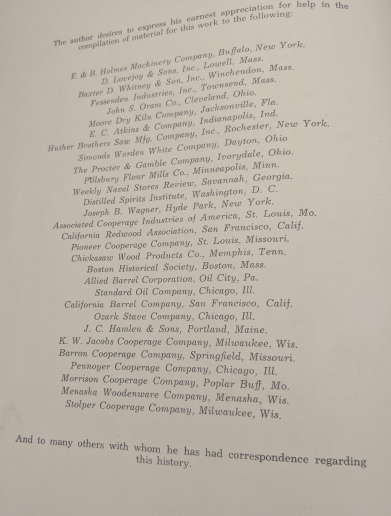
The Development of the Cooperage Industry In the United States by Franklin E. Coyne

Coyne is the Editor of Barrel and Box and Packages

6 acknowledgements:



7 (8 of the PDF): Cooper has association with the ancient lineage of the wooden barrel

Barrels were made and used by the ancient Babylonians and Egyptians before the beginning of recorded history

More than eighteen hundred years ago Pliny, the Roman investigator, who lost his life trying to find out what made a volcano smoke, tried unsuccessfully to trace the origin of barrel-making. He did discover that a race of people at the foot of the Alps were familiar with the art of assembling staves to make barrels in his day

Convenience of vessels made with staves, their simplicity of construction and their durability, together with the wide range of uses to which they were suited, made the trade of the cooper a very necessary one in the development of society. The discovery that oak, whose every product is disagreeable to the taste, gave a peculiar and pleasing flavor to beverages stored in it, gave this wood a prominence in the cooperage world as a receptable for the products of the vineyard and still.

Earliest type of barrel probably was the one consistent of a log hollowed out and the end covered with skins. In Crusades days, barrels as we know them were common and used extensively as containers for all liquids and for many such commodities as spices, salt, and peppers, which were brought to Europe from the Holy Land

Since the discovery of gunpowder, the wooden keg has been the only container in which it has been shipped. Even in comparatively modern times, when the metal hoop has come into use, manufacturers have been obliged to continue the use of hickory hoops on gunpowder kegs to reduce the danger of sparks. Privateers used wooden barrels and kegs for rum as well as for tobacco, spice, gold and other things

Liquor industry would be in a bad way were it not for the existence of the ordinary wooden barrel. Whiskey improves with age as long as it remains in the barrel.

2 classifications into which barrels and kegs logically fall. Tight barrels are carriers of liquids and slack barrels are used for solids. While the construction for these two types is basically the same, they differe in detail as to thickness and types of staves, hoops, and heading. Also grouped according to sizes in commercial classification

In tight cooperage, sizes up to 25 gallons are called kegs, and those from 25-60 are barrels. Those above 60 are known as casks, butts, and hogshead

While manufacturer of tight barrels is a very ancient trade there has been very little, if any, real improvement made in the details of its construction.

8: In middle ages, “cooper to his majesty” was a synonym for wealth, prestige, and ease. Jealousies of royalty led to the promulgation of many decrees regulating capacities and designations of vessels. Size of the container in which the sovereign stored his liquor was an index of how seriously he took himself

Export trade in the original thirteen colonies created a demand for cooperage early in their history. Unlike mot other Colonial industries, it was in no way localized, but rather attained prominence in both north and south at once. New England rum, Carolina tar and rosin, and Pennsylvania whisky, called for tight barrel cooperate at an early date, while rice and Virginia tobacco demanded the first American slack barrels

In the absence of good transportation, stock had to be manufactured were it was used, and the cooper shop was often the nucleus from which grew many a flourishing town. The cooper was usually a potent factor in the town’s life

Following chapters trace the course of cooperage development in a general way in the US, beginning with John Alden, a cooper of the Mayflower, to the year 1940

Chapter I: Our English Heritage

9 : Beginning of the cooperage industry in the US had its inception in the colony established by the Pilgrims

John Alden, on the Mayflower was a cooper.

Rapid developments of trade brought about a considerable demand for containers

9-10: most important were growth of good market for codfish, the profitable enterprise of making rum from molasses and sugar, and the beginning of trade in naval stores for shipbuilding and maintenance

12: at present, the American headquarters of this time-honored industry is in Georgia and Florida (think this means pine timber)

Chapter II Yankee Ingenuity

13: Cooper work in New England was regarded of special importance as a phase of the commerce for which this region became noted

Most of the early American cooper shops were in the nature of back rooms or sheds wherein the cooper spent his time in turning out barrels, casks, and other wood containers with his simple hand tools. Consisted of drawing knife or cooper’s fro, a stave “bucker”, clamps and windlass. With these tools the cooper was able to turn out two or three barrels a day, and he found a ready market for his products.

Barrels and all types of wooden containers played an important part in the movement of supplies and provisions to troops during the Revolutionary War.

14: in addition to barrels and casks, most early cooper shops turned out wooden tubs, pails, buckets and other woodenware products

Domestic trade surged forward in a great measure with the turn of the 19th century, whose early years saw the economic rise of cities well inland from the Atlantic seaboard, such as Pittsburgh and Cincinnati. In these centers cooperage business flourished in direct proportions to commercial activity.

All barrels in those days (referring to 1810ish period) were made directly from rough-hewn states and heading pieces were of varying thicknesses and shapes, so that barrel-making was an exact trade demanding as much skill in the use of the tools required as did cabinet-making. It was necessary to “dress” by hand and every piece of wood required in the construction of the barrel with an assortment of tools made expressly for that purpose

15: Cooper hops frequently caught fire, as they sometimes do today, and it is related that a cooperage fire was given about as much space as murder in the newspapers of that day

The establishment of several large breweries in NYC in about 1840 caused a number of relatively large cooper shops to flourish there, supplying them with the necessary beer barrels

1837 founding of Baxter D. Whitney in Winchendon, Mass – their products marked the beginning of machine tools in the cooperage industry and may be said to have opened the age of machinery for this industry

Huther Brothers Saw Mfg. Co. and Flint Saw Company

The development of these specially-machined tools greatly expedited the manufacture of cooperage products and enabled the cooper to greatly increase his production by their use

Other companies: D. Lovejoy & Son Company, the Goodspeed Machine Company, Coe Manufacturing Company

16: EC Atkins & Sons

Fessenden Cooperage, JC Hamlen & Sons (J.H. Hamlen & Son)

Pioneer Cooperage Company

Menesha Woodenware Company

Around 1850 the first real cooperage machine made its appearance, known as the Benson stave bucker, was the invention of John Benson

Improvement proved so successful and satisfying that it whetted the appetite of the boss coopers for more machinery and men mechanically inclined to put their minds and resources to the task. Discovery of crude oil in Pennsylvania and its development that opened a new and enormous market for the cooper, and inaugurated a new and highly profitable era for him

Chapter III Railroads and Oil

17: It was the flow of crude oil from the earth in Pennsylvania together with the rapid development of the railroads which greatly expedited domestic trade, that paved the way for the age of machinery in the cooperage industry y creating a demand for cooperage products far in excess of the production possible by hand methods

Development of rail transportation cooperage firms were able to utilize timber tracts far distant from the river bank and plant site

18: with the introduction of the first machinery, brought about by the demand created by the oil business, the hand cooper regarded this development not as a blessing, but something which took a great deal of joy out of his life

20: Allied Barrel Corporation

21: Pekin Cooperage and Cleveland Cooperage Company

Allied Barrel Corporation

Chapter 4 Early Cooperage Machinery

24: In addition to t he cooperage machinery firm of E&B Holmes of buffalo of which we have already mentioned, the John S. Oram Company of Cleveland turned out many early machines for the cooperage industry and these two pioneer concerns played a most important part in the development of cooperage machinery. Older firms of Baxter D Whitney, Huther Brothers, D. Lovejoy and Sons, the Goodspeech Machine Company, E.C. Atkins & Sons, Peter Gerlach Company, and H.N. Straight Company, continued to serve the industry by supplying specialized products such as stave, knives, saws, and machine knives. All f them were instrumental in placing perfected cooperage machinery parts at the disposal of the growing industry

25: hooping? Trussing? Leveling?

26: machines revolutionized the entire cooperage trade since they were the first complete set of substitutes for hand labor in that difficult work

Chapter V The Timber Trail

27: with the development of industry west of the Alleghany mountains during the great expansion period from 1840 to 1900, cooperage followed a timber trail which led to the fine white oak stands of the Ozark regions of the mid-south, to the stands of elm in the Saginaw valley of Michigan and to the white pine regions of the north woods of Wisconsin, upper Michigan, and northern Minnesota.

California Barrel Company, Western Cooperage Company

But it was in the mid-south, however, in the white oak regions of Tennessee, Arkansas, and Missouri, that the industry may be said to have taken root, since today this region is still the head (28) quarters of the tight cooperage industry

28: White oak, while somewhat more scarce than formerly, still flourishes more or less abundantly, and due to improved methods of reforestation, gives promise of enduring indefinitely

Memphis, Tennessee, has long been regarded the cooperage capital of America. Bounded by regions of white oak, as well as other timber used for cooperage, this city has always been the home of many large cooperage firms.

One of the earliest cooperage concerns of Memphis is the Chickasaw Cooperage Company, which in recent years has become associated with the Chickasaw Wood Products Company Founded by J.L. Wellford in 1882

November 4, 1886, the entire plant was consumed by fire, leaving nothing but a little stock of material in the yard. Within a few hours work was started on a warehouse nearby, fitting it up and getting it ready to receive new machinery which has been ordered by telegraph. As a result of this quick action, the factory was in the new quarters within ten days. Was a temporary plant

Barrel and Box – trade mag

Peoria (Illinois) Cooperage Company

29: almost every cooperage concern at that time was affected by the introduction of cooperage machinery. This method of employing machinery for barrel manufacture had not only effected a great saving in the way of space, but had also vastly improved the general quality of the cooperage produced, the observer noted

First step taken in the making of the barrel was the placing of the rough staves through the save jointer. After they were properly cut to size, a cooper piled them up on a circular iron platform, barrel size, with a wrought iron ring suspended a few inches above the platform. This workman put in staves until the circle was almost finished, and then drove the last one in tight to complete the embryo barrel. It was then a circle of staves, tightly held at the bottom by the truss hoop

[there’s some more detail on the process on this page, but probably don’t want to go into that much depth]

Elm hoops from the Saginaw valley of Michigan were extensively used on slack cooperage at the time, and the elm patented hoop came into existence

Northwestern Cooperage & Lumber Co.

30: elm staves from the Saginaw valley were reported to have been worth $8 per M, f.o.b., Detroit, Chicago, and Milwaukee

Charles Stolper Cooperage Company of Milwaukee

Wabash Hoop Company founded by Reyman Brothers in 1870. Had 13 hoop factories in the county in which Mt. Carmell is situated, but one by one, as the demand for hand-coopered barrels diminished, the other hoop factories closed their doors until the Reyman plant had the monopoly in the manufacture of wooden truss hoops.

32: convention pic… maybe Google the names and see if there’s a company you can find

Chapter VI The King of Packages

33: T Harlan & Co

With the turn of the 20th century, the cooperage industry “became of age”, so to speak, for it was then that the trade entered into the days of its greatest scope and productivity. The wooden barrel was almost universally used as a shipping container of bulk commodities and it became known as the king of packages because of its versatility and the multiplicity of products that could be packed or shipped in it

Early days of the present century was the hey-day of bulk shipment trade and the list of commodities shipped in barrels ran into the hundreds. Probably the most abundant and familiar of these commodities usually shipped in wooden barrels were oil, sugar, flour, fish, soap, coffee, crackers, salt, syrup, and molassesses, pickles, vinegar, meat apples, vegetables, lime and cement, paints and chemicals, naval stores and liquors. Of these the cracker barrel alone has become proverbial, signifying an age of the past.

American Steel & Wire Company

Sugar refining and petroleum industries accounted for approximately one half of the cooperage trade at the turn of the century, taking about one of every two barrels produced in the country. Trade in salt barrels was also at its height in this period, and they were among the first to be fitted with wire hoops

34: barrels of salt were said to have sold for as low as 65 cents so that the barrels themselves had to be made very cheaply. Michigan led all other states in the production of this container, turning out about 35% of the total production

Virtually all flour was shipped in barrels during the first few years of the present century, so that the number of flour barrels produced corresponded closely to the number of barrels of flour produced by the mills.

The situation for the cooper of 1900 was that while the amount of flour consumed annually was increasing, the number of barrels used for flour was decreasing due to the introduction of cotton sacks as a flour container

Frederick J Clark of the *Northwestern Miller* in a paper read before the National Slack Cooperage Stock Manufacturers Association at Indianapolis in Nov 1901 said: “it is very evident that sacks are in some degree yearly replacing barrels as flour packages. Inquiries off millers and extensive handlers, while not eliciting statements that are alike, go to confirm the commonly accepted opinion that sacks are superseding barrels. To start with, barrels are more bulky, and are less easily obtained and handled than sacks, and millers, on the ground of convenience, very generally favor the sack as a flour package. They unqualifiedly place themselves on record as holding the barrel in the light of a nuisance, and were it optional with them, barrels would be entirely deposed. In the use of barrels, millers are entirely controlled by the wishes of buyers. The milling business is beset with the sharpest of competition, and the buyer of flour has but to name the package he wants to secure it”

To this suggestion, the coopers banded together to form a sort of legion which would demand flour in barrels, and by this move they were able to keep at least a part of the flour trade for a number of years. At the present time only a few hundred barrels a month are used for flour, this going in the export trade.

Slack barrel quotations on this page

35: by 1900, the laws of most New England states regulated the character and size of barrels in which fish was packed. Laws of Maine at that time required all barrels and casks for fish products be made of sound, well-seasoned white oak, chestnut or poplar staves with heading either of such kinds of wood, sound, well-planed and season.

36: Most of the barrels used for pickled mackerel were then manufactured at Bangor, Maine. Prices ranged from $0-50 per hundred, but when an exceptionally large seasonal demand existed, they sometimes sold for as high as $1 a barrel at the fishing port

The general expansion of cooperage trade brought about a need for associated effort within the industry to regulate the many phases of trade. In the tight cooperage division an association was formed by a number of tight stave manufacturers during the summer of 1897 and the group was called the Tight Stave Manufacturers Association

Barrel and Box: Trade magazine

One purpose of new association was the favoring of “Measures that will stop the selling of cooperage cheaper, as white oak grows scarcer”

Following the success of this group, other divisions of the cooperage industry formed trade associations. These are carried on today in the Associated Cooperage Industries of America, Inc. headquartered in St. Louis Mo

12th census report for 1899 reveal that the number of barrels used by the sugar beet industry in that year was 90,985 and that the value of cooperage products purchased by the oil refineries in the same year amounted to $6,517,748

West Bay Cooperage Company – barrel Annie Edson Taylor took a drop over Niagara Falls on 10/24/1901

Chapter VII Hoops, Heading and Hullabaloo

37: the first twenty years of the present century marked two decades of progress in the cooperage industry in which the greatest development in the magnitude of operations was reached. This period has been called by many coopers the halcyon days of the industry—a period when the wooden barrel was the indispensable package for the produce of the nation

In Cleveland, the large cooperage firm of Greif Brothers, now probably the largest in the world, had been established for a number of years, while in St. Louis and Chicago, centers of brewing and meat packing, dozens of large cooperage plants were in operation

North Star Barrel Company

F.J. Hauber Cooperage Company

Stolper Cooperage Company

K.W. Jacobs Cooperage

Coopers of this bustling period often experienced an exasperating shortage of railroad cars in which to ship their products. Major problem of cooperage men and was made more acute by the chaotic conditions brought about by the World War

Menasha Woodenware Company

Ozark mountain regions have been an important source of tight cooperage stock… with the decrease of the more easily obtained timber in about 1915, stave makers worked their way deeper into the mountains for their operations. This increase of the length of haul to the railroads added considerably to the cost of the staves. Stave makers could apparently operate at a profit where others could not, and various stave mills could be seen in operation in remote mountain glades by anyone traveling through this region in the early years of the century

39: Carl Cooperage Co.

The peak year thus far in tight barrel stave and heading production seems to have been in 1907 when the aggregate number of sawed tight staves produced totaled 385,323,000 and were valued at $12,942,885 according to the Bureao of Census Report. In the same year, 27,692,994 sets of heading were manufactured, the value of which amounted to $6,864,485. 408 active establishments iin operation in the tight barrel and heading division of the cooperage industry

Production of slack staves in 1908 totaled 1,557,664,000 and valued at $8,912,527 or $5.25 per M. 123,849,000 sets of slack heading produced with a value of $5,661,713 or about 4.5 cents per set. Number of wood hoops for slack barrels produced in the same year totaled 336,484,000 and valued at $2,325,891 or about $6.91 per M.

Estimated annual output of slack barrels and kegs for the five years from 1906 to 1910 follows:

1906: 68 million

1907: 74 m

1908: 97

1909: 127

1910: 91

M.B. Bodenheim of Cassel Germany (company not person)

40: Ozark stave Company (formerly M.B. Bodenheim)

J.H. Hamlen & Sons

Lucas E. Moore Stave Companies

Firms specializing in export trade of staves at New Orleans during the War Period: Foxley Stave & Lumber Co, C.J. Hay, Poitevant and Favre Lumber, Central Timer Export, Sutherland-Innes

With the participation in the European War by the US, prices of stocks and materials used in cooperage rose rapidly. Especially true of steel, truss hoops, and nails

41: Barrel and Box

Enactment of the National Prohibition Law was a severe blow to manufacturers of tight cooperage and cooperage stock who had specialized in supplying cooperage for distillers and brewers… all of concerns engaged in supplying cooperage to the distilling and brewing trades were greatly affected, and a few ceased to function altogether

42: J.M. Schott & Sons

Ohio Cooperage Company

Montgomery Stave & Cooperage

D.W. Ryan Cooperage Company

While the advent of national prohibition wrought havoc to the part of the tight cooperage industry concerned with supplying cooperage and cooperage stock of the whisky distilling plants and breweries, the slack cooperage division was not affected a great deal by the enactment. A certain number of barrels were still required for whisky distilled under government supervision, and breweries did some business in the so-called “near-beer” trade. Most of the large cooperage concerns did not close their doors with the prohibition enactment, but rather continued on a smaller basis, developing trade in the chemical field where new products were being developed which required tight barrels for shipment, and they continued in the hope that sooner or later the nation would repeal the prohibition measure. Law was repealed in early days of 1933

Chapter VIII Distillers and Brewers

43: Tight cooperage and beer cooperage trade may be said to have flourished in direct proportion to the distilling and brewing industries, and the first whisky or beer barrel made coincided with the time of the brewing or distilling of the first batch of alcoholic spirits in the country.

44: Not possible to deduce from beer production figures the exact amount of beer cooperage used in a single year, it is easy to understand that if brewery production multiplied itself five times in the period from 1878 to 1910, for example, that the beer cooperage industry has done the same thing. Coopers of that period used to figure a yearly depreciation of 10% in beer cooperage, that is, it would require 10% more cooperage to package the same production in two consecutive years, and many estimated the average life of the old-time beer package at 7 years

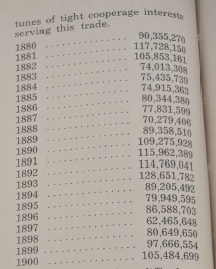
In the first year of the present century manufacturers of beer cooperage made a rough estimate that the requirement of the trade that year would be 20 million. A report of the Forest Service in the same period gives the total production of beer staves as approximately 17 million pieces

As late as 1910, the beer stave industry was unique in that it was the largest industry in the line of wood products in which the work was done largely by handcraft. Beer staves that the time were made pretty much as they were 20 or 30 years previous to that period….

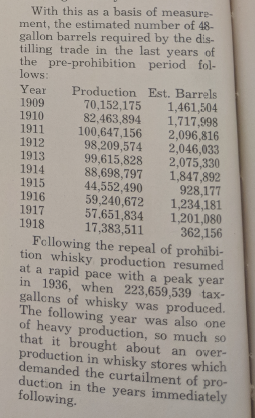
45: the advent of cooperage machinery wrought a considerable change in the methods of manufacture of beer cooperage and it enabled the staves to be dressed in the woods, and by 1910 the bulk of beer staves were shipped to market so nearly finished that a little smoothing of the joints and cutting of the croze was about all the work the cooper had to do

45-46: this necessity for frequent moving of machinery for finishing staves and the long hauls to the railroads together with the increased value of the timber, very materially added to the cost of getting out the staves and heading, so that in 1915 beer cooperage was valued at about 3x what it was about 20 or 30 years previously

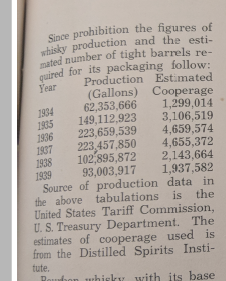
46: table of total whisky production in the US, which in a measure also indicates the fortunes of tight cooperage interests:



Difficult to arrive at # of new barrels required for such whisky production, one method of estimation is to divide the total production gallons by 48—the number of 48 gallon barrels that could package the production. Assuming average of 70 million gallons of whisky was produced annually before the prohibition era, this would indicate that there were about 1.5 million new gallon whisky each year by the distilling industry



47:



Only new, white oak cooperage may be used for the aging of bonded whisky. Means that the whisky must be aged at least 4 years in new white oak barrels

Specifications for these barrels are drawn up by the Associated Cooperage Industries and approved by the Federal Alcohol Commission

Distillers themselves make the candid admission that there is no substitute for the oak barrel, properly charred in the processing or aging of whisky

Hiram Walker & Sons

48: When the steel beer barrel for beer first appeared on the scene in comparatively large quantities, following the repeal of the prohibition law, the manufacturer of wooden barrels very naturally became apprehensive about the future of this market. May be well here to examine some of the reasons why the steel beer barrel obtained such a foothold in the beer container field

Probably the foremost reason why steel barrels were purchased in quantity by the brewers was that the time of repeal there was a shortage of the proper type of seasoned stave stock for wooden beer cooperage

Demand for beer from the public was insistent immediately following repeal and the brewers turned frantically to every source of container supply to obtain barrels. Cooperage concerns did a good job of meeting the unprecedented demand, but the facilities were not available to fill all the requirements of the brewers during the first few months after the repeal

Another reason was that many brewers resumed operations without sufficient capital. Cooperage concerns could not afford to give easy credit for large quantities of packages, and in this dilemma some of the breweries turned to the steel companies for their supply of barrels. Many of the brewers have continued to use steel barrels because they could not afford to junk a large investment even though they would prefer to go back to the wooden barrel

OTOH, steel barrel manufacturers make the claim that the steel container can sustain higher pressures without leakage than can the wooden barrels. While pressures to which a beer barrel is subjected are high, the well-made wooden beer barrel has always stood them well, and should continue to withstand them without damage

Advantages of wooden: every cooperage manufacturer and most users are familiar with the well-known double-arch construction of the wooden barrel—one of the strongest forms of construction known to man. Wooden barrel also resilient and can absorb shocks in rough handling better than steel. When steel dented, will usually rust rapidly at the point where the dent occurs

Both steel and wooden barrels covered on inside with a coating of pitch prior to being filled with beer. The trouble from pitch breaking loose within a steel barrel from shocks occasioned by rough handling is likely to be more prevalent with steel than wooden barrels due to the fact that there is greater resiliency in wood. Wooden barrels serve to insulate the contents against both heat and cold. Contents of wooden barrels have remained in good shape although the outside of the barrels were badly charred by flames. Steel doesn’t offer such protection to the contents, for the head would immediately penetrate to the interior

Better steel barrels costing more than wooden barrels

Annual production of beer over 50 million barrels of 31-gallon capacity, there remains a considerable market for the cooperage industry. Recent figures would indicate that the wooden barrel is slowly regaining its former position as the chief container for beer

Chapter IX: Vats and Tanks

49: Manufacture of vats and tanks, known as heavy cooperage, has always been an important part of the industry

50: the chemical industry is one of the largest users of wood tanks. Wood is one of the few materials that can satisfactorily and economically be used in the manufacture and storage of many chemicals. In this industry wood tanks are used for two primary purposes, namely, storage and process work. In both fields, they are used for water, acids, alkalies, salts, or bases

51: Arrow Tank Company (Fred C. Pfiel)

For the brine processing and storing of pickles, onions, cauliflower, sauerkraut, peppers, and tomatoes, wooden tanks have an extensive usage. As a result of seasonal variation in crops, many tanks in these applications are often out of use for certain periods of time during the year

The wooden tanks used in these food processing plants, after idle periods, are simply filled and put into use, requiring no recoopering

53: wooden tanks form excellent containers for the storage of ciders, fruit juices and extracts.

Canton Barrel & Box.

54: In the past, tanks and wine casks used to be cut and trimmed by hand, but now there is special machinery designed specifically for this purpose. The development of this machinery has brought about, as in the general cooperage industry, faster production and lower prices for the finished product.

Chapter X: Piggin, Pail, Kit, Kanakin

55: Winchendon Woodenware Corporation

57: The Menasha Woodenware Corporation

59: Wisconsin Butter Tub Company

Chapter XI Naval stores

61: The naval stores industry has always been closely aligned with the cooperage trade and looked to it to supply the innumerable barrels for naval stores products ever since that time-honored industry had its inception in this country

This large industry uses approximately 28 million wooden barrels annually for its products

62: Naval stores industry in the South produces each year over 500000 fifty gallon casks of turpentine and 1.6 million barrels of rosin, weighing 500 pounds to the barrel. For more than a century it has supplied from 65 to 85% of the world’s annual requirements for naval stores

64: Annual shipments of naval stores reached their peak about the turn of the present century, when about 1.3 million barrels of rosin and about 330,000 barrels of turpentine where shipped from Savannah annually. Since 1930 there has been a slight decrease in shipments and production, but apparent total consumption in world markets shows a steady increase

Chapter XII Transition

65: Klausner Cooperage Co.

65-66: In the early days of the present century barrels were used to package products now packed and shipped in tin cans, bottles, paper cartons, cellophane and other modern packages.

67: Stolper Cooperage Co.

Moore Dry Kiln Company

68: Chas Stoleper Cooperage Co.

69: California Barrel Company

Pacific Woodenware Company

Bucrkkhartsmeier Bros Cooperage Company

70: 1855: Charles Stolper founded Stolper Cooperage Company in Milwaukee. Firm has engaged in the manufacture of brewery packages, and the manufacture of the concern has always remained with the Stolper family. Today the firm is one of the largest exclusive beer cooperage concerns in the country.

N. & H. Cooperage Co.

71: a shipment of 180 eighth-barrel beer kegs sold for $153, amounting to only 85 cents for each such keg. At the same time, the sixth barrel keg sold for $1.12

K.W. Jacobs Cooperage Co

Chapter XII Modern Machinery

73: Modern machines and equipment’s have revolutionized the hand methods now utilized by the coopers of a century ago. These machines have brought not only speedier and less costly production but have at the same time been instrumental in the making of much better quality cooperage than was possible by hand methods.

Baxter D. Whitney

Simonds Worden White

Huther Brothers, Flint Saw Company

Goodspeed Machine Company

E & B Holmes machinery

E.C. Watkins

John S. Oram Company of Cleveland

Morley Machine Company

Rochester Barrel Machine Works

77: Western Cooperage

82: Barrel hoops of steel and wire are furnished today by a number of steel concerns, including American Steel and Wire Co., Sharon Steel Company, Acme Steel Company, Atlantic Steel Company, Mid-States Steel and Wire

With its main office in Cleveland, the Greif Brothers Cooperage Company, operates some 46 subsidiary cooperage or cooperage stock establishments and is today the largest manufacturer of slack cooperage in the world

Prominent in the field of wooden barrel manufacture is the Allied Barrel Company

Machines have largely displaced hand labor in the cooperage industry, but here and there the cooper craftsman still holds sway. In the Burkhartsmeir Bros. Cooperage Company plant, one of the best machine equipped slack cooperage plants in the city, a cooper of the old school is kept busy on small orders or for special size barrels

Chapter XIV: Modern Manufacturing Mehtods

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