax and Hemp. Part II of Report on the History, Culture and Manufacture of Flax and Hemp (Frankfort, 1880). Information on hemp in Kentucky after the Civil War is available in Kentucky Bureau of Agriculture, Labor and Statistics (originally Bureau of Agriculture, Horticulture and Statistics), Report (title). Scattered references are also found in other varies. Frankfort, 1878state publications.

Newspapers of the area in which the hemp industry flourished are indispensable to the researcher, since from 1787, when the *Kentucky* Gazette was established, they carried advertisements, letters, articles, editorials, crop reports, and market information dealing with hemp and the products manufactured from it. In addition to the *Gazette*, other Lexington papers which proved helpful were the Kentucky Reporter, the Observer and Reporter, the Public Advertiser, the True American, the Kentucky Leader, and the presentday *Herald* and *Leader*. Frankfort papers which yielded much information were the Argus of Western America, the Commentator, the Commonwealth, the Kentucky Yeoman, and the Western World. Both the daily and weekly editions of the Louisville Courier and Journal gave extensive coverage to the hemp industry and related matters, as did the *Courier-Journal* after the two papers were combined. The Louisville *Focus* and *Public Advertiser* were also informative. Additional material was gathered from the Covington Journal, the Danville Clarion, Kentucky Tribune, and Wednesday Mercury, the Paris True Kentuckian and Weekly *Advertiser*, and the Winchester *Sun*.

Many periodicals, some published in the Bluegrass state and some elsewhere, have shown an interest in hemp. Kentucky farm journals which were used in the preparation of this study include the Dollar Farmer (Louisville, 1842-1846), Franklin Farmer (Frankfort, 1837-1840). Kentucky Farmer . . . (Frankfort, 1858-1861), and Western Farm Journal (Louisville, 1856-1857). Though published outside the state, the following agricultural periodicals contain much information on Kentucky hemp: American Agriculturist (New York, 1842-), American Farmer (Baltimore, etc., 1819-1897), Country Gentleman (title varies. Albany,), Farmers' Register (Shellbanks and 1853-1911, Philadelphia, 1911-Petersburg, Virginia, 1833-1842), Genesee Farmer (title varies. Rochester, New York, 1840-1865), *Journal of Agriculture* . . . (New York, 1846-1848), Southern Agriculturist, Horticulturist, and Register of Rural Affairs (Charleston, 1828-1846), Southern Cultivator and Dixie Farmer (Athens and Atlanta, 1843-), Southern Planter (Richmond, Virginia, 1841-1875), and Western Farmer and Gardener, Devoted to Agriculture, Horticulture, and Rural Economy (Cincinnati, 1839-1845). Of a different nature are the following periodicals which at times devoted space to hemp: De Bow's Review (New Orleans, etc., 1846-1880), [Hunt's] Merchants' Magazine and Commercial Review (New York, etc., 1840-1870), and Niles' Weekly Register . . . (Baltimore, etc., 1811-1849). Material on the more recent period was obtained from Business Week (Greenwich, Connecticut,), Literary Digest (New York, 1890-1937), Newsweek (Dayton and New York, 1933-), Science News Letter (Washington, 1921-*Time, the Weekly Newsmagazine* (New York, 1923-).

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