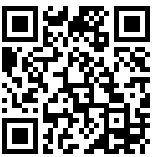

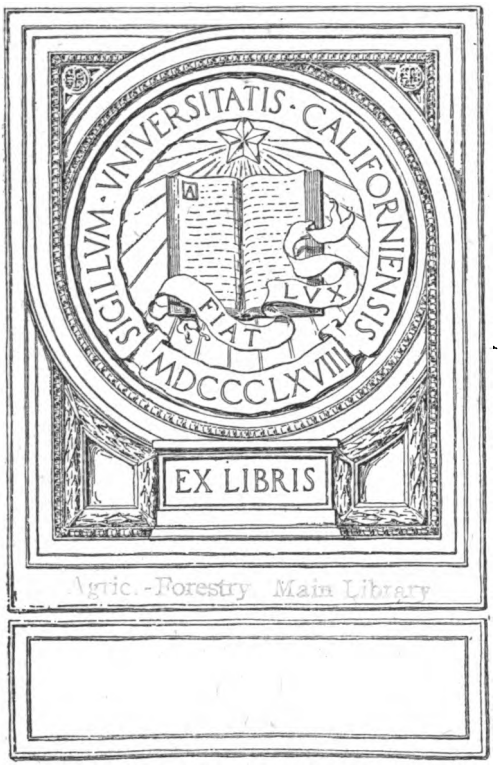

THE DISSTON CRUCIBLE

A MAGAZINE FOR THE MILLMAN

FEBRUARY 1916

Ask the user

of

DISSTON SAWS

why he doesn't

change

THE DISSTON CRUCIBLE

PRICE 10¢ PER COPY $1.00 YEARLY IN ADVANCE

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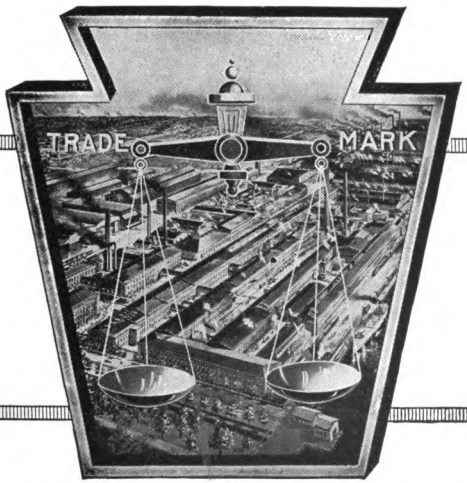


This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS
INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

BRANCH HOUSES:

Chicago, Ills. Boston, Mass. Cincinnati, Ohio. Seattle, Wash. Portland, Oregon.
New Orleans, La. Memphis, Tenn. San Francisco, Cal. Sydney, Aus. Vancouver, B. C.
Canadian Works, Toronto, Canada.

A ST. CROIX "BLACK FOUR"—AT ST. CROIX LUMBER AND MANUFACTURING CO., WINTON, MINN.

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. FEBRUARY 15, 1916 NO. 1

EDITORIAL CHAT

CONFIDENCE

CONFIDENCE, in a broad sense, is the foundation of all commercial activity inasmuch as it is the basis of credit, without which business would be restricted practically to the point of inertia.

In a more specific application, the confidence of its customers is the backbone of every business. It is, indeed, the most valuable asset that any firm may have. It is absolutely indispensible to the substantial growth and development of the business, to increased sales and profits. It is this confidence which erects the new buildings and installs the new equipment. It is the one thing which makes worth while research and investigation for improvement of process and product.

Vital as the confidence of his customers is to the manufacturer, it can be influenced by only one, solitary consideration—the merit of his product. To bear this out, consider the goods of any established, solid, reputable concern with which you are familiar.

Is it conceivable that any concern with the acumen to build a great, prosperous business on the high quality of its product would deliberately commit commercial suicide by lowering, even slightly, this high standard?

Isaac Disston

POSSIBLE CAUSES OF CRACK IN ONLY ONE OF SET OF TWO OR MORE SAWS

[The query was presented in the January issue of the CRUCIBLE by B. S. C., a Louisiana filer, as to the reason one band saw in a lot of two or more would crack while the others did not. The following comprehensive explanation of several possible causes is received from another filer. We print it without comment other than to suggest that open discussion of practical problems by practical men is unquestionably of great assistance to thousands of other filers. For such discussions, the columns of the CRUCIBLE are always open and CRUCIBLE readers are invited and urged to use them.—Editor's note.]

Washington, Jan. 19,1916

HENRY DISSTON,

Dear Sir:

Noting request of "B. S. C." in the January CRUCIBLE for information as to why one Band Saw in a lot of two or more saws would crack, while the others (presumably run under the same conditions) did not, will say that I, like many other filers, have passed through similar experiences, lost a lot of sleep, and done a whole lot of unnecessary work before I solved this problem.

I think the best way to answer "B. S. C.'s" question is to give a description of one of my earlier experiences. I of course, as a beginner, had the usual troubles that all men in such a position have encountered and are familar with, including a lack of harmony and team work between myself and sawyers, so will skip all of these details and get right down to the question.

To begin with, will say I have worked on large band and band re-saws now for 25 years, and, while not of a roaming disposition, have successfully taken care of saws in some of the largest mills in all of the best band mill territories of the United States. Of course, I have had my share of "bumps," but had qualified as a band saw filer and sawyer before I struck the particular snag "B. S. C." speaks of.

I have run all makes of saws and now know that it is not possible for any saw manufacturer to make every saw 100% perfect, and in my early days as a filer I made the usual youthful mistake of assuming that none of the troubles I experienced were due to my work or lack of work on my saws, or the adjustment and alignment of the mill, but I have since learned that many of the saws I ran were nearer 100% perfect as saws than I was as a filer. In the light of later experiences, I am ready to and frankly admit that some of my experience was gained at the expense of the saw manufacturers and my employers.

As I gained in experience, I came to the conclusion that the poorest saws I had ever worked on were practically perfect, and that all the snags I had struck were due to some thing I had or had not done, or, to some slight unavoidable accident in the operation of the saws, for which the sawyer or filer could not, or the saw manufacturer should not be blamed.

Now why could one saw in a lot of four crack, when all the others running under the same conditions did not crack? How do we know the conditions were the same? When I first struck a snag of this kind, I had four new saws, all of them had been taking their regular runs on the same mill for nearly two weeks, when a short crack appeared in one of them. I

at once in my mind condemned the saw, but punched the saw and continued to run it and that particular crack did not grow any deeper, but I had lost confidence in the saw and did not put the work on it that I now know I should, and later on one or two more cracks appeared, all of which were punched, and the saw, taking its regular turn, gave fair results notwithstanding neither the sawyer or myself had the confidence in it we had in the other three, and, consequently, it did not get a fair show at our hands and eventually was replaced by the maker.

Now brother filers, in all fairness to ourselves, could I have successfully swaged that saw, would it have held its cutting edge and tension just as well as the others? Could I have stopped the cracks by punching if they were due to any defect in the steel or the temper? The answer is NO, and if I had not lost confidence in the saw when the first crack came and had been as careful in my tensioning and leveling as with the other three saws, I could have worn the saw out without any more cracks, unless caused by some unusual strain.

I think I have heard some of my brother filers say: "Well, what caused the first crack?" Such a question is natural. Later on I asked myself the same question in a really want-to-know way, and still later on had a similar experience, but did not, as in the first case, condemn the saw, but continued to treat it as I did the others, had no more cracks or trouble with it, and finally in due time wore the saw out and passed down to a larger re-saw, where it gave a good account of itself, until it was too narrow for further use.

Incidentally, I will say that in hunting for the cause of the crack in the second instance, I found that very near changing time, when the saw had had an unusually gritty lot of logs to cut, the saw under a high rate of feed struck a short cross-grained windshake, made a short dodge of about ¾" out of line, which pulled the tension for a short space and made a crack, all in the fraction of a second.

Who was to blame for this? No one. It was just one of the chances of war a band saw is up against all the time, and is no reflection against the sawyer or filer, for accidents of this kind are unavoidable, and this is only one of many causes that may create a crack in the best saws ever made, and not be the fault of filer, sawyer or saw manufacturer.

For instance. we all know how quickly a little sliver jammed in the guide will put a saw out of business, temporarily at least, we also know a steam feed valve sometimes sticks and the saw for an instant is crowded beyond its capacity; also that the compensating straining gear is not always as sensitive as it should be and can not at its best "let-up" at the same speed at which the saw travels, also a slight case hardened spot by emery grinder may occur without our knowledge. We also know that gum on the wheels or the saw is a crack producer, to say nothing of the constant bending and straightening of the blade while under heavy tensile and vibratory strains.

If brother "B. S. C." and his filer friends will be perfectly fair to themselves, I think they will find the trouble they speak of in some of the causes I have mentioned. I am neither criticising or defending any one, but I say in justice to the filing fraternity and our employers, let us hunt the real cause of the saw trouble and remedy it before we condemn the saw, and in a *large* majority of cases it will be found in some of the details mentioned in the foregoing and enable both Filer and Sawyer to make a better and larger cut, and themselves proportionately more valuable to their employers.

Fraternally yours,

W. P. E.

A DISSTON "CHISEL POINT" STRUCK THIS LAG SCREW

WE receive numerous reports of DISSTON SAWS striking metal but regardless of the kind of metal or the type of saw, one part of the report seems always to be to the effect that "the DISSTON SAW was uninjured."

This time: "It was only necessary to replace 8 points," in the 38-inch, 8-gauge, No. 33 Chisel Point Inserted Tooth Saw in the mill of W. J. Newman Co., Chicago. Mr. Newman writes that this slight repair put the saw in first-class condition. The blade was put right back in the regular work.

WHITE PINE

(PINUS STROBUS)

From American Forest Trees.

THE best known wood of the United States has never been burdened with a multitude of names, as many minor species have. It is commonly known as white pine in every region where it grows, and in many where the living tree is never seen, except when planted for ornament. The light color of the wood suggests the name. The bark and the foliage are of somber hue, though not as dark as hemlock and many of the pines. The name Weymouth pine is occasionally heard, but it is more used in books than by lumbermen. It is commonly supposed that the name refers to Lord Weymouth who interested himself in the tree at an early period, but this has been disputed. In Pennsylvania it is occasionally called soft pine to distinguish it from the harder and inferior pitch pine and table mountain pine with which it is sometimes associated. It is the softest of the pines, and the name is not inappropriate. In some regions of the South, where it is well known, it is called northern spruce pine in recognition of the fact that it is a northern species which has followed the Appalachian mountain ranges some hundreds of miles southward. There is no good reason for this name when applied to white pine. It should be remembered, however, that no less than a dozen tree species in the United States are sometimes called spruce pine. Cork pine is a trade name applied more frequently to the wood than to the living tree. It is the wood of old, mature, first class trunks, as nearly perfect as can be found. Pumpkin pine is another name given to the same class of wood. It is so named because the grain is homogeneous, like a pumpkin, and may be readily cut and carved in any direction. It is the ideal wood for the pattern maker, but it is now hard to get because the venerable white pines, many hundred years old, are practically gone.

The northern limit of the range of white pine stretches from Newfoundland to Manitoba, more than eighteen hundred miles east and west across the Dominion of Canada, and southward to northern Georgia, twelve hundred miles in a north and south direction. But white pine does not grow in all parts of the territory thus delimited. It attained magnificent development in certain large regions before lumbering began, and in others it was scarce or totally wanting. Its ability to maintain itself on land too thin for vigorous hardwood growth gave it a monopoly of enormous stretches of sandy country, particularly in the Lake States. It occupied large areas in New England and southern Canada; developed splendid stands in New York and Pennsylvania; and it covered certain mountains and uplands southward along the mountain ranges across Maryland, West Virginia and the elevated regions two or three hundred miles farther south.

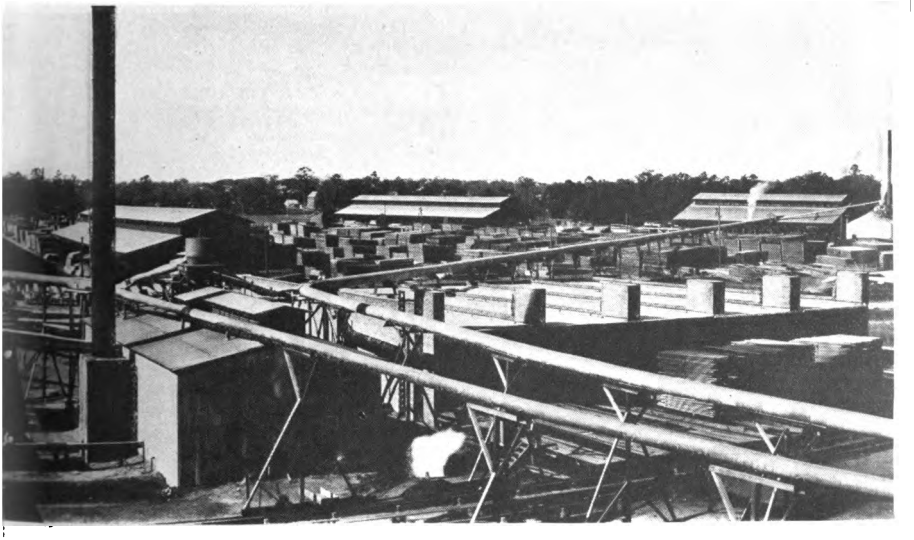
A dozen or more varieties of white pine have been developed under cultivation, but they interest the nurseryman, not the lumberman. In all the wide extension of its range, and during all past time, nature was never able to develop a single variety of white pine which departed from the typical species. For that reason it is one of the most interesting objects of study in the tree kingdom. True, the white pine in the southern mountains differs slightly from the northern tree, but botanically it is the same. Its wood is a little heavier, its branches are more resinous and consequently adhere a longer time to the trunk after they die, resulting in lumber with more knots. The southern wood is more tinged with red, the knots are redder and usually sounder than in the North.

It is unfortunately necessary in speaking of white pine forests to use the past tense, for most of the primeval stands have disappeared. The range is as extensive as ever, because wherever a forest once grew, a few trees remain; but the merchantable timber has been cut in most regions. The tree bears winged seed which quickly scatter over vacant spaces, and new

Continued on page 10

THE LUFKIN LAND A

This company, situated at Lufkin, Texas, a panoramic view of which is shown above, is ably managed by Mr. S. M. Morris. Messrs. R. W. Swank and Archie Codie are respectively Superintendent and Head Filer.



ND LUMBER COMPANY

The equipment consists of two band mills and a lath mill. The capacity of the plant is 100,000 feet of yellow pine per day.

DISSTON SAWS are used exclusively.

growth would long ago, in most cases, have taken the place of the old, had not fires persistently destroyed the seedlings. In parts of New England where fire protection is afforded, dense stands of white pine are coming on, and in numerous instances profitable lumber operations are carried on in second growth forests. That condition does not exist generally in white pine regions, Primeval stands were seldom absolutely pure, but sometimes, in bodies of thousands of acres, there was little but white pine. Generally hardwoods or other softwoods grew with the pine. At its best, it is the largest pine of the United States, except the sugar pine of California. The largest trees grew in New England where diameters of six or more feet and heights exceeding two hundred feet were found. A diameter of four and five feet and a height of one hundred and fifty feet are about the size limits in the Lake States and the southern mountains. Trees two or three feet through and ninety and one hundred and twenty feet tall are a fair average for mature timber.

The wood of white pine is among the lightest of the commercial timbers of this country, and among the softest. While it is not strong, it compares favorable, weight for weight, with most others. It is of rather rapid growth, and the rings of annual increase are clearly defined. and they contain comparatively few resin ducts. For that reason it may be classed as a close, compact wood. It polishes well, may be cut with great ease, and after it is seasoned it holds its form better than most woods. That property fits it admirably for doors and sash and for backing of veneer, where a little warping or twisting would do much harm.

The medullary rays are numerous but are too small to be easily seen separately, and do not figure much in the appearance of the wood. The resin passages are few and small, but the wood contains enough resin to give it a characteristic odor, which is not usually considered injurious to merchandise shipped in pine boxes. The white color of the wood gives it much of its value. Though rather weak, white pine is stiff, rather low in elasticity, is practically wanting in toughness, has little figure, and when exposed to alternate dryness and dampness it is rated poor in lasting properties; yet shingles and weather boarding of this wood have been known to stand half a century. The sapwood is lighter in color than the heart, and decays more quickly.

As long as white pine was at [illegible] t it surpassed all other woods of this country in the amount used. It was one of the earliest exports from New England, and it went to the West Indies and to Europe. England attempted to control the cutting and export of white pine, but was unsuccessful. At an early period the rivers were utilized for transporting the [illegible] and the lumber to market, and [illegible] method has continued until the present time. Spectacular log drives were common in early times in New England, later in New York and Pennsylvania, and still later in Michigan and the other Lake States. Many billions of feet of faultless logs have gone down flooded rivers. The scenes in the woods and the life in lumber camps have been written in novels and romances, and the central figure of it all was white pine.

There are few things for which this wood is not suitable; otherwise its use has been nearly universal in some parts of this country. It went into masts and matches, which are the largest and smallest commodities, and into almost every shape and size of product between. Most of the early houses and barns in the pine region were built of it. Hewed pine was the foundation, and the shingles were of split and shaved pine. It formed floors, doors, sash and shutters. It was the ceiling within and the weather boarding without. It fenced the fields and bridged the streams. It went to market as rough lumber, and planing mills turned it out as dressed stock in various forms. It has probably been more extensively employed by box makers than any other wood, and though it is scarcer than formerly, hundreds of millions of feet of it are still used annually by box makers. Scores of millions of feet yearly are demanded by the manufacturers of window shade rollers, though individually the roller is a very small commodity. In this, as for patterns and many other things, no satisfactory

Continued on page 11

W. T. CARTER & BRO.

CAMDEN, TEXAS

One of the largest yellow pine mills in the South is that of the W. T. Carter & Bro., Camden, Texas. This is a most remarkable mill and was built by a most remarkable crew. The mill is modern in every respect, constructed entirely of concrete and and the interesting part of it is that every piece of steel was cut and every rivet driven by the regular mill crew. Messrs. W. T. Carter and E. A. Carter, natural born mechanics, superintended the erection of the plant with Mr. W. H. Dudley, now head filer, as head millright. Not only did the job cost fifty per cent. less than the bid of the lowest contractor, but it was completed in about six months less time than any of the competing contractors would guarantee.

The Messrs. Carter are pioneer yellow pine timberman of east Texas, having started in the business many years ago with a small mill and limited capital. They gradually expanded until today they are the largest individual timber holders in Texas. Besides the W. T. Carter & Bro. mill, they are also interested in the Carter-Kelly Lumber Company of Manning, Texas, and other enterprises in this State.

They have used DISSTON SAWS exclusively and continuously for over a quarter of a century. Mr. Carter meets any attempt at substitution with the comment that his success has been through DISSTON SAWS and they are still good enough for him.

Mr. W. H. Dudley, who is head filer for the mill, has been with the company for years, and has filled every position from order boy to filer. He has learned the operating end of the timber business from start to finish. Several months ago he went into the filing room to learn filing. With his mechanical knowledge and determination to master the trade, he has accomplished in a few months what ordinarily takes years to do. His saws are cutting as fine as any in Texas, and indications are that they will continue to do so.

WHITE PINE

Concluded from page 11

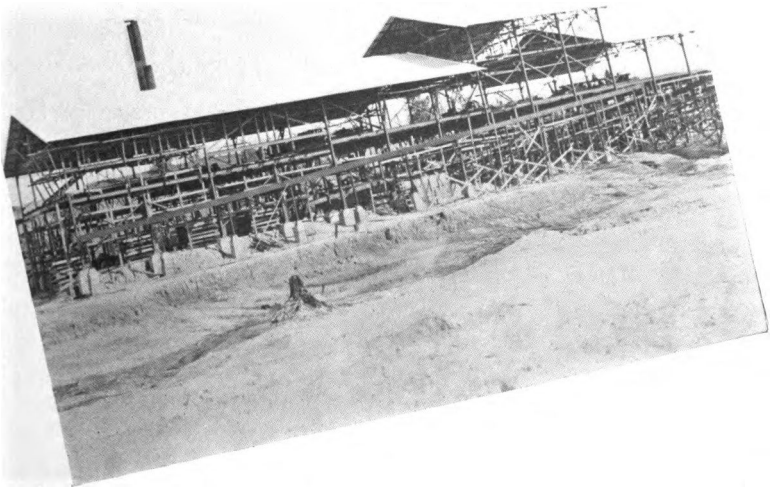
substitute for white pine has been found.

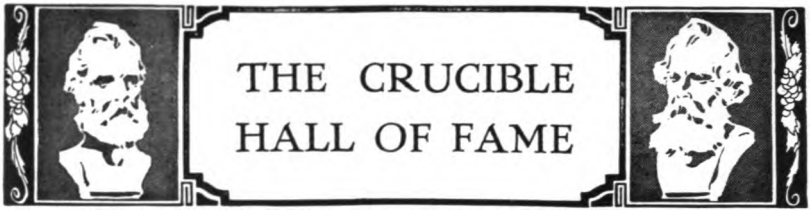
As a timber tree, it will not disappear from this country, though the days of its greatest importance are past. Enormous tracts where it once grew will apparently never produce a white pine sawlog. The prospect is more encouraging in other regions, and there will always be a considerable quantity of this lumber in the American market though the high percentage of good grades which prevailed in the past will not continue in the future.

White pine belongs in the five needle group, that is, five leaves grow in a bundle. They turn yellow and fall in the autumn of the second year. The cones are slender, are from five to eleven inches in length, and ripen and disperse their seeds in the autumn of the second year.

W. T. CARTER
CAMDEN,

& BRO.
TEXAS

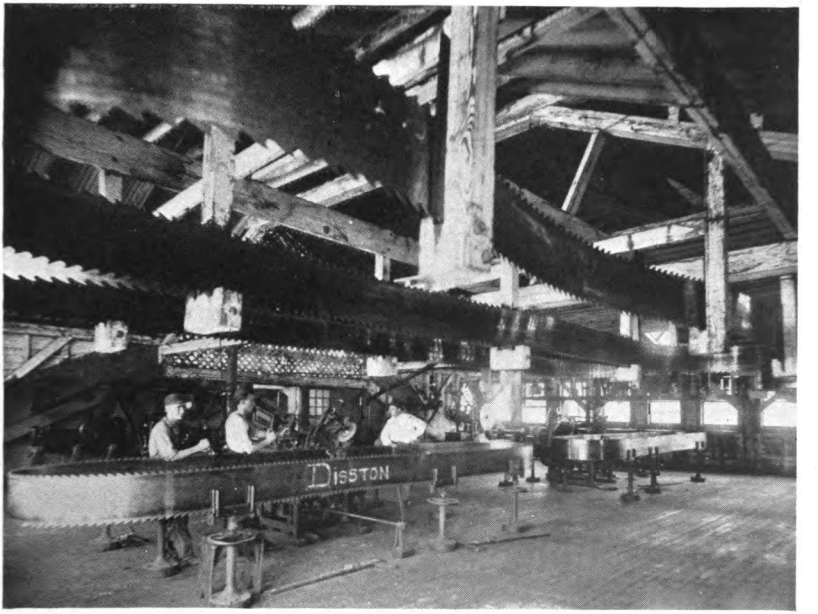




S. HORACE DISSTON

MR. S. HORACE DISSTON, Factory Manager of HENRY DISSTON & SONS, is a son of Samuel Disston, former Secretary and General Manager of the company. He was born in June, 1881. In 1899 he began a period of ten years of thoroughly practical training in the manufacturing end of the business. Three years were spent in the File Works followed by seven in the Saw Factory, thoroughly familiarizing Mr. DISSTON with every manufacturing detail. He spent most of 1909 superintending the installation of a new factory in Toronto, Canada, and getting it under way. Subsequently, he divided his attention between the office and factory until last year he was made Factory Manager, for which office his experience has so well equipped him.

WHO'S WHO IN THE SAW WORLD



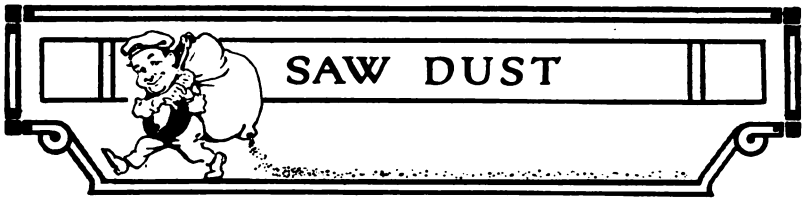
Filing Room—Trinity County Lumber Co., Groveton, Texas

TRINITY COUNTY LUMBER CO.

CLAUDE HUMPHREY, Head Filer

THE photograph shows the interior of the Trinity County Lumber Company's (Groveton, Texas) filing room. Mr. Claude Humphrey is head filer at the lumber mill and Mr. Will Friday at the planer mill. The confidence of both in DISSTON Quality is fully evidenced in the fact that every saw and every knife used in both lumber and planing mills is a DISSTON.

The January issue of the CRUCIBLE contained an article describing the efficient fire department of this progressive company. It might prove of value to those who missed it.



SHARPENING HIMSELF

When the train stopped at the little Southern station the tourist from the North sauntered out and gazed curiously at a lean animal with scraggy bristles, which was rubbing itself against a scrub oak.

"What do you call that?" he asked curiously of a native.

"Razorback hawg, suh."

"What is he doing rubbing himself against that tree?"

"He's stropping hisself, suh, just stropping hisself."—*Farmer's Advocate and Home Journal.*

HARD LUCK

"What are you here for, and why, my misguided friend?" queried one of those sympathetic prison uplift advocates recently.

"Well, you see, mum, I'm the victim of the unlucky number 13."

"My, how novel and superstitious! Tell me all about it—that unlucky 13."

"Yes, mum; 12 jurors and one judge."

TOOTHSOME

"Casey," said Pat, "how do ye tell th' age of a tu-u-rkey?"

"Oi can always tell by the teeth," said Casey.

"By the teeth!" exclaimed Pat. "But a tu-u-rkey has no teeth."

"No," admitted Casey, "but Oi have."—*London Opinion.*

STRAINED

The newly arrived citizen from Italy was trying his best to buy a colander, but could not make the clerk understand what he wanted. The clerk showed him several kinds of pans, but at each he shook his head. Finally he got an idea.

"Give-a me dis-a kind," he said. "Da water go ahead, da macaroni stop."

MISTAKEN IDENTITY

When Prof. Walter Raleigh, an Englishman who was a direct descendant of the original Sir Walter Raleigh, was asked to lecture at Princeton College, Professor Root went down to the station to meet the distinguished visitor. Professor Root did not know Professor Raleigh, but walking up to a man that he thought looked like him he said:

"I beg your pardon, but am I addressing Walter Raleigh?"

The man looked at him for a moment and replied:

"No, I am Christopher Columbus. Walter Raleigh is in the smoking-room with Queen Elizabeth."

—*Christian Register.*

WHAT'S IN A NAME?

At a fancy dress ball for children a policeman stationed at the door was instructed not to admit any adult.

An excited woman came running up to the door and demanded admission.

"I'm sorry, mum," replied the policeman, "but I can't let any one in but children."

"But my child is dressed as a butterfly," exclaimed the woman, "and has forgotten her wings."

"Can't help it," replied the policeman; "orders is orders; you'll have to let her go as a caterpillar."—*Liverpool Mercury.*

A LONG TRAIN

Mrs. Norah Mulvaney met her friend, Mrs. Bridget Carr, who had in her arms her twelfth child.

"Arrah, now, Bridget," said Norah, "an' there ye are wid another little Carr in yer arms."

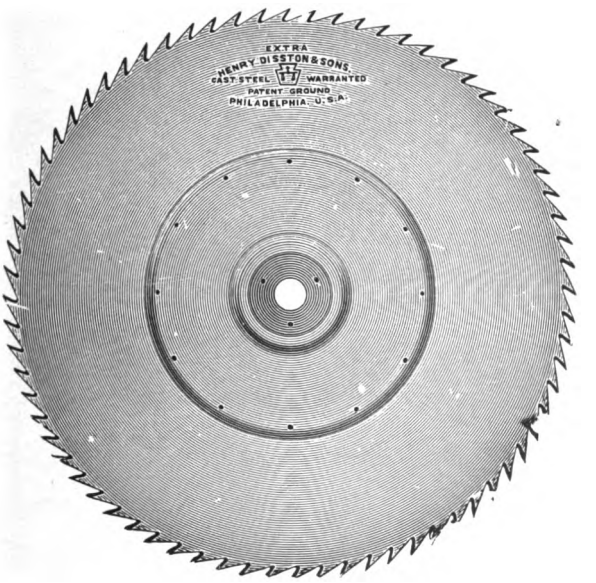
"Another it is, Mrs. Mulvaney," replied her friend, "an' it's me that's hopin' 'tis the caboose."

"What's Jiggs sitting over there like a dummy for?

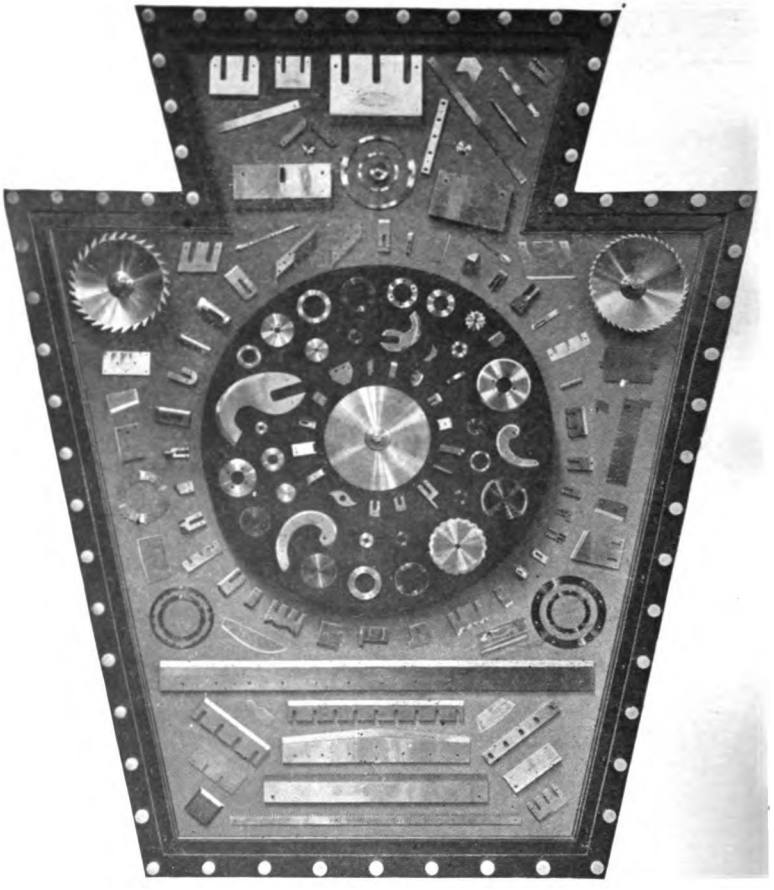
"Sh-h-h! He's arguing with his wife."

SHINGLE AND HEADING SAWS

Warranted Extra Crucible Steel
Tapered and Patent Ground



All DISSTON Shingle Saws and Heading Saws are of an extra fine grade of steel, made expressly for the purpose; unexcelled for toughness, temper, and cutting qualities.



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12 HIGHEST AWARDS
Including 4 Grand Prizes

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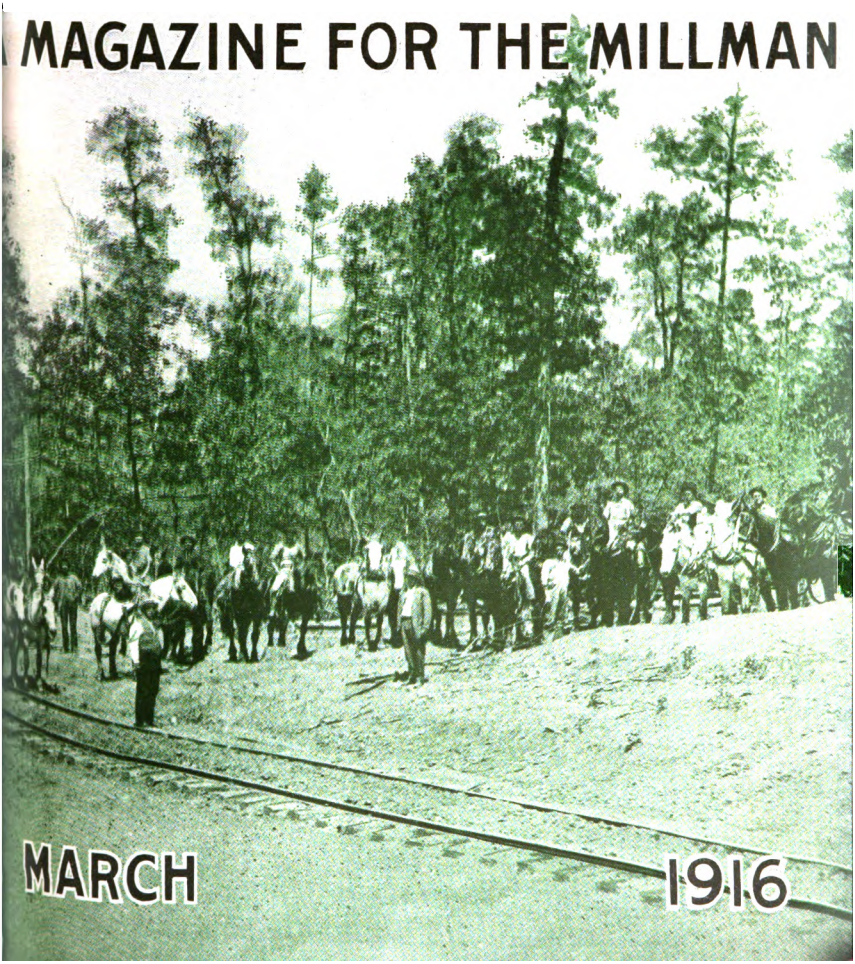

MARCH 1916

Your Success is Ours

—that's *one* reason

DISSTON SAWS

are the best that

can be made

THE DISSTON CRUCIBLE

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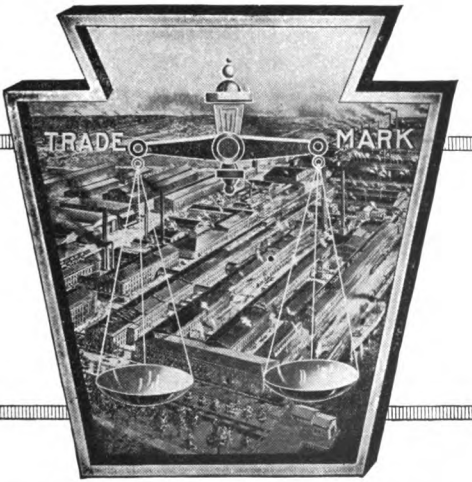

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Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

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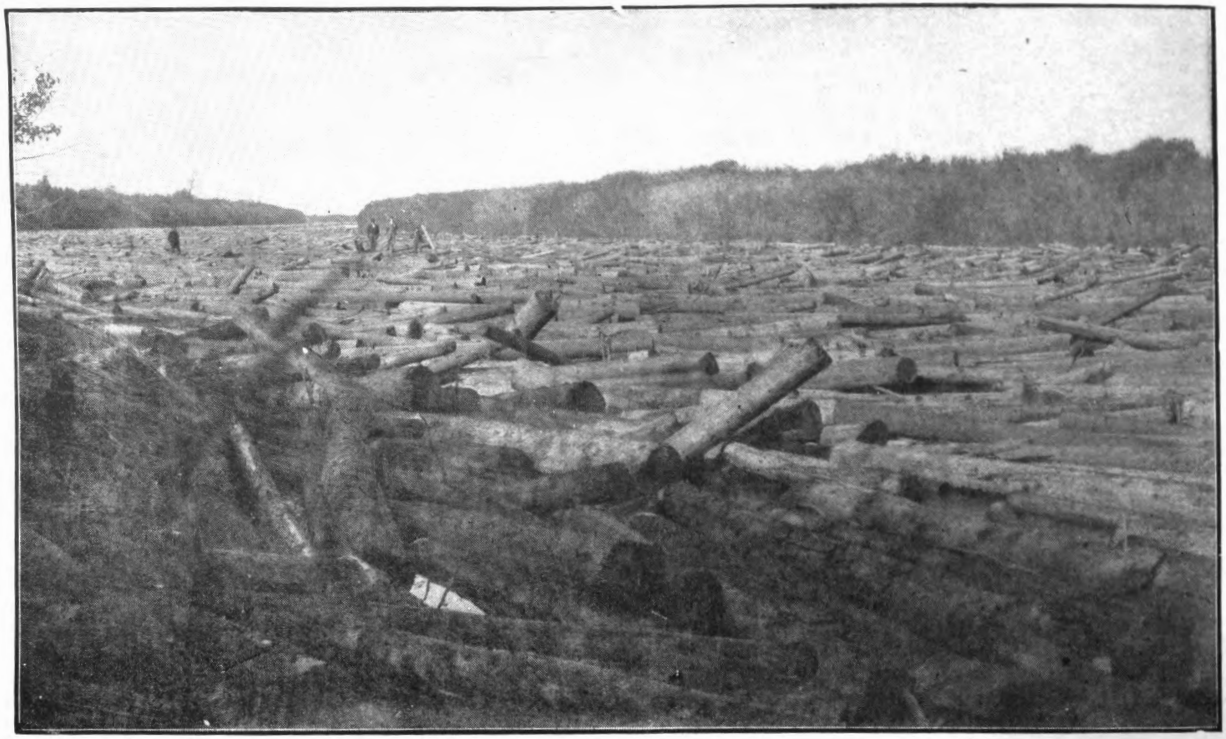


LOG JAM—CARTER-KELLEY LUMBER CO.

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. MARCH 15, 1916 NO. 2

EDITORIAL CHAT

RUNNING TO FORM

"RUNNING TO FORM" is an expressive phrase in so called "sporting" parlance which might aptly be applied to all branches of human and commercial activity. It simply means delivering the results which from "past performance" might logically be expected.

In industrial activity the element of chance is reduced to the vanishing point; manufacturing processes proceed with the accuracy and precision of highest efficiency; minute analysis of material and method virtually eliminate divergence from schedule; inspection and test are the final check. The product is *exactly what the manufacturer predetermined it should be.* That manufactured articles "run to form" is a foregone conclusion, not a gamble. And this applies, regardless of the nature or quality of the goods.

Therein lies the purchaser's protection. The quality of the goods reflects the maker's reputation.

Be advised. Get the goods, of whatever character, of a maker whose business is based on a *quality* foundation, and depend on their "running to form."

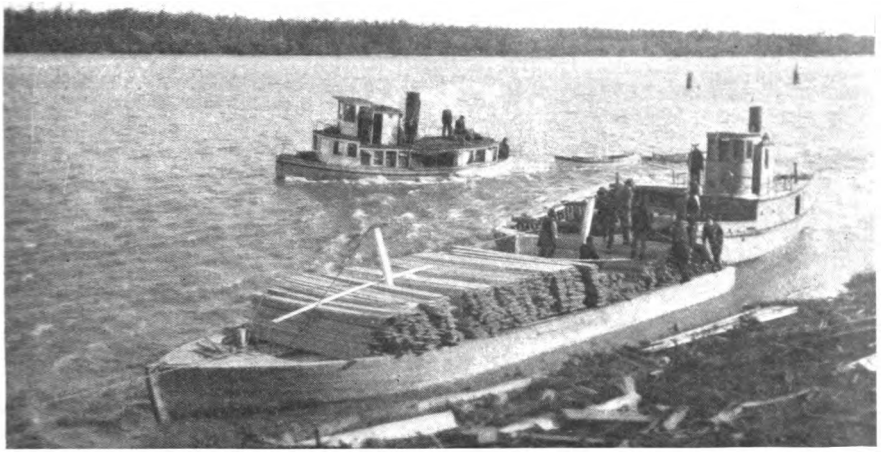
Quality Tells

THE FINGER LUMBER COMPANY

Using DISSTON SAWS Exclusively

THE FINGER LUMBER COMPANY LIMITED, The Pas, Manitoba, commenced operations in the fall of 1911. Their mill has the distinction of being located the farthest north and of being the first industrial enterprise conducted in New Manitoba. The Pas is located on the Saskatchewan River and has prominence as the southern terminus of the Hudson Bay Railway now being built by Canadian Government to Pt. Nelson on Hudson Bay. This will allow them to compete for European trade. From an Indian village in 1911 it has now developed to a thriving town of 2,500 people and it can boast of modern improvements such as waterworks, sewers and electric lights. The Finger Lumber Company's timber limits are located on the Carrot River and on the Sipanock Channel, which creek connects the Carrot River with the Saskatchewan. The Company also owns extensive limits on the main Saskatchewan River. At present they are logging on the Carrot River and this stream affords short and easy driving.

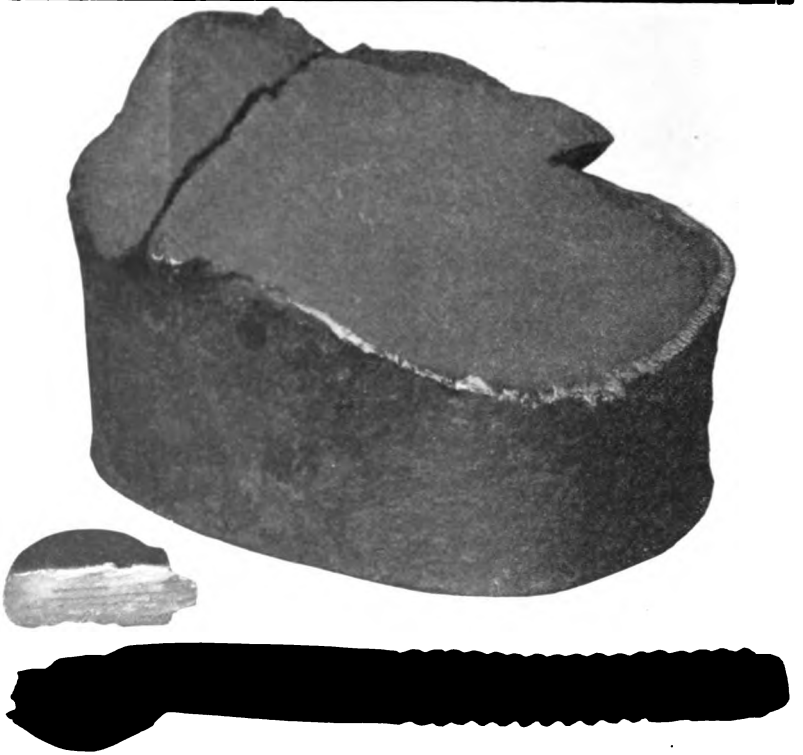
The Company's saw mill is equipped with circular and gang. Only one side is fitted up at present and the capacity can be doubled



by fitting the other side and this is what the Company intends to do as soon as trade conditions warrant. The present capacity is 200,000 feet of lumber and 50,000 lath per twenty hours. The engines are of 950 horse power. The yards are equipped with tracks throughout. The planing mill is installed with fast-feed planers and re-saws. Carrot River spruce is of an exceptionally fine quality.

The Company has erected dwellings for its employees, it also conducts a boarding house. The product is marketed principally in the Prairie Provinces but during the last year an extensive campaign has been carried on introducing Carrot River Spruce on the Milwaukee and Chicago market. As a result of that campaign 299 cars were shipped during 1915 to various points in the United States, some of which went as far east as New Jersey. The Company's logging is in charge of Mr. O. G. Finger and they are preparing for a busy season. Three large camps are being operated and it is expected that upwards of 21,000,000 feet of logs will be ready for sawing as soon as the river opens in the spring.

The officers of the Company are: President, Mr. H. Finger, Vice President, C. R. Smith, Menasha, Wis; Secretary and Treasurer, W. H. Miner, Menasha, Wis. Mr. H. Finger has been mayor of the town since 1912.



IRON RING AND STEEL SPIKE CUT BY DISSTONS

THESE two pieces of metal were encountered by DISSTON SAWS in the mill of the Vestal Lumber & Mfg. Co., at Knoxville, Tenn. No harm was done the saws, re-swaging being all that was required, according to the following from Mr. S. F. Horn, Travelling Representative of the Southern Lumberman.

THE SOUTHERN LUMBERMAN
NASHVILLE, TENN.

HENRY DISSTON & SONS, Philadelphia, Pa. February 9th, 1916.

Gentlemen: By parcel post we are sending you today two examples of the good quality of your saws, which the writer ran across at the mill of the Vestal Lumber & Mfg. Co., in Knoxville, Tenn.

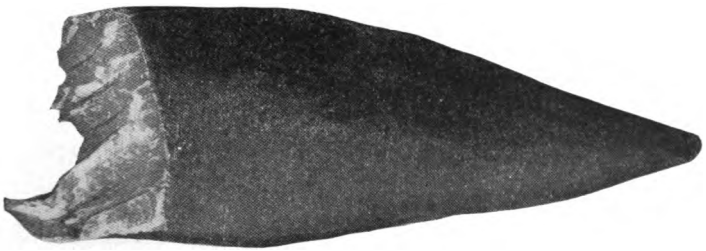
One of these is an iron ring which was apparently hung up on a knot on the side of a walnut tree a good many years ago, as when the saw struck this ring it was on the inside of a log eight inches from the outside bark.

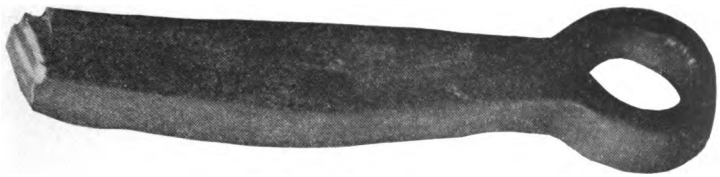
The steel spike was also in a walnut log and you will note was cleanly cut in two pieces. The sawyer stated to me that in neither case was the saw damaged aside from the necessity of re-swaging.

With best wishes, we are, Yours very truly,

THE SOUTHERN LUMBERMAN,

SFH/CH. (Signed) S. F. HORN, Travelling Representative.





"ANY SAW NOT OF SUPERIOR QUALITY WOULD HAVE BEEN TORN TO RIBBONS"

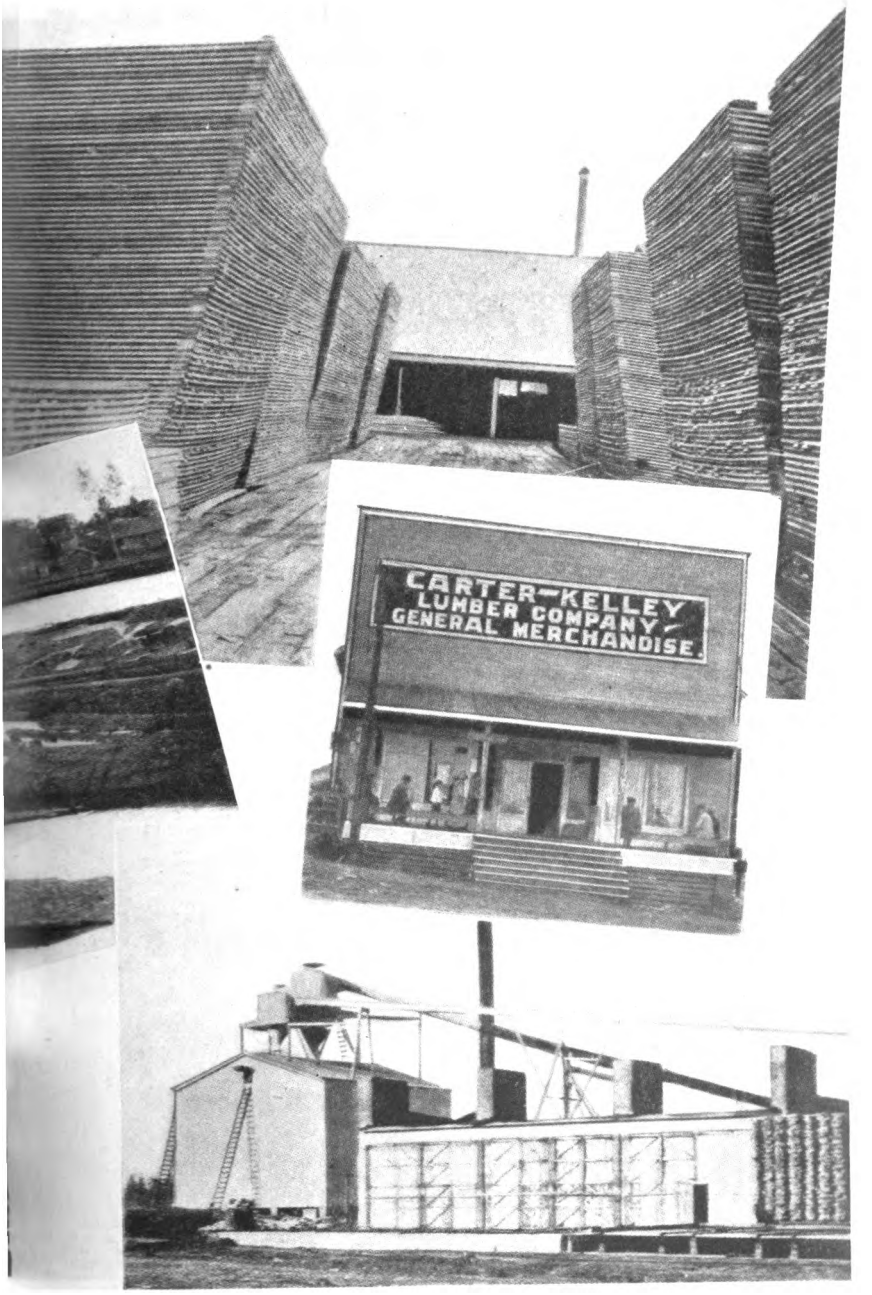
MR. W. A. LINES, head filer for C. C Mengel & Bro., Louisville, Ky., expressed in this way his opinion of the DISSTON SAW which cut the chain dog shown at the top of the page. In reporting the accident he wrote as follows.

"On first run of the two 12-inch by 15-gauge band saws received on January 19th, the enclosed chain dog was cut.

"These saws are run against all others, all subject to same punishment. Note angle at which the dog was struck. Any saw not of superior quality would have been torn completely to ribbons, whereas about one-eighth inch was lost."

The equipment of the C. C. Mengel & Bro. mill comprises an 8-foot band mill, trimmer, edger, two veneer saws, a slicer, three re-saws and a dimension planer.

As they cut mostly mahogany with some walnut and oak it is natural that their saws are DISSTON—the reason is obvious.



Views of the Mills and Plant of the Carter-Kelley Lumber Co. of Manning, Texa

THE CARTER-KELLEY LUMBER CO.

THE views shown on the preceding pages are of the mill and plant of the Carter-Kelley Lumber Company of Manning, Texas. This is one of the best appointed and operated mills of the South. The equipment throughout is right "up to the minute" and the most approved methods are employed.

Perhaps the first thing to impress the visitor is the remarkable freedom of the buildings and yards from the debris which so readily accumulates around any saw-mill. Scrupulous attention is paid to keeping the entire plant in "apple-pie" order. And so noticeable have been the results of this practice that the Carter-Kelly plant has been dubbed "the cleanest mill in the South." This attention to the condition of the plant is not to gratify a whim or fad; it is good business. The example might well be emulated by every mill that is at all inclined to easy-going methods in this respect, for it has a direct and material bearing on the quality of the output and the efficiency of the mill.

The company established a grocery and general store (see illustration previous page) intended originally to serve employees and their families but its reputation spread until the entire neighborhood for miles around trade at the Carter-Kelley store.

The equipment of the mill consists of two bands, a rift flooring machine, two edgers, a trimmer and a slasher. As in many of the more progressive plants the saws are DISSTON exclusively. The capacity of the plant is 100,000 feet per ten hours; yellow pine.

George A. Kelley is Manager, William Gibbs, Superintendent, R. C. Hitchcock, Mill-Foreman and Harry Garrison, Head-filer—all of them thorough DISSTON men.

EXTRA THIN SAWS VERSUS STANDARD THICKNESS OF LARGE SAWS

ABNER BEAR

DISCUSSING the above subject from an extensive and varied experience with both kinds, I cannot find any advantage in thin saws for the work of today.

My preference is a saw 7-gauge at the center and 8 on the rim, fitted with a point 9/32-inch wide, and for cutting hard woods or frozen timber, a still narrower kerf is better. My experience together with that of thousands of mill men and skilled sawyers has demonstrated that the extra gauge at the center adds very materially to the standing up qualities of the saw without perceptibly reducing the clearance. In saws 54-inch and up, 6-gauge at the center and 8 on the rim, is still better, where heavy feed can be used. Very many mill men are using log saws two gauges heavier at the center, regardless of the diameter of the saw and its feed.

A saw ground with a heavier center is not so susceptible to the variations of speed. It will hold its line much better than the thin blade thus preventing friction, heating, buckling, loss of power, and re-hammering charges, which is an item in the life of a saw. All the resistance applied to the rim of a saw in its passage through a log must be supported by its center. A strong center saw will stand up where a thin saw fails. The consequence is that the thin saw is running in and out of the log, using power wastefully, and making cull lumber besides drawing the tension out of the blade by the friction produced between the saw and the log.

It will be in order to find the thickness in decimal parts of an inch in the different gauges we are discussing as well as in fractional parts of an inch.

A 6-gauge blade contains .203 of an inch or is scant 13/64-inch thick.

A 7-gauge blade contains .180 of an inch or is scant 3/16-inch thick.

A 8-gauge blade contains .165 of an inch or is scant 11/64-inch thick.

A 9-gauge blade contains .148 of an inch or is full 9-64-inch thick.

A 10-gauge blade contains .134 of an inch or is full 1/8-inch thick.

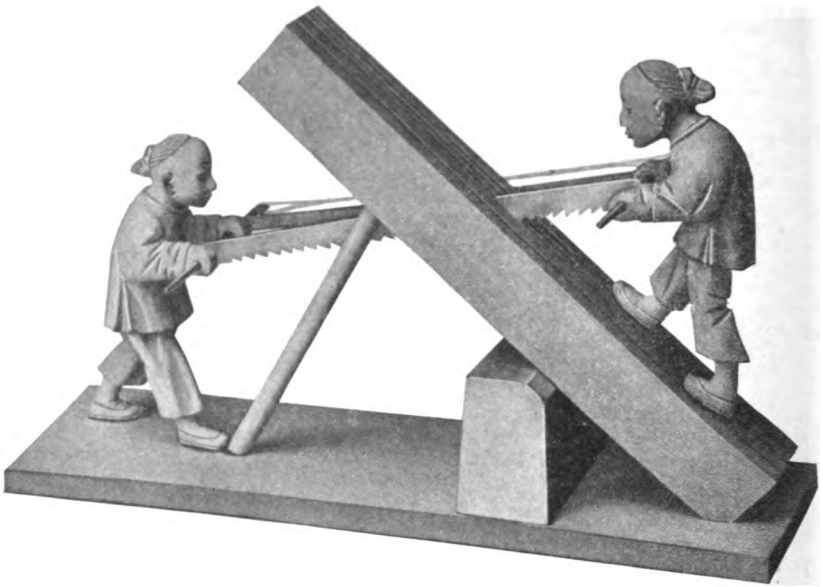
We find that an 8-gauge is 3/64-inch thicker than a 10-gauge on the rim, and is still thicker on the center according to the number of gauges added there.

The mill man desires a 9-gauge saw because he figures that in cutting ¼-inch kerf, he saves 1/32-inch over and above an 8-gauge cutting 9/32-inch, thus gaining one 4/4 board in thirty-two cuts. He can do this, if his power is ample, and his appliances just right, but his set works ought to graduate to the one-hundredth part of an inch, and lock when he sets up, with no lost motion between the set shaft and the knee, so that the cant is firm and rigid where he sets it; and to save one board on a decrease of 1/32-inch kerf, the log would have to be at least forty inches in diameter. It must be remembered that the thin saw requires more uniformed speed and more teeth than the heavier standard gauge. The proper speed must be maintained throughout. A thin saw, travelling at the speed for which it is tensioned, does not travel on the same line when the velocity is reduced. This often occurs in one and the same cut. The product under such conditions is thin and thick boards, feather edged boards, and wedge shapes. The planing mill man gets fuel from thick boards in planing to specifications (freight paid). No one can tell where a saw will travel when it has lost its standing up qualities for lack of velocity. It is seeking the course offering the least resistance to its passage through the log.

It is a mistake, and a serious mistake, for any one to give specifications for a saw calling for a feed largely in excess of his actual requirements. The saw should be adapted to the actual capacity of the mill. This will be governed largely by the available power, or the power left for the circular, after allowing for auxiliary machinery, such as slab slasher, edger, saw dust conveyor, trimmer, etc. The specifications given the saw maker is usually the maximum power of engine, and the available power to drive the circular is not given.

(Continued on page 30)

CHINESE WOOD-CARVING OF NATIVE SAWYERS



THIS interesting product of the wood-carver's skill was sent to Henry W. Foster by his brother who resides in China. Besides being an artistic piece of work, it is a typical reproduction of the Chinese sawyers' method of cutting boards. Like many other things in the Orient this operation is the reverse of ours. The teeth of hand saws, for example, instead of pointing away from the handle, point toward it, and the cutting is done on the pull instead of the thrust. Odd as this seems, it has its points of advantage. For instance, it is easier to cut to the line on the pull and a thinner saw may be used as there is no tendency to buckle.

The Chinese carpenter, going out on a repair job totes, with the aid of his helper, a log. From this he makes his boards, joists, etc., as the progress of his work requires them.

The usual method of sawing logs is with a frame saw, such as is shown in the carving. On these the teeth of the blade point in opposite directions on the two halves. One man stands above and the other below the log in operating the frame saw.

Crude as these methods seem to us, the Chinese carpenter does very creditable work.

TAMARACK

(LARIX LARICINA)

From American Forest Trees

THERE are three species of tamarack or larch in the United States, and probably a fourth is confined to Alaska. One has its range in the northeastern states, extending south to West Virginia and northwestward to Alaska. Two are found in the northwestern states. Other species are native of the eastern hemisphere, and some of them have been planted to some extent in this country. A species of Europe is of much importance in that country. The tamaracks lose their leaves in the fall and the branches are bare during the winter. The name tamarack or larch should be applied only to trees of the genus larix. This rule is not observed in some parts of the West where the noble fir (Abies nobilis) is occasionally called larch by lumbermen. It is not entitled to that name, and confusion results from such use.

The larches are easily identified. They have needle leaves like those of pines and firs, but they are differently arranged. They are produced in little brush-like bundles, from twelve to forty leaves in each, on all the shoots, except the leaders. On these the leaves occur singly. The little brushes are so conspicuous, and so characteristic of this genus, including all its species, that there should be little difficulty in identifying the larches when the leaves are on. In winter, when the branches are bare there are other easy marks of identification.

The little brushes are interesting objects of study. Botanists tell us that the excrescence or bud-like knob from which the leaves grow is really a suppressed or aborted branch, with all its leaves crowded together at the end. If it were developed it would bear its leaves singly, scattered along its full length, as they occur on the leading shoots. The warty appearance of the branches in winter is a very convenient means of identification when the leaves are down.

The cones of larches mature in a single season, and often hang on the trees several years. They are conspicuous in winter when the branches are bare of foliage. The adhering cones are generally seedless after the first season, since they quickly let their winged seeds go. The male and female flowers are produced singly on branches of the previous year.

The eastern and northern larch (Larix laricina) has a number of names. It is commonly known as tamarack in the New England States and in New York, New Jersey, Pennsylvania, Indiana, Illinois, Wisconsin, Michigan, Minnesota, Ohio and in Canada. The name larch is applied in practically all the regions where it grows, but it is not used as frequently as tamarack. Hackmatack, which was the Indian name for the tree in part of its eastern range, is still in use in Maine, New Hampshire, Massachusetts, Rhode Island, Delaware, Illinois, Minnesota, and Ontario. Nurserymen call it American larch to distinguish it from other larches on the market, particularly the European larch. Michaux, an early French botanist who explored American forests, called it American larch (Larix americana), and the name which he gave has been retained by many scientists to this day. In the Canadian provinces north of the Great Lakes, and also in Maine and New Brunswick, it is frequently called juniper, but without good reason, for it has little of the appearance and few of the qualities of the junipers. In some localities it is called black larch, and in others red larch. The first name refers to the color of its bark, the last to the leaves when about to fall, for they then change to a brown or reddish color. They fall in the autumn, and the branches are bare until the next spring.

Some of the New York Indians observed that peculiarity of the tree which they thought should be an evergreen like the balsam and pines with which it was often associated, and they named it kenehtens, meaning "the leaves fall."

(To be Continued in next Issue)

DISSTON HEADING SAWS "NEVER SURPASSED"

MR. H. D. Alfrey, Hope, Ark., one of the largest heading manufacturers in that section of the country some time ago purchased his first pair of DISSTON heading saws through the Riechman-Crosby Co. of Memphis, Tenn.

The following high endorsement of their quality was entirely unsolicited.

Hope, Ark., February 25, 1916.

RIECHMAN-CROSBY CO.,
Memphis, Tenn.

Gentlemen:

Last summer your Mr. Keys persuaded us to try one pair of HENRY DISSTON heading saws.

We placed the order for 60" saws, which were delivered to us during August. We have used the saws continuously since, and take pleasure in making the statement that the pair of saws was never surpassed by any other brand of saws, and we have used all the standard makes.

We heartily recommend DISSTON heading saws. I am,

Very Respectfully,

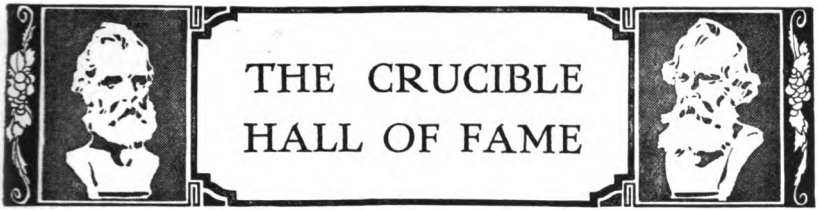
(signed) H. D. ALFREY.

EXTRA THIN SAWS VERSUS *STANDARD THICKNESS* OF LARGE SAWS

(Concluded from page 27)

The lack of this information is misleading to the saw maker in adjusting the tension.

Sawyers and mill men have discussed the proper mandrel speed for circular saws, since when the memory of man runneth not. They seldom consider adapting thickness of saw to power and true capacity of mill because a circular saw is a circular saw. One saw requires as much clearance on each side as the other saw, regardless of thickness of blade. This is eminently correct, but the speed for a thick standard gauge saw should be 10,000 rim feet per minute, thin saws more. This will require a mandrel speed for a 52-inch standard saw of about 750 revolutions per minute. If the available power is insufficient to maintain the speed for which the saw has been tensioned then find the speed that you can well maintain, and have the saw maker adjust the tension of the saw to this speed. There is no better rule.

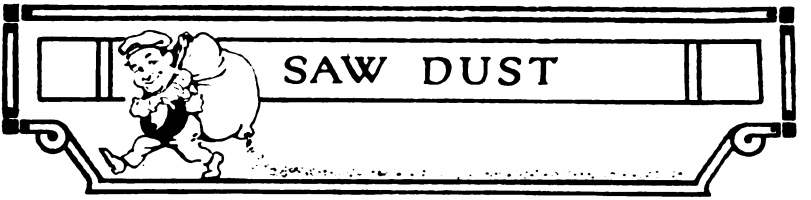


WILLIAM BEAUDE

MR. WM. BEAUDE, Manager of the Jobbing and Machine Knife Departments of HENRY DISSTON & SONS, entered the employ of the company in 1890. After serving his time as tool-and die-maker in the Machine Shop he was placed in charge of the tool-making for the Jobbing Department. In 1901 he was made manager of the Jobbing and Machine Knife Departments by the late Samuel Disston.

Since 1901, under the capable management of Mr. Beaude, this department has each succeeding year shown increased business with the exception of 1914, when the general industrial depression interrupted the progressive record. 1915, however, was the biggest year this department has had in the history of the business.

A host of friends (not excluding the ladies) testify that "Bill's" ability is not confined to the manufacture of Veneer and Paper knives. He devotes full time to the attention of his social as well as business duties and seems to have developed the paradoxical faculty of never letting either interfere with the other.



SUSPENSE

William White was a Tennesseean and a lad of champion optimistic calibre, as a visitor to the hamlet discovered. It seems that William White's brother had killed a man in cold blood. "Well, William, how about your brother?" the visitor asked him one day after the trial. "Well," said William, "they've put him in jail for a month." "That's rather a light sentence for a cold-blooded murder," said the visitor. "Yes, sir," William admitted, "but at the end of the month they are goin' to hang him."

—*Argonaut.*

SHOW-DOWN

TEACHER—What lessons do we learn from the attack on the Dardanelles?

PRIZE SCHOLAR—That a straight beats three kings, dad says.

HIS FAVORITE PARABLE

A little lad was asked by a pious passerby one lovely morning:

"Have you ever studied the Bible?"

"Yes, sir," he said.

"Then, of course, you know all about the parables."

"Oh, yes, sir."

"Good!" said the devout gentleman. "And now tell me which parable do you like the best.?"

The boy, looking over the green and pleasant country, answered:

"I like the one where everybody loafs and fishes."—*Exchange.*

A number of tourists were recently looking down the crater of Vesuvius. An American gentleman said to his companion:—

"That looks a good deal like the infernal regions."

An English lady, hearing the remark said to another:—

"Good gracious! How these Americans do travel!"

A THRIVING TRADE

Johnny had been very excited all morning and finally burst out with: "We have a baby girl at our house, teacher; Dr. Moore brought her."

Immediately another small hand was frantically waved in the air, and a little voice piped: "we take off of him, too, Miss Brown!"

Out in the yard on a hot day the foreman found a laborer who under the lee of a lumber pile was fast asleep. With a stern smile the boss said: "Slape on, an' be darned. While ye slape ye've got a job. Whin ye wake up ye're out of wurrk."—*Lumber.*

WHICH?

"How would you classify a telephone girl? Is hers a business or a profession?"

"Neither; it is a calling."—*Christian Register.*

HE KNEW

"Do you know where the little boys go who don't put their Sunday School money in the plate?"

"Yes'm — to the movies." — *The American Boy.*

WILLING TO OBLIGE

"Willie," said the teacher, "you have spelled the word 'rabbit' with two t's. You must leave one of them out."

"All right," said Willie, cheerfully: "which one?"

HIS FATHER (answering a request for further funds)—Why, when I was your age I didn't have as much money to spend in a month as you have in a week!

THE SON—Well, pater; don't grumble at me for that—it's grandfather you ought to blame.

The

Tension—

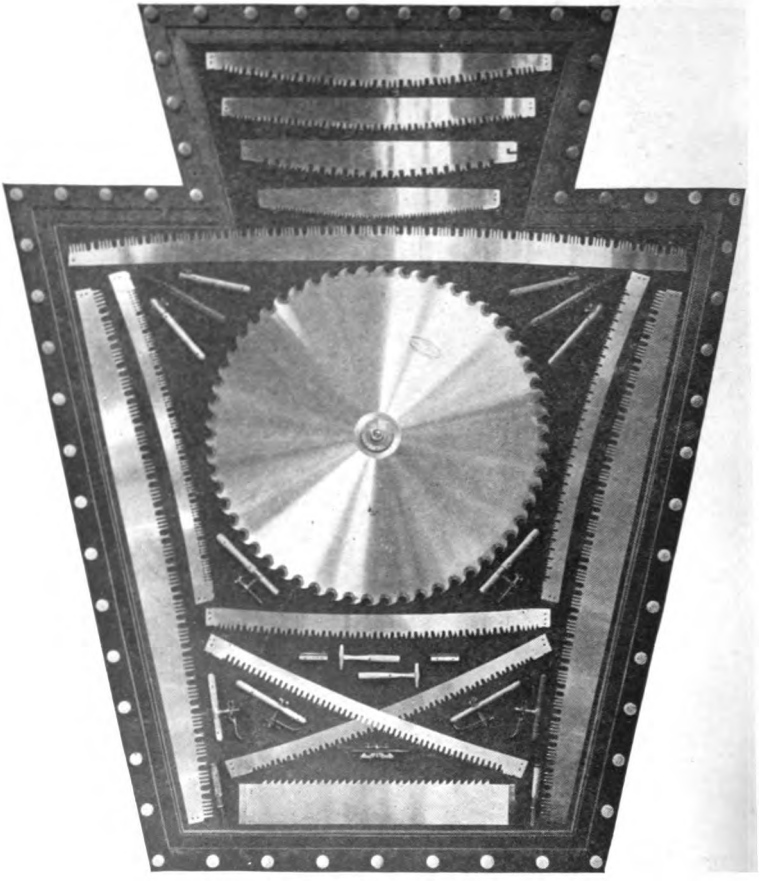
Edge—

and

Set-Holding Qualities of

DISSTON SAWS

are the result of seventy-six years' study of the requirements of saw-steel and sixty-one years' experience in its manufacture in our own plant.



Keystone No. 8

DISSTON EXHIBIT

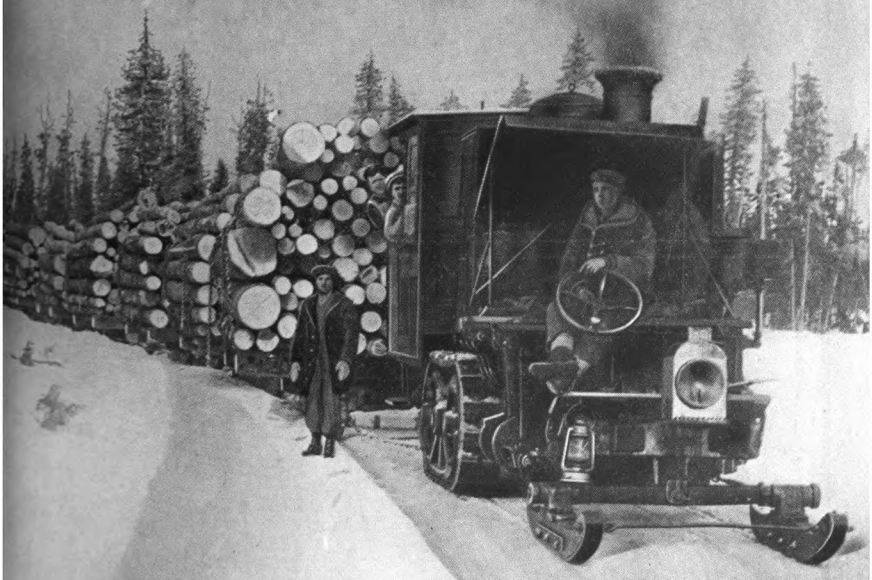
Panama-Pacific International Exposition

12 HIGHEST AWARDS
Including 4 Grand Prizes

SAWS, TOOLS, FILES

THE DISSTON CRUCIBLE

A MAGAZINE FOR THE MILLMAN



APRIL 1916

THE DISSTON CRUCIBLE

PRICE 10¢ PER COPY $1.00 YEARLY IN ADVANCE

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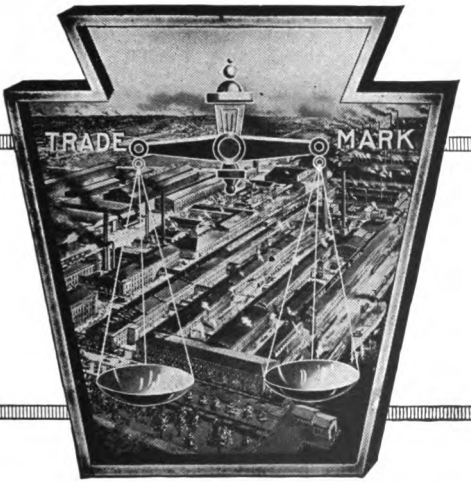


This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS

INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

BRANCH HOUSES:

Chicago, Ills. Boston, Mass. Cincinnati, Ohio. Seattle, Wash. Portland, Oregon.
New Orleans, La. Memphis, Tenn. San Francisco, Cal. Sydney, Aus. Vancouver, B. C.
Canadian Works, Toronto, Canada.

STEAM LOG HAULER DRAWING 25 LOADS—100,000 FEET—FOR THE JONES LUMBER CO.

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. APRIL 15, 1916 NO. 3

EDITORIAL CHAT

PREPAREDNESS

A GREAT instructor of the violin once had a pupil whose father was dissatisfied with his progress. He finally called upon the musician and protested that although the boy had been studying for three or four years, he had never yet been given a "piece" to play. "What would you care to hear him play?" inquired the master. The father named a difficult composition, whereupon the music was placed before the boy and he was told to play it. This he did accurately and with the utmost confidence although he was totally unfamiliar with the composition. Thorough training had perfected his skill and efficiency and the execution of the "piece" was merely an application of the knowledge he had acquired.

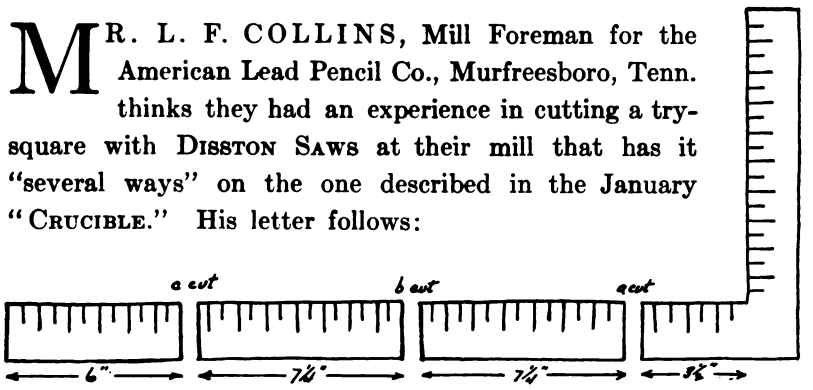
The problems constantly confronting the manufacturer of today are progress, "pieces," placed before him with the demand that he perform. The success of their execution depends entirely upon the thoroughness and diligence with which the manufacturer has mastered the principles involved. Long concentrated study and training are as essential in manufacturing as in music.

Granted, some manufacturers get superficially pleasing results "by ear"—that is without the long, hard experience—but as in music, the product is spurious and easily recognized by those familiar with the genuine article.

Isabella Disston

"THEY CUT ANYTHING IN FRONT OF THEM"

MR. L. F. COLLINS, Mill Foreman for the American Lead Pencil Co., Murfreesboro, Tenn. thinks they had an experience in cutting a try-square with DISSTON SAWS at their mill that has it "several ways" on the one described in the January "CRUCIBLE." His letter follows:



Murfreesboro, Tenn., January 25, 1916.

HENRY DISSTON & SONS INC.

Gentlemen:

In looking over the CRUCIBLE for January 1916 I saw a cut of a square that had been sawed by one of your saws.

We, The American Lead Pencil Co., had an experience while running at Lewisburg that skinned this fellow five blocks. It was like this: Our carpenter had an occasion to work on our block saw which carries five cut-off saws, and when he got through he left his square lying on top of the drum. The next morning when the operator started the machine up—well, the enclosed sketch will show you what happened. You see we had on DISSTON SAWS, this is the reason the square was cut this way. The saws only had to be gummed as usual.

The above is one reason we use only your saws, "They cut anything in front of them."

Yours for better business in 1916,

(Signed) L. F. COLLINS,
Mill Foreman.

It is interesting to note that although the saws used by this company are extremely thin, results were no more harmful to the saws than in the ordinary case of DISSTONS hitting metal. Mr. Collins' slogan seems to be based on well substantiated fact.

THE MULE-SHOE WAS ITS "WATERLOO"

—but at that the DISSTON BAND-SAW didn't show cracks even though there was nothing left to identify it but a "string of teeth and a coil of ribbons." Let Fred Boyles, filer for the Murdock Lumber Co., Washington, Ind., tell it:

Washington, Ind., March 9, 1916.

HENRY DISSTON & SONS, INC.,
PHILADELPHIA, Pa.

GENTLEMEN:

We are sending you some of the articles encountered by our DISSTON SAWS recently.

Note the two prongs of old gate hinge which was located in an elm log; this was cut without damage to saw.

However, you will notice the mule shoe which we to our sorrow located shortly afterwards, striking it a glancing blow on the inside. This was the saw's Waterloo. All that could be found to identify the saw was a string of teeth and a coil of ribbons.

Would like to send a picture of saw but have none at present.

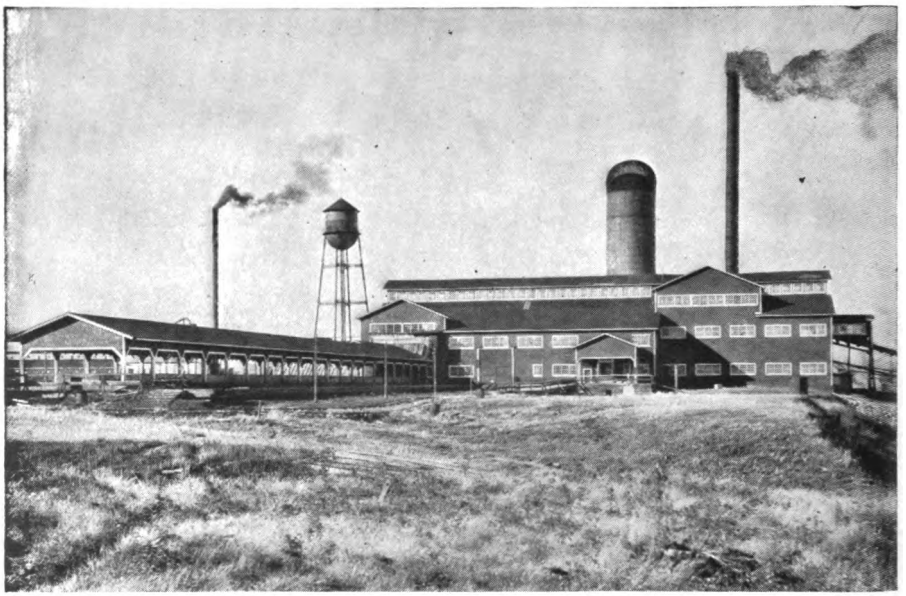
Your man states that your saws cut chain dogs, mill dogs, gate hinges, horse shoes and most anything, but you naturally expect them to balk on a mule shoe.

As the filer I can say for the past three years we have been and are at present getting the best results possible with DISSTON SAWS.

Sincerely yours,

(Signed) FRED BOYLES.

THE INTERNATIONAL LUMBER COMPANY



Mill of International Lumber Company at Spooner, Minn.

THE International Lumber Company of International Falls, Minn. has three of the most up-to-date plants operating in the northern country. They are located at International Falls and Spooner, Minn. and Keewatin, Ont. The output is white pine, Norway pine and spruce and the combined capacity of the plants is 200,000,000 feet per year.

The first plant was built five years ago at International Falls, where the company also has a paper mill. The dominant idea was to provide means for economical logging for both paper and saw mill. Later the magnificent plant at Spooner and that at Keewatin, Ontario (which has been under the same management for years) was acquired.

The logs cut in all three mills are driven a long distance by water, making the lumber produced "water-cured" or free from

pitch. The logs are large in size and the lumber remarkably wide. As the smaller spruce logs are used in the paper mill, the spruce lumber averages unusually wide.

The company is so situated geographically as to afford its customers service of the highest order. Transportation facilities are excellent.

The plants at International Falls and Spooner are each equipped with a 3-band mill and an edger. The planing mills are equipped with the most up-to-date machinery for producing quickly and accurately, perfectly manufactured dressed lumber. Modern devices are employed at all plants for rapid loading and thirty to forty cars a day can be loaded.

On a cutting basis of 200,000,000 feet annually, the company has standing timber sufficient to last a quarter of a century.

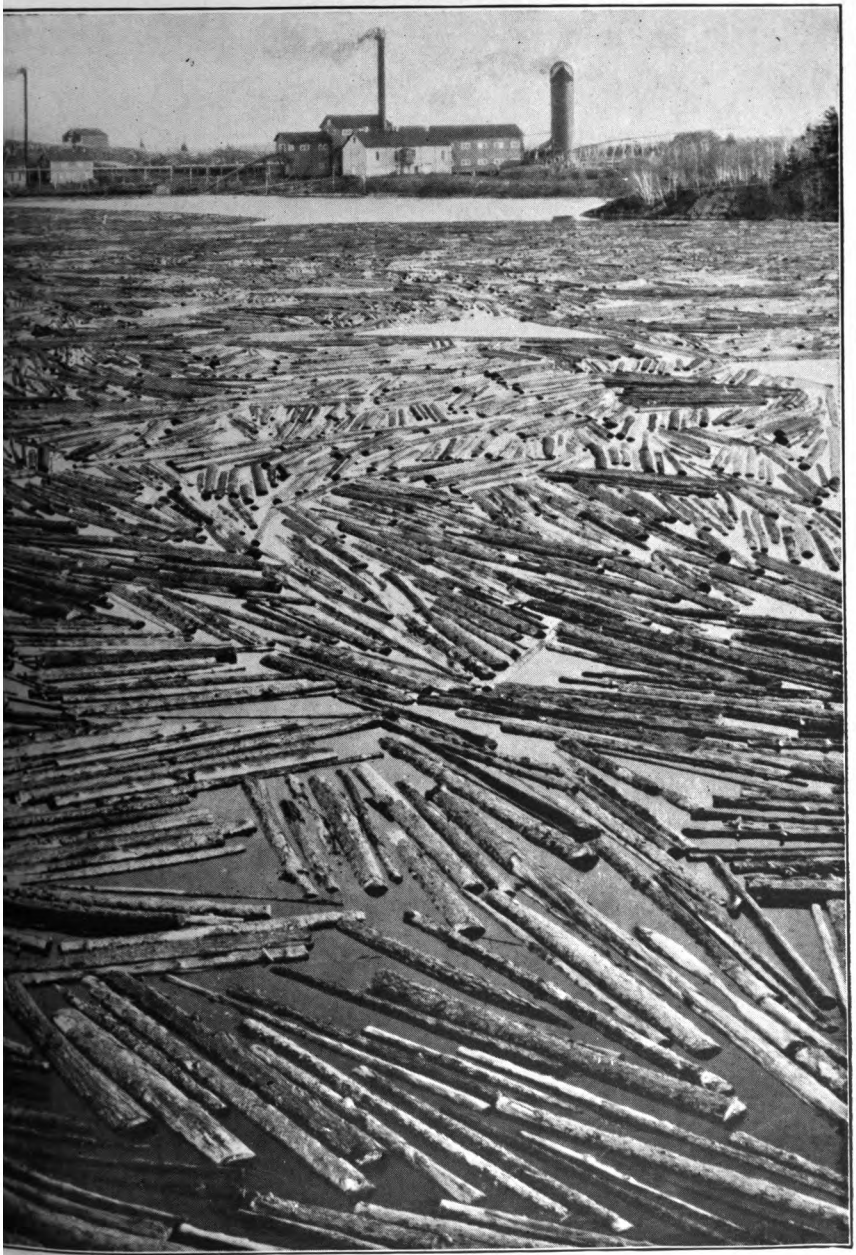
While the product of the mills is mainly white and Norway pine and spruce, principally white pine, a small percentage of tamarack, cedar, jack pine and poplar is also cut.

Mr. E. W. Backus of Minneapolis has been President of the company since he and his associates organized it five years ago. He has gathered around him in the manufacturing and sales departments men thoroughly familiar with the lumber game. As he expressed it recently "Every man connected with the sales force is a grader." Thomas F. Toomey, Assistant to President, whose capable hands direct the intricate machinery of the organization has had over thirty years' experience in manufacturing and selling lumber. Mr. Toomey has in his sales force a well and favorably known group of thoroughly experienced lumber salesmen including Geo. A. Hoene, Assistant Sales Manager, J. W. Meyers, Michigan representative, E. W. Kettlety, Illinois and Southern Wisconsin representative.

M. L. Elsmere is Superintendent of Manufacturing with A. F. Boyd as Assistant Superintendent at the International Falls mill and E. F. Oatman of the Spooner plant.

The company uses DISSTON SAWS as do most large concerns whose scale of production demands the highest efficiency of all equipment.

MILL AND LOG POND OF TH
THE INTERNATION



KEEWATIN, ONT., PLANT OF
L LUMBER COMPANY

TAMARACK

(LARIX LARICINA)

From American Forest Trees Copyright Hardwood Record

(*Continued from last issue*)

Indians did not, as a rule, give separate names to tree species, and when they did so, it was because of food value, or from some peculiarity which could not fail to attract the notice of a savage.

The tamarack's geographical range is remarkable. It is said to be best developed in the region east of Manitoba, but it extends southward into West Virginia and northward to the land of the midnight sun. It maintains its place almost to the arctic snows and the willow is about the only tree that pushes farther north. It is found from Newfoundland and Labrador far down toward the mouth of the Mackenzie river, north of the arctic circle. It grows on dry land as well as wet but is oftenest found in cold swamps, particularly in the southern part of its range. Silted-up lakes are favorite situations, and on the made-land above old beaver dams.

Tamarack forests frequently stand on ground so soft that a pole may be thrust ten feet deep in the mud. The moist, monotonous sphagnum moss generally furnishes ground cover in such places. A tamarack swamp in summer is cool and pleasant—provided there is not too much water on the ground—but in winter a more desolate picture can scarcely be imagined. The leafless trees appear to be dead, and covered with lifeless cones; but the first warm days bring it to life.

The average height of tamarack trees is from forty to sixty feet, diameter twenty inches or less. Leaves are one-half or one and a half inches long; cones one-half or three-quarter inches, and bright chestnut brown at maturity. They fall when two years old. The winged seeds are very small. The tree is neither a frequent nor abundant seeder. The foliage is thin, and is not sufficient to shut much sunlight from the ground.

The wood is heavy, hard, very strong, and is durable in contact with the soil. The growth is slow, annual rings narrow, summerwood occupies nearly half the ring, and is dark colored, resinous, and conspicuous; resin passages few and obscure; medullary rays numerous and obscure; color of wood light brown, the sapwood nearly white.

The uses of tamarack go back to prehistoric times. The Indians of Canada and northeastern United States drew supplies from four forest trees when they made their bark canoes. The bark for the shell came from paper birch, threads for sewing the strips of bark together were tamarack roots, resin for stopping leaks was a product of balsam fir, and the light framework of wood was northern white cedar.

The roots which best suited the Indian's purpose came from trees which grew in soft, deep mud, where lakes and beaver ponds had silted up. Such roots are long, slender, and very tough and pliant, and may be gathered in large numbers, particularly where running streams have partly undermined standing trees.

White men likewise made use of tamarack roots in boat building, but the roots were different from what the Indians used. "Instep" crooks were

hewed for ship knees. These were large roots, the larger the better. Trees which produced them did not grow in deep mud, for there the roots did not develop crooks. The ship knee operator hunted for tamarack forests growing on a soft surface soil two or three feet deep, underlaid by stiff clay or rock which roots could not penetrate. In situations like that the roots go straight down until they reach the hard stratum, and then turn at right angles and grow in a horizontal direction. The turning point in the root develops the crook of which the ship knee is made.

Tamarack is seldom of sufficient size for the largest ship knees. Such were formerly supplied by southern live oak and in that case crooks formed by the union of trunk and large branches were as good as those produced by the union of trunk and large roots.

Tamarack is still employed in the manufacture of boat knees, but not as much as formerly. Steel frames have largely taken the place of wood in the construction of ship skeletons. Boat builders use tamarack now for floors, keels, stringers and knees.

Tamarack has come into much use in recent years. Sawmills cut from it more than 125,000,000 feet of lumber a year. Fourteen states contribute, but most of the lumber is produced in Minnesota, Michigan, and Wisconsin. Railroads in the United States buy 5,000,000 or more tamarack ties a year, which reduced to board measure amount to over 150,000,000 feet. Fence posts and telegraph poles come in large numbers from tamarack forests.

The wood is stiff and strong, its stiffness being eighty-four per cent. of that of long leaf pine, and its strength about eighty per cent. Unusual variations in both strength and stiffness are found. One stick of tamarack may rate twice as high as another.

The wood-using factories of Michigan consume nearly 20,000,000 feet of this wood yearly It is made into boxes, excelsior, pails, tanks, tubs, house finish, refrigerators, windmills, and wood pipes for waterworks and for draining mines.

There is little likelihood that the supply of tamarack will run short in the near future. While it is not in the first rank of the important trees in this country, it is useful, and it is fortunate that it promises to hold its ground against fires which do grave injury to northern forests. In the swamps where the most of it is found the ground litter is too damp to burn. The tree does not grow rapidly, but it usually occupies lands which can not be profitably devoted to agriculture, and it will, therefore, be let alone until it reaches maturity.

Tamarack is a familiar tree in parks, and it grows farther south than its natural range extends. It is not as desirable a park tree as hemlock, spruce, fir, the cedars, and some of the pines, because its foliage is thin in summer and wanting in winter. It is in a class with cypress. In the early spring, however, while its soft green needles are beginning to show themselves in clusters along the twigs, its delicate and unusual appearance attracts more attention than its companion trees which are always in full leaf and for that reason are somewhat monotonous.

PROCTOR BROTHERS COMPANY

NASHUA, N. H.

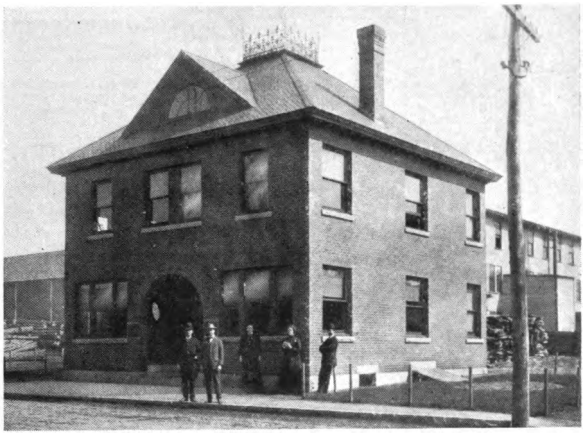
View of Plant

THE firm of Proctor Brothers Company, consisting of Nathaniel H. and Ira H. Proctor, began the manufacture of barrels, kegs and pails in Nashua, N. H., in 1881 and with the increase of business they extended their plant until today they are the largest manufacturers of their kind in the country. Their products include barrels, kegs, pails and kits, wholesale and retail lumber. New blood was infused into the business when Mr. N. H. Proctor's sons, R. F. and C. D. Proctor, were taken into the firm.

Logging Trucks

Besides their two factories in Nashua they own and operate a plant in Jersey City and one in Rochester, N. H., besides operating portable mills for sawing lumber. Business with them is booming twelve months in the year and all hands are on

a keg from January 1st to December 31st.



Exterior of Office

With the infusion of new blood comes new ideas—one being the initiation of huge motor trucks for hauling their pine logs from forest to factory; note the photograph showing one of their large trucks hauling an immense load of pine logs over a corduroy road from one of their pine lots in the heart of the forests where they have to go to secure suitable timber, as nothing but the very best pine goes into their product. While the photograph of the executive departments show the firm's keen appreciation of the beautiful with their splendid buildings and well-kept lawns, so the pictures of interior of mill show keen business perseverance and "Push" is Proctor's policy.

They market Perfect Goods, and use Perfect Tools. All saws and cutters are DISSTON made, kept in perfect condition by one of the very best filers in the country, one of the pioneers in the care of band saws, the only and reliable Jim Cummings. And, being a thorough Scotchman, he believes in thoroughness in all he does and nothing but the best is good enough for Jim. Jim's opinion of saws is like the injuns' of rum—all good but some better'n others. He says

Interior of Office

he prefers DISSTON SAWS to any other make; he can make them go farther and go better.

Jim began filing when the first Band Mill was started in New England about twenty-seven years ago at Brewer, Maine. Quite a few Mill Men watched results and the next year a number of Band Mills went into operation, S. A. Nye & Co., Fairfield, being one of the first and Mr. Cummings with eleven years experience on Circulars applied for the position of filer and remained six years with the Company, when the Mills burned down. He then went to Bartlett, New Hampshire for three and one-half years. The Mills closed down for want of logs. He then moved to Lincoln, New Hampshire and filed for J. E. Henry & Son, and after three and one-half years of efficient work moved to Nashua to get better school accommodations for his children, and as he is still on the job after thirteen years of continuous service, it speaks volumes for his ability. Mr. Cummings says he has tried saws of all the leading saw makers, but has had the best success with the DISSTON, as they can be kept in the pink of condition with a minimum of labor.

View in Filing Room

WHO'S WHO IN THE SAW WORLD

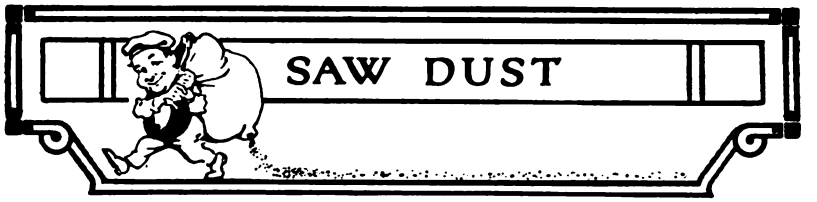
HARRY HOWLAND

THE saws shown in the photograph above measure 8½, 9 and 14 inches, and there are three each 8½ and 9 inches which you can't see. All of them were once 14-inch saws, and all of them have only the factory braze, which points significantly to two things. One is the quality of the saws that give that kind of service and the other is the thorough ability of the man who can keep his saws in the prime condition essential to such service.

The saws are DISSTON—'nuff said. The man is Harry Howland—'nuff said, too, for anybody that knows him or his work. He's the one on the left and is head-filer for the Frost-Johnson Lumber Co., Nacogdoches, Tex., in whose filing room the picture was taken.

This is Mr. Howland's first connection in the South. He previously established a wide reputation in North-west, having held some of the biggest jobs on the coast.

Mr. Worth Whited is manager of the Frost-Johnson Company and both he and Mr. Howland concur in the opinion that "DISSTON is best in the long run," hence only DISSTONS are used here.



PAINTERS' RUSH JOB

Clatter, clatter, bang! Down the street came the fire engines. Driving along ahead, oblivious of any danger, was a farmer in a ramshackle old buggy. A policeman yelled at him: "Hi, there, look out! the fire department's comin'!"

Turning in by the curb the farmer watched the hose cart, salvage wagon and engine whiz past. Then he turned out into the street again and drove on. Barely had he started when the hook and ladder came tearing along. The rear wheel of the big truck slewed into the farmer's buggy, smashing it to smithereens and sending the farmer sprawling into the gutter. The policeman ran to his assistance.

"Didn't I tell ye to keep out of the way?" he demanded crossly. "Didn't I tell ye the fire department was comin'?"

"Wall, consarn ye," said the peeved farmer, "I did git outer the way fer th' fire department. But what in tarnation was them drunken painters in sech an all-fired hurry fer?"—*Exchange.*

A TIME FOR EVERYTHING

"I can't swim!" shouted the man in the pond as he went under. He came up and again shouted: "I can't swim!"

The languid man on the bank surveyed him with mild interest as he sank again gasping: "I can't swim!"

"Well, friend," commented the onlooker, "this is a strange time to be boasting about it."

ROSENBAUM—I had bretty hard luck de other day.

GREENBAUM—Vell, vot happened.

ROSENBAUM—I vas arrested vor speetding.

GREENBAUM—I didn't know you had an auto.

ROSENBAUM—No, speetding on de sidewalk.

HURRAH! FOR THE IRISH

A twelve cylinder touring car came dashing down Fifth Avenue, violating all rules of the road. At the wheel was a man who looked like autocracy. It was very obviously his new car, and he was enjoying it alone. The pavement was wet, and his car skidded at Forty-second Street, knocking a Ford runabout into the curb.

Policeman O'Flanagan saw the outrage and rushed over to the offending driver with blood in his eye. "What's your name?" said he, angrily.

The man in the big car stood up, smoothed down his well cut coat, and said calmly "Casey."

O'Flanagan gulped hard, looked at the man suspiciously, and asked,

"How do you spell it?"

"C-A-S-E-Y."

"What's your first name?"

"Dennis."

O'Flanagan's face did a transformation act, and, leaning over, he said, confidentially, "Now, what the devil are we going to do to that nice little Ford for backing into you that way? 'Twas an outrage."—*The Craftsman.*

A lady and her little daughter were walking through a fashionable street when they came to a portion strewn with straw, so as to deaden the noise of vehicles passing a certain house.

"What's that for, mama?" said the child.

The mother replied: "Why, the lady in that house has had a little baby girl sent her."

The child thought a moment, looked at the quantity of straw, and said: "Awfully well packed, wasn't she, mama?"—*Everybody's.*

"How much vas dose collars?"

"Two for a quarter."

"How much for vun?"

"Fifteen cents."

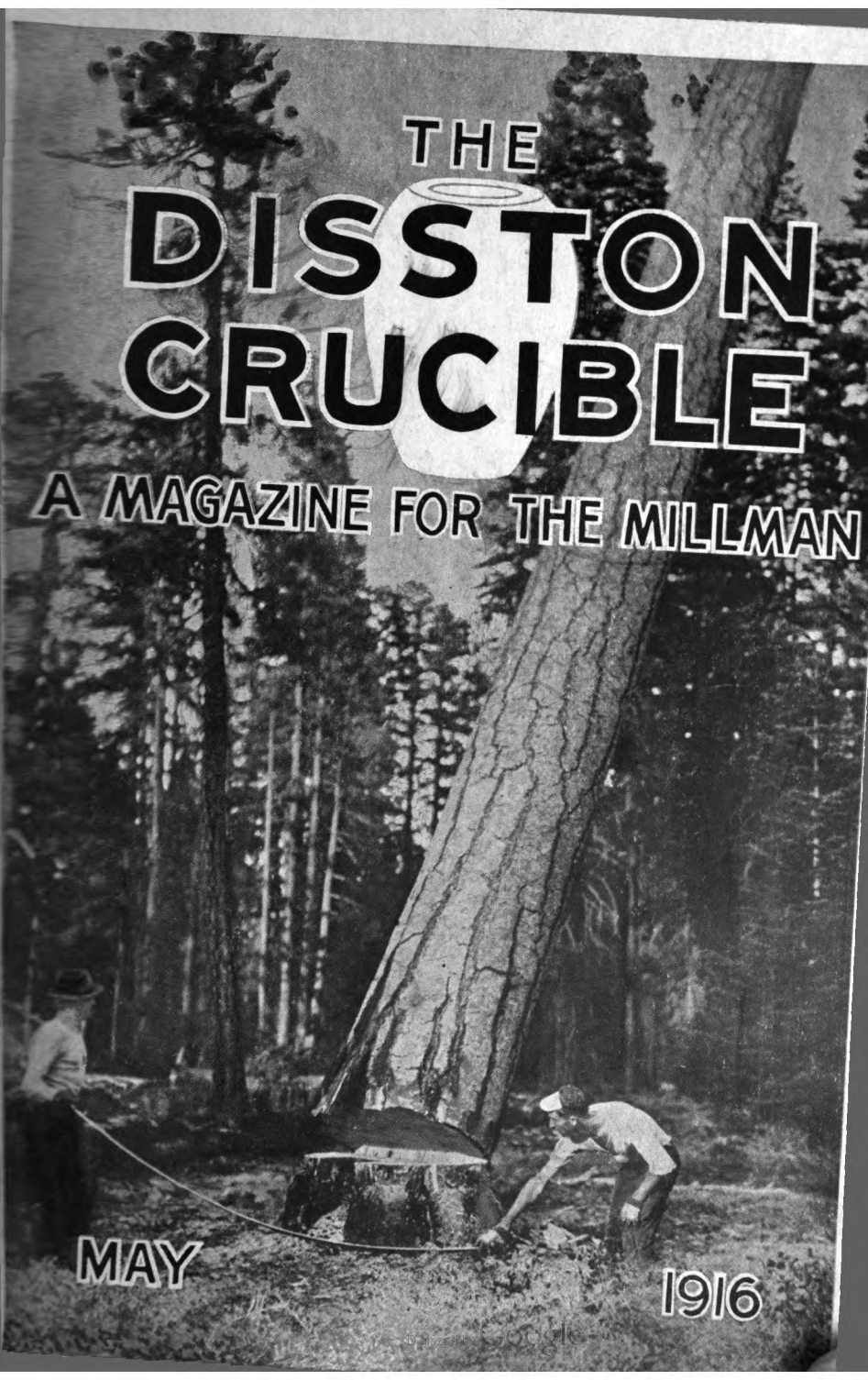
"Giff me de odder vun."—*Yale Record.*

EVERY SAW

produced in the

DISSTON PLANT

is, after completion, subjected to rigid and minute inspection. Only those which are as nearly perfect as modern equipment and skilled workmanship can produce pass this inspection. And only those which pass the inspection leave the factory *because the DISSTON reputation for superiority, standing for seventy-six years, is the firm's greatest asset.*



The wise millman knows that quality and quantity of output are the only gauges of saw economy. That's another reason why DISSTON SAWS lead the field by such a wide margin.

THE DISSTON CRUCIBLE

PRICE 10¢ PER COPY $1.00 YEARLY IN ADVANCE

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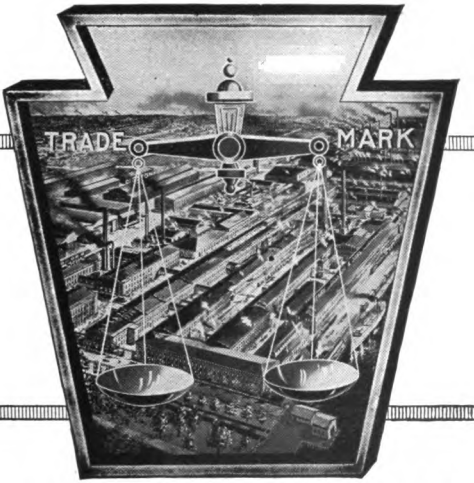

This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS
INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

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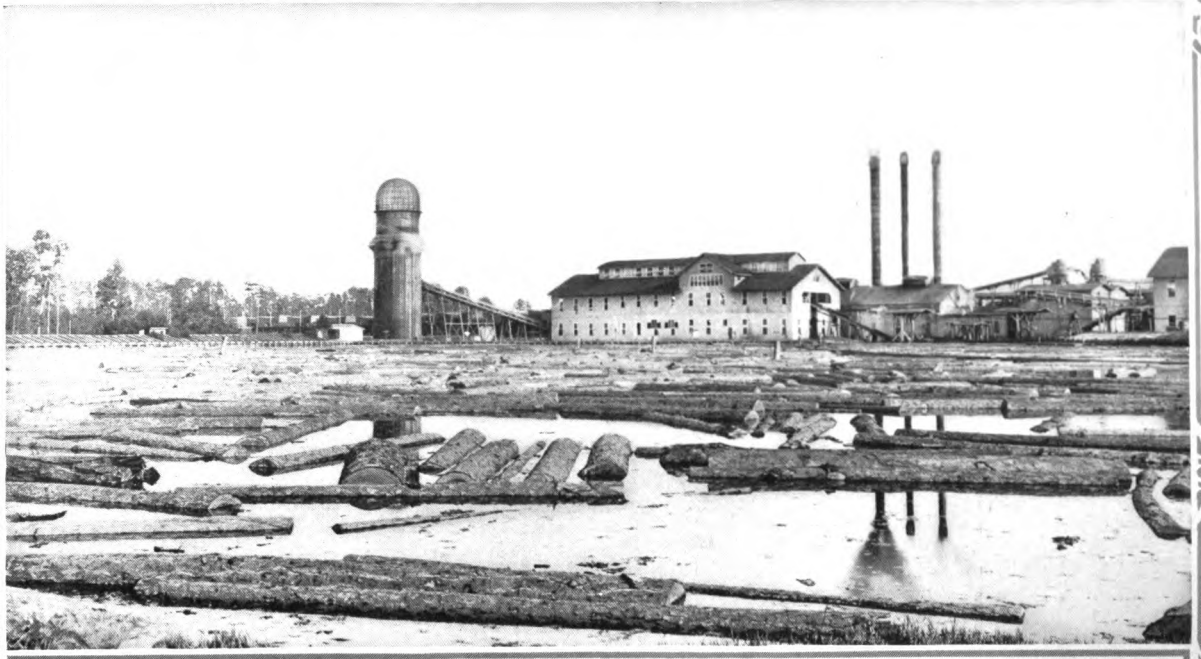


LOG POND OF THE CROSSETT LUMBER CO., CROSSETT, ARKANSAS.

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. MAY 15, 1916 NO. 4

EDITORIAL CHAT

OBSTACLES

ADVANCEMENT along any line of human endeavor is promoted by the very obstacles arising in its path. True progress lies in surmounting difficulties, not in evading them, for the real achievement is the development of character and skill.

Obstacles are moral and mental exercise, each succeeding one adding strength to character, scope to ability, and new impetus to ambition, for there is no satisfaction like the satisfaction of successful effort.

Consider the wealth of knowledge accumulated by some of America's representative firms, over generations of successful combat with trade and manufacturing obstacles. Every new piece of equipment, every new process was developed to overcome some difficulty involved in the old. And each new triumph over adverse conditions added to the store of knowledge and skill for the successful attack of the next.

As experience increases obstacles decrease, until today, with the large, firmly established concerns in the various fields, it is simply a matter of adjustment to varying conditions. Thus obstacles in their overcoming are progress' greatest assistance.

"DISSTON IS THE SYMBOL OF QUALITY"

THE ACCIDENT illustrated above inspired the letter shown below from the filer and mill superintendent of the Bunker Culler Lumber Co., Bunker, Mo.

BUNKER, MO., March 1, 1916.

MESSRS. HENRY DISSTON & SONS,

GENTLEMEN:

We are sending you Parcel Post today three mill dogs, which were cut by one of your 12-inch 14-gauge Band Saws.

It is no doubt at times and by some filers in every case disputed that Band Saws for cutting wood will cut iron without completely putting the saw out of commission, never having to do less than retooth the saw.

We can frankly make the statement that this saw a 45-foot 12-inch 14-gauge Band Saw 1½-inch space actually cut half way through the three ⅝-inch mill dogs with the carriage running empty, this did no serious damage to the saw which was readily put in condition and operated in its turn. Twelve teeth of this saw were broken just back of the swage; other than these which were about 3-16-inch shy, the teeth were not more injured than the swage being bent out of shape.

It may also be of interest to know that this happened when carriage was traveling about 14-inch feed the three dogs being struck in one cut.

DISSTON SAWS have been used in this plant exclusively for the past six years, not having returned one for any reason. Every man in every way connected with Band Sawing, or working of them,, banks on the DISSTON SAW and expect just a little more of them than they would anything else in the way of Band Saws.

We have also gotten perfect satisfaction from the 4-inch resaw blades all of which are the same brand.

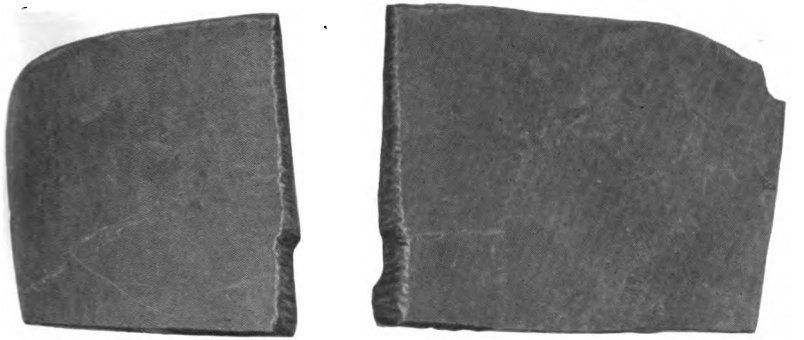
In addition to the Band and Band Resaws as much can be said of the Circular Saws and Hog Knives. With reference to the Knives our best results have been from DISSTON.

We can frankly say, to us, DISSTON is the symbol of quality.

Sincerely yours,

BUNKER CULLER LUMBER CO.,
(Signed) Hugh S. Harper, Filer,
A. C. Bryson, Mill Supt.

EVEN TOOL-STEEL COULDN'T "GET" THE DISSTON



ANY lumberman knows the kind of stuff they put into falling-wedges. It isn't exactly what you would call malleable. It's real steel—tool-steel.

The Pacific States Lumber Co. of Selleck, Wash., found the one shown above buried in a log. They use 60-foot, 15-inch, 12-gauge, 3-inch space DISSTONS there and it was one of these that hit the wedge.

No; no damage done—except to the wedge. Saw was in prime condition with a reswaging.

Now we aren't recommending these saws for cutting metal, we make another type for that purpose, but these accidental encounters certainly give you an insight into what DISSTON QUALITY really means, don't they?

CROSS-CUT VS. STONE

Osterburg, Pa., Feb. 8, 1916.

MESSRS. HENRY DISSTON & SONS.
Philadelphia, Pa.

DEAR SIRS:

I am writing these few lines to tell you about the saw I bought from you about a year ago—a one-man cross-cut saw. Last week I was sawing a log two and one-half feet across into wood for a man I was working for. About the third cut off I made I found that I had sawed a one and a half inch stone, that was buried in the tree through the middle. It did not hurt the DISSTON SAW any because I went ahead and sawed all day. This saw sure stood the test of stones.

Very truly yours,
FRANK OTTO.

WESTERN LARCH

(LARIX OCCIDENTALIS)

From American Forest Trees — Copyright Hardwood Record

THIS is a magnificent tree of the Northwest, and its range lies principally on the upper tributaries of the Columbia River, in Idaho, Montana and British Columbia, but it occurs also among the Blue Mountains of Washington and Oregon. It is the largest member of the larch genus, either in the old world or the new. The finest trees are two hundred and fifty feet high with diameters of six or eight feet, but sizes half of that are limby, but later it prunes itself, and a long, tapering bole is developed with a very small crown of thin foliage. No other tree of its size, with the possible exception of old sequoias, has so little foliage in proportion to the trunk.

The result is apparent in the rate of growth after the larch has passed its youth. Sometimes such a tree does not increase its trunk diameter as much in seventy-five years as a vigorous loblolly pine or willow oak will in one year. The trunk of a tree, as is well known, grows by means of food manufactured by the leaves and sent down to be transformed into wood. With so few leaves and a trunk so large, the slowness of growth is a natural consequence. Though the annual rings are usually quite narrow, the bands of summerwood are relatively broad. That accounts for the density of larchwood and its great weight. It is six per cent. heavier than longleaf pine, and is not much inferior in strength and elasticity. The leaves are from one to one and three-quarters inches long, the cones from one to one and a half inches, and the seeds nearly one-quarter inch in length. They are equipped with wings of sufficient power to carry them a short distance from the parent tree.

The bark on young larches is thin, but on large trunks, and near the ground, it may be five or six inches thick. When a notch is cut in the trunk it collects a resin of sweetish taste which the Indians use as an article of food.

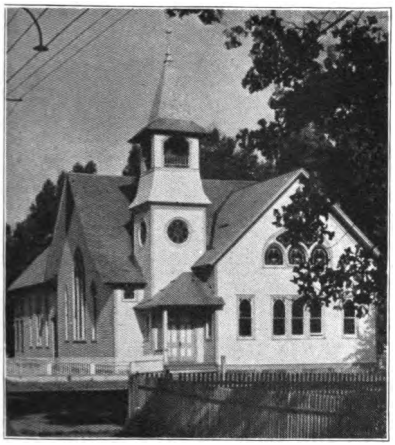
The western larch reaches its best development in northern Idaho and Montana on streams which flow into Flathead lake. The tree prefers moist bottom lands, but grows well in other situations, at altitudes of from 2,000 to 7,000 feet. The figures given above on the wood's weight, strength and stiffness show its value for manufacturing purposes. Its remoteness from markets has stood in the way of large use, but it has been tried for many purposes and with highly satisfactory results. In 1910, sawmills in the four western states where it grows cut 255,186,000 feet. Most of this is used as rough lumber, but some is made into furniture, finish, boxes and boats. The wood has several names, though larch is the most common. It is otherwise known as tamarack and hackmatack which names are often applied to the eastern tree; red American larch, western tamarack, and great western larch.

Some of the annual cut of lumber credited to western larch does not belong to it. Lumbermen have confused names and mixed figures by applying this tree's name to noble fir, which is a different tree. If the fir lumber listed as larch were given its proper name, it would result in lowering the output of larch as shown in statistical figures. In spite of this, however, larch lumber fills an important place in the trade of the northern Rocky Mountain region.

There is little doubt that it will fill a much more important place in the future, for a beginning has scarcely been made in marketing this timber. The available supply is large, but exact figures are not available. Some stands are dense and extensive, and the trees are of large size and fine form. It is not supposed, however, that there will be much after the present stand has been cut, because a second crop from trees of so slow growth will be far in the future. Sudworth says that larch trees eighteen or twenty inches in diameter are from two hundred and fifty to three hundred years old, and that the ordinary age of these trees in the forests of the Northwest is from three hundred to five hundred years; while

Continued on page 59

CROSSETT, ARK.



THE Crossett Lumber Company, Crossett, Ark., has a modern plant of which much might be written. However, Crossett, Ark., a town of about 3,000, composed entirely of employees of the lumber company and their families is the subject of this article. The town is a shining example of conspicuous success as a co-operative community.

The Crossett Lumber Company owns all the real estate. All the houses in Crossett are built and owned by the company and rented at the rate of $1.50 per month per room.

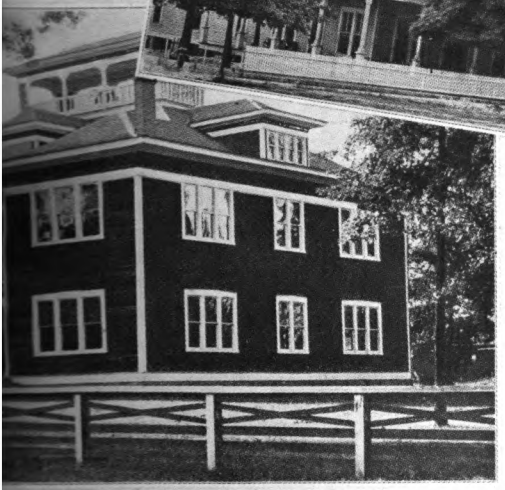
Crossett is regularly incorporated, with mayor, council and other officials, and municipal questions are handled in the same manner as in any other typical Arkansas town. The officials are, of course, connected with the lumber company.

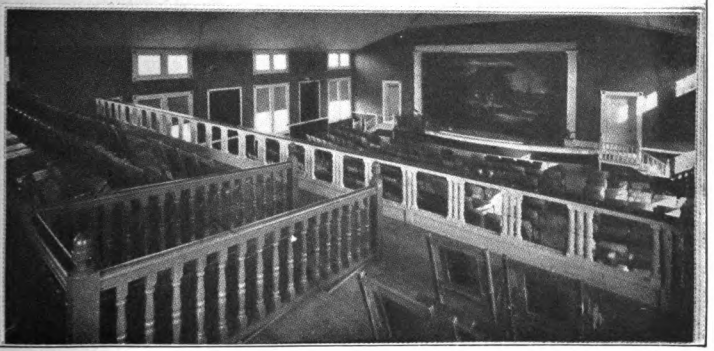
All the houses are furnished with water and electric light at a nominal charge. All lots are 90 x 120 feet, allowing ample room for gardens, and practically all the vegetables used are produced locally. The milk and poultry requirements are supplied almost entirely by the members of the community.

Over three miles of cement walks have been laid and as the streets are all graded and oiled the town is practically free from dust or mud. The streets are lighted by the company without charge and ice is supplied at a very low price.

Crossett boasts six churches, two for white and four for colored persons (which comprise about half the population). All were built by subscription, the Crossett Lumber Company contributing amounts equal to the citizens' subscriptions.

In line with the thoroughness and excellence with which all the municipal institutions in Crossett are planned and developed, the educational facilities are of the finest. A high school building, a grammar school building, a domestic science and manual training building, a large gymnasium and an excellent, enclosed athletic field provided with a grandstand are included in the physical





ARKANSAS.

Courtesy of "The American Lumberman"

equipment. The development of all the faculties, mental and physical, is the result of the educational system of Crossett. Eleven teachers are employed and special attention is devoted to domestic science and manual training. Over 300 pupils are enrolled and graduates from the high school are admitted to the State university without further examination.

In athletics, the Crossett schools stand in the front rank, and this in spite of an exceptionally high standard of scholarship required before pupils are permitted to enter athletic contests.

The hospital, controlled, together with all medical and surgical work of the staff, by the lumber company, is another example of modern appointment throughout. Beside the head physician and three assistants, dentist and four nurses comprising the hospital staff, Crossett has three independent physicians and two dentists. A monthly hospital fee of 75 cents for single men and $1.25 for married men is charged the employees, any surplus accrueing being spent in improvement and in extending the work of the hospital department.

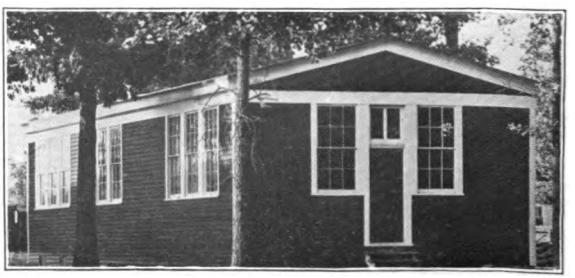
A savings bank offering liberal inducements in interest encourages thrift in the employees and all classes are numbered among the depositors.

A weekly newspaper is another Crossett institution.

The effect of the entire policy has been to develop almost ideal social and business relationship in Crossett, Ark., with corresponding contentment and efficiency. We may well hope for a time when the ideals regulating the social and industrial activities at Crossett have become generally accepted and are the rule rather than an isolated exception.

The personnel of the executives of the Crossett Lumber Company, which has been the leading factor in the Utopian development at Crossett, follows:

General Manager, E. W. Gates; Sales Manager, A. Treischman; Superintendent, J. T. Erwin; Purchasing Agent, W. H. Thornton; Filer, (No. 1 Mill), G. C. Charlan; Filer, (No. 2 Mill), W. L. Woods; Gang Saw Filer, Lee Cooper; Logging Superintendent, Levi Wilcoxon.



Continued from page 54

larger trees are six hundred to seven hundred. Much remains to be learned concerning the ages of these trees in different situations and in different parts of its range. It is apparent, however, that when a period covering two or three centuries is required to produce a sawlog of only moderate size, timber owners will not look forward with much eagerness to a second growth forest of western larch.

The value of the wood of western larch has been the subject of much controversy. In the tables compiled for the federal census of 1880, under direction of Chas. S. Sargent, its strength and elasticity were shown to be remarkably high. The figures indicate that it is about thirty-nine per cent. stronger than white oak and fifty-one per cent. stiffer. This places it a little above longleaf pine in strength and nearly equal to it in stiffness or elasticity. Engineers have expressed doubts as to the correctness of Sargent's figures. They believe them too high. The samples tested by Sargent were six in number, four of them collected in Washington and two in Montana.

The wood of western larch is heavier than longleaf pine, and approximately of the same weight as white oak. It is among the heaviest, if not actually the heaviest, of softwoods of the United States. Sargent thus described the physical properties of the wood: "Heavy, exceedingly hard and strong, rather coarse grained, compact, satiny, susceptible of a fine polish, very durable in contact with the soil; bands of small summer cells broad, occupying fully half the width of the annual growth, very resinous, dark-colored, conspicuous resin passages few, obscure; medullary rays few, thin; color, light bright red, the thin sapwood nearly white." The wood is described by Sudworth: "Clear, reddish brown, heavy, and fine grained; commercially valuable; very durable in an unprotected state, differing greatly in this respect from the wood of the eastern larch."

The seasoning of western larch has given lumbermen much trouble. It checks badly and splinters rise from the surface of boards. It is generally admitted that this is the most serious obstacle in the way of securing wide utilization for the wood. The structure of the annual ring is reason for believing that there is slight adhesion between the springwood and that of the late season. Checks are very numerous parallel with the growth rings, and splinters part from the board along the same lines. Standing timber is frequently windshaken, and the cracks follow the rings.

All of this is presumptive evidence that the principal defect of larch is a lack of adhesion between the early and the late wood. If that is correct, it is a fundamental defect in the growing tree, and is inherent in the wood. No artificial treatment can wholly remove it. It should not be considered impossible, however, to devise methods of seasoning which would not accentuate the weaknesses natural to the wood.

The form of the larch's trunk is perfect, from the lumberman's viewpoint, and its size is all that could be desired. It is amply able to perpetuate its species, though it consumes a great deal of time in the process. Abundant crops of seeds are borne, but only once in several years. It rarely bears seeds as early as its twenty-fifth year, and generally not until it passes forty; but its fruited period is long, extending over several centuries. The seeds retain their vitality moderately well, which is an important consideration in view of the tree's habit of opening and closing its cones alternately as the weather happens to be damp or dry. The dispersion of seeds extends over a considerable part of the season, and the changing winds scatter them in all directions. Many seeds fall on the snow in winter to be let down on the damp ground ready to germinate during the early spring. The best germination occurs on mineral soil, and this is often found in areas recently bared by fire. Lodgepole pine contends also for this ground; but the race between the two species is not swift after the process of scattering seeds has been completed; for both are of growth so exceedingly slow that a hundred years will scarcely tell which is gaining. In the long run, however, the larch outstrips the pine and becomes a larger tree. If both

Concluded on page 60

THE CARTER-KELLEY TO REBUILD

In the March issue of the "CRUCIBLE" an illustrated article described the plant of the Carter-Kelley Lumber Company, Manning, Texas. Since the article appeared the plant has been burned out. Practically the entire loss was covered by insurance and steps have already been taken to rebuild, as the company has timber standing to supply them for many years.

The entire saw equipment of the new plant, as of the old, will be DISSTON.

THE JAM WAS FINGER LUMBER COMPANY SPRUCE

Through error the frontispiece of the March issue of the "CRUCIBLE" was described as being a log jam of the Carter-Kelly Lumber Co. As a matter of fact the jam consisted of the finest quality of Carrot River Spruce cut by the Finger Lumber Company, The Pas, Manitoba, a description of whose extensive plant and operations was included in the March issue.

WESTERN LARCH

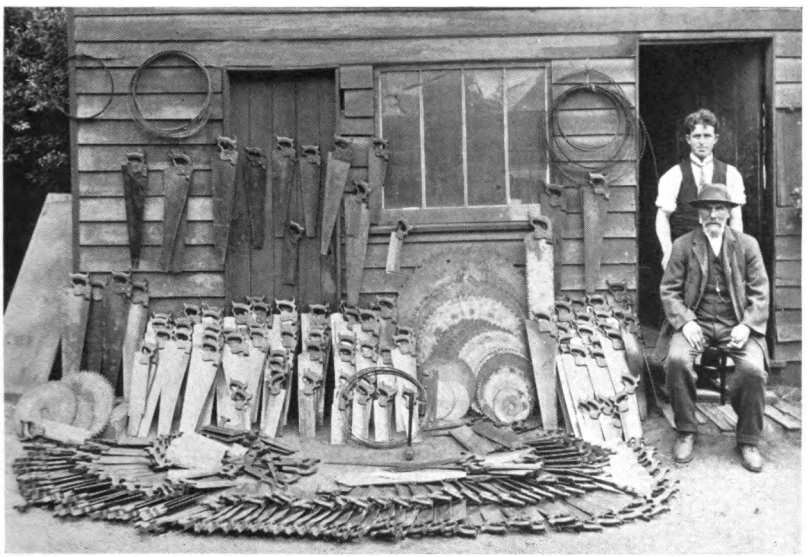
Continued from page 59

start at the same time, and there is not room for both, the pine will kill the larch by shading it. The latter's thin foliage renders it incapable of casting a shadow dense enough to hurt the pine. The best areas for larch are those so thoroughly burned as to preclude the immediate heavy reproduction of lodgepole pine.

Much of the natural range of larch and lodgepole lie in the national forests owned by the government, and careful studies have been made in recent years to determine the requirements, and the actual and comparative values of the two species. It has been shown that larch is one of the most intolerant of the western forest trees. It cannot endure shade. Its own thin foliage, where it occurs in pure stands, is sufficient to shade off the lower limbs of boles, and produce tall, clean trunks; but if a larch happens to stand in the open, where light is abundant, it retains its branches almost to the ground. It is more intolerant, even, than western yellow pine, which so often grows in open, parklike stands.

Alpine Larch (Larix lyallii) never grows naturally below an altitude of 4,000 feet, and near the southern border of its range it climbs to 8,000, where it stands on the brink of precipices, faces of cliffs, and on windswept summits. It is too much exposed to storms, and has its roots in soil too sterile to develop symmetrical forms. It is found in Montana, Idaho, Washington and Oregon. The finest trees are sometimes seventy-five feet high and three or four in diameter, but the average height ranges from forty to fifty, with diameters of twenty inches or less. Its leaves are one and a half inches or less in length; cones one and a half inches long, and bristling with hair; seeds one-eighth of an inch long with wings one-fourth inch; wood heavy, hard, and of a light, reddish brown color. It is seldom used except about mountain camps where it is sometimes burned for fuel or is employed in constructing corrals for sheep and cattle. It is impossible for lumbermen ever to make much use of it, because it is scarce and hard to get at.

"90% DISSTON"



THIS is a New Zealand saw fitting shop. Mr. Fraser surely seems to have a pretty complete assortment, and it is interesting to note from his letter that DISSTON SAWS are in almost universal use in New Zealand.

HENRY DISSTON & SONS, INC.,
Philadelphia, Pa.

238 St. Asaph St.,
Christchurch, N. Z.

GENTLEMEN:

I have forwarded you a photo which no doubt will be of interest, being a saw repair shop in New Zealand, and shows that over ninety per cent. of the saws in use here are Disstons, and with my sixteen years experience as a saw expert, with Mr. S. Frasee, whose photo is shown, but now has returned after over fifty years both working and repairing saws.

We are both of the same opinion that DISSTON SAWS excel all others.

Wishing you continuous success, I remain,

Yours, etc.

ROBERT J. FRASER.

AND STILL SHE CUT

HENRY DISSTON & SONS, INC.,
Philadelphia, Pa.

GENTLEMEN:

I received the gauges all O. K. and must say I am sure proud of them. I don't let anybody touch them as I value them too highly.

And by the way. I have a record breaker for a DISSTON SAW. When I first took the job, I discovered an old saw rolled up and hanging on the wall. I inquired why they never used it. Well, the boss says, it has been run off the mill and is all twisted and can never be used. I got it out and discovered it was an old DISSTON. So I immediately started to work on it and soon had it in good condition and doing fine work. I ran it for a day and in some peculiar way the sawyer got a sliver caught in the guide and twisted it again, and I straightened it this time. And again we met another accident, this saw being twisted three times in a month, and still doing fine work. So the other night (as they run night and day) I gave it to the night man and along about midnight the helper was trying to lever a long board and in some unaccountable way it slipped and caught the saw and wheel at the same time and it just broke the mill in a hundred pieces. In the morning I went down and got the saw out and went right to work on it. Now bear in ming the top wheel of the mill was broken in many pieces and that old saw was still altogether. So I cut out a bad spot where the teeth were torn out, put in a new piece and today had her cutting and doing as good work as ever.

That was sure some ad as the superintendent remarked what a great saw it was and he told me there would be nothing but DISSTON for him in the future.

Well, gentlemen, I am out of steam and will have to close for the present.

I am, yours sincerely,

(Signed) BRAINERD ADAMS,
139 Carlisle Avenue,
Dayton, Ohio.

WHO'S WHO IN THE SAW WORLD

ONE of the interesting visitors at the DISSTON EXHIBIT at the Panama-Pacific International Exposition last year, was Mr. Humphrey Lawrence. Mr Lawrence has been a carpenter and contractor for many years. As a striking example of the high quality of DISSTON STEEL, Mr. Lawrence brought to the Exhibit a hand-saw which he had purchased in 1865 from R. Chestnut & Son in Fredericton, N. B. Since that time it has been in practically constant use.

The following is a statement over his signature:

21 Buena Vista Ave.,
San Francisco, Cal.

No. 12 Hand Saw 28-inch rip 5½ pt. bought in 1865 from R. Chestnut & Son, Fredericton, N. B.

This saw has been in practically continuous use both in Canada and the United States since its purchase. I left Fredericton in 1882 and worked in Wisconsin and Minnesota for about two or three years and then came to California where I have been located ever since.

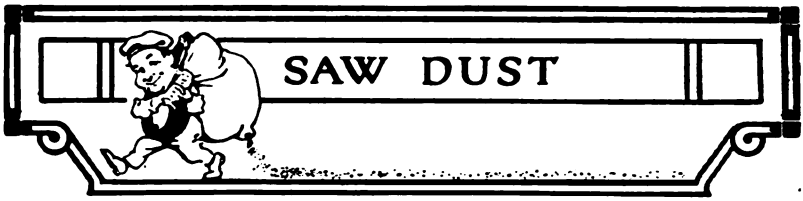
I am hale and hearty at seventy years and today can cut the finest mitre without the use of glasses.

I have cut literally thousands of feet of both hard and soft lumber with this saw and have used it in ripping hard wood for three weeks without sharpening. Many tempting offers have been made for this saw but I have always refused.

This is a correct statement.

(Signed) HUMPHREY LAWRENCE.

August 17th,1915.



CIRCUMSTANTIAL EVIDENCE

MAGISTRATE—What was the prisoner doing?

CONSTABLE—'E were 'avin' a very 'eated argument with a cab driver, yer worship.

MAGISTRATE—But that doesn't prove he was drunk.

CONSTABLE—Oh, but there weren't no cab driver there, yer worship.

TOO CRITICAL

"Doesn't that girl over there look like Helen Brown?"

"I don't call that dress brown."—*Yale Record.*

Two gentlemen were walking along a highway near a railroad. One of them was exceedingly hard of hearing. Along came a train, and the locomotive emitted an ear-splitting shriek.

"H'm!" said the deaf man, "that's the first robin I've heard this spring."

PATRON—I say, waitah, is this peach or apple pie?

GARCON—Can't you tell by the taste?

PATRON—No.

GARCON—Then what difference does it make?"—*Judge.*

"I don't like to have my husband prop up a newspaper at the breakfast-table, do you?"

"Oh, I don't know. It keeps the grape-fruit from spattering as far as it otherwise might."

"Hello, Doc, where you goin' in such a hurry?"

"Don't detain me—I'm goin' to 'The Birth of a Nation'!"—*Life.*

"Wot was the last card Oi dealt ye, Moike?"

"A spade."

"Oi knew it! Oi saw ye spit on yer hands before ye picked it up."

TOO MUCH

It was in a country store in Arkansas. A one-gallus customer drifted in. "Gimme a nickel's worth of asafetida."

The clerk poured some asafetida in a paper bag and pushed it across the counter.

"Charge it," drawled the customer.

"What's your name?" asked the clerk.

"Honeyfunkel."

"Take it," said the clerk. "I wouldn't write asafetida and Honeyfunkel for five cents."

MILD

One evening just before dinner the wife, who had been playing bridge all the afternoon, came in to find her husband and a strange man (afterward ascertained to be a lawyer) engaged in some mysterious business over the library table, upon which were spread several sheets of paper.

"What are you doing with all that paper, Henry?" demanded the wife.

"I am making a wish," meekly responded the husband.

"A wish?"

"Yes, my dear. In your presence I shall not presume to call it a will."

George Ade tells a story which he says always seems fresh and glistening to him, no matter how old it gets. It is about two solemn looking gentlemen who were riding together in a railway carriage. One gentleman said to the other: "Is your wife entertaining this summer?"

Whereupon the second gentleman replied, "Not very."

VOICE—Is this the Weather Bureau? How about a shower tonight?"

PROPHET—Don't ask me. If you need one, take it."

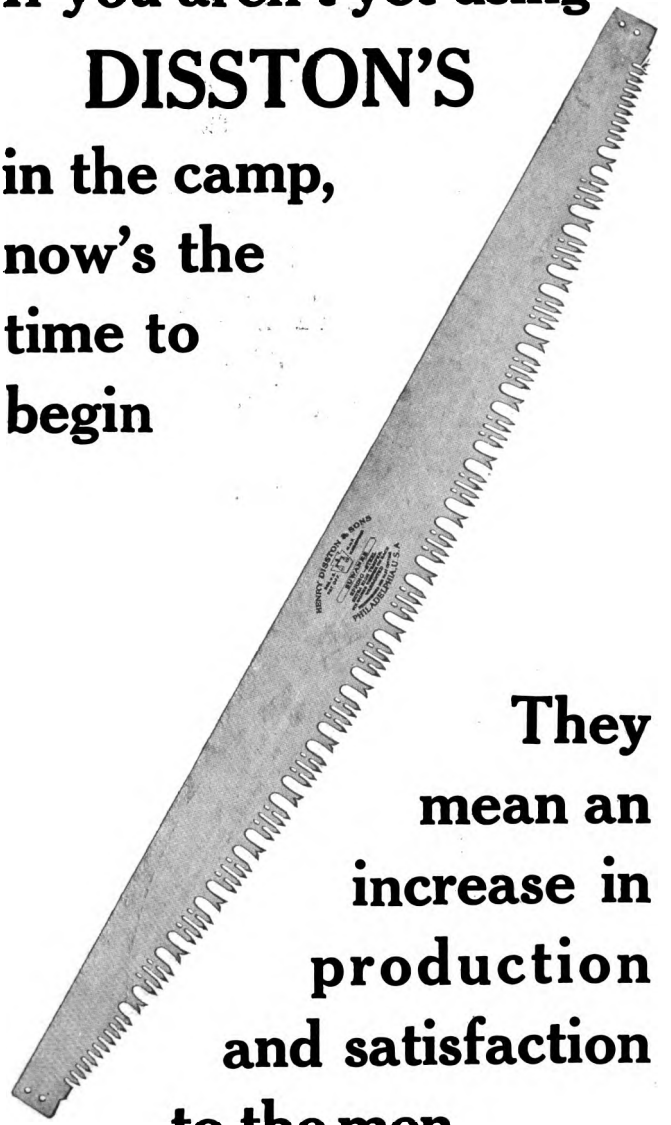
"Brush yo' off, suh?"

"No, I'll wait till the train stops and get off myself."

If you aren't yet using

DISSTON'S

in the camp, now's the time to begin



They mean an increase in production and satisfaction to the men

—largest plant in the world

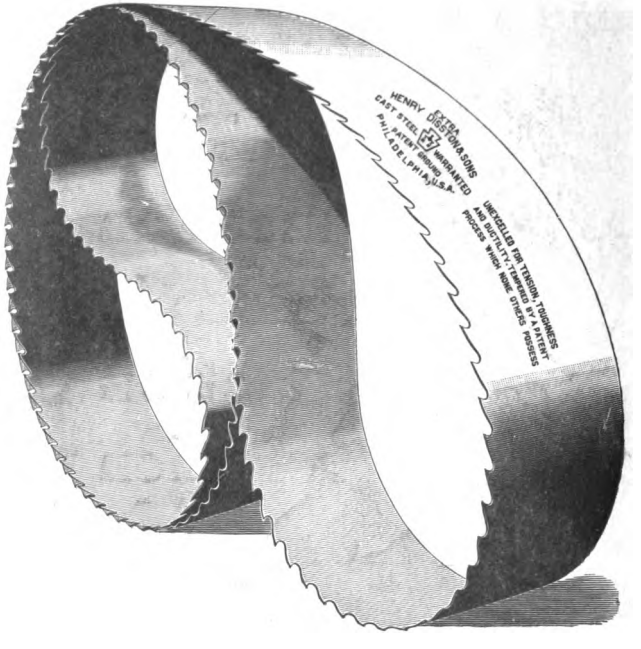
—up-to-the-minute equipment

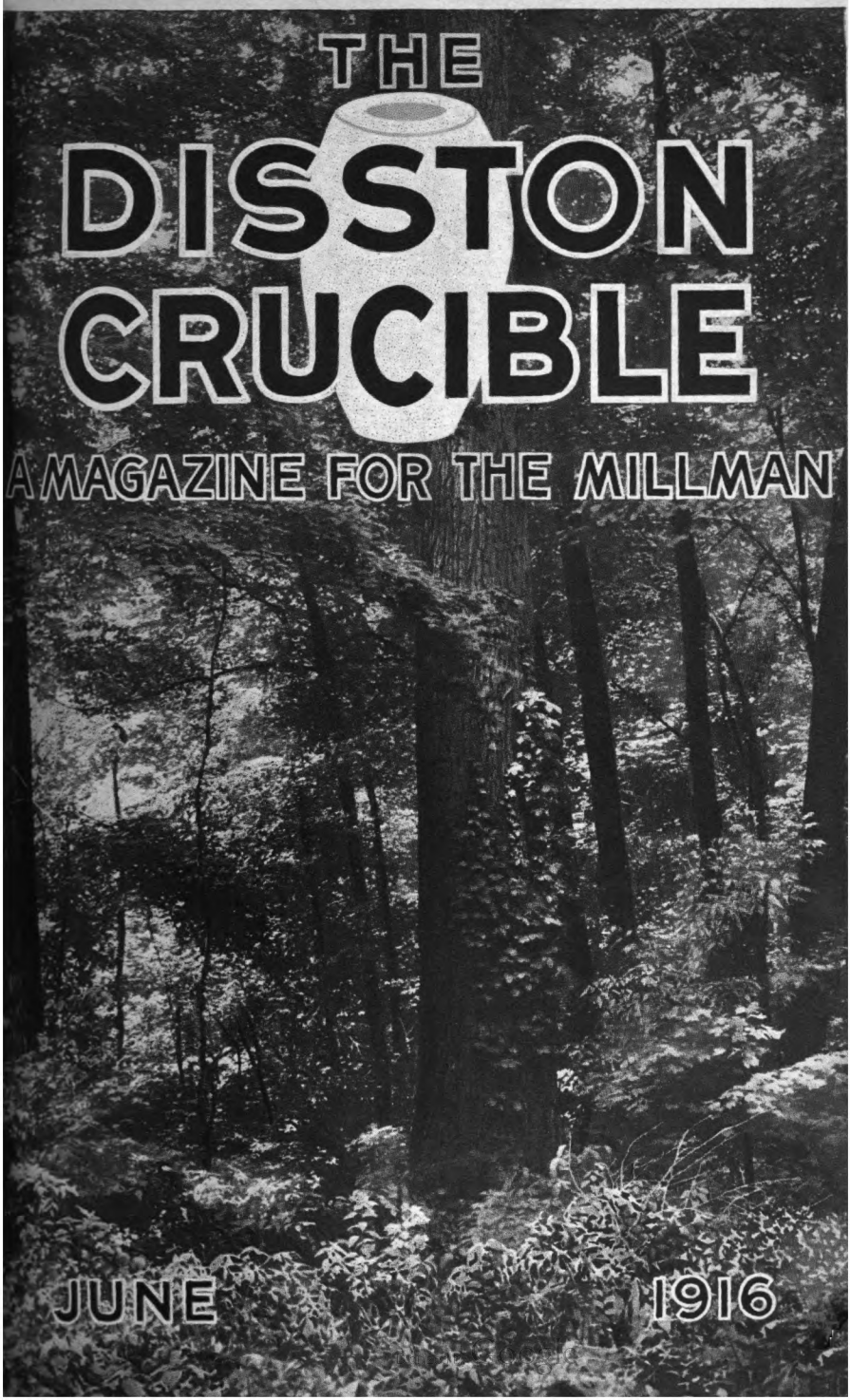
—76 years specialized experience

but don't take our word
as to the
QUALITY of

DISSTON SAWS

ask *anyone* who
uses them




THE
DISSTON
CRUCIBLE
A MAGAZINE FOR THE MILLMAN
JUNE
1916

THE DISSTON CRUCIBLE

PRICE 10¢ PER COPY $1.00 YEARLY IN ADVANCE

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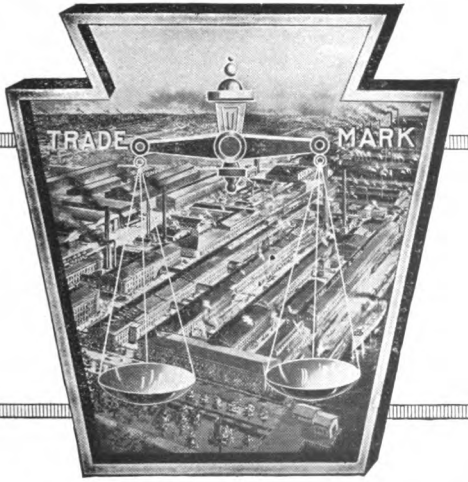


This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS

INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

BRANCH HOUSES:

Chicago, Ills. Boston, Mass. Cincinnati, Ohio. Seattle, Wash. Portland, Oregon.
New Orleans, La. Memphis, Tenn. San Francisco, Cal. Sydney, Aus. Vancouver, B. C.
Canadian Works, Toronto, Canada.

RED CEDAR

From American Trees

See page 75

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. JUNE 15, 1916 NO. 5

EDITORIAL CHAT

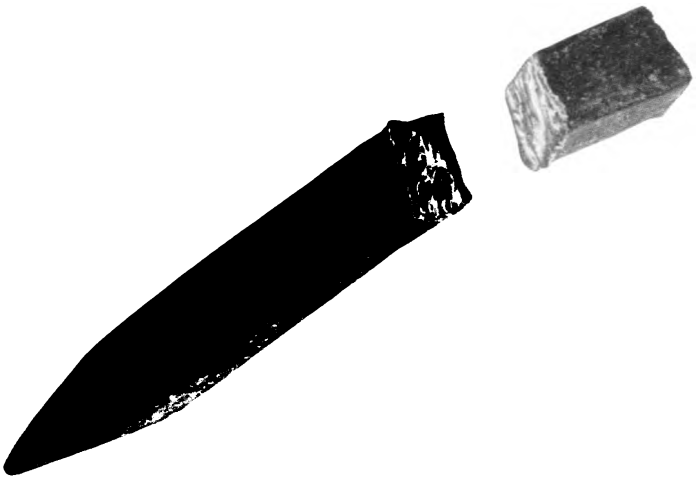
BARGAINS

IT seems paradoxical that the world's constant struggle to get things "cheap" should be a contributing factor, and an important one, in improving their quality. But this very human tendency has been a constant spur to manufacturers to improve the quality of their product in order that they might offer greater value for the money than could be had elsewhere. That this might be done without depressing effects on their own returns led in turn to the development of improved equipment and processes.

It was then up to competitors, if they would keep in the ring, to throw out the bait of additional improvements to the bargain hunters. This they did after carefully incorporating all the features which the patent attorneys of the first manufacturer had sedulously protected. Whereupon the first would counter with new developments (plus those of the rival) and wait for the other to move. The process is not unlike international correspondence in that it is continued indefinitely and at no stage does it approach a definite conclusion.

Nevertheless, irksome as the game at times becomes to the producer, the consumer is constantly offered increased values and he profits directly by the producer's desire for and need of his trade.

"A REMARKABLE FEAT"



At the Meeker, La., plant of the Holly Ridge Lumber Company, they are averaging six of these bridge spikes to the log. They can't locate them all but they minimize the danger of damage by using narrow band-saws of the best brand made.

Read what Mr. Glover, their filer, says about it:

Meeker, La.,
May 27, 1916.

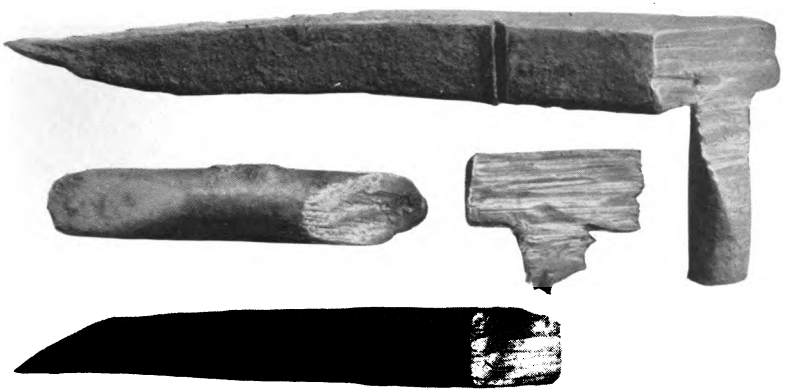
MESSRS. HENRY DISSTON & SONS, INC.
Philadelphia, Pa.

Gentlemen:

Believing you will be interested, I am mailing you under separate cover a 5/8-inch bridge spike which we encountered with one of your thin band-saws. The result to the spike you may observe for yourself. The saw that cut this spike was originally an eight inch, 17-gauge, DISSTON band-saw, but had been worn down to five and three-quarter inches. The damage to the saw was entirely repaired by grinding the saw down 1/8-inch and re-swaging.

Continued on page 69

A 12", 15-GAUGE DISSTON DID THIS



At the Wood Mosaic Company, New Albany, Indiana, these spikes were encountered.

Mr. W. W. Wood, filer for the company, is glad DISSTON SAWS did the cutting as all he had to do was to resharpen them.

"A REMARKABLE FEAT"

Continued from page 68

We have a pair of new saws recently purchased from you through the C. T. Patterson Company of New Orleans, but I am saving them as the ash logs we are at present sawing will average six spikes to the log, and realizing the impossibility of finding all of these spikes before they get to the saw, I am using some narrow blades to saw this bunch consisting of about 900 logs.

I consider this a remarkable feat for a saw of so thin and narrow a blade, and believe that had it not been best quality steel there would not have been much left of that saw.

I am,

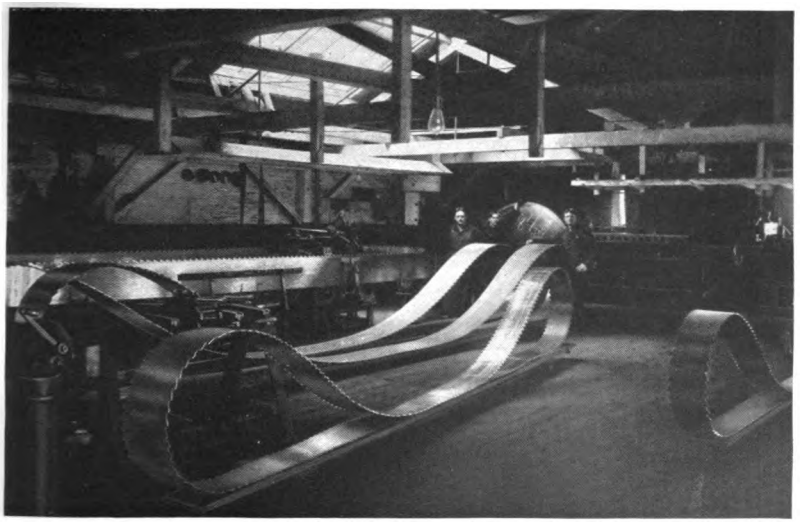
Yours very truly,

(Signed) R. R. GLOVER, Filer,
at Meeker Plant, Holly Ridge Lumber Company.

ST. CROIX LUMBER AND MANUFACTURING CO.
WINTON, MINNESOTA

The upper view shows the well-known Gray "Six" and the lower view the Brown "Six". The centre view is one of the mills where enormous quantities of Water cured White Pine and Norway Lumber are turned out every year.

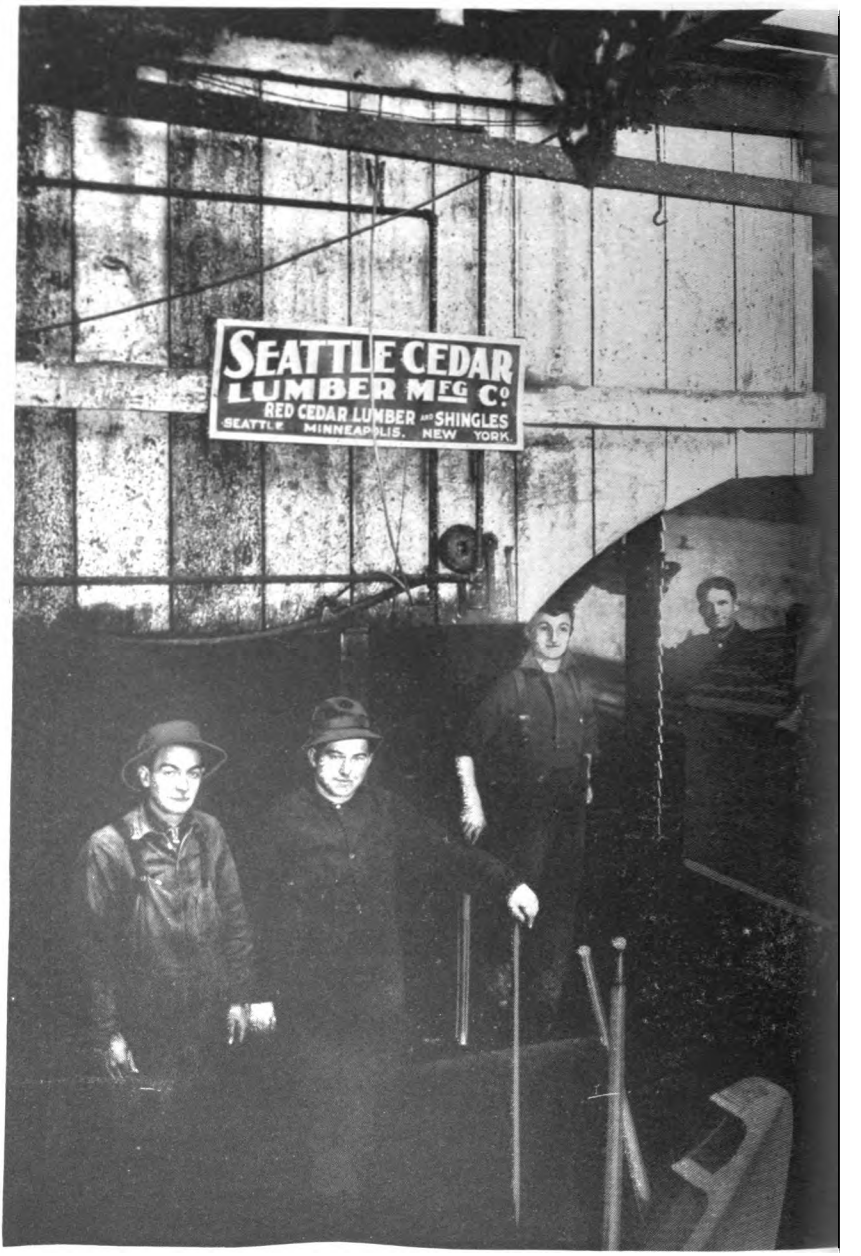
SEATTLE CEDAR LUMBER MANUFACTURING COMPANY

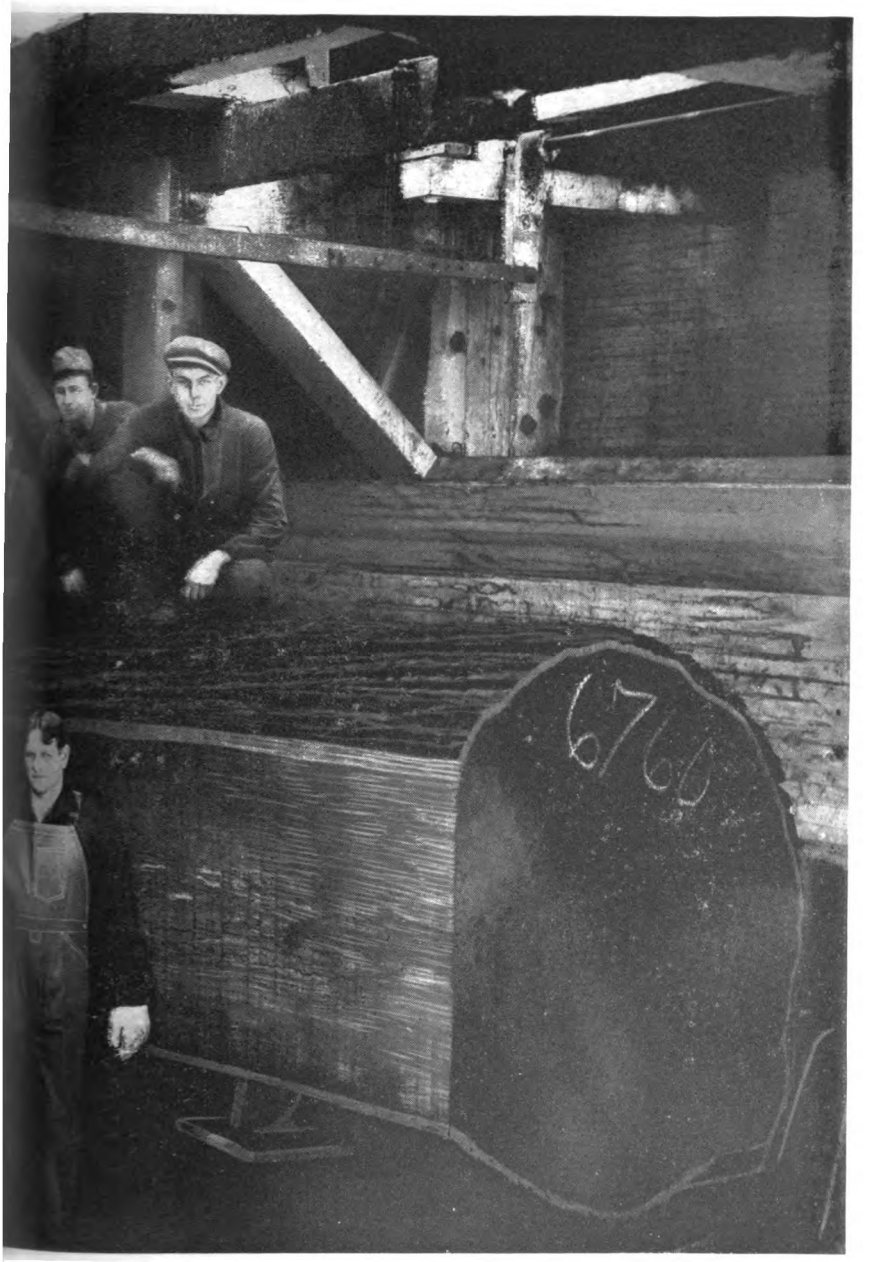


VIEW OF FILING ROOM

ONE of the largest and most progressive lumber companies in the west is the Seattle Cedar Lumber Manufacturing Company. Their mill is located in Ballard, a suburb of Seattle, Wash. The mill is equipped with a 10-inch, single cut rig, an 8-inch double cut and a pony gang with three roller gangs in the planing mill. The capacity is 100,000 feet of one-inch cedar lumber per day. A shingle mill with four 10-block, two double-block, and one hand machine is operated in connection with the lumber mill. Eight to ten hundred thousand shingles are cut per day. Cedar is cut exclusively in both mills.

An interesting feature in the operation of the lumber mill is the use of band saws toothed on both edges as for double cutting, but cutting only in one direction. The offset is removed from the carriage and the claim is made that the sawyer can increase his





SEATTLE CEDAR LUMBER MANUFACTURING COMPANY

output and better grade his lumber by this method. Their contention is that by cleaning the face of the log of clinging sawdust and possible projecting splinters by the teeth on the back edge of the saw, the necessity of the offset is obviated. They are at present using 16-inch DISSTON SAWS in this manner and are about to use 18-inch.

An illustration in the progressiveness of this concern is seen in the development of the Hilke Lumber Piler by H. C. Hilke, the superintendent. The property on which the mill is located is very valuable and it is imperative that every inch of yard space be utilized to the best advantage. The novel rig developed by Mr. Hilke has materially increased the capacity of the yard. In fact it is stated that yard capacities may be doubled and labor expense cut in half by use of the equipment.

In the view of the filing room are shown Mr. H. E. Snapp, head filer, and his two assistants, Mr. H. S. Case and Mr. E. Redell.

HE WANTED PLAIN ENGLISH

Young Sam was reported married and his irate father was out to ascertain the facts, "Hey! Yo' Limb o' Blackness," called his parent, glimpsing the recreant one across the train-yards, "Yo' come here. I heahs yo' is done married— is yo'?"

"I ain't sayin' as how I ain't," coyly replied his son and heir.

"I ain't axin' yo' ain't, I'se axin' yo' ain't yo' is. Is yo'?"

AND THIS IS BOSTON

Are passengers allowed to expectorate on this car?" asked an indignant looking Boston woman of an Irish conductor.

"Yes'm," was the reply. "Ye can spit annywhere ye want to, Leddy."

RED CEDAR

(JUNIPERUS VIRGINIANA)

From American Forest Trees

THIS widely distributed tree is called red cedar in New Hampshire, Vermont, Massachusetts, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Kentucky, Missouri, Illinois, Indiana, Wisconsin, Iowa, Michigan, Minnesota, Ohio and Ontario; cedar in Connecticut, Pennsylvania, New Jersey, South Carolina, Kentucky, Illinois, Iowa, and Ohio; savin in Massachusetts, Rhode Island, New York, Pennsylvania and Minnesota; juniper in New York and Pennsylvania; juniper bush in Minnesota; cedre in Louisiana.

The names as given above indicate the tree's commercial range. It appears as scattered growth and in doubtful forms outside of that range, particularly in the West where several cedars closely resemble the red cedar, yet differ sufficiently from it to give them places as separate species in the lists of some botanists. They are so listed by the United States Forest Service; and the following names are given: Western Juniper, Rocky Mountain Juniper, One Seed Juniper, Mountain Juniper, California Juniper, Utah Juniper, Drooping Juniper, Dwarf Juniper, and Alligator Juniper. These species are not of much importance from the lumberman's viewpoint, yet they are highly interesting trees, and in this book will be treated individually.

The red cedar grows slowly, and thrives in almost any soil and situation except deep swamps. It is often classed as a poorland species, yet it does not naturally seek poor land. That it is often found in such situations is because it has been crowded from better places by stronger trees, and has retreated to rocky ridges, dry slopes, and thin soils where competitors are unable to follow. The trees often stand wide apart or solitary, yet they can grow in thickets almost inpenetrable, as they do in Texas and other southern states. It is an oldfield tree in much of it's range. Birds plant the seeds, particularly along fence rows. That is why long lines of cedars may often be seen extending across old fields or deserted plantations.

The extreme size attained by this cedar is four feet in diameter, and one hundred in height, but that size was never common, and at present the half of it is above the average. That which reaches market is more often under than over eighteen inches in diameter. The reddish-brown and fibrous bark may be peeled in long strips. Stringiness of bark is characteristic of all the cedars, and typical of red cedar.

The wood is medium light and is strong, considering that it is very brittle. Tests show it to be eighty per cent. as strong as white oak. The grain is very fine, even, and homogeneous, except as interfered with by knots. The annual rings are narrow, the summerwood narrow and indistinct; medullary rays numerous but very obscure. The color is red, the thin sapwood nearly white. The heart and sap are sometimes intermingled, and this characteristic is prominent in the closely related western species of red cedar. The wood is easily worked, gives little

trouble because of warping and shrinking, and the heart is considered as durable as any other American wood. It has a delicate, agreeable fragrance, which is especially marked. This odor is disagreeable to insects, and for that reason chests and closets of cedar are highly appreciated as storage places for garments subject to the ravages of the moth and the buffalo bug. An extract from the fruit and leaves is used in medicine while oil of red cedar, distilled from the wood, is used in making perfume. Cedar has a sweet taste. It burns badly, scarcely being able to support a flame; it is exceedingly aromatic and noisy when burning and the embers glow long in still air. Some of the bungalow owners in Florida buy cedar fuel in preference to all others for burning in open fireplaces.

Its representative uses are for posts, railway ties, pails, sills, cigar boxes, interior finish and cabinet making, but its most general use is in the manufacture of lead pencils, for which its fine, straight grain and soft texture are peculiarly adapted. The farther south cedar is found, the softer and clearer it is. In the North, in ornamental trees, it is very hard, slow-growing and knotty. It shows but a small percentage of clear lumber. In eastern Tennessee there were considerable quantities of red cedar brake that were for years considered of little value. About the only way the wood was employed a few years ago was in fence rails and posts, fuel and charcoal. Of late people in localities where cedar grows in any abundance have awakened to its value, and cedar fences are rapidly disappearing, owing to the high prices now paid for the wood and the excellent demand. On no other southern wood has such depredation been practised. Because of its lightness and the ease with which it can be worked, it has been used for purposes for which other and less valuable woods were well adapted. On account of its slow growth its complete exhaustion has often been predicted, but a second growth has appeared which, though much inferior to the virgin timber, can be used in many ways to excellent advantage. Instead of the huge piles of cedar flooring, chest boards, and smooth railings of the old days, one now sees at points of distribution great piles of knotty, rough poles, ten to forty feet long, which years ago would have been discarded. Today they represent bridge piling, the better and smoother among them being used for telephone and telegraph poles.

Middle Tennessee has produced more red cedar than any other part of the United States, but the bulk of production has been confined to a few counties, which produce a higher class and more aromatic variety of wood than that found elsewhere. A century ago these counties abounded in splendid forests of cedar. The early settlers built their cabins of cedar logs, sills, studding, and rafters; their smoke houses were built of them; their barns; even the roofs were shingled with cedar and the rooms and porches floored with the sweet-scented wood. Not many years ago trees three feet or more in diameter were often found, but the days are past when timber like that can be had anywhere.

Although the most general use at the present time is for lead pencils, few people who sharpen one and smell the fragrant wood, stop to wonder where it came from. One would smile were it suggested to him that perhaps his pencil was formerly part of some Tennessee farmer's worm fence. The best timber obtained now is hewn into export logs and shipped to Europe, particularly Germany, where a great

quantity is converted into pencils. The red wood is made into the higher grades and the sap or streaked wood is used for the cheaper varieties and for pen holders. The smaller and inferior logs are cut into slats, while odds and ends, cutoffs, etc., are collected and sold by the hundred pounds to pencil factories. There are many such factories in the United States now, as well as in Europe, and pencil men are scouring the cedar sections to buy all they can. The farmer who has red cedar picket or worm fence can sell it to these companies at a round price. Pencil men are even going back over tracts from which the timber was cut twenty-five years ago, buying up the stumps. When the wood was plentiful lumbermen were not frugal, and usually cut down a tree about two feet above the ground, allowing the best part of it to be wasted.

The German and Austrian pencil makers foresaw a shortage in American red cedar, and many years ago planted large areas to provide for the time of scarcity. The planted timber is now large enough for use, but the wood has been a disappointment. It does not possess the softness and brittleness which give so high value to the forest cedar of this country. As far as can be seen, when present pencil cedar has been exhausted, there will be little more produced of like grade. It grows so slowly that owners will not wait for trees to become old, but sell them while young for posts and poles.

One of the earliest demands for red cedar was for woodenware made of staves, such as buckets, kegs, keelers, small tubs, and firkins. Material for the manufacture of such wares was among the exports to the West Indies before the Revolutionary War. The ware was no less popular in this country, and the homemade articles were in all neighborhoods in the red cedar's range. Scarcity of suitable wood limits the manufacture of such wares now, but they are still in use.

Cedar was long one of the best woods for skiffs and other light parts of vessels. A little of it is still used as trim and finish, particularly for canoes, motor boats and yachts.

The early clothes chest makers selected clear lumber, because it could be had and was considered to be better; but modern chest manufacturers who cannot procure clear stock, make a merit of necessity, and use boards filled with knots. The wood is finished with oils, but the natural colors remain, and the knots give the chest a rustic and pleasing appearance.

Southern Red Juniper (Juniperus barbadensis) so closely resembles the red cedar with which it is associated that the two were formerly considered the same species and most people familiar with both notice no difference. However, botanists clearly distinguish the two. The southern red cedar's range is much smaller than the other's. It grows from Georgia to the Indian River, Florida, in swamps. It is found in the vicinity of the Apalachicola River, forming dense thickets. Its average size is much under that of the red cedar, but its wood is not dissimilar. It has been used for the same purpose as far as it has been used at all. One of the largest demands upon it has been for lead pencils. Those who bought and sold it generally supposed they were dealing in the common red cedar.

A HUMBOLDT "TOOTHPICK"

THIS photograph shows one of the redwood giants cut by the Pacific Lumber Company of Scotia, Humboldt County, California. M. E. Brazziel, Superintendent of Mill A., is standing with his family alongside the log just before it is introduced to a DISSTON band-saw.

PICKED UP A WHEEL AND SPOKE

KNICKER—It's wonderful, but I had a deaf uncle who was arrested, and the judge gave him his hearing the next morning.

BOCKER—That's nothing. I once had a blind aunt who walked in a lumber yard and saw dust.

EASY ANSWER

FIRST FLEA—Been on a vacation?

SECOND FLEA—Nope; on a tramp.

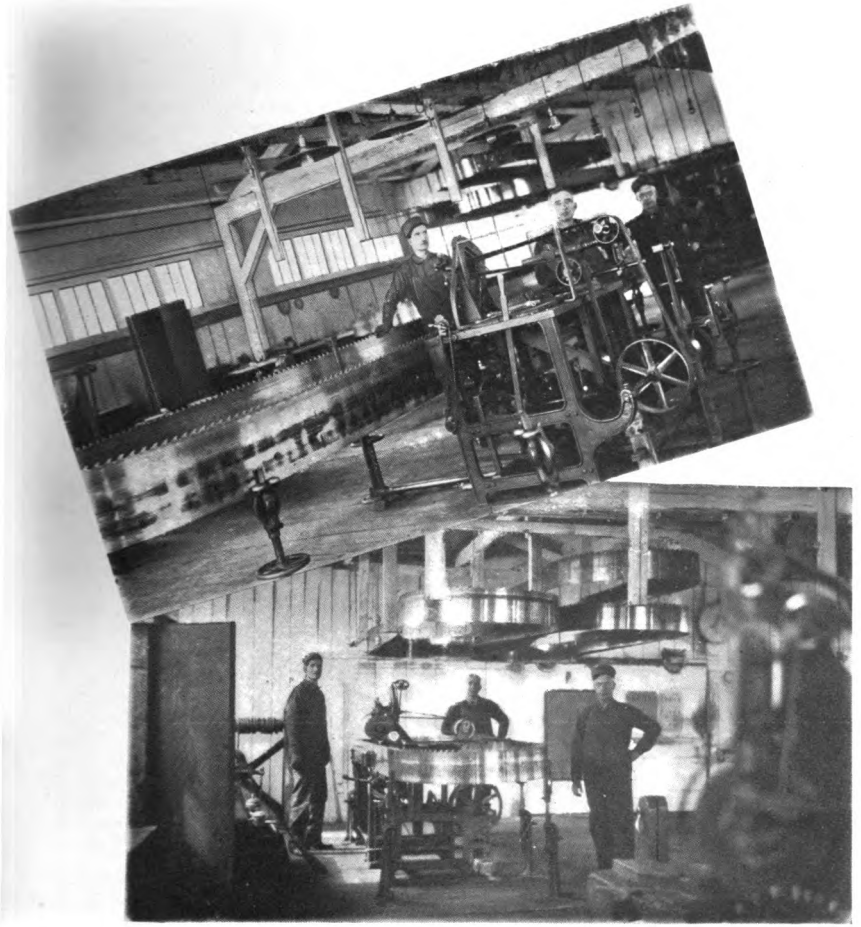
—*Pennsylvania Punch Bowl.*

EASILY DETECTED

WAITRESS—And how did you find the apple pie, sir?

DINER—I moved the bit of cheese aside and there it was.

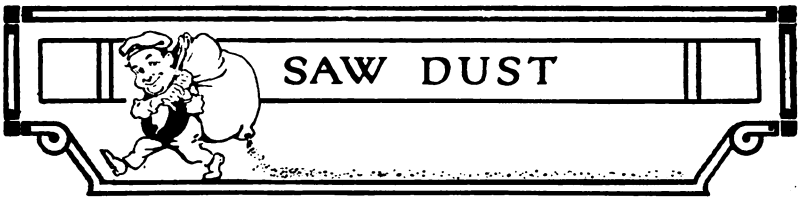
WHO'S WHO IN THE SAW WORLD



GEORGE RICHARDS

The plant of the Bay De Noquet Company, Nahma, Mich., consists of a large double band mill and a resaw.

George Richards, at the left in the photographs of their filing room, is head filer for the company. Mr. Richards is a thoroughly competent man, and as such naturally pins his faith to DISSTON quality. All the saws in the photographs are DISSTONS.



THE DOCTOR'S DILEMMA

A doctor in an Iowa town had been very busy for several days and was worn out and sleepy when he got to bed one morning about two o'clock.

Just as he dropped off a summons came from a house half a mile away. The lady of the house, the call said, was dying of a heart difficulty.

The sleepy doctor got into his clothes somehow and went to the house, where the patient—a very stout woman—was in bed, breathing stertorously.

The doctor could find nothing specially wrong, but the woman was panicky.

"Cough!" he ordered. She could not.

"Cough!" he ordered. She could not. Then he put his ear over her heart and said: "Count slowly."

Next thing he knew he woke to hear the woman counting faintly.

"Ten thousand and forty-seven—ten thousand and forty-eight—".

A DISGUSTED CUSTOMER

Lalla & Co. a wholesale plumbers' supply house, in San Francisco, exhibits the following letter, which it got from Antonio Salaminia Dutra, as one of the funniest kicks it ever received:

Mister Leaser Laila House, S F.

Dear Freind: i got the valve which i buy from you all rite but why for gods sake you doan sen me no handle. Wats the use of valve when she doan yave no handle i looses to me my customer sure thing. You doan treat me rite is my muny not so gued to you as the other fellow. I wate 10 daze and my customer he holler for water like hell by the valve. You no she is hot sommer now and the win he no blow the mill. The valve she got no handle so what i goan do send me the handle pretty quick i send he back and i goan order some valve from Krain Company. Good by, your freind

ANTONIO SALAMINIA DUTRA

Since i write thees i fine the dam handle in the bocks. Excuse me.

A SINECURE

A farm hand had worked in the field from dawn till darkness, doing the chores by lantern light. "I'm going to quit," he said to the farmer at the end of the month. "You promised me a steady job."

"Well, haven't you got one?" was the astonished reply.

"No," said the man, "there are three or four hours every night that I don't have a thing to do, and fool my time away sleeping.

LOFTY AIM

The new night watchman at the college had noticed some one using the big telescope. Just then a star fell.

"Begorra," said the watchman, "that felly sure is a crack shot."

Mr. Jones had recently become the father of twins. The minister stopped him inthe street to congratulate him.

"Well, Jones," he said, "I hear that the Lord has smiled on you."

"Smiled on me?" repeated Jones. "He laughed out loud."

ONE KIND OF ADVICE

A farmer once asked the editor of a country paper for some advice. He wrote:

"I have a horse that at times appears normal, but at other times is lame to an alarming degree. What shall I do?"

The reply came: "The next time that your horse appears normal, sell him."

—*Massachusetts Exchange.*

A little boy who had been taught to report promptly his misdeeds sought his mother with an aspect of grief and repentance.

"I broke a brick in the fireplace," he announced, on the verge of tears.

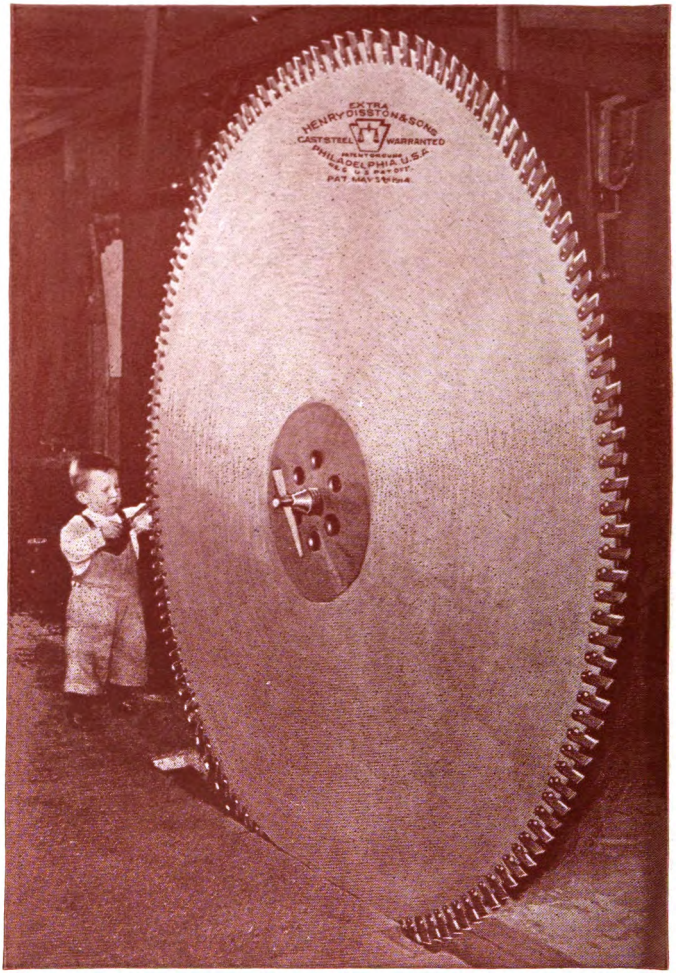
"Well, that is not beyond remedy," smiled the mother, "but how on earth did you do it?"

"I was pounding it with father's watch."

DISSTON Service

—*"What you want when you want it"*—

has been a big factor in establishing DISSTON'S pre-eminent position in the SAW manufacturing industry.



"Who says it's hard to keep in order?"

THE DISSTON CRUCIBLE

A MAGAZIN[illegible]OR THE MILLMAN

JULY 1916

A customer is a purchaser, satisfied.

DISSTON SAWS

are made to make customers.

THE
DISSTON CRUCIBLE
PRICE 10¢ PER COPY $1.00 YEARLY IN ADVANCE

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This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS
INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

BRANCH HOUSES:
Chicago, Ills. Boston, Mass. Cincinnati, Ohio. Seattle, Wash. Portland, Oregon.
New Orleans, La. Memphis, Tenn. San Francisco, Cal. Sydney, Aus. Vancouver, B. C.
Canadian Works, Toronto, Canada.

CYPRESS

(TAXODIUM DISTICHUM)

From American Forest Trees

See page 87

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. JULY 15, 1916 NO. 6

EDITORIAL CHAT

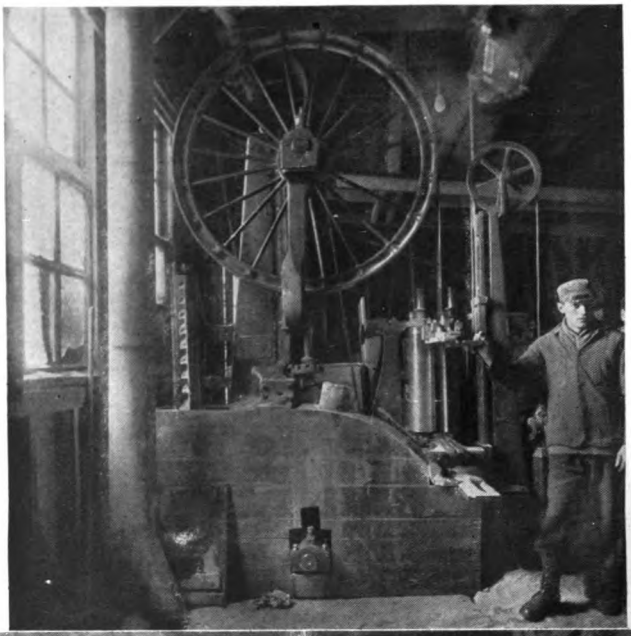
THE REAL SALE

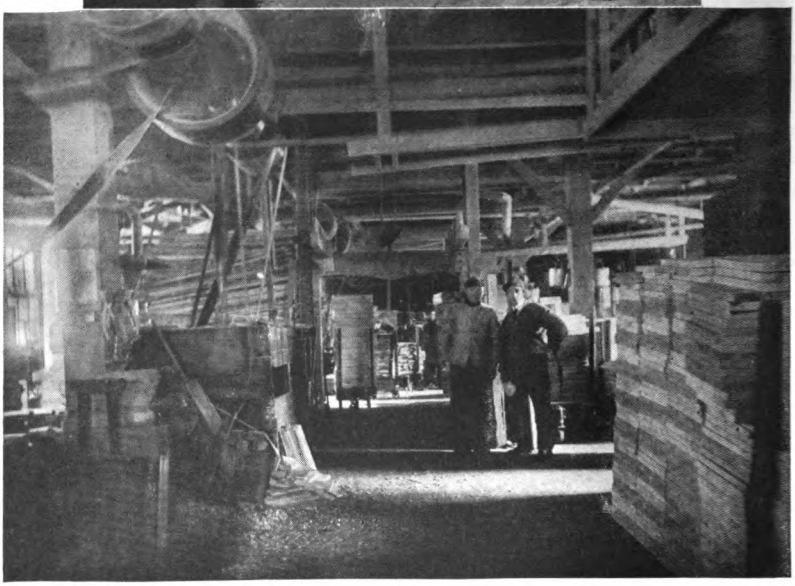
THE physical transaction of exchanging some article for a sum of money is a sale only in the narrowest sense of the word. It is a mere introduction. The real sale is the development of a favorable attitude in the mind of the purchaser—the conviction that for the purpose he has secured the best product to be had at the price.

This attitude must be the certainty of actual experience, *with the purchase in actual service.* An attractive finish or glib argument may suffice to satify him that his selection *will prove* wise, but this is the preliminary sale only. When he *knows* that he will buy that same product when the need recurs he is sold in the broad sense.

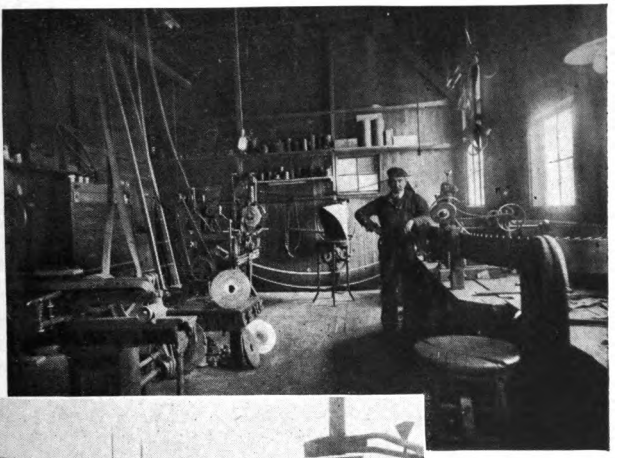
The superficial sale does not create a customer. Only satisfaction with the purchase can do that. And the great, progressive businesses of to-day, established securely on the solid foundation of customer satisfaction, are the result of years of ceaseless effort so to produce their goods as to measure up to the high standard that the purchasers are entitled to expect.

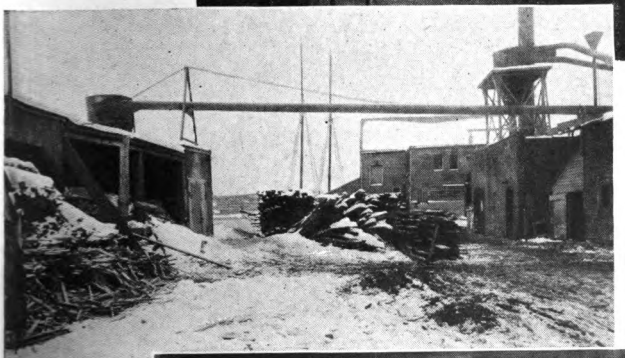
Quality Tells





VIEWS OF THE PARSONS MANUF





URING COMPANY, CHELSEA, MASS.

THE PARSONS MANUFACTURING COMPANY

ONE of New England's progressive mills is that of the Parsons Manufacturing Company of Chelsea, Mass. The company began the manufacture of boxes at their present location in 1898. The high quality of their product from the start assured the success of the undertaking and their development and expansion have been rapid and steady.

Until 1914 the firm was composed of Henry Gerrish, Jr. and N. P. Beaman. Two years ago, however, Mr. Beaman, closed out his interest to Mr. Gerrish, making the latter the full owner of the company which he has since remained.

Upon taking over Mr. Beaman's interest, Mr. Gerrish improved the plant materially by buying adjoining land and wharf property and shortly afterward (in 1915) further extended the business by purchasing the A. L. Snow Box Company of East Boston, Mass.

The company operates four sets of saws and band and circular re-saws. In keeping with the high standard of quality maintained in their output, the entire saw equipment is DISSTON. They claim it axiomatic that the best in one demands the best in the other. John F. Brooks, able filer and expert mill-wright, is responsible for the condition of the equipment, and under his skilled supervision it is kept in the pink of condition. And a DISSTON SAW in the pink of condition is a thing of beauty and a joy forever to the millman producing high-grade material.

The Parsons people have been pinning their faith on DISSTON quality for years. They have been consistent users of DISSTON SAWS from the start and under Mr. Brook's careful handling have had maximum results.

Mr. Gerrish, the proprietor, is seen on another page of this issue of the "CRUCIBLE."

CYPRESS

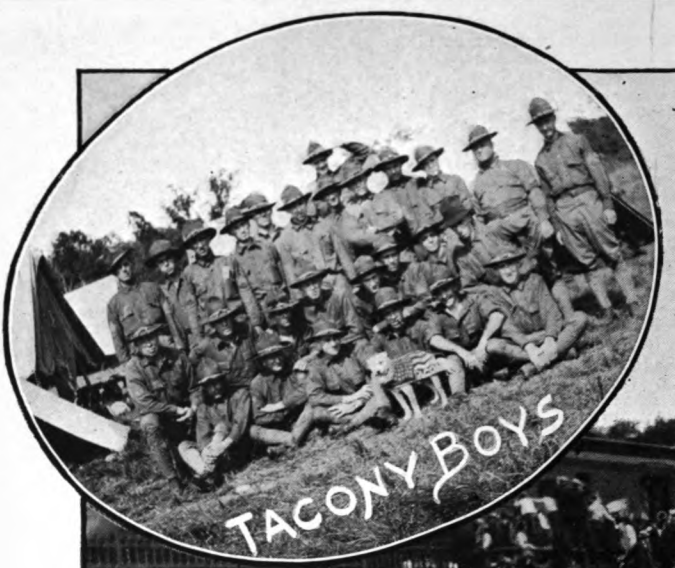
(TAXODIUM DISTICHUM)

From American Forest Trees

THE name cypress has been used quite loosely in this country and the old world, and botanists have taken particular care to explain what true cypress is. It is of no advantage in the present case to join in the discussion, and it will suffice to give the American cypresses according to the authorized list published by the United States Forest Service. Two genera, one having two and the other sixs pecies, are classed as cypress. These are Bald Cypress (Taxodium distichum), Pond Cypress (Taxodium imbricarium) Monterey Cypress (Cupressus macrocarpa), Gowen Cypress (Cupressus goveniana), Dwarf Cypress (Cupressus pygmaea), Macnab Cypress (Cupressus macnabiana), Arizona Cypress (Cupressus arizonica), and Smooth Cypress (Cupressus glabra). The first two grow in the southern states, and the others in the far west. Bald Cypress, which is generally known simply as cypress in the region where it grows, is more important as a sourse of lumber than are all the others combined. It probably supplies ninety-nine per cent. of all cypress sold in this country. Its range is from southern Delaware to Florida, westward to the Gulf coast region of Texas, north through Louisiana, Arkansas, eastern Mississippi and Tennessee, southeastern Missouri, western Kentucky and sparsely in southern Illinois and southwestern Indiana. It is a deep swamp tree, and it is never of much importance far from lagoons, inundated tracts and the low banks of rivers. Water that is a little brackish from the inwash of tides does not injure the tree, but the presence of a little salt is claimed by some to improve the quality of the wood. It is lumbered under difficulties. The deep water and miry swamps where it grows best must be reckoned with. Some of the ground is not dry for several years at a time. Neither felling nor hauling is possible in the manner practiced in the southern pineries. Owing to the great weight of the green wood, it will not float unless killed by being girdled for a year or more in advance of its being felled. In the older logging operations, cypress was girdled and snaked out to waterways and floated to the mills. Lately many cypress operations are carried on by the building of railroads through the swamps, which are largely on piling and stringers, although occasionally earth fills are utilized. The usual size of mature cypress ranges from seventy-five to one hundred and forty feet in height and three to six in diameter.

The wood is light, soft, rather weak, moderately stiff, and the grain is usually straight. The narrow annual rings indicate slow growth. The summerwood is comparatively broad and is slightly resinous; medullary rays are numerous and obscure. The wood is light to dark brown, the sapwood nearly white. At one time specimens of the wood in the markets of the world were known as black or white cypress, according as they sank or floated. Much of the dark cypress wood is now known as black cypress in the foreign markets, where it is employed chiefly for tank and vat building. Individual specimens of the wood in some localities are tinted in

(Continued on page 92)



THE DISSTON CO
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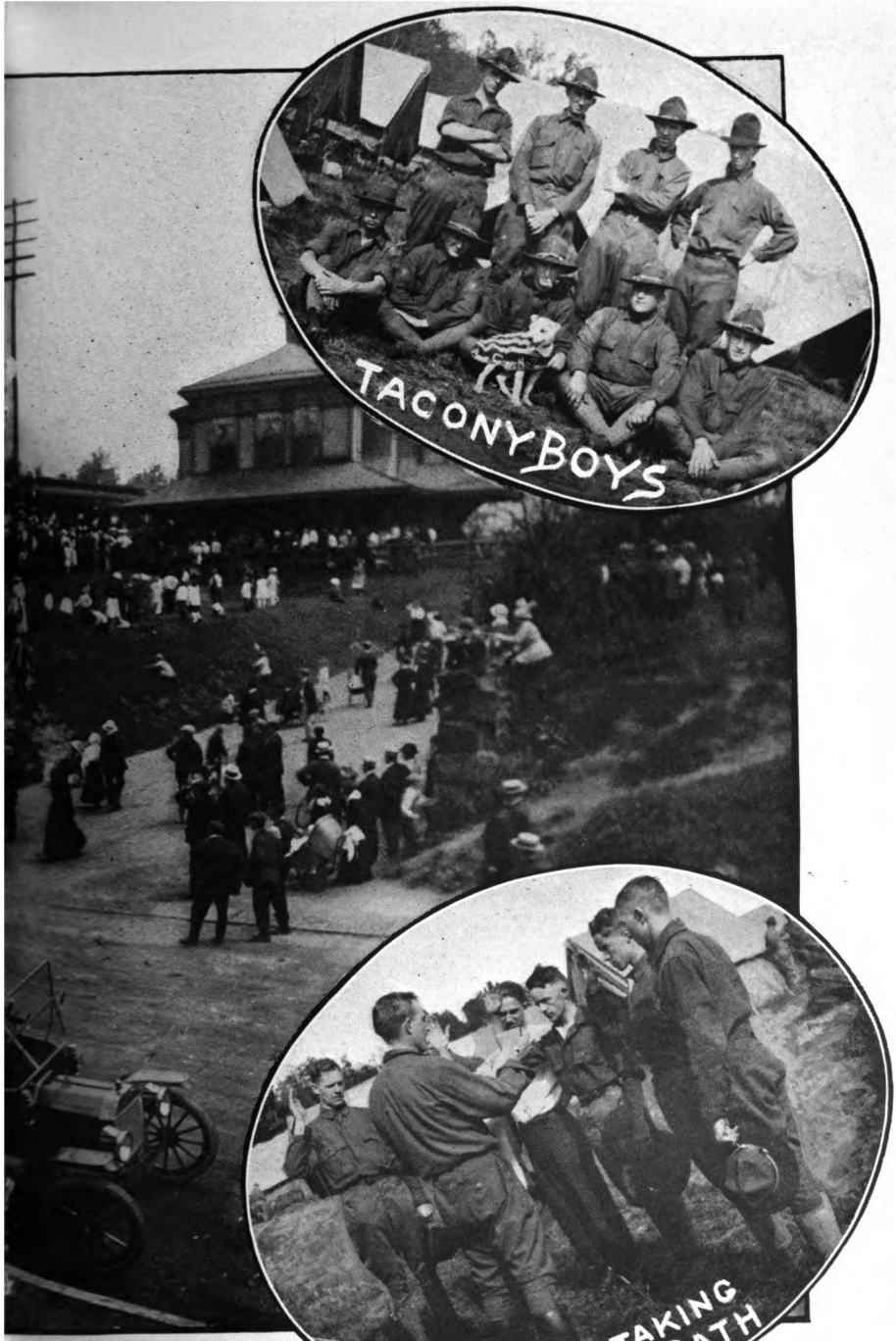


NTINGENT OF THE
PENNSYLVANIA LEAVING
E TO THE MEXICAN BORDER

THE DISSTON CONTINGENT N. G. P.

THE fierce conflict engrossing the minds of nearly every so-called civilized country in the world is to us, who have not been afflicted, entirely inconceivable in its terrible detail. It is something apart, entirely detached from the regular, peaceful routine of our normal existence. We cannot project the imagination to span the gulf of entire reversal of our habits of life and thought. Only actual experience could make this possible.

But with the departure on, June 24th, of our own "boys," men we had worked with, played with, men whose families and ours were neighbors—with *their* departure for the Mexican border the terrible war abroad became more real, more actual. The significance of the calling out of the "Guard" at this time, the uncertainty of what awaited them was rendered the more sinister by the background of the European war.

So, when the time for parting came, practically the entire population of this section of Philadelphia was at the Tacony depot to bid "God-speed" to the young men who were leaving at the call of their country. The realization of what the farewell might mean made the moment a solemn one and many a tear was brushed away as mothers, fathers, wives and children, sisters, brothers, sweethearts, bade their clinging adieus.

Please God it may not be necessary for a single one of these lives so nobly offered to be sacrificed. May every one of them come back unscathed and take up the arms of peace in their accustomed places—they are waiting for them.

LOGGING BY MOTOR TRUCK

VIEW OF MOTOR TRUCK USED BY BRACE & HERGERT MILL CO.

EFFICIENCY, the slogan of the times, is leading to the daily adoption of new and improved methods of operation in every branch of commercial activity. Here is an automobile truck impressed into logging service. Needless to say the feasibility of this method is contingent upon the condition of the roads but the Brace & Hergert Mill Company of Seattle are having marked success with it.

The truck is a Kelly-Springfield and is used with a trailer in hauling logs from an isolated body of timber to the log dump. The round trip from camp to dump is fifteen miles and the trucks have made six round trips in twelve hours—the average is five trips a day. As the trucks average 3500 to 4000 feet per load it will be seen that this offers a most practical means of logging where good roads are available.

CYPRESS—*Continued from page 87*

a variety of shades and some of the natural designs are extremely beautiful. The wood is reputed to be among the most durable in this country when exposed to soil and weather. Some of it deserves that reputation, but others does not. Well-authenticated cases are cited where cypress has remained sound many years—in some instances a hundred or more—when subjected to alternate dampness and dryness. Such conditions afford severe tests. In other cases cypress has been known to decay as quickly as pine.

Historical cases from the old world are sometimes cited to show the wonderful lasting properties of cypress. Doors and statues, exposed more or less to weather, are said to have stood many centuries. The evidence has little value as far as this wood is concerned. In the first place, the long records claimed are subjects for suspicion, and in the second place, it was not the American cypress that was used—and probably no cypress—but the cedar of Lebanon.

Sound cypress logs have been dug from deep excavations near New Orleans, and geologists believe they had lain there 30,000 years. That would be a telling testament to endurance were it not that any other wood completely out of reach of air would last as long.

The estimated stand of cypress in the south is about 20,000,000,000 feet. The annual cut, including shingles, exceeds 1,000,000,000 feet. New growth is not coming on. The traveler through the south occasionally sees a small clump of little cypresses, but such are few and far between. It was formerly quite generally believed that cypress in deep swamps, where old and venerable stands are found was not reproducing, and that no little trees were to be seen. It was argued from this, that some climatic or geographic change has taken place, and that the present stand of cypress would be the last of its race. More careful investigation, however, has shown that the former belief was erroneous. Seedling cypresses are found occasionally in the deepest swamps. Probably cypress which has not been disturbed by man is reproducing as well now as at any time in the past. The tree lives three or four centuries, and if it leaves one seedling to take its place it has done its part towards perpetuating the species. Fire, the mortal enemy of forests, seldom hurts cypress, because the undergrowth is not dry enough to burn.

The uses of cypress are so nearly universal that a list is impossible. In Illinois alone it is reported for seventy-eight different purposes. There is not a state, and scarcely a large wood-using factory, east of the Rocky Mountains which does not demand more or less cypress.

The tree is graceful when young, but ragged and uncouth when old. Though a needle leaf tree, it yearly sheds its foliage and most of its twigs. The fruit is a cone about one inch in diameter; and the seed is equipped with a wing one-fourth inch long and one-eighth inch wide. When cypress stands in soft ground which most of the time is under water, the roots send up peculiar growths known as knees. They rise from a few inches to several feet above the surface of the mud, and extend above the water at ordinary stages. They are sharp cones, generally hollow. It is believed their function is to furnish air to the tree's roots, and also to afford anchorage to the roots in the soft mud. When the water is drained away the knees die.

(*To be continued*)

THE KINGSDALE LUMBER COMPANY

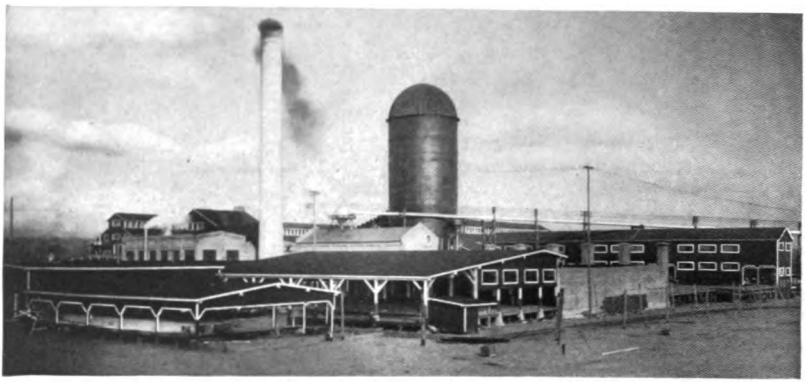
VIEW OF THE KINGSDALE CAMP

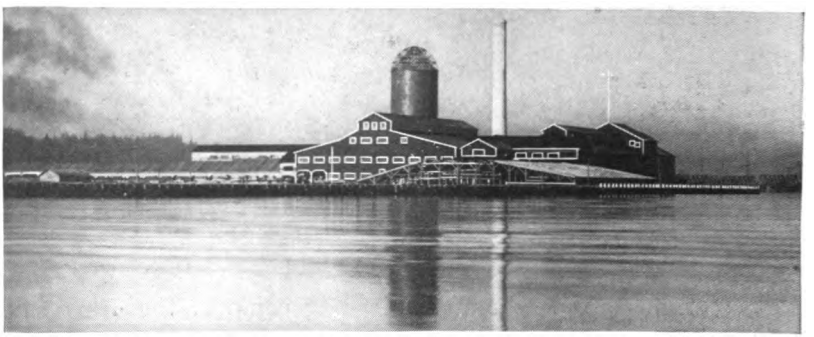
THE photograph shows the logging camp of the Kingsdale Lumber Company of Lumberton, N. C. The company cuts pine and their plant has a capacity of fifty thousand feet per day.

The manager of the Kingsdale Company is Mr. E. L. Haloway and the superintendent of logging is Mr. M. O. M. Britt. Mr. Britt has been with the company about two years and has the reputation of being one of the best loggers in that section of the country in point of economy.

DISSTON SAWS here, too.

THE WEYERHAUSER LUMBER COMPANY





THE two great plants of this company at Everett, Washington, have a combined annual capacity of nearly one hundred and fifty million feet and carry at all times a stock of from sixty to eighty million. From log dump to dry shed, every operation is handled with the precision and dispatch that the highest development of modern method and efficient equipment make possible. Automatic stokers, turbo-generators, live rolls for expeditious handling and sorting, automatic feeding tables, trimmers and stokers, two seven-ton storage battery locomotives, electrically operated valves, skids, gears, conveyors—all these and countless others are included in the equipment of these wonderfully efficient plants. Truly it is a great institution.

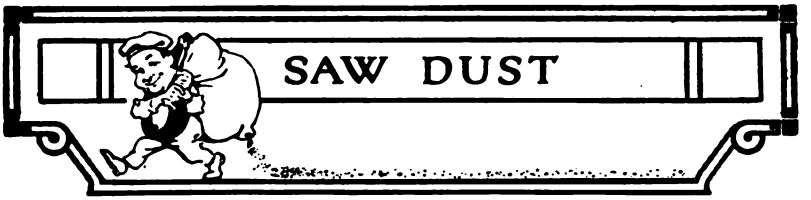
WHO'S WHO IN THE SAW WORLD

HENRY GERRISH, Jr.

MR. GERRISH is sole owner of the Parsons Manufacturing Company described on page 86 of this issue and has been largely responsible for the progressive development of the company.

He is prominent and active in Masonic affairs, being Past Master of the Mount Vernon Lodge of Malden, Mass., and at present, Treasurer of the lodge at Sterling.

Mr. Gerrish is a consistent advocate of high quality both in product and equipment, which fact has kept the company on the DISSTON books since its inception in 1898.



MET HIS MATCH

A tight-fisted old man, feeling very sick, asked a friend to recommend a physician. The friend named a certain specialist.

"Is he very expensive?" asked the sick man.

"Well, not so very. He'll charge you $4 for the first visit and $2 for each one after that."

The old fellow soon afterwards walked into the office of the physician named by his friend, and, upon being admitted to the consulting-room, planked down $2, remarking: "Well, Doctor, here I am again."

The physician calmly picked up the money and put it in a drawer, which he locked securely. The sick man looked on expectantly, awaiting the next move.

"Well, I'm ready to be examined," he said at length.

"I don't think it's necessary," replied the shrewd specialist. "There's no need to do it again. Keep right on taking the same medicine. Good day, sir."—*Washington Post.*

AMBISEXTROUS

A clergyman who advertised for an organist received this reply:

"Dear Sir:—I notice you have a vacancy for an organist and music teacher, either lady or gentleman. Having been both for several years I beg to apply for the position."

He was a small boy—two or three years old—very fond of crawling into bed with his parents before the family got up in the morning.

Once, his father—a traveling man—came home during the night, after a unusually long absence, during which he had grown a full beard. He crawled in as usual—looked at the bearded man, and said gravely, "Beg pardon. I thought you were my father."—*Judge*

HOW HE KNEW

"Not guilty, sir," replied the prisoner.

"Where did you find the prisoner, constable?" asked the magistrate.

"In Trafalgar Square, sir," was the reply.

"And what made you think he was intoxicated?"

"Well, sir, he was throwing his walking-stick into the basin of one of the fountains and trying to entice one of the stone lions to go and fetch it out again."—*Everybodys.*

MISSES DON'T COUNT

Two Irishmen arranged to fight a duel with pistols. One of them was distinctly stout, and when he saw his lean adversary facing him he raised an objection.

"Bedad," he said, "I'm twice as big a target as he is, so I ought to stand twice as far away from him as he is from me."

"Be aisy now," replied his second. "I'll soon put that right."

Taking a piece of chalk from his pocket, he drew two lines down the stout man's coat, leaving a space between them.

"Now," he said, turning to the other man, "fire away, ye spalpeen, and remember any hits outside those chalk lines don't count."

SECURITY WANTED

Mr. Ball met a man whom he knew one morning on his way to the office, and the man asked for a loan.

"Suppose I decide," said Mr. Ball, "to let you have the money, how do I know that I shall get it back at the time you mention?"

"I promise it," replied the man, "on the word of a gentleman."

"Well," replied Mr. Ball, "in that case I may conclude to do it. Come round to my house this evening and bring him with you."—*Exchange.*

DISSTON Saw-Steel

has been made in the DISSTON PLANT since 1855.

Our saw-steel mill is larger than any two others combined.

Output governs control of quality.

THE DISSTON CRUCIBLE

A MAGAZINE FOR THE MILLMAN

Ask the user of

DISSTON SAWS

why he doesn't

change.

THE DISSTON CRUCIBLE

PRICE 10¢ PER COPY $1.00 YEARLY IN ADVANCE

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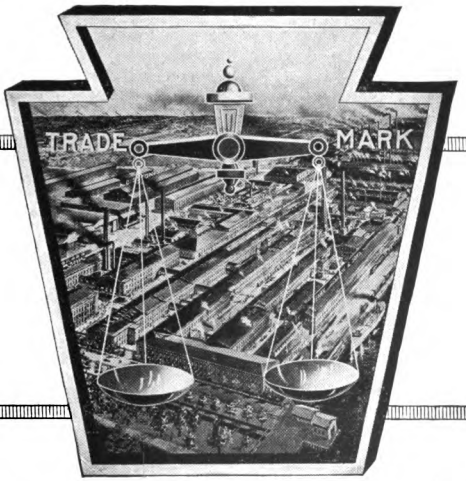

This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS

INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

BRANCH HOUSES:

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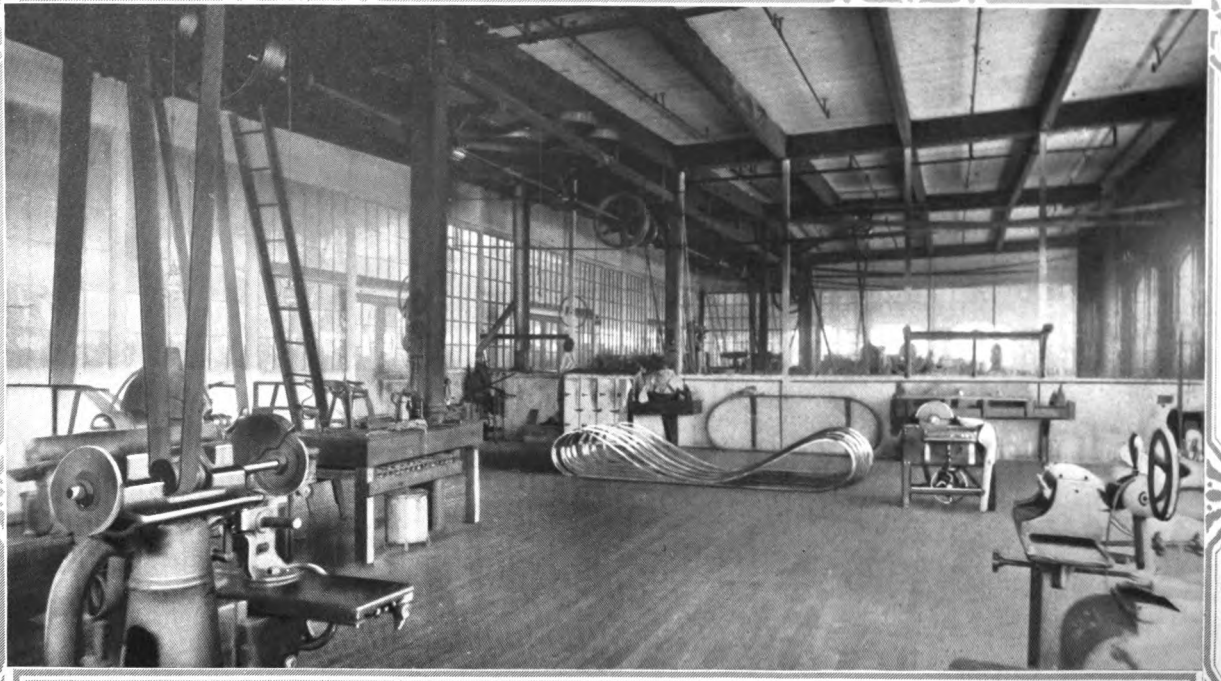


FILING ROOM, ATWOOD & McMANUS BOX CO., CHELSEA, MASS.

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. AUGUST 15, 1916 NO. 7

EDITORIAL CHAT

EQUITY

THE vital importance to the manufacturer of knowing *all* operating conditions to which his product is to be subjected, is in many cases under-estimated by the purchaser. Too many factors bear upon the selection and use of an article to permit of 100% satisfaction in *all* cases unless these facts are furnished. This is especially true of manufacturing equipment.

Incomplete or inaccurate information from the purchaser as to operating conditions is a fertile source of dissatisfaction.

Defects in the goods, of course, offer another possible reason for unsatisfactory service but with the high efficiency of modern manufacture and the rigid systems of test and inspection *this probably is the most infrequent of all causes.*

But regardless of where the blame legitimately belongs, the manufacturer is justly entitled to an opportunity to locate it. And the open-minded purchaser will remain unprejudiced until *after* the investigation.

The reputation of the average high-standing manufacturer has been nurtured and developed with zealous and tender care over a long period of years. It has cost him fortunes in perfecting machinery and processes and it is the most important asset of his business. It is as sacredly his as any of his tangible property.

This reputation is the collective goodwill of individual customers and every customer owes the manufacturer the right to prove title to this goodwill.

CYPRESS

(TAXODIUM DISTICHUM)

From American Forest Trees

Continued from last month

CYPRESS is widely planted as an ornament, and a dozen or more varieties have been developed in cultivation.

Pond Cypress (Taxodium imbricarium) so closely resembles bald cypress with which it is associated that the two were once supposed to be the same. Pond cypress averages smaller and its range is more circumscribed. The name pond cypress, by which it is popularly known in Georgia, indicates the localities where it is oftenest found. It is the prevailing cypress in the Okefenoke swamp in southeastern Georgia. The general aspect of the foliage and fruit is the same as of bald cypress. No detailed examination of the wood seems to have been made, but in general appearance it is like the other cypress. It is said that little of it ever gets to sawmills because it grows in situations where logging is inconvenient.

Monterey Cypress (Cupressus macrocarpa). This tree has only one name and that is due to its place of growth on the shores of Monterey Bay, California. Its range is more restricted than that of any other American softwood. It does not much exceed one hundred and fifty acres, though the trees are scattered in a narrow strip for two miles along the coast. They approach so close the breakers that spray flies over them in time of storm. Trees exposed to the sweep of the wind are gnarled and of fantastic shapes. Their crowns are broad and flat like an umbrella, but ragged and unsymmetrical in outline. That form offers the least resistance to wind, and most surface to the sun. The trees take the best possible advantage of their opportunities. Tall crowns would be carried away by the wind; and the flat tops, with a mass of green foliage, catch all the sunlight possible. They need it, for they grow in fog, and sunshine is scarce. Sheltered trees develop pyramidal tops. It is widely planted in this, and other countries, and when conditions are favorable, it is graceful and symmetrical. The largest trees are from sixty to seventy feet tall, others are five or six in diameter; but the tallest trees and the largest trunks seldom go together. The cones are an inch or more in length, and each contains about 100 seeds. The leaves fall the third and fourth years. Wood is heavy, hard, strong, and durable, but is too scarce to be of value as lumber, even if the trunks were suitable for sawlogs. The Monterey cypress is of peculiar interest to botanists and also to physical geographers. The few trees on the shore of Monterey Bay appear to be the last remnant of a species which was once more extensive. The ocean is eating away the coast at that point. Fragments of hills, cut sheer down from top to the breakers beneath are plainly the last remnants of ranges which once extended westward, but have been washed away by the encroaching ocean. A mere fringe of the trees—a belt about two hundred yards wide along the beach—remains, and the sea is undermining them one by one and carrying them down. So

(*Continued on page 110*)

PRINCE ALBERT LUMBER COMPANY, LTD.

THE Prince Albert Lumber Company, Ltd., of Prince Albert, Saskatchewan, can rightly be called the pioneer in large scale production of Saskatchewan white spruce lumber. The company was organized in 1906, taking over the timber limits and saw-mill plants of the Telford Lumber Company, Ltd., and J. H. Sanderson who had previously been manufacturing spruce on a small scale. The Prince Albert Company also acquired the timber limits of William Cowan & Company, and through these transactions secured control of practically all the timber accessible to Prince Albert.

The plant is located in the city of Prince Albert on the North Saskatchewan River. Prince Albert is one of the most picturesque cities in western Canada, with a population of about ten thousand people, and has beautiful homes, schools and churches. The Prince

(*Continued on page 109*)

EXTENDING THE ROAD

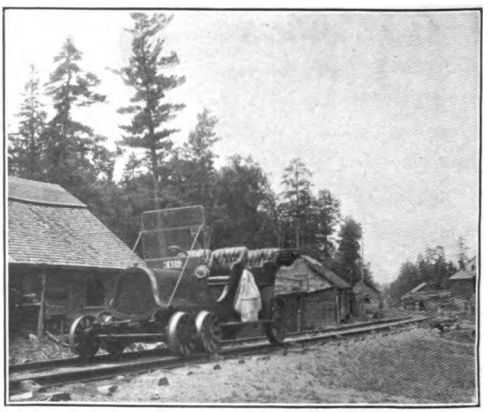
J. E. HENRY &
LINCOL

HERE is a company that has been cutting some twenty-five million feet of timber for a number of years and to the best of our knowledge has never yet turned out a board or even a shingle. But they don't seem to get discouraged and there is every indication that they expect to keep right on until their vast timber holdings are all cut, at least. It takes quite a bit of change, too, to keep some seven hundred men on the pay roll. Half these men are out in the woods and they are supplemented by a hundred horses and three locomotives. And not a lath to show for it. All they get out of all this activity is about twenty thousand tons of paper a year.

Twenty thousand tons—forty million pounds—well, that *is* quite a bit, isn't it? Guess probably they know what they're about after all.

It seems there are two main ways of getting the wood in shape to make paper of it—that is reducing the wood to pulp. One is by grinding and the other is what is known as the sulphite process.

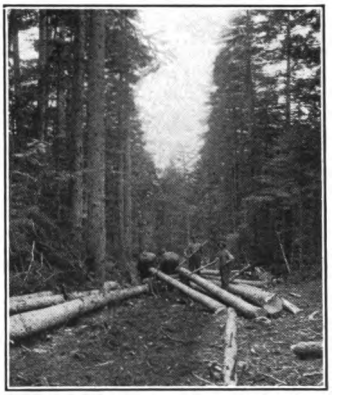
In the ground pulp process, the wood (spruce) is peeled, cut into two-foot lengths, and pressed against revolving stones under heavy hydraulic pressure. This wears the wood away in fine particles which mixed with water running on the stones during the grinding process forms the pulp.



A LOGGING AUTO

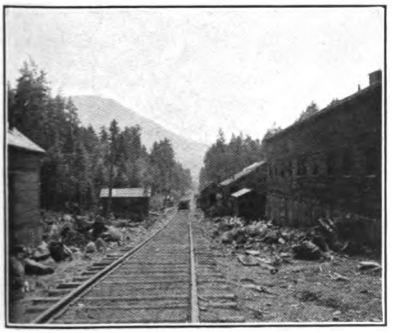
]ONS, COMPANY

N. H. (Acknowledgments to "Walworth Log")



ON THEIR WAY

Sulphite pulp is produced by first chipping the wood to three-quarter inch lengths by means of a chipper and then cooking in a digestor for ten hours in a liquor. The digestor is a large, eggshaped container, forty feet long and with steel plate sides one and one-quarter inches thick. Sulphite pulp has much stronger fibre than ground pulp and is twice as expensive to produce. Hence sulphite pulp is used in the manufacture of better grades of paper. Most newspaper stock is about eighty per cent. ground pulp.

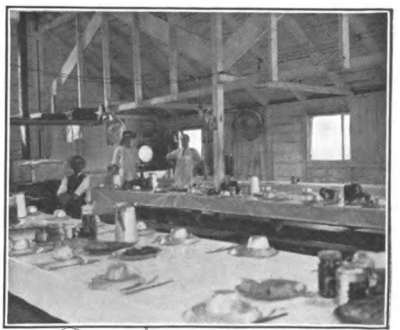


NEAR THE MILL

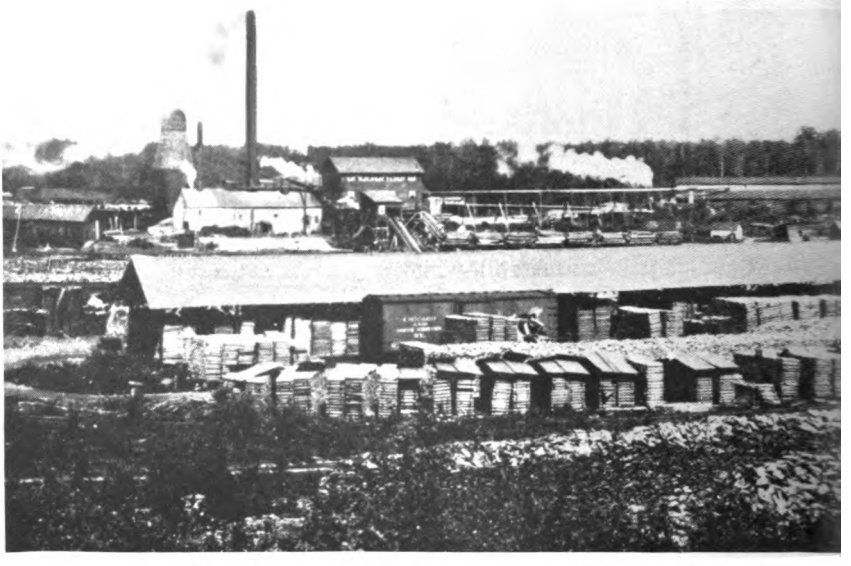
For a very smooth finish, paper is coated with clay or casein, and "calendered" in a machine having compressed cotton rolls. The coating is tinted by mixing pigments with the clay. Glazed papers are coated on one side only and the high finish is attained by passing between two rolls having different speeds; the upper roll, which is heated by steam, revolving much faster, and doing the polishing. This is friction calendering.

Bare as is this outline of paper-making it will be readily observed that there is quite a bit left to do after the logs are hauled in.

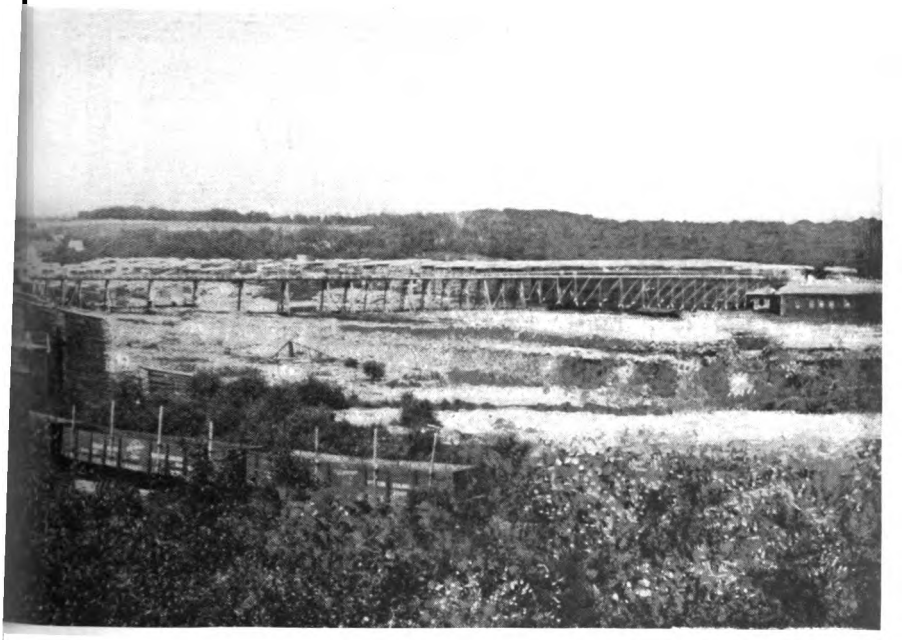
(*Continued on page 106*)

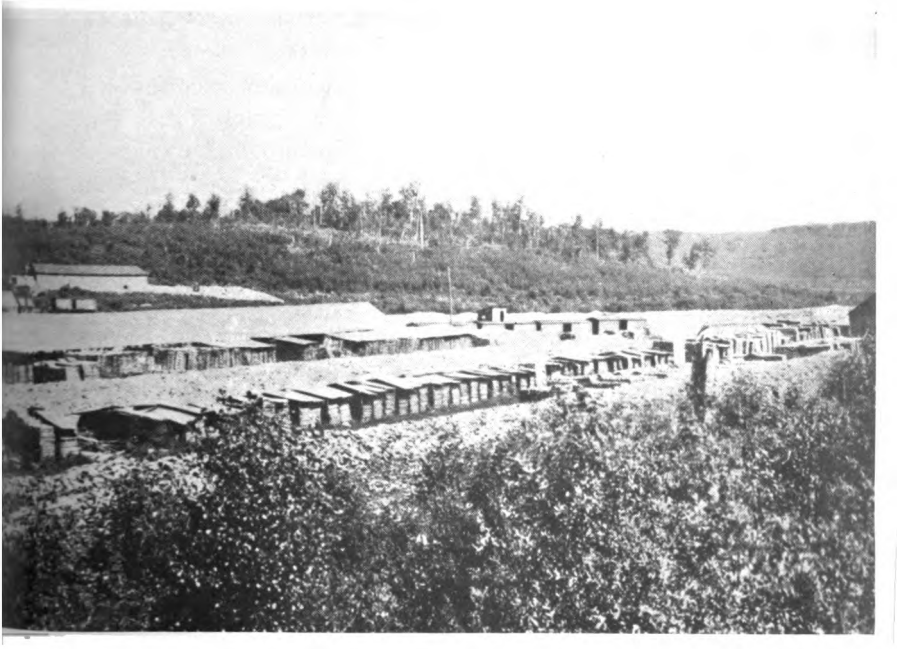


CAMP DINING ROOM



THE MENOMINEE BAY SH
MR. M.





UMBER CO. PLANT, SOPERTON, WIS.
LAN, Manager

MENOMINEE BAY SHORE LUMBER COMPANY

THE illustration on the two pages preceding show the extensive plant and yards of the Menominee Bay Shore Lumber Company, Menominee, Wis. This is a panoramic photograph and should be continuous from the left side of the upper section to the right side of the lower. In order to avoid a sacrifice of clearness it was necessary to present it in this manner.

The plant is a double band mill and shingle mill with a planing mill in addition. Mr. M. J. Quinlan is Manager and the firm has long been a loyal customer of HENRY DISSTON & SONS.

J. E. HENRY & SONS, COMPANY

(Continued from page 103)

In the Henry mill three hundred and fifty men are employed and in both logging camps and mill proper conditions are regulated with a view of the health and comfort of the employees.

Since 1852 the name "Henry" has been actively connected with the logging and paper industry of New Hampshire. The present mill is modern in every respect—equipment and processes being of the best and it has a capacity of about eighty tons of finished paper per day. We are proud to number them among New England users of DISSTON products.

MISSDEAL

Eating in a railroad station out in a lonely spot in the West, they pass a basket of sandwiches and you are to help yourself. It happened that Big Bill got a sandwich without any meat, and he yelled out: "Say, Jack, shuffle them again, I got the Joker."

AHEAD OF THE GAME

Trombone—"What do we play next, Si?"

Si—"Sousa's Grand March."

Trombone—"Gosh all hemlock! I jest played that!"—*Judge.*

WHAT IS STEAM

On an examination paper the following question was asked:

"What is steam?"

One engineer said, "Steam is water in terrible sweat."

Americanadian—You seemed to have enjoyed the show. How were the lines?

Englishman—Fairly clever.

Americanadian—And the music?

Englishman—Rawther good.

Americanadian—Then it must have been the costumes. How were the costumes?

Englishman—Ripping!

THE COVER AND THE STEEL PLANT

THE cover design of this issue of the "CRUCIBLE" is from an actual photograph of the gigantic DISSTON saw-steel plant at Tacony. While it comprises but a portion of the entire DISSTON factory, it would alone present a very imposing appearance. It is the result of steady development since 1855 when HENRY DISSTON & SONS first undertook the manufacture of their own saw-steel and is a striking monument to the demand which quality has created for DISSTON SAWS and TOOLS.

It is far and away the greatest saw-steel mill in the world, being larger than any two and probably any three others combined. Some conception of popular demand for DISSTON tools is had when it is considered that a steel-mill of this magnitude is required to supply the steel entering into their manufacture. In fact the DISSTON steel-plant has been in a large part responsible for this popularity and the growth of the business. It was instituted originally in order that the steel for DISSTON tools could be controlled to absolute nicety in point of composition, texture, temper toughness, etc., and unquestionably the high standard of quality thus secured has been a great factor in the attainment of DISSTON'S pre-eminence.

It is not the purpose of this article to give a mechanical description of the steel-mill but rather to call the reader's attention to the significance of the vastness of the plant and the accuracy of control in the manufacture of DISSTON steel. However, it will not be amiss to state that the entire equipment from crucible furnaces to annealing ovens is the finest procurable and much of the machinery has been developed in the DISSTON plant to meet actual conditions as they arose. Finer facilities for producing steel are not to be had and their equal is seldom seen.

It can well be imagined that sixty-one years of producing steel for one specific purpose—the highest type of specialization—the DISSTON formulas and methods are *absolutely unexcelled* for that particular purpose. Which fact is amply attested in the tremendous and constantly increasing volume of DISSTON tools in use. No steady, permanent growth can exist without a quality foundation.

DISSTON CROSSCUTS IN AN AUSTRALIAN BUCKING CONTEST

The popularity of DISSTON SAWS is world-wide and the reason is obvious. In a sawing contest at the antipodes, DISSTON crosscuts took first and second places. Literally famed to the ends of the earth.

Read the winner's letter to our Sydney office:

Nowra, N. S. W.

HENRY DISSTON & SONS,
80 Sussex St., Sydney.

Dear Sirs:

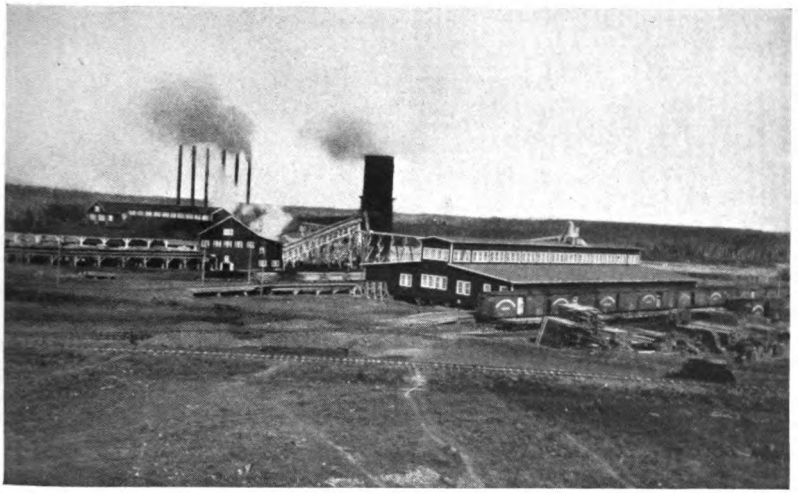
Re-Sawing Contest: It came off on Saturday last, 25th, myself and sawing partner cutting the one foot diameter block in 10-1/5 sec. The wood we were sawing in was white gum, a trifle softer than blue gum. They use the latter wood in the Sydney contests (which if we have luck we are going to at the coming show.) The Oriole Saw was "perfection" itself, cutting almost an inch a stroke. The closest time to us was 14 sec., leaving a difference of nearly 4 sec. cut by the "Diamond Pointed Vim Champion" I bought off you some time ago, used by some friends of mine. I will conclude with kind regards.

I am, Sir., Yours faithfully,
(Signed) Oswald A. H. Piercy,
Timber Getter.

TEAK WOOD

THE consumption of teak has increased considerably during the last two decades. Besides its extensive employment in ship building in England and the manufacture of railway carriages in India, it is now used in increasing quantities in Europe for building purposes. The recent rapid growth of the European fleets has caused an enormously increased use of teak in spite of the marked tendency to employ as little wood as possible in the construction of warships. About 1,000 tons, or approximately half a million board feet, of the best grades of teak are used in the construction of a modern man-of-war. In order to replace the ships which have thus far been sunk or otherwise destroyed in the European war, hundreds of millions of feet will be required. This increased consumption of teak which is bound to follow the close of the present war, cannot be met by Burma and Siam. Formerly Burma alone supplied all the teak used by the English Admiralty, because it was considered better than that from Siam, but the demand for teak from both sources is likely to be very great, not only in Europe, but also in America, and prices are apt to rule very high.—*Scientific American.*

THE LADDER LAKE LUMBER COMPANY, LTD.



PRINCE ALBERT LUMBER COMPANY

(Continued from page 101)

Albert Company's plant consists of a saw-mill and planing mill, both of which are modern in every detail. The saw-mill equipment consists of one double cutting band, one single cutting band and a large gang, operated on day and night shifts from April to October. The mill has an annual capacity of 50,000,000 feet of lumber and 15,000,000 pieces lath.

The planing mill is equipped with eight planers and two band re-saws, and is operated the entire year.

The officers of the company are D. M. Winton, President; C. J. Winton, Vice-President; Alvin Robertson, Treasurer; all of Minneapolis; and D. J. Ross of Chicago, Secretary. A. L. Mattes is the Manager of the plant at Prince Albert. Mr. Mattes enjoys the enviable reputation of being without exception one of the best

saw-mill men in the Dominion of Canada; able, pleasing of personality and on the job every minute of the time.

In 1913, the Prince Albert Lumber Company, Ltd., took over the plant and limits of the Big River Lumber Company, Ltd., This organization is known as the Ladder Lake Lumber Company, Ltd., and the plant is located about ninety miles north of Prince Albert at Big River, Saskatchewan. This plant is also up-to-date throughout and consists of two single cutting bands and a large gang. The capacity of this mill is practically the same as the one at Prince Albert. The planing mill has five planers and two re-saws, all electrically driven. W. K. Nicholls is Resident Manager. Both companies operate their own stores, boarding houses, dwellings, etc.

It is a source of satisfaction to number them among DISSTON'S best Canadian customers, as finer people to do business with are not to be found, and we are in a position to know, as every circular saw, band saw, cross-cut saw, machine knife and file used in both plants is a DISSTON.

CYPRESS—(*Continued from page 100*)

rapidly is the undermining process going on that many large roots of some of the trees are exposed to view.

Arizona Cypress (Cupressus arizonica), as its name implies, is an Arizona tree. It forms considerable forests in the eastern, central and southern parts of the state, and is found also in Mexico. It grows at elevations up to 6,000 feet. Because of the small population in the region where this cypress grows, it has never been much used, but the size of the trees and the character of the wood fit it for many purposes. Its growth is often quite rapid, and the timber is soft, light and with well-defined summer-wood. Its usual color is gray, but occasionally faint streaks of yellow appear. The leaves fall during the fourth and fifth years; cones are small and flat, and the small seeds are winged. It is believed by persons familiar with Arizona cypress that it will attain considerable importance when the building of railroads and the settlement of the country make the forests accessible. The wood is durable in contact with the soil.

Smooth Cypress (Cupressus glabra) ranges in Arizona and is not believed to have or to promise much importance as a source of lumber supply. Its name was given on account of the smoothness of the bark. It is one of the latest species to be given a place among the cypresses, and was described and named by George B. Sudworth of the United States Forest Service.

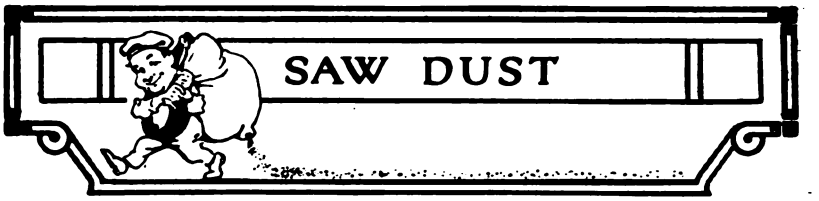
POSITION WANTED

Band-saw filer, address Marion Hunter, Vaughan, N. C.

WHO'S WHO IN THE SAW WORLD

ROBERT W. PARRISH

MR. PARRISH broke into the saw filing game with the firm of Richardson & McKee of Boston, was then for seven years with the George G. Page Box Company of Cambridge, Mass. Eighteen years ago he went with the Atwood & McManus Box Company of Chelsea, Mass., and has been with them ever since. He is characterized as an up-to-the-minute live-wire by those who know him best. Has used all makes of saws but prefers DISSTON. That sounds like a live-wire, *doesn't* it?



BLAMING LIZZIE

The Smith family who resided in an interior city, had one of those maids of the invariably heavy hand. Not long ago, the town experienced a slight shock of earthquake. Pictures were thrown down, furniture and crockery rattled about. During the tumult, the mistress went to the head of the basement stairs and called out in a patient, forbearing tone:

"Well, Lizzie, what are you doing now?"—*Harper's Magazine.*

A SURE CURE

Meandering Mike—Lady, would you lend me a cake of soap?

Lady—Do you mean to tell me you want soap?

Meandering Mike — Yes'm. My pal's got hiccups, an' I want to scare him.

A HARD SPELL

"Spell your name!" said the court clerk, sharply. The witness began: "O, double T, I, double U, E, double L, double—" "Wait!" ordered the clerk; "begin again!" The witness repeated: "O, double T, I, double U, E, double L, double U, double O"—"Your Honor," roared the clerk "I beg that this man be committed for contempt of court!" "What is your name?" asked the judge. "My name your honor, is Ottiwell Wood, and I spell it: O, double T, I, double U, E, double L, double U, double O, D." —*Pittsburgh Advocate.*

Miss Wheat, the new teacher, was hearing the history lesson, which dealt with the career of George Washington. Turning to one of the scholars she asked:

"James, what was Washington's farewell address?"

The new boy arose with a promptitude that promised well for his answer.

"Heaven, ma'am," he said.—*Lanco Tatler.*

GUESS WHY

Sandy and his lass had been sitting together about half an hour in silence.

"Maggie," he said at length, "was na I here on the Sawbath nicht?"

"Aye, Sandy, I daur say you were."

"An' wasna I here on Monday nicht?"

"Aye, so you were."

"An' I was here on Tuesday nicht, an' Wednesday nicht, an' Thursday nicht, an' Friday nicht."

"Aye, I am thinkin' that's so."

"An' this is Saturday nicht, an' I'm here again."

"I'm sure ye're very welcome."

Sandy (desperately): "Maggie, woman, dae ye no begin to smell a rat?"

HOW HE ENJOYED IT

"Sir," said the young man with enthusiasm as he seized the lecturer's hand and shook it warmly, "I certainly enjoyed your lecture last night very much indeed."

"I am glad to hear that," said the lecturer, "but I didn't see you there."

"No," admitted the youth, "I wasn't there."

"But," said the puzzled speaker, "how could you enjoy my lecture if you were not present?"

"Oh, I bought tickets for my girl's parents and they both went."—*Ladies' Home Journal.*

WANTED THE THERMOMETER

A man took his wife to a doctor, who put a thermometer into her mouth and told her to keep her mouth shut for two or three minutes. When departing the man tapped the doctor on the shoulder and said:

"Doctor, what will you take for that thing?"

AS MUCH AS THAT

Tommy—"What is the capital of Mexico?"

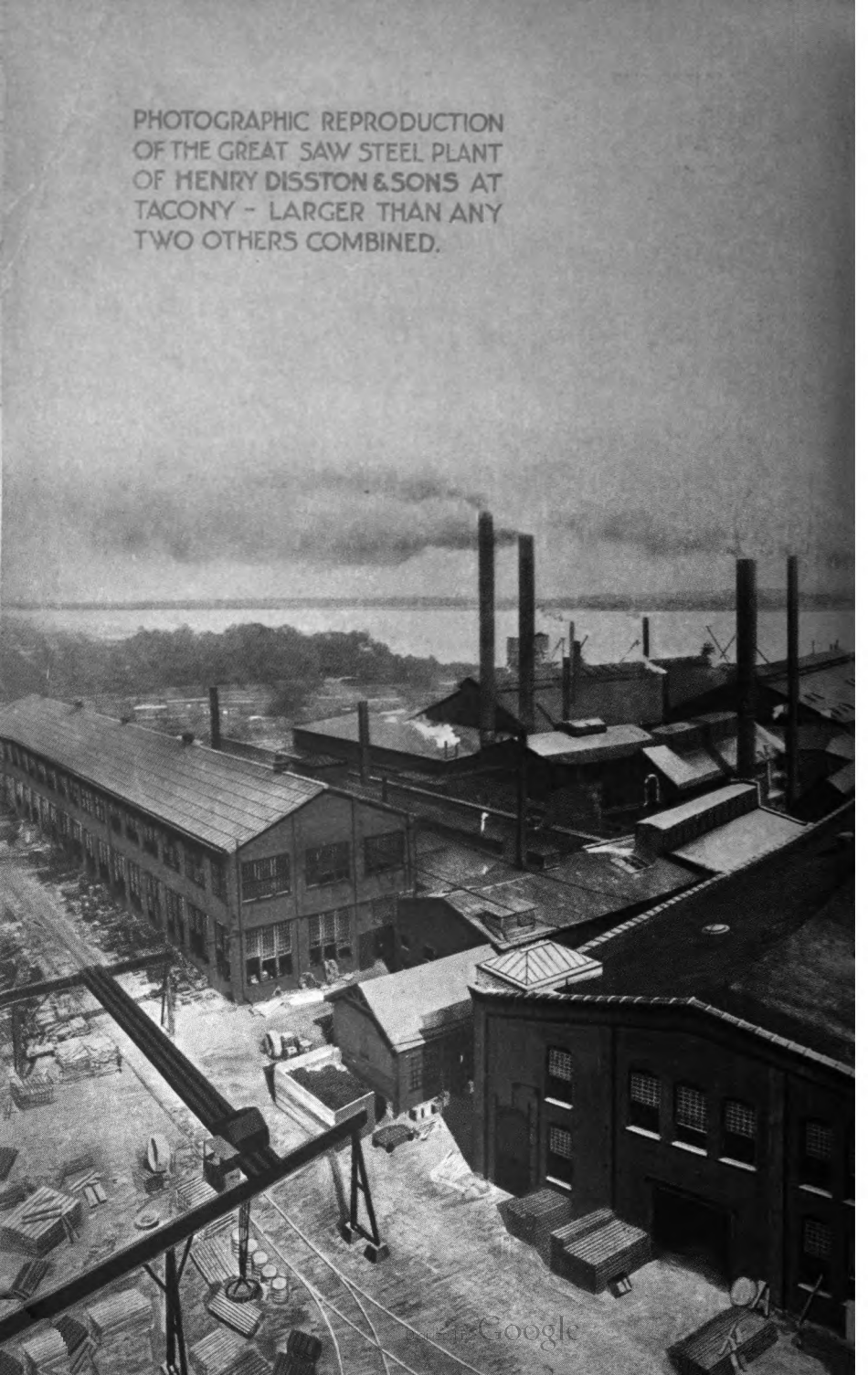
Rot—"Oh—oh—about thirty cents." —*The Three Partners.*

"Best in the Long Run"

DISSTON BAND SAWS

are the most satisfactory, and the most economical, because they hold their tension, cutting edges, and corners under the greatest amount of feed for the longest possible time.

These superior qualities are the result of the combination of DISSTON CRUCIBLE STEEL, skilled workmanship and years of experience in the world's largest saw works.



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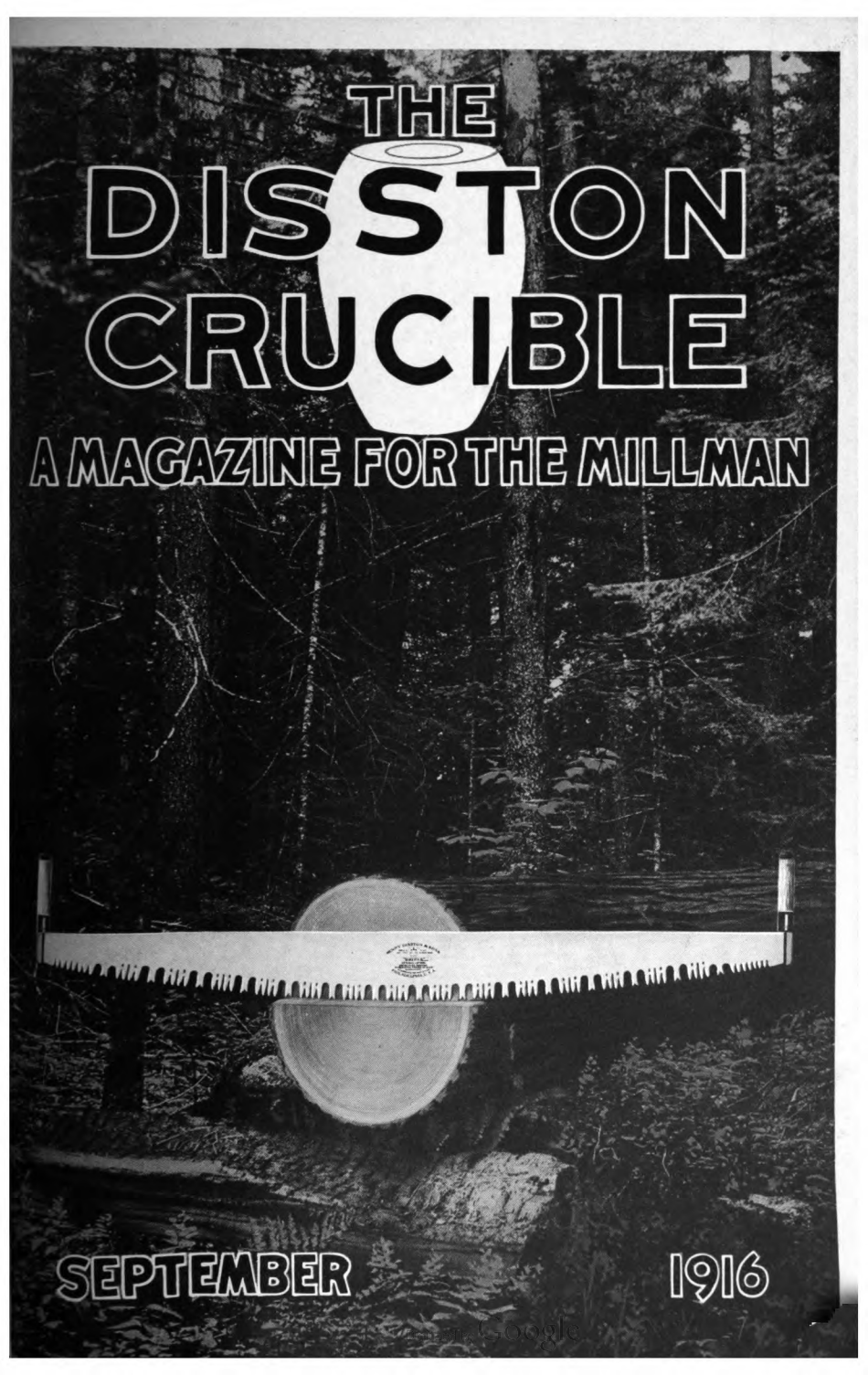
A MAGAZINE FOR THE MILLMAN



SEPTEMBER 1916

THE DISSTON CRUCIBLE

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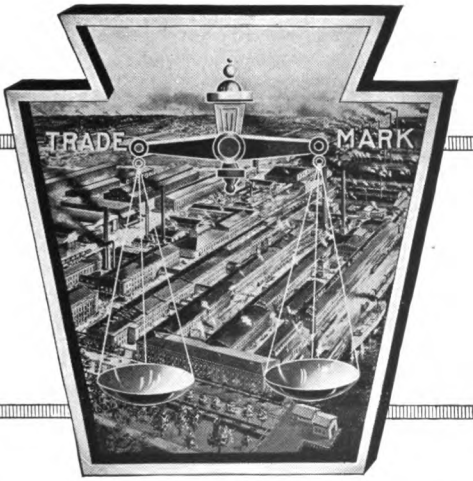

This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS

INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

BRANCH HOUSES:

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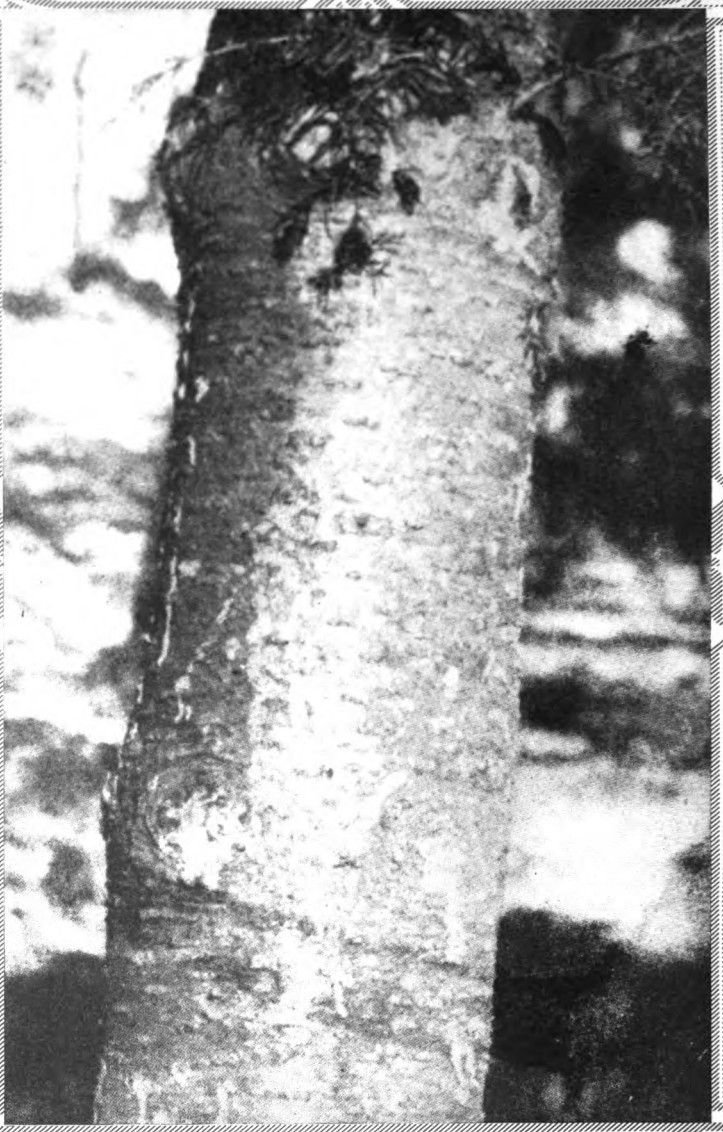


BALSAM FIR

(ABIES BALSAMEA)

From "American Forest Trees"

See page 116

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. SEPTEMBER 15, 1916 NO. 8

EDITORIAL CHAT

COMPLACENCE

A MAN once became satisfied with his job — and he lost it! He reasoned that for his modest requirements he was making enough money. To make more money meant additional work and responsibilities. He didn't want these and he didn't want the money, so he just became satisfied. He made it his business to do just the work he had to; no more, no less. And it wasn't enough and he slipped.

He overlooked the fact that part of the money he received was remuneration for his ambition; for his desire for more and greater work; his capacity for handling it. When his ambition died he lost not only the ability to advance but the ability to hold what he had.

A business is but the "lengthened shadow of the man". When the ceaseless, vigilant, unbending effort to improve methods, materials and workmanship to the end that the product may be continually improved is relaxed, that firm is slipping. It has become "satisfied". Like the man it has lost ambition, and like the man, it will lose its profit. Less than the best is not enough in either case.

Quality Tells

BALSAM FIR

(ABIES BALSAMEA)

From "American Forest Trees"

BALSAM FIR is the usual name applied to this tree in New England, New York, Pennsylvania, Michigan, Wisconsin, Minnesota, and Ontario. The shorter name, balsam, suffices in some parts of that region, and particularly in New York, New Hampshire and Vermont. Because it is common north of the international boundary, the name Canada balsam has been given it in some regions. In Delaware it is known as balm of Gilead, but that name belongs to a tree of the cottonwood group, (Populus balsamifera), which is a broadleaf species. In New York and Pennsylvania a word of distinction is added, and it is called balm of Gilead fir. Toward the southern limit of its range it is spoken of as fir pine and blister pine. New York Indians knew the tree as blisters. They referred to the pockets under the bark of young trees and near the tops of mature trunks, in which resin collected. The name balsam refers to that characteristic also, as does the word balm. In some parts of Canada the tree is known as silver pine, and as silver spruce. The secretion of resin in bark blisters is a characteristic of several firs.

The list of names and the locality of their use indicate fairly well the geographical range of balsam fir. Its northern limit forms a line across eastern Canada from Labrador to Hudson Bay. From Hudson Bay its northern boundary trends northwestward and reaches the vicinity of Great Bear Lake. In the United States it grows westward to Minnesota and southward to Pennsylvania. It is cut for lumber in eleven states.

In a range so large and including situations so various, it is natural that the tree should vary greatly in size. In the Lake States the common height is fifty to sixty feet, and the diameter is twelve or fifteen inches. Young balsam firs grow vigorously when the ground is suitable and their tops receive sufficient light. In lumbered regions in the Lake States, this fir gets a foothold in the shade of a dense growth of paper birch and other quickly growing species; and in a few years the pointed, intensely green spires of the balsams may be seen piercing the canopy of other young tree tops and shooting above into the light. This is accomplished after a struggle of some years in the shade; but the firs ultimately win their way upward, and in a few years they shade to death most of their broadleaf associates. If they are in competition with northern white cedar or tamarack, they are not always successful in winning first place.

The leaves of balsam fir are from one-half to one and one-fourth inches long. They are green and lustrous above and silver white below, the whiteness due to stomata on their under sides. On young twigs the leaves bristle out on all sides and are very numerous and crowded together, but on older branches the leaves are more scattered, due to the dropping of some of them. It is their habit to adhere to the stems about eight years.

The leaves of balsam fir possess a pleasing and characteristic odor which is turned to account in a practical way. The small needles are stripped from the branches in large quantities, cleaned,

(*Coutinued on page 126*)

TWO SCENES OF THE G. W. JONES PLANT AT WABENO, WIS.

THESE two scenes looked so good to the editor as he blotted stray drops of perspiration from his copy paper and listened to the mercury tapping the top of the tube that he hadn't the heart to pass them up until a more seasonable issue.

They were taken at the plant of the G. W. Jones Lumber Company, Wabeno, Wis. The plant consists of a single band mill, a shingle mill and a planing mill.

There are 14,630 feet of lumber on the sled in the lower picture. On the way to be introduced to a DISSTON SAW.

WHAT'S A NAIL MORE OR LESS?

Mr. Jos. M. Lushbaugh built a concrete mold and unfortunately placed a nail right where he wanted to saw the mold in two. He couldn't get it out without ruining the work and he couldn't—But he tells us all about it in his letter.

Staunton, Va.

MESSRS. HENRY DISSTON & SONS, INC.,
Philadelphia, Pa.

GENTLEMEN:

I am sending a nail that I think will be of interest to you when I explain its present condition. This nail was driven by mistake in a part of a cast concrete pattern I was making which was to be sawed in two parts just where this nail was. It was impossible to remove the nail when I struck it with my saw without ruining my job, so nothing remained for me to do but just saw right through it, which I did in less than a minute. I thought my saw was ruined, but I used it the rest of the day without filing.

The saw I was using was a skew-back, ship carpenter's saw, D-100 grade, ten points to the inch, made by your company. No reasonable amount could purchase this saw, as I consider it perfect in quality of material and workmanship.

Do you make this saw in straight-back pattern, twelve points to the inch, and if so at what price would you mail me one? The dealers here are featuring other makes and don't seem inclined to order any other make for me after this proof of the superior tools your company make.

I am,

Very respectfully,

JOSEPH M. LUSHBAUGH,
852 Middlebrooke Ave.,
Staunton, Va.

THE ATWOOD & McMANUS BOX COMPANY

THIS FIRM, located at Chelsea, Mass., is one of the largest if not the largest box manufacturers in New England. The business was inaugurated in 1893 on their present site. At that time the equipment consisted of only three sets of saws. From the outset the business prospered and the development of the plant and machinery kept pace with the growth of the business.

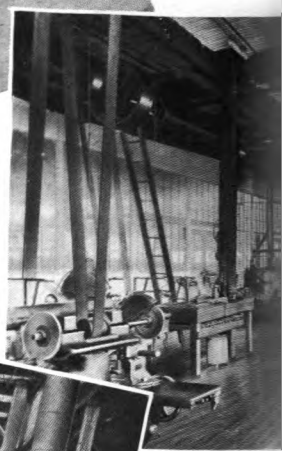
When the great Chelsea fire occured in April, 1908, the Atwood & McManus plant was among the very few fortunate enough to escape destruction. Then fate in a whimsical mood made this plant a victim of flames in September of the same year.

The work of rebuilding was immediately commenced and by June of the following year the present plant was in operation. The fire presented an opportunity to introduce up-to-date equipment and methods throughout, of which full advantage was taken. The new plant is second to none in the matter of manufacturing facilities. It covers ten acres of ground and is equipped with eighteen sets of saws, the machinery throughout being of the latest type.

The firm is well known throughout New England and enjoys an enviable reputation for the quality and quantity of their output. A full crew on full time is the rule because of the demand for their product. And their customers have learned to depend on uniformly high grade goods and prompt deliveries.

An up-to-date firm with up-to-date buildings and machinery might naturally be expected to have an up-to-date filer; for, as "money makes the mare go", the filer makes the saws go. They have. "Right up-to-the-*minute*" is the way they characterize Robert W. Parrish. He's been with them a matter of some eighteen years so they've had ample opportunity to size him up. And before he went with them he had had quite a bit of experience in the line. He started with the firm of Richardson & McKee of Boston. Then

EXTERIOR OF OFFICE



SORTING ROOM

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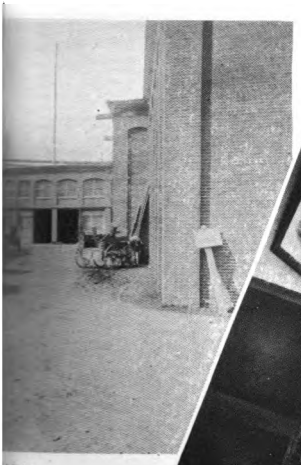

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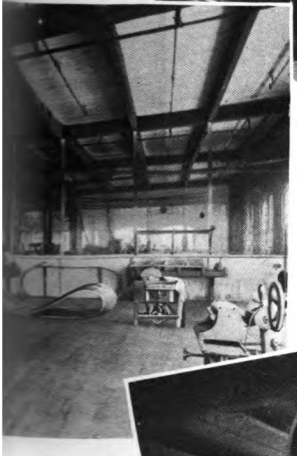
INTERIOR OF OFFICES



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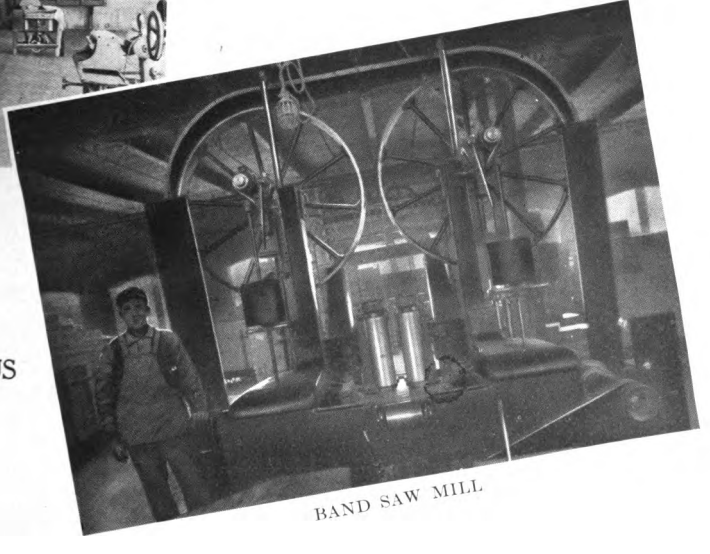


BAND SAW MILL

he spent seven years with the George G. Page Box Company of Cambridge, Mass. He left there to enter upon his long, satisfactory service with the Atwood & McManus Box Company.

A man of his experience is naturally an authority on the qualities and merits of the various makes of saws. He has used them all and the result is that the entire eighteen sets in the Atwood & McManus plant are equipped with DISSTONS.

It is a "going" concern and under the sound, capable management and efficient manufacturing supervision is destined to enjoy continued development and prosperity.

THE TEXAS ROOKIE'S LAMENT

(Alleged to have been uttered by a New York Militia Man in the Brownsville Country).

"They took me away from cool New York State, and brought me down here where it's summer all winter and Hell all summer.

"They took me from my comfortable home and put me in a stinking tent.

"They took away my good clothes, and gave me a suit of red hot khaki.

"They took away my good name and gave me a number—494.

"They took me from my good job, and put me to digging ditches and walking Marathons till my hands and feet wore out.

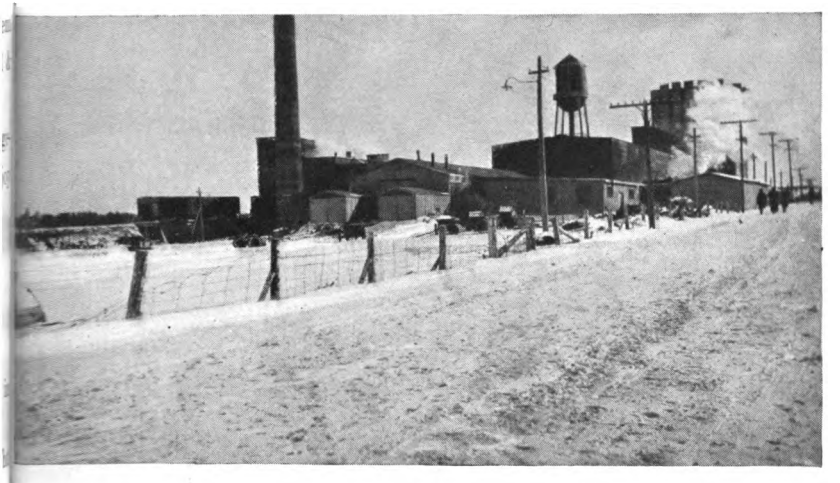
"They made me go to bed when I wasn't sleepy, and get up when I was.

"They made me go to Church on Sunday whether I wanted to or not.

"In Church the Parson said,—All turn to Number 494—'Are you footsore, are you weary?' and I got ten days in the guardhouse for answering—'Hell, yes'"

THE BATHURST LUMBER COMPANY

BATHURST, N. B., CANADA



BATHURST PULP AND PAPER MILL, No. 1

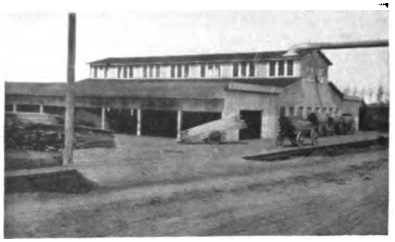
IN spite of the exceptional difficulties in securing skilled mechanical and technical help and the slowness of deliveries occasioned by the war, this company has completed one of the most up-to-date and best built sulphite and board mills in Canada. The entire plant was designed and constructed by the company itself.

The company has been large lumber producers for years, operating mills on both the Quebec and New Brunswick sides of the Bay of Chaleur. Their timber lands comprise an area of 2800 square miles with Bathurst as the central point. Their limits in Quebec are worked on three rivers, the Bonaventure, Cascepedia and Little Cascepedia, with saw mills at Bonaventure and New Richmond. The New Brunswick limits are logged on these rivers: Tetagouche, Little, Middle, Bass, Nigado, Elm Tree and Nepisguit.

MILL No. 1. "THE VILLAGE MILL"

Two modern, fast cutting saw mills on Bathurst Harbor, cutting 450,000 feet a day, handle the lumbering end of these limits.

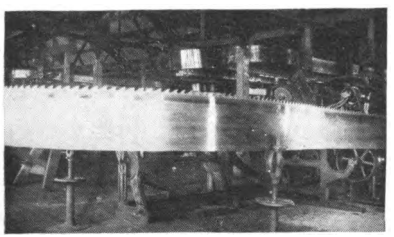
The company is now centralizing their manufacturing interests more at Bathurst, and using much timber and pulpwood from the Quebec limits in the Bathurst mills. The pulp and paper mills are built in an ideal location at the mouth of the Nepisguit River on Bathurst Harbor and in the town proper, both rail connection and deep sea shipping facilities are had directly at the mills. The most modern methods in advanced engineering practice are represented in these mills both in construction and equipment.



PLANING MILL

The company controls water powers amounting to 15,000 horse power on the Nepisguit River about twenty miles from the mills which will be developed later.

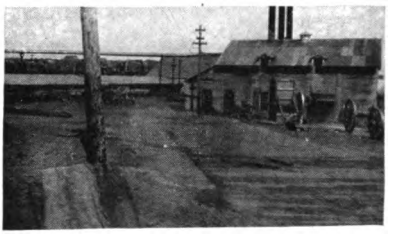
Plant and equipment, exclusive of the site, represent an outlay of $1,250,000. Another quarter of a million will be required as operating capital, and within the next couple of years additional expenditures amounting to at least $2,000,000 will be made in further construction work.



FILING ROOM, MILL No. 1

"Mill No. 1" shown in the illustration is one of the fastest operated mills in New Brunswick. The equipment consists of two single cutting band-saws

carrying fourteen-inch saws, two vertical re-saws with ten-inch saws, edgers, slashers, the usual trimmers and a five-saw slasher. The average output is 200,000 feet every ten hours. The filing room shown is in this mill and Fred Gilmore is head filer.



MACHINE SHOP

The fine planing mill is entirely motor-driven. The great blower system seen in the pictures is one of the longest in Canada. All shavings are blown from the planing mill to Mill No. 1.

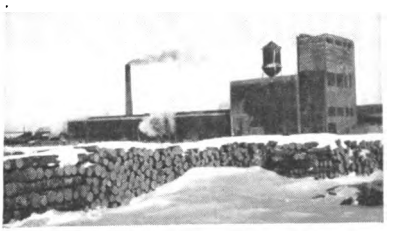
The Machine Shop is also located near Mill No. 1. This view also shows the end of the slasher table of the mill where the lumber is sorted and loaded.

MILL No. 2

Mill No. 2 has a single cutting band, (twelve-inch), a vertical re-saw, (ten-inch), edgers, lath mill, trimmers, slashers and also ten shingle machines. Average output is 100,000 feet per ten hours. The head filer of this mill is P. S. Dwyer. The mill is operated day and night.

Mr. Angus McLean is President and General Manager of the company, ably assisted by Mr. Loosen. Mr. McLean's two sons are Superintendents of the two mills respectively. Mr. Taylor is Manager of the Bonaventure Mill.

DISSTON SAWS AND KNIVES are used exclusively in all the plants of the company, and DISSTON CROSS-CUTS are used in the lumber camps.



NEW PULP AND PAPER MILL

BALSAM FIR—*Continued from page 116*

dried, and are used for stuffing sofa pillows, cushions and other kinds of upholstery. The odor persists a long time. Much of the collecting of the needles is done in summer as a pastime by summer campers in the northern woods. The needles are sufficiently tough to stand much wear in pillows, and they are still odorous when long use has ground them to powder.

The cones of balsam fir follow the fashion of all species of fir, and stand erect on the branches. Seeds are one-fourth inch in length and are winged. The wood is of approximately the same weight as white pine in strength and stiffness. It has moderately rapid growth when conditions are favorable, and the annual ring has a fair proportion of summerwood. The yearly rings are quite distinct. The medullary rays are numerous, and for a softwood they are prominent. When a log is quarter-sawed, and the surface of the boards are planed, the wood presents a silvery appearance, but it is too monotonous to be very attractive. The heartwood is plea brown, streaked with yellow, the thick sapwood much lighter in color. It is perishable in contact with the soil.

Pulp manufacturers are the largest users of balsam fir. About three per cent. of all the pulpwood cut in the United States in 1910 was from this species. Its use is on the increase, or appears to be; but recent statistics relating to this wood cannot be safely compared with returns for former years, because the custom of mixing fir with spruce and other pulpwoods formerly prevailed in New England, and it was then not possible to determine exactly how much fir reached the market. At the present time fir goes under its own name, and the output exceeds 132,000 cords, which is equivalent to 105,000,000 feet, board measure, yearly.

Eleven states contribute to the balsam fir lumber cut, but most is supplied by Maine, Minnesota, Vermont, Michigan, and Wisconsin. The total for 1910 was 74, 580,000 feet. Much of it is employed in rough form for fences and buildings, while other is further manufactured by planing mills and factories. Car builders employ it in several ways. It serves as doors, siding, lining, and roofing for freight cars. It is not a durable wood when exposed to weather. The largest reported use of the wood in New England is by box makers. Massachusetts alone works nearly 15,000,000 feet a year into crates and shipping boxes. Its uses in the Lake States are more varied. The makers of berry, fruit and vegetable baskets draw supplies from the wood. Some of the product is of thin split slats, and other of veneer or sawed material.

The light weight and white color of balsams fir make it acceptable to the manufacturers of excelsior. The product is employed in packing merchandise for shipment, and to a small extent in upholstery. The wood fills a rather important place in the woodenware industry, where its white color and light weight constitute its most important recommendations. It is sawed into staves for pails and tubs.

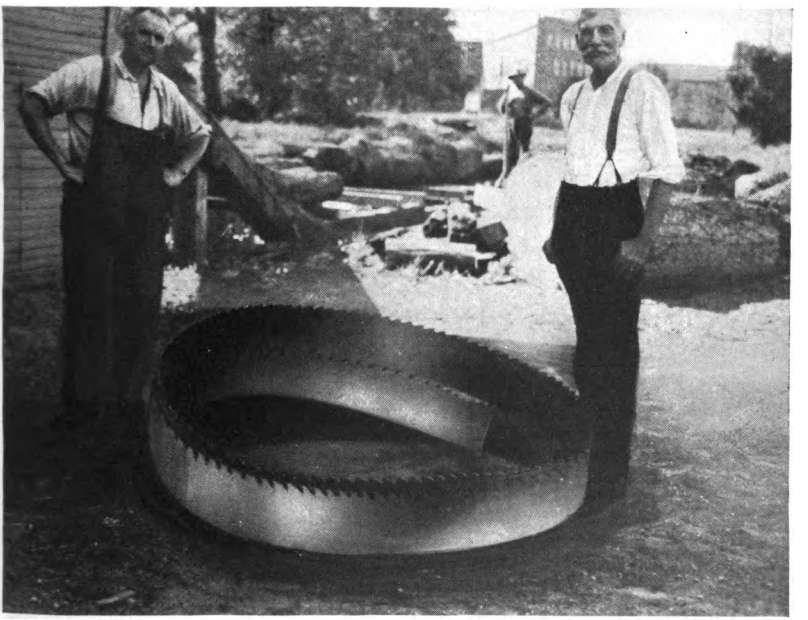
Though balsam fir has little figure and its appearance is rather common, it finds its way to planing mills and wood-working shops where it is made into ceiling, newel posts, molding, railing, spindles, chairboards and other interior finish.

(*To be continued*)

"OFF AGAIN, ON AGAIN—"

PERHAPS it will be recalled by some of the older readers that upon occasion we have been coaxed into an admission that DISSTON SAWS are pretty good. In fact, we have even conceded that for temper and toughness, texture and quality, efficiency and satisfactory service, they are the best ever.

Well, maybe some folks felt a little skeptical. If they did, we hope they're reading this.

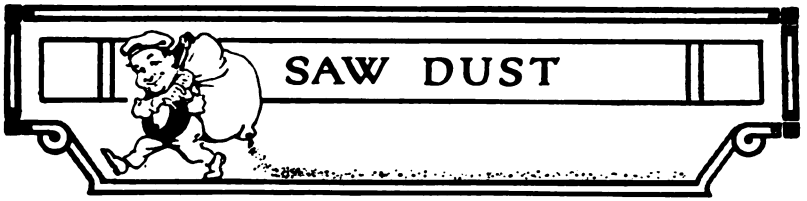


Here is a DISSTON band as it looked after a "wreck" at the J. W. Willis Lumber Company, Washington Court House, Ohio. It was 9-inches wide and was taken off the wheels by striking a piece of iron.

That saw was in service again in a few hours. We wish we knew the filer's name because he knows his business—it takes skill to straighten out a twisted mass like that. But our point is that the quality—DISSTON QUALITY—was in that saw. Otherwise it wouldn't have been worth the trouble of straightening.

And it's been giving perfect satisfaction ever since.

Honest, now, do you blame us for taking a bit of pride in DISSTON SAWS?



HE KNEW FROM EXPERIENCE

Jimmie giggled when the teacher read the story of the Roman who swam across the Tiber three times before breakfast. "You do not doubt a trained swimmer could do that, do you James?"

"No, sir," answered Jimmie; "but I wondered why he didn't make it four and get back to the side his clothes were on."

A SHORT PERCH

A teacher in a lower grade was instructing her pupils in the use of the hyphen. Among the examples given by the children was the word "bird-cage."

"That's right," encouragingly remarked the teacher. "Now, Paul, tell me why we put a hyphen in "bird-cage."

"It's for the bird to sit on," was the startling rejoinder. — *National Laundry Journal.*

A gentleman farmer tells of a city lad who once worked for him.

The lad was called one winter morning before dawn and told to harness the mule to the dearborn.

The lad was too lazy to light a lantern, and in the dark he didn't notice that one of the cows was in the stable with the mule. The farmer, impatient at the long delay, shouted from the house:

"Billy! Billy! What are you doing?"

"I can't get the collar over the mule's head," yelled back the boy. "His ears are frozen."

TOMMY NOT FAR WRONG

The children were studying caterpillars, and the teacher began the lessons with a very simple question: —"What is a caterpillar, Tommy?" she asked.

Tommy jumped up eagerly.

"A caterpillar," he replied, "is an upholstered worm."—*The Continent.*

THE HIGH COST

The minister of a small Missouri town called the grocer on the phone the other day and gave the following order:

"Send a dollar's worth of meat out to my house; if there is no one at home just poke it through the keyhole."

THE VERACIOUS VERGER—"In the far corner lies William the Conqueror, behind the organ, where you can't see; 'em, are the tombs of Guy Fawkes, Robin 'Ood and Cardinal Wolsey. Now, does that guidebook, as I sees you 'ave in your 'and, tell you who is lyin' 'ere, sir?"

THE SKEPTICAL TOURIST—"No—but I can guess."

In honor of a visit paid to his plant by the governor of the state, an automobile manufacturer once had a complete car assembled in something like seven minutes.

Some weeks after this feat was heralded in the daily papers, the 'phone at the factory rang vigorously.

"Is it true that you assembled a car in seven minutes at your factory?" the voice asked.

"Yes," came the reply. "Why?"

"Oh, nothing," said the calm inquirer, "only I've got the car!"

IMMATERIAL

It was never a happy day for Sammy's painstaking father when his young hopeful's school report arrived.

As for Sammy himself—well, he was a philosopher.

The awful day had come once more, and father was in the lowest depths of misery.

"Sammy—Sammy," he groaned, "why is it that you are at the bottom of your class again?"

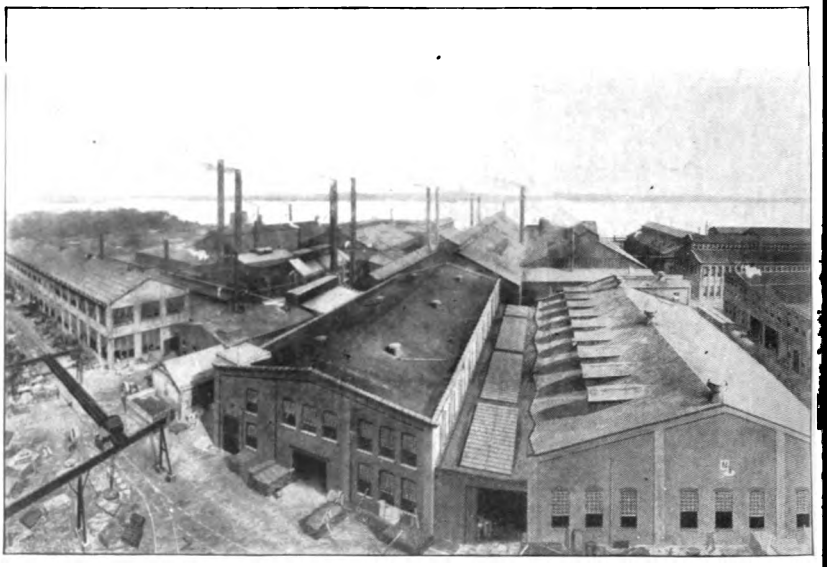
"What does it matter, father whether I am at the top or the bottom?" queried that wise youth. "They teach the same at both ends, you know!"

Can you imagine
our business developing to
its present proportions if

DISSTON SAWS

were anything but the
best from the viewpoint
of the millmen

?



The Great Saw-Steel Mill of

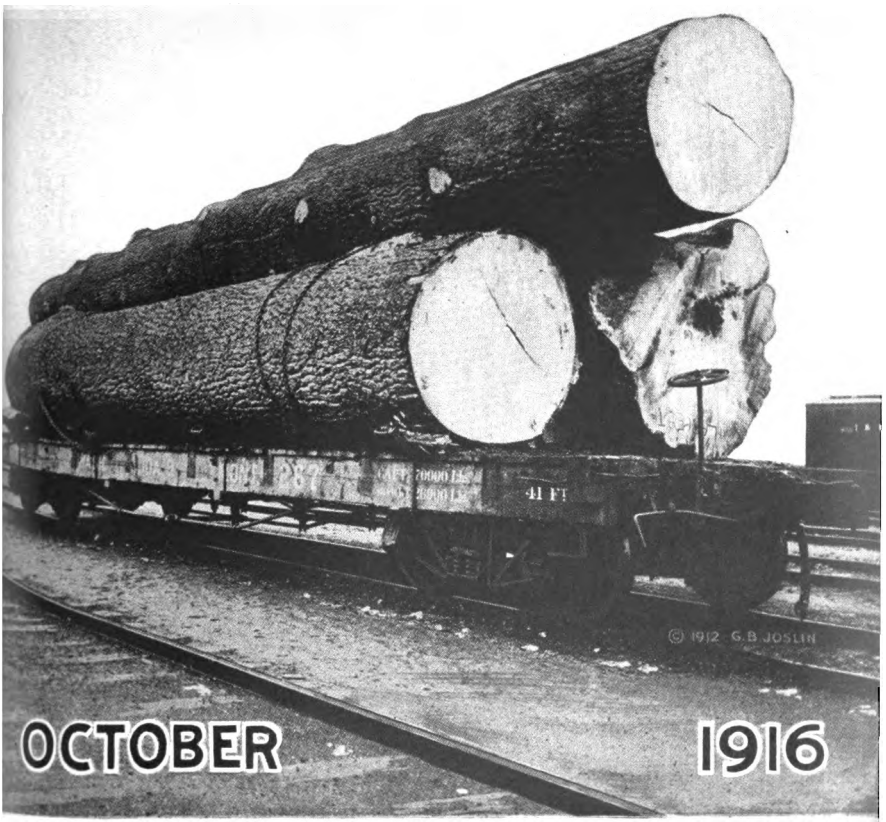
HENRY DISSTON & SONS, Inc.

PHILADELPHIA

Larger than any two others combined but comprising only about one-fourth of the entire DISSTON PLANT

THE DISSTON CRUCIBLE

A MAGAZINE FOR THE MILLMAN



There must be more than ordinary merit in that brand of goods which creates and satisfies an ever-increasing demand over a long period of time.

Quality Tells

THE DISSTON CRUCIBLE

PRICE 10¢ PER COPY $1.00 YEARLY IN ADVANCE

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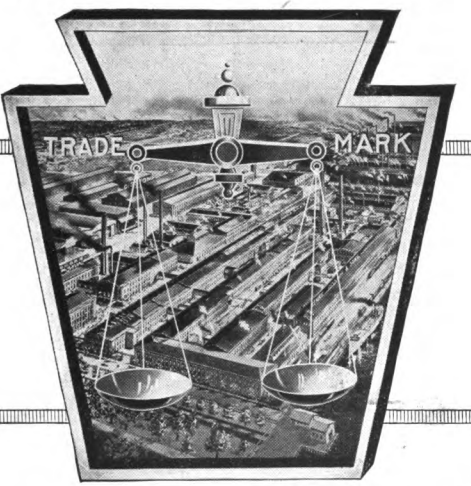

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PHILADELPHIA

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Standing: White, Seed, Taylor, Gebhart, Condell, Hayes, Glenn, Biles, Fredericks; Sitting: Bayne, Hansen, Castor, Longmore, Ochs.

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN
VOL. V OCTOBER 15. 1916 NO. 9

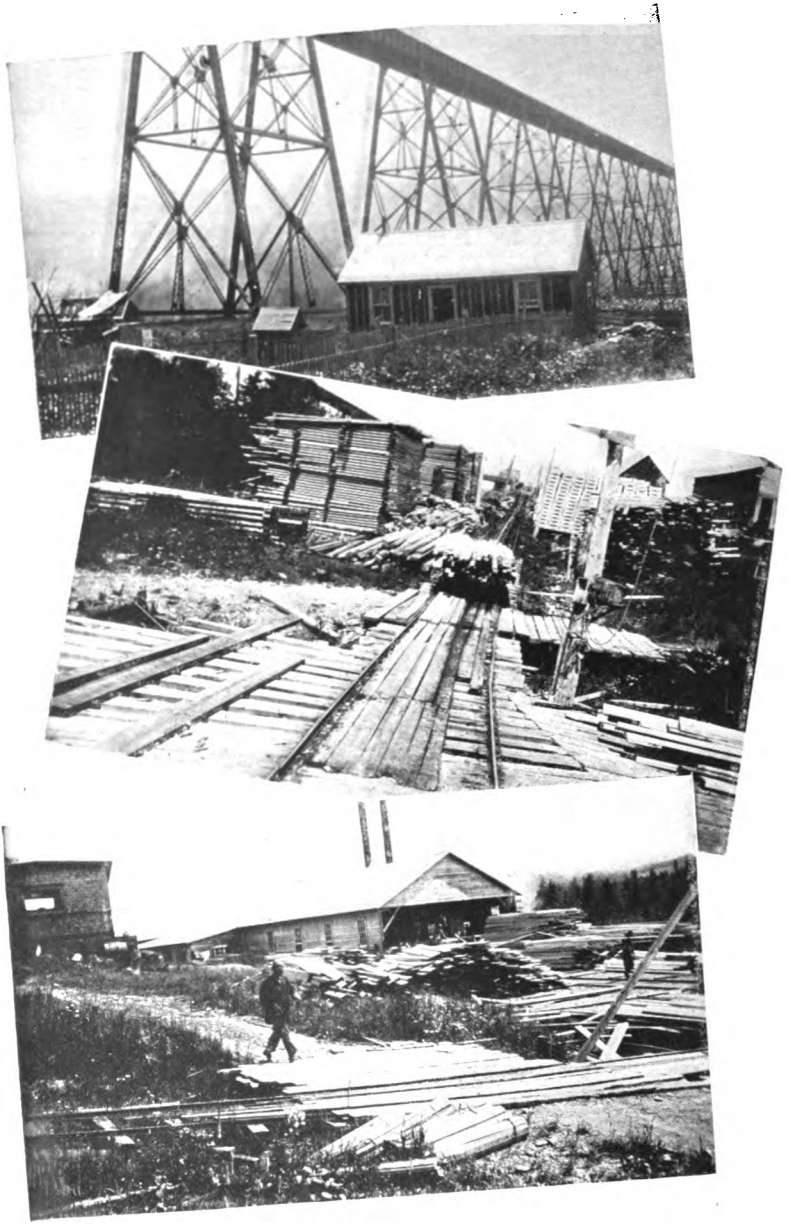
EDITORIAL CHAT

HUMAN NATURE

HUMAN NATURE is surely a perverse and inconsistent affair. We all have seen ample evidence that money in its mere possession has little bearing in happiness. And we all have had the testimony of personal experience that genuine satisfaction and content follows a hard task well done. Yet all of us wish we had lots of money so we wouldn't have to work; probably a provision of wise nature to keep us hustling. So that we contribute our share to the well-being of society, nature is indifferent as to whether our goal is the false one, money, or the true one, achievement.

The quest of happiness is the world's greatest pastime. But in the eagerness of our hunt we pass right by it. It lies in the cheerful, eager, consistent performance of our duties. Hard, conscientious work is the best formula for contentment there is, and we know it.

Yet we all have a sneaking desire some day to be rich—and most of us hope it comes easy.



The photographs above show the circular saw mill operated by Oran B. Davis at Grand Falls, New Brunswick.

This mill has a capacity of 50,000 feet per day and consists of a circular saw mill with edgers, lath mill and a slasher. DISSTON SAWS are used throughout.

BALSAM FIR

(ABIES BALSAMEA)

From "American Forest Trees"

(*Continued from last issue*)

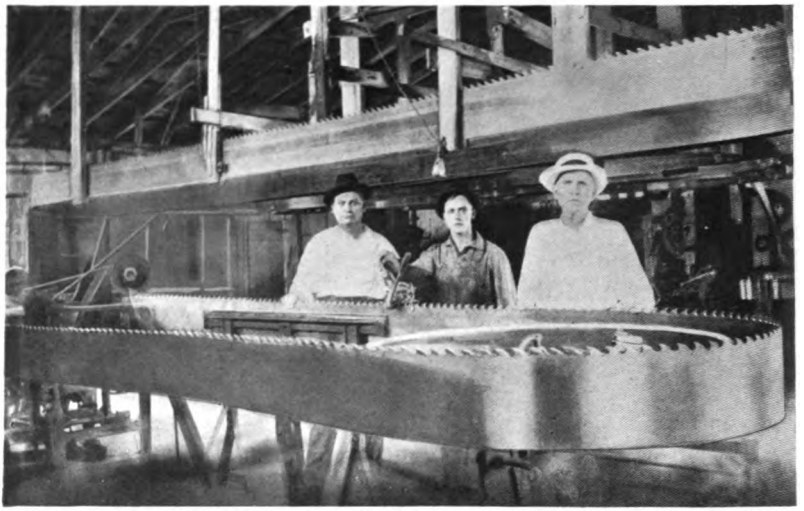
THE most widely known commercial product manufactured from this tree is Canada balsam. Strictly speaking, it is not a manufactured article except what is done in nature's laboratory, and the product is the resin stored under bark blisters. The resin is transparent and is employed by microscopists in mounting objects for examination. Little machinery or apparatus is used in removing the viscid fluid from the pockets in the bark. With a knife the thin, soft blister is slit and the resin scraped out. All kinds of claims of medicinal virtue are made for balsam resin in the region where the tree grows; but the treatment in most cases effects cures—if any cures are really effected—by appeals to faith and the imagination.

Balsam fir owes a large part of its importance to its abundance. It is not exactly a swamp tree, but it does best in damp situations where the ground is moist and cool in summer. Only in periods of protracted drought does the ground litter become sufficiently dry to burn fiercely, and to that fact is due much of the promise of future supply of balsam fir. That which grows on the dry uplands may fall prey to forrest fires, but that in the damp flats, associated with northern white cedar and tamarack, will hold its ground and continue to supply demand.

Balsam fir has an importance which cannot be wholly measured in feet, pounds, cords or dollars. Many of the choicest Christmas trees which in December go by tens of thousands to the cities, are of this tree. Its form is almost perfect, being conical, broad near the bottom, and running to a sharp apex. The deep green of the needles, which retain their color from two weeks to a month after the trunk is severed, gives balsam Christmas trees much of their popularity. The trees are cut from Maine to Michigan, and many are shipped across the international boundary from Canada. The custom of cutting Christmas trees is often condemned as a waste of resources. It has been argued that the destruction in one month of 1,000,000 young trees is equivalent to the destruction of 500,000,000 feet of lumber, because, if allowed to reach maturity, they would yield that much lumber. That argument does not take into consideration the fact that not one of the young trees in ten would reach maturity, if left to the course of nature.

When Gifford Pinchot was United States forester, a protest against the cutting of Christmas trees was formally laid before him. It was generally believed that he would declare that the waste ought to be stopped and would set his disapproval on the practice; but he did nothing of the sort. He declared that the forests are for the use of the people and that they can serve in no better way than by supplying every child in the land with a Christmas tree once a year.

FIVE DOLLARS A CRACK



MEET MESSRS. WINSTEAD, SMITH AND GATES, of the Taylor & Crate Lumber Company, Hinchcliffe, Miss. Mr. Winstead (on the left) is foreman, Mr. Smith, filer, and Mr. Gates, ("Dad"), sawyer, for the company.

The mill has a 9-foot, 12-inch band and a 6-foot, 9-inch vertical re-saw. Two 66"x16'—100-lbs. W. P. boilers and 14"x20", H. S. & G. twin engines are the power equipment.

Originally built at another point in Mississippi in 1898, the company transferred its machinery to Hinchcliffe in 1904. The re-saw was added at this time.

The mill has been running about ten months a year and cutting about ten million feet of hardwood per year, much of the cut being quartered oak.

Three filers have had charge of the saws at various times. Mr. J. W. Barnes was the first, remaining about five years. About six months after his start the report became circulated that he was having "crack trouble." J. D. Allen who sells DISSTON SAWS through the Riechmann-Crosby Company of Memphis, went out to see him. (The company has used DISSTONS right from the start). When he arrived, Mr. Bonner invited him to make a minute inspection of every saw in the plant and agreed to give Mr. Allen five dollars for every crack he found. A thorough examination of all the saws

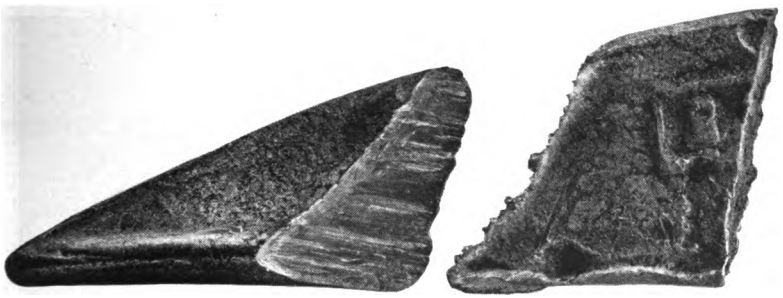
revealed not a single crack. As Mr. Allen was leaving Mr. Bonner said, "That offer stands as long as I am filing this job." And that "crackless" record has remained unblemished to the present time. Some saws and some filers!

Mack Graham was the next filer, serving for four years, and at his death, at the close of the fourth season, his helper, George L. Smith, took his place.

The only condition ever connected with the $5.00 per crack forfeit was that the saws be not run after they became too narrow to stand the feed. This was insisted upon by "Dad" Gates, the sawyer, the manager agreeing that it is false economy to saw beyond this limit.

We should be glad to hear from any of our filer readers of as good "crackless" record for DISSTON or any other make of saws.

ANOTHER "BIT" OF METAL



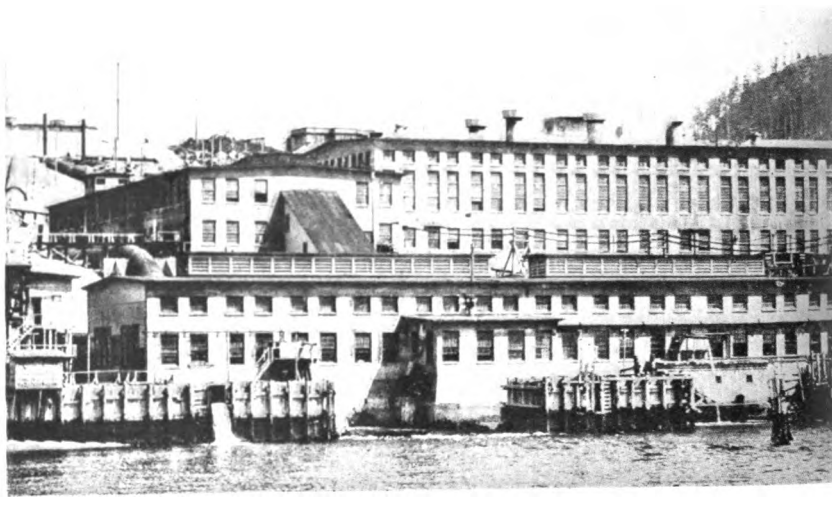
Mr. Brown, filer for the Lovelady Lumber Co., thinks if he hadn't had a DISSTON on the wheels when he hit this grab-bit he would have been in trouble. Here is what he says:

HENRY DISSTON & SONS, Jasper, Va.
Philadelphia, Pa.

GENTLEMEN:

I am sending you a cast steel grab-bit which was driven in a maple log by some careless driver and allowed to come to mill. You may note the shape in which the saw struck it at an angle which made it much worse than if it had struck it square, and I really believe none other than a DISSTON SAW would stand to cut this steel in two, and finish the cut out to the end of the log which was thirty inches. Only lost the swage on four teeth and a few corners on others about half way around the saw. It did not hurt the saw in any other way. I am working for the Lovelady Lumber Company and am thankful that when I want saws, I can always get DISSTON SAWS.

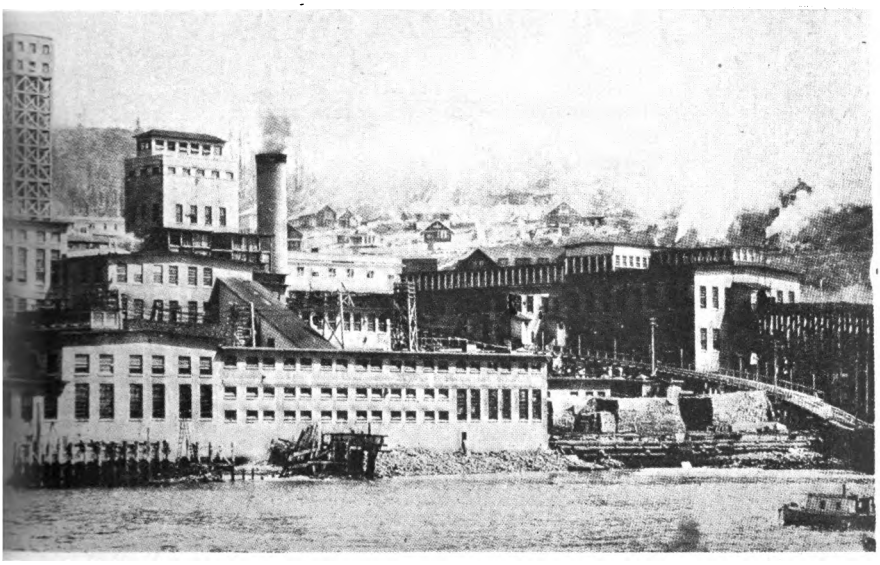
Yours truly,
K. M. BROWN, Filer.

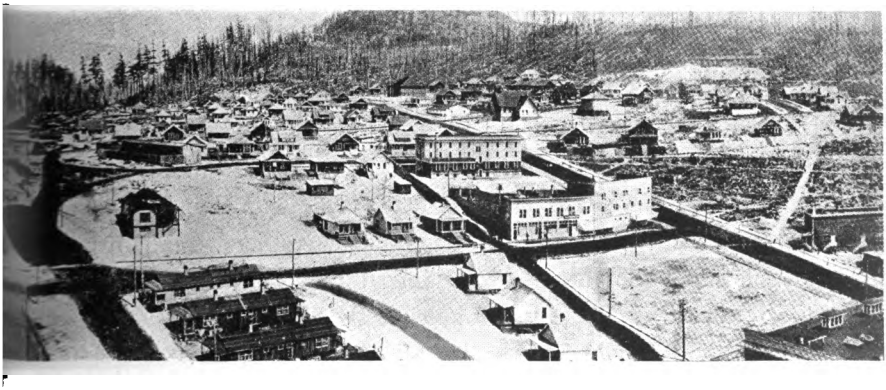


THE POWELL RIVER

POWELL R

(British Columbia





L, POWELL RIVER, B. C.
d
R TOWNSITE
ly Paper Mill City)

THE KNAPP, STOUT COMPANY

THE KNAPP, STOUT COMPANY, Thornton, Ark., entered the lumber industry some seventy odd years ago at Menominee, Wis. For half a century at that location they manufactured white pine lumber. Twenty-five years ago, realizing the inevitable exhaustion of the white pine supply there, they began a systematic search in the South for desirable pine timber, eventually securing some of the finest in Southern Arkansas. They located at Thornton, Ark., and built their present mill, the first output from it being on the market about fifteen years ago.

The mill consists of two bands (twelve-inch) and a gang re-saw. The average daily output is 165,000 feet.

W. C. Ribenack is president of the company and B. E. Halpin is manager, assisted by Gus Campbell. Lou Yankee is head filer. This is another of the many mills using DISSTON SAWS exclusively.

A GREAT SEASON FOR DISSTON ON THE BALL FIELD

WITH the thoroughness characteristic of the DISSTON activities, whether industrial or athletic, the DISSTON A. A. baseball team wound up the 1916 season in a blaze of glory.

The "Sawmakers" won the championship of the Industrial League of Philadelphia which consisted, besides themselves, of the teams of Midvale Steel Co., Atlantic Refining Co., A. J. Reach & Co., Keen Kutter (Simmons Hardware Co.), Hale & Kilburn Co., Electric Storage Battery Co. and the Southwark Foundry & Machine Co.

They won the Industrial championship of Philadelphia, and a silver cup trophy by defeating, by a 1–0 score, the Geo. W. Blabon Co., champions of the Manufacturer's League.

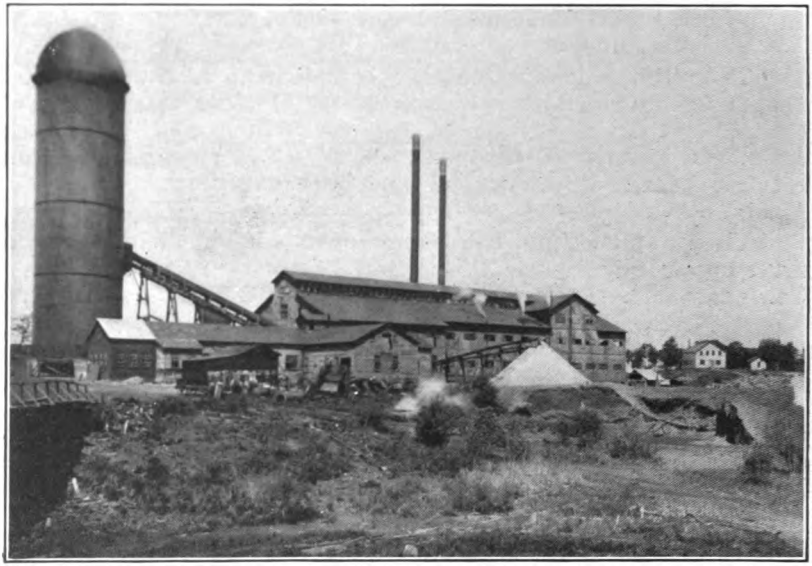
By virtue of two tie games with the Wissinoming team who held the title of the North East League of Philadelphia, DISSTON shares the championship of Philadelphia County with that team. Wissinoming had previously beaten the Edward G. Budd Co., title-holders of the Philadelphia Suburban League. Both Wissinoming-Disston scores were 1–1; the first game being only eight innings, the second extending eleven.

The DISSTON team is composed entirely of men working in the DISSTON PLANT. All members derserve the highest credit, having played tight baseball all season. The phenomenal pitching of Joseph Ochs, the "Sawmakers'" star was perhaps the outstanding feature. Ochs record was twenty won, three lost and one tie. The three games lost were in the first five played, Ochs winning eighteen straight after getting his stride. It will easily be seen how important a factor his great work was in winning the pennant for DISSTON.

Nearly all the season DISSTON ran neck and neck with Midvale for second place, the pace being set by the Atlantic Refining Co. Two weeks before the season closed, DISSTON eliminated Midvale by a 6–2 game and won the pennant by taking the final game with the Atlantic Refining Co. 7–1. Right fielder Frank Banes led in batting with an average of .411, and also in stolen bases with twenty-seven. Bayne was closely followed by Schaeffer and Taylor.

Center fielder Robert Castor and shortstop Arthur Hayes were considered to be among the best players, in their respective positions, in the amateur ranks. Castor accepted forty-nine chances without the semblance of an error. He also led the team in long distance hitting, having ten two-base hits, three three-base hits and one home run for a season's record. Hayes' wonderful fielding and hitting turned many a defeat into victory.

NICHOLS & CHISHOLM



THE PHOTOGRAPH shows the plant of the Nichols & Chisholm Lumber Co., located at Frazee, Minn.

The plant consists of three band mills carrying twelve inch saws and a ten-inch re-saw.

Mr. E. A. Snow is Mill Superintendent for the company and DISSTON SAWS are used.

Anybody can keep up. It is those who keep ahead that attract attention. It is to no man's credit that he trails along with the profession; the fellow who goes out in front, whether plodding his way thru the forest or in the conduct of a business, is the fellow to be commended.—*Personality.*

WHO'S WHO IN THE SAW WORLD

"HUTCH"

F. S. Hutchings, alias "Hutch," is band saw filer for the Yosemite Lumber Co. at Merced Falls, Cal. He is also in the photograph. He's the one that doesn't look like a ball player—more like an umpire. We can't tell you much about the team but had to show them because it's the only picture we have of "Hutch."

Born in Michigan near Grand Rapids in the town of Rockford.

When eighteen, was taken into the mill of the Northern Mill Company in Minneapolis by his father, who at that time was considered a circular filer of note.

At the Northern Mill Hutchings spent ten years on circulars and gangs. From there he went to Brookings, Michigan, with the Brookings Lumber Company where he served two years under W. J. Gebott and here he received his first band saw schooling.

After filing one year on bands in Stiles, Wis., for Anson Eldreed Lumber Company, went to Marinette, Wis., to the H. Witbeck Lumber Company, taking charge of four bands running day and night. With Witbeck he stayed ten years.

From there he came to Lamoine, Cal., and took over the filing room of the Lamoine Lumber & Trading Co., where he remained three years. From there to Hilt, Cal., for four seasons with the Fruit Growers Association.

From Hilt to the Yosemite Lumber Company at Merced Falls, Cal., where he has been nearly four years. The Yosemite Lumber Company is a white and sugar pine mill having a nine and ten-foot rig, running twelve and thirteen gauge saws and an eight-inch re-saw.

Average cut last year, 175,000 per day, and thirty-five million for the season.

Hutchings has filed more DISSTON SAWS than all other makes combined, and asserts "That like his father before him, he believes DISSTON to be the finest saw made."

The gentleman in question claims to be Dutch, English, Irish and Scotch, and best known as plain "Hutch."

THE POWELL RIVER COMPANY

(*See pages 136 and 137*)

BRITISH COLUMBIA'S one and only paper mill city is Powell River, and according to all reports it's a pretty fair sort of place to be. They have there as a regular diet all the specifications of a vacation resort: scenery, boating, hunting, fishing and an excellent climate—reads like a prospectus, doesn't it?

The Powell River Pulp & Paper Company is the town's mainspring. The daily capacity of the mills is, news print paper, 225 tons; ground wood pulp, 200 tons; and sulphite pulp, 60 tons.

DISSTON WIDE BAND SAWS, SLASHER SAWS AND MACHINE KNIVES are used by this company.

HAMMERING INSTRUCTIONS OF THIRTY YEARS AGO STILL PRACTICAL

WE recently received a letter from Mr. W. H. Ware, of Nashua, N. H., enclosing a letter which he had received thirty years previously from HENRY DISSTON & SONS, on the subject of band saws. We are reprinting the correspondence as a matter of interest to filers, to know that the directions of a generation ago are still practical.

The directions were written by Theodore Shoemaker, who was factory superintendent of HENRY DISSTON & SONS, from 1872 to 1907.

MESSRS. HENRY DISSTON & SONS,
Philadelphia, Pa.

Nashua, N. H.
Oct. 2nd, 1916.

DEAR SIRS:

I am sending you some correspondence that I had with you some 30 years ago relating to hammering band saws. I was using at that time 1 5/8" saw 1" space, 20 feet long 20 ga.

At that time I was re-sawing by hand glass backs in native pine, glued up to from 12" to 20" wide, planed 7/8" full and getting excellent results, making three pieces each, a full 1/4" thick. This I was able to do after following your directions.

I afterward put power feed on the machine and drove it 12½" and 20 feet per minute with a 4" belt and 14" driving pulley, wheels being 37", using set teeth all the time.

It is perhaps needless to say that the aforesaid correspondence would be a good brief outline for a beginner on hammer work.

Yours sincerely,
W. H. Ware, 4 Winter Street.

MR. WALTER H. WARE,
Milford, N. H.

Philadelphia, Dec. 21st, 1886.

DEAR SIR:

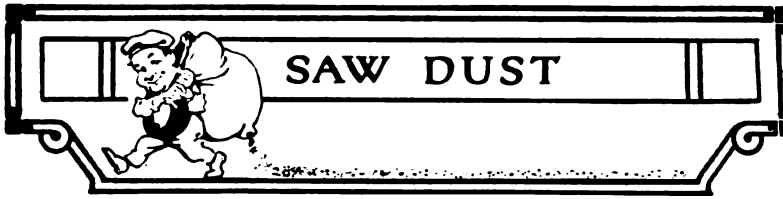
In reply to your inquiry of the 13th inst. asking for information as to the tools required for hammering band saws and if we had a treatise on hammering, say, that we have not any printed matter bearing on this subject, in fact it is difficult to impart this knowledge in writing, it must be got by experience.

Band saws in use become stretched on edges, particularly wide saws, and must be hammered through the center to stretch the metal at that part of the saw, and when it is tightened on the pulleys, edges will be taut and run steady. If the saw should get longest on the tooth edge it must be hammered from the back in towards the teeth. This will stretch the back edge and bring front and back parallels.

Band saws are usually run with the tooth edge a trifle the shortest; be sure, however, to have the saw well open through the center for in hammering to stretch the edges, the saw will become long on the edges unless done with great care. The center should be hammered with a round faced hammer while straightening, and taking out the humps is done with an x face hammer. When using the round face hammer, work equally on both sides of the saw. The best way to learn is to get an old piece of a saw and practice on it; do not start in by striking heavy but light blows. For hammering saws size you mention, two hammers about 2½ or 3 lbs. each, one cross face and one round face and a small anvil about 60 lbs. would be right.

Hoping that you may be successful in your undertaking, we are,

Respectfully yours,
HENRY DISSTON & SONS
Per THEODORE SHOEMAKER.



A SIMPLE REQUEST

MURDERER—"Is this the guy who is to defend me?"

JUDGE—"Yes; he's your lawyer."

MURDERER—"If he should die could I have another?"

JUDGE—"Yes."

MURDERER—"Can I see him alone for a few minutes."—*Boston Transcript.*

ENDLESS

LECTURER—"The idea of eternity my friends, is something too vast for the human mind to conceive."

VOICE FROM THE AUDIENCE—"Did you ever pay for a $700 piano on the installment plan?"

ONE REASON

PARSON—"How is it I haven't seen you at church lately?"

HODGE—"I ain't been."

"Why don't you brush your hair?" asked a man of the boy with the frowsy hair.

"Ain't got no brush."

"Why don't you use your father's brush?"

"He ain't got no brush."

"No brush? Why hasn't he a brush?"

"Ain't got no hair."—*Leschens Hercules.*

DOCTOR (examining recruit)—And do you always stutter like that?

RECRUIT—N-n-no sir. Only w-w-w-when I t-t-talk.

AMERICANADIAN—You seemed to have enjoyed the show. How were the lines?

ENGLISHMAN—Fairly clever.

AMERICANADIAN—And the music?

ENGLISHMAN—Rawther good.

AMERICANADIAN—Then it must have been the costumes. How were the costumes?

ENGLISHMAN—Ripping!

HIS GENEROSITY

A "tommy," lying in hospital, beside him a watch of curious and foreign design. The attending doctor was interested.

"Where did your watch come from?" he asked.

"A German giv it to me," he answered.

A little piqued, the doctor inquired how the foe had come to convey his token of esteem and affection.

"E 'ad to," was the laconic reply.—*London Nation.*

EXPLICIT

"When I don't want a man's attentions and he asks me where I live, I say in the suburbs."

"Ha, ha! Excellent. But where do you really live, Miss Brown?"

"In the suburbs, Mr. Short."—*Atlanta Journal.*

A GOOD DEFINITION

FARMER FODDERSHUCKS—Haow do them summer boarders of yourn keep busy?

REUBEN ROBIN—They play golf.

FARMER FODDERSHUCKS—What'n Sam Hill's that?

REUBEN ROBIN—'S near's I kin figger, it's solitaire shinny.

THE USUAL WAY

DENTIST—"Open wider, please—wider."

PATIENT—"A—A—A—Ah."

DENTIST (inserting rubber gag, towel, and sponge)—"How's your family?"—*Harvard Lampoon.*

MISSDEAL

Eating in a railroad station out in a lonely spot in the West, they pass a basket of sandwiches and you are to help yourself. It happened that Big Bill got a sandwich without any meat, and he yelled out: "Say, Jack, shuffle them again, I got the Joker."

The wise millman knows that quality and quantity of output are the only gauges of saw economy. That's another reason why DISSTON SAWS lead the field by such a wide margin.

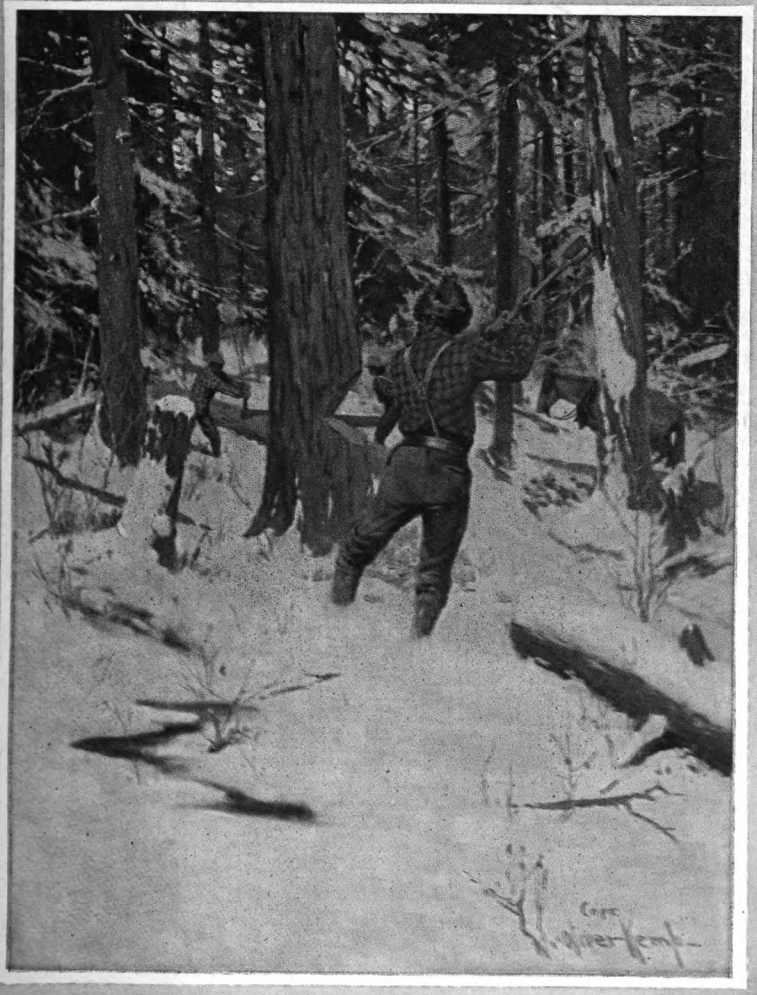
EVERY SAW

produced in the

DISSTON PLANT

is, after completion, subjected to rigid and minute inspection. Only those which are as nearly perfect as modern equipment and skilled workmanship can produce pass this inspection. And only those which pass the inspection leave the factory *because the DISSTON reputation for superiority, standing for seventy-six years, is the firm's greatest asset.*

THE DISSTON CRUCIBLE



NOVEMBER 1916

THE DISSTON CRUCIBLE

PRICE 10¢ PER COPY $1.00 YEARLY IN ADVANCE

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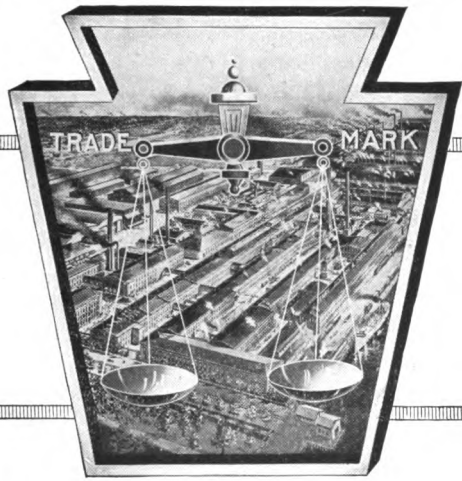

This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS

INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

BRANCH HOUSES:

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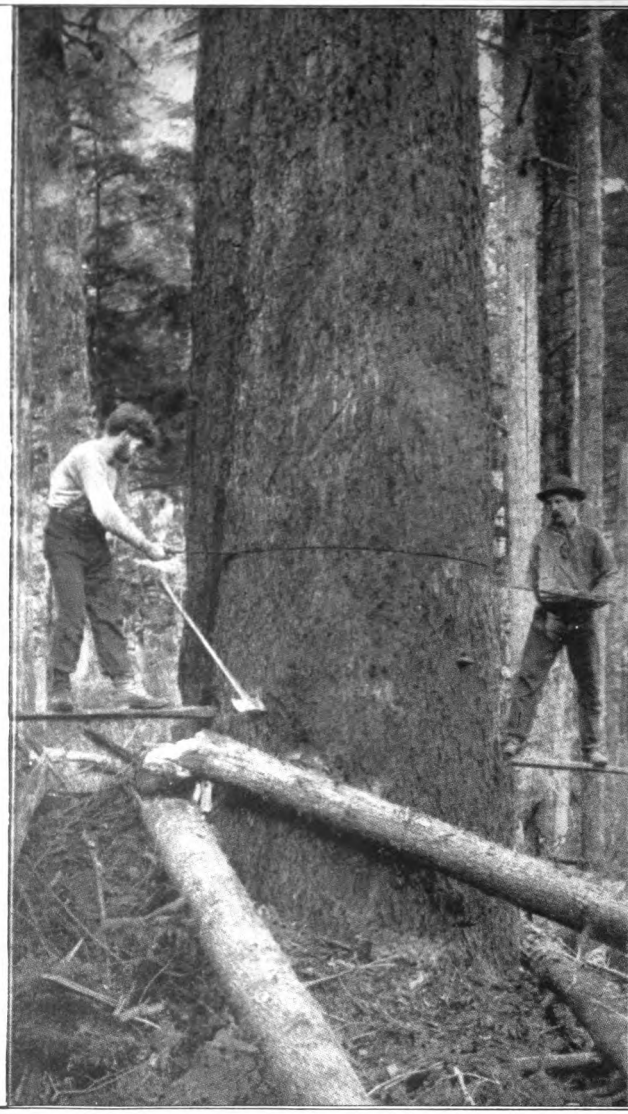


DOUGLAS FIR

(PSEUDOUSUGA TAXIFOLIA)

From "American Forest Trees"

See page 151

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

VOL. V. NOVEMBER 15, 1916 NO. 10

EDITORIAL CHAT

ENTERPRISE

ENTERPRISE is the quality that took the tallow-dip and gave us the incandescent light; that transmuted the pony-express into the telephone and the wireless. It is the combination of imagination and energy that has seen in the artisan's tiny shop a vision of a mighty industry and has then labored ceaselessly and tirelessly to make the vision fact.

Enterprise is the vital spark that makes of inanimate, monotonous, unprogressive routine, a live, pulsing, progressive business. Science, art, craftsmanship all are utilized by Enterprise in the constant search for a better product in a better way—for development and progress.

Enterprise is a merciless taskmaster for its labors are never finished; but for diligence its rewards are most generous. Its returns are measurable directly in commercial success. All great industries, enjoying world-wide prestige and the fruits of extensive trade have attained to their pre-eminence by grace of—Enterprise.

THE CRUCIBLE COVERS

WE have been fortunate in securing for the "CRUCIBLE" covers a handsome set of lumbering scenes painted by Oliver Kemp. There are twelve of these paintings, the first appearing on the cover of this issue of the "CRUCIBLE." All will be reproduced in four colors.

The quick eye of the trained lumberman will detect that these scenes are idealistic portrayals of the romance and charm of the lumber-camp rather than mechanical reproductions of equipment and methods. Every one of the pictures fairly glows with artistic realism and the complete set will make a collection well worth saving.

As we necessarily must restrict each month's issue of the "CRUCIBLE" to the requirements of our mailing list, it will be practically impossible to replace missing copies. For this reason we suggest that readers wishing to preserve these pictures take especial pains that their sets remain unbroken.

These covers will run from November, 1916, to October, 1917, inclusive.

GOES TO SIAM TO WED LUMBERMAN

LAST December we told about George Swem who went to Bankok, Siam, to saw for the Borneo Company of that place. The following clipping is from one of the Seattle papers:

GOES TO WED IN SIAM

With the departure of Miss Mary Stark, of 3802 Genesee Street, for Bankok, Siam, last week, a romance of several years' standing was brought to light. Miss Stark is to become the bride of George Swem, formerly an employe of a lumber company in Seattle. Several years ago Swem went to the Orient to better his fortunes. On his departure he asked Miss Stark to "wait for him." Last Christmas Miss Stark received a letter in which she was told that about next summer she had better begin to pack.

"To the Ends of the World" has a literal meaning for Mr. and Mrs. Swem. The "CRUCIBLE" wishes them every happiness.

THE ONLY ST. JOHN MILL NEVER DESTROYED BY FIRE

ALTHOUGH this mill was built over half a century ago, it enjoys the distinction of being the only mill in St. John, New Brunswick, that has never been destroyed by fire. It is one of the properties of Randolph & Baker and is located at Fairville, P. O.

It was formerly equipped with live gangs but in 1915 the entire equipment was changed to band saw machines of the most modern type. The band mill is an eight foot double cut, as will be seen by a glance at the twelve inch DISSTONS in the lower picture, and a horizontal re-saw was installed. After altering the mill to insure plenty of power, four new boilers were erected. The plant today is easily one of the finest in the section and is turning out daily from eighty to one hundred thousand feet of sawed lumber.

The mill is picturesquely situated on the St. John River about two miles above the famous Reversible Falls. At this point there is a twenty-seven foot tide and with the changes of the tide the direction of the Falls is reversed, whence the name. At half tide the falls disappear and boats can traverse that point of the river, which is utterly impossible when the tide is either in or out. Logs are brought to the mill by driving down the stream for a distance of about 400 miles. Spruce, pine and hemlock are cut, the majority being spruce. Mr. Randolph is Manager and Mr. Frank Baker, Superintendent. Andy Mager of Toronto is head filer on this mill and is well satisfied that the company use DISSTON BANDS exclusively. Note the proud look on his face as he stands against the crate of two new ones, just arrived. Fred Engall, his able helper, is also enthused with DISSTON quality in the filing room.

S. L. A. CONVENTION

THE SIXTH and unquestionably the most successful convention of the Southern Logging Association was held in New Orleans, October 25th to 27th. The attendance was far greater than at any previous meeting, many of the lumber companies sending several delegates.

A feature of the proceedings was the presentation, by representatives of the manufacturers, of papers on various logging equipment—saws, skidders, locomotives, wire-rope, etc. J. C. McCauslan, Assistant Mill Goods Sales Manager of HENRY DISSTON & SONS, covered the subject of cross-cut saws with the thoroughness of long familiarity with their manufacture and use.

Oscar Marsan, of the Opdenweyer-Alcus Cypress Company, was re-elected President of the Association.

The business of the convention demanded three days of serious attention. On Thursday night, however, the social side held sway. A most enjoyable banquet was held, and while the festivities started at 6.30, the excellence of the menu, the speeches, the music and the company deferred any thought of an adjournment until bed time.

President Marsan said that the Association had increased a hundred per cent in the last year and he expects a greater gain in numbers before the next annual meeting.

DOUGLAS FIR

(PSEUDOUSUGA TAXIFOLIA)

From "American Forest Trees"

DURING one hundred and ten years, from 1803 until the present time, botanists and others have proposed and rejected names for this tree. It has been called a fir, pine, and spruce, with various combinations, but the name now seems to be fixed. Laymen have disputed almost as much as botanists as to what the tree should be named. It has been called red fir, Douglas spruce, Douglas fir, yellow fir, spruce, fir, pine, red pine, Puget Sound pine, Oregon pine, cork-barked Douglas spruce, and Douglas tree. More than a dozen varieties are distinguished in cultivation.

The range of Douglas fir covers most of the Rocky Mountain region in the United States and northward to central British Columbia; on the coast from the latitude of southern Alaska to the Sierra Nevada mountains in central California. It reaches its maximum development in western Washington and Oregon, particularly between the Cascade mountains and the Pacific ocean. In these Cascade forests, stands are found which yield from 50,000 to 100,000 feet per acre, and mills in that region cut the longest timbers in the world, some two feet square and 100 feet long.

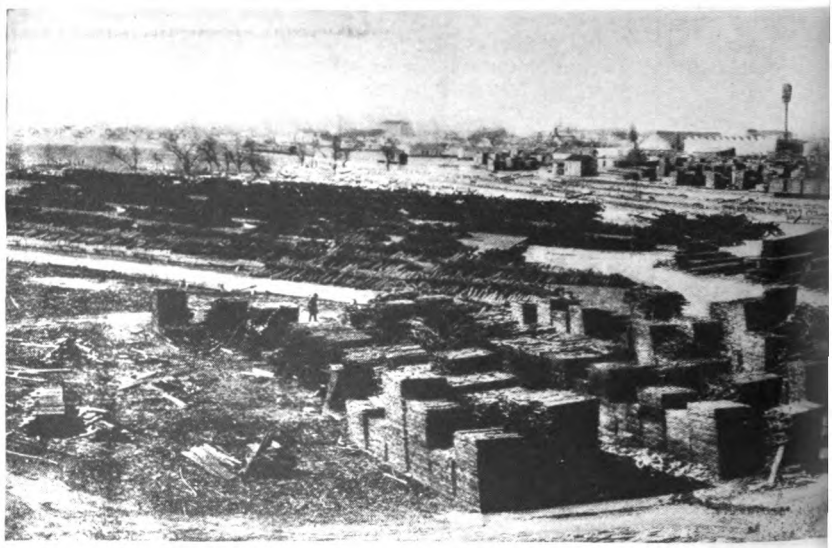
Two forms of Douglas fir are recognized by botanists, not essentially different except in size and habit of growth. One is the finely developed form on the Pacific coast where the climate is warm and the air moist. The other is the Rocky Mountain form which is smaller and shows the effect of cold, dryness, and other adverse circumstances. When the seeds of the two forms are planted in nurseries, where they enjoy identical advantages, the coast form outgrows the other in Europe, but the Rocky Mountain form thrives best in the eastern part of the United States.

Douglas fir needles are from three-quarters to one and a quarter inches long, and of a dark, yellow-green color. They remain on the twigs about eight years. Cones are from two to four and a half inches long, and are borne on long stems. The seeds, which ripen in August, are of light, reddish-brown color with irregular white spots on the lower side; are about a quarter of an inch long, and are provided with wings. Trees of this species in the moist climate of the Pacific slope average much larger than those in the mountains farther east. The largest are 300 feet high, occasionally more, and from eight to ten in diameter. The average among the Rocky Mountains is from eighty to 100 feet high, and two to four in diameter. Young trees are slender with crowded branches. In thick stands the lower limbs die and the trunks remain bare except an occasional small branch. Douglas fir at its best grows in thick stands, with crowns forming a canopy so dense that sunlight can scarcely reach the ground. The result of this is that other species have little show where Douglas fir prevails.

The bark of large trunks attains a thickness of eight or ten inches near the base. Young bark contains blisters filled with resin, similar to those of balsam and other species of fir.

The wood is light red or yellow, the sap much whiter. Lumbermen recognize two kinds of wood, yellow and red. The former is considered more valuable. Both may come from the same trunk, and the reason for the difference in color and quality is not well understood. It cannot be attributed to soil or climate, or to the age of the tree, and it does not seem to depend upon rate of growth. The bands of summerwood are broad and quite distinct. A few scattered resin ducts are visible under a magnifying glass of low power. The medullary rays are numerous, rather large, frequently yellow, conspicuous when wood is

(*Continued on page 157*)



MAHOGANY PLANT OF THE C. C. M

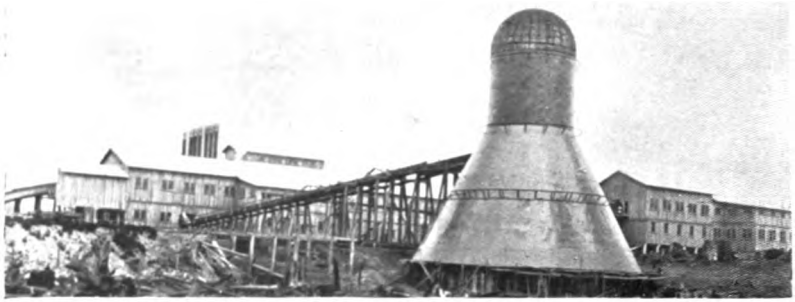
EXTENDING FROM FOURTH TO TENTH

COMPRISING OVER 9

NGEL & BRO. CO., LOUISVILLE, KY.

STREETS AND FROM C TO H STREETS

ENTY-THREE ACRES



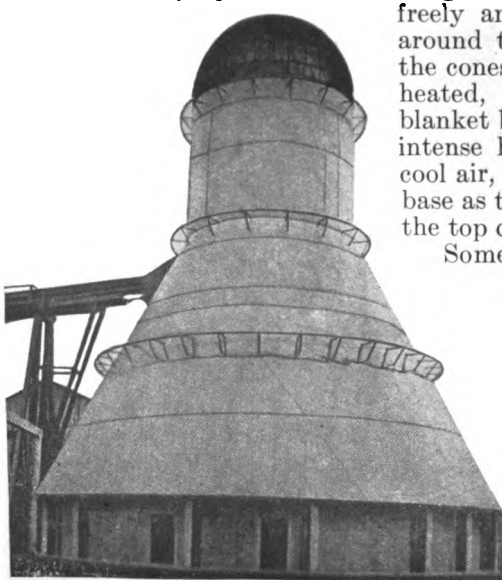
ONALASKA LUMBER COMPANY'S PLANT SHOWING AIR COOLED REFUSE BURNER

THIS PLANT is located at Onalaska, Washington, and has a daily (10 hours) capacity of 200,000 feet of lumber and 300,000 shingles. A prominent feature of their equipment is the new "Air-Cooled" refuse burner.

It is claimed for this new development in the refuse burner field that it possesses many advantages over other types.

The burner has no fire-brick nor other lining and light material is used throughout in its construction because the design is claimed by the builders to prevent any part being subjected to intense heat.

The theory upon which the design is based is that the cool air freely and uniformly admitted around the conical base, rises to the coneshaped wall as it becomes heated, forming a protecting blanket between the wall and the intense heat from the fire. The cool air, of course, entering at the base as the warmer air passes out the top of the burner.



Some of the advantages which it is stated are secured are lower initial expense for material and construction, reduced cost of maintenance, reduced fire hazard (a finer spark arrester screen being used.)

The dimensions of the burner in the photograph are: Bottom diameter, 70 ft.; Top diameter, 27 ft.; Height to top of dome, 85 ft.

E. A. ENGLER LUMBER CO.

BAUDETTE, MINN.

PROBABLY one of the smallest considerations the Engler Company had in mind when they selected this particular spot for their plant was the artistic possibilities it offered. Nevertheless the possibilities were there, as witness the photograph. Don't believe that picturesque boat was included by accident, though. Think somebody had an idea he was making a pretty nice picture—and he was right.

The main business of the Engler Lumber Co., though, is *not* being a pretty view. They make white pine lumber at the rate of a quarter of a million feet a day and own some of the finest white pine timber in the Northern country. The mill is operated day and night.

Mr. Clark Dodds is General Manager and Secretary of the company and Mr. O. T. Jones is Superintendent of the mill.

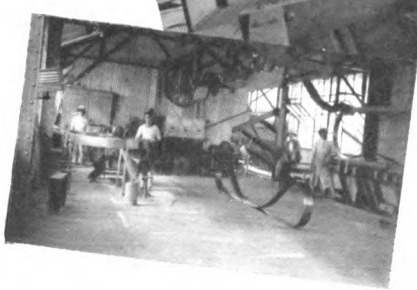
THE NEDERLANDSCH–INDISCHE HOUTAAN-KAAP MAATSCHAPPII HAVE (OR HAS) A NEW MILL AT SEMERANG, JAVA — *This is it*

HORIZONTAL LOG BAND

LOADING BOAT

VIEW FROM BACK OF MILL

CARRIAGE TRACK, LOG DECK AND MILL



FILING ROOM

The mill was constructed by Mr. Sam Roush who has an A-1 reputation as a filer and mill-builder on the Pacific Coast. The mill is of steel construction, is electrically driven and equipped with DISSTON SAWS.

DOUGLAS FIR

(*Continued from page 151*)

slit radially. The wood's average weight is given by Sargent at 32.14 pounds per cubic foot, yet some specimens exceed forty pounds. It is hard, strong, and stiff. In mechanical properties it rates about the same as longleaf pine of the South. Elaborate tests have been made to determine which of these woods is the better for heavy construction, and neither appears to win over the other. In one respect, however, Douglas fir has a clear advantage over its southern rival; it may be had in much larger pieces. No other commercial wood of the world equals it in that particular. The Douglas fir flagstaff at the Kew gardens in England was 159 feet long, eight inches in diameter at the top, more than three feet at the base. The extraordinary size of squared beams cut from this species has led to great demand for it for heavy construction in Europe and this country. The pines from the Baltic sea region of northern Europe, which held undisputed place in heavy work during centuries, has now yielded that place to Douglas fir and longleaf pine.

No other single species in the United States or in the world equals the annual sawmill cut of Douglas fir. The four species of southern yellow pines, if counted as one, surpass it; but singly, not one comes up to it. In 1910 the lumber cut from this fir amounted to 5,203,644,000 feet, which exceeded one-eighth of the total lumber cut in the United States. The importance of such a timber tree can scarcely be estimated. The available supply in the western forests is very large and will last many years, even if the demand for more than 5,000,000,000 feet a year continues to be met.

The timber is exported to practically every civilized nation in the world. Shipbuilding creates a heavy demand. Some of the leading European nations use it as deck lining for battleships, and except mahogany and teak, it is said to have no equal for that purpose. Its cheapness gives it a decided advantage over those woods.

Every important lumber market in the United States handles Douglas fir, and its uses are so many that it would be easier to list industries which do not use it than those which do. It is manufactured into more than fifty classes of commodities, in Illinois alone. Among these are boats, railroad cars, electrical apparatus, farm machinery, laundry supplies, ladders, refrigerators, musical instruments, fixtures for offices, stores, and banks, and sash, doors, and blinds. This list of uses shows that its place in the country's industries includes much more than rough construction. It may be stained in imitation of valuable foreign and domestic woods, including walnut, mahogany, and oak. The natural grain and figure of the wood may be deepened and improved by stains, and this is much done by manufacturers of interior finish, panels, and store and office fixtures. There is practically no limit to the size of panels which may be cut in single pieces. It is easy to procure planks large enough for whole counter tops.

The best grain of Douglas fir is not brought out by quarter-sawing. The figures desired are not those produced by the medullary rays, but by the rings of annual growth. Therefore, the sawyer at the mill cuts his best logs—if intended for figure lumber—tangentially, as far as possible. In the state of Washington, which leads all other states in the production of Douglas fir, its chief use as a manufactured product is for doors, sash, and blinds, and the annual consumption in that industry exceeds 50,000,000 feet. It is cut in veneers, and it is likewise used as corewood to back veneers. Crossarms for telegraph and telephone poles demand 35,000,000 feet yearly in Washington alone, and many thousands of poles are of this wood. It is third among the crosstie woods of the United States, the combined cut of oaks standing first, and the pine second. It is rapidly taking high position as material for large water pipes and for braces, props, stulls, and lagging in mines and for paving blocks for streets.

AMHERST MAN'S IMPRESSIONS OF THE RHODES-CURRY OPERATIONS

(From the Amherst Guardian)

THE following interesting reference to farming and lumbering operations near Plaster Rock, New Brunswick, were written for The Guardian by John C. Reeves, who recently returned to Amherst after a trip to Plaster Rock in the interests of the Rhodes-Curry Company:

I spent a week lately at Plaster Rock on the Tobique, Victoria county, N. B. The village has about 700 of a population, having four churches, post office and schools and several stores. The whole village is practically dependent upon the large saw mill of the Fraser Lumber Company which is located there. A branch of the C. P. R. runs in from Perth twenty-eight miles away, with a daily train. The National Transcontinental also touches Plaster Rock.

Eleven Mills Busy

The Frasers have eleven mills in all, cutting about 120,000,000 feet this season. The mill at Plaster Rock this year will cut 19,000,000 feet, the average daily cut being 150,000 feet, besides shingles and laths. The whole cut at Plaster Rock goes on the C. P. R. to the United States.

In connection with the mill, they have a 300 acre farm all in a high state of cultivation. The man in charge told me that they had put 325 large loads of hay in the barns. They were cutting grain with a reaper and binder, the crop being very heavy. On this farm he keeps thirty-six milch cows. He supplies the village with milk, night and morning. He has a special barn for his cows and also has a piggery in which there were ninety-three pigs varying in size from very small to very large. They have thirty-six horses, mostly Clydes, weighing from 1400 to 1700 pounds each. These are mostly used in the mill yard.

The "Potato Patch"

They have another farm at North View, about four miles out. Mr. Fraser took me out to see what he called his "Potato Patch." The farm is large and slopes gradually towards the river. We found the men spraying Bordeaux mixture for the last time to prevent blight. In one square field were forty acres of potatoes as green as in June. He pulled up one hill having five shipping potatoes in it, at which rate they would average about 200 bushels per acre, all of the Green Mountain variety. They have a special potato cellar which holds 4,000 bushels.

The potatoes are planted with a seeder, the rows thirty-two inches apart and about fourteen inches in the row. They are cultivated every few days and generally sprayed for bugs and blight five or six times, all by machinery. Commercial fertilizer was used wholly. Owing to the war, the fertilizer was not so good this year, as it lacked potash; consequently the crop will not be as large as last years, the crop being good last year and the price high. Mr. Fraser told me he realized in the vicinity of $10,000 from the same acreage.

The land in that section and along the Tobique river, I think, produces the largest crops of grass and grain I ever saw in this country and when the Transcontinental Railway gets fully under way it will be a great farming country. The road is already averaging about ten trains daily.

MRS. DUGAN'S DISCOVERY

HOW TO MAKE SIX DOZEN LAMP CHIMNEYS OUT OF TWELVE OLD BOTTLES

WAN day whin oi was afther rummagin' in me cellar, oi found wan dozen champagne bottles goin' t' waste, an' 'twas a pity t' see thim go t' waste. Oi tuck a look at thim an' oi seen they were all in good condition, except they were full av champagne water. Puttin' th' twilve bottles t' wan soid, oi wint inta th' back yar-r-d where the grapevine do be, an' from th' grapevine oi tuck wan of thim long, curly tendrils. A frind av mine so happened t' be th' prisident av th' United States Steel Company, an' oi sint him th' long, curly tendril from th' grapevine, an' oi said, "Wud he mek me a duplicate av it in timpered steel?" Shure, he was glad t' accomydate me, because wance me old man was afther buyin' a share av steel stock from him whin no wan seemed to want anny.

'Twas not six weeks whin oi resayved back from th' prisident av th' steel trust th' timpered steel imitation av th' curly tendril av th' grapevine.

Onta th' upper ind av this, an' crossways, 'twas no thrick at all t' fix a clothespin. Oi thin pressed th' sharp point av th' lower ind av th' steel tendril inta th' cork av wan of th' champagne bottles, an' twisted th' tendril around. Thin by pullin' sharp upward on th' clothespin, an' at th' same time houldin' th' bottle toight betwane me knees, which oi had covered wid rosin to prevent th' bottle slipping, oi drew out th' cork. Oi laid th' cork t' wan soid an' imptied th' contints av th' bottle down th' drain, excipt wan small tumblerful, which oi drank.

Oi thin removed th' cork from another bottle, an' imptied th' contints down th' drain, excipt a small tumblerful, which oi drank.

Oi thin removed th' cork from another bottle, an' imptied th' contints down th' drain, excipt a small tumblerful, which oi drank.

Oi thin removed another bottle from th' cork, an' imptied th' drain down th' contints, except a small tumblerful, which oi drank.

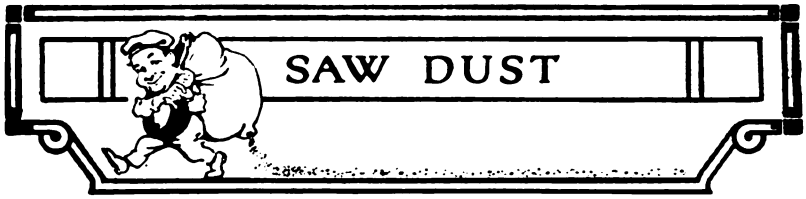
Oi thin removed—another drain from th' contints—and—and imptied th' small cork down th' tumblerful, except a small bottle—which oi drank.

Oi thin bottled another small remove—from th' tumbler—excipt a small corkful—which oi drained—an' contentsed th' drank down th' bottle.

Oi thin tankled a bump from 'nother dottle an'—oi mean oi dunked a tump from 'nother copple—you see, me frind, oi drankled a kump—oi mean oi cackled a—oi mean oi cockled—oi—well, annyhow, oi did it t' all thim twilve bottles.

Thim bottles was now all impty, an' oi steadied th' house wid wan hand an' counted th' bottles wid th' other. There were twinty-sivin left out av th' dozen! Thin oi got me scrubbin' brush an' a pail av wather t' clane th' bottles, but t' me surprise oi found oi cud not git th' brush inta th' neck av th' bottles. Oi therefore turned th' twinty-sivin bottles wrong soid out, an' scrubbed thim well, an' turned thim roight soid out agin.

Be this toime th' house was revolvin' rapid, an oi sot on th' floor and counted th' bottles as they wint by. There was sixty-four av thim. Oi climb to th' kitchin table an' produced out av th' drawer th' can-opener on th' hind legs av which was a glass cutter. Oi crept back carefully t' th' bottles and seated mesilf in th' center av thim, an' thim goin' round me continual. By pretendin' indifference t' thim, an' springin' at thim whin they was off their gyuard, oi was able t' catch thim wan at a toime. Whin I had thus caught a bottle oi held it firmly down—by lyin' on it—an' wid th' glass cutter oi cut off th' bottom an' th' neck av it. These I put t' wan soid, an' what remained av th' bottle made an excellent lamp chimney. Whin oi counted thim, oi found oi had sivinty-two.—*Ellis Parker Butler.*



STERN

The purser of one of the boats plying between New York and Norfolk tells of one trip when there were on board a young couple accompanied by their little son, aged six. As is very frequently the case, father and mother were very seasick, while little Henry was the chirpiest thing on the ship. In the morning while the parents were lying in their steamer chairs, hoping that they would die, little Henry was playing about.

Now Henry had done something of which his mother did not approve, so she said to her husband:

"Clarence, please speak to Henry."

The husband managed to raise his head a few inches and look at his son and heir. Then, very feebly, he muttered:

"How do you do, Henry?"

EASY

Some one advanced the opinion that the letter "e" is the most unfortunate character in the English alphabet, because it is always out of cash, forever in debt, never out of danger and in hell all the time. For some reason he overlooked the fortunates of the letter so we will call his attention to the fact that "e" is never in war and always in peace. It is the beginning of existence, the commencement of ease and the end of trouble. Without it there would be no meat, no life, and no Heaven. It is the center of honesty, makes love perfect, and without it there could be no editors, devils or news.—*Wayland (Mich.) Globe.*

OVERHEARD IN A DRUG STORE

"I'd like to get a comb."

"Something in a nice comb for a lady with a celluloid back?"

"No, I want a comb for a man with rubber teeth."

AT NORFOLK

A Northerner, wishing to be ferried across the bay, called out to a dusky individual who sat idly in a row-boat at the wharf, "Say, Rastus, do you row?"

"No, boss, Ah don't row."

"Well, what are you doing with that row-boat?"

"Oh, you-all mean does Ah row de boat? Sure Ah does! Ah thought you-all meant does I ro' lak a lion!"—*Exchange.*

"A man waited 1,000 years before the gate of Paradise; then, while he snatched one little nap, it opened and shut."

He was a small boy—two or three years old—very fond of crawling into bed with his parents before the family got up in the morning.

Once, his father—a traveling man—came home during the night, after an unusually long absence, during which he had grown a full beard. He crawled in as usual—looked at the bearded man, and said gravely, "Beg pardon. I thought you were my father."—*Judge.*

After Dave Darrington lost his voice he used to rap on the trough of his pig-pen at feeding time. Then a woodpecker went to live in the pig-pen, and the hogs went crazy—*Exchange.*

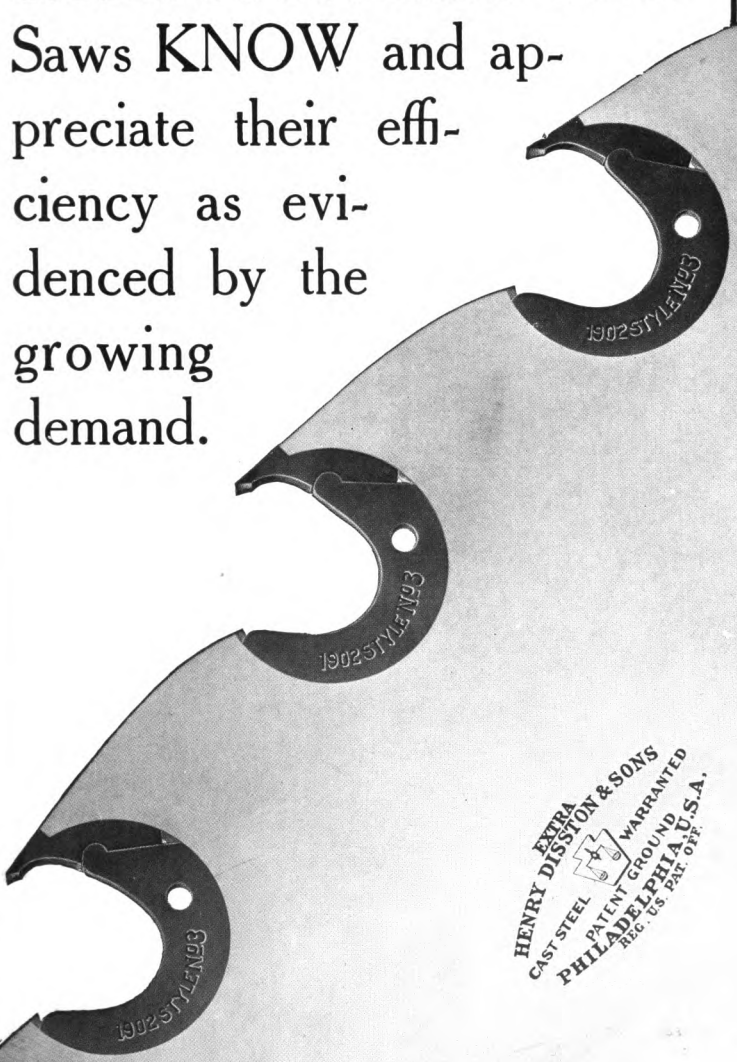
While walking in the Adirondacks a young millionaire was given a lift by a driver on a lumber cart.

"Got a cigarette?" asked the driver.

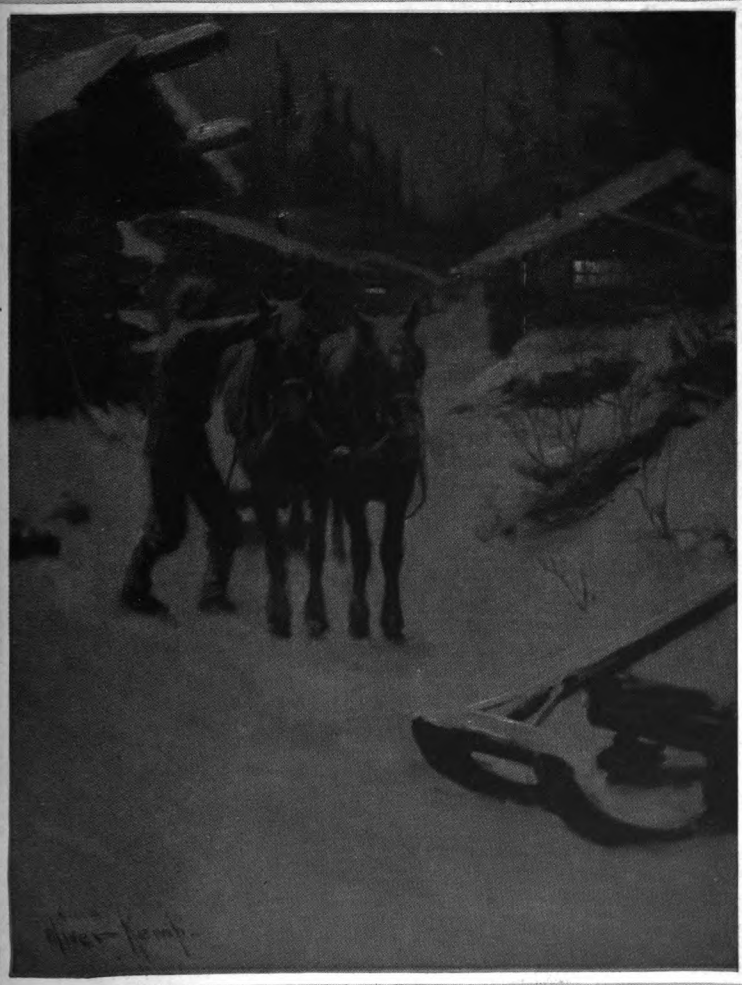
"Sure," replied the young man, drawing from his pocket a gold cigarette case richly jeweled and engraved

The fellow's eyes opened wide with astonishment. "Gosh-a-mighty!" he exclaimed. "What kind of cigarettes do they give that box with?"

The many millmen who use DISSTON Chisel-Tooth Saws KNOW and appreciate their efficiency as evidenced by the growing demand.



THE DISSTON CRUCIBLE



DECEMBER 1916

The Giant of the Forest

The biggest thing in the woods—the most conspicuous landmark to the lumberman's eye—is the DISSTON CROSS-CUT SAW.

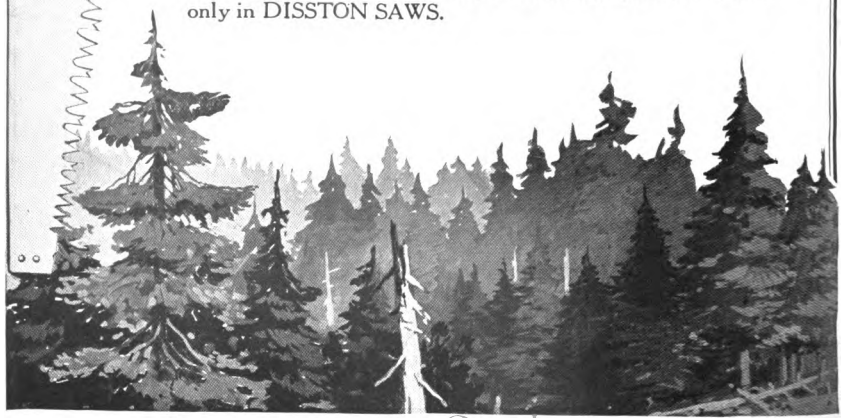
If he changes jobs, it is the first thing he sees when he strikes the new camp.

The lumberman who wants to turn out the best work with the least expenditure of labor prefers a DISSTON. His judgment is confirmed as he goes from camp to camp and always sees that the preference is given to

DISSTON Cross-Cut Saws

They are ground a true taper all the way from cutting edge to an *extra thin back*. Being ground on lines that conform exactly to the breast of the saw, the blade is absolutely uniform in thickness throughout the entire length of the cutting edge. This special method of grinding gives the maximum amount of clearance with the minimum amount of set, without sacrificing elasticity and stiffness.

THE DISSTON CRUCIBLE STEEL that is used in their making combines the hardness and toughness which produce the unexcelled edge and set-holding qualities found only in DISSTON SAWS.



THE DISSTON CRUCIBLE

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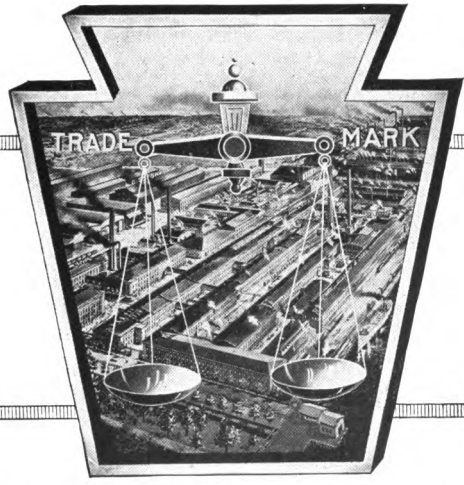


This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS

INCORPORATED

Keystone Saw, Tool, Steel, and File Works

PHILADELPHIA

BRANCH HOUSES:

Chicago, Ills. Boston, Mass. Cincinnati, Ohio. Seattle, Wash. Portland, Oregon.
New Orleans, La. Memphis, Tenn. San Francisco, Cal. Sydney, Aus. Vancouver, B. C.
Canadian Works, Toronto, Canada.

BIGTREE

(SEQUOIA WASHINGTONIANA)

From "American Forest Trees"

See page 165

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN
VOL. V. DECEMBER 15, 1916 NO. 11

EDITORIAL CHAT

INSPIRATION

SOMEONE, a writer, has said that inspiration was largely a matter of sticking to your desk and thinking good and hard. And the same thought applies to about all forms of human activity. "Genius is the capacity for sticking everlastingly at it." The brilliant conception, the great idea, the inspiration, may strike, like a bolt from the blue, out of a maze of totally foreign thoughts but it is much more probable as the result of consistent, persistent, logical concentration.

Inspiration is behind every great business enterprise, but not the hit-or-miss variety. How far would any of our great manufacturing institutions have got on the impetus of the sporadic type of inspiration? They are the result of constant, unremitting, concentrated effort and study. The inspiration was there but it lay in watching a business develop and expand under undivided attention; in the minute analysis of conditions; in the perfecting of methods and equipment to meet them. No business not founded on this arduous type of inspiration has ever become great because no business could be great without the thorough knowledge of all the factors influencing its development that only this kind of inspiration begets.

Quality Tells

AND HORSE-SHOES ARE SUPPOSED TO BE LUCKY!

In the mill of C. C. Mengel & Bro., Louisville, Ky., this horse-shoe, deeply embedded in a walnut log, was struck and one side sawed entirely off. Mr. C. W. Lines is Filer for the company and his splendid ability and long experience make him thoroughly competent to judge. He says the only lucky thing about the incident was the fact that the saw was a DISSTON—and that wasn't luck with him, it's a matter of principle. The saw was practically unaffected.

BIGTREE

(SEQUOIA WASHINGTONIANA)

From "American Forest Trees"

BOTANISTS have had a hard time giving this tree a Latin name which will meet the requirements of technical classification, but an English name acceptable everywhere was early found for it—bigtree. No fewer than a dozen names have been proposed by botanists. Most of them attempt to express the idea of vastness or grandeur; but the simple English name comes directly to the point and ends the controversy as far as the common name is concerned.

Everything connected with this tree is interesting. Geologically, it is as old as the yellow poplar. There were five species of sequoias in the northern hemisphere, in Europe and America, before the ice age. They grew in the North, nearly to the Arctic circle, at a time when the climate of those regions was milder than it is now. The later advance of the ice southward overwhelmed three species of bigtrees, and pushed two survivors into the region which is now California. These are the bigtree and the redwood. It is not known how long ago it was that the ice sheet did its destructive work, but it antedated human history, and the gigantic trees have been in California since that time.

Long after the ice age ceased generally in North America it continued among the high Sierras of California, and the big trees to this day give a hint of it in the peculiar outlines of their range. They are scattered north and south along the face of the Sierra Nevada mountains in California, a distance of 260 miles, and at elevations from 4,500 to 8,000 feet.

The aggregate of the total areas is about fifty square miles. The stand is not continuous, but consists of "groves," that is, isolated stands with wide intervals between, where no trees of this species are found. The arrangement suggests that the bigtree forest was cut in sections by glaciers which descended from the high mountains to the plains, a distance of one hundred miles or more, crossing the belt of sequoias at right angles. The glaciers withdrew thousands of years ago, and their tracks down the mountain slopes have long been covered by forests; but the bigtree groves, for some unknown reason, never spread into the intervening spaces, but today are separated by wide tracts in which not a seedling or an old trunk or log of that species is to be found. This is one of the mysteries which add interest to those wonderful trees—why they cannot extend their range beyond the circumscribed limits which they occupied thousands of years ago.

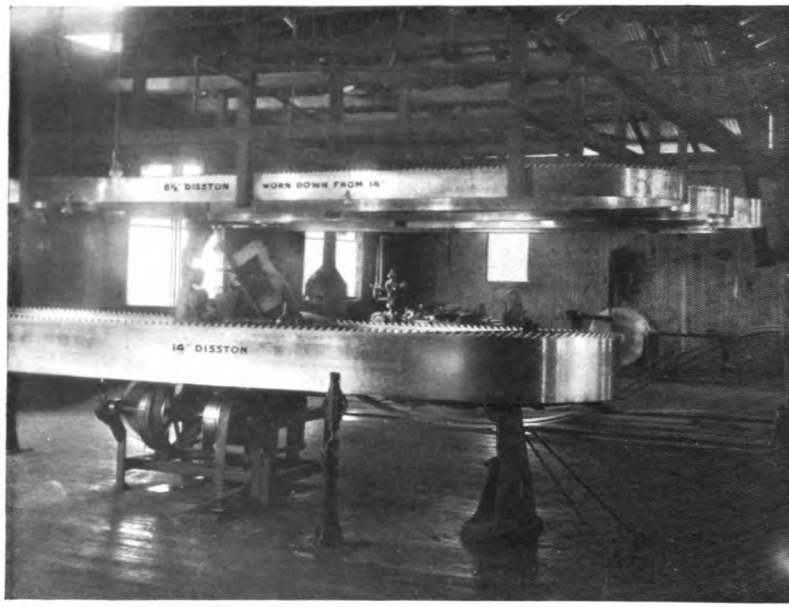
It is claimed for a long time and was quite generally believed that bigtrees were not reproducing, that there "were no little bigtrees." That was conclusively disproved by Fred G. Plummer, geographer of the United States Forest Service, who made a scientific study of a small grove, measured the trees, and actually counted and classified them. His work showed that there were in the area which he investigated:

Trees containing 100,000 to 120,000 feet each	2
Trees containing 80,000 to 100,000 feet each	13
Trees containing 60,000 to 80,000 feet each	49
Trees containing 40,000 to 60,000 feet each	112
Trees containing 20,000 to 40,000 feet each	251
Trees containing less than 20,000 feet each	353
"Little bigtrees"	2,682
Total	3,462

Bigtree is distantly related to southern cypress, and the shapes of very old trees of both species bear some resemblance. Bigtree leaves do not fall annually as those of bald cypress do. They are from one-eighth to one-fourth of an inch long, and on the leading shoots they may be half an inch in length. Cones are from two to three and a half inches long, and they ripen their seeds the second year, but the empty cones may adhere to

(*Continued on page 170*)

FROST-JOHNSON COMPANY'S FILING ROOM



NACOGDOCHES, TEXAS, is the euphonious cognomen of the Frost-Johnson Lumber Company's home town. Imagine trying to buy a ticket to a place like that after an evening out with the boys. But from all accounts it's a pretty good town; certainly they have a Class A lumber mill there—Frost-Johnson's.

It is managed by Worth Whitted and Harry Howland is head filer. Howland had a wide reputation in the West and held some of the biggest jobs on the Coast, but this is his first connection in the South.

Both he and Mr. Whitted swear by DISSTON SAWS and will have nothing else in the mill. Those in the rack measure respectively 8½, 9 and 9 inches and there are two more 8½ inch ones that don't show in this view, all of which were orignially 14 inch saws. And all of them have only the original factory braze. Natural that they are partial to DISSTON, isn't it?

P. S. HUCKINS COMPANY

P. S. Huckins Company was founded in 1854 by Pembroke Somerset Huckins and his father, John Huckins, of Bangor, Maine. The original partnership agreement with its quaint allusion to the office building as a "counting house" now hangs in the president's office.

The concern was created to deal in ship timbers and plank, and during the years prior to the birth of the steel ship, everything from a 20 x 20 oak keel to a locust treenail could be found at the yard. After the Civil War shipbuilding waned and a new demand arose for factory timbers.

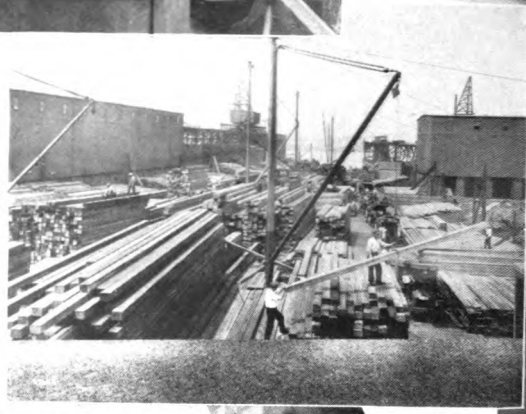
New blood in the person of Frank Huckins, son of Pembroke Somerset, has taken the helm. Yellow Pine superseded Oak and the company soon adapted itself to the new field with a stock of timber and plank, and such improvements as derricks were installed, hand operated to be sure, but sufficiently novel in those days to horrify the older partner and bring forth from him the prediction of ruin due to "newfangled" notions—the old cry that is raised as each new and alert generation rises in its progress to blot out the antiquated ideas of the old.

Thus two decades passed by with constant growth of the business, a gradual increase in the organization, the addition of steam derricks, but with little real progress in methods.

In 1908 the fourth generation, Frank Pembroke Huckins, started in at the foot of the ladder, but soon raised a howl to the effect that to team half the lumber sold to a mill half a mile away for dressing or re-sawing before shipping was glaring inefficiency. Such is human inertia. Until a new observer had "started something" none had ever thought seriously of a mill as an integral part of the plant. Now the idea took fire and within a year the hum of a compact little plant, modern in the extreme, soothed the ear of the hitherto harassed shipper.

The equipment consists of a band re-saw of the largest size built, equipped with DISSTON 8 inch saws, an 18 x 24 inch timber sizer, a spline machine, a railway cut-off saw and on the second floor a completely equipped saw filing and knife grinding plant.

(Continued on page 170)



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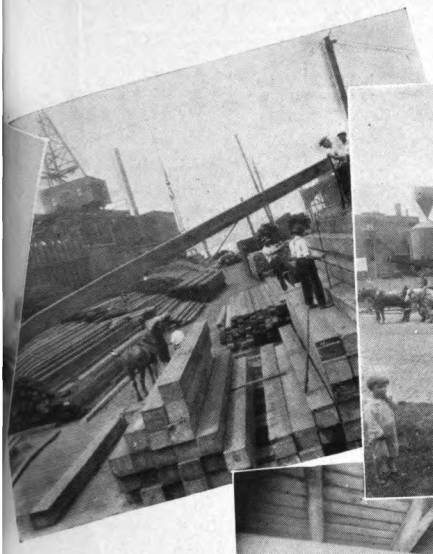
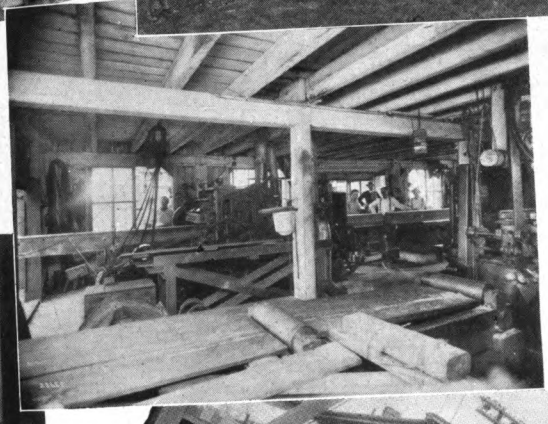
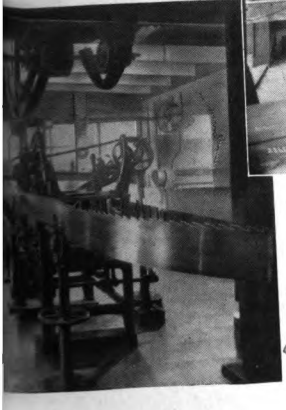
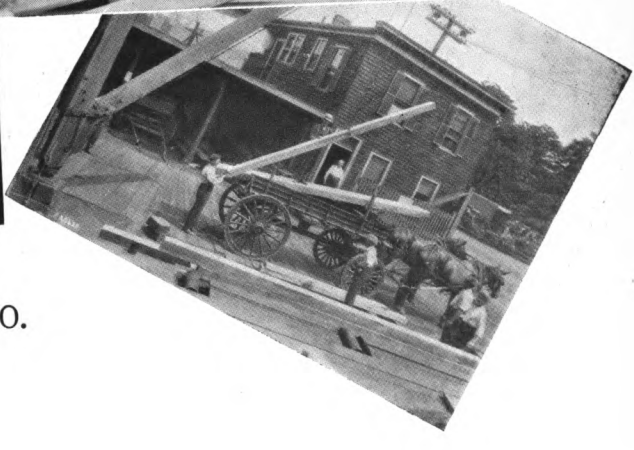








P. S. HUCKINS CO.

TON, MASS.

age 167)

P. S. HUCKINS COMPANY

(Concluded)

Machines are individually driven by induction motors and the lumber is expeditiously handled by double electric derricks.

From a plant with no mill it jumped to a mill with a capacity considerably in excess of the heaviest requirements. Not content to rest in the efforts toward efficiency and high service, electric derricks are supplanting steam, trucks are superseding the faithful horses and plans are under way for a conveyor and travelling crane system that bids fair to revolutionize the yard timber business.

Now most important of all is the personal organization, and toward the perfection and happiness of that element the present head of the company is mainly interested. A profit-sharing system now covers all executives and clerks and extension of this system to all employees is now under careful consideration.

An executive committee exists which not only includes the officers of the company, but an elected representative from among each of the several groups of employees, teamsters, surveyors, handlers, mill men, etc. Thus capital and labor, employer and employee, meet together in a community of interest for common success, and P. S. Huckins Company claims the distinction of having "the happiest and most efficient organization in the lumber industry."

BIGTREE

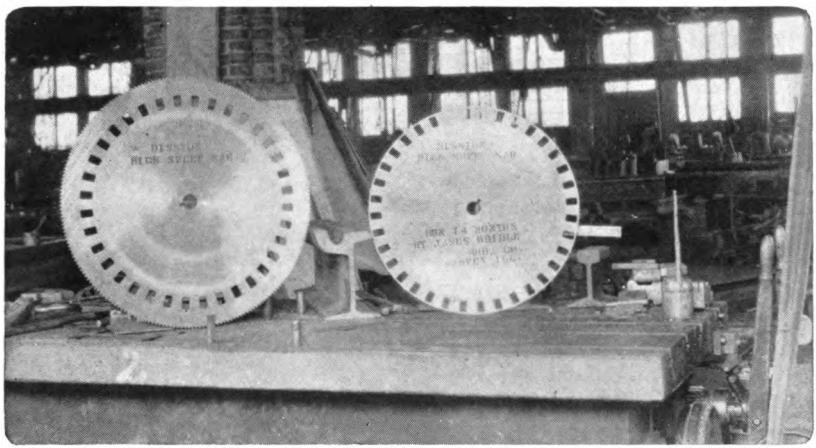
(Continued from page 165)

the branches several years. The seeds are a quarter of an inch long, and have wings sufficient to carry them a hundred yards or more. The trees bear abundance of seeds, in proportion to the small number of branches. Though shapely and well clothed with limbs when young, the crown contracts with age, and consists of a few enormous, crooked limbs, almost destitute of twigs and small branches. One of these trees may actually bear more twigs when the trunk is only a foot in diameter than will be on the same trunk when it is fifteen or twenty feet in diameter. The old tree trunks are often without limbs to a height of 100 or 150 feet.

The Douglas squirrel is the bigtree's greatest enemy. In proportion to size, this little creature probably eats ten times as many tree seeds as the most ravenous hog that roams the forest. One of the first things that impresses a visitor in a grove of bigtrees is the rich brown of the bark of some of the trunks. All are not brown alike, or at all seasons. The trees on which the seed harvest is ready are the brownest, thanks to the sharp claws, the tireless energy, and keen appetite of the Douglas squirrel. He goes up and down the trunks for three square meals a day among the clusters of cone-bearing branches two hundred or three hundred feet above, and makes several extra trips for exercise; and at each scratch of his briery foot he kicks off scales of bark, until the whole trunk is "scratched raw." The detached scales of bark accumulate in a mound about the base of the tree, where they have been so accumulating for centuries. It is fortunate that those old trees have bark from one to two feet thick. They can afford to be scratched for a month or two each year.

(Concluded on page 174)

DISSTON QUALITY IN THE METAL CUTTING FIELD



IT will doubtless be interesting to many sawyers and filers to observe that the same standard of quality which gives them such excellent results in the mill, is maintained in DISSTON METAL CUTTING SAWS, where the service is if anything, more severe.

The smaller saw in the illustration is a twenty-six inch H gley Pattern DISSTON HIGH SPEED STEEL SAW which was worn down to within an eighth of an inch of the sprocket holes in fourteen months of constant service in the plant of Buda Co., Harvey, Ill. There are three other saws of the same type in this plant which have been worn to within a quarter inch of the holes.

The saws are under the care of Mr. James Briddle, and the foregoing facts point significantly to two things. One is that DISSTON QUALITY is supreme in any branch of production. The other is that if Mr. Briddle ever takes it into his head to enter the wood saw field, some of you expert filers will have to watch out for your laurels.

MEDALS AWARDED DIS

GRAND PRIZE (GOLD MEDAL)
HAND SAWS AND CARPENTERS' TOOLS

GRAND PRIZE (GOLD MEDAL)
BAND SAWS, CIRCULAR SAWS AND MACHINE KNIVES, ALL PATTERNS

GOLD MEDAL (HIGHEST AWARD)
BRICKLAYERS' AND PLASTERING TROWELS

GOLD MEDAL (HIGHEST AWARD)
CLOTH AND LEATHER SPLITTING KNIVES

MEDAL OF HONOR (HIGHEST AWARD)
PRUNING SAWS

SILVER MEDAL (HIGHEST AWARD)
MACHETES, CORN AND CANE KNIVES

STON AT THE P.-P. I. E.

GRAND PRIZE (GOLD MEDAL)
FILES AND HACK SAW BLADES

GRAND PRIZE (GOLD MEDAL)
SOLID AND INSERTED TOOTH SAWS FOR METAL

GOLD MEDAL (HIGHEST AWARD)
CROSS CUT SAWS, ALL PATTERNS

GOLD MEDAL (HIGHEST AWARD)
BUTCHER AND BEEF SPLITTING SAWS

SILVER MEDAL (HIGHEST AWARD)
STONE CUTTING SAW

SILVER MEDAL (HIGHEST AWARD)
CHIPPER AND BARKER KNIVES

BIGTREE

(Concluded)

These are the heaviest trees in America, notwithstanding their wood is light. It weighs less than northern white cedar. The largest bigtree trunks weight more than 2,000,000 pounds. In order to stand at all, they must stand plumb. It is a provision of nature that the old trees are almost branchless, otherwise the wind would force them out of plumb and they would go down. It has been claimed that the overthrow of one of these giants is always brought about by one of two causes. The development of larger limbs on one side than on another unbalances them; or the wash of gullies undermines the roots on one side, and draws the tree that way. It is currently believed that no bigtree ever dies from natural causes.

A good deal of pure fiction has been published regarding the size and age of the largest of these trees. They are old enough and large anough without drawing upon the imagination. The tree's base is greatly enlarged, but tapers rapidly the first few feet. There is little doubt that some of the trunks are over forty feet in diameter, one foot above ground, but that is not a fair measurement. The point should be five or six feet at least. Measured thus, about twenty-five feet inside the bark would represent the largest. With the bark added, the diameter would be nearly thirty feet. Probably not one tree in fifty, taking them as they occur in the whole range and counting veterans only, is fifteen feet in diameter five feet from the ground.

There is also some extravagant guessing as to height. Too many tourists measure with the unaided eye, or accept a guidebook's figures. An authentic height of 365 feet—the measurement of a fallen trunk—is probably the greatest. Very few reach three hundred feet. Many unreliable figures have been published concerning the age of bigtrees. One thing can be accepted without question; size is no proof of age, in comparing one tree with another; neither is the number of annual rings in a block cut from the side of a tree a reliable factor to determine age. The only sure way to determine the age of one of these trees is by counting all the rings from the pith to bark. Care should be taken not to count the same ring twice, as may be done when the wood is curly. John Muir counted 4,000 rings in a bigtree stump. It is believed that no higher age is backed by the evidence of yearly rings. It was twenty-four feet in diadiameter. The count of another of like size made it 2,200 years old; and of still another of the same size placed its age at 1,300 years. The Forest Service has made accurate measurement and record of every ring of growth in a tree that was over twenty-four feet in diameter, and it is shown that during certain periods of years the tree grew three or four times as rapidly as during other periods.

The wood of bigtree is very light, soft, moderately strong, brittle, summerwood thin and dark rendering the rings of annual growth easily seen; the medullary rays are thin, numerous, and very obscure. The wood is light to dark red, the thin sapwood nearly white; it works easily, splits readily, and polishes well. It is very durable in contact with the soil. Trunks lie in the woods long periods before decay seriously attacks them; but forest fires hollow them, and finally burn them up. Enormous depressions are found in the forest where logs once lay, but which disappeared long ago, judging by the size of trees which have since grown in the depressions. The interior of some large trunks which have been worked up on sawmills showed the scars of forest fires centuries ago. The annual rings which covered one such scar showed that the burning took place 1,700 years ago.

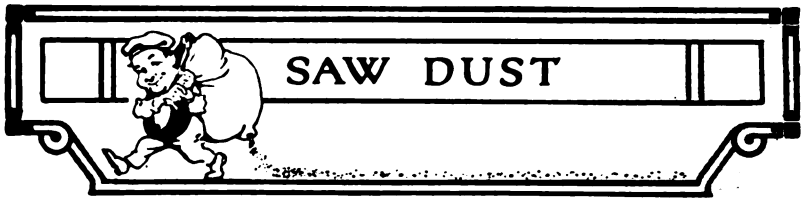
Not much can be said for the commercial uses of bigtree. Many a species of insignificant size is much more useful. Considerable quantities have been cut by sawmills. The waste is great, heavy trunks crushing badly in fall. Logs are so large that many of them are split with gunpowder to facilitate handling them. Some of the wood has been exported for lead pencils; other has been used for fence posts, shingles, and grapevine stakes, while the soft bark has been worked into novelties.

WHO'S WHO IN THE SAW WORLD

WILLIAM J. DUNN

WILLIAM J. DUNN, Yard Manager of the P. S. Huckins Co., Boston, comes honestly by the yellow pine business. His father was one of the charter veterans of the Huckins Company, having gone with the company in 1854. William J. himself was born in a house overlooking several million feet of timber.

Mr. Dunn started at the foot of the ladder in 1894, and in working his way up to the top, has performed probably the most difficult task of an ambitious man, that is, holding the good will of both subordinates and superiors during his rise.



AN EXPERT OPINION

A man who kept a road house in Rhode Island, says the *Public Health Journal*, was called upon to testify in a suit as to the number of cubic yards that were handled in some filling work near his place. He showed very little knowledge of the matter, and his idea of a cubic yard was so indefinite that it seemed doubtful whether he knew what the term meant. In order to make its meaning clear, the judge said:

"Listen, witness! Assume this inkstand to be three feet across the top this way and three feet that way and three feet in height, what should you call it?"

"Well, Your Honor," said the witness, without hesitation, "I should say it was *some* inkstand."

LOST, THE FOLLOWING DOG

A Canadian newspaper, says "The Rutland Club Topics," prints the following advertisement for a lost dog:

"Loosed, one dawg, been loose about three weeks. Him white dawg almost white with him tail cut off clos, next to her body. Any body find her bring him to me. I belong to him and shall give good rewards for same. Black spot on him nose about size fifty cents or dollar piece, Canada or United States money all the same. For yours truly with anxious Felix Carno, inside of methodiste Church about three blocks in the house upstairs with green painting."

Georgia Lawyer (to colored prisoner): "Well, Ras, as you want me to defend you, have you any money?"

Rastus: "No, but I'se got a mule, and a few chickens and a hog or two."

Lawyer: "Those will do very nicely. Now, let's see—what do they accuse you of stealing?"

Rastus: "Oh, a mule, and a few chickens, and a hog or two."

SCORED A POINT

A lawyer was arguing with a physician over the relative merits of their respective professions.

"I don't say that all lawyers are villians," said the doctor, "but you'll have to admit that your profession doesn't make angels of men."

"No," retorted the lawyer, "you doctors certainly have the best of us there."

EARLY PIETY

"Some adjectives," said the teacher, "are made from nouns, such as dangerous, meaning full of danger; and hazardous, full of hazard. Can any boy give me another example?"

"Yes, sir," replied the fat boy at the end of the form; "pious, full of pie."

A DRY STORY

An Irishman and a Scot went into a cafe to get a drink and the Irishman had no money.

BABY'S BOTTLE

In a certain western city one may obtain liquor only for medicine. A drummer relates that while he was in a drug store there a man rushed in and slammed a five-gallon demijohn down in front of the pill dispenser and, handing him a slip of paper, cried: "Fill her up, Jim; the baby's took bad!"—*Exchange.*

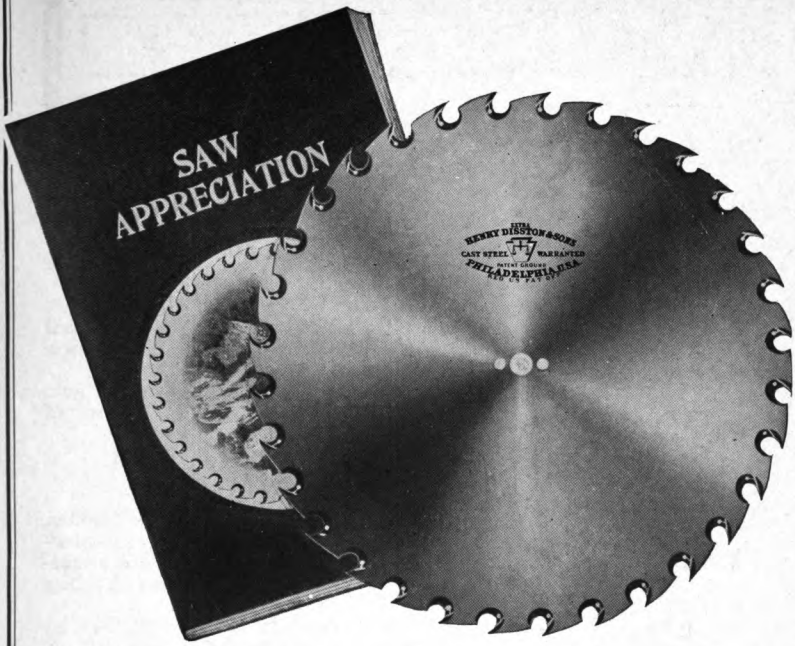
GUARANTEED

A man purchased some red flannel shirts guaranteed not to shrink. He reminded the salesman forcibly of the guarantee some weeks later.

"Have you had any difficulty with them?" the latter asked.

"No," replied the customer, "only the other morning when I was dressing my wife said to me. 'John, where did you get that pink coral necklace?'"

—*Tit-Bits.*



The Superiority *of* DISSTON Inserted Tooth Saws

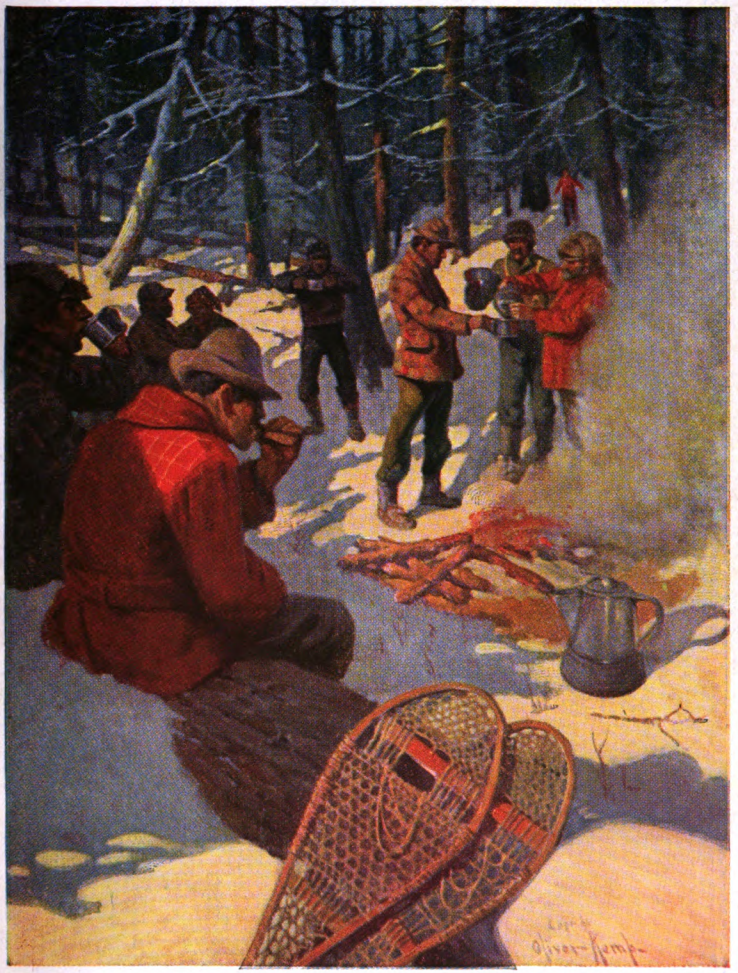
Has been proved conclusively by the splendid service they have been giving for many years.

This type of saw is growing steadily more popular among circular saw users because of its many advantages. Chief among these is its retention of the original diameter of the saw during its entire life. This means that it is not necessary to purchase a saw of a larger diameter than the timber requires.

Our new booklet, "Saw Appreciation," gives all the facts, as well as many letters from satisfied users.

Whether you use Chisel Tooth Saws now or not you should send for this book

THE DISSTON CRUCIBLE

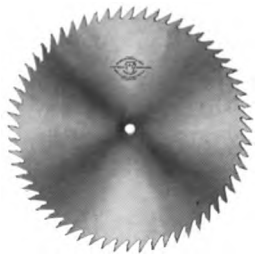


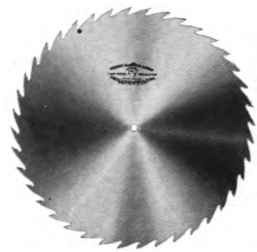
JANUARY 1917

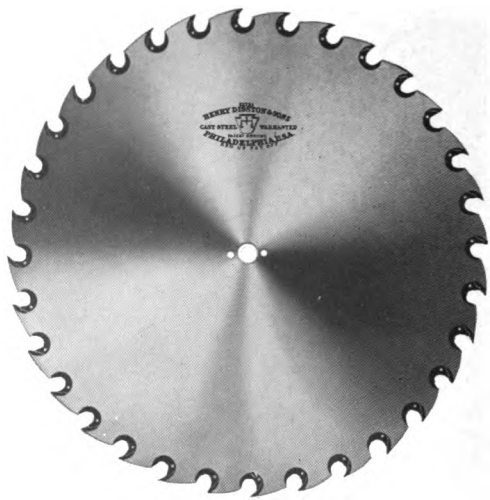
No Chatter—No Clatter

Only That Steady Hum and Ring Characterizing a Well-Built Saw

That's a DISSTON







THE DISSTON CRUCIBLE

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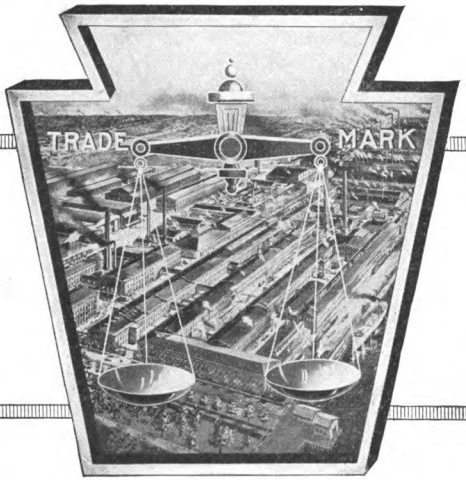

This Magazine is Published for the Advancement of the Interests of Millmen by

HENRY DISSTON & SONS

INCORPORATED

Keystone Saw, Tool, Steel, and File Works

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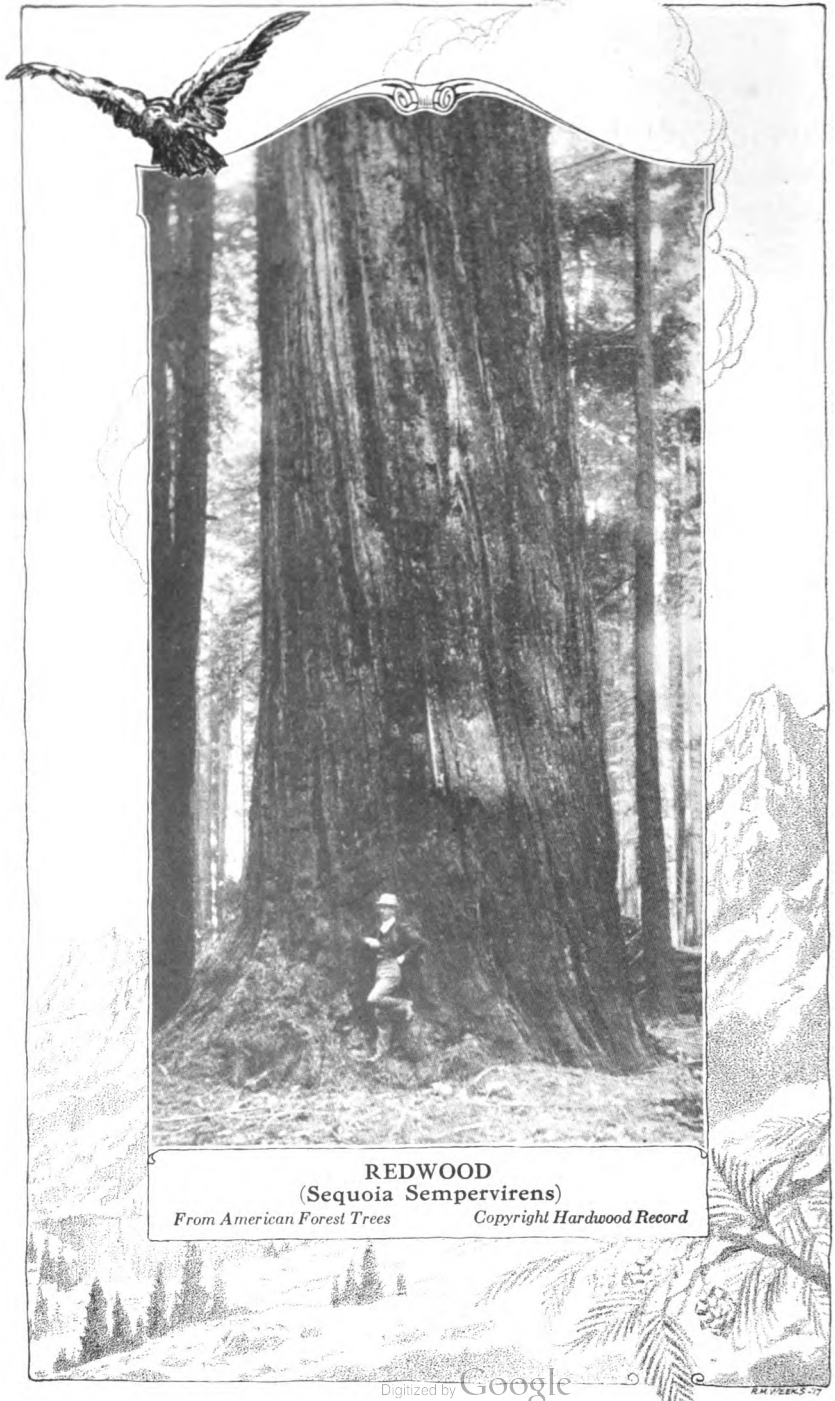


REDWOOD
(Sequoia Sempervirens)

From American Forest Trees *Copyright Hardwood Record*

THE DISSTON CRUCIBLE
A MAGAZINE FOR THE MILLMAN

Vol. V | JANUARY, 1917 | No. 12

EDITORIAL CHAT

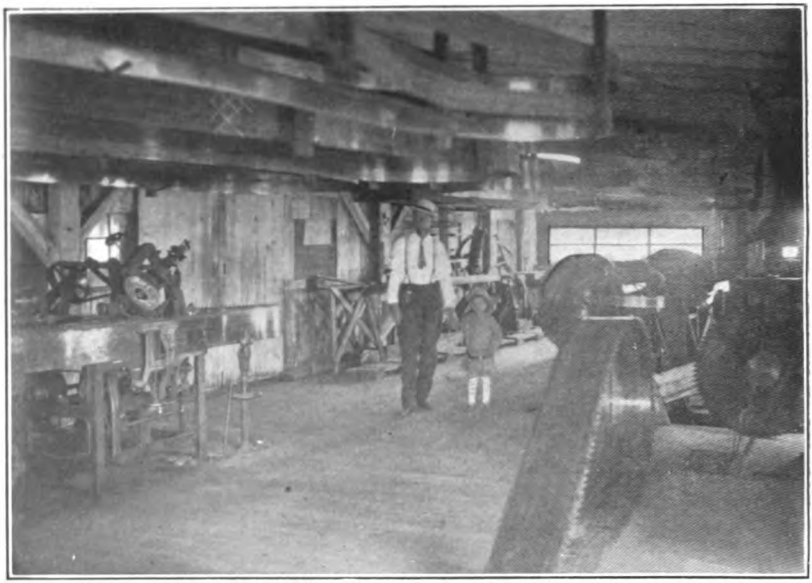
Ideals

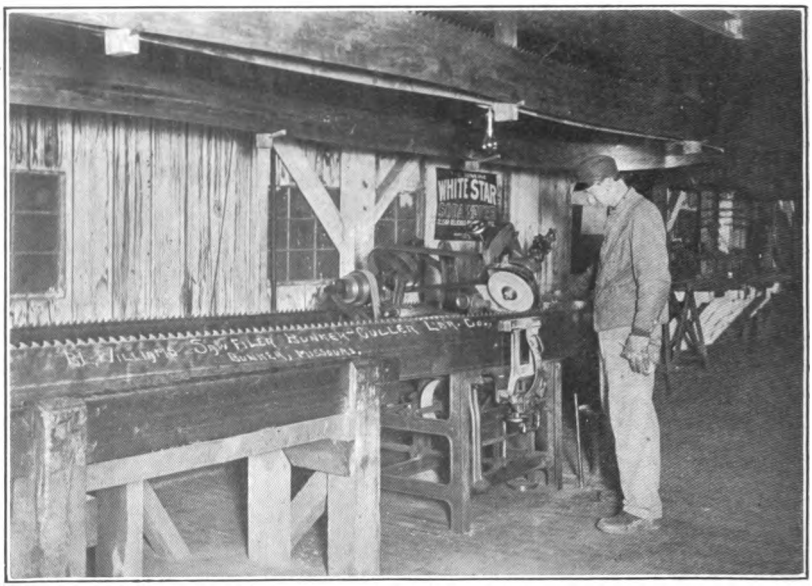
IDEALS are happy figments of individual and collective imaginations which never are realized. They are like perpetual motion in that always some little unforeseen, insurmountable obstacle forestalls their successful attainment. But the eternal striving for this attainment which never comes has been the very essence of all progress, spiritual and material, since the world's beginning.

A business is nothing less than the nearest approach to the ideal of its founders and principals that a vast array of contending influences have permitted. As a general proposition, the higher and more exacting the ideals, the more conspicuous the results, for high ideals usually are accompanied by the strength of character to see them realized, so far as possible, against any odds.

Almost without exception, the leaders in any field of endeavor, whether it be commerce, or art, or religion, or politics, are those who have set for themselves the highest standards and maintained them despite discouragement.

Quality Tells





THE BUNKER CULLER LUMBER CO.

Above are two views of the filing room of the Bunker-Culler Lumber Company, of Bunker, Missouri. The plant consists of a 12-inch band mill, circular saw and re-saw. It is located in the Ozark Mountains and the chief cut is short leaf yellow pine and oak. The company operates twenty miles of railroads and Disston Saws are used exclusively throughout. Mr. Williams, the filer, is shown in the illustrations.

Cast Steel Dog Cut Off by a DISSTON

Another instance of a Disston band saw cutting metal without material injury to the saw occurred in the plant of C. C. Mengel & Bro., of Louisville, Ky. The steel dog shown in the illustration was sawed completely off the carriage. It is safe to say that an inferior saw would have been destroyed. Not so in this case; Mr. C. W. Lines, filer for the company, had it ready for the wheels again in jig time. Mr. Lines is an expert and he feels that this is just one more evidence that he was right several years ago when he decided to stick to Disston Saws exclusively.

REDWOOD

(Sequoia Sempervirens)

From American Forest Trees *Copyright Hardwood Record*

THIS tree's color is responsible for its name. It is sometimes spoken of as coast redwood to distinguish it from bigtree which grows in the interior of California. In European markets it is known as California redwood to distinguish it from other redwoods growing in distant parts of the world. Its botanical name, *Sequoia sempervirens,* means evergreen sequoia. The other species of sequoia is also evergreen. In reality, the coast redwood is less of an evergreen than the bigtree is, because the leaves of redwood turn brown two years before they fall, but there are always plenty of green leaves on the branches. The leaves are from one-quarter to one-half inch in length.

The geographical range of redwood covers about 6,000 square miles, but the commercial range is scarcely one-fifth as much. The redwood belt extends 500 miles along the Pacific coast from southern Oregon to central California. It varies from ten to thirty miles in width. It is strictly a fog belt tree, and grows poorly outside the region of ocean fog, which seldom reaches an altitude more than 2,800 feet above sea level. Where fog is thick and frequent, and soil is moist and otherwise suitable, redwood forests have grown in such luxuriance that no species in this country exceeds it. Stands running much over 100,000 feet per acre are frequent, and it is said 1,000,000 feet have been cut from a single acre.

Redwood cones are one inch or less in length. They ripen in one season. Seeds are quite small, and are equipped with wings. The bark is thick, but is much thinner than the bark of bigtrees, though it is in great ridges like the bark of that species. The habits of the two species, as to form of crown, are similar. Young redwoods, particularly if they grow in the open, develop symmetrical and conical crowns which they retain until the trunks are a foot or more in diameter. Lower limbs die and fall off after that, and old trees have crowns so small that it would seem impossible that they could supply the wood-building material for trunks so large. That the growth should be slow under such circumstances is to be expected. The ages of mature trees vary from 500 to 800 years, but an extreme age of 1,373 years is on record. The average is, therefore, considerably below that of bigtrees.

Redwoods grow as tall as bigtrees, but do not equal them in diameter of trunk, though trees 20 feet in diameter occur.

A noticeable feature of the forests is that, in a given stand, nearly all trees are of the same height, irrespective of size of trunk. The crowns go up to the light and when they reach the

(Continued on page 190)

GERMAN SAFETY RULES FOR STORED LUMBER

SPECIAL permits from police and fire departments are required if the quantity of lumber stored exceeds 17,500 cubic feet and the area covered is over 1,000 square feet.

Lumber yards must have 8-foot solid walls or fences and, if near houses, the walls must be of brick and at least 12 feet high.

Lumber must not be within $3^3/_{10}$ feet of the wall.

A high masonry wall must protect buildings in or near the yard if lumber is within 20 feet of the buildings.

A 10-foot driveway must connect every lumber yard with the street which does not open directly on the street.

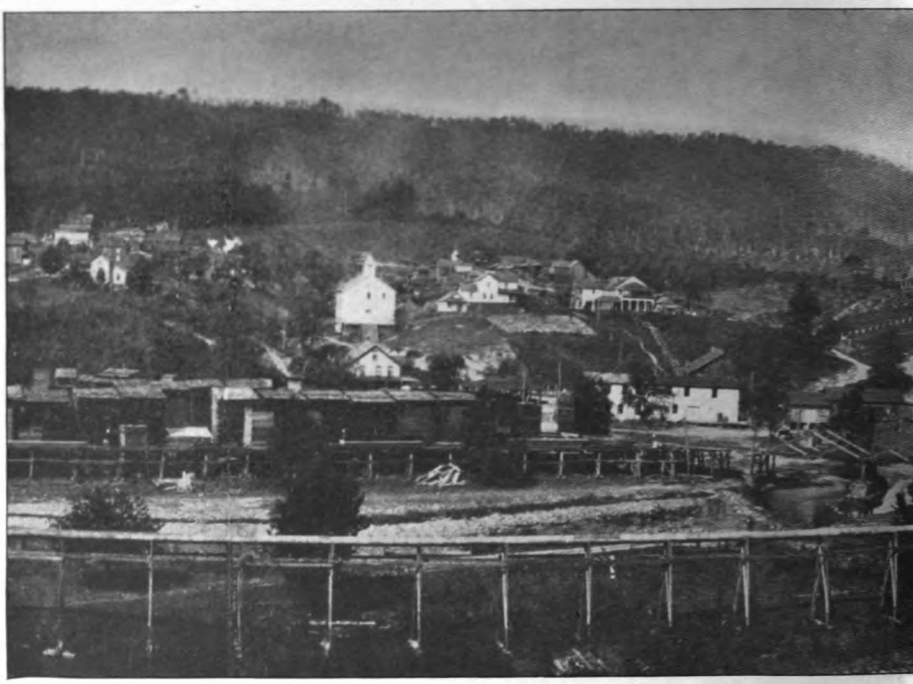
Lumber stored in the open without fireproof covering may be stacked to a height of 20 feet.

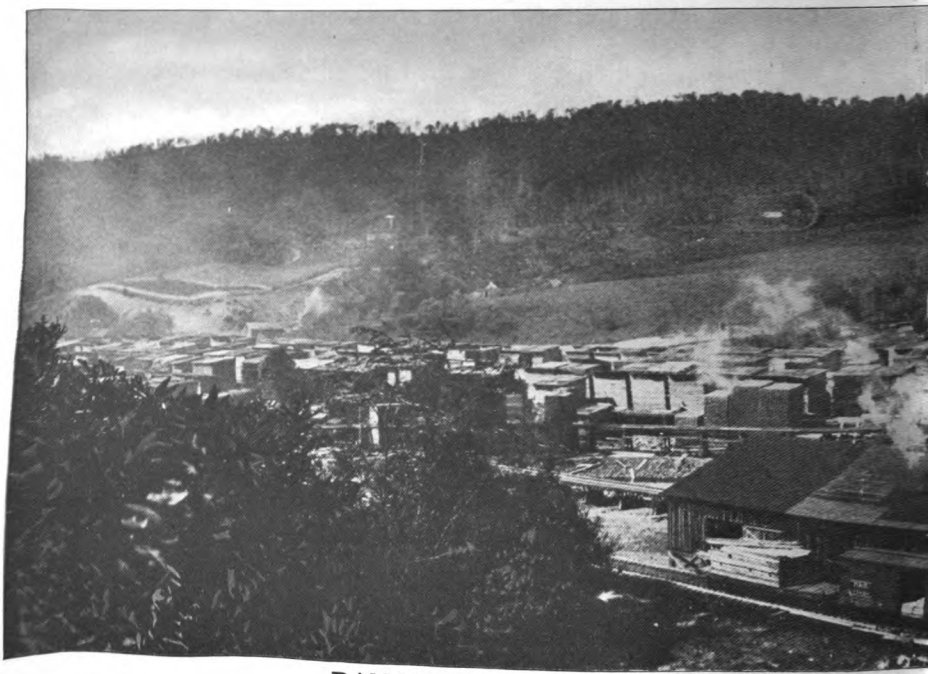
Ten-foot wide paths must divide the yard into sections of 5,000 square feet maximum area. These paths must be clear of obstructions outside of business hours to permit free access of fire apparatus.

Special water tanks and other safety equipment may be required where position is isolated.

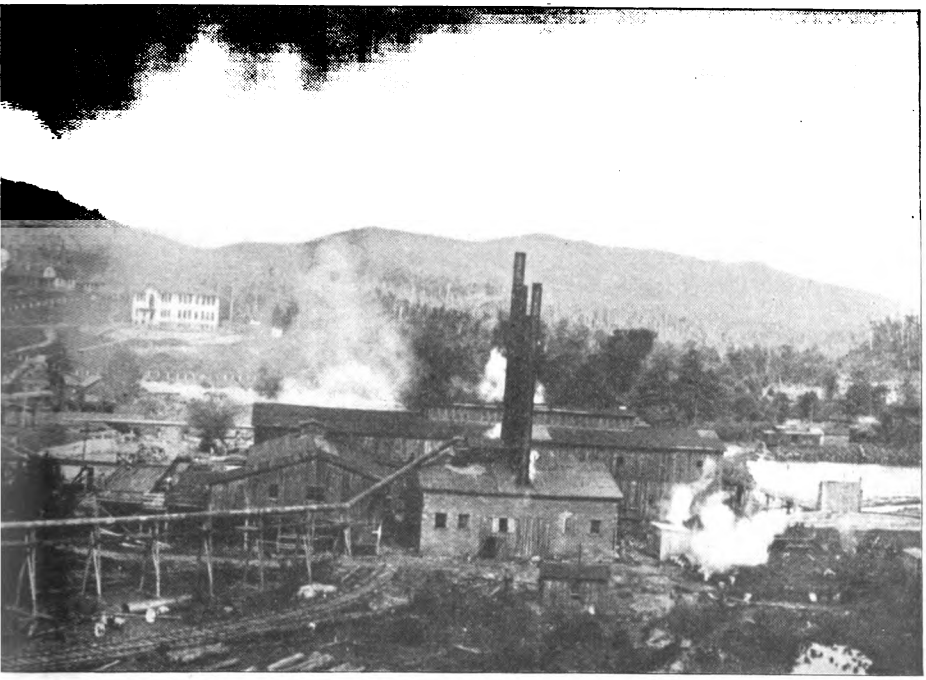
Storage of more than 3,500 cubic feet is permitted only in the cellar or under the roof of buildings not devoted exclusively to lumber storage. Storage rooms must not connect with stairways and must have exits leading directly to the open air. They must be surrounded by solid masonry fire walls. Only 1,750 cubic feet may be stored where storage rooms communicate with stairways, and then only if the room is fireproofed with brick fire curtain walls and separated from the stairways by iron doors.

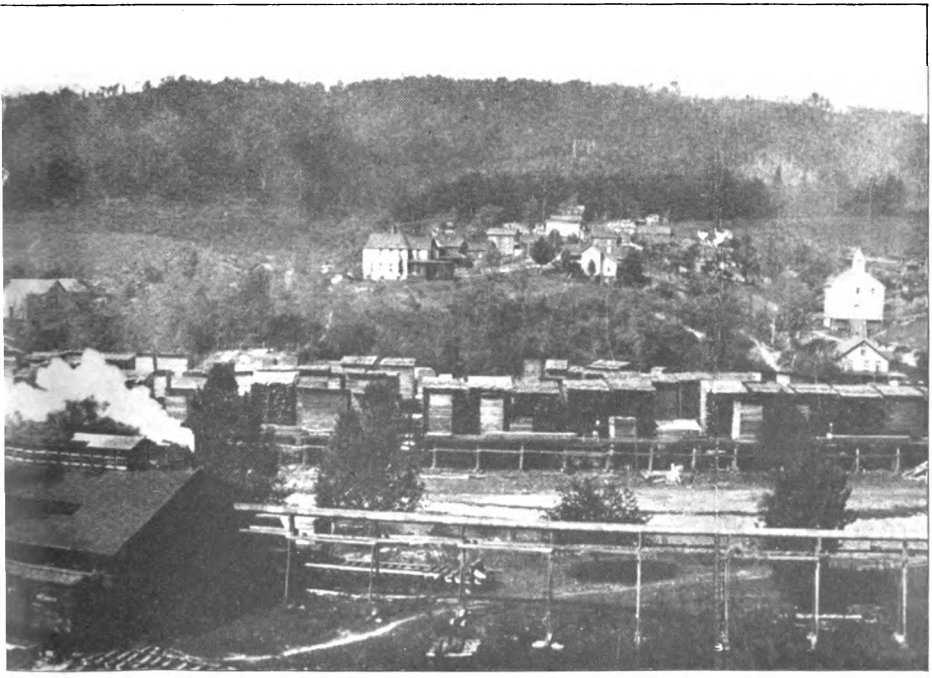
No lumber may be nearer than 100 feet to railroad tracks.





PANORAMIC VIEW OF THE HASSINGER





LUMBER CO. PLANT, KONNOROCK, VA.

THE ADAMS RIVER LUMBER COMPANY

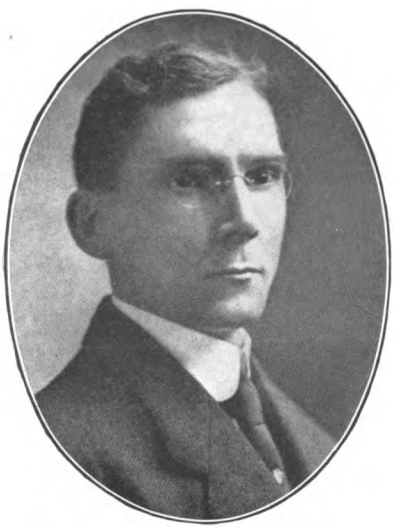
AT the outlet of Little Shuswap Lake, in a beautiful valley about a mile from the thriving town of Chase, B. C., is located the plant of the Adams River Lumber Company, one of Canada's great lumber enterprises.

The company was organized and incorporated in 1907 by Mr. McGoldrick, of Spokane, who is President of the company, and Messrs. A. J. and W. F. Lammers, of Stillwater, Minn., who are respectively Vice-President and Treasurer. Mr. B. W. Sawyer is Secretary and Managing Director.

The sawmill, which enjoys the reputation of being one of the best and fastest in Western Canada, is equipped with two 14-inch double cutting bands, a 72-inch double edger, a 24-inch automatic trimmer and an 8-inch band resaw; 175,000 feet of 1-inch and 2-inch lumber per 10 hours is a frequent output.

The planing mill equipment is equally complete. Three fast feed matchers, a 30-inch double surfacer, sizer, molders, band resaw, etc., permit of the finest quality of output.

The balance of the plant is in keeping with the mills. A large general store, track scales, complete boat equipment for handling logs on the lakes, an electric light plant (which also lights the town of Chase) are among the many modern features. The company also furnishes water to the town. A well-appointed machine shop, smithy, office, store, store-room, boarding and sleeping house, dwellings for mill employees, stables and ice house are among the other buildings. All are painted dark red with white trim, producing an attractive uniformity.

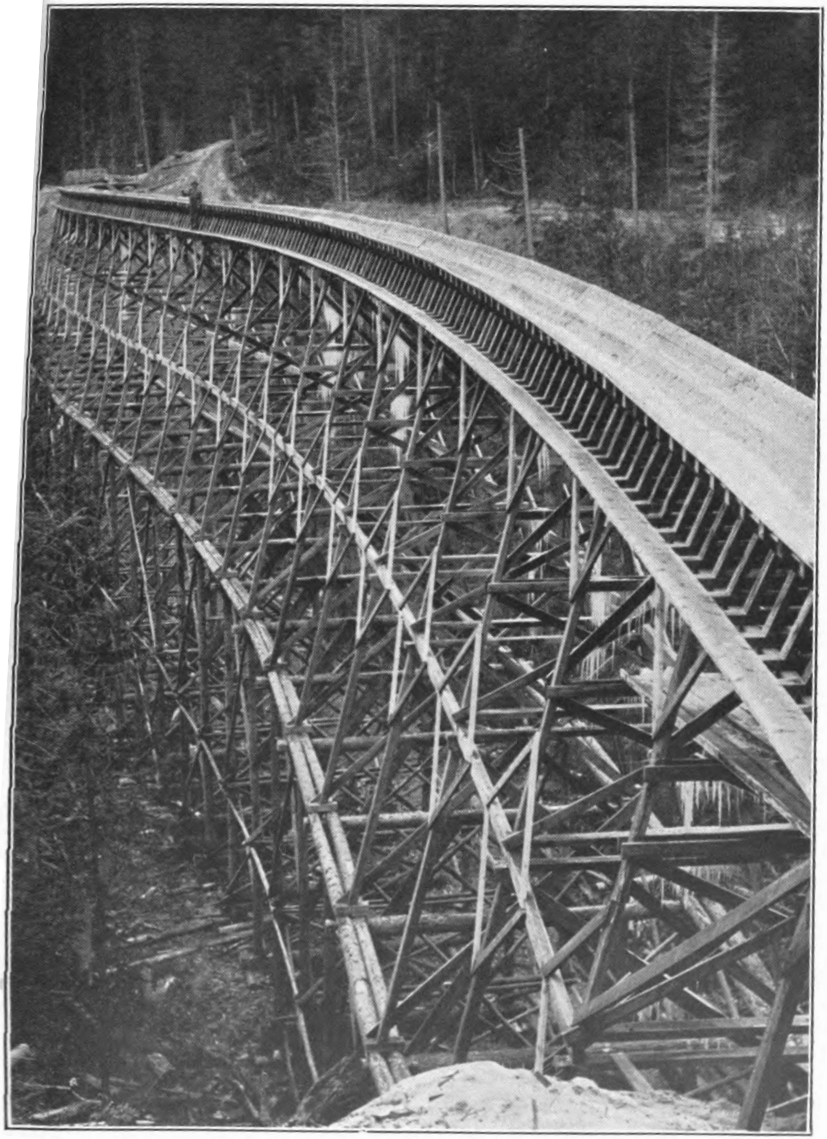


B. W. SAWYER
Managing Director

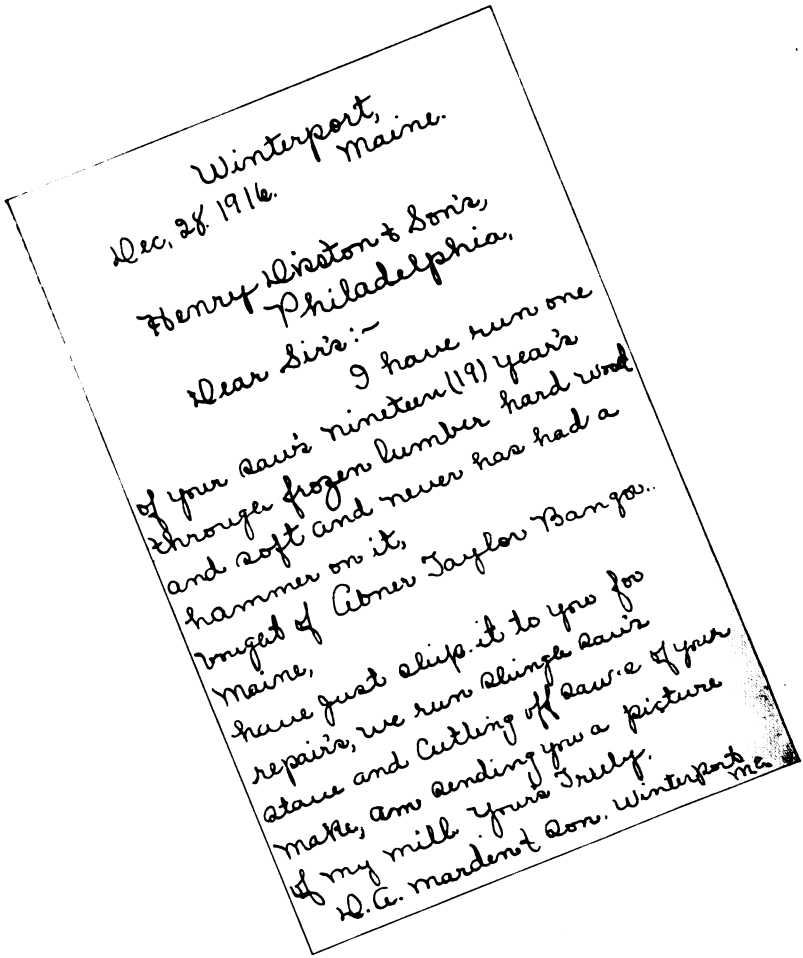
Railway facilities are had in a 5,000-foot spur from the main line of the Canadian Pacific right through the mill site to saw mill.

A twelve-mile flume facilitates the handling of lumber from the neighboring hills.

The principal output is fir and red cedar with a small quantity of genuine cork white pine and spruce. The annual cut is approximately forty million feet and is on a steady increase.



Section of Flume Built and Operated by the Adams River Lumber Co.


Winterport, Maine.
Dec. 28. 1916.
Henry Disston & Son's,
Philadelphia.
Dear Sirs:—
I have run one of your saws nineteen (19) years through frozen lumber hard wood and soft and never have had a hammer on it, bought of Abner Taylor Bangor, Maine, have just shipped it to you for repairs, we run shingle saws stave and cutting off saws of your make, am sending you a picture of my mill Yours Truly,
D. A. Marden & Son. Winterport Me.

"19 Years Without a Hammer On It"

We recently received the following letter from D. A. Marden & Son, Winterport, Me.:

HENRY DISSTON & SONS, Winterport, Me., Dec. 28, 1916.
Philadelphia.

DEAR SIRS:

I have run one of your saws nineteen (19) years through frozen lumber, hard wood and soft, and never have had a hammer on it; bought of Abner Taylor, Bangor, Maine. Have just shipped it to you for repairs. We run shingle saws, stave and cutting off saws of your make. Am sending you a picture of my mill.

Yours truly,
D. A. MARDEN & SON,
Winterport, Me.

"Disston Saws Hold Tension and Cutting Edge Longest"

Another unsolicited endorsement of Disston quality is the following from a filer in Michigan:

Petoskey, Mich., Jan. 10, 1917.

HENRY DISSTON & SONS.
DEAR SIRS:

I have been filing saws, both round and band, for years and have filed several different brands of saws but have found out by experience that Disston saws hold their tension better and their cutting edge longer than any saws I have ever used. The firm I am working for have just received three new band saws, 10 inches wide, 14 gauge, 46 feet 2 inches in length, and some round saws. They certainly look good to me and they all have the Disston brand on them.

Our old saws were worn down from 10 inches to 7½ inches, with the original braze and only five quarter cracks in the three saws, and the logs we cut are nearly all sugar bush full of nails.

Yours respectfully,

CARL BODLE,
Filer.

100,000 Feet With a Disston "Suwanee" Without Refitting

Rev. A. Smith, a colored gentleman cutting logs for the Houma Cypress Company, of Houma, La., states that he used a Disston "Suwanee" cross cut saw for five days just as it came from the factory. He says he averaged about 20,000 feet per day, making a total of something like 100,000 feet without refitting.

A good record for both saw and sawyer.

Redwood—(*Continued*)

common level of others, and secure a share of light, they show no disposition to go higher. The doctrine which they silently put into practice is to live and let others live. That habit makes it possible for redwoods to grow in very dense stands, which they could not do if a few trees domineered over the others, and appropriated the light to themselves.

When old age overtakes the giant redwoods, they exhibit the first symptoms of weakened vitality by dying at the top. Most trees over five hundred years old are "stag-headed." From that period they die slowly, but usually survive two or three hundred years after the visible signs of approaching death strike them.

Redwood has an advantage over nearly all other needle-leaf trees in that it propagates by both seeds and sprouts. Few softwoods send up sprouts from stumps or roots. Redwoods of large size are produced that way, and the stumps of very old trees send up many vigorous shoots. Sometimes a ring of large trees surrounds a depression in the ground where the parent tree grew, died and decayed.

Sprouts are of course confined to the immediate proximity of the parent tree, but redwood seeds are scattered by the wind over vacant spaces. This results in dense stands where other conditions are favorable, but the species has never been able to establish itself far inland or high on mountains.

In 1880 the Federal census made a rough estimate of the available redwood, and placed it at 25,825,000,000 feet. More than twenty years later, with heavy cutting all the time, private estimates placed the remaining stand at over 50,000,000,000 feet. The second estimate was unquestionably nearer correct than the first. The stand of no important timber tree in this country is more easily estimated than redwood. The forests are compact, the trees large, the trunks similar in form, and the well-timbered area is comparatively small. Redwood has been called the most important timber tree of the Pacific Coast. The title probably confers too much, though the tree's importance is beyond question. The annual cut of Douglas fir is nearly ten times as large as of redwood, and the supply still in the forests is much greater than that of redwood. The cut of western yellow pine likewise exceeds the output of redwood, and the remaining supply is larger. The cut of western red cedar, including shingles, is about the same, and the remaining stand of cedar is very large. Western hemlock, too, exists in large quantity, and its importance as a source of timber supply may be equal to redwood.

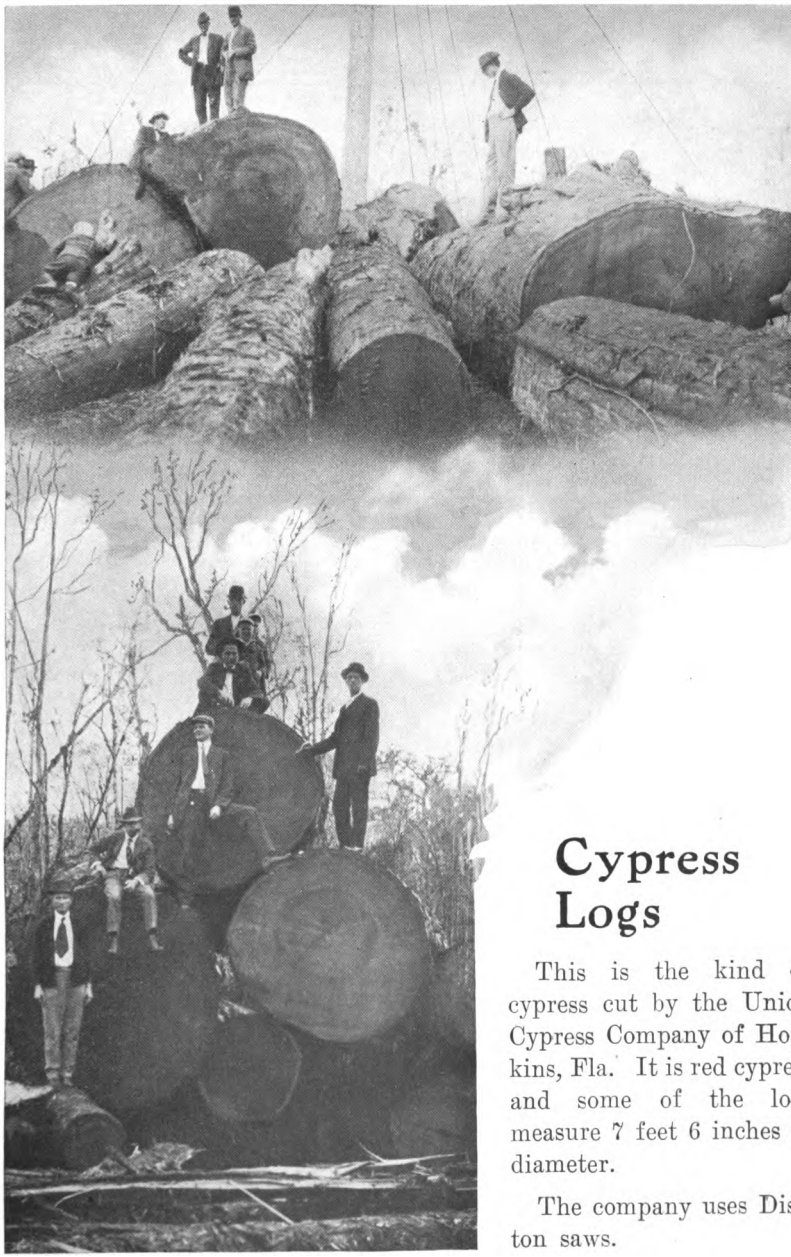
(*To be Continued*)

ODD LENGTHS

Elm is a favored wood for flour barrels.

Wide set teeth eat big into saw stock and profit.

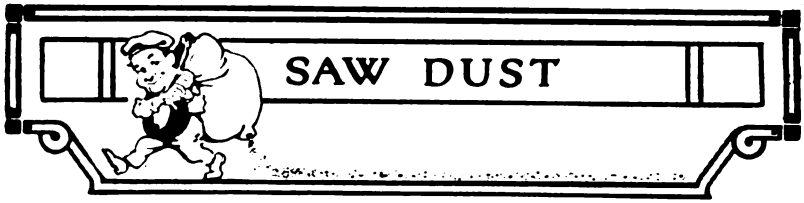
A chunk of long-leaf pine very nearly equals a block of cast iron in resistance to compression if blocks are of equal height and weight.



Cypress Logs

This is the kind of cypress cut by the Union Cypress Company of Hopkins, Fla. It is red cypress and some of the logs measure 7 feet 6 inches in diameter.

The company uses Disston saws.



THWARTED AMBITION

"When I was a boy," said the gray-haired physician, who happened to be in a reminiscent mood, "I wanted to be a soldier, but my parents persuaded me to study medicine."

"Oh, well," rejoined the sympathetic druggist, "such is life. Many a man with wholesale aspirations has to content himself with a retail business."—*McClary's.*

GOOD EXAMPLE

Once a very youthful chicken-fancier had in his possession a couple of bantam hens that laid very small eggs. He finally hit upon a plan to remedy this.

When the lad's father went the next morning to the chicken house he was surprised to find an ostrich egg tied to one of the beams and above it a card with this notice:

"Keep your eye on this and do your best."—*New York Times.*

The type of youth who indulges in loud clothes and a hat forced back over his ears dropped into the dental chair.

"I'm afraid to give him gas," said the dentist to the assistant.

"Why?"

"How can I tell when he's unconscious?"

ONE WAY OUT

A short time back, while a certain general was inspecting a regiment just about to depart for new quarters, he asked a young subaltern what would be his next order if he was in command of a regiment passing over a plain in a hostile country, and he found his front blocked by artillery, a brigade of cavalry on his right flank, and a morass on his left, while his retreat was cut off by a large body of infantry.

"Halt! Order arms, ground arms, kneel down, say your prayers!" replied the subaltern.—*Tit-Bits.*

NAUGHTY SHELL

The busy old lady was calling at the wounded soldier's home. "How did it happen, William?" she inquired.

"Shell, mum."

"A shell? Dear me. Did it explode?"

"Explode, mum?" replied William wearily. "Oh, I wouldn't say that, mum. It just crept up quietly be'ind me—and bit me."—*Country Gentleman.*

LITTLE DIFFERENCE

A man said to a fisherman, with a bitter laugh:

"My friend, your time can't be very valuable. I've been watching you for two hours, and you haven't had a bite."

"My time's worth too much," the fisherman replied, "to waste two hours of it watchin' a man fish wot ain't ketchin' nothin'."—*Washington Star.*

WHERE THE LIKENESS CEASED

"Yes," said the ultra-Oyster-Bay-cifist, "I admit that in many respects Theodore Roosevelt is like the Kaiser, but one thing is certain—he wouldn't stand for these U-boats."

"No," retorted the extreme Taftificator, "The only thing he'd stand for along that line would be Me-boats."

UP TO ALL CLAIMS

"Well, Peleg, how do you find the encyclopedia the feller left on approval?"

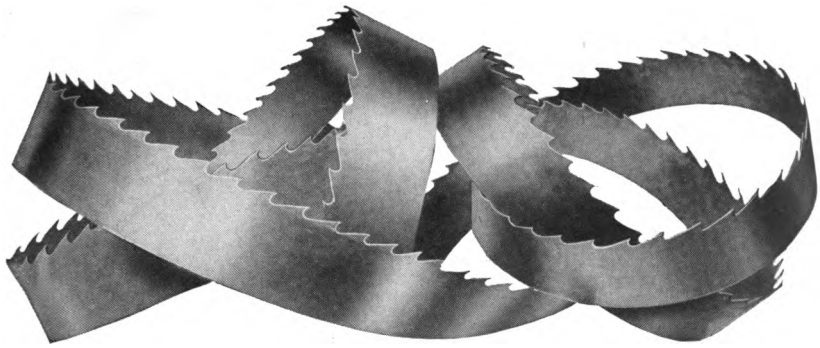
"Seems to be all right. Ain't no errors in it so fur as I kin see."—*Louisville Courier-Journal.*

CAUSTIC

"Did you see my sunburst last night?" inquired the pompous Mrs. Newrich of her poorer neighbor.

"No, I didn't," said the neighbor caustically; "but I certainly thought he would if he ate another bite.—*Ladies' Home Journal.*

Not a Crack!



—bent and twisted
beyond hope of repair

but the

TOUGHNESS and TEMPER

of the

DISSTON SAW

were equal to the strain

This remarkable accident fully demonstrated the unexcelled toughness and temper of DISSTON CRUCIBLE STEEL.