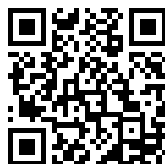

This is a reproduction of a library book that was digitized by Google as part of an ongoing effort to preserve the information in books and make it universally accessible.

Google™ books

<https://books.google.com>



**THE UNIVERSITY
OF ILLINOIS
LIBRARY**

338.105
DI
v.13-14

338,105

Comm. R. R.

V. 13+14

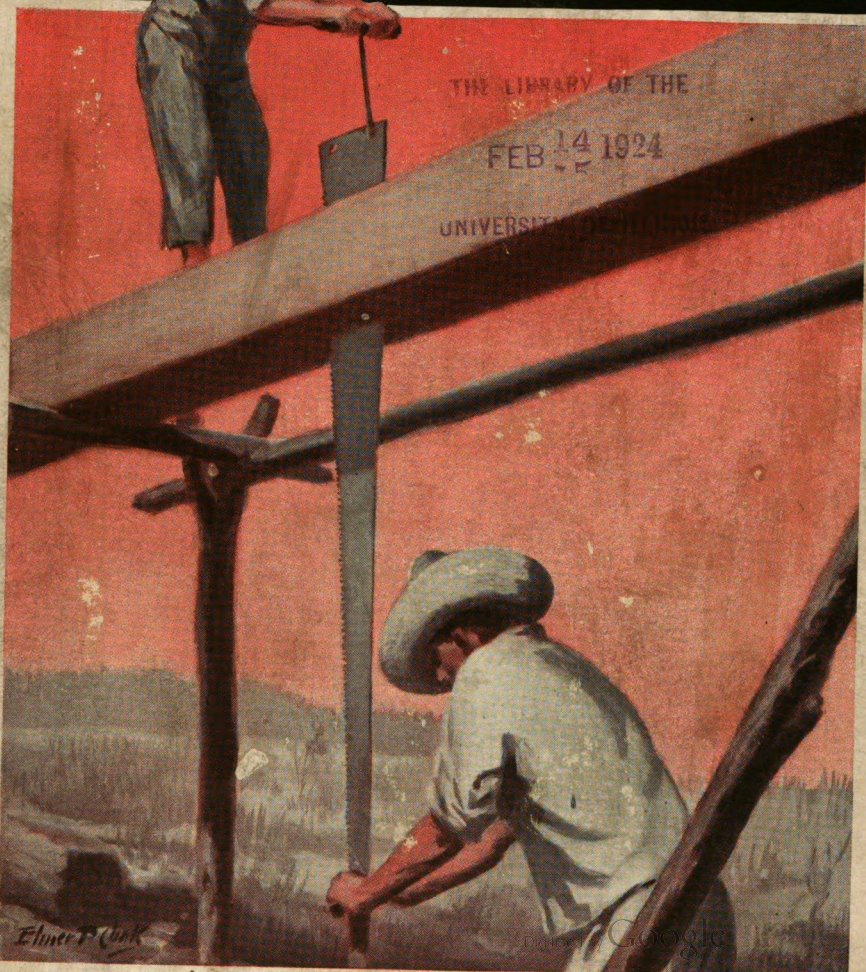
DI

1924 } ok
1925 }

The DISSTON CRUCIBLE

FEB'Y

1924



DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

VOL. XIII

FEBRUARY, 1924

No. 1

WOODEN MULTIPLEX PLIER

A Solid Piece of Basswood Cut With a Knife Into Seven Distinct Pliers

AT Ingleside, Neb., is located what is known as the Museum of Wood. In this museum are displayed many unique wooden designs, including fourteen different styles of wooden multiplex pliers.

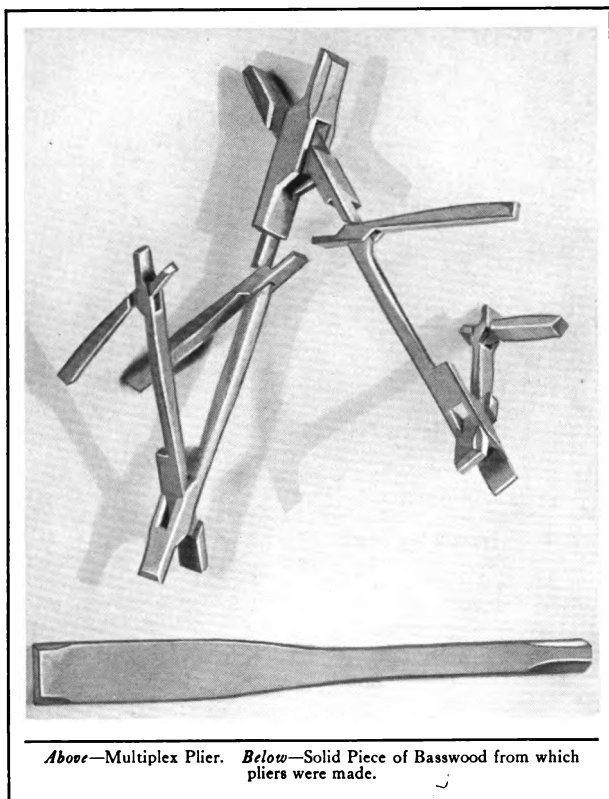
This multiplex plier is formed from a solid piece of basswood, four inches long; three-eighth inches wide and three - sixteenth inches thick at the flat end, as shown at the bottom of the illustration.

There are seven distinct symmetrical pliers formed in this block of basswood, so neatly that when closed there is only a mere trace of the incision made by the knife.

No pins are used to join the sections of the pliers; one section works within the other section when opening and closing. Neither was there piecing done when making them.

The wood is nicely finished and weighs but a small fraction of an ounce.

A close examination of the illustration will reveal the fine skill and mechanical genius necessary to do work of this kind.



Above—Multiplex Plier. *Below*—Solid Piece of Basswood from which pliers were made.

A FAMILY OF "CRACKLESS FILERS"

The Regenalds—Ed, Charles, Fred, Jr.—Sons of the Master Filer of Them All—the Late Fred Regenald, Sr.

IT IS seldom that three sons in one family choose and become proficient in the trade at which their father worked all his life, yet this is the record of the Regenald family, of the Southland.

Mr. Fred Regenald, Sr., who died about two years ago, was a master filer, and an inventor of an automatic swage shaper. He was well and favorably known in Mississippi, Tennessee and Arkansas, having worked at the trade, on all kinds of saws, for about forty years. His three sons—

Mr. Ed Regenald

Mr. Chas. Regenald

Mr. Fred Regenald, Jr.,

have all made enviable records for themselves at the filing trade, and have won the distinguished appellation of "crackless filers."

Recently we saw an 8-inch, 14-gauge Disston Bandsaw filed by Mr. Fred Regenald, filer for the DeSha Lumber Company, of Lake Providence, La., which had been worn down from its original width of 14 inches.

The saw had been used continuously since 1920. After it had been reduced in width to 10 inches it was put on a re-saw and worn down to 8 inches without a single crack. Fred has several other bands worn down to 10 inches, and under.

Mr. "Charlie" Regenald, younger brother of Fred, who is filer for the Weona Land Company, at Truman, Ark., has nine Disston saws worn down in the company's mill, varying in size from eight to ten inches. Every one of them came through without a crack.

Mr. Ed Regenald is filing for the Kansas City Shook and Mfg. Company, at Wilson, Ark. This company uses Disston re-saws entirely, but Ed's record is on par with Fred's and Charlie's. The re-saws are worn down to narrow ribbons without cracking.

Some record! A case of "like father, like son." These "boys," no doubt, had the advantage of natural qualifications, but, nevertheless, it required careful training and close application to attain their high state of efficiency. May they continue to be "crackless filers."

DISSTON BAND SAWS SATISFY BALTIMOREAN

"Henry Disston & Sons,
Philadelphia, Pa.

"Baltimore, Md.

"Dear Sirs:

"I have been using your bandsaw, 18 gauge, 7 inches wide, 30 feet long on a 60-inch Band Re-saw for the past six years with great success; not having a cracked saw at any time.

"The cutting edge is exceptionally good. I have worn them down as low as 3½ inches and still cut 12-inch Georgia pine with them.

"These saws have been used for general work, cutting all kinds of lumber, hard and soft wood as wide as 30 inches.

"They have always stood up.

"Respectfully,

"JAMES O. WROTEN,

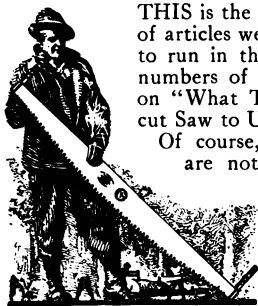
"Care of Otto Duker Co."



WHAT TYPE OF CROSS-CUT SAW TO USE

Article I

Reprint from Disston Cross-cut Saw Book



THIS is the first of a series of articles we have planned to run in the next several numbers of the CRUCIBLE on "What Type of Cross-cut Saw to Use."

Of course, these articles are not intended for experienced lumbermen. We have in mind, principally, the beginner or inexperienced

sawyer, whom we believe will welcome suggestions along this line. At least, we hope to be helpful in selecting the proper saw for his particular purpose, and in this way save him time, energy and money.

Obviously, it will be impossible to give definite information on this subject without being acquainted with the exact conditions pertaining. So we will confine our article to conditions in general.

There are four main points to be considered in selecting a cross-cut saw. They are:

- (1) Kind or shape of teeth in saw.
- (2) Width of saw.
- (3) Length of saw.
- (4) Gauge or thickness of saw.

Kind or Shape of Teeth to Use

Probably no other type of saw—hand, band, drag, circular, etc.—is made with so many different kinds of teeth as is the cross-cut saw. Yet from the plain or tenon tooth to the latest and best developed tooth for general purposes—the

raker—each one of the various kinds or shapes of teeth meets a special requirement.

Disston Cross-cut Saws are made with the following general classifications of teeth. Two cutting teeth to a raker, usually called two-cutter, as illustrated in the Virginian at the bottom of the page; and four cutting teeth to a raker, usually called four-cutter, as shown by the Suwanee at the top of this page.

The Two-cutter and Raker Type has, as the illustration below shows, two scoring teeth, one set to score one side and the other set to score the other side of the kerf, and then a raker tooth which follows through and chisels out the wood that has been scored at the side of the kerf by the "scoring" or cutting teeth. This type of saw is preferred by some users because there are only two cutting teeth to each raker to keep in order. In sawing hard woods some people prefer this type of saw, since there are more raker teeth than in other types and so each raker has less "planing" to do.

The Four-cutter and Raker Type, as shown above, has four scoring teeth (two of these teeth are set to score on one side of the kerf, and two of them to score on the other side of the kerf) to each raker tooth.

The users who prefer this type of saw claim that the four cutting teeth to each raker are an advantage because if one of the cutting teeth should accidentally be filed shorter than it should be there would still be another cutting tooth, set on the same side, in the same section, to score the wood in front of the raker.

The article in the March issue of the CRUCIBLE will deal with the Plain, Tenon, and other types of teeth.





THE CAPITOL

THE corner-stone of the old portion of the United States Capitol, which constitutes the central portion of the new edifice, was laid the 18th of September, 1793, by General Washington, in the presence of a great concourse of people and with imposing ceremonies.

The corner-stones of the wings were laid by President Fillmore, July 4, 1851. Webster delivered the oration of the occasion.

The old building is of yellow sandstone, kept painted white to beautify and preserve it; the wings are of white marble. This building, which fronts the east, was set in accordance with the astronomical observations of Andrew Ellicott, an engineer from Bucks County, Pennsylvania, who succeeded Major L'Enfant as general surveyor and engineer in the new city.

The original building was constructed from plans submitted by Stephen Hallet, the work undergoing some modifications from the plans of Dr. William Thornton.

The great wings were added during Fillmore's administration from designs submitted by Thomas N. Walter, architect, who not only superintended the building of the additions but also managed to harmonize them with the original design.

Years ago it was quite the fashion for Americans returning from Europe to make disparaging remarks concerning the Capitol building, but that spirit seems to have passed away, and the dignity, grace, and beauty of its architecture now receive universal commendation.

A prominent European statesman remarked of this noble structure: "For capitol purposes it surpasses every other building in the world. Its architectural beauty is most impressive."

The base of the building is ninety-seven feet above the river. The central structure is of Virginia yellow sandstone, which is kept painted white. The wings are of Massachusetts marble, and the one hundred columns of the extension porticos are of Maryland marble.

The building covers three and one-half acres. It is seven hundred and fifty-one feet long and three hundred and fifty feet wide.

The height of the dome above the rest of the building is two hundred and fifty-seven feet, and its weight is eight million pounds. This dome is surmounted by Crawford's statue of Freedom, nineteen and one-half feet high, and weighing fifteen thousand pounds.

We are indebted to the *Fafnir Ball Bearings* for the splendid photo of the Capitol.



THE DOUGLAS FIR

Our lancet-stems are clean like stalks
of grain.

Thus we maintain
Our creed, which is to rise
In unspoiled beauty toward the skies —
We make no compromise!
Across the fire-swept areas our seeds
Are blown to drop among the weeds.
A little while they lie
And germinate, and by and by
We spring—a sapling here and there
And everywhere,
Elbowing in
Through chinkapin
And rhododendrons and the crush
Of maple brush;
Before we know,
We've grown into a forest, while below
We glimpse the copse
And see the tops
Of things
That have become our underlings.
There are no thicker stands
Than ours in all the Northwest lands.

Anthony Euwer in
"By Scarlet Torch and Blade"

THE CRISP TEN-DOLLAR BILL

Offered in the October CRUCIBLE for the
Freakiest of Freak Trees Was Won by

Miss Beulah L. Laverty, of Middletown, Pa.

THE offer of a crisp ten-dollar bill in the October CRUCIBLE for the freakiest of freak trees started a shower of photographs on the CRUCIBLE sanctum sanctorum.

Photographs of big trees, little trees, straight trees, crooked trees, one-, two-, three- and four-trunk trees, upside-down trees, and-then-some trees.

Nor did the contestants confine themselves to trees, notwithstanding that our terms of contest distinctly specified trees, for we received photographs of almost anything from a man-eating, hog-nosed monster—the unique handiwork of some lumberman genius—to a contorted human profile on a cocoanut hull.

After careful and impartial inspection of the various photos by the judges ap-

pointed for the occasion, the “Ostrich Tree” which is shown in the accompanying illustration was unanimously decided the winner.

We feel confident that when the contestants see the illustration they will approve of the judges’ choice.

The Ostrich Tree stands within sight of what is known as the seventeen-mile drive from Del Monte Hotel, Del Monte, Calif. The picture was taken at a distance of about one-fourth mile.

Miss Laverty is employed by the Middletown Car Company, Middletown, Pa., where she awaits the arrival of the CRUCIBLE each month and “reads” it with interest.” We congratulate her on winning the prize, and hope the CRUCIBLE will continue to interest her.



The Prize-Winning Freak Tree

Several other contest photos will appear in following issues of the CRUCIBLE.

WHAT PART OF A SAWMILL



1



2



3

Answers to January puzzles: No. 1, Dog; No. 2, Trimmer;

DISSTON HENRY BRUCE

Named After the Founder of the Disston Saw Works—Quality of Disston Saws Prompted Name

INDUSTRIES, schools, churches, lodges, organs, windows, street, park, tools, and persons have been named after Henry Disston, the famous founder of the Disston Saw Works.

Most all great men have had similar honors bestowed upon them, but in many cases babies have been named after them for no other reason than that they were great. Along comes baby; he must be named; the great man is at his zenith; his name is on every tongue; it sounds good to the parents, and the name is decided upon, probably with a secret hope that baby, too, will some day be great.

But in the naming of Disston Henry Bruce there is a distinct bond, or link, connecting the great man and his namesake, viz.: the Disston quality saw.

This is plainly evident from Mr. Bruce's letter of explanation of why he was named Disston Henry. The letter:

"In 1863 my father, Mr. William E. Bruce, started to learn the shipbuilding

trade, at Thompson, Nova Scotia, on the St. Johns River.

"It was then that he first used the Disston Saw. For 23 years he remained at this place, all the time using Disston saws. The saws gave father such

good service and he became so much attached to them that time and again he would praise them to mother.

"Workmen knew the splendid results that father got from his saws; and as he always kept them in condition himself, they thought it was due to a special way he had of filing them. So repeatedly they would come to him with other makes of saws and ask father to file them. Father would tell them, 'you can't put Disston material in your saw with a file.'

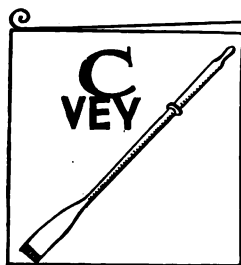
"Well, mother hearing the name of Henry Disston so often and favorably mentioned, began to like it. So, when I arrived on the scene, in 1886, mother already had made up her mind that it was just the name for her boy, hence I am Yours truly,

"DISSTON HENRY BRUCE."
West Hanover, Mass.



Disston Henry Bruce
and Son

DOES EACH PICTURE REPRESENT?



4



5



6

No. 3, Carriage; No. 4, Idler; No. 5, Feed; No. 6, Deck.



SAWDUST

Teacher—"Johnny, if you don't behave I'll have to send a note to your father."

Johnny—"You'd better not. Ma's as jealous as a cat."

* * *

Mike—"How would you like riding in a patrol wagon?"

Ike—"Oh, it might do in a pinch."

* * *

Victor—"What color is the best for a bride?"

Lowman—"I prefer a white one, myself."

* * *

Nurse—"Yes, Johnny, the doctor brought twins."

Johnny—"Gee, that's what we get for havin' a specialist."

* * *

When a man is wrapped up in himself—he makes a pretty small parcel.

* * *

After practicing coffee drinking for 40 years some men still spill it on the tablecloth.

* * *

"Deacon White," said Parson Jackson, softly, "will you lead us in prayer?"

There was no answer.

"Deacon White," this time in a little louder voice, "will you lead?"

Still no response. Evidently the deacon was slumbering. Parson Jackson made a third appeal and raised his voice to a high pitch that succeeded in arousing the drowsy man. "Deacon White, will you lead?"

The Deacon, in bewilderment, rubbed his heavy eyes and blurted: "Lead yourself—I just dealt!"

A Congressman once declared, in an address to the House:

"As Daniel Webster says in his great dictionary—"

"It was Noah who wrote the dictionary," whispered a colleague, who sat close by.

"Noah, nothing," replied the speaker. "Noah built the ark."

* * *

A diplomat is a man who can remember a woman's birthday—and forget her age.

* * *

"When the bride promises to obey, she waives her rights; but it isn't a permanent waive."

* * *

Hank says to his wife the other night, "I sure miss that cuspidor."

"You always did miss it," says Mrs. Beasley, "that's why I threw it on the trash pile."

* * *

They say that Swift sent a dollar for an appliance to keep the gas bills down. And he got a paper weight!

* * *

Old Gentleman—"I noticed you got up and gave that lady your seat in the trolley."

Archie—"Since childhood I have respected a woman with a strap in her hand."

* * *

Musical Instructor—"What are pauses?"

Pupil—"They grow on cats."

* * *

The Boy—"I have never seen such dreamy eyes as yours."

The Girl—"Perhaps you've never stayed so late before."



MUMPS

—Permission *The Country Gentleman*

THE UNIVERSITY OF THE STATE OF NEW YORK
LIBRARY
MAR 4 1924
UNIVERSITY OF ILLINOIS

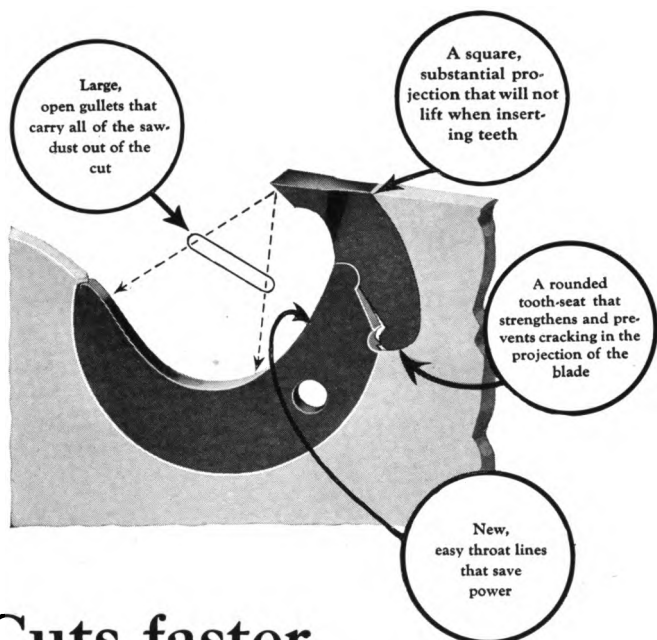
The DISSTON CRUCIBLE

MARCH

1924



SAWYERS AT WORK IN INDIA



Cuts faster with less power

Patented April 13, 1920

Disston Invincible Chisel Tooth Saw Lowers Operating Costs

"THE fastest, easiest running inserted tooth saw we ever had in our mills," is the way one big user describes the Disston Invincible Chisel Tooth Saw. "It stands more feed, takes less power, and always runs true."

The new design gives extra throat room. Specially shaped gullets carry *all* the sawdust out of the cut. None can become wedged in the gullet or be carried back into the cut.

One size of bit fits four different sizes of holders.

The bits are locked in place, to stay. The patented interlocking feature makes it impossible for them to start forward or run out of true.

You will want to know *all* about the many advantages of this faster, cooler, easier-running saw. Write us: "Send facts about your new Disston Invincible Saw," and mail your letter or card to Dept. O.



Henry Disston & Sons, Inc.
Philadelphia, U. S. A.



DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

VOL. XIII

MARCH, 1924

No. 2

A VERSATILE SAW

A Disston 22-Inch, 8-Point Hand Saw, Made for Cutting Wood, Used for Cutting Boiler Plate

THERE are men who do not believe in specialization, either in men or in tools. Mr. John W. Thackara, of No. 5245 Germantown Avenue, Philadelphia, is one of these men.

Mr. Thackara has a Disston saw—just an ordinary 22-inch, 8-point saw, designed and made exclusively for use on wood, which he says he uses ordinarily for cutting all sorts of things, preferably cold rolled iron.

He proved this the other day when a customer brought to his garage a section of an old 36-inch boiler and asked him to burn out a piece of the plate with an acetylene torch as cleanly as he could. Mr. Thackara treated scornfully the suggestion that he *burn* the piece out. He got out his old wood saw, handling it with proper respect, and said simply that he would saw the piece out. The customer, not wishing to see the saw ruined, demurred. Mr. Thackara, saying calmly that he used the saw for such purposes, went ahead and sawed out the piece, as indicated in illustration.

It took him an hour and a half and he

had to stop and sharpen the saw once, but when he was finished, the saw really did not look much worse for the experience. Mr. Thackara explained this by saying the saw was used to it; he always cuts metal with it.

Here's what Mr. Thackara says about his saw, of which he is very proud:

"I bought this saw in Lincoln, Neb., in 1884. Shortly afterward, I went to Oketo, where I was employed as a mill-

wright. One day it was necessary to cut two feet off the end of a piece of 2-inch cold rolled steel shafting. Having no hack saw, I tried this Disston wood saw, in the emergency, and it worked as well or better than any hack saw I ever used. Ever since then I have been using this saw for cutting all kinds of metal. Recently I reconstructed a fire truck for the Fire Department of Weldon, Pa. The alteration of the body required cutting through wood, sheet-steel and

1½-inch angle iron. I did the work with the same saw. I haven't found anything it won't go through."

When this feat was mentioned to one of our veteran saw-makers, he said: "Huh! I've done the same thing, myself."



A Disston 22-Inch, 8-Point Hand Saw, made for cutting wood, used for cutting boiler plate

*A Strong Endorsement of Disston Saws and Files by the
President of a Large and Progressive Company*

B

BATHURST COMPANY, Limited

"Bathurst, N. B., Canada.
"May 1, 1923.

"Henry Disston & Sons, Ltd.,
"Toronto, Canada.

"The Bathurst Lumber Company, Limited, commenced business at Bathurst, N. B., in the Fall of 1907, but, owing to the old sawmill that they purchased with the property burning down in March, 1908, they had to build a new sawmill. This they proceeded to do in May, 1908, and had the new plant ready to begin operations in May, 1909. They constructed this mill of concrete and steel, the first of its kind in Eastern Canada. The machinery in this mill consisted of two 8-foot band mills and two 7-foot band re-saws, and all the other necessary equipment for a complete mill. The power plant consists of six 150 horsepower steel jacket boilers and one 600 horsepower Corliss engine.

"In 1912, the company constructed a planing and re-saw mill. This mill is driven electrically and has been in operation continuously since construction.

"In 1914, the company started to build a 100-ton daily capacity chemical pulp mill. It was completed and put into operation early in 1916, and has been running continuously ever since. In connection with the pulp mill the company operates a slasher mill to cut up its logs for the chippers. This slash mill consists of a battery of ten 36-inch circular saws. The chippers use high-speed knives 30 inches long, 8 inches wide and 1 inch thick.

"For the past eleven years the Bathurst Company, Limited, have used exclusively the Henry Disston & Sons, Inc., band and round saws, including shingle and lath saws; also the Henry Disston & Sons, Inc., high-speed steel knives for their planers and chipping machines. Even to the cross-cut saws used in the woods for felling trees and cutting them into logs they have used only Disston saws; and further, they also use only Disston files for keeping all these saws sharp and in tip-top shape.

"The filing and fitting of all the band saws used by the company is in charge of Mr. Paul Laurin, who looks after this important part of the work, and he is greatly pleased with the class of goods supplied by the Disston Company. Added to this, is the fact that the saws and other goods supplied by them are giving splendid results and satisfaction to the Bathurst Company, who having given them all their business for the past eleven years is pretty conclusive evidence that the saws, etc., supplied are the very best that can be produced. It gives us very great pleasure to be able unreservedly to state that this is the case.

"BATHURST COMPANY, LIMITED.
"By Angus McLean, President."



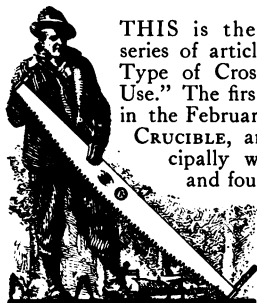
Disston

Plain or Peg

WHAT TYPE OF CROSS-CUT SAW TO USE

Article II

Reprint from Disston Cross-cut Saw Book



THIS is the second of a series of articles on "What Type of Cross-cut Saw to Use." The first one appeared in the February issue of the **CRUCIBLE**, and dealt principally with the two- and four-cutter-and-

raker-type of saw. If, perchance, any of our readers desire information other

than given in these articles, we will be pleased to furnish it upon request. In this article we wish to call attention to

The Plain-Tooth or Six-Cutter and Cleaner-Tooth Type.

The Tenon-Tooth Type.

Miscellaneous Types.

The Plain-Tooth or Six-Cutter and Cleaner-Tooth Type

This style of saw is rather a combination of the regular-tooth type and the raker-type of cross-cut saws. It has sections of six regular cutting teeth, in which the teeth are set alternately to one side and then to the other, and then each section is followed by a tooth which is filed straight across to act as a cleaner tooth, since it plows straight through the cut and cleans it out. This "cleaner-tooth," as can be seen in the illustration above, is not a raker tooth as used in the other saws, but is an ordinary tooth filed straight across to act as a cleaner in the cut.

This type of saw is used mostly by people who do not have a great amount of sawing to do, and who are not so much interested in extreme speed and ease in cutting—such as can be had with the Disston high-grade raker-tooth type of saw.

The Tenon-Tooth Type

This type of saw has no raker or cleaner teeth. It is preferred by many who do not require extreme speed in cutting because it is much easier to "fit up" or sharpen than a raker-tooth type of saw. It gives very satisfactory results for ordinary work. This type of saw has another particular use—for cutting diagonally across the grain of wood in "framing," and similar work. If a raker-tooth saw is used for diagonal cutting, the raker teeth, which act as chisels, have a tendency to follow the soft grain of the wood and so pull the saw off a true line, making a ragged cut and a wide kerf.

Miscellaneous Types of Teeth

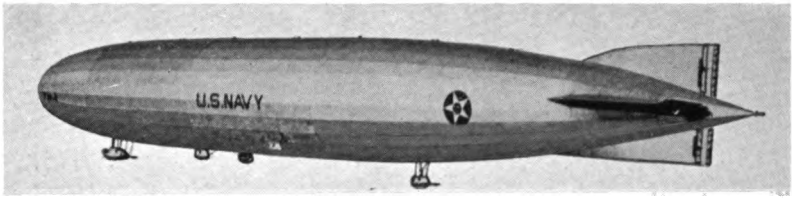
There are several other types of cross-cut saws having teeth of different design, of which the Disston Wizard is an example. The Wizard has three cutting teeth to each raker tooth. The odd-pattern saws are made to satisfy some particular requirement, and their use depends entirely upon the special work to be done and the personal preference of the worker.

Our next article will deal with the width of Cross-cut Saws.



Disston

Tenon



SHENANDOAH - GRAMS

Prof. Wm. H. Dehn, of the University of Washington, has succeeded in making a dynamite from sawdust. This dynamite can be used in freezing weather without being thawed, as is necessary in the case of other powders now in use.

A handsomely bound volume, containing the signatures of half a million persons from prince to beggar, expressing thanks for the assistance America rendered Japan after the earthquake, was recently presented to the United States Embassy.

An illuminated fish that shouts has recently been discovered in Monterey Bay, Calif. It has been named "poric thysnotatus." Because of the peculiar construction of its swim bladder it is able to shout. The fish bears 350 gleaming phosphorescent lights.

The Rev. Sabine Baring-Gould, English novelist, theologian, and author of "Onward, Christian Soldiers," died January 2, 1924. The famous hymn was written in 1864.

As a New Year gift to Great Britain, Mr. Charles Lathrop Pack, president of the American Tree Association, presented 60,000,000 Douglas fir seeds to the British Forestry Commission to help reforest the areas cut over in that country for war purposes. Henry Getty Chilton, the British charge, received the seeds at the British embassy.

A tribe has been discovered in the region of the headwaters of the Amazon whose language is very similar in construction to English. These people, it

appears, worship trees, in the tradition that their ancestors of long ago escaped extinction by climbing trees when overwhelmed by a flood.

The plan for inserting an extra month in the proposed world-wide calendar was explained before the American Association for the Advancement of Science recently by M. B. Cotsworth, of Vancouver, B. C., its originator.

Each month, under the plan, would consist of twenty-eight days, or four complete weeks, the thirteenth month to be inserted between June and July and to be known as "Sol." In leap years "leap day," instead of falling at the end of February, would be inserted at the end of the new month and there also would be an extra holiday on December 29th, not designated as any particular day of the week. Sunday would be the first day of every month.

Dr. Willis Rodney Whitney, director of the General Electric Company's research laboratories at Schenectady, N. Y., recently made the unique demonstration of lighting an ordinary 110-volt incandescent lamp by holding it about a foot from a vacuum tube containing 2,000,000 cycles of alternating current. "This comes as near to wireless transmission of power as we have yet seen," declares Dr. Whitney.

A book of photographs on ancient and modern uses of brass and copper, made public by the Copper and Brass Research Association, shows a piece of copper piping used in Egypt 5400 years ago, to convey water to the swimming pool of the Egyptian King.

THE Shenandoah, airship, illustrated above, is a unit of the U. S. Navy. It is 680 feet long, 79 feet high, has total capacity of 2,115,500 cubic feet of gas, and gross lifting power, with helium, of 120,000 pounds. The cruising range is 4000 miles. It has six 300-horsepower engines; maximum speed, seventy-five miles per hour.



DUTY OF EVERY CITIZEN WHO CAN TO PLANT A TREE

At last the people of the United States are beginning to realize the vital need of tree planting and are attacking the problem in a practical way. Massachusetts planted last year 2,000,000 spruces and pines on waste lands near towns. Lake County, Illinois, reports 100 per cent. tree planting for the schools. All over the country trees are being planted, and none too soon, as it takes from twenty to fifty years to grow trees that are of much use for manufacturing purposes. Our forests are being devastated so rapidly that in a few more years lumber will be too costly for common use unless millions of trees are planted each year. Trees have much to do with health, beauty and rainfall, and it is time that every family in this country planted at least one tree each year. Every farm family should plant at least twenty trees a year.

The kind of trees to plant must be determined by the locality. Certain trees will grow best on certain kinds of ground. Almost every home needs more fruit trees. Many homes can be greatly benefited by planting evergreen trees, both for beauty and to serve as a windbreak. Soft maples grow quickly and make good shade trees. —From the *Pathfinder*.

PLANT A TREE !

An Echo from the Land of Ham

"P. O. Bulawayo,
"Rhodesia, South Africa.

"Messrs. Henry Disston & Sons, Inc.,
"Philadelphia,

"Dear Sirs:

"I have just finished hammering three Disston inserted tooth 42-inch, 8-gauge, Nos. 28054, U. S. A., 16907 and 22221, and though all three were badly buckled (due to improper handling), they came up to shape and tension in true Disston form. No. 22221 had been seriously distorted and marked from previous hammering and gave some trouble in consequence, but is now in use and doing first-class work.

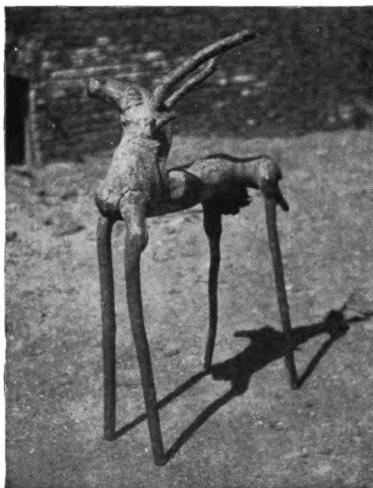
"It takes good material in the saw line to stand up to these tough Rhodesian hardwoods to say nothing of the unsuitable machines on which the blades are mounted.

"Most of the machines are cast-iron, push benches, with a trolley at each end

Continued on Page 16

Autobiography of a Doe (?)

Our family tree was quite well known in the woods of Wisconsin. Mother used to say I was such a little (deer) dear. But father thought I was the root of all evil. I often said I would branch out for myself some day. But it seems it was not to be. For one day the lumberjacks made short work of our home and I was pulled from the ground and thrown to one side. Later a kindly looking jack took a liking to me and carried me back to the camp where my figure created quite a sensation. He later sold me for a little (doe) dough. See my photo to the left.



Tree Roots Formed Like a Deer

A man's life may stagnate as literally as water may stagnate, and just as motion and direction

are the remedy for one, so purpose and activity are the remedy for the other.

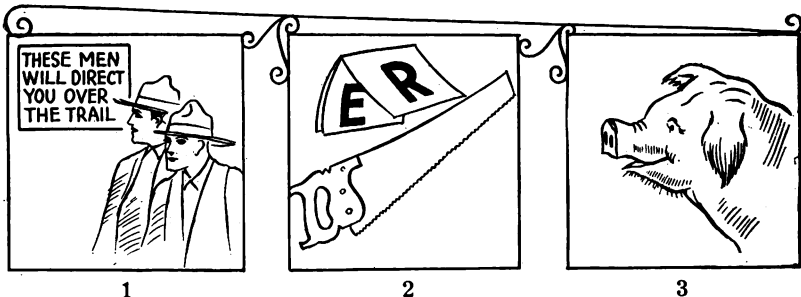
—John Burroughs.

* * *

"How fine, how blest a thing is work!"
For work does good when reason fails.

—Jean Ingelow.

WHAT PART OF A SAWMILL



1

2

3

Answers to February puzzles: No. 1, Nigger; 2, Ga

Tree Observatory

The Forest Department has had erected in various forest reservations observatories from which the rangers can make their observations in carrying out their work. That these forest rangers are not restricted to those observatories is shown by the illustration. In this case a lofty tree is called into service, in Shasta Forest, Northern California. At the top of this tree a platform is constructed on which the ranger stands while making observations. At the foot of this tree is a telephone which connects with the supervisor's office. Mount Shasta is plainly visible in the distance. Sometimes spiral ladders are ingeniously constructed from the bottom to the top of a tree, on which the ranger readily climbs to the top.



Tree Observatory

The best piece of good fortune which can come to one is opportunity for intimacy with a leader, in whatever line of life he may be engaged.—*Edward Everett Hale.*

Mossy Fire Alarm

The heavy gray moss which grows on trees in the Douglas fir regions of the Northwest is being used by United States Forest Service experts to indicate the danger of the outbreak of forest fires. The amount of moisture in this moss promptly changes with the slightest change in the amount of moisture in the air. By placing a quantity of the moss on a balance with a pen arm attached, changes in relative humidity are recorded satisfactorily. By close observations in this way, the approach of such exceptional dryness and possible fire losses can be detected.

Commencing with the January, 1924, issue, *The Pacific Coast Lumberman* was published under the title of *The British Columbia Lumberman*. "This journal is published first, last, and all the time in the interests of all branches of the lumber industry of the British Columbia province, hence the change of name."

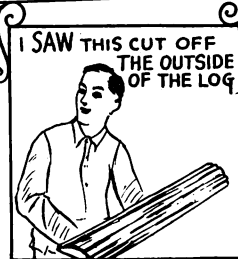
DOES EACH PICTURE REPRESENT?



4



5



6

, Sawdust; 4, Conveyor; 5, Burner; 6, Brazing Iron.



SAWDUST

He took her rowing on the lake,
She vowed she'd go no more—
I asked her why—her answer came:
"He only hugged the shore."

* * *

Teacher—"Willie, how much is four times four?"

"Willie—"Sixteen."

Teacher—"That's pretty good."

Willie—"Pretty good, h——; it's perfect."

* * *

Mr. Simpson was reading the newspaper.

"Here's a man got into a drunken brawl and was stabbed to death," he said aloud.

His wife glanced up from her knitting, and commented:

"In some low drinking den, I suppose?"

"No; th' paper says he got stabbed in th' thoracic cavity."

"Same thing; you'd think th' officers of the law would close such a place up."

* * *

The charming wife of a French diplomat had never thoroughly mastered the English language. She was urging an American naval officer to attend a dinner, the invitation to which he had already declined. The lady insisted that he must go, but the young officer said he could not possibly do so, as he had "burned his bridges behind him."

The lady misunderstood the word.

"That will be all right," she exclaimed. "I lend you a pair of my husband's."

* * *

A fond father discovered his young hopeful reading a dime novel.

"Unhand me, villain," the detected boy cried, "or there will be bloodshed."

"No," said the father grimly, tightening the hold on the boy's collar, "Not bloodshed, woodshed."

Mother—"Whoever taught you to use that dreadful word?"

Tommy—"Santa Claus, Mamma."

Mother—"Santa Claus?"

Tommy—"Yes, Mamma, when he fell over a chair in my bedroom on Christmas eve."—*Life*.

* * *

Statistics show that 4359 men were killed by gas last year. Sixteen inhaled it, forty-five lighted matches in it, and 4300 stepped on it, says the *Washington Star*.

* * *

Man (in drug store)—"I want some consecrated lie."

Druggist—"You mean concentrated lie."

Man—"It does nutmeg any difference.

That's what I camphor. What does it sulphur?"

Druggist—"Fifteen cents. I never cinnamon with so much wit."

Man—"Well, I should myrrh, myrrh! Yet I ammonia novice at it."—*American Mutual Magazine*.

* * *

"I hate baldheaded men," she said.

"Indeed," he replied and raised his hat to some one passing the hotel veranda. She suddenly remembered that she wanted to speak to Mamma.

An Echo from the Land of Ham

Continued from Page 14

to carry one end of the hardwood log.

"The amount of twisting a saw gets in the course of breaking up a 2-foot hardwood log can be imagined.

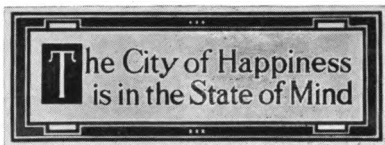
"Nearly all inserted tooth saws in Rhodesia are Disston, and judging from experience on solid saws of other makes (not American), I am glad of it.

"Disston goods are a treat to handle.

"Yours sincerely,

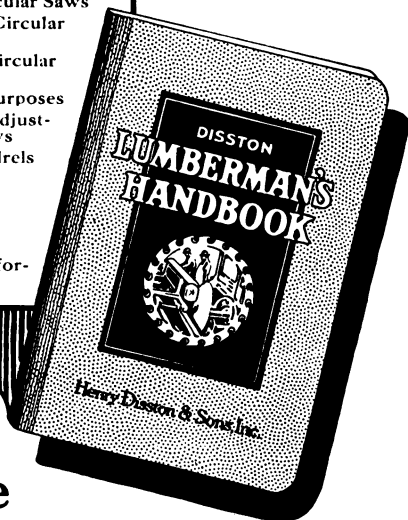
"Chas. P. Ingamells."

PRINTED IN U. S. A.



Partial Contents

General Information About
Circular Saws
Instructions for Setting and
Sharpening Circular Saws
Tools for Fitting Circular
Saws
Inserted Tooth Circular
Saws
Saws for Special Purposes
Hammering and Adjust-
ing Circular Saws
Circular Saw Mandrels
Band Saws
Cross-cut Saws
Files
Machine Knives
General Useful Infor-
mation



A Valuable Book for Lumbermen

There is much valuable information gathered from the experience of lumbermen and saw-experts in this book.

It is a 154-page book, made to fit in your pocket. We have a copy for you. It will help in your work. Just send name, address, and 8c in stamps to



REG. U. S. PAT. OFF.

Henry Disston & Sons, Inc.
Dept. O
Philadelphia, U. S. A.



REG. U. S. PAT. OFF.

Wherever You Are

There is a Disston branch near to give you service

HENRY DISSTON & SONS, Inc.

General Offices and Factory:

PHILADELPHIA, U. S. A.

BRANCHES:

**Henry Disston & Sons, Inc., of
Illinois**

**Jefferson Street and Washington
Blvd., Chicago, Ill.**

**The Henry Disston's Sons Company
Sixth and Baymiller Streets
Cincinnati, Ohio**

**Henry Disston & Sons, Inc.
322 Occidental Avenue
Seattle, Wash.**

**Henry Disston & Sons, Inc.
144 Second Street
San Francisco, Calif.**

**Henry Disston & Sons, Inc.
91 First Street
Portland, Ore.**

**Henry Disston & Sons, Ltd.
80 Sussex Street
Sydney, Australia, N. S. W.**

**R. B. McKim Company, Inc.
116-118 Pearl Street
Boston, Mass.**

**R. B. McKim Company, Inc.
120-122 Exchange Street
Bangor, Maine**

**The Reichman-Crosby Company
223-235 South Front Street
Memphis, Tenn.**

**C. T. Patterson Co., Ltd.
New Orleans, La.**

**Henry Disston & Sons, Inc.
130-132 Marietta Street
Atlanta, Ga.**

**Henry Disston & Sons, Ltd.
2-20 Frazer Avenue
Toronto, Canada**

**Henry Disston & Sons, Ltd.
Vancouver, B. C., Canada**

Export Office:

**Henry Disston & Sons, Inc.
120 Broadway
New York City**

**Distributors for Great Britain
and Ireland**

**Henry Disston & Sons (Great
Britain) Ltd.
35, 36, 37, Upper Thames Street
London, E. C. 4, England**

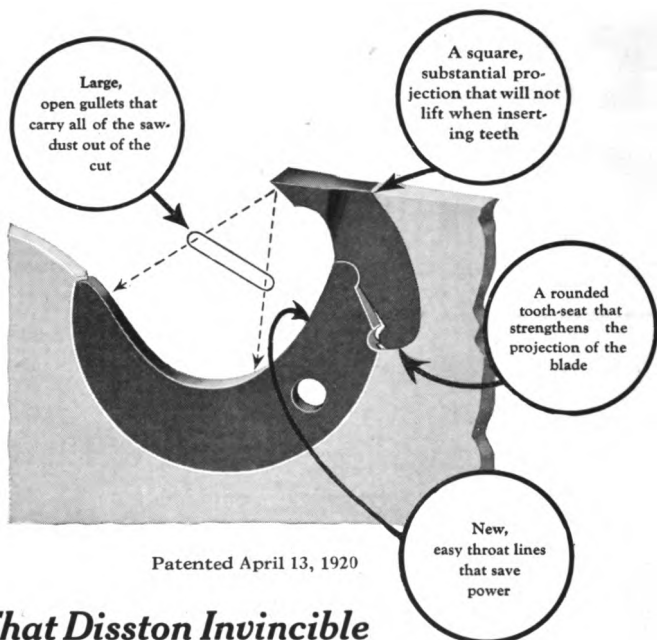
The **DISSTON** **CRUCIBLE**

APRIL

1924



SAWYERS AT WORK IN INDIA



"That Disston Invincible is the fastest saw I ever used in 40 years"

"That Disston Invincible Inserted Tooth Saw that I got from you last summer is the best saw I have ever run—and I have been operating a mill for myself or for my father for forty years," writes Charles A. Rorer, Cynthiana, Ky.

It cuts more lumber with less power

"It cuts more lumber with less power and with less care and work in sharpening teeth than any other saw I ever used—and I have run about all makes. The points of the teeth are tempered the best of any."

Specially shaped gullets, carry *all* of the saw-dust out of the cut. One size of bit fits four different sizes of holders. The patented Disston locking feature makes it impossible for the bits to start forward or run out of true.

You can't afford not to know all about this new saw. Write: "Send me facts on Disston Invincible Saw" to our Department O.



Henry Disston & Sons, Inc.
Philadelphia, U. S. A.



DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

APRIL, 1924

No. 3

EDMOND B. ROBERTS SUCCUMBS TO BRONCHIAL PNEUMONIA

**Was a Vice-President and the Secretary of
Henry Disston & Sons, Inc.**

Edmond B. Roberts, a vice-president and the secretary of our company, died at his home in Philadelphia, February 22nd.

Mr. Roberts' health had been failing for some time, but he had been at his desk only three weeks prior to his death, which was due to bronchial pneumonia.

The career of Mr. Roberts constituted a romance of modern business. In 1890 he came to the Disston organization as an office boy, at the age of 15 years. His ability soon won for him a position assisting the secretary of the company, where his efficiency brought steady advancement. In 1908 he was appointed assistant secretary, and in 1914 made secretary and a vice-president of the company, continuing in these capacities until his death.



Edmond B. Roberts

Mr. Roberts' work had to do principally with the financial affairs of the corporation, and he became a prominent figure in manufacturing circles. He was a member of

the Union League and Manufacturers' Club and took an active part in movements to promote better conditions in manufacturing and in improving trade conditions.

The profound sorrow of our entire organization was voiced by Mr. Frank Disston, president of the company, when he said: "By the death of Mr. Edmond B. Roberts our organization has lost one of its most beloved

and valuable executives.

"His delightful personality, his great ability and his continuous energy brought him the highest esteem of all with whom he came in

(Continued on Page 23)

TWO ADDITIONAL DISSTON-MADE 108-INCH CIRCULAR SAWS

**Purchased by The Eureka Cedar Lumber and Shingle Co.
of Hoquiam, Washington**

TWO circular saws, each 108 inches in diameter, have recently been completed by Henry Disston & Sons, Inc., and shipped from Philadelphia to The Eureka Cedar Lumber and Shingle Co., Hoquiam, Washington.

These saws are exact duplicates of two Disston cut-off saws installed in the same mill in April, 1920, which won fame as the largest saws in the world.

These record-breaking saws are used for cutting giant cedar logs into shingle bolts.

Each saw was made from a steel ingot, weighing 1,140 pounds. This ingot was reheated, rolled and trimmed until the weight of the finished saw was 795 pounds.

The circumference of the saws is more than 28 feet, and the rim when operating at full speed travels at the rate of 130 miles an hour.

The teeth are inserted in the blade. It requires 190 teeth for each saw. They are of the spiral tooth type—a Disston invention. They are inserted in the blade on spiral lines, which insures smooth cutting and gives them full clearance without the necessity of setting them.

The manufacture of saws nine feet in diameter required steel of special composition, free from any defect, uniform in hardness and composition and having great tensile strength.

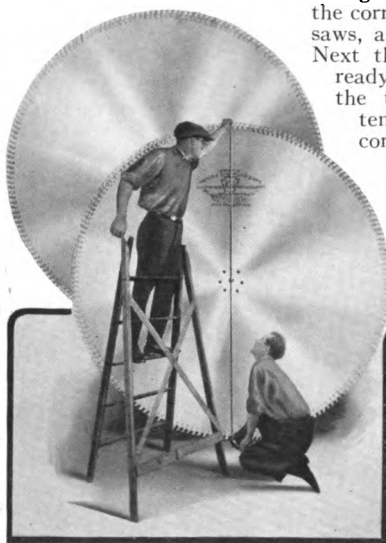
This steel was made in the Disston plant by a special process and cast in a solid block.

Then the ingots from the crucibles were heated and hammered into slabs, which in turn were rolled into plates, one for each saw. Mills of enormous strength rolled the plates to the correct dimensions for the saws, after many operations. Next the plates were made ready for the insertion of the teeth, hardened and tempered, and given the correct tension for operating at the terrific speed at which they must run.

Regular equipment in the Disston plant was used to make these saws, and they went through production in a routine way, requiring only extra help as "holders up" during the smithing process.

Henry Disston & Sons regularly catalogue solid tooth circular saws up to seven feet in diameter, which is small in comparison with the 108-inch saws just made.

Among the large saws made at the Disston plant was one with a diameter of 100 inches, used for cutting stone. In each tooth of this saw was set a diamond, to give the cutting edge. Another record-breaking Disston saw was one manufactured for a large steel works and used for cutting armor plate. This saw, 86 inches in diameter, had a blade one inch thick and was the first circular inserted tooth saw for cutting metal made and used in the United States.



**Measuring a Disston 108-inch
circular saw**

WHAT TYPE OF CROSS-CUT SAW TO USE

Article III

Reprint from Disston Cross-cut Saw Book



THE Article No. 1 and No. 2 of the series of articles on "What Type of Cross-cut Saw to Use" which appeared in the February and March, 1924, issues of the *Crucible* dealt with the various types of cross-cut saw teeth.

As the width of saw blades is quite an important point to consider when selecting a saw, so as to get best results under varying conditions, this article will be confined entirely to

Width of Saw

Classified by width of blade, Disston cross-cut saws are made in

Wide,
Medium,
Narrow,
Triumph patterns.

The latter are extra narrow saws.

Full-Width Saws: The Virginian and the Suwanee, illustrations of which appeared in the January issue of the *Crucible* represent the wide-blade type.

These saws range in width at centre from $6\frac{1}{8}$ inches to $8\frac{1}{8}$ inches, according to length, and at ends $3\frac{3}{8}$ inches to $3\frac{1}{2}$ inches, according to length.

The wide type saws are used mostly in cutting big trees and for work in heavy timber.

Medium-width saws: An example of this class is the Zip, illustrated above. These saws range in width at

centre from 5 inches to $7\frac{1}{2}$ inches, according to length, and width at ends, $3\frac{1}{8}$ " to $3\frac{3}{4}$ " according to length. These saws are used principally where the timber to be cut is not large and where a medium width saw will, therefore, have about the same relation to the trees being cut as the full-width saws would have to large timber.

Narrow Saws, like the Beaver, illustrated below, range in width at centre from 4 inches to $5\frac{1}{8}$ inches, according to length of saw, and width at ends from $3\frac{3}{8}$ inches to $3\frac{3}{4}$ inches, according to length of saw.

The saws are used by many sawyers where the timber to be cut is small. In cutting timber on a hillside where it is some times necessary to drive wedges very close to the saw in the cut, these narrow-blade saws are very popular.

Wedges are used to prevent pinching and to force a tree to fall in the desired direction.

Extra Narrow Saws, which include our "Triumph" line of saws are from $3\frac{1}{4}$ inches to $3\frac{3}{4}$ inches wide throughout. These saws were made primarily for "felling" or cutting down trees, but are also used by some for "bucking" or cutting fallen trees into logs.

GENERALLY, the width of the saw depends on the size of the trees or logs to be cut; a wide saw being preferred by many for heavy timber and a narrow saw for small timber. There are, however, many other conditions that make a general rule impossible, such as the necessity of wedging close to the saw on hillsides, etc.



Fig. 1. Flint and Bronze Saws.

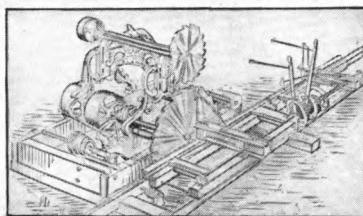


Fig. 2. Saw Mill patented 1820.

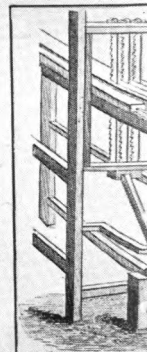


Fig. 3. Virginian Saw Mill.

SAFETY IN THE USE

By S. HORA

Vice-President, Henry Disston

(Address delivered at the
Safety Council)

MODERN industrial development, with its demand for greater and still greater production is entirely responsible for the fact that there is a safety problem in connection with the use of saws.

The saw is one of the earliest of tools. Saws have been in use from the beginning of history. But the man of the Stone Age, with his flint saw, working all day to cut through a two-inch tree-branch, had no safety problem. It is in modern times, when saw users are demanding cuts of 200,000, 300,000, 400,000 feet or more of lumber in a single day, that we are confronted with a safety problem in connection with the use of saws.

It is fascinating to trace the history of the saw, from the flint saws of the Stone Age man, through the hand saws of the Bronze Age, the more efficient cast metal saws of the Egyptians, and the first power saws, driven by water power, which cut vertically,—down to the highly developed circular, band, cross-cut and hand saws of the present day.

Some of the early flint and bronze (see Figure 1) saws have come down to us, and it would not be surpris-

ing if King Tut's favorite hand saw should be found in his tomb—for in those days saws were considered treasures.

A manuscript of the thirteenth century shows the first water-power saw-mill. In 1663 a Hollander erected the first saw-mill in England, but had to abandon it because of riots among hand sawyers, who feared the loss of their livelihood. More than a century later, in 1768, another saw-mill was erected.

America's first saw-mill was built at the Falls of Piscataqua, on the line between Maine and New Hampshire, in 1634. Saw-mills were used in Virginia as early as 1650, (see Figure 3).

The circular saw was introduced in England about 1790, and the first circular saw in this country is said to have been produced by a country blacksmith—Benjamin Cummings—at Bentonsville, New York, about 1814.

America developed the general use of circular saws for manufacturing lumber. Two Maine Yankees patented a saw-mill in 1820 (see Figure 2) which produced as much as 1,200 feet of

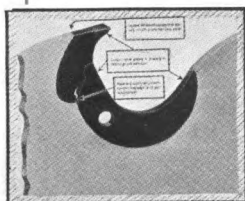
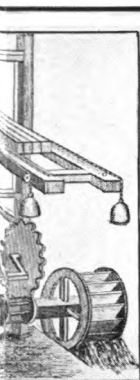


Fig. 6. Most Modern Inserted Tooth.



MR. S. HORA
Vice-P
Henry Disston



Saw Mill, (1650).

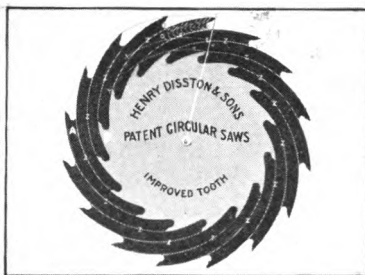


Fig. 4. Gullet Tooth Saw.

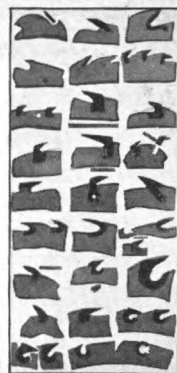


Fig. 5. Early Types of Inserted Teeth.

AND CARE OF SAWS

CE DISSTON

on & Sons, Inc., Philadelphia

before the National
cil in Chicago)

lumber a day—a great output for those times.

The saws used on these early mills were crude round sheets of metal, hammered flat on an anvil, with roughly punched out teeth.

The next development was the invention of the gullet tooth saw (see Figure 4)—a saw having round gullets, providing larger saw-dust chambers and so reducing the liability of breakage.

Next came the inserted tooth saw, also known as the chisel tooth saw, which provided a way to replace the teeth when worn, without reducing the diameter of the saw.

The difficulty with the early inserted teeth (see Figure 5) was that there was no really satisfactory way of holding the teeth in place. However, this difficulty was overcome later, and progress in this field became rapid.

The perfection that has been attained in modern saws of this type is shown by the Invincible Saw—the most recent development in inserted tooth saws (see Figure 6).

This type of saw is known as a "log" saw and is used for manufac-

turing or ripping lumber from logs.

Circular saws of the inserted tooth pattern also have been developed for the cutting-off of logs.

We have manufactured saws of this type as large as 108 inches in diameter for use on the Pacific Coast. These are the largest circular saws ever made (see Figure 7).

With the old-time saws, running at low speeds, one did not require the factor of safety needed in the modern high speed saws.

These 108-inch saws, weighing 795 pounds each, are made to operate at a rim speed of 130 miles an hour.

Just as the circular saw was developed step by step, so was the band saw. The first endless band saw was patented in 1808.

In 1876, at the Centennial Exposition, we exhibited a band saw six inches wide. This saw was considered a wonder at that time—both in size and speed. Today the standard widths of band saws range from 10 to 16 inches.

They average from 44 to 66 feet long and travel at a speed of from 7,500 to 10,000 lineal feet a minute.

(Continued on
Page 23)



HENRY DISSTON
President
on & Sons, Inc.

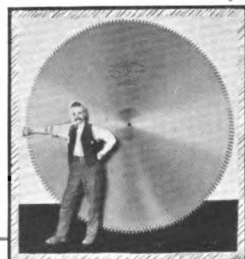


Fig. 7. 108-inch Saw.

CRACKED NUTS

From time to time we have received various questions about saws, saw mills, steel, etc. Some of them, with their answers, appear below.

Should any of our readers wish to know anything else on the subjects referred to, write us, and the answer will appear in a later issue of the Crucible.

Question—What is a Mulay Saw?

Answer—A pattern of saw in general use about 60 years ago for sawing up logs into boards and dimension stock—commonly known as an "Up and Down" saw. Usually made 5 feet to 6 feet long, 8 inches wide, 8 gauge. Has been superseded by circular saw—only an occasional mill left using Mulay rig. Mulay is from the German word, Muhlsage, which means mill-saw.

Question—What is meant by bit, or bits, in saw phraseology?

Answer—The part of an Inserted Tooth (removable) saw that does the cutting—a tooth consisting of a holder and bit. Bits are also called Points and Teeth.

Question—How wide and how long are band saws usually made?

Answer—Band saws are made up to 18 inches wide and 66 feet long.

Question—Besides the circular and band saws, what other saws are used in a modern mill?

Answer—In addition to large circular and band saws, mills use edger, trimmer, slasher, bolter, lath saws, band resaws, butting, jump and rift saws.

Question—Are saws made from any other material than steel?

Answer—No. Steel is the only material possessing the necessary qualities to meet the requirements of the modern saw.

Question—What is a wobble saw?

Answer—A wobble (sometimes called a drunken saw) is a circular saw of small diameter, placed between two wedge shaped collars and firmly held in position between the tight and loose collar of mandrel by tightening nuts same as with ordinary saw; the greater the angle the wider the groove or kerf. It is a member of the grooving-saw family.

Question—What is meant by right and left-hand mills?

Answer—Mills are known as right or left-hand, according to the side on which the log is fed to the saw. In ordering wide bandsaws or circular saws for saw-mill use it is always necessary to state whether they are for a right or left-hand mill.

To determine the hand, stand in front of saw with it cutting toward you; if log passes saw to the right it is right-hand, and if to left, left-hand.

Question—Do Disston's make an inserted-tooth circular cross-cut saw? If so what are they like? For what purpose are they used?

Answer—Yes, Disston's make inserted-tooth circular cross-cut saws, but only in diameters of 36 inches and larger, with three styles of teeth, two and four prong sections and Spiral tooth. These saws are particularly adapted for use in stave mills; also for slab and slasher saws, and for all mills where logs and cants are cut into short lengths or bolts.

QUESTION—Does the Disston firm make its own steel?

ANSWER—In 1855 Henry Disston built and operated his own steel mill, because the best steel he could purchase did not meet with what his expert knowledge of saw requirements demanded. He then investigated and experimented until he developed formulas from which is made the finest saw steel in the world.

Edmond B. Roberts Succumbs to Bronchial Pneumonia

(Continued from Page 17)

contact, and every member of the Disston organization regards the death of Mr. Roberts as a personal loss."

Mr. Roberts was born in Philadelphia, September 17, 1875, and was 48 years old at the time of his death. He is survived by his widow, Mrs. Ida De V. Roberts, and a brother, Elmer S. Roberts, a member of our Hardware Sales Department.

As a tangible evidence of respect and sorrow for Mr. Roberts, the entire works was closed February 25th, the day of the funeral.

The forest products manufactured by the Bloedel Donovan Lumber Mills in the last twenty-five years would build a city twice the size of Seattle.

Answers to Saw Mill Puzzles in the March Crucible

- No. 1—Guides
- No. 2—Re-Saw
- No. 3—Hog
- No. 4—Offset
- No. 5—Bumpers
- No. 6—Slab Saw

It is our intention to run another series of puzzles in the near future, and we are open to suggestions as to what line or kind of puzzles would be most desirable to our readers.

A FREAK TREE

Entered in Our Recent Crisp \$10.00 Bill Contest

As stated in a previous issue, several of the freak trees entered in our recent "Crisp \$10.00 Bill Contest" received favorable comment from the judges who awarded the prize. We purchased the right to reproduce these in the Crucible.

The one on this page was sent us by Miss Daisy Hays, of Haslam, Texas. It is a long leaf pine, and stands alone on the cut-over section of the pine district owned by the Pickering Land and Lumber Co., at Cravens, Louisiana.

"Fred," the horse, standing between the trunks belongs to the Pickering Company. He is the saddle horse used by the woods foreman.

Miss Hays informs us that some years ago it was rumored that a sum of money was buried in the neighborhood of

this tree and the natives came from far and near in search of the treasure. The tree was almost uprooted by their digging but the money remains unfound.

Safety in the Use and Care of Saws

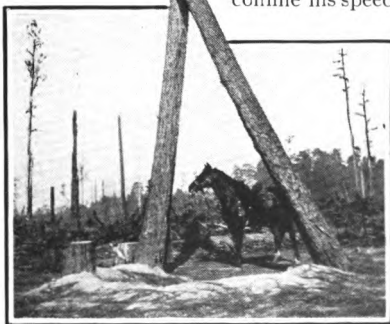
(Continued from Page 21)

Circular saws for wood, both solid and inserted tooth, should run at a rim speed of about 10,000 lineal feet a minute.

In the state of California there is a law governing the speed of circular saws, which states that the operator must confine his speed as nearly as possible

to the standard of 10,000 feet rim motion a minute. The law allows a variation in excess of this speed of ten per cent, to take care of the difference between direct drives, which are positive drives, and belt drives.

(Continued in May Crucible.)





SAWDUST

"I'll be dammed," said the brook as the lady fell off the bridge.

Visitor—So you really think Yarmouth is a healthy place?

Native—Healthy! Why, we cure herrings here after they're dead!

Mr. Oldby—I am a self-made man, sir. I began life as a barefoot boy.

Kennard—Well, I wasn't born with shoes on, either.

"I was so confused, I don't know how many times he kissed me!"

"What! with the thing going on right under your nose?"

Unlucky Motorist (having killed the lady's puppy): "Madam, I will replace the animal."

Lady: "Sir, you flatter yourself."

The traveling salesman walked up to the magazine counter and said to the girl there—"Have you Life?"

"Judge for yourself," she replied, giving him a Punch.

The boss stood on the burning deck, Whence all but him had fled.

"I'm going to stick right here, by heck, 'Till I scale these logs," he said.

—*Deschutes Pine Echoes.*

Buxom colored lady at Darktown revival service rapturously exclaimed: "Last night I was in de arms ob de debel; tonight I's in de arms ob de Lord!"

Gentleman's voice from the rear: "Got a date for tomorrow night?"

"What is more to be desired in an accident than presence of mind?"

"I don't know. What?"

"Absence of body."

Mrs. Noah—"Noah, dear, what can be the matter with the camel?"

Noah—"The poor beast has both the fleas."

"I have been on this train seven years," said the conductor of a slowly-moving Southern train, proudly.

"Is that so?" said a passenger. "Where did you get on?"

Aspiring young man to Senator: How did you become such a wonderful orator?

Senator: I began by addressing envelopes.

—*Judge.*



Permission

Metropolitan Life Ins. Co.

Said one hardware salesman to another in a restaurant: "What's the matter, Bill? You are only eating crackers and milk. Are you on a diet?"

"No, on commission."

"Johnny! What do you mean by coming to school with your hair in that disgraceful condition?"

"No comb, mum!"

"Can't you use your father's comb?"

"No hair, mum!"

Wife (on auto tour)—That man said there was a roadhouse below here. Shall we stop there?

Hubby—Did he whisper it or say it out loud?

—*Kelloggs' Square Dealer*

"A Merry Heart Doeth Good Like A Medicine"

*You will Learn
what big
industry Proved—*

DISSTON HACK SAWS CUT EASIER

You may think any hack saw is good enough, but only until you use a DISSTON.

Then you will know the difference, just as great metal-working industries know it after the rigid tests that led them to standardize on Disston.

For Disston Hack Saws are unlike any others — different in steel, in design, in workmanship, in the service they render to their users.

The reputation of Disston as saw makers for 84 years stands firmly back of every Disston Hack Saw Blade.

Use hack saws that insure complete satisfaction.

Write for a sample hack saw blade and convince yourself that Disston Hack Saws cut easier and stay sharp longer. Address Dept. O.

Henry Disston & Sons
Incorporated
Makers of
"The Saw Most Carpenters Use"
Philadelphia, U. S. A.



THE TEETH CUT FASTER

The teeth of Disston Hack Saws are cut at a special angle — the one angle that insures the fastest, easiest work. No other hack saws have this advantage, which is just another evidence of the care with which Disston makes saws.

DISSTON

SAWS TOOLS FILES



AT YOUR SERVICE

The House of Disston has 13 distributing branches. These branches co-operating with the general office and factory here at Philadelphia, are at your service. Call on them for anything you need.

HENRY DISSTON & SONS, Inc. *GENERAL OFFICES AND FACTORY* **PHILADELPHIA, U. S. A.**

BRANCHES :

Henry Disston & Sons, Inc., of Illinois
Jefferson Street & Washington
Blvd., Chicago, Ill.

R. B. McKim Company, Inc.
116-118 Pearl Street
Boston, Massachusetts

The Henry Disston's Sons Company
Sixth & Baymiller Streets
Cincinnati, Ohio

R. B. McKim Company, Inc.
120-122 Exchange Street
Bangor, Maine

Henry Disston & Sons, Inc.
322 Occidental Avenue
Seattle, Washington

The Reichman-Crosby Company
223-235 South Front Street
Memphis, Tenn.

Henry Disston & Sons, Inc.
144 Second Street
San Francisco, Calif.

C. T. Patterson Co., Ltd.
New Orleans, La.

Henry Disston & Sons, Inc.
130-132 Marietta Street
Atlanta, Ga.

Henry Disston & Sons, Inc.
91 First Street
Portland, Oregon

Henry Disston & Sons, Ltd.
2-20 Frazer Avenue
Toronto, Canada

Henry Disston & Sons, Ltd.
80 Sussex Street
Sydney, Australia, N. S. W.

Henry Disston & Sons, Ltd.
Vancouver, B. C., Canada

Export Office :

Henry Disston & Sons, Inc.
120 Broadway
New York City

Distributors for Great Britain and Ireland:

Henry Disston & Sons (Great Britain) Ltd.
35, 36, 37, Upper Thames Street
London, E. C. 4, England

The **DISSTON** **CRUCIBLE**

MAY

1924

GOUGING CHIPS
FROM A
CAMPHOR TREE



They bought TWO MORE Disston 108-inch Saws



Largest saws ever made bring orders for others

THE first 108-inch circular saws—the largest ever known—were made by Disston in 1920 and installed in a great shingle mill in Hoquiam, Washington.

Today two more Disston Saws of the same size and style are on their way to the same mill, owned by The Eureka Cedar Lumber and Shingle Company.

The first order brought the second. Four years of steady use had proved that these larger Disston Saws did better work at lower cost.

Whatever style or size of saw you use, you will find always — just as the Eureka Mill did — that nothing can take the place of Disston.

Henry Disston & Sons, Inc.
Philadelphia, Pa., U. S. A.

Cincinnati	Chicago	Seattle, Wash.	Portland, Ore.
New York	San Francisco	Atlanta	
Memphis, Tenn.	Bangor, Me.	Boston, Mass.	
New Orleans	Toronto, Can.	Vancouver, B. C.	

FACTS

about Disston 108-inch saws

Inserted spiral tooth type, with 190 teeth.

Made from Disston Steel ingot weighing 1140 lbs.

Weight of each finished saw, 795 lbs.

Circumference, more than 28 feet. Rim travels at rate of 130 miles an hour.

Made with Disston regular equipment.

Used for cutting shingle bolts from the largest timber.

DISSTON

DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

MAY, 1924

No. 4

NOVEL ROOF GARDEN

An Ideal Place to Spend a Hot Summer Evening—A Wise Builder—"May His Tribe Increase"

THE illustration on this page shows that a Chicago builder used rare, good judgment, and practical common sense in coping with a problem that to most builders would have meant the destruction of a fine shade tree.

The builder was about to erect a building on a site upon which stood a good-sized tree. Being a lover of nature, and realizing that it took many years to grow a shade tree with wide spreading branches, while a building could be erected "any old time," he planned to have the benefit of both the tree and the building.

Accordingly, the Chicagoan built around the tree and up to within a few feet of the first limb. Then he put a substantial roof on the building and converted it into a veritable roof garden for the comfort and convenience of himself and family.

Cosy and inviting! Oh, boy! Some

ideal place to spend a hot summer evening with one's family and friends—forget the cares of a strenuous day, enjoy the breeze and engage in a game of hide-and-seek with the stars as the green-foliaged branches of the tree sway to-and-fro.

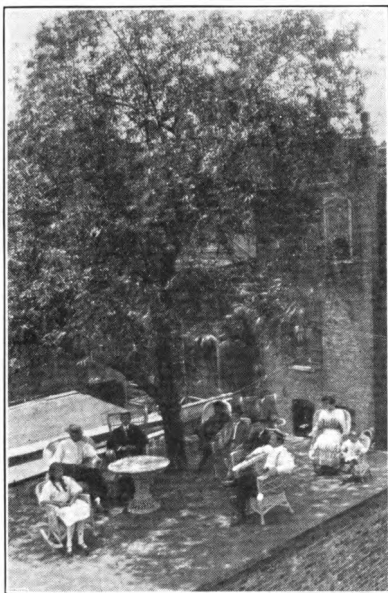
Surely, the tree, as it stands today, furnishing pleasure and comfort, is a valuable asset to the property.

Has not many a splendid tree been hewn down when it could have served mankind better if left standing?

The thoughtfulness of our Chicago friend suggests the following slogan: *If you can't plant a tree, save one.*

All over the country this spring, the cry was heard: "Plant a tree"—proclamations by governors, observation of

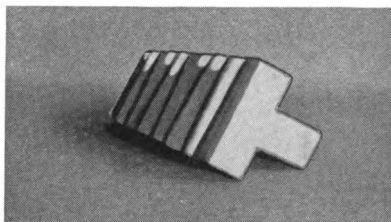
Arbor Day, newspaper and magazine appeals to the people. The wisdom of this appeal, from more than one standpoint, is obvious. So, if we can't plant, probably we can save a tree.



Novel Roof Garden

Building Scrapper

In Geneva, Switzerland, most buildings, except those in the suburban districts, are constructed of stone as there is an abundant supply of this



kind of material in the country. Cement is also used to a great extent. In renovating and re-conditioning these houses, because of the erosion of the stone and the accumulation of dirt, the surface is scraped with a special sort of tool (see illustration) consisting of a wooden block equipped with a series of serrated steel strips set slightly at angles to each other.

Seek Polish Timberland

A project is under way for the concession of timber rights in the Polish forest of Bialowieska, one of the largest in Europe, to a consortium of American financiers, according to announcement by the Polish Press Bureau in London. The Americans are stated to have offered the Polish Government \$40,000,000 for the concession. This forest covers 470 square miles of flat and partly marshy land, between the Niemen, Bug and Pripiet rivers.

In the Dominican Republic, British West Indies, there are large areas of timberland, yet the lumbering industry has not developed to any extent, and for most purposes, imported southern pine is used, due to the lack of roads in the interior. It is cheaper to secure lumber from southern U. S. ports than to transport from forest areas only a few miles distant.

The few small sawmills here, and the carpenters in general, use American tools, and the methods in general use are the same as in the backward communities of the United States.

The Lion Tree

Near the Mills of John Sadd & Sons, Ltd., Malden, England

We are pleased to present in this column the illustration of the "Lion Tree" which was entered in our recent Crisp \$10.00 Bill Contest for freak trees.

This well-known scion of English treedom is indeed unique. The profile of his lionship as formulated by the peculiar growth, bespeaks wholesome respect. His haughty bearing seems to express: "Woe unto the one who twists my tail, regardless of your nationality."

The lion tree stands sentinel near the sawing and planing mills of John Sadd & Sons, Ltd., English and foreign timber merchants of Malden, England, and we are indebted to Mr. Harvey Hunt for the photograph of it.

"Incidentally," Mr. Hunt writes, "I worked at a joiner's bench forty years



The Lion Tree

ago, beside a mechanic who swore by Disston saws. He had a handsaw which he brought over here from your works, which allowed him to bend the point of the saw up into the handle hole, and immediately resume its correct shape upon being released."

The best piece of good fortune which can come to one is opportunity for intimacy with a leader, in whatever line of life he may be engaged.

—Edward Everett Hale.

WHAT TYPE OF CROSS-CUT SAW TO USE

Article IV

Reprint from Disston Cross-cut Saw Book



article will deal with length, gauge, or thickness of saws.

Length of Saw

Disston Cross-cut Saws are made in lengths varying from 2½ to 16 feet. The length of a saw depends entirely upon the size of the material to be cut. Generally speaking, a cross-cut saw should be long enough so that about half the length of the blade is out of the cut on each stroke. This should be taken into consideration when ordering saws.

Our cross-cut saws for general use range in length from three to eight feet. Saws made for use on the Pacific Coast where most of the timber is very large in diameter, as witness the Sequoia, or redwoods, of California, and the Douglas fir of Oregon and Washington, (more of which will appear later in an article on "Pacific Coast Cross-cut Saws") range in length from five to sixteen feet.

Gauge, or Thickness of Saw

All Disston High-grade Cross-cut Saws are ground on lines to conform with the tooth edge of the saw. They taper to the back along these lines,

leaving the blade of uniform thickness along the entire length of the cutting edge. This prevents any binding of the saw in the kerf and as the saw is repeatedly sharpened, it is worn down to a narrower saw, but in the Disston method of grinding, retains always an even gauge on the tooth edge.

Wide saws, such as the Virginian and the Suwanee, have a six-gauge taper to the back. This taper, ground by the Disston process, gives ample clearance for the saw blade in the cut without sacrificing the necessary elasticity and stiffness.

It is apparent that a narrower saw, ground along the same lines, needs fewer gauges of taper to give the same clearance to the blade. For instance, the medium width saws, such as the Zip and Buzz, have the same amount of clearance as the wide saws, but have only a five-gauge taper.

The Disston cross-cuts are tapered variously from three to six gauges, depending upon width of blade.

Correct Gauge and Taper

Result of Experiments by Experts

After many years of painstaking experiments by expert sawmakers assisted by expert saw users, Disston's not only evolved the present standard of gauge and taper of their cross-cut saws, but also reduced the method of obtaining the gauge and taper to a science.

To this end special machinery was built, which, plus the theoretical and practical knowledge, and long experience of their little army of saw-making craftsmen, a Disston cross-cut has that certain correctness of gauge and taper, which is distinctively Disston.



SAFETY IN THE USE

By S. HORVATH

Vice-President, Henry Diss

(Address delivered before the
Council of the American Society of Mechanical Engineers)

UNLESS otherwise ordered, saw makers put into saws the proper amount of tension for proper speed and there is danger in operating circular saws in excess of 10,000 feet rim motion a minute.

For example, we recently had occasion to call on a manufacturer of

saws in diameter at a speed varying from 7,500 to 10,000 lineal feet a minute, running under a very heavy straining device.

It has taken years

of experience in the manufacture of steel, as well as experience of practical men in the manufacture of saws, to bring them up to the present point of efficiency so that they will maintain this rate of speed in perfect safety.

In the interest of safety and efficiency, proper speed is very important, but there are other things that enter into the operation of saws that should have your consideration.

Tension is one of the very important operations in the manufacture of saws. All saws, if properly made and properly tensioned, are what we call "open" to a more or less degree through or toward the center (see Figure 8) to

suit the speeds and kind of work for which they are intended. The object is to keep the edge strained or tensioned on a straight line so as to prevent the saw

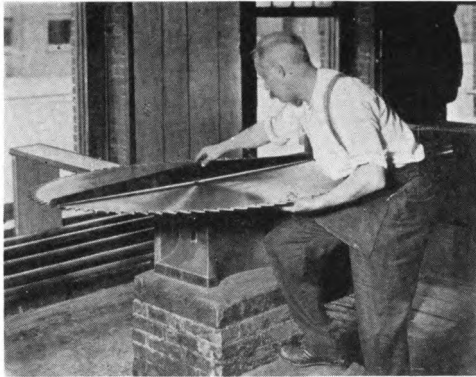


Figure 8—Appearance of a saw having correct tension. Notice space between straight edge and center of saw.

wood-working machinery who was using our saws on his machines. This manufacturer complained that our saws cracked. Upon investigation, we found that the saws were being run at a much higher rate of speed than was specified. This caused the cracking.

It will be seen from this that it is necessary and important that saws be operated at the speed for which they are tensioned.

What has been said regarding speed of circular saws, applies also to band saws—particularly the wide band saws that are used in large lumber mills of the country for manufacturing lumber from logs. These saws, from 10 to 16 inches wide, 44 to 66 feet long, are very thin, ranging from 16 to 11 gauge in thickness. They travel over two pulleys from 7 to 10 feet



Figure 9—Appearance of a saw that has lost its tension. Notice the space between straight edge and rim of saw.

AND CARE OF SAWS

CE DISSTON

on & Sons, Inc., Philadelphia

ore the National Safety
n Chicago)

April Crucible.)

not follow a straight line in the cut and this sometimes causes cracks and other damage to the saw, possibly injuring the operator or the machine.

We have known of cases where attempts have been made to operate saws after cracks have appeared. This is a dangerous practice.

There is a law on the statute books of the State of Washington governing the operation of saws that have cracks in them.

A saw may gradually lose its correct tension (see Figure 9) in service. Then it requires hammering by hand, just as is done with new saws, until it has been restored to its original condition. As a measure of safety, none but experienced and competent workmen ever should be allowed to tension a saw. Many accidents have been caused by the failure of saw operators to observe this precaution.

This also applies to the sharpening and setting of teeth. Experienced,

from chattering, or cutting a zig-zag kerf through the timber.

Proper tensioning is an important factor of safety because a saw not properly tensioned will

competent men should do this work.

One feature in connection with the sharpening of the teeth of circular saws which causes a considerable amount of breakage, is the filing of sharp corners or nicks in the bottom of the gullets. (See Figure 10.)

Another thing that may cause break-

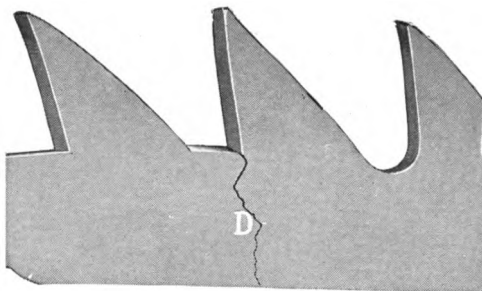


Figure 10—Crack resulting from square gullet, shown at "D."

age, is the practice of running a saw with too much set to the teeth. The set should be just sufficient to permit clearance. If it is increased beyond this point, too much strain is placed on the rim of the saw, forcing the teeth apart sidewise. This not only destroys the tension of the saw, but is liable to fracture the blade.

Again, we have cases where the teeth are filed with too much bevel. (See Figure 11.) This usually causes the saw to take too deep a bite on the material to be cut. It increases the strain on the rim of the blade and may cause breakage of the teeth.

Another practice to be avoided is that of carrying too much hook, rake, or pitch on the face of the teeth. This also causes the teeth to take too much bite on the material being cut and may result in broken teeth.

Operating saws with dull teeth has resulted in accidents. Dull teeth do not cut through the material as

(Continued on Page 31)

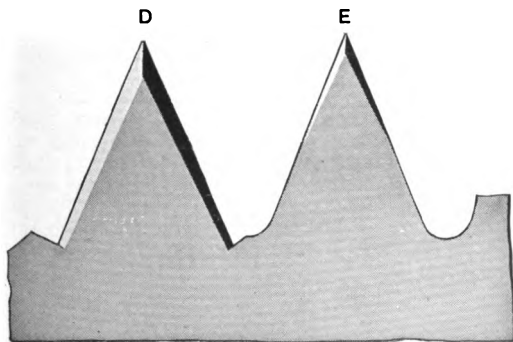


Figure 11—"D" incorrect bevel. "E" correct bevel.

CRACKED NUTS

In last month's Crucible we printed on the "Cracked Nuts" page a number of questions and answers pertinent to young lumbermen, mill-men, forest and manual training students, et al. Another list of questions and answers appear below. As long as the questions come in we will answer them. In fact, we will welcome questions from anyone on any point relating to saws, saw mills, steel, etc. So, come along with your questions.

Question—Other than wood and metal, what materials are cut with saws?

Answer—Band Saws and Circular Saws are employed to cut a great variety of materials in addition to wood and metal, viz; Slate, Hard Fibre, Paper, Bone, Meat, Rubber, Ivory, Asbestos, Bakelite, Condensite Magnesite, Horn, Amber, Cloth, Bronze, Brass, Copper, Aluminum, Nickel, Iron, Steel, Carbon, Ice, Celluloid, Talc, Camphor, Mica, Pearl, Shell, Cardboard, etc.

Question—Are bandsaws made with inserted teeth?

Answer—Henry Disston & Sons, Inc., made several inserted tooth Band Saws for sawing stone. One of these was 45 feet, 6 inches long, 8 inches wide, and contained 273 inserted teeth, each with a diamond embedded in the point. The teeth of these saws were small—only $\frac{3}{4}$ inch in length—and cast around the diamond points. They were of a square form, fitting into square sockets in the saw plate. As anticipated, these saws proved impracticable.

Question—What is meant by Peripheral Speed?

Answer—The speed at which the rim, or teeth of a circular saw moves.

Question—Do band saws run at a high rate of speed?

Answer—By way of comparison, a

band saw travels as fast as the fastest aeroplane, or about $1\frac{3}{4}$ miles a minute.

Question—What is meant by reciprocating saws?

Answer—Reciprocating saws are saws which move up and down, or back and forth, such as cross-cut saws, drag saws, mill saws, gang saws, pit saws, etc.

Question—What is the difference between Rip and Cross-cut Circular Saws?

Answer—The difference between these two classes of circular saws is in the teeth; the cross-cut being designed to cut across the grain with an action similar to a number of small knife blades. The rip saw is designed for ripping apart when cutting

parallel with the grain with an action like that of many chisels.

What is Hardening?

Hardening consists of cooling, (more or less rapidly) steel from above a certain temperature or redness. This treatment produces more or less hardness in the steel which usually must be modified by tempering to remove the brittleness.

What is Tempering?

Tempering consists of reheating or warming up hardened steel to remove the brittleness usually present after hardening.

QUESTION—How large are Circular Saws made?

ANSWER—The largest circular saw ever made is 108 inches in diameter. It is more than 28 feet in circumference, has 190 teeth, and weighs 795 lbs. In operation the rim travels at the speed of 130 miles an hour. Disston has made four of these saws for sawing the great logs of the Pacific Coast.

Safety in the Use and Care of Saws

(Continued from page 29)

fast as it is being fed to the saw. This usually results in the saws being forced over the collars, and, in some cases, breaking around or near the collar line.

Care should be taken to avoid case-hardening in the sharpening of saws with emery wheels. This applies to both circular and band saws.

Operators should take particular care to see that the collars on the arbors of machines on which circular saws are used are true, and that only the outer edge of the collar comes in contact with the saw when tightly clamped in position.

In some instances, we have discovered that the inside of the collar has not been machined out properly, thereby causing a bearing on the inside of the collar line. This forces the rim of the saw out of line, so that when it comes in contact with the timber, there is produced a buckling effect on the saw, causing it to heat both on the rim and near the collar line, and in some instances causing breakage.

It is important, not only to insure the best service, but as a matter of safety, that the saw be in perfect alignment with the timber to be cut so that it will run entirely free in the cut.

Another condition which repeatedly causes trouble is due to an accumulation of sap or gum, permitted to remain on the band saw blade. Such accumulations, continually carried over

the wheels by the saw, forms uneven places on the surface of the wheels; places an uneven strain on the saw, and may cause breakage.

Then, of course, there are accidents which are due to carelessness on the part of the operator or other employees.

For instance, in a Southern saw-mill, an operator rolled a log against the side of a band saw. Fortunately, the saw did not break. (It is interesting to note, here, that the steel used in these

saws will withstand not less than 200,000 pounds of pull to the square inch.) However, the saw was so greatly strained that when it was taken off the wheels, it coiled four times around itself. (See Figure 12.)

In a brief summary of this kind, it is impossible to do more than merely touch the high spots of the requirements for safety and efficiency in the operation of saws.

My talk has had to do only with wood cutting saws, but the same general principles apply to saws for cutting metal, slate, paper, bone, pearl, ice, talc, ivory, cloth, meat, rubber and all the hundreds of products on which saws are used.

The manufacturer is doing all in his power to promote the cause of safety with saws, and a great deal has been accomplished; but, after all, the final responsibility for safety lies with the operator, just as it does in the case of all power machinery.

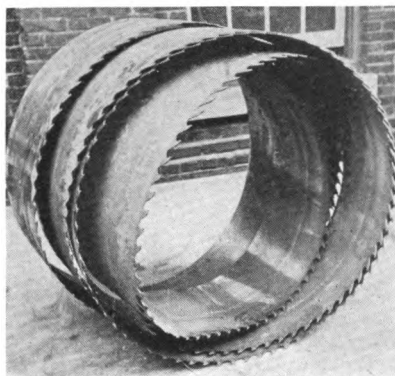
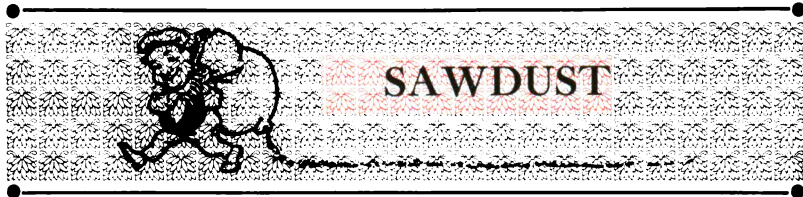


Fig. 12—Accident causing Disston band saw to coil four times around itself without breaking.

In 1916, Norway had 2205 sawmills. The labor employed numbered 22,077, together with 1519 higher officials. Besides the sawmills, there exist also 183 wood pulp mills and paper factories.

The fellow who makes no mistakes and the fellow who does nothing, get along very well together.



Farmer Brown (on being asked if the tornado of the night before had damaged his barn)—"Derned if I know, I ain't found the danged thing yet."

Young Wife—"If this is an all-wool rug, why is it labeled cotton?"

Shop Assistant (confidentially)—
"That, madam, is to deceive the moths!"

Pat (surveying the ruins of the farmhouse)—The lightning's been after striking your house, I'm thinkin'.

Mike — Striking be dommed, it's been workin', you mean.

Mother (having related a sad story):
Now, Billy, wouldn't you like to give your bunny to that poor little boy who hasn't any father?

Billy (clutching rabbit): Couldn't we give him father instead?

An old Cornish "Granfer" was asked what he did when he bowed his head in church so reverently just before the service began.

"Well," replied the old man, "that's a fair question an' I'll gie 'ee a fair answer—I dahn't know what other folk dus, but I du always count vorty, myself!"

He—"Oh, Peggy, I shall be so miserable all the while I'm away from you."

She—"Oh, darling, if I could be sure of that it would make me so happy!"

The garage keeper's little daughter never had happened to see a dachshund before.

"Look, papa," she exclaimed, "seewhat a long wheel-base that dog's got."

Teacher—"So you don't know which letter comes next to H?"

Boy—"No'm."

Teacher—"What have I on each side of my nose?"

Boy—"Looks like powder, ma'am, from here."

"Very, very sad, sir," said the doctor. "I greatly regret to tell you your wife's mind is completely gone."

"Well, I'm not surprised, Doc," returned the husband; "she's been giving me a piece of it every day for the last fifteen years."

A teacher of music in a public school was trying to impress upon her pupils the meaning of *f* and *ff* in a song that they were about to learn. After explaining the first sign, she said, "Now, children, what do you say; if *f* means forte, what does *ff* mean?" "Eighty!" shouted one enthusiastic pupil.



When driven to desperation, nights, by a "Thomas" serenade on your neighbor's fence, don't shoot; just becalm yourself and repeat deliberately the following limerick and either the cat or yourself will lapse into unconsciousness:

A feline tenor on my neighbor's fence
Comes dam near being the height of
nonsense,

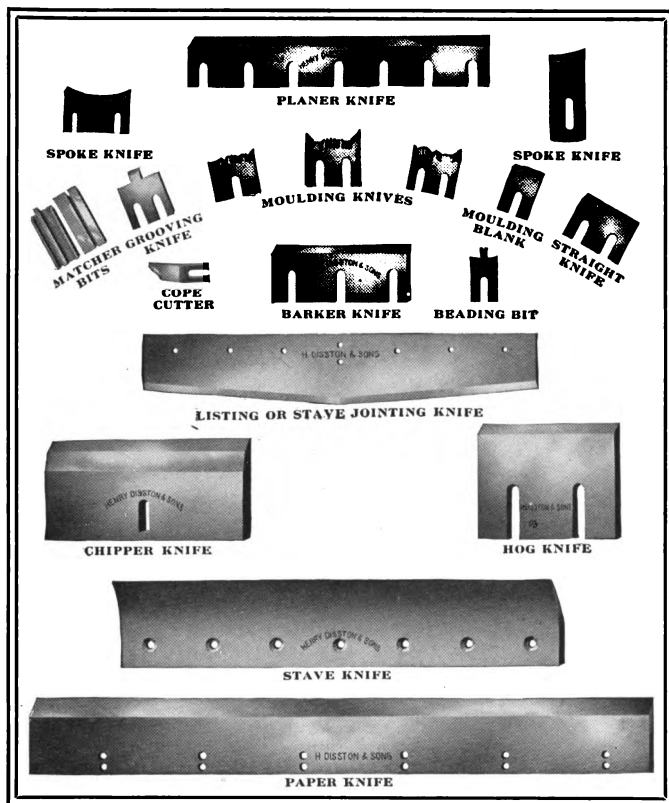
His exasperating "ma-ri-a-a-a"

As his back goes high-er-r-r-r

Should invoke the wrath of Omnipotence.

STORIES COME IN LOTS. FIGHT IN LOTS.

Better Work



As in saws, so in the manufacture of all kinds of Machine Knives used in the various industries—the name Disston means the utmost in service and satisfaction. Not only that, but the name Disston on such tools is a guarantee of the finest edge-holding steel and the highest standards in design, workmanship and finish—factors that mean **BETTER WORK** for the user who always specifies **DISSTON**.

Remember—Disston Quality is always in demand and, as it takes time to produce such quality, it is well to anticipate your requirements and order in advance of your needs.



Henry Disston & Sons, Inc.
Philadelphia, U. S. A.



DISSTON

SAWS TOOLS FILES

Back Saws

Band Saws for Wood and Metal



Bevels
Buck Saws
Butcher Saws and Blades
Cabinet Scrapers

Chisel Tooth Circular Saws

Circular Saws for Wood,
Metal, and Slate

Compass Saws

Concave Saws, Circular

Cross-cut Saws

Cut-off Saws

Cylinder Saws

Dovetail Saws

Drag Saw Blades

Edger Saws

Files and Rasps

Filing Guides

Gang Saws

Gauges, Carpenters' Marking

Grooving Saws

Hack Saw Blades

Hack Saw Frames

Hand, Panel, and Rip Saws

Hedge Shears



Ice Saws
Inserted Tooth Circular
Saws

Keyhole Saws

Kitchen Saws

Knives—Cane, Corn, Hedge

Knives—Circular—for Cork, Cloth,
Leather, Paper, etc.

Knives—Machine

Levels—Carpenters' and Masons'

Lock Corner Cutters

Machetes



Mandrels

Metal-slitting Saws



Milling Saws for Metal

Mitre-box Saws

Mitre Rods

Nest of Saws

One-man Cross-cut Saws

Pattern Maker Saws

Plumbs and Levels

Plumber Saws

Post Hole Diggers

Pruning Saws

Rail Hack Saws

Re-saws

Saw Clamps and Filing Guides

Saw Gummers

Saw-sets

Saw Screws

Screw Drivers

Screw-slitting Saws

Scroll Saws

Segment Saws

Shingle Saws

Siding Saws

Slate Saws, Circular



Squares, Try and Mitre

Stair Builder Saws

Stave Saws

Straight Edges

Sugar Beet Knives

Swages

Tools for Repairing Saws

Tool Steel

Trowels—Brick, Plastering,

Pointing, etc.

Veneering Saws

Webs—Turning, Felloe, etc.



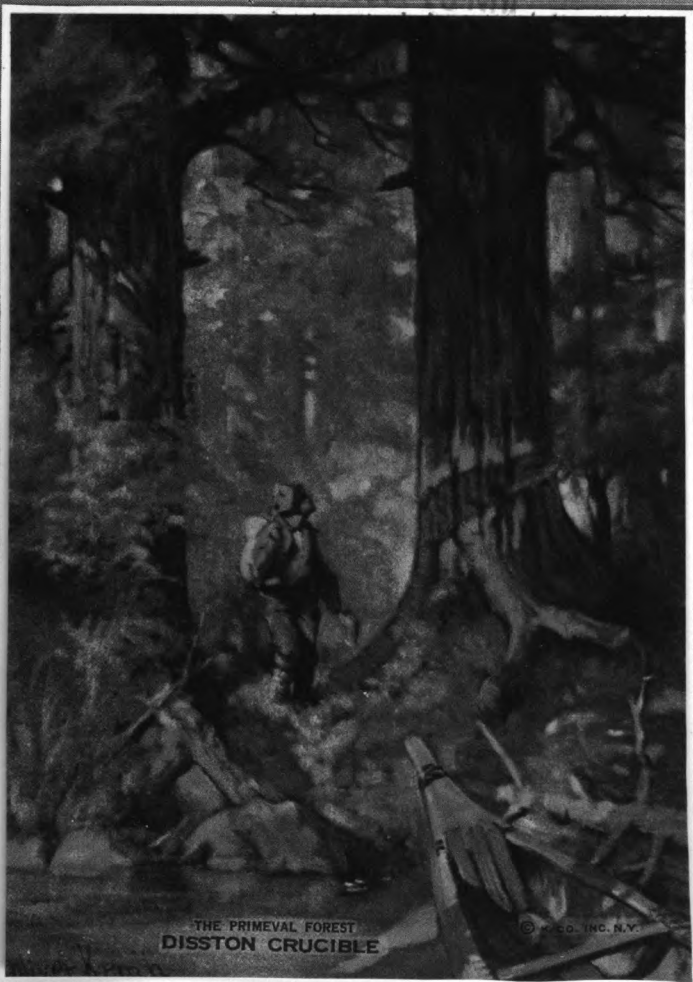
This is a partial list. There are thousands
of items in the complete Disston line.

*Use Disston Saws, Tools, Files
in All Your Work*

508.1
DF

Comm R, R

The
DISSTON
CRUCIBLE



JUNE, 1924

What do you know about Hack Saws?

Why do Disston Hack Saws cut faster, cut easier, and stay sharp longer than ordinary blades?

What "point" of hack saw—14, 18, 24, or 32—is best for cast iron? Cold rolled stock? Copper? Brass? Tool Steel? Thin tubing?

How does thickness of stock to be cut affect the choice of the blade to be used?

How should a blade be used in a hand frame?

How should a blade be used in a power frame?

What causes breakage of blades?

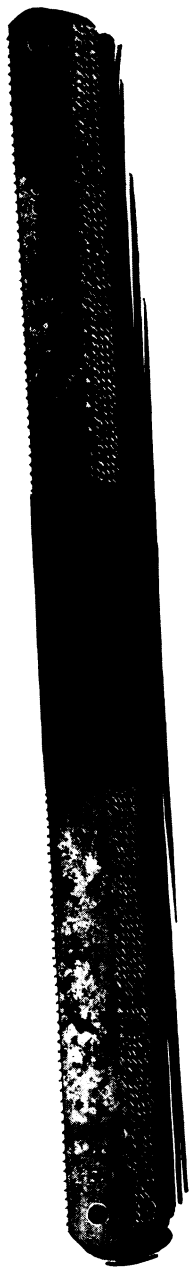
These and many other questions are answered for you in the "Disston Hack Saw Letter." Write for it; you'll find it helpful.

Henry Disston & Sons, Inc.

Makers of "*The Saw Most Carpenters Use*"

Philadelphia, U. S. A.

DISSTON
SAWS TOOLS FILES



DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

JUNE, 1924

No. 5

A MONSTER BASE BALL

**Recently Presented to the Military Training Camp, Chicago
—Is Being Relayed Around the Country**

WITH the baseball season in full swing the time seems apropos to present to our readers a picture of the largest base ball in the world.

Every full-blooded American boy, and man too, for that matter, is interested in the great national game. Every mother's son of them at one time or another played, or at least tried to play the game.

Baseball was first played in 1845 (five years after the Disston Saw works was established) in a very crude way; practically no skill being required to play it.

The first real step in the development of the game was made by the Knickerbocker Club of

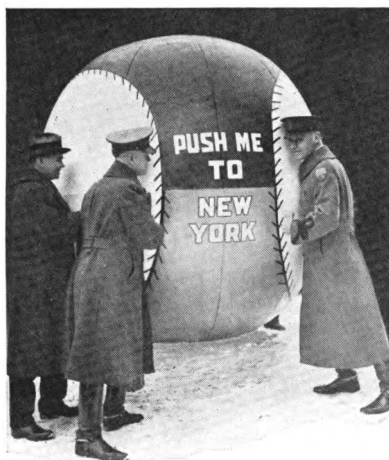
New York City, which was organized in 1855. Soon afterward rules were formulated to govern the game. Professional ball was first played in 1858.

The game is now almost eighty years old so that practically every American man and boy is acquainted with it, and

are fans either by choice or inherent inclinations. Many men have most amusing memories of baseball incidents of boyhood days. Incidents which as recalled and recited now seem brimful of humor, but which took on a very serious aspect then.

For instance: that air of mighty importance the "Hard to Beat" nine assumed the day they donned their new uniforms and strutted over to Hannegan's back lot to trim "Tim's Terrible Sluggers," and how "Red" Soakum, cap cocked on one ear, stood at the plate with that "pitcher-killing" expression on his profile as the first strike was called. How he pawed the earth, thumped the plate

with his bat, and delivered himself of a terrific heave six inches below the next pitched ball; the peppery argument that followed when thrown out at first on a measly infield hit. Yes, and how the defeated nine trained their



Largest Base Ball ever made

Left to right—Lieut. Col. Morris, Captain G. W. Haines, and Lieut. Col. C. O. Thomas, Jr., Chief of Staff, 65th Cavalry Division, C. M. T. C.

(Continued on Page 39)

VESTAL LUMBER & MANUFACTURING CO., KNOXVILLE, TENN.

Has Mills Also at Duff, Tenn., and Sardis, Georgia— The Three Mills Use Disston Saws

AT the bottom of this page is a splendid view of the Knoxville, Tennessee plant of the Vestal Lumber and Manufacturing Company, of which Mr. J. P. Vestal is president, and Mr. E. M. Vestal is vice-president.

The Vestal firm also owns and operates mills at Duff, Tennessee and Sardis, Georgia, and have their own logging roads connecting with the L. & N. System at Newcomb, Tennessee and Londe, Kentucky.

This company specializes in the production of high-grade hardwood lumber including the choicest of oak and other hardwoods.

Organized in 1901, the company for a number of years operated the Knoxville mill only. But as their reputation for high-grade hardwood lumber grew rapidly, and with it ever increasing orders for their product, they were obliged to open the Duff and Sardis mills in order to supply demands and facilitate shipments.

Capacity, 150,000 feet a day

The Disston saws in the Vestal mills are subjected to a 150,000 foot cut per day. They hum their way through the various hardwoods with ease, making their characteristic clean cut.

The company's enviable reputation for high-grade lumber is duly accounted for in the efficient personnel of the

three mills and modern machinery.

Mr. O. H. Hartman, superintendent, is unusually qualified for his position, while the practical experience of Mr. C. E. Doyle in logging operations stands him in good stead as superintendent of the logging end of the work.

The men who have charge of the bandsaws, and to whom much credit must be given for the quality productions of the mills are—

Mr. Daniel Goolsby, at the Sardis, Georgia mill;

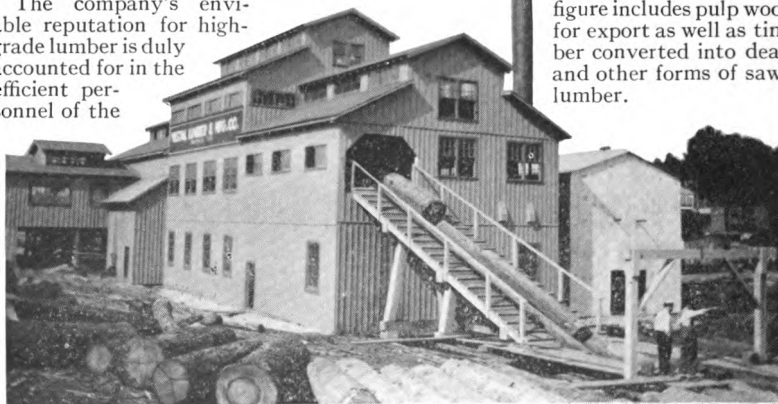
Mr. J. E. Meyers, at the Duff, Tennessee mill;

Mr. Edward Hartman at the Knoxville, Tennessee mill.

All of these men are capable filers and realize the importance of keeping saws right up to the scratch.

Timber Record

The timber cut in the Province of Quebec during the past winter will exceed 60,000,000 feet, a new record, according to the latest estimates. This figure includes pulp wood for export as well as timber converted into deals and other forms of sawn lumber.



Plant of the Vestal Lumber & Manufacturing Company, Knoxville, Tennessee

WHAT TYPE OF CROSS-CUT SAW TO USE

Article V—Pacific Coast Saws

Reprint from Disston Cross-cut Saw Book



IN manufacturing cross-cut saws for lumbering on the West Coast of the United States, several conditions must be met which are different from other sections of this and foreign countries.

First—
Most of the

timber is very tall and has immense trunks, as witness the Sequoia, or redwoods, of California, and the Douglas fir of Oregon and Washington.

Secondly—The texture of the redwoods is light, soft, and close, while the bark of the Douglas fir is unusually thick and the grain straight and strong.

Thirdly—Lumbering methods, on account of the great size of the timber, must necessarily differ from lumbering methods elsewhere.

Hence, saws of unusual length are required.

Teeth must be extra long and strong.

Blades must be toothed to the extreme ends to allow for full stroke, and also at times to be drawn entirely into the great logs.

In the West Coast section cross-cut saws are often operated by one man in "bucking," when the far handle is removed and the end of the saw is drawn into the great logs several feet to get full benefit of the stroke.

These special West Coast requirements, resulting from the nature of the timber to be cut—size, grain, bark, etc., accordingly demanded the development of special cross cut-saws.

Careful study of conditions and requirements by Disston experts, and suggestions by the Coast's experienced lumbermen, together with extensive experiments, have resulted in the manufacture of our special West Coast Saws, which have won the approval and usage of the most experienced lumbermen of this section.

Like all Disston Cross-cut Saws, the West Coast Saws are manufactured from the famous Disston-made steel. They are taper ground from tooth edge to back on lines that conform to the tooth edge of the saw, making the cutting edge of uniform thickness throughout, regardless of how much the width of the saw is reduced in filing. The teeth and rakers are well formed, keen, and edge-holding, and it is remarkable with what ease and rapidity these modern Disston high-grade Coast Saws cut their way through the giant logs of the West Coast forests.

Our Pacific Coast Saws are made from 5 to 16 feet in length; tapered variously from 12 to 18 gauge; have straight back, hollow back, and crowning-back; teeth, two-cutter and four-cutter.



Disston's Great Saws us

IN THE LAND "WHERE Disston Mammoth Saws are Felling and Reducing the Famous

IN the land of the Oregon, or as it is now called the Columbia River, in both the states of Washington and Oregon, there are large areas of the famous Douglas Fir and other native tree which form the background of much beautiful scenery, furnish the basic material for a great industry, and which caused Disston to make special cross-cut and circular saws commensurate with their great size, as witness the illustration above.

The Columbia River is the largest American river which flows into the Pacific Ocean. It is a rapid stream, passes through many mountain gorges and its navigation is much obstructed by falls. The tide ascends to the Cascades, a series of rapids, 140 miles from its mouth. A jetty at its mouth now makes it possible for ocean-going vessels to enter safely and proceed as far as Portland, 120 miles.

Of the scenery along this river, Joaquim Henie Miller, "Poet of the Sierras," writes under the caption—"Where Rolls the Oregon:"

"See once these stately scenes, then roam no more;

No more remains on earth to cultured eyes;
The cataract comes down, a broken roar,

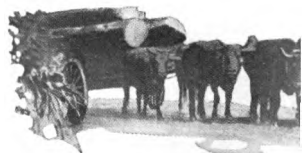
Page 36

The palisades defy approach and rise
Green moss'd and dripping to the clouded skies.
The canon thunders with its full of foam,
And calls loud-mouthed, and all the land defies;
The mounts make fellowship and dwell at home
In snowy brotherhood beneath their purpled dome."

The manufacture of saws to meet the requirements of lumbering in this section of the country had been a study of the Disston firm for many years, resulting in continual improvements and enlargement of saws until today their cross-cuts have probably reached the maximum of efficiency and measure as much as sixteen feet in length, while their superior circular saws are made as large as 9 feet 2 inches,—the largest ever made in the world.

What an improvement over the crude tools used by the settlers of this territory to reduce these great trees to usable lumber.

The earliest traders and settlers built their trading posts, or homes, of round and hewn timbers, rived boards, and some



As in the days



ed on the Pacific Coast.

ROLLS THE OREGON"

Douglas Fir and other Native Trees to Merchantable Lumber

pit-sawn lumber. But it was not long before better materials were available. During the winter of 1827-28 the first sawmill on the Pacific coast was built by the Hudson Bay Co. It was built on a small stream which entered the Columbia River from the north about six miles east of Fort Vancouver. A quotation from an early visitor at the mills is of interest:

"The sawmill is a scene of constant toil. Thirty to forty Sandwich Islanders are felling pines and dragging them to the mill; sets of hands are plying two gangs of saws by night and day. Three thousand feet of lumber per day; nine hundred thousand feet per annum, are constantly being shipped to foreign lands."

We glean from one of our contemporaries that the earliest sawmills on the west coast were very much like the seventeenth and eighteenth century mills in the East. Water power was general and the sash saw was the

usual equipment, but it was not long before better machinery was available.

In 1846 an Oregon City mill was running a circular saw; in 1854 gang saws, planers, and lath machines were in use; and in 1861 the muley saw was in operation.

Records do not enable us to tell how much earlier these machines were used. The first steam mill was built at Portland in 1850, and, after 1853 all the large mills used steam power. The use of steam power made it possible to build larger mills, and by 1870 the Port Gamble and Port Madison mills each cut 100,000 feet of lumber per day. The equipment of these mills was much like that of some of the older mills now in operation in this region—circular head saws, gang edger, power log turners and carriage drives. Live rolls, band saws, automatic trimmers, slashers and slab conveyors do not seem to have been in use. By 1880 the larger mills were cutting up to 200,000 feet per day each, and were beginning to introduce most of the major modern improvements, excepting band saws, automatic trimmers,

(Continued on Page 39)



of the pioneer.

Page 37

CRACKED NUTS

Below are a few more "nuts" which we have "cracked" for the benefit of our readers. All of them pertain to circular saws. As long as the questions come in we will answer them. Next!

Question—Can points of bits of circular saws be sharpened or filed?

Answer—The temper of Disston points or bits is such that they may be sharpened by the use of a good file. We make a special *Chisel Tooth Saw* file for the purpose.

Question—Are there any laws regulating the operation of cracked saws?

Answer—Yes, there is a law on the statute books of the State of Washington governing the operation of saws that have cracks in them.

Question—Are circular saws tensioned according to various speeds at which they are to be run?

Answer—Yes, especially saws 38" and larger in diameter should be tensioned to suit speed at which they are run.

Question—How many revolutions must a saw make per minute to reach the 10,000 foot rim motion?

Answer—The following table indicates necessary revolutions for saws of various dimensions:

72 in.	530	revolutions per min.
68 in.	560	" " "
64 in.	600	" " "
60 in.	640	" " "
56 in.	700	" " "
52 in.	750	" " "
48 in.	815	" " "
44 in.	890	" " "
40 in.	980	" " "
36 in.	1,080	" " "

32 in.	1,225	revolutions per min.
28 in.	1,400	" " "
24 in.	1,630	" " "
20 in.	1,960	" " "
16 in.	2,450	" " "
12 in.	3,260	" " "
10 in.	3,920	" " "
8 in.	4,600	" " "

QUESTION — Do dull saws cause accidents?



ANSWER—Henry Schreiber, (shown in circular saw) a factory inspector for the State of Wisconsin and a practical woodworker of more than forty years experience blames dull saws for 75 per cent of circular saw accidents. Probably the same percentage of accidents from other mill saws result from the same cause.

Portable mills, with limited power, are usually run at a speed of about one-third less than given above.

Question — What size circular saw should be used in cutting a log two feet in diameter?

Answer — It depends on how sawn; if slabbed and turned, could be cut with 42" saw. If sawed through and through it would require a saw 56" in diameter.

Question — Should solid tooth and inserted tooth saws be run at the same speed when cutting wood?

Answer—Yes.

Question — Are there any laws governing the speed of circular saws?

Answer—In the state of California, there is a law governing the speed of circular saws. It states that the operator must confine his speed, as nearly as possible, to the standard of 10,000 feet rim motion a minute. It allows a variation in excess of this speed of ten per cent., to take care of the difference between direct drives, which are positive drives, and belt drives.

IN THE LAND "WHERE ROLLS THE OREGON"

(Continued from Page 37)

and electric power, which did not come until about 1900.

It was not until about 1880 that the crosscut saw was perfected to the point where it was available for felling timber. (See article preceding page on Disston Pacific Coast cross-cut saws).

After 1870 the development of the lumber industry in this section was very intimately connected with the progress of railroad building.

The railroads came first to Oregon and that state developed earlier than Washington. While there had been some railroad building in western Washington during the decade, the amount was small and did not appreciably affect the industry. The industry there became even more definitely centered on the middle Sound where in Pierce, King, Kitsap, Jefferson, and Island Counties, 11 mills cut over 88 per cent of the total lumber production of

the territory in the year of 1879.

After 1880 there was a larger amount of railroad building in western Washington and the lumber industry there grew rapidly until today lumbering is Washington's basic industry.

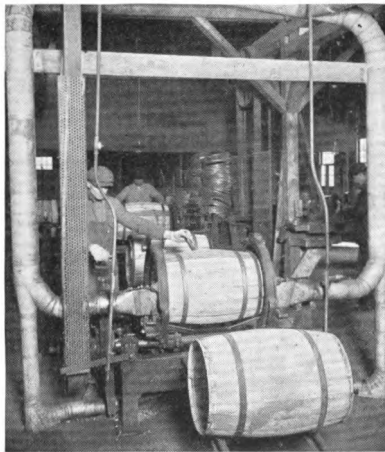
From reports issued by Edward Clifford, director of the Washington State Department of Labor and Industries, it is learned that the industrial pay roll of the State has increased about \$100,000,000 during the last three years.

Today the state of Oregon contains 493,000,000 board feet of timber, and of this amount, 255,000,000 is Douglas fir, according to an estimate of Prof. A. L. Lomax, of the University of Oregon, who also reports 740 saw mills in the state, which employ a total of 43,000 men. The pay roll of the lumber industry is equal to 65 per cent of the industrial pay roll of the state.

Up-to-date Cooperage

The illustration shows a hooping machine at work putting on the end hoops. The barrels, with two hoops already on, roll on the rails in the foreground to the machine. When the end hoops are put on the barrels pass on to the man in the rear, who gives them the finishing touches.

Nowadays many big concerns make barrels for their own use. Disston concave saw, barrel stave saws and bilge saws are a big factor in the making of barrels. They cut to shape the staves and heads of barrels.



Hooping Barrels

"Following the line of least resistance is what makes men and rivers crooked,"

A Monster Base Ball

(Continued from Page 33)

verbal artillery on "that crooked guy of an empire" and fairly riddled him

with the less elegant vernacular of the day for robbing them of the game.

But, begone, reminiscences! We must finish with this monster ball. It is seven feet three inches in diameter, and weighs 350 pounds. It is painted red, white and blue, and will be rolled and pushed from Chicago to Detroit, Cleveland, Buffalo, Rochester, New York, Philadelphia, Washington, Atlanta, New Orleans, Los Angeles, Denver, and return to Chicago.

In each city the mayor will be invited to officially receive the ball,



SAWDUST

Clarence was making a visit to a girl who lived in the country, and they were walking through the field when they noticed a cow and a calf rubbing their noses in bovine love.

He spoke up—"The sight of that makes me want to do the same thing.

"Go ahead," she replied, "it is father's cow."

It was the dear old lady's first ride in a taxi and she watched with growing alarm as the driver continually put his hand outside the car as a signal to the traffic following. At last she became exasperated.

"Young man," she said. "You look after that car of yours and watch where you're driving. I'll tell you when it starts raining."

—*Everybody's Magazine.*

"A fool," said the professor to the student who asked a catch question, "can't answer."

"Is that the answer a student in row, 'why I flunked last term, in this subject?'"

Selina was bidding her lover a fond farewell, for he was going on a prolonged business trip around the world.

Tearfully she clung to him and asked: "My dear Karl, will you be true to me when you are far away? Promise me that you will write to me from every town you visit!"

And as he gathered her in his arms, he cried: "Oh, Selina, is it love that prompts you to say this? Swear to me, do you really love me—or are you merely collecting foreign postage stamps."

He: "You are the sunshine of my life."

She: "Oh Tom."

He: "You reign alone in my heart."

She: "Darling."

He: "With you at my side I could weather any storm."

She: "Just a minute, Tom. Is this a proposal or a weather report?"—*F. O'Connell.*

A man walked into a shoe store, accompanied by his wife and ten children, and said to the clerk, "I want to git the hull lot of 'em fitted up in shoes."

RELATIVITY

Twinkle, Twinkle, little star,
How I wonder where you are;
High above I see you shine
But, according to Einstein
You are not where you pretend
You are just around the bend;
And your sweet, seductive ray
Has been leading men astray
All these years—O little star,
Don't you know how bad you are?

tion, "can man can't

reason," the back

"Oh! Don't bother about that," said the man. "I don't want to buy the shoes. I just want to get the sizes so's I can order 'em through the mail."

A merchant, unable to sleep, tossed fitfully on his couch and muttered unintelligible words. The wife of his bosom sought the cause of his restlessness. In answer to her inquiries, he said:

"You should expect me to sleep when my note to Cohan in the bank comes due tomorrow for \$5,000 and there's only \$2,000 in the bank to meet it?"

"It is?" said the faithful wife. "Then I tell you what I should do, Ike. You should get up and go over to Cohan's house and tell him, and then come back and go to sleep. Let Cohan stay awake."

*** ALL WHO JOY WOULD WIN, MUST SHARE IT. —HAPPINESS WAS BORN A TWIN. —BYRON



Why the Disston Invincible Saw is Giving Such Unusually Good Results on Tractor-Driven Mills.

The Disston Invincible Saw gives a greater production of lumber because the shape and design of the teeth make it a faster cutting, easier running saw.

The Invincible Saw is manufactured from a special Disston-made Steel, recently developed, which, with its special temper, toughness and strength produces saws that retain their tension and insure more and better manufactured lumber when used on tractor-driven mills.

The Invincible Saw is easy running, Because of the patented design of the teeth it will cut at a faster feed, with less power required to drive it, than any other saw — a very important feature to users of tractor-driven mills.

Easy to keep the Invincible Saw in Perfect Order

This saw is exceptionally servicable to the man with little experience. The points can be inserted easily and cheaply and after each insertion of new points the saw is practically the same as when new.

You will want to know *all* about the many advantages of this faster, cooler, easier-running saw. Write us: "Send facts about Disston Invincible Saw" and mail your letter to Dept. O.

Henry Disston & Sons, Inc.
Philadelphia, U. S. A.

DISSTON QUALITY & SERVICE

Disston Products occupy first place in the milling industry of the country. The primary reason for the supremacy of Disston is *Quality* which has been the keystone of the Disston structure ever since the company was organized in 1840.

The following distributing branches co-operating with the general office and factory, have been established to give the best possible service. They will be glad to co-operate with you.

HENRY DISSTON & SONS, Inc. *GENERAL OFFICES AND FACTORY* **PHILADELPHIA, U. S. A.**

BRANCHES:

Henry Disston & Sons, Inc., of Illinois
Jefferson Street & Washington
Blvd., Chicago, Ill.

R. B. McKim Company, Inc.
116-118 Pearl Street
Boston, Massachusetts

The Henry Disston's Sons Company
Sixth & Baymiller Streets
Cincinnati, Ohio

R. B. McKim Company, Inc.
120-122 Exchange Street
Bangor, Maine

Henry Disston & Sons, Inc.
322 Occidental Avenue
Seattle, Washington

The Reichman-Crosby Company
223-235 South Front Street
Memphis, Tenn.

Henry Disston & Sons, Inc.
144 Second Street
San Francisco, Calif.

C. T. Patterson Co., Ltd.
New Orleans, La.

Henry Disston & Sons, Inc.
91 First Street
Portland, Oregon

Henry Disston & Sons, Inc.
130-132 Marietta Street
Atlanta, Ga.

Henry Disston & Sons, Ltd.
2-20 Frazer Avenue
Toronto, Canada

Henry Disston & Sons, Ltd.
80 Sussex Street
Sydney, Australia, N. S. W.

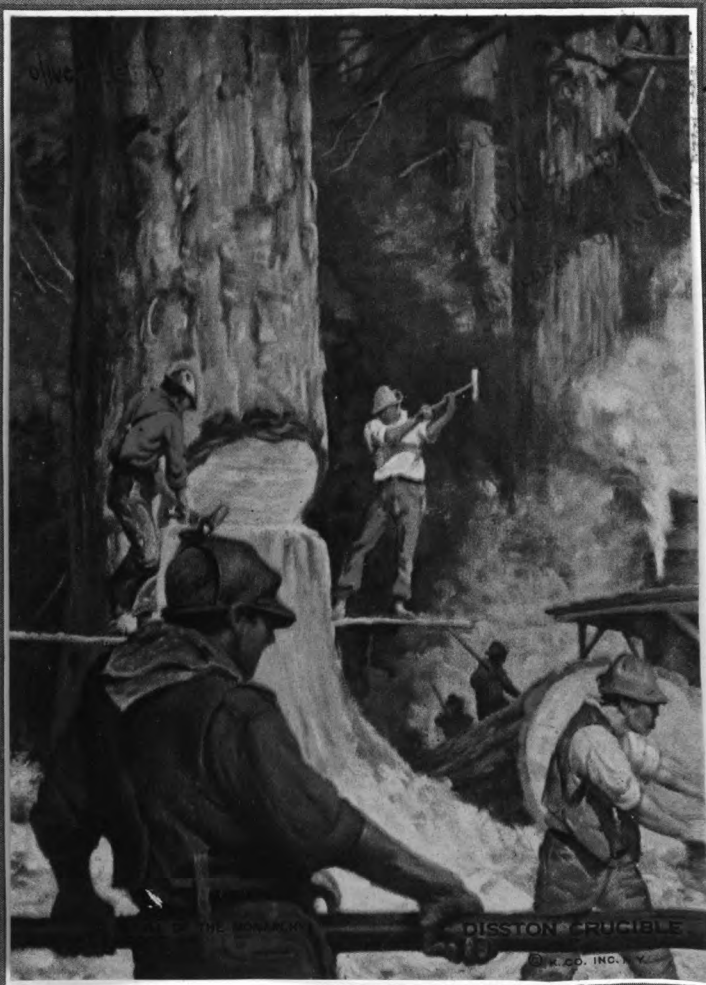
Henry Disston & Sons, Ltd.
Vancouver, B. C., Canada

Henry Disston & Sons, Inc.
120 Broadway
New York City

Distributors for Great Britain and Ireland:

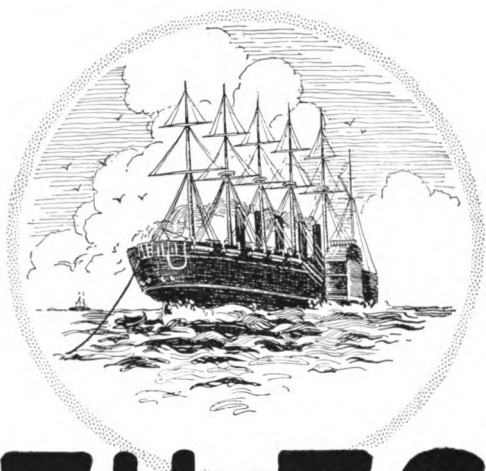
Henry Disston & Sons (Great Britain) Ltd.
35, 36, 37, Upper Thames Street
London, E. C. 4, England

The
DISSTON
CRUCIBLE



JULY, 1924

for 58 years



FILES

IN the year the first successful Atlantic cable was laid (1866), Henry Disston commenced the manufacture of his own files from his own steel for the sharpening of his own saws. To-day millions of files yearly carry the Disston trade mark into every trade. There are 135 lb. files for chunks of steel, and files weighing less than an ounce for jewelers—all kinds of files and all of tough steel, careful workmanship, thorough hardening and sharp teeth.

Disston makes all kinds of Files :

Mill Files	Machine Files
Saw Files	Wood Files
Surgical Files	Manicure Files
Cabinet Rasps	Horse Rasps
Shoe Rasps, etc., etc.	

DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

JULY, 1924

No. 6

STRANGE REPOSITORY FOR A HANDSAW

A Disston No. 8 Handsaw Found in Partition of a Germantown House

WORKMEN while recently making alterations in the house of David J. Joyce, 2 East Duval St., Germantown, Philadelphia, were surprised to find in one of

the partitions a Disston No. 8, 28-inch, 14-point handsaw. It was hanging on a nail in a lath between the studdings.

The house was built about forty-five years ago and it is known that no alterations or additions had been made to it until the time the saw was discovered, hence all these years this perfectly good saw has been reposing in this secluded place when it might have been serving mankind by being an "active member" of some carpenter's kit.

Knowing ones in our factory say the saw was made 67 or 68 years ago. The blade is of the distinctive Disston quality steel, and the handle of apple wood. Its long "prison term" in the airtight chamber did not in the least affect the temper of the blade; not even a rust spot was noticeable.

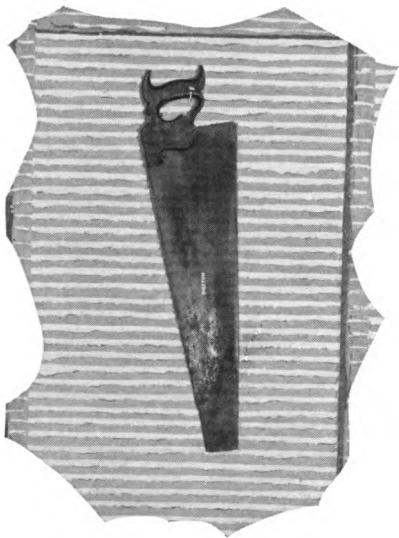
It would be interesting to know how and why this saw came to occupy its peculiar quarters. Did the plasterer play a joke on the carpenter, or did the spirit of revenge figure in the transaction?

It is quite evident that the saw could not have been lathed and plastered in the partition unawares, and there was no way of inserting it afterwards.

The facts in the case may never be revealed. By this time the responsible person's lips may be as mute as the saw itself. Nevertheless, the saw has taken on "new life." It has been made shorter and narrower, retoothed 8 point, polished, set and sharpened and is good for another fifty years.

Mr. David J. Joyce, possessor of the saw, is master mechanic of Barretts Co., Frankford, Phila.

Not an easy matter to disregard Disston quality saws, as witness the finding of this one, and another which was recently dug out of the ocean beach.



Disston Hand Saw found in partition of
Germantown House.

Disston Saw Slices Spike

One morning recently as a Disston Heading Saw was spinning through a southern pine log, at the Plaquemine Stave and Heading Company, Plaquemine, La., suddenly there was a peculiar whirring sound, and from the kerf in the log there came a mixture of saw dust, iron chips, and fire sparks.

The saw had sliced a piece, lengthwise, off a twelve-inch boat spike. Mr. Peter Fullier, the company's expert filer examined the saw. Not the slightest injury of any kind was found. The saw was operated the balance of the day without any attention whatsoever.

We do not manufacture heading saws for the purpose of cutting spikes, but it is a satisfaction to know that they render more and better service than we intended or the user expected.

New Device to Save Lumber

The Ford Motor Co. is now sawing fine hardwood parts for Automobile bodies from unedged planks just as they come from the log, before removal of the bark.

The planks are cut from the irregular-shaped log before its bark is removed. On the layout tables, patterns are adjusted to these resultant irregular-shaped planks in such manner as to get the most out of each.

Because the swell at the butt no longer matters, trees are cut six inches from the ground instead of at three feet as was often the case before. Crotches, knots and twists are of benefit rather than disadvantage now, because the grain can generally be followed in cutting parts. This is true because many of the parts are curved.

Result: better material; conservation.

Stones Found in Tree Trunks

A huge band saw was recently destroyed in a lumber mill at Hoquiam, Washington, by a stone which was found to be imbedded in a tree trunk. The accident led to the reporting of a number of curious instances of a like origin in this state. Near Monroe, a hemlock was felled and in the junction of the first limb with the trunk was imbedded a big piece of granite. At Snobhomish there is a big stick of tim-

ber with a rock grown into the hardwood heart. A hand-hewn beam in the factory building at the State University of Washington contains a rock.

These stones lodge in the tops of young trees in spring, when avalanches of snow and dirt hurl them from cliffs. In time the growing tree envelopes them and they become embedded in the wood. This is the explanation offered by foresters and lumberman.



Spike Sliced by Disston Heading Saw.

Game in National Forests

According to the rangers' estimates there are over 50,000 deer in the fourteen National Forests of Oregon, divided as follows: 35,000 black-

tailed, 18,000 mule deer, and 75 white-tailed. There are estimated to be 3,000 elk, 50 mountain sheep and 20 antelope.

Forest rangers' estimates for the eight National Forests of Washington give over 25,000 deer, these being 17,000 black-tailed, 7,000 mule deer, and 800 white-tailed. There are estimated to be 8,000 elk, 3,000 mountain goat and 25 mountain sheep.

Forest estimates for predatory animals within federal forest lands give 7,000 black or brown bear, 10 grizzlies, 9,000 coyotes and 40 wolves.



WHAT TYPE OF CROSS-CUT SAW TO USE

Article VI—One-man Cross-cut Saws

Reprint from Disston Cross-cut Saw Book



THE One-man Cross-cut Saw is, as the name indicates, a cross-cut saw designed for use by one man. It is a convenient saw for cutting off girders, joists, blocking, or heavy lumber, and is particularly handy and useful for

bridge builders, mill men, railroad and other contractors, and persons who find it necessary to cut logs and heavy timbers with only one man operating the saw. The One-man Cross-cut Saw requires only one man to operate it efficiently, but can be used by two men, where necessary, by the attachment of a supplementary handle which comes with the saw.

Disston One-man Cross-cut Saws, like the Two-men, are made for fast, easy cutting, in all standard sizes, and in a large variety of styles, patterns of teeth, and shapes of blade, to suit individual needs and preference of all users. Any saw user can get in Disston make exactly the type of saw he prefers for his particular work.

The blade, ground by a special Disston process, tapers from tooth edge to back, along a curved line following the line of the cutting edge. Thus the Disston One-man Saw is thinner along the back than along the cutting edge, which prevents binding in the cut, as it allows for the necessary clearance

with a minimum amount of set; and no matter how often the saw is sharpened, the cutting edge will always retain a uniform thickness along its entire length.

Strong, durable hardwood handles, with an extra large, comfortable grip for a gloved hand, are securely fastened to the blades with brass screws. A supplementary handle is also supplied, which can be attached to the saw either at the point, for use by two men, or at the handle to provide an extra two-hand grip when operated by one man.

Disston One-man Cross-cut Saws are designed and made throughout to take care of the special needs of every class of user and to obtain the maximum in fast, easy cutting, combined with durability.

They are made from 2½ to 6 feet in length; various styles of teeth—two-cutter, four-cutter, plain, Great American, etc.; width at point 2½ to 2⅞ inches; width at butt, 7½ to 8½ inches; straight and skew back.

As one can judge by the size and style of the Disston one-man saws; they are a combination of the "long-saw" (two man cross-cut saws), and the handsaw.

Under the heading of the one-man cross-cuts could properly be listed our docking saws, as they are quite similar in style and size. Docking saws are used for docking ends of boards in piling, and other light work. They are made thirty and thirty-six inches in length; eighteen and twenty-one gauge; tenon tooth, four points to the inch, unless otherwise ordered; malleable iron handle, fastened with two rivets.



COLLIE PUPPY CROSSES SEVEN STATES ALONE TO GET HOME

ONE bright morning in August, 1923, Mr. and Mrs. Brazier of Silverton, Oregon, started by automobile on a trip to visit relatives in Indiana. Bob, their pet collie puppy, of course, went along. Bob was very glad to go with his owners, and barked and wagged his tail "goodbye" to the neighbors as the auto started on the long journey.



Bob Brazier, Silverton, Oregon.

Several times during the trip the auto had to be left at garages for repairs. Bob would remain in it while Mr. and Mrs. Brazier went to the hotels or took a walk while the car was being attended to.

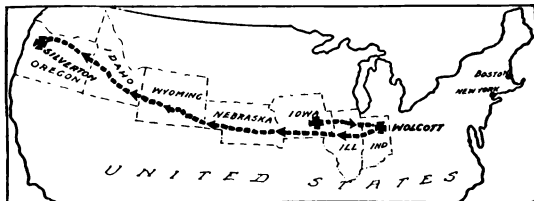
dogs nearby were barking and playing, and Mr. Brazier, through an open doorway, saw Bob run around the corner with the dogs after him.

Bob, though by no means full grown had always been able to look after himself, so Mr. Brazier did not concern himself about him. But when the car was fixed and the folks were ready to go, there was no sign of Bob.

A search was made everywhere for him but of no avail. An advertisement was put in the local paper, and run for several weeks but no word of Bob.

Mr. and Mrs. Brazier continued their journey to Walcott, Indiana, visited in and around there for three weeks and returned to Oregon, leaving instructions with friends what to do if Bob should appear on the scene.

It is now definitely known that after his disappearance, Bob started for Walcott, and when unable to find his owners, started on his homeward trip, traveling across the prairies of Indiana, Illinois, Iowa and Nebraska, climbing the Rocky Mountain in central Wyoming, tracking through the desert of Idaho, and across the ranches of Oregon—about 3000 miles.



Route over which Bob traveled on his long, lonesome journey home.



Silver Medal Presented to Bob

When they reached a little town in eastern Iowa, the carburetor needed adjusting. Mr. Brazier drove into a garage and Bob jumped off. Some

Page 44

The Braziers after six months had given up hope of ever seeing their pet again, but on February 15, 1924, he

(Continued on Page 47)



THE MUSICIAN

Hear my 'cello! When it sings
It seems as if the gates of some far heaven
Were opened wide, and glittering companies
Of sweet-voiced angels tuned their melodies;
And when my light bow swings
So lovingly across the living strings,
The earth with all its sorrows fades away. . .
And silently for evermore
Beneath the star-strewn night,
The world lies dreaming in a gentle sleep.

Poem—Henry Lane Eno, in "The Maid of Gloucester."
Portrait—"Madame Suggia," by Augustus E. John.

CRACKED NUTS

Probably the best way to learn is to ask some one who is familiar with the particular thing you wish to know. In the past five issues of the Crucible we have answered a number of questions about saws, files, steel, etc. We are at the service of any of our readers should further information be desired on these subjects.

Question—What is the difference between iron and steel?

Answer—Briefly, the general difference between iron and steel is that steel is (1st)—Malleable at some range of temperature, and (2nd)—May be capable of hardening greatly when suddenly cooled, whereas iron may have one of these two characteristics but not both. For instance: White or Chilled Cast Iron, can be hardened, but is not malleable at any temperature; Gray Cast Iron which can neither be hardened nor forged; Malleable Cast Iron, which can be forged to some extent but not hardened; Wrought Iron which is completely forgeable but cannot be hardened.

There are very mild steels which are quite like wrought iron and for which our simple definition does not hold. In this case the only difference is in the method of manufacture.

Question—What machines and tools are necessary to make a complete outfit for bandsaw filing room?

Answer—Automatic Sharpener, Fitting-up Clamp, Re-toothor and Shear, Set Gauge, Roll Saw Stretcher, Scarfing Machine, Brazing Clamp, Forge for heating brazing irons, Tooth Wrench, Back gauge, Tension guage, Cross face hammer, Eccentric Swage, Leveling Block, Short Straight Edge, Dog head Hammer, Swage Shaper, Anvil—hard face.

Page 46

Question—How long should a band-saw be run without sharpening?

Answer—No wide band-saw should be run longer than two and a half hours on one sharpening.

Question—How much swage should band saw teeth carry?

Answer—Usually about five gauges more than the thickness of the saw is sufficient. Sometimes even a trifle less will work satisfactorily.

Question—What is a Concave Saw?

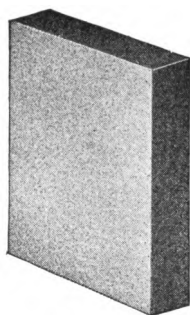
Answer—A Concave Saw, as the name implies, is a saw dishd or hollowed according to the diameter of the circle to be cut, thus enabling the saw to cut on the arc of a circle. The work is usually placed upon a turn-table, which, as it turns around carries the stock into the saw.

Concave saws, as a rule, are made in diameters of from 4 to 20 inches, and of 16 to 12 gauge in thickness. Various other sizes, are made on special order.

Question—What are concave saws used for?

Answer—Concave saws are employed in the manufacture of chair parts, for cutting the heads for barrels, kegs, and bottoms for baskets. In fact, anything to be cut in rounded or curved form. This kind of work was done entirely by hand, or on jig saws, before the invention of concave saws.

Saw steel must be absolutely free from blow holes, pipes, seams, splits, and other physical defects. Steel adequate for boiler, bridge or building is only one-third the required strength for saws.



Ingot of Disston-made Steel.

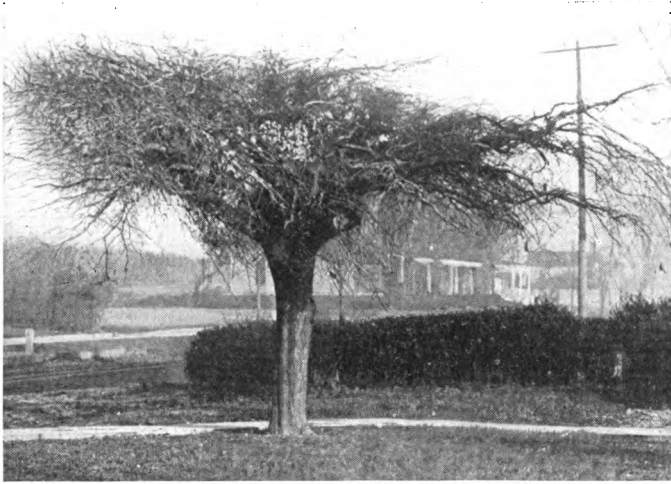
AN UP-SIDE-DOWN TREE

The freakishness of the tree which illustrates this article is probably not so much in its appearance, as in the fact that it is growing up-side-down.

Some years ago Mr. Charles Allensworth, of Galesburg, Illinois, became curious to know if it were possible to grow trees up-side-down. So to satisfy his curiosity he uprooted a tree with a four-inch trunk, and re-planted it,

Ill., and who was kind enough to send us a photograph of this tree, says of it:

"This tree is certainly a great freak, and commands a great deal of attention. The writer has personally taken a great many people to see it since it was planted this way some seven or eight years ago. The tree, of course, is not as marked in its peculiarity now as it was when it was first planted, but



Tree growing with roots up, Galesburg, Ill.

limbs in the ground and roots in the air. It thrived from the very beginning, and is now a strong, healthy tree.

Mr. G. B. Churchill, president of the Churchill Hardware Co., of Galesburg,

you can notice that the *trunk is heavier at the top than it is where it comes out of the ground*, but as years have gone by the growth of the tree has gradually re-adjusted much of this difference."

Collie Puppy Crosses Seven States Alone to Get Home

(Continued from page 44)

bounded into his home a changed doggie, but still their own Bob.

During his absence, Bob had grown into a full-sized dog, his toe nails were worn down, and his coat shaggy, but how glad his owners were to see him. He was given a sirloin steak, a pint of cream, and then Mr. Bob curled up in his old corner and did not care to be disturbed for three days.

Less than a month afterwards, a

celebration was held in Silverton. The Oregon Humane Society, having verified the story of Bob's travels, presented him with a silver medal, (see page 44) there was a public ceremony, with Bob and his family on the platform, and the school children petitioning the City Council that Bob be granted the freedom of the city—which has been done.

Story and illustration, courtesy Christian Science Monitor



SAWDUST

Teacher: "Johnny can you tell me what is wrong with this sentence—

The horse and cow is in the field?"

Johnny: "Yes," ma'am. "Ladies should come first."

"How did you get that cut on your head?"

"Hic—musta—hic—bit myself."

"Gwan. How could you bite yourself up there?"

"Musta stood on a chair."

Doctor: "Have you any organic trouble?"

Patient: "No, sir, I can't even carry a tune."

Jack: "Why did they kick that medical student out of the library?"

Tom: "They caught him trying to remove the appendix from a book he was reading."—*Paul K. Beemer.*

First Freshman (putting up pictures)—"I can't find a single pin. Where do they all go to anyway?"

Second Freshman—"It's hard to tell, because they're pointed in one direction and headed in another."

A little girl timidly asked the drug clerk for a package of pink dye.

"What do you want it for?" responded the clerk. "Woolen or cotton goods?"

"Neither," said the child. "It's for ma's stomach. The doctor said she'd have to diet, and she wants it a pretty color."

"Willie, stop asking so many questions. Curiosity killed the cat."

"Mother, what did the cat want to know?"

Stew: What kind of fish has it's eyes set close together?

Dent: Dunno, I'll bite. What kind does?

Stew: A little fish, of course, you sucker.—*Howard H. Smith.*

Captain — "If any thing moves shoot!"

Sentry — "Yessah; an' if anything shoots, Ah move."

"Sure you've shown me everything in this saw mill?" asked the prospective purchaser.

"Everything, I think," replied the seller.

"Then where's this depreciation they talk so much about?"

One day as I chanced to pass,

A beaver was damming a river,

And a man who had run out of gas,

Was doing the same to his flivver.

Customer—I haven't any change with me this morning. Will you trust me for a postage stamp until tomorrow?

Drug Clerk—Certainly, Mr. Jones.

Customer—But suppose I should get killed or—

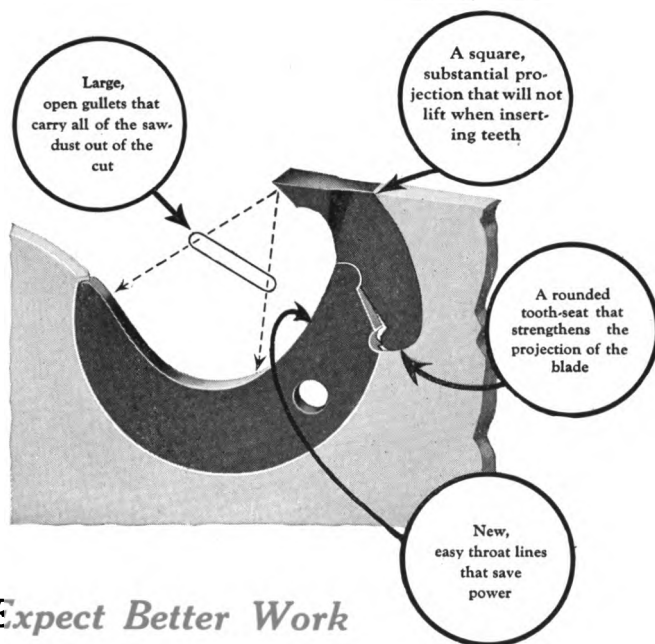
Drug Clerk—Pray don't speak of it, Mr. Jones. The loss would be but a trifle.



"Missus O'Hara, may Johnnie go with us to Sunday School?"

"A good joke to cure the dumps" — Swift

Better Work



Expect Better Work

GO as far as you like in your anticipation of what this new saw will do. You will not be disappointed. We asked millmen, sawyers and filers what was the utmost they could expect from an inserted tooth saw. They told us various things—more lumber with less power, faster cutting, smoother running, less heating, etc. Then our experts went to work and produced the Invincible—the inserted tooth saw that immediately won the approval of millmen, sawyers and filers because the embodying of their ideas together with our experience produced a saw that exceeded their expectations.

We'd like to tell you more about it. If you're interested in saw efficiency, just write us, "Without obligation to me, tell me about your new Invincible Saw".

Henry Disston & Sons, Inc.
Makers of "The Saw Most Carpenters Use"
Philadelphia, Pa.

Cincinnati
San Francisco
Boston, Mass.

Chicago
Atlanta
Seattle, Wash.
Sidney, Australia, N. S. W.

New Orleans
Portland, Ore.
Memphis, Tenn.
Vancouver, B.C.

New York
Bangor, Me.
Toronto, Can.

Study this list before buying any more tools. Every item is a Disston product and that means a tool that will give you complete satisfaction.

Back Saws

Band Saws for Wood and Metal



Bevels
Buck Saws
Butcher Saws and Blades
Cabinet Scrapers

Chisel Tooth Circular Saws

Circular Saws for Wood,
Metal, and Slate

Compass Saws

Concave Saws, Circular

Cross-cut Saws

Cut-off Saws

Cylinder Saws

Dovetail Saws

Drag Saw Blades

Edger Saws

Files and Rasps

Filing Guides

Gang Saws

Gauges, Carpenters' Marking

Grooving Saws

Hack Saw Blades

Hack Saw Frames

Hand, Panel, and Rip Saws

Hedge Shears



Ice Saws

Inserted Tooth Circular Saws

Keyhole Saws

Kitchen Saws

Knives—Cane, Corn, Hedge

Knives—Circular—for Cork, Cloth, Leather, Paper, etc.

Knives—Machine

Levels—Carpenters' and Masons'

Lock Corner Cutters

Machetes



Mandrels

Metal-slitting Saws



Milling Saws for Metal

Mitre-box Saws

Mitre Rods

Nest of Saws

One-man Cross-cut Saws

Pattern Maker Saws

Plumbs and Levels

Plumber Saws

Post Hole Diggers

Pruning Saws

Rail Hack Saws

Re-saws

Saw Clamps and Filing Guides

Saw Gummers

Saw-sets

Saw Screws

Screw Drivers

Screw-slotting Saws

Scroll Saws

Segment Saws

Shingle Saws

Siding Saws

Slate Saws, Circular



Squares, Try and Mitre

Stair Builder Saws

Stave Saws

Straight Edges

Sugar Beet Knives

Swages

Tools for Repairing Saws

Tool Steel

Trowels—Brick, Plastering, Pointing, etc.

Veneering Saws

Webbs—Turning, Felloe, etc.



This is a partial list. There are thousands of items in the complete Disston line.

DISSTON

SAWS TOOLS FILES

The **DISSTON** **CRUCIBLE**



DOWN TO THE RIVER
DISSTON CRUCIBLE

© 1924 CO. INC. N.Y.

AUGUST, 1924

Digitized by Google

for 57 years



TOOLS

WESTINGHOUSE invented his famous Air Brake in 1869. Two years before Henry Disston made his first Screw Driver — the initial tool that headed the present comprehensive line of Disston quality tools.

Today the complete line of Disston Tools covers almost every occupation of man. Carpenters, masons, plumbers, gardeners, machinists, automobile repairmen, the man in the home — all use Disston Tools of unequalled workmanship, material, quality and design.

The Disston Tool line includes :

Trowels	Knives
Bevels	Try Squares
Gauges	Screw Drivers
Levels	Shears
Cabinet Tools, etc., etc.	

DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

AUGUST, 1924

No. 7

TWINS

**Born in the Disston Saw Works More than Forty Years Ago—
Both Bear Same Name—Disston D-8**

THE two lonely-looking "twin" saws hanging on the fence were "born" in the Disston saw works more than forty years ago. Their progenitors—the men who rolled the steel, shaped, toothed, and polished the blade; who sawed and polished the handles, and made the screws for them, were then young men, but they may be still in the Disston employ, as we now have close on to 125 men who have seen forty or more years continuous service. It would be mighty interesting to know just which ones of these 125 men assisted in bringing these particular saws into being.

It is evident from the appearance of these saws that they have seen *some* service. Little wonder; for they have been in continuous use by Mr. E. D. Peterson, contractor, of Selma, Alabama. One of these saws was purchased by Mr. Peterson from Mr. Ben. J. Schuster, the veteran hardware dealer of Selma, Alabama, forty-two years ago. Recently Mr. Schuster received

the following interesting letter from Mr. Peterson:

"I have had a picture made of my two D-8, eight-point saws, manufactured by Henry Disston & Sons. They have been in constant use for more than forty years and are still going good. I

would not like to part with them, as there is a lot of work that can be done with them that could not be done with a wider blade. I bought these saws of you, and several years later bought a ten-point D-8. I have my name on all of them, written in acid. I failed to write the date on the first two, but on the ten-point it reads—"bought on the 5th of July, 1887." I have several other makes of saws, but I prefer the Disston skew back above them all. I am

"Most respectfully
yours,

"E. D. Peterson
"Contractor."

Mr. Peterson has a regard for these saws akin to friendship, while their protracted service is a source of satisfaction to maker, dealer, and user.



Pair of Disston D-8's of more than 40 years continuous service.

THE INGLEWOOD HOUND

Please size up the illustration of this article. Some hound dorg, this Inglewood Hound! Will some dog-wise one come forward, please, and expatiate on the fine points of this elongated canine?

Is he built for speed?

What relation is he to the much-mooted dashhound?

Is he a fighter,
h u n t e r ,
sprinter, or
sooner?

Is he a cross
between a
bull, beagle
and pointer?

Could he be
the long lost
Munchausen
species of racing
hound that ran
so fast the wind split him completely
in two, lengthwise, without diminishing
his speed—when one side tired the
other side relayed it, and so on—this
side, that side—until the race was won?
Is he?—(please bear with us a moment),
W. & T., Beloit, Wisconsin is on the



The Inglewood Hound.

air; *Yates Quality* announcing. He says: "'The Inglewood Hound' in question is nothing more than a tree stump. He made his debut unannounced and with great detonating ceremony.

"When ground was cleared for the Inglewood Golf Club House in Seattle, Washington, a big fir stump was dynamited and the complete root blown out of the ground. On account of its bearing such a striking resemblance to a dog the club members had the affair mounted in the club house and labeled it the 'Inglewood

Hound.' It is the actual root of the tree just as shown here. It is about six feet long from tip to tip and stands three and one-half feet high to the top of the head."

This announcement is authentic, and thus endeth our inquiry about the Inglewood Hound.

DID YOU LIKE THE JUNE AND JULY COVERS?

We have arranged to run a series of twelve six-color prints on the Crucible covers, beginning with the June, 1924, issue. So you now have seen three of them: "The Primeval Forest", "Fall of the Monarchs", "Down to the River". We believed that you would appreciate them, that is why we went to the expense to secure them and the trouble to tip them on.

The prints are from the original Kemp paintings. They include various phases of lumbering activities. Kemp painted them directly from nature. He spent months in forests and lumber camps working on his paintings.

The subjects to follow are—

"In the Boom at Last"
"Sluicing 'em Through"
"The Foe of the Forest"
"The Bateau in Action"
"Twitching Them Out"
"In the Day's Work"
"Coming of the Lumberman"
"Starting the Boom Moving"
"The End of the Day"

We would like to have your opinion of these covers. It will help us to decide on future covers for the Crucible.

For eighteen years several hundred acres of cut-over hardwood land in Northern Michigan has been carefully guarded by fire wardens supported

solely by Herman Lunden. Today there are many twelve- and eighteen-inch saw logs and much chemical wood on the protected tract.

DISSTON HANDLES FOR CROSS-CUT SAWS

Reprint from Disston Cross-cut Saw Book

IN keeping with their large line of cross-cut saws Disston's manufacture a great variety of handles.

These handles have been designed in accordance with ideas of experienced lumbermen and saw-makers—their length, thickness, shape, and durability conforming to the most practical requirements.

Straight-grained hardwood, free from flaws, is selected for these handles, which is put through a long seasoning process, and then turned by experienced wood-workers.

The fittings on Disston handles, as can be seen in the several illustrations on this page, are well made and strong, and symmetrical.

Thread-cutting dies are used. They cut threads which become worn and on which ends, and will operate

Some patterns are made saw. In the for instance, ped over the blade, and is by turning the are adjusted to blade by insert ing the pin in the hole at the end of the saw, and tightening by screwing up a thumb-nut.

The best type of handle for any particular use varies with the location, the kind of work to be done, conditions under which the work is done, and the preference of the saw-users.

The most perfect handle is one which, while strong and durable, permits of a quick adjustment and removal.

Particularly so is this the case with those used for felling saws, where it is often necessary to remove the handle in order to withdraw the saw from the cut quickly to prevent the saw from being pinched and broken.

Another important feature in certain patterns is the fact that they are reversible, thus enabling the use of the saw in various positions.

The John Sells handle, shown at the lower right-hand corner of the page, was originated on the Pacific Coast, where it is very popular.

This handle is so made that there is no nut projecting at the back of the handle. This gives a free, comfortable grip for the hand in any position.

The curved extension of the fitting is a safeguard against barked knuckles. Although very

(Continued on Page 55)

Page 51



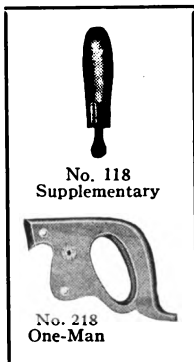
No. 103



No. 119



No. 108



No. 118
Supplementary

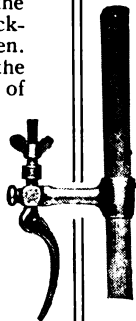
No. 218
One-Man



No. 122



No. 122
Sectional
View.



John
Sells

One never comes to know the Redwoods until he sleeps under them, and wakes in the morning to lie for a long time looking up their cinnamon-red trunks into the green foliage of their tops.

THE bark is deeply indented, sometimes two feet deep, and these indentations appear like the fluttings of an enormous Corinthian column. The illusion is in measure helped out by the swell-out of the trunk at the base where the great roots go down into the earth and the spread-out of the branches at the top into an efflorescent capital.

After a week a sense of the bigness of the redwoods begins to dawn upon one. And their arrowy majesty and mighty lift are more comprehensible. How straight and strong and splendid they are! People, with a genius for seeing the infinitely little, camp under these great trees, and in the morning perhaps are amused by the antics of the Douglas squirrel (a western red squirrel) chasing himself around the thirty-foot trunk; but they do not see the tree. They gaze beyond the three-hundred-foot top into the sky, watching the wheel of a hawk or a vulture, but they do not see the sky.

The story goes of some dullard presented to a great queen at one of her receptions, and the only thing he saw about her majesty was the wart on her nose. But how can one miss the majesty of these mighty trees! They belong with the Grand Canyon and Kanchanjanga—among the sublime wonders of the world.

Under the redwoods the ground is covered with heavy mosses or beds of ferns or spongy deposits of century-old foliage, or perhaps huge rocks. There, too, you will see pale wild roses in clumps—the fairest-petalled beauties ever seen in or out of the forests—and underneath, all around them, sometimes covering acres of ground, are small nodding violets, with countless other cups and stars and hoods and slippers, without a name and without a scent, but, nevertheless, charming in color and lovely in form. It is a pleasant place to ramble afoot, and you can ride there, too; but it is inadvisable if you wish to see the trees above or the flowers below.—John C. Van Dyke, in "The Open Spaces."

Border, Courtesy California Redwood Association



Spiral Tooth

CIRCULAR SAWS—BIGGEST EVER

Cuts 48" Hemlocks for Weyerhaeuser Forest Products at Everett, Wash.

AGAIN we are obliged to use superlative-degree adjectives in writing of Disston's latest triumph in saw-making, for again they have been called upon to surpass their own record-breaking accomplishments by making the largest circular saws in the world.

Naturally, one would expect the largest and oldest saw works in the world to manufacture the largest saws, yet, recently, when Disston's announced the completion of several 108-inch spiral tooth circulars, the saw public gasped, while newspapers and magazines elaborated on the "marvelous achievement." Obviously, the capacity of the Disston saw works had not been fully conceived.

The successful operation of these saws caused the engineers of the Weyerhaeuser Forest Products at Everett, Washington, to sit down and do some careful figuring.

If Disston's could make saws to cut their 48-inch hemlock logs into ordinary log lengths at the rate of 112 cuts an hour (almost two cuts a minute) it would prove a worth-while contribution to lumbering economy.

The proposition was put; the delivery of two Disston 110-inch spiral tooth circular saws was the reply.

When in operation these saws will cut through 48-inch Pacific Coast hemlock at a rate of 900 cuts in an eight hour shift. The rim speed of the saw will average almost two miles a minute.

Weight each, 1595 lbs. Teeth in each saw, 190.

In cutting, logs are held in position by dogging jaws. The saws are suspended in a giant frame in such a way that they swing over and back across the log which is to be cut.

Incident to the saws' great dimensions is the unique source of motive power which drives them. As there is no power plant connected with the particular mill in which the 110's are installed, a high voltage transmission line from another mill supplies the current. It is the first time in logging history that a saw mill has been operated entirely by electricity.

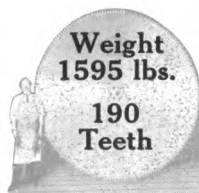
It is really remarkable with what ease and rapidity these saws plough through the mountains of hemlock on the carriage. The skill, knowledge of saw requirements, experience, and

mill capacity (from the making of the steel to the finished product) which made these great saws a practical, economic factor in lumbering, speaks for itself.

"Do these saws represent the limit in circular saw size?" Saw milling industry is progressing so rapidly that time alone can answer this question.



Disston 110" Spiral Tooth Circular Saw.



Rim motion *two miles a minute*

CRACKED NUTS

In the June issue of the Crucible we answered briefly, several questions on the speed of circular saws. As speed is such an important element in the proper operation of circular saws, our Mr. Lyle B. Chase was induced to present the subject to our readers in a more comprehensive way, than can be done by answering several specific questions. Hence we have his article on the

SPEED OF CIRCULAR SAWS

All saws should be operated at a uniform rate of motion to obtain best results.

Large circular saws, both solid and inserted tooth, should be run at a speed within the limits of the power available so as to maintain a uniform rate of motion, in and out of the cut, or with not exceeding fifty revolutions between speed of saw in the cut (at work) and speed of saw out of the cut (light).

With ample power a speed equal to 10,000 feet periphery travel per minute is considered best adapted, but under no circumstances should the speed exceed a periphery travel of 12,000 feet per minute.

In cases of limited power it is necessary to reduce the speed to conform to amount of power available for operating the saw. It requires power to get and maintain speed, and to attempt to increase the speed of a saw beyond the capacity of the power to sustain it, is a waste of power.

Saws operated at a high speed, running light, and then pulled down 100 to 300 revolutions, at work, will give more or less trouble in making badly sawed lumber. It is impossible to tension a saw to run true at both high and low motion; i.e. a saw hammered for, and run at, say 750 revolutions per minute, light, and pulled down to 500 to 550 revolutions per minute in the cut, will have the tendency to cup and lead in or out of a straight line, and on the other hand if saw is hammered to run at working speed of 500 to 550

revolutions per minute it will flutter and whip the guide pins when running light—a condition to be avoided.

There is an apparent tendency among users of circular saws to run their saws at excessive speeds, especially large circular rip saws (mainly Inserted or Chisel tooth patterns). Having formed the erroneous idea that increasing the speed will increase the output of lumber, they, in doing

this, lose sight of the fact that it requires power to sustain speed. Common sense (without technical knowledge) should enable any operator to reason out that they would be able to cut more and better sawed lumber

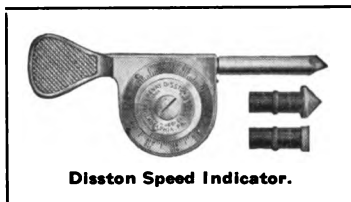
running their saws at a uniform rate of speed than could be cut with saws run at a high motion light, and slow motion at work.

Bad running saws make too large a percentage of mill culls, whereas good running saws will cut more lumber that will pass as No. 1 or No. 2, and often-times mean the difference between success and failure of a business venture.

Question—What causes some large circular cut-off saws to whistle or hum more than others? How can the noise be prevented?—G. C. B.

Answer—There are a number of conditions that contribute to produce such an effect, among them being excessive speed, depth and shape of teeth, make-up and arrangement of

(Continued on Page 55)



Diston Speed Indicator.

“OLD DOBBIN” Strikingly Equine in Appearance

Apparently “Old Dobbin” like “The Old Grey Mare” is not what he used to be. While age often obliterates the outstanding features of halcyon days, yet we are inclined to believe that “Old Dobbin” was not built for speed. However, we concede it were possible for him to win by a neck in a free-for-all-race.

He looks more the part of the “Old Dobbin,” prominent character in the chorus of the song *popularis* of one decade ago:

“Put on your old grey bonnet
With your blue ribbons on it
While I hitch “Old Dobbin” to the shay
Through the fields of clover,
We will drive to Dover
On our golden wedding day.”

But whatever our conjecture about “Old Dobbin’s” identity or qualifications, the facts in the case are as follows:

He is the peculiar formation of trunk and roots of what used to be an ever-

green tree up in Evergreen Bluff, a summer resort, near South Haven, Mich.

The petite Miss astride his horse-ship, is Eleanor Ruth Nelson, six years old, when the picture was taken, from which our illustration was made.

This is verified by Miss Ruth C. Johnson, 2622 Orchard Street, Chicago, Illinois, who took the picture about seven years ago, and who is aunt of “Old Dobbin’s” bridleless, bare-back rider. Miss Johnson was a lucky competitor in the Crisp \$10.00 Bill Contest, recently held by the Crucible.



Trunk and Root of Evergreen Tree, South Haven, Mich.

Disston Handles for Cross-cut Saws

(Continued from Page 51)

large saws are used on the great red-woods, firs, spruce, etc., yet there is not any too much blade length projecting, and if the draw and push stroke were not measured pretty carefully the handle would be drawn against the bark and bruise the fingers between the bark and the handle. The John Sells handle, with its guard, provides against this.

What is known as a supplementary handle (see top center illustration) is used on one-man saws. In all Disston one-man saws, provision is made to at-

tach the supplementary handle either at the point of the saw or at the handle end. When attached to the point of the saw two men can work it as they do the regular two-man cross-cut. When attached at the handle end it provides a two-hand grip for one man.

Answer to Question

(Continued from Page 54)

machine on which saw is used. To determine a remedy would require a thorough knowledge of all the conditions under which such saws are operated.



SAWDUST

"How old is that flapper?"
 "In her early nicoteens."—*Life*.

That doleful looking fellow you see
 is probably a hairpin manufacturer.
 —*Nashville Banner*.

Mrs. Matthews was learning to drive
 her new car and was very much thrilled
 over it.

"Of course," she said,
 "I could never change
 a tire myself. Why, I
 can't even lift one.
 You know they have
 eighty pounds of air in
 them in addition to the
 weight of the tire!"

"A man is never
 older than he feels,"
 declared the ancient
 beau bravely. "Now I
 feel as a two-year-old."
 "Horse or egg?"
 asked the sweet young
 thing brightly.

—*Tit-Bits* (London).

"Doin' any good?"
 asked a curious individual
 looking over the
 rail of the bridge.

"Any good?" answered the fisherman
 below, "Why I caught forty bass out
 o' here yesterday."

"Say, do you know who I am?"
 asked the man upon the bridge.

The fisherman replied that he did
 not.

"Well, I'm the fish and game
 warden."

The fisherman after a moment's
 thought, said, "Say, do you know who
 I am?"

"No," replied the officer.

"Well, I'm the biggest liar in the
 country."—*Ex*.

Dad (sternly)—"Where were you
 last night?"

Son—"Oh, just riding around with
 some of the boys."

Dad—"Well, tell 'em not to leave
 their hairpins in the car."

A very shy young man experienced
 considerable difficulty in summoning
 up sufficient courage to propose to the
 girl of his heart.

One day he took her
 for a walk in a cemetery,
 and stood awkwardly and tongue-tied
 before his family tomb.

At last he blurted
 out: "Lizzie, d-d-darling—
 would you like to
 sleep here some day?"

The man had just informed
 the Pullman agent that he wanted
 a Pullman berth.

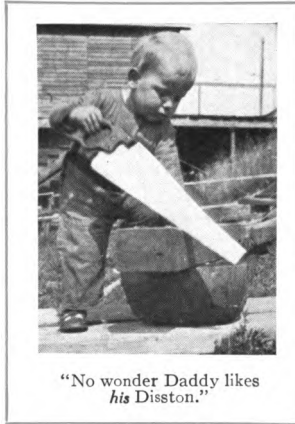
"Upper or lower?"
 asked the agent.

"What's the difference?"
 asked the man.

"A difference of fifty
 cents in this case," replied
 the agent. "The

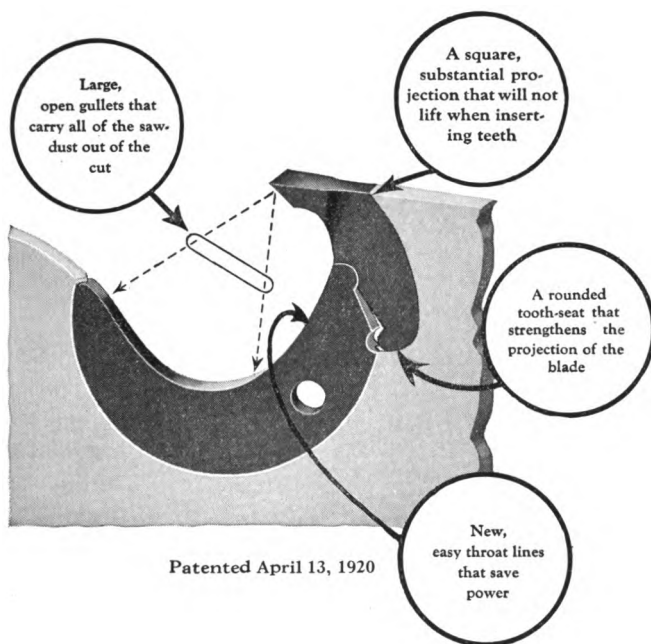
lower is higher than the upper. The
 higher price is for the lower. If you
 want it lower, you'll have to go higher.
 We sell the upper lower than the lower.
 In other words, the higher is lower.
 Most people don't like the upper although
 it is lower on account of being higher.
 When you occupy an upper you have
 to get up to go to bed and get down
 when you get up. You can have the
 lower if you pay higher. The upper is
 lower than the lower because it is higher.
 If you are willing to go higher,
 it will be lower."

"Thank you," said the man; "I
 think I will stay at home."



"No wonder Daddy likes
 his Disston."

EVEN IF HE GETS POOR SERVICE, A FAT MAN IN A TELEPHONE
 BOOTH HAS LITTLE ROOM FOR COMPLAINT.—*Life*



“We had mean stuff to cut, but the Invincible stood up fine”

“We never in all our experience saw the equal of the Disston Invincible Chisel Tooth Saws,” writes Lawrence Goodling Co., Inc., Mobile, Ala. “We had mean stuff to cut, buried the saw a number of times, and cut into nails and wire. The saw stood up **FINE**, cut clean and true, and never even warmed up.”

“The Disston Invincible is the easiest cutting saw we ever saw,” says Rawley & Co., Leipsic, Del. “It has reduced our costs and increased our production.”

You surely want to know more about this new and better Disston Saw. Get the facts!

HENRY DISSTON & SONS, Inc.
Desk O, Philadelphia, U. S. A.

Gentlemen: Please send us information about the new Disston Invincible Saw.

Name

Street

City State

There will be no charge for this, and I am under no obligation whatever.

AT YOUR SERVICE

Whenever you have saw, file or knife problems, get in touch with our nearest branch. They will be glad to co-operate with you.

HENRY DISSTON & SONS, Inc.

GENERAL OFFICES AND FACTORY

PHILADELPHIA, U. S. A.

BRANCHES:

Henry Disston & Sons, Inc., of Illinois
Jefferson Street & Washington
Blvd., Chicago, Ill.

The Henry Disston's Sons Company
Sixth & Baymiller Streets
Cincinnati, Ohio

Henry Disston & Sons, Inc.
322 Occidental Avenue
Seattle, Washington

Henry Disston & Sons, Inc.
144 Second Street
San Francisco, Calif.

Henry Disston & Sons, Inc.
91 First Street
Portland, Oregon

Henry Disston & Sons, Ltd.
80 Sussex Street
Sydney, Australia, N. S. W.

R. B. McKim Company, Inc.
116-118 Pearl Street
Boston, Massachusetts

R. B. McKim Company, Inc.
120-122 Exchange Street
Bangor, Maine

The Reichman-Crosby Company
223-235 South Front Street
Memphis, Tenn.

C. T. Patterson Co., Ltd.
New Orleans, La.

Henry Disston & Sons, Inc.
130-132 Marietta Street
Atlanta, Ga.

Henry Disston & Sons, Ltd.
2-20 Frazer Avenue
Toronto, Canada

Henry Disston & Sons, Ltd.
Vancouver, B. C., Canada

Henry Disston & Sons, Inc.
120 Broadway
New York City

**Distributors for Great Britain
and Ireland:**

Henry Disston & Sons (Great Britain) Ltd.
35, 36, 37, Upper Thames Street
London, E. C. 4, England

The **DISSTON CRUCIBLE**

THERE is no finer or greater activity in the world than the development of men to their full potential powers for service, and this development must come largely through opportunity and opportunity must be given to a very considerable extent by those who stand at the doorway thereto. It is true that men of great personal force and genius and courage cannot be held back, but on the other hand there are men of great potential usefulness who, through being a square peg in a round hole or through diffidence or other causes, fail of recognition which they should have. Man should not always be required to break down the door of opportunity.

—Paul Shoup, Vice-President
Southern Pacific Co.

SEPTEMBER, 1924

for 84 years



SAWS

GOLD was discovered in California in 1848. Eight years before that date Henry Disston made the first famous Disston Saw, "the saw most carpenters use." More than one of the intrepid "forty-niners" carried his Disston Saw across the continent—and back. Today Disston Saws are made of Disston-made Steel by Disston craftsmen, many of whom have over a quarter of a century experience in designing, tempering, and filing the *best* Saws that skill can produce.

Disston makes all kinds of Saws:

Hand Saws	Back Saws
Band Saws	Compass Saws
Cross-Cut Saws	Grooving Saws
Hack Saws	Keyhole Saws
Circular Saws, etc., etc.	

DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

SEPTEMBER, 1924

No. 8

MORE THAN HALF A CENTURY

Of Constant Use, But Disston Handsaw is Still in Fine Fettle

THAT more than a half century resting on a Disston handsaw, plus the same period of continuous service does not diminish its high class cutting qualities has been demonstrated time and time again. Thousands of voluntary testimonies to this fact repose in our files.

Recently, Mr. A. W. Teeter, of 94 Ridgeway St., East Stroudsburg, Penna., hit upon a very practical way of adding his testimony to the long life of Disston hand saws. In addition to the letter appearing on this page, he sent several samples of cuttings made by his 53 year old, 26 inch, 9 point, No. 12 Disston, which appears above. The samples of cuttings below.

The
strip
thick-



**Fifty-
three
year old
Disston
No. 12**

straight, narrow with its uniformness, and the smooth surface, as indicated by the side view of a cutting has the appearance of being planed and polished, but it is only the natural product of a quality saw in the hand of a master mechanic.

Mr. Teeter writes:—

"East Stroudsburg, Penna., March 12, 1924.
"Keystone Saw Works,
Philadelphia, Penna.

"Gents:

"I am sending you several samples of cuttings made by one of your saws which I have had in my possession 53 years. It is a No. 12, 26" blade, 9 point; handle has raised rivets. "I am sending you these samples to show you that Disston saws can furnish the goods even after a half century of service.

"I have two others in my possession; one 52, the other 54 years old. The stamp on the blade is just 'Henry Disston' with the 'Keystone and scales; No. 7 cast-steel.'"



Sample of cuttings made by a 53-year-old Disston Hand Saw. Actual size.



Negros Islanders Interested in Disston Advertising Methods.

FILIPINOS ENJOY DISSTON SAW FILMS

Few of the Filipinos can speak or understand the English language, and Disston's American salesmen may not succeed very well in presenting their wares in Spanish and the various dialects of the Islands, so our Mr. Lyman H. Burke decided to use pictures, the most universal of all languages, to present his line.

The illustration shows plainly the American method of procedure: a flashy bill board, with inscription in Spanish; native string band to attract attention to the bill board; arrangement with the "movie" man to present a three-reel film of the "Greatest Saw

Works in the World" in connection with the feature picture of the evening—"The Rejected Lover."

The scene of the illustration is on the Island of Negros, one of the places where Mr. Burke screened his films. The Spanish inscription on the bill board, translated, reads:

FOR TO-NIGHT

EXTRA SPECIAL TO-NIGHT

Henry Disston and Sons, the Greatest Saw Factory in the World—Showing the Factory and the way in which SAWS are made.

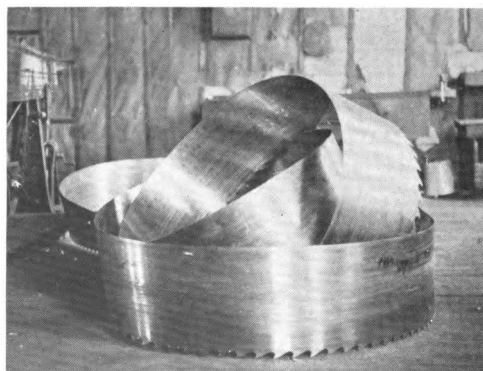
THE REJECTEDLOVER—A LOVE DRAMA

Ralph Graves

In 5 Parts

TOUGHEST OF THE TOUGH

The accompanying illustration shows a Disston band saw originally 12 inches wide, worn to 11 $\frac{3}{4}$ inches when it was caught and stuck in a hemlock log, caused by a runaway carriage, in the mill of the Westboro Lumber Co., at Westboro, Wisc. It was held so firmly



Band Saw as Voluntarily Coiled when taken off of Wheel.

as to stop the mill and cause a 14-inch belt to slip on the pulleys.

The saw remained on the wheels until the strain was released and was then taken off and carried to the filing room and placed on the floor, where it voluntarily coiled itself into the shape

Cont. on Page 63

CRACKED NUTS

The first time since the "Cracked Nuts" page has been running in the Crucible have queries on files found their way to the Editor's desk. Following are some of the

FILE QUERIES:

Question—Are the uses of files more diversified than other tools?

Answer—Yes, for there are few trades or industries in which files of one style or another are not used.

Question—How many types of files are made?

Answer—It would be some fine job to try to list all of them, but there are several hundred regular files, and thousands of special files.

Question—How did the name "bastard" originate as relating to files?

Answer—The name bastard as applied to the cut of a file comes from the days when files were entirely cut by hand, and it is supposed to have been given to a cut between what was termed rough cut and the finer grades of cutting. The cut became a standard, taking the place of rough or coarse cuts, and has been known since then as the bastard cut.

Question—What are the extremes in sizes and weights of files?

Answer—Sizes range from the fine, wire-like jewelers' file to the large, heavy machinists' file; from the fine superfine broach file, 3 inches long and less than 1/32 of an inch in diameter, which weighs only .008 of an ounce, (1800 to the pound,) to great circular facing files—135 pounds each.

Question—What is the greatest length of file made by Disston?

Answer—Fifty-four inches.

Question—What is the 54-inch file used for?

Answer—Making dies for stamping out automobile body material.

Question—Is there any standard classification of files?

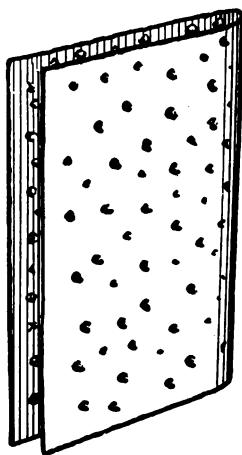
Answer—Files are classified according to shapes—flat, hand, round, half-round, mill, square, three-square, etc.

Question—Do all files have the same kind of teeth?

Answer—No. Some files have single-cut teeth; others double-cut teeth, and still others rasp, or punched teeth.

Question—What is meant by a dead-smooth file?

Answer—Size of teeth in files vary. If there are only a comparatively few teeth to the square inch the file is coarse. The more teeth to the square inch, the finer the file. Some files have such extremely fine teeth they are called dead-smooth.



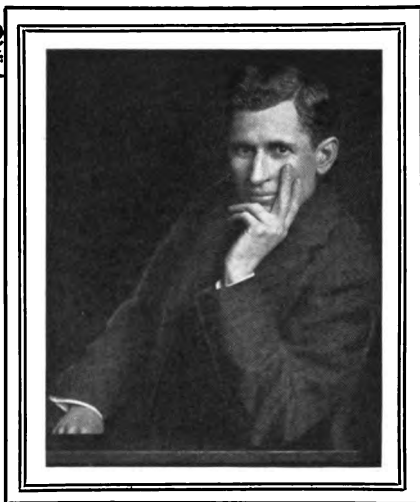
Indian rasp of long ago for smoothing arrow shafts. Evidently not standard cut.

Question—Does a file cut on both the draw and push stroke?

Answer—All regular files should cut on the push stroke only. The file should be raised a bit on the draw stroke, and weight put only on the push stroke.

Question—How many files are used by Disston annually?

Answer—Thirty-five thousand dozen, all made in their own file works.



MR. LOGAN L. MATHER

Manager Disston Cincinnati and Chicago Branches

MR. LOGAN L. MATHER, present manager of the Disston Cincinnati and Chicago Branches associated himself with the Disston firm September 5, 1889 (just 35 years ago this month), as a traveling salesman for their Louisville Branch. He continued in this position until January 1, 1898, covering territory of southern Indiana, southern Ohio, Kentucky, West Virginia, Tennessee, and a portion of Arkansas and south-east Missouri.

Then he was placed in charge of the Louisville Branch, and served in this capacity until June 1, 1902, when the Louisville Branch was transferred to Cincinnati. The present branch was established at Sixth and Baymiller Sts., Cincinnati, by merging the Louisville Branch and Baldrige & Hogan Saw Co.

On May 20, 1915, Mr. Mather was also placed in charge of the Chicago Branch, at Washington and Jefferson Sts., and has continued in the management of the Cincinnati and Chicago Branches since.

The territory covered by the Cincinnati Branch at this time embraces

Ohio, West Virginia, southern Indiana, Kentucky, Tennessee east of Jackson, extreme western Virginia and North Carolina, northern Alabama, southern Illinois, and Missouri (except the extreme southeast portion), and Kansas.

Territory embraced in the Chicago Branch is northern Indiana, northern and central Illinois, Michigan, Wisconsin, Minnesota, Iowa, Nebraska, Colorado, Utah, North and South Dakota.

The Cincinnati and Chicago Branches carry and distribute a full line of circular and band-saws for the lumber industry and wood-working plants, machine knives, veneer knives, paper knives, all kinds of metal cutting, circular and band-saws, files, hack saw blades, saw tools, and steel specialties known as jobbing work, in addition to making repairs on all classes of circular saws.

Manager Mather is always on tiptoe to give his patrons the best and promptest service, and nothing pleases him better than to have the folks of his territory freely draw on his extended experience in solving saw problems.

"GROWING TREES FOR GROWING CHILDREN"

Pacific Lumber Co's Activities in Redwood Reforestation

**Nursery covers five and one-half acres—1,400,000 trees
produced annually—2,800 acres to be planted.**

By F. W. Bender and Willis G. Corbitt

IN the northern part of California where the mighty Redwood trees have been growing for thousands of years, there are a number of lumber companies that are producing the finest of lumber from a limited supply of virgin timber. When Disston saws are used the annual cut increases and the question often arises, "Where will the Redwood lumber come from when the present stand of timber is cut?" This question is being answered by the lumbermen themselves, for they have organized the Humboldt Redwood Reforestation Association for the purpose of reforesting the cutover lands and producing new trees that will furnish their mills with logs when the present supply has been exhausted.

One traveling North over the Redwood Highway from San Francisco does not see much of the Redwood forests until Humboldt County is reached. Then the Highway passes through miles and miles of virgin timber that has been given to the State for park purposes by individuals and large lumber companies, who have sacrificed their financial returns in order that the public of today and the future, may enjoy one of the great wonders of the world, the Redwood forest.

In the heart of the forested hills is Scotia, "The Home of Redwood." There the Pacific Lumber Company maintains a thriving community which is dependent upon the production of lumber from two large saw mills that cut approximately 135 million board feet of lumber annually. Although Scotia is a company town there are few like it in any lumbering region. Judging from the buildings a stranger would never suspect that the workmen's homes were not their own property to be surrounded with flowers and green lawns. This company has been organized since 1869 and during the past fifty-three years many thousand of acres of timbered land have yielded their wealth to the nation. It is estimated that the remaining stand of timber would keep the mills in operation for another forty years; but it is not proposed to let the community and

(Continued on Page 63)

Border, Courtesy California Redwood Association

WEST LUMBER CO., ONALASKA, TEXAS

Will Cut 40-million Feet of Yellow Pine During 1924— A 100-per-cent Disston Mill

DOWN in Onalaska, in the "Lone Star State," there is a well arranged saw mill in which are installed two double-cutting Disston band saws whose healthy hum makes merry music to the mill gangs, eight hours a day, six days a week and fifty-two weeks in the year, as they reduce yellow pine logs to the tune of 140 thousand feet a day.

The mill is owned by the well-known West Lumber Co. Forty million feet of lumber is the mark set for this year's work—real honest-to-goodness lumber, well cut.

There is a corps of men at the head of this West Lumber Co., whose motto is "Good lumber, or none" and these men have the will and ability to make their motto good.

There is Mr. W. W. West, the general manager, who knows how to

manipulate the reins so that each branch of the business comes across with a high percentage of efficiency.

Then, Mr. B. F. Sellers, the superintendent, is not missing anything along his line. His long, practical experience thoroughly qualifies him for his position.

When it comes to the mill foreman, Mr. Ed. Bird, he understands mill, men, and lumber. No lost motion in his end of the game.

And the filer, Mr. F. M. Carter: Well, we don't want to mention any names, but we have it straight that he may have a few equals, but no superiors.

So there you are; a combination like this—veritably a wheel within a wheel—cannot help but make good in any undertaking in their line. Success to the West Lumber Co.



West Lumber Co.'s Filing Room, showing Disston 14-inch double-cut bands worn down to 8 inches.

"Growing Trees for Growing Children"

(Continued from Page 61)

the lumber business die then. If the Redwoods grew and prospered for a thousand years in the past why should not the lumber business do equally as well in the future? It should, if there are trees to furnish the logs; and there can be trees, if reforestation is practiced.

To carry out this program of "Growing Trees For Growing Children," The Pacific Lumber Co. has developed a reforestation nursery near Scotia, consisting of five and one-half acres. There over 1,400,000 trees will be produced

annually from the seed, either collected by their own men, or purchased from companies engaged in the business. When planted in the forest, those trees should cover approximately 2,800 acres. As there is some reproduction from sprouts and

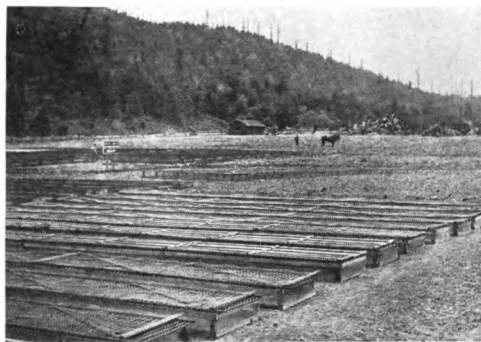
natural seedlings the entire area denuded in logging will not have to be replanted. In addition to the production of Redwood trees for planting, several thousand Douglas Fir, Sitka Spruce and Port Orford Cedar trees will be planted each year. As the Redwood will develop from the seed to an eight-inch tree in one season, it can be removed from the nursery and planted in the field without being held in the transplant beds for a year, as are the other species.

Because of close grain and great age of the Redwood tree it is commonly believed that it is a slow growing tree. In reality it is found to be one of the fastest growing lumber producing trees in North America, when handled under a system of forest management. Sprouts from old stumps have been

known to grow as much as four feet in diameter in sixty years but the average tree at that age will be only about twenty inches.

To determine just what kind of lumber could be produced from second growth Redwood, The Pacific Lumber Co. had a crew get out three car loads of logs and these were put through the mill at Scotia where the logs were cut into lumber. A close record was kept of the amount and grade of lumber produced from each tree and the results proved conclusively that merchantable lumber could be produced from second growth Redwood trees that were fifty years old.

At present several of the other lumber companies will be furnished with seedling trees from the Scotia nursery. As the work of reforestation progresses and more land is replanted each year, it may be necessary to establish a number of nurseries in



Pacific Lumber Co.'s Reforestation Nursery,
Scotia, Calif.

Humboldt County in order to supply the demand.

Toughest of the Tough

(Continued from Page 58)

shown in the illustration on page 58.

The filer, Mr. Fred J. Husted, hammered and rolled the saw to remove the twists, and put it in shape to run. It was then again placed in commission and used until worn down to $7\frac{3}{8}$ inches wide, without a crack, and with the original braze still intact.

This is another proof of the toughness and serviceability of Disston bandsaws—and also does credit to the courage and ability of Mr. Husted in tackling the job of placing a badly twisted saw in working order.

Filer Husted is now filing for the Rib Lake Lumber Co., at Rib Lake, Wisc.



SAWDUST

Tourist—"I'm almost certain I must have run across your face sometime or other!"

Sour Waiter—"No, sir! it's always been like this!"

Teacher (to class in Natural History)—"What kind of birds are most frequently kept in captivity?"

"Jail birds," volunteered Tommy.

Caustic Critic: "Gee, but you have a lot of bum jokes in this issue."

Editor: "Oh, I don't know. I put a bunch of them in the stove and the fire just roared."

Mandy to Sambo, reading evening paper: "Listen heah, yo'! Ah didn't buy yo' dat papah fo' entahtainment! Jes' confine yo'se'f to dem want ads, niggah!"

"Your little girl wants to kiss you over the 'phone," explained the steno.

Busy Plumber—"Take the message—I'll get it from you later."

"Who shall I say is asking for him?" inquired central of the man in the booth.

"Mr. O'Cohen."

"Mr. Who?"

"Mr. O'Cohen."

"Wait a minute—the wires are crossed."—*Punch Bowl.*



Miss Petite: "My Grandpa says I look cute in these togs."

Visitor: "You certainly have a fine bunch of stenographers. Where do you find them?"

Clerk: "Usually back in the corner arranging their hair."—*Ex.*

"Waiter," said a customer after waiting fifteen minutes for his soup, "have you ever been to the Zoo?"

"No, sir."

"Well, you ought to go. You would enjoy seeing the turtles whizz past."

Some quotations from Baltimore school examination papers:

A blizzard is the inside of a hen.

A circle is a round, straight line with a hole in the middle.

George Washington married Mary Curtis and in due time became the father of his country.

Sixty gallons makes one hedgehog.

A mountain range is a large cook stove.

Pompeii was destroyed by an eruption of saliva from the Vatican.

Typhoid fever is prevented by fascination.

TO KEEP YOU GUESSING

Withhold the answers to the following questions and see how many of the family can guess them.

What is the cleanest state? Wash.

The most egotistical state? Me.

The sickliest state? Ill.

The most maidenly state? Miss.

The most medical state? Md.

The most paternal state? Pa.

The mining state? Ore.

The most self-confident state? Kan.

The deep in debt state? O.

The oldest state? Ark.

THE MOST STIRRING PASSAGES EVER WRITTEN ARE FOUND
IN THE COOK BOOK—*ES.*



For Portable Mills *the* DISSTON INVINCIBLE

***Cuts more lumber
with less power***

DISSTON has the saw that will make any portable mill more profitable—the Disston Invincible, invented, patented and made only by Disston.

This new chisel-bit saw is a marvel on portable mills, a wonder on larger mills. It cuts faster, cuts easier, saves power, increases output.

“With a 44-inch Disston Invincible we cut 13,000 feet of lumber in 21½ hours on our pony mill driven by a tractor,” writes C. H. Turner, Statesville, N. C.

“It is the sweetest-running saw in this country,” says Mongold & Reed, Petersburg, W. Va.

See what others say

Find out how the Disston Invincible Saw will make money for you. Write for “*Invincible Saw Facts*”—sent free. Address Desk O.

Henry Disston & Sons, Inc.
Philadelphia, U. S. A.

Every Item on This List

is just as good as the Disston products you are now using. Check off the things you use and the next time you buy specify "Disston"—you'll get that same satisfaction you have come to expect from Disston products.

Back Saws

Band Saws for Wood and Metal



Bevels
Buck Saws
Butcher Saws and Blades
Cabinet Scrapers

Chisel Tooth Circular Saws

Circular Saws for Wood,
Metal, and Slate

Compass Saws

Concave Saws, Circular

Cross-cut Saws

Cut-off Saws

Cylinder Saws

Dovetail Saws

Drag Saw Blades

Edger Saws

Files and Rasps

Filing Guides

Gang Saws

Gauges, Carpenters' Marking

Grooving Saws

Hack Saw Blades

Hack Saw Frames

Hand, Panel, and Rip Saws

Hedge Shears



Ice Saws

Inserted Tooth Circular Saws

Keyhole Saws

Kitchen Saws

Knives—Cane, Corn, Hedge

Knives—Circular—for Cork, Cloth, Leather, Paper, etc.

Knives—Machine

Levels—Carpenters' and Masons'

Lock Corner Cutters

Machetes



Mandrels

Metal-slitting Saws



Milling Saws for Metal

Mitre-box Saws

Mitre Rods

Nest of Saws

One-man Cross-cut Saws

Pattern Maker Saws

Plumbs and Levels

Plumber Saws

Post Hole Diggers

Pruning Saws

Rail Hack Saws

Re-saws

Saw Clamps and Filing Guides

Saw Gummers

Saw-sets

Saw Screws

Screw Drivers

Screw-slotting Saws

Scroll Saws

Segment Saws

Shingle Saws

Siding Saws

Slate Saws, Circular



Squares, Try and Mitre

Stair Builder Saws

Stave Saws

Straight Edges

Sugar Beet Knives

Swages

Tools for Repairing Saws

Tool Steel

Trowels—Brick, Plastering, Pointing, etc.

Veneering Saws

Webs—Turning, Felloe, etc.



This is a partial list. There are thousands
of items in the complete Disston line.

DISSTON

SAWS TOOLS FILES

OCT 28 1924

UNIVERSITY OF TEXAS

The
DISSTON
CRUCIBLE

TREES

Ladies at a ball
Are not so fine as these
Richly brocaded trees
That decorate the fall.

They stand against a wall
Of crisp October sky,
Their plumed heads held high
Like ladies at a ball.

—*Jean Starr Untermeyer*

OCTOBER, 1924

FOR FAST AND BETTER WORK USE DISSTON CROSS-CUT SAWS

No. 495 SUWANEE



The Suwanee is one of the highest grade cross-cut saws made by Disston. "Four Cutter with raker tooth" type. Ground six gauges thinner on the back than on the tooth edge. Used mostly for "bucking" or cutting fallen timber to length. Made of Disston-made Steel. Regular lengths 5 to 8 feet; longer or shorter if desired.

No. 289 VIRGINIAN



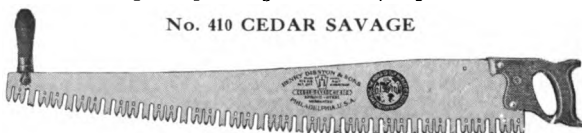
The Virginia is the same as the Suwanee in material, shape of plate and workmanship. Made for those users who prefer a "two cutter with raker tooth" type. Regular lengths 5 to 8 feet; longer or shorter if desired.

No. 470 BUZZ



The Buzz is a medium width saw. Same quality as the Suwanee and Virginia. Used for "felling" or cutting down timber and for "felling" and "bucking" timber of medium size. "Four cutter with raker tooth" type. Ground five gauges thinner on back than on tooth edge. Regular lengths 5 to 8 feet; longer or shorter if desired.

No. 410 CEDAR SAVAGE



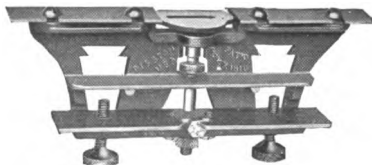
A one-man saw as good as the best cross-cut saw. Made for fast, easy cutting in all kinds of timber. Narrow blade, ground to special taper, gives ample clearance with small amount of set in teeth. Handle has large and comfortable grip. Regular lengths 3 to 6 feet, or longer, if desired.

No. 1 SETTING HAMMER AND HAND ANVIL



To secure best results from cross-cut saws, they must be properly set and sharpened. No. 1 Setting hammer and anvil used in connection with our Imperial Cross-cut Saw tools are recommended for this purpose.

IMPERIAL SAW TOOL



A cross-cut saw tool that fills a long felt want. Includes a jointer, raker tooth gauge, block and anvil and setting gauge. Made of best material.

No. 122 CROSS-CUT HANDLE

The cap is made with a long neck, tapped to fit the threaded end of loop rod. Rod extends through the handle, making connection and line of pressure, when on saw, from top of handle to bottom edge of blade, thus insuring a strong, firm grip on saw, without possibility of lost motion or wobbling. 8 inches long, diameter, 1 1/4 inches.



CROSS-CUT BOOK FREE

The Disston Cross-cut Saw Book contains much information which is helpful to lumbermen. Write for your copy. Address Dept. O.

Henry Disston & Sons, Inc.
Philadelphia, U. S. A.

DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

OCTOBER, 1924

No. 9

WHY SHOULD I VOTE?

By FRANK DISSTON, President
Henry Disston & Sons, Inc.

UNLESS I vote I have no right to complain about government. Elections are won by the majority of those who vote, and those who do not vote do not count.

In 1920 there were 54,189,515 persons in the United States eligible to vote, and only 26,632,614 actually did vote.

So that 27,556,901 failed to do their duty as citizens. They did not count.

These 27,556,901 citizens have no right to complain about government. They did not count because they did not vote.

The government of the United States is ruled by the voters. The citizens who fails to express his choice by voting is waiving his right to help rule. He abandons self-government, and permits himself to be governed by others.

Good citizenship demands every citizen's intelligent vote.

In 1896 only 80 per cent of the citizens voted; in 1900 only 73 per cent; in 1908 only 66 per cent; and in 1920 less than 50 per cent.

In 1920 Pennsylvania had 4,362,734 eligible to vote, and 1,849,692 voted, or a trifle more than 42 per cent.

The greatest danger to popular government is popular neglect.

Enemies of American institutions and American prosperity are at work. Friends of American institutions and American prosperity cannot afford to sleep.

The man who does not vote is at the mercy of the man who votes.

The Constitution of the United States protects American institutions.

American institutions protect ME, and MY JOB.

As a matter of self-protection, it is my business to go to the polls and cast my ballot.

THAT IS WHY I SHOULD VOTE!

A RELIC OF STRENUOUS DAYS

Scene: Holcomb Valley, California.

Some wheel! Ten-feet in diameter. Spokes supported by two great iron hoops! Hub as large as the front wheel of the auto standing by. Tire snapped by iron's greatest enemy—rust.

This great lumber cart wheel, once the pride of some forest teamster, is a silent reminder of the strenuous days back in the sixties, when on the site marked by the wheel stood a mining camp of 8000 souls.

If we could extract from its huge, mute and time-worn cart wheel the history of the days when it creaked along the crude highways of the Holcomb Valley, in California, under the weight of a mighty redwood log—the history would be replete with hardships, sorrow, disap-

pointment, crime, intemperance, failure; in comparison to which would be accentuated, brave deeds, noble rugged manhood, self-sacrifice, and commendable ambition, success.



10-Foot Lumber Cart Wheel.

To the contemplative mind there is just a bit of pathos in this discarded, dilapidated wheel. Like wheel, like many a gold-hunter—strenuous activities, burden-bearing, blasted hopes, wrecked life, dissolution.

This wheel and several huge pieces of discarded

machinery seem to be the only monuments of the many of the 8000 who lived in this particular mining camp and who "paid the price" in a determined effort to satisfy their gold-lust. Illustration, courtesy "Yates Quality Press."

BIG TIMBER CUT WITH DISSTON SAWS

By The Southern Land & Timber Co., Beaumont, Texas

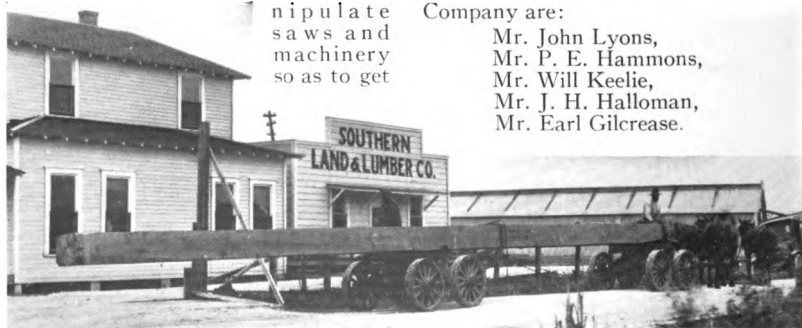
Veterans man the mill of the Southern Land and Lumber Co., with the exception of Earl Gilcrease who is a young man on his first hand filers job. But he, too, is a veteran, judging from the masterful manner in which he puts saws in fine cutting condition.

Well, this corps of mill men know how to manipulate saws and machinery so as to get

out all that is in them. Recently, they cut pine logs fifty-four feet long and sixteen inches square on their five-foot mill with a ten inch Disston band saw.

The editor moves that this feat be recorded on the minutes as a creditable piece of work. All in favor say, aye! Carried unanimously. The members of the Southern Land and Lumber Company are:

Mr. John Lyons,
Mr. P. E. Hammons,
Mr. Will Keelie,
Mr. J. H. Halloman,
Mr. Earl Gilcrease.





Wm. L. Saunders,
President and General Manager

Arthur G. Cummer,
Vice-President

R. B. Colby,
Secretary and Treasurer

THE heading of this article is an exact duplicate of the letter head of the Cummer-Diggins Co., Cadillac, Mich. It is familiar to lumber merchants everywhere. Many readers of THE CRUCIBLE will readily recognize it.

This institution was founded in 1878 by the late Jacob Cummer, who purchased the sawmill of Shackelton & Green in that year. The company was then known as J. Cummer & Son and was later changed successively to the Cummer Lumber Company, Blodgett, Cummer & Diggins and Cummer, Diggins & Co., until a few years ago it became the Cummer-Diggins Co.

W. L. Saunders, who is largely interested in many Cadillac industries is the president and general manager and gives it the most of his time.

The Company manufactures lumber for which it operates a large modern mill plant at Cadillac and also a hardwood flooring plant, turning out an-

nually about 5,000,000 feet of flooring.

The Cummer-Diggins Company has its refinement of lumber down to such a point that when it gets through with a tract of timber there is nothing left on it but the leaves and twigs. This close utilization being accomplished through its subsidiary flooring, chemical, and other plants.

It owns a large tract of choice timber and has several years of production to look forward to.

The company formerly manufactured white and Norway pine, but along toward the exhaustion of its pine it purchased a tract of 30,000 acres, largely in Wexford County, northwest of Cadillac, which is well timbered with hemlock and the various Michigan hardwoods. It owns its own line of road and its logging operations are up to date in every respect.

The Cummer-Diggins Company use Disston saws in their various operations.

Forestry Vocational Training Urged to Halt Timber Famine

The United States must mend its "wooden ways" if it is to retain its forest land, said Dr. M. C. Merrill, director of Forestry Publication, before the vocational education department recently.

"The startling facts of our timber situation should make us 'stop, look and listen' for the danger ahead.

"'Well, we should worry' is the common complacent attitude, for American ingenuity will find substitutes for wood.' Yes, substitutes for wood are being found and yet the facts show that our timber demands are increasing all the time. Would you believe that more wood is now used in houses than before concrete came into use, or that in railway car construction more wood is now used than before the advent of

the steel car? Substitution will help but never will fill the timber bill."

As a result of our dire necessities, the path of service and usefulness for forestry as a tool in vocational education was clearly pointed out by Dr. Merrill, who has devoted nearly ten years to teaching vocational subjects. There are two important ways in which this tool may be used in vocational education. First, forest planting projects for school or community woodlots, groves, or forests and their proper care and management for both landscape beauty and commercial profits. Second, study and application by manual training classes of proper use of woods and their complete utilization to avoid wastage in wood-using industries and the building trades.

DISSTON SEATTLE BRANCH NOW IN

HENRY DISSTON & SONS, Inc., now occupy their own large, new branch factory at Seattle, Washington. It was formally dedicated October 4, 1924, to the rapid service of Pacific Coast users of saws, machine knives, files, saw tools, and steel.

The Seattle factory is commodious, and modern in every respect. It was designed by Disston engineers, to cope with increasing business. It is built of steel and concrete and trimmed with brick. The spacious windows furnish ample light and ventilation. It is located at the corner of Fourth Avenue and Massachusetts Street. Fourth Avenue is one of the main thoroughfares leading to the southern part of the city.

This site has the advantages of all business conveniences. It is close to several trans-continental railroad systems carrying passengers and freight in and out of the great metropolis of 400,000 souls; near to the great harbor terminals where ships stand by loading cargoes of products of the great Northwest forests for all ports of the seven seas—all corners of the earth; railroad tracks run to the factory, connecting it with the various rail systems, which facilitate the incoming and outgoing freight.

A motor truck delivery service will be maintained for the delivery of orders, to call for and return local repair work, and to speed up express service.

The dedication of this building marks another epoch in Disston history, and is an earnest of their progressiveness and their desire to be of the best possible service to their patrons.

February, 1909, Disston established a branch house at Occidental Avenue and Jackson Street, Seattle, making

Seattle their headquarters in the Northern Pacific Coast territory. At the same time a branch was opened at Portland, Ore., to serve users of saws in that section.

The Seattle Branch is well located for the State of Washington leads America in the lumber industry. With



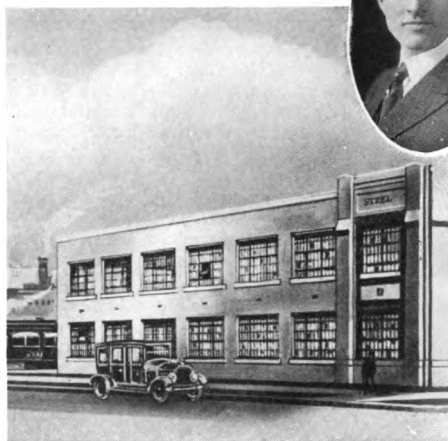
Manager
M. L. Walker
Portland Branch

Page 68

Building Designed by Disston Engineers —Will Give Rapid Service to Machine Knives, Files

more than 300 big logging camps and 800 saw mills, employing approximately 150,000 workers, the State's forests provide one of the major industrial operations on the Pacific Coast.

Saw mills in Washington annually cut in excess of 6,000,000,000 board feet of timber, approximately one-sixth of all the lumber produced in the United States, and manufacture two-thirds of the great number



NEW FACTORY OF HENRY DISSTON
Insert—Mr. A. A. Gardner, General

of shingles used in the United States.

Mr. D. W. Jenkins was sent out from Philadelphia as general manager of the coast. Under his management the business grew to such proportions as to make the new factory necessary. Mr. Jenkins, however, was recently recalled to the general offices and works at Philadelphia so the supervision of the building of the new factory fell to the lot of his worthy successor, Mr. A. A. Gardner, who had been the local manager at Seattle.

Manager Gardner is a native of Seattle. He has had twenty-one years of experience in the saw game. He knows mill and lumbering requirements,

THEIR NEW, COMMODIOUS FACTORY

**neers to Cope with Growing Business
Pacific Coast Users of Saws,
S, Saw Tools, and Steel**

and has a large circle of acquaintances among the millmen and lumbermen on the Pacific Coast. He is enthusiastic over the enlarged facilities the new factory affords for serving the trade.

Working out from Seattle is a corps of well-qualified salesmen, who volunteer their knowledge in solving mill problems. They are always on tip-toe to serve the trade in any capacity.

The Portland Branch, Mr. M. L.

machine knives, files, saw tools, steel and other products will be carried in stock for immediate shipment.

FOR CIRCULAR SAW USERS

"In addition to its stock of finished solid and inserted-tooth saws, the Seattle factory has complete equipment for repairing circular saws of all types, from the smallest to the largest. Such repairs include cutting down, grinding, hammering, and retoothing any size or type of circular saws, repairing projections on inserted-tooth saws, etc.

"The Seattle Plant carries a stock of plates and can manufacture complete circular saws of all diameters, with any shape or style of tooth, either solid or inserted, cut-off or rip.

FOR BAND SAW USERS

"To meet emergency needs of band saw users, the new Seattle plant is equipped to do all kinds of repair work on band saws, such as piecing out by furnishing special lengths in any gauge, brazing, etc.

MACHINE KNIVES

"The most modern and complete plant on the West Coast for the manufacture of machine knives is in the new Seattle Factory. Carbon and inlaid knives and moulding knives in great variety will be manufactured.

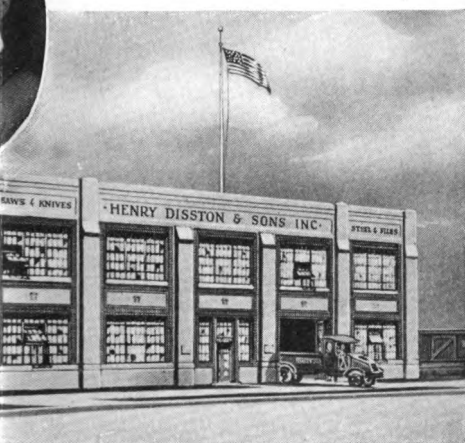
"The plant is equipped to make special machine knives, moulding knives, and shear blades for every purpose.

"In this department will be done the repairing—grinding, and tempering—of all types of knives. Electric furnaces where uniform heat can be maintained, have been installed to harden and heat-treat high-speed steel. There is also special grinding equipment for surface grinding and finishing machine knives. An edge-grinding machine that is one of the largest of its type on the Pacific Coast has been installed.

(Continued on page 70)



Manager
A. F. Kennedy, San
Francisco Branch



ON & SONS, INC., SEATTLE, WASH.
Manager, Pacific Coast Branches

Walker, Manager, and the San Francisco Branch, Mr. A. F. Kennedy, Manager, are also interested in the new factory at Seattle, as it will serve as a supply station to them. Should either one of these branches receive an order for a saw or saw accessory which they do not have in stock, a telegram will hurry it on from the large stock at Seattle.

From an attractive brochure, entitled "The Lengthened Shadow" issued concurrently with the dedication of the New Seattle factory, we quote:

"The largest finished stock of saws and saw accessories on the West Coast will be carried at the new Disston factory. Band saws, circular saws, cross-cut saws,

**Seattle,
Portland,
San Francisco
Rapid
Service
Branches**

CASPER LUMBER CO., CASPER, CALIF.

Some time ago the Casper Lumber Co. of California had an experience that verified their judgment of their filer's ability to cope with any condition that may arise in saw filing and saw doctoring.

While their eleven-inch band saw, which by the way is fifty-five feet, six inches long—was sawing through a log, it struck a railroad spike. The impact threw the saw off the wheels and twisted it into coils of less than four feet.

This mass of steel band looked as if it meant reservations for a berth to the factory. But when it reached the

filing room, Master-filer Furlong "diagnosed" its condition and started to operate immediately. Some job! But after about seventy

hours of hard work, Mr. Furlong had the saw back on the mill again, and it "was just as good as ever."

This saw is still in the rack of the Casper Lumber Co., but it has been worn down to seven inches, and notwithstanding its strenuous experience and long use this saw has never had a crack or braze in it.

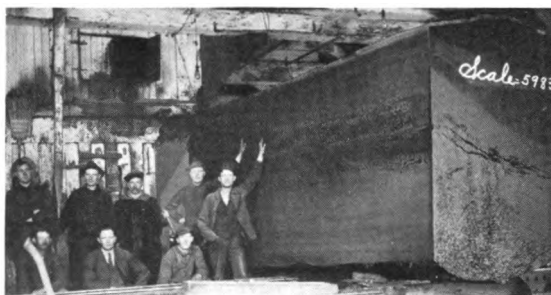
A glance at the illustration will readily give an idea of the great logs this company dispatches with Disston saws. And

may we add that its "Dollars to doughnuts" that there is'n't a crew on the coast which under similar condi-

tions will saw more lumber in a day than the boys shown alongside the great log. Continued success to the Casper Lumber Company.



Mr. A. T. Furlong, Filer



Sectional View of Casper Lumber Co. Mill

Disston Seattle Branch Now in Their New, Commodious Factory

(Continued from Page 69)

COMPLETE MACHINE SHOP

"A complete, modern machineshop is an important part of the factory. In this department will be handled the machine repairs, or the making of new dies and tools used in connection with saws and machine knives.

"To insure close touch with customers in all parts of the West Coast territory, there are, in addition to the new Seattle factory, the following Disston Branches on the Pacific Coast:

Henry Disston & Sons, Inc.

144 Second Street
San Francisco, California

Henry Disston & Sons, Inc.

91 First Street
Portland, Oregon

Henry Disston & Sons, Ltd.
Vancouver, B. C. Canada

"These branches form an integral part of the Disston organization established to render better service to Pacific Coast users of saws, machine knives, files, saw-tools, and steel.

"Disston spirit, Disston ideals, and Disston standards will be found in all these branches of 'The Greatest Saw Factory in the World.'"

OF special interest to lumbermen and of general national concern is the statement that, if the lumber and pulp industries were integrated, it would be possible to utilize about 15,000,000 cords of sawmill waste, the total of which is 20,000,000 cords in species suitable for pulp. This saving alone would meet the entire estimated annual pulpwood requirement of the country in 1950, which is put at 15,000,000 cords. At present American forests are supplying only 49 per cent. of the 9,148,000 cords of wood required in the production of pulp and paper. It is stated that in Sweden the pulp mills are all adjuncts of the lumber industry, no timber being cut primarily for pulpwood; and the Swedish pulp and paper industry is one of the most important in the world.—*Research Bureau National Lumbermen Manufacturers Association.*

THE BOND LUMBER COMPANY MILL

**“Disston Saws are good Saws; none better,”
says Supt. Gordon**

On the A. C. L. Railroad, about one mile from Glenwood, Florida, is located the Bond Lumber Company mill. In this mill Disston solid tooth circular saws are used in sawing long leaf yellow pine, which is very pitchy. The same style saw is used in cutting “slash” pine, the center of which is as hard as a rock. The latter pine they get out of the swamps.

The saws are 56 inches in diameter, six guage, straight, with 90 teeth, and carry an extra wide swage. Speed of saws 750 revolutions a minute.

The capacity of the mill is about 25,000 feet per day.

Mr. S. L. Nicholas, is the filer, and

is considered one of the best solid tooth circular saw filers in Florida. He has been complimented often on the class of lumber his saws turn out.

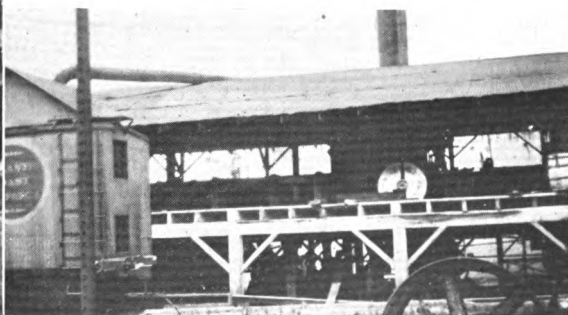
Mr. Samuel Gordon is superintendent of the mill. He is sixty-three years old and has been with the company, forty-two years. For twenty-six years he filed saws for the company, and the last sixteen years he served as superintendent.

To one of our representatives, Mr. Gordon said recently: “Disston saws are good saws; none better.”

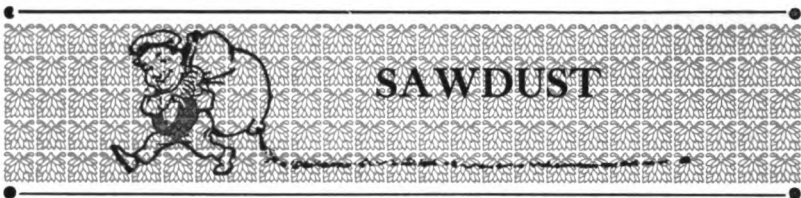
The Bond Lumber Company also uses Disston knives in their planning mill.

The officers of the company are:

E. R. Conrad, President and Manager.
R. M. Bond, Vice-President.
Austin U. Conrad, Secretary.
E. S. Van Cleef, Purchasing Agent.



Filer S. L. Nicholas and Sectional Views of Bond Lumber Co.



He—"Dearest, will you marry me?"
 She—"John, I can't marry you, but
 I shall always respect your good taste."

"What's the matter?"
 "I wrote an article on fresh milk,
 and the editor condensed it."—*Pelican.*

Pat: "How much is thim plums?"
 Grocer: "Ten cents a peck."
 Pat: "Shure, wot do yez think Oi
 am? A bird?"

What the trees say:
 Ashes to ashes—and dust to dust. If
 the loggers don't get us, the cigarettes
 must."—*American Lumberman.*

She had just been
 kissed.

"You'll pay for this!"
 she stormed. "I'll tell
 father and he'll—"

"But dear—" he began
 to object.

"Sh! Here he comes
 now."

"Now, tell me, what is
 the opposite of misery?"
 "Happiness!" said the
 class in unison. "And
 sadness?" she asked.
 "Gladness." "And the
 opposite of woe?"
 "Giddap!" shouted the
 enthusiastic class.

—*Good Hardware.*



"An' the Gobble-uns 'll
 git you
 Ef you
 Don't
 Watch
 Out"—
 On the night of October
 31st!

He—"How is that
 back tire on your side,
 Eunice?"

She (looking over the
 side of the car) — "Oh,
 it's all right. It's flat
 on the bottom, but it's
 round on the top."

"And what do you in-
 tend to do when you get
 out of here, my man?"
 asked the kind old lady
 who was visiting the
 prison.

"Nix, mum, nix,"
 replied Number 999
 wearily. "I'm done with
 lady accomplices fer life.
 It was one got me in
 here."

A village girl eloped in a suit of her
 father's clothes. The next day the
 "Daily News" came out with this
 sensational headline:

"Flees in Father's Pants."

—*Brooklyn Central*

Any girl can be gay in a nice coupe;

In a taxi they all can be jolly;
 But the girl worth while is the girl who
 will smile

When you're taking her home in a
 trolley.

An Irishman was being cross-exam-
 ined in a case of assault.

"Did the prisoner strike you with
 malice?"

"He did not have wan, sor, so he
 struck me wid his fist."

After the court had recovered,
 counsel proceeded: "Where were you
 born?"

"Oirland."

"Yes, but what part?"

"What part, begorra! The howl av
 me, av course."



Wherever You Are

*There is a Disston branch near to give
you service.*

HENRY DISSTON & SONS, Inc.

GENERAL OFFICES AND FACTORY

PHILADELPHIA, U. S. A.

BRANCHES:

Henry Disston & Sons, Inc., of Illinois
Jefferson Street & Washington
Blvd., Chicago, Ill.

The Henry Disston's Sons Company
Sixth & Baymiller Streets
Cincinnati, Ohio

Henry Disston & Sons, Inc.
1555-65 4th Avenue, South
Corner Mass Street
Seattle, Washington

Henry Disston & Sons, Inc.
144 Second Street
San Francisco, Calif.

Henry Disston & Sons, Inc.
91 First Street
Portland, Oregon

Henry Disston & Sons, Ltd.
80 Sussex Street
Sydney, N. S. W., Australia

R. B. McKim Company, Inc.
116-118 Pearl Street
Boston, Massachusetts

R. B. McKim Company, Inc.
120-122 Exchange Street
Bangor, Maine

The Reichman-Crosby Company
223-235 South Front Street
Memphis, Tenn.

C. T. Patterson Co., Ltd.
New Orleans, La.

Henry Disston & Sons, Inc.
130-132 Marietta Street
Atlanta, Ga.

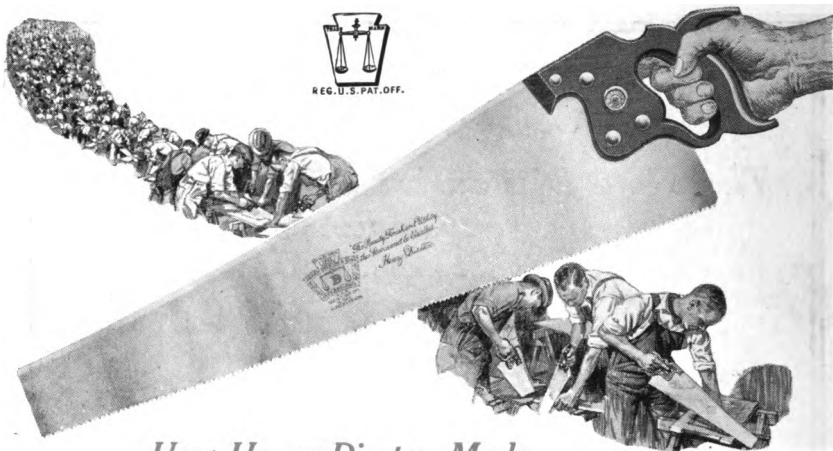
Henry Disston & Sons, Ltd.
2-20 Frazer Avenue
Toronto, Canada

Henry Disston & Sons, Ltd.
Vancouver, B. C., Canada

Henry Disston & Sons, Inc.
120 Broadway
New York City

Distributors for Great Britain
and Ireland:

Henry Disston & Sons (Great Britain) Ltd.
35, 36, 37, Upper Thames Street
London, E. C. 4, England



How Henry Disston Made

“The Saw Most Carpenters Use”

TODAY or tomorrow, perhaps, you will buy a saw.

Before you buy, you will want to know the story of “The Saw Most Carpenters Use.”

steel—the first crucible saw steel ever made in America.

And Disston Saws of Disston steel won the world! The Disston Hand Saw everywhere is “The Saw Most Carpenters Use.”

In 1840 Henry Disston opened his own saw shop, in a cellar in Philadelphia. Carpenters then wanted foreign-made saws. Henry Disston knew he had to make saws better than any made before.

He himself fired his furnace, tempered his saws, smithed, ground, set and filed them.

Around him he gathered men and trained them in his own methods. First he made saws with his own hands; then he made saw makers.

Carpenters—the men who make their living by using saws—told one another to get a saw with Disston’s name on it. Before long, even Europe was sending to Disston for saws.

Finer workmanship was impossible, but better steel for saws was possible.

So Disston in 1855 made his own

Henry Disston’s spirit lives on in the Disston Saw Works.

First his sons and then his grandsons served apprenticeships in the shops. They worked side by side with the sons and grandsons of the men who learned saw-making from Henry Disston himself.

The Disstons make saws today after the ideals set by Henry Disston. As long as there is a Disston left, Disston standards will be maintained.

For the Disston Hand Saw that you buy must run true, cut clean and fast, and stay sharp. It must have the proper hang and balance. It must give you a lifetime of faithful service.

ASK DISSTON

Tell us what kind of work you are doing, in wood, metal, stone, ivory, rubber, leather, cloth, fibre or other material, and we will tell you what types of saws to use to do your work better and easier. Disston issues many books to aid the user of saws and tools.

DISSTON

The **DISSTON** **CRUCIBLE**

CANADA

This is the land whose boundless plains lie waiting
For millions yet to wed the virgin soil,
That she may yield, as it were a new creating,
Life for a billion weary sons of toil.

Regal her mountains, giant-like her rivers,
She hath her own mediterranean seas;
Prairies more vast, where now no hearthsong quivers,
Where yet shall rise the song of vintages.

Forests she hath, where great pines wave their tassels
High o'er the green leaves of ten thousand trees,
Waiting to build men cottage-homes or castles;
These sing the music of the far-off seas.

Great, rough and strong this land is, like some Viking,
Whose sons all feel they are of kingly line;
When will some bard, the silent harp rough-striking,
Praise to all times the Land of Shaken Pine!

—William P. McKenzie, in "*Songs of the Human*"

NOVEMBER, 1924

FOR FAST AND BETTER WORK USE DISSTON CROSS-CUT SAWS

No. 270 ZIP



The Zip is a medium width cross-cut saw, used for "felling" and "bucking" timber of medium size. "Two cutter with raker tooth" type. Ground five gauges thinner on back than on tooth edge. Made of Disston-made steel. Regular lengths 5 to 8 feet; longer or shorter if desired.

No. 472 HENRY



The Henry is a "four cutter with raker tooth" type. Medium width blade. Used for "felling" and "bucking" medium size timber. Ground five gauges thinner on back than on tooth edge. Made of Disston-made steel. Regular lengths 5 to 8 feet; longer or shorter if desired.

No. 494 BEAVER—Hollow Back



The Beaver is a "four cutter with raker tooth" type. Designed for "felling" and "bucking" small timber. The blade is narrow and is cut with a "hollow" back in order to give sufficient "breast" or curve to the cutting edge. Ground three gauges thinner on back than on tooth edge. Made of Disston-made steel. Regular lengths 5 to 8 feet; longer or shorter if desired.

D-10 TWO CUTTER



The D-10 is one of the best one man cross-cut saws in quality, workmanship and finish made by Disston. It is a two-cutter type and has long, slender, perforated teeth with extra wide gullets and special shaped rakers with "undercut" for clearance. Narrow blade, taper ground. Made of Disston-made steel. Regular lengths 3 to 6 feet; longer or shorter if desired.

IMPERIAL CROSS-CUT SAW FILE



The Imperial Cross-cut Saw File is made especially for filing cross-cut saws. It is known among filers everywhere for its long life and for its fast, clean cutting. The Imperial is parallel in width and thickness, and is made in 6, 7, 8, 9, 10 inches.

No. 119 CROSS-CUT HANDLE

13½ inches long, 1½ inches diameter at thickest part, heavy malleable iron castings, malleable iron bolt and nut.



CROSS-CUT BOOK FREE

The Disston Cross-cut Saw Book contains much information which is helpful to lumbermen. Write for your copy. Address Dept. O.

Henry Disston & Sons, Inc.
PHILADELPHIA, U. S. A.

DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

NOVEMBER, 1924

No. 10

A SILHOUETTE BY DAME NATURE

The Heart of a Hickory Tree Chosen by This Inimitable Artist Upon Which to Ply Her Skill

WITHIN the secret precincts of a hickory tree in Southern Lancaster County, Pennsylvania, some time in the years past, dame nature set about to de-

monstrate her ability in a branch of esthetic art beyond the ken of man.

In this instance she chose to silhouette the head of one of her own sex, possessed with a wealth of hair arranged in a manner peculiar to some antideluvian period.

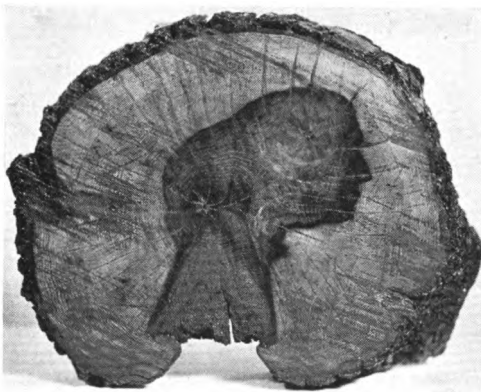
Deliberately and silently the artist plied her mystic process, gradually the contour fashioned itself into the likeness of the model.

The length of time required to complete this masterpiece is conjectural, and its repository remained a secret until one day, not long ago a Lancaster County man felled one of the hickory trees on his premises, and proceeded to cut it into convenient log lengths with a Disston cross-cut, when upon the end of one of the logs, the sil-

houette, as here illustrated, was discovered.

Evidently Dame Nature is an artist of the old school, or perhaps, her esthetic tastes had not yet become enamoured of the flapper type of beauty.

Bobbed hair admirers, however, will likely take exception to this incident being a reflection on their conception of the esthetic, as this silhouette production long antedated the advent of the bewitching "bobby."



End of Hickory Log, heart of which resembles head of Lady

We are indebted to Mr. Ross H. Roher, of Quarryville, Penna., for the photograph from which our illustration was made and who presents this pun relative to the silhouette: "Did you ever see anything in timber go ahead of this?"

"Contempt, prior to investigation, is the greatest barrier to all human knowledge."—Herbert Spencer

THE KANSAS CITY PACKING BOX CO.

Use Disston Saws in the Manufacture of "All Kinds of Wooden Packages"—7-inch Disston Bands Worn Down to $2\frac{3}{4}$ and 3 inches Without a Crack

THE Kansas City Packing Box Company is one of the largest box manufacturers in the West.

There is a combination of executive and mechanical ability which accounts for the prosperity and ever increasing business of this company.

We are satisfied that were we to poll an expression of opinion of persons interested and capable of judging the capability and adaptability of Manager A. B. H. McGee, there would be a unanimous return of—"no better box manufacturing plant executive anywhere."

And when it comes to mechanical efficiency, especially in filing room, there we find long experience, mature judgment, and rare ability in the company's filer, Mr. J. H. Webber.

We recently received a letter from Mr. Webber in which he **Strongly Recommends Disston Saws.**

It reads as follows:—

"I have been filing saws for the Kansas City Packing Box Company for over eighteen years, having the supervision of four upright mills, one of them a twin and one horizontal. Prior to this time, I was located in another southern plant. Practically all of this time, I have used Henry Disston band saws and the various small saws that they manufacture.

"It is with pleasure that I say that in my experience as a band saw filer I have never found a band saw or resaws, as they are often spoken of, to be of

any higher grade or longer life than the Disston saws. I am running the saws down to $2\frac{3}{4}$ and 3 inch widths on several machines and having good success. We have twenty-two sets of small saws, rip and cross-cuts, and have nothing but praise for all the saws used in this department.

"I feel now that at the age of sixty-six years, and having put in the best part of my life in this class of work that I can truthfully recommend the Henry Disston & Sons saws, with a clear conscience, to any one using saws.

"We are sawing in our plant cottonwood, pine, gum, oak, ash, and poplar, and with these different kinds of wood, we very often make severe tests on band saws."

Recently Mr. Webber returned from a trip abroad.

He wrote of his mill observations during his travels.

U. S. World's Greatest Paper Market

The United States in 1920 manufactured more than half of the world's paper and consumed 98 per cent. of that manufactured. To supplement domestic material we purchased from Canada 31 per cent. of her pulp-wood cut, and nearly 32 per cent. of her pulp output, about one-tenth of Sweden's pulp production, and small amounts of pulp from a number of other countries. We purchased also large amounts of foreign paper, the chief item being nearly 78 per cent. of Canada's newsprint output. Altogether, in 1920 we used 56 of the world's paper.



Mr. J. H. Webber

***Everyone can find something for which to give thanks,
November 27, 1924***



**They crossed the sea crusaders keen to
help
The nation battling in a righteous cause.
Happy those who with that glowing
faith
In one embrace clasped death and
victory.**



Sargeant Murals and Inscription in the Widener Library, Cambridge, Mass.,
to the memory of Harvard Students who served and died in the World War.

By permission

NOVEMBER ELEVENTH

When the late President Harding looked out over the long rows of flag-draped coffins containing all that was left of many of our once strong, healthy, ambitious, home and liberty loving young men, as the first installment of our dead of the late world war was unloaded at the Hoboken pier, he was visibly affected and said with deep feeling:

"This must not be again."

We need not call to mind the thirty million people who had paid the awful price of this terrible war in torture, disease, and premature death, plus the wanton destruction of property, but Armistice Day reminds us that there is much left for us to do if the memorable words of President Harding are to obtain.

It is not enough to extol the patriotism, sacrifice and heroism of "our boys," unless we "carry on" to finish what they began. Unless the challenge which their sacrificial death issued to us:

"To you we fling the torch
Be yours to hold it high"

is heeded, "This must not be again" will have been spoken in vain.

"LEST WE FORGET"



SAMUEL Y. DINGEE

**Manager of the Disston, Toronto Works and the
Disston Branch at Vancouver, B. C.**

Mr. Samuel Y. Dingee, the manager of the Disston Branches, at Toronto, Canada, and Vancouver, B. C., is a Disston-bred man.

Forty-four years ago "Sam" as he is familiarly addressed when at the Philadelphia works, started to work for Henry Disston & Son at the Front & Laurel Streets plant, Philadelphia.

He was placed in the Cross-Cut Saw Department, where he remained for two years when he was transferred to the new Disston plant at Tacony.

At the new plant, the Circular Saw Department was the scene of Mr. Dingee's activities. For twenty-one years he was associated with this department, mastering every detail of manufacturing and selling circular saws.

About this time, the rapid expansion of the Machine Knife Department made it necessary to place an able man at the head of it. Mr. Dingee's qualifications won for him this position, and July 1, 1903 he began his new duties. He conducted the department successfully for nine years.

The fact that he is master of the manufacturing and selling end of the Disston line plus his natural business

ability placed Mr. Dingee in the manager's chair of Henry Disston & Sons, Ltd., Toronto, Canada, October 1912, just thirty-two years after he had associated himself with the Disston firm in Philadelphia.

This was an important advance for Mr. Dingee as the entire Disston Canadian business, including the branch at Vancouver, is controlled by the Toronto Branch.

The remarkable expansion of Disston business beyond the Canadian border is evidence that wisdom was again manifested by the firm in appointing Mr. Dingee to this vast and Disston-saw-tool-file-knife-and-steel-demanding territory.

Quite a commodious plant at 2-20 Frazer Avenue, Toronto, manufactures and repairs Disston circular saws, band saws, cross-cut saws, metal cutting saws, hand saws, and all saw accessories. Thus speedy service is assured lumbermen and millmen, and the hardware trade.

Mr. Dingee places his services and the services of his able corps of salesmen at the disposal of the lumber and

(Continued on Page 79)

PORTABLE SAW MILLS

How to Obtain Proper Speed of Saws

By PINE KNOT

PORTABLE saw mills are engaging the attention of lumbermen today to a greater extent than heretofore. This type of mill is becoming more numerous every year, due to existing conditions.

The demand for lumber is heavy, and the timber tracts in many sections are small and scattered.

These small tracts do not justify the installation of a large mill, because the cut would be made in too short a time, leaving the mill idle, or making it necessary to move to the next stand of timber. This is cumbersome and expensive, and eats up quite a bit of time.

Portable saw mills do very satisfactory work, and if the distance between stands is not too far, they can be dismantled, moved to a new location and set up ready for work within three days' time.

The experienced portable saw mill man plans to have his ratio of power transmission conform to the horse power of his power plant.

Less experienced sawyers speed their mill saws too fast by using over-size driving pulleys on their power plants, and under-sized pulleys on their saw arbor.

This only wastes power; it does not

produce good work. For while the saw, under these conditions, will hold its speed fairly well while cutting small logs, when cutting large logs its speed will be very much decreased, for the reason that the power plant is over loaded, which plainly emphasizes the old saying: "Speed can only be obtained at the expense of power."

More than this, when a saw is run at high speed with a limited or light-power plant, the variation in speed of saw is apt to cause it to run badly. A saw should have enough tension to cause it to stand up to its maximum speed, and when its speed is reduced 300 to 400 R. P. M. it then has too much tension for the lesser motion.

Thus it is desirable to plan power transmission so as to maintain as uniform speed of saw as possible while saw is in the cut or out of it.

One method of determining proper ratio of power transmission, which has been developed from a series of try-outs and experiments on saw mills having power plants ranging from twenty- to thirty-five horse-power is to take the numeral 900, multiply it by the horse-power available, and divide it by the number of teeth in the saw. This will give approximate speed

(Continued on Page 79)



PORTABLE SAW MILL

THE CARTER-KELLEY LUMBER CO.

Manning, Texas

Annual Capacity 30,000,000 Feet

“Now as Always a 100 per cent Disston Mill ”—W. W. K.

THE Carter-Kelley Lumber Company, manufacturer of long leaf yellow pine, is located at Manning, Texas. They operate a modern double band saw mill. Their annual capacity is 30,000,000 feet.

This is one of the best and most efficiently operated mills in Texas. For years this mill closed only two days a year—June 19th and Christmas.

They have been operating for seventeen years, averaging thirty million feet of yellow pine a year, totaling over 500 million feet. Disston 14-inch band saws were used exclusively in making this great cut.

Mr. G. A. Kelley, of Lufkin, Texas, the principal stockholder traveled for Allis-Chalmers years ago. He later organized and built the Lufkin Land and Lumber Co. which he afterwards sold to the Long-Bell Lumber Co.

Seventeen years ago he organized the

Carter-Kelley Lumber Co., which he personally operated for quite a few years.

Mr. Kelley turned the reins over to the younger “bunch,” several years ago, who are conducting the business on the same sound principles which guided the former organization.

The present officers of the company are:

Mr. William Gebbs, Manager.

Mr. W. W. Kelley,
Assistant Manager.

Mr. George Condra is the Mill Foreman, and Mr. Charles Clark, filer.

The two last named men are keeping the mechanical end of the mill up to the high standard of efficiency of the executive end, thus making a strong combination of executive and mechanical ability which tends to continued success of the Carter-Kelley Lumber Company.



Acroplane View The Carter-Kelley Lumber Co., Manning, Texas

Portable Saw Mills

(Continued from Page 77)

at which saw should be run, assuming that a twenty-four inch diameter receiving pulley is on saw arbor and the engine is run at its maximum rate of speed. This will give good result and maintain as near a uniform speed as possible both in and out of the cut.

For instance: Recently trouble developed in a portable saw mill having a twenty horse-power steam engine for power plant. This mill had a nice tract of white oak. The logs were about twelve to fourteen feet long and run about six logs to one thousand feet.

The engine on this plant had a fifty-four inch diameter driving pulley, while the receiving pulley on the saw mandrel was but eighteen inches in diameter. The engine was run at its rated speed causing the saw to make 780 R. P. M. while running idle; but when saw was put into a heavy cut speed would drop to as low as 200 R. P. M. Consequently, this mill was cutting only 1000 feet to 1500 feet of poorly manufactured lumber per day.

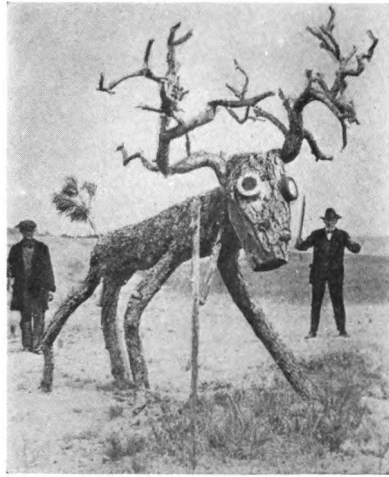
We changed the ratio of power transmission on this mill by replacing the fifty-four inch drive pulley on the engine with a forty-two inch drive pulley, and putting a twenty-four inch receiving pulley on the saw arbor instead of the eighteen inch one, and then run the engine at maximum rated speed.

By this, the gain in power was twofold, as power was gained by the change in pulleys, and another gain of power by increasing speed of engine.

In looking over saws in this mill, the Disston Invincible was the only one that had not been buckled by the abuse, or hardship, all of the saws had been subjected to. So we put on the Disston saw, and while the mill never cut more than 1500 feet in any one day before the change in power transmission was made, the Disston saw stood up nicely, run cool and true while cutting large white oak logs into two-inch and three-inch planks, 12- and 14-inches wide, cutting 4800 feet of this lumber in five hours.

This plainly demonstrated to all concerned in this particular mill that a uniform speed of saw is desirable, and that excessive speed of saws cannot be obtained except at the expense of power available.—PINE KNOT.

A Woodland Nymph



Look out there behind! He's going to kick! This creature was captured near the Burlington R. R. between the towns of Custer and Edgmont, S. D. The gentleman in this picture has tickled the "nymph" in the sides with the stick in his hands, hence the angry expression on the creature's face.

This "work of art" is evidently the work of one who had more time than money. It is made up of a pine log for a body, scrub oak for horns, a cedar branch for a tail, and grease cans for eyes.

When viewed from a distance it presents a striking appearance.

Samuel Y. Dingee

(Continued from page 76)

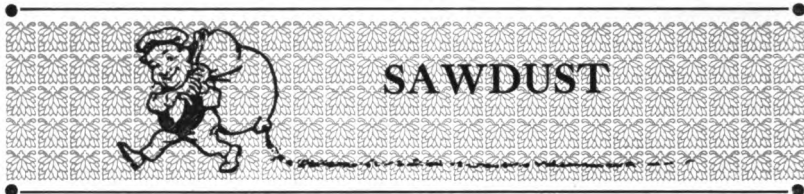
mill trade in solving saw problems. These are practical men, experienced, in the use of saws and tools, through contact with users in many different lines.

Their knowledge and experience is at the service of anyone in Canada who has a problem of any kind in connection with the use of saws, tools, files, knives or steel.

The first letter of Mr. Dingee's Christian name, at least as it relates to the saw trade, signifies—

Speedy
service
saves—
satisfies

Consult him; he'll prove it.



There was a young man from Chicago
Who had not seen a Disston buzz saw go,
So he put down his face
Very close to the place,
Then he said: "Oh, my!" Where did my jaw go?

Her Father:—"Young man, the lights in this house go out at ten o'clock!"

The Young Man:—"Fine, that suits me; don't delay on my account."

Husband (reading from newspaper):—"Three thousand four hundred and twenty-six elephants were needed last year to make billiard balls."

Wife:—"Isn't it wonderful that such great beasts can be taught to do such delicate work!"

"All aboard," called the conductor as the train prepared to leave the station.

"Hold on, boss!" called a feminine voice, "wait till ah gets mah clothes on!"

Six careless of passengers thrust their heads out of windows and craned their necks expectantly. They saw a negro mammy struggling on with a basket of laundry.

—*Boston Globe.*

"I wouldn't drink out of that cup if I were you," said the little boy at the pump. "That is Bessie's cup, and she has just been drinking out of it."

"Oh," said the young man from the city as he drained the cup, "I don't mind. I feel honored to drink out of Bessie's cup. Who is Bessie? Your sister?"

"No: my dog."

Conductor—"Yes, this train goes to Springfield and points South."

Old Lady (snappishly)—"Well, I do not care which way the train points, I must go to Springfield."—*Exchange.*

Sam—"Say, Mose, what am you all doin' now?"

Mose—"I'se an exporter."

Sam—"An exporter?"

Mose—"Yep, the Pullman Company dey done fire me."—*Railway Life.*

The shades of night were falling fast, The fool "stepped on it" and rushed past.

A crash—he died without a sound; They opened up his head and found

Excelsior!

—*Boston Transcript.*



The State put up the money and raised a lot of game,
Filled each field and forest with stock of every name,
The hunters flocked in season, smoking every one,
They left a trail of fire that spoiled their future fun.

Courtesy, The American Forestry Association

Every Item on this List—

is just as good as the Disston products you are now using. Check off the things you use and the next time you buy specify "Disston"—you'll get that same satisfaction you have come to expect from Disston products.

Back Saws

Band Saws for Wood and Metal



Bevels
Buck Saws
Butcher Saws and Blades
Cabinet Scrapers

Chisel Tooth Circular Saws

Circular Saws for Wood,
Metal, and Slate

Compass Saws

Concave Saws, Circular,

Cross-cut Saws

Cut-off Saws

Cylinder Saws

Dovetail Saws

Drag Saw Blades

Edger Saws

Files and Rasps

Filing Guides

Gang Saws

Gauges, Carpenters' Marking

Grooving Saws

Hack Saw Blades

Hack Saw Frames

Hand, Panel, and Rip Saws

Hedge Shears



Ice Saws
Inserted Tooth Circular
Saws
Keyhole Saws

Kitchen Saws

Knives—Cane, Corn, Hedge

Knives—Circular—for Cork, Cloth,
Leather, Paper, etc.

Knives—Machine

Levels—Carpenters' and Masons'

Lock Corner Cutters

Machetes



Mandrels

Metal-slitting Saws



Milling Saws for Metal

Mitre-box Saws

Mitre Rods

Nest of Saws

One-man Cross-cut Saws

Pattern Maker Saws

Plumbs and Levels

Plumber Saws

Post Hole Diggers

Pruning Saws

Rail Hack Saws

Re-saws

Saw Clamps and Filing Guides

Saw Gummers

Saw-sets

Saw Screws

Screw Drivers

Screw-slotting Saws

Scroll Saws

Segment Saws

Shingle Saws

Siding Saws

Slate Saws, Circular



Squares, Try and Mitre

Stair Builder Saws

Stave Saws

Straight Edges

Sugar Beet Knives

Swages

Tools for Repairing Saws

Tool Steel

Trowels—Brick, Plastering,
Pointing, etc.

Veneering Saws

Webs—Turning, Felloe, etc.



This is a partial list. There are thousands
of items in the complete Disston line.

DISSTON

SAWS TOOLS FILES



The Resolution that protects you when you go to buy a saw

A GAIN the Disston Saw Works was overwhelmed with orders for "The Saw Most Carpenters Use."

The directors — sons and grandsons of Henry Disston — were in session. What could they do to satisfy hardware merchants whose customers were demanding Disston Saws?

Every man present had served in the shops. Each knew that saw steel, and saws, could be made faster and cheaper.

Yet such steel would not have been Disston Steel, nor such saws Disston Saws.

So the heads of the industry reaffirmed the Disston policy, and spread it on the minutes of the board.

"No changes shall be made in steel nor standards" except for betterment.

That was years ago, but the order stands today, to safeguard the users of Disston Saws.

Disston craftsmen know only one standard of workmanship. They never will know any other.

Henry Disston, father of modern saw-making, won fame with the saws that he made with his own hands. Then,

with years of training, he taught others to make saws just as he made them.

These men taught their sons, and they their grandsons. For those who make Disston Saws look upon their skill as a legacy, to be handed down through the years.

In the Disston Shops today are 304 men who have been making Disston Saws 30 years or longer; 80 with 40-year records; 36 with 50 to 62 years of service.

You, as a saw user, want a hand saw that will give you life-long service. A saw that runs easy, cuts straight to the line, cuts fast without binding. A saw balanced so nicely that you feel it was made for you alone!

To get this saw, be sure you see the Disston name on it.

Disston put balance into the hand saw; gave it the taper that makes your work easy; created the Disston steel that, fortified with Disston tempering, holds the keenest cutting edge.

Disston Circular Saws, Band Saws, Hack Saws, Circular Metal-Cutting Saws, etc. — hundreds of kinds, for thousands of uses — all are made with the same care and skill as "The Saw Most Carpenters Use."

ASK DISSTON

Tell us what kind of work you are doing, in wood, metal, stone, ivory, rubber, leather, cloth, fibre or other material, and we will tell you what types of saws to use to do your work better and easier. Disston issues many books to aid the user of saws and tools.

DISSTON

The **DISSTON** **CRUCIBLE**

LIBRARY OF THE
DEC 26 1924
UNIVERSITY OF CHICAGO



THE FIRST CHRISTMAS

And she brought forth her first born son, and wrapped him in swaddling clothes, and laid him in a manger; because there was no room for them in the inn.

And there were in the same country shepherds abiding in the field, keeping watch over their flock by night.

And, lo, the angel of the Lord came upon them, and the glory of the Lord shone round about them: and they were sore afraid.

And the angel said unto them, Fear not; for, behold, I bring you good tidings of great joy, which shall be to all people.

For unto you is born this day in the city of David a Saviour, which is Christ the Lord.

And this shall be a sign unto you; Ye shall find the babe wrapped in swaddling clothes, lying in a manger.

And suddenly there was with the angel a multitude of the heavenly host praising God, and saying,

Glory to God in the highest, and on earth peace, good will toward men.—*Luke*

DECEMBER, 1924

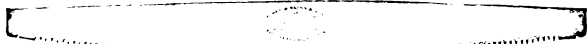
FOR FAST AND BETTER WORK USE DISSTON CROSS-CUT SAWS

No. 1 GREAT AMERICAN



The Great American is made with all cutting teeth, no rakers. This type of saw is used mostly for cutting seasoned lumber and for cutting diagonally across the grain of wood. Made of Disston-made Steel. Ground five gauges thinner on the back than on the tooth-edge. Regular lengths 5 to 8 feet, longer or shorter if desired.

No. 1 TENON



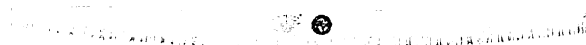
Like the Great American the Tenon is made with all cutting teeth, no rakers. The cutting teeth however are different in shape, space and depth. Made of Disston-made Steel. Ground four gauges thinner on back than on tooth-edge. Regular lengths 5 to 8 feet, longer or shorter if desired.

No. 499 BUCKING



The No. 499 is one of the best cross-cut saws made for Western timber. Full width saw of the "four-cutter" and raker tooth type. Made of Disston-made Steel. Ground four gauges thinner on back than on tooth-edge. Made in especially long sizes for large timber. Made in lengths 6 to 16 feet.

No 498. FELLING



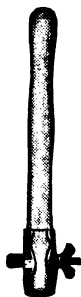
The No. 498 is a narrow-blade saw designed to give best results in felling large timber. "Four-cutter" with raker tooth type. Made of Disston-made Steel. Ground four gauges thinner on the back than on the tooth-edge. Made in lengths 6 to 16 feet.

DISSTON GREAT AMERICAN FILE



The Great American File, while excellent for filing all cross-cut saws, is especially adapted for the Disston Great American Cross-cut Saw shown on the top of this page and the Disston Great American One-man Saw.

No. 103 CLIMAX CROSS-CUT HANDLE

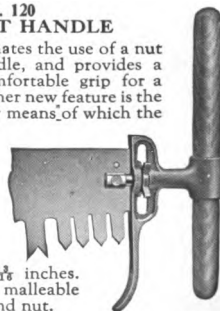


No. 103 Climax Reversible. 13½ inches long, 1½ inches diameter at thickest part. Grey iron casting in front and back. Malleable iron bolt and nut.

No. 120 CROSS-CUT HANDLE

This design eliminates the use of a nut at the back of handle, and provides a good easy and comfortable grip for a direct thrust. Another new feature is the "Sprocket Nut", by means of which the handle is quickly and firmly attached to the saw.

No. 120. Made of selected, thoroughly seasoned hardwood, well finished. Length, 12 inches, diameter at thickest part, 1½ inches. Extra heavy, best malleable iron castings, bolt and nut.



HENRY DISSTON & SONS, Inc., Philadelphia, U. S. A.

DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

DECEMBER, 1924

No. 11



Merry Christmas, Friends!

What of the Christmas Tree?

Timely and Practical Suggestions for Perpetuating Its Use

By John W. Keller, Chief of Silviculture, Harrisburg, Penna.

Folks who are concerned about the future supply of Christmas trees will find encouragement in this article. While Mr. Keller considers the state of Pennsylvania only, his timely and practical suggestions are applicable to many other states in the Union. [Ed.]

IT is not the intention to discourage the use of evergreens for Christmas trees. This is an old and well-established custom, that brings joy to the hearts of old and young, and should be continued. However, two important points will be admitted:—

First:—The unnecessary loss through the careless cutting of Christmas Trees in Pennsylvania is to be deplored and should be stopped.

Secondly:—By planting trees on idle acres and the conservative cutting of natural growing trees, it is possible to grow within the State sufficient Christmas trees to meet the demands.

At least one-half million spruces and firs have been planted in Pennsylvania for the Christmas tree market. The public is beginning to realize the demand and it understands that Christmas trees can readily be grown if suitable seedlings are planted on idle lands.

A number of progressive farmers have turned over several acres of lands to their boys, who get evergreens free from the State Nurseries and plant the areas for future Christmas trees. When the

boys are old enough to go to college, they will have a substantial source of revenue to help defray their expenses.

The Christmas tree market is variable. Trees of all sizes from 3 feet to 16 feet can be sold. However, the demand is greatest for trees from six to eight feet in height.

In making Christmas tree plantations for the average market, the trees should be spaced 4' x 4' apart, which will require about 2,800 to the acre.

Norway and white spruce are suitable trees, easily grown in Pennsylvania, and on fairly good soils it should be possible to begin cutting eight years after planting.

If 250 trees are cut each year, and these open places are planted the spring following the cutting, it should be possible to remove this number of trees each year indefinitely. The trees will be worth at least 30 cents each stumpage. Consider-

ing the time and expense, it is doubtful whether the average acre in Pennsylvania used for agricultural crops will produce a better return.

(Continued on Page 86)



Growing Christmas Trees Paying Investment.

DISSTON ESTABLISHES AGENCY IN LOS ANGELES

Arrange with American Saw and Knife Works to Give Disston Patrons Quick Service When Supplies or Repairs Are Needed—Will Carry and Distribute Disston Saws, Knives, Planer and Sticker Bolts, Steel and Abrasive Wheels, Etc.

IN order to better serve their patrons in Los Angeles and vicinity Henry Disston & Sons, Inc., has arranged with the American Saw and Knife Works, 248-250 East 17th Street, Los Angeles, to carry and distribute their line of band, circular,

keeping their saws in proper order.

Immediately Mr. Blankenship opened his shop, he received more work than he could do himself. One by one he added mechanics to his force who were required to measure up to his high standard of efficiency, until today he employs ten of the best saw and knife mechanics on the coast.

Mr. Blankenship's son, J. E., Jr., who has inherited his father's mechanical bent, after his school days, was especially trained to become foreman of the shop.

The combination of adequate equipment, expert workmanship, and good management, won for the American Saw and Knife Works a large number of satisfied patrons.

By taking on the Disston line of saws, knives, etc., there has been established a service to the lumber industry in the Los Angeles district only equaled by the Disston Coast Branches at San Francisco, Portland, and Seattle.

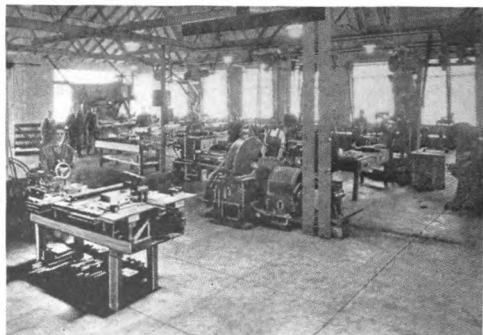
and cross-cut saws, and saw accessories, knives, planer and sticker bolts, steel and abrasive wheels, etc.

The American Saw and Knife Works have one of the best equipped repair shops on the West Coast. They specialize in the repair and care of band saws, circular saws, and knives. They employ only skilled mechanics in their respective lines.

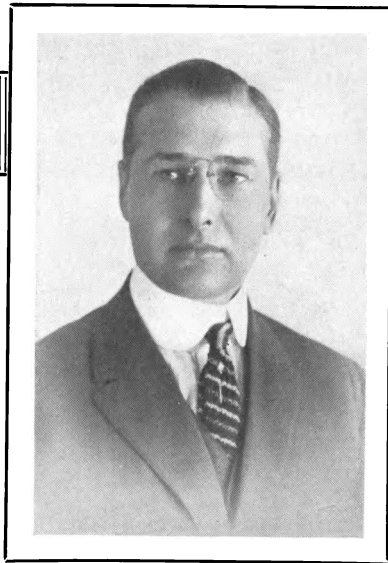
Mr. J. E. Blankenship is the founder of the American Saw and Knife Works. He being an expert saw and knife mechanic conceived the idea some years ago, that a saw repair shop in Los Angeles was a necessity, to meet the growing demands of the small mills whose requirements did not justify the installation of a filing room, machinery, and the employ of a competent mechanic for the purpose of



The American Saw and Knife Works. A class C building 52x140 feet, designed especially for proper light and machinery arrangement.



Sectional Interior View of the American Saw and Knife Works, Los Angeles, Calif.



MR. SYDNEY WOODBURN BATTY
Manager, Disston Branch, Sydney, Australia

Inherent: "What connection has this word inherent with Mr. Batty's managership of the Disston Branch in Australia?" may be queried by readers of *THE CRUCIBLE*

Probably Webster can help us elucidate. He says, "Inherent means existing in something, so as to be inseparable from it. Synonyms: inborn, native, natural, etc."

Still vague? Yes? Well, allow us to inform you that almost immediately the stork placed little Syd. Batty on this mundane sphere, he opened his big, blue, piercing eyes and cast them about in wonderment, when presently they became transfixed on one of the original Henry Disston saw-makers—one who served a seven-year apprenticeship under contract and who is still active at the trade—Mr. William H. Batty, Syd.'s own sire.

"Plain as day, now," you say. "Like father; like son."

Yes, and like paternal grandfather, also, as he too was a Disston saw maker. So it is obvious that Syd. was bred in Disston atmosphere, inculcated with Disston principles and methods, impressed with Disston quality, which, plus the pre-natal influence made him a

Disston sawmaker even before he became a Disston office boy back in 1891, at the age of 14 years, when he began his practical training.

Young Batty soon worked himself up to order clerk in the Hardware Department. Then eager for broader experience, in 1898 he went to Manistee, Michigan, to assist in his grandfather's saw shop while at the same time he was a Disston salesman of band saws, knives, files, etc.

In 1900 we find him back with Disston again in the factory and mill goods department for three years' course of training. Then five years on the road selling mill goods in Virginia, Pennsylvania, and New York. Then another year of practical training in the mill goods and knife departments at the Philadelphia works.

Mr. Batty now, 1909, shifted from the mill goods to the hardware end of the business, and for four years covered the New England and Eastern Canadian fields with marked success. Then came the promotion to manager of Disston's San Francisco Branch.

Eighteen months of managerial experience at 'Frisco put the finishing

(Continued on Page 87)

PRESIDENT COOLIDGE URGES TIMBER

“So Vast an Enterprise as the Forest-using Industries Must Not Be Allowed to Decline for Lack of Raw Material,” the President continued. “We have abundant soil to produce it. We have the energy and intelligence to learn to use our forests without waste. This conference ought to lay the foundation of a far-reaching and effective effort for forest thrift.”

“In the coming struggle for timber, economic survival among the forest industries will depend on economic fitness. Economic fitness will be measured by good management and good technical processes.”

“These qualities come from research and from training, and the forest industries, to reach a high level of skill must make full use of both these tools of modern industrial progress. Hitherto,

PRESIDENT COOLIDGE asked for a specific program of timber-saving in opening the National Conference on Utilization of Forest Products at Washington recently.

The Nation faces timber exhaustion, the President warned. The situation must be met, he insisted, by diminishing waste and increasing the supply.

“The resources of the Nation are a trust,” Mr. Coolidge declared, “subject to use by the present generation, administered free of monopolies and from those who will unwisely permit them to be dissipated, but there must be restoration as well as use.”

“About 745,000,000,000 cubic feet of timber are left in this country,” he pointed out. “Against this supply there is an annual drain of 25,000,000,000 cubic feet. The annual timber growth is only 6,000,000,000 feet.”

“In the face of this situation,” he declared, “the nation must turn to the problem of growing wood from the soil like any other crop.”

“To bridge this fatal gap between cut and growth,” Mr. Coolidge said, “sufficient action had not yet been taken and the country consequently must adjust itself immediately to a reduced consumption.”

The President saw “hopeful signs” in Federal Legislation as enacted in the Clarke-McNary bill, passed at the last session of Congress, making provision for fire protection and restoration, and in the Weeks Law authorizing the Government purchase of numerous forest tracts. “These must be supported,” he declared, “by a policy which will, in the hands of private individuals and of public officers, tend to the further advancement of this already well-defined and securely adopted principle.”

“So vast an enterprise as the forest using industries must not be allowed

to decline for lack of raw material,” the president continued. “We have abundant soil to produce it. We have the energy and intelligence to learn to use our forests without waste. This conference ought to lay the foundation of a far-reaching and effective effort for forest thrift.”

“In the coming struggle for timber, economic survival among the forest industries will depend on economic fitness. Economic fitness will be measured by good management and good technical processes.”

“These qualities come from research and from training, and the forest industries, to reach a high level of skill must make full use of both these tools of modern industrial progress. Hitherto,



© U. S. U.

President Coolidge practices what he preaches while Mrs. Coolidge rakes up. Scene—

R SAVING AND FOREST PLANTING

It Be Allowed to Decline for Lack of Raw Material," Says the
Utilization of Forest Products, at Washington, Recently



ches. Does a little job of tree surgery
Farm of President's father, Vermont.

the diversity, the geographical isolation, and the small average size of our wood using industries, coupled with abundance of raw material, has kept them from advancing as rapidly in improved methods as some of our more highly concentrated industries. But timber shortage will force competition in better methods.

"Much is already known of better methods, and the time is already here when this knowledge can be per-

fectly employed. Many companies have, in fact, made notable progress in waste reduction and are furnishing examples of what can be done by careful management and expert planning. It seems possible that the individual industries, by banding together, can overcome

their handicaps of isolation and collectively employ more experts to work out better processes.

"It is to consider joint efforts toward better forest utilization that this conference has been summoned. It is a movement in which the State and National Governments, the industries, the universities, the consumers, and the technical experts should join. The various Government agencies equipped to help will, I know, be eager to do what they can to forward this undertaking.

"We hold the resources of our country as a trust. They ought to be used for the benefit of the present generation, but they ought neither to be wasted nor destroyed. The generations to come also have a vested interest in them. They ought to be administered for the benefit of the public.

"No monopoly should be permitted which would result in profiteering, nor on the other hand, should they be indiscriminately bestowed upon those who will unwisely permit them to be dissipated. These great natural resources must be administered for the general welfare of all the people both for the present and the future. There must be both use and restoration. The chief purpose of this conference is to discover policies which will in the hands of the private individuals and of public officers, tend to the further advancement of this already well-defined and securely adopted principle."

That the conference was planned to be of the utmost practical value is indicated by the nature of the groups to which 2000 invitations to attend it were issued. The call was sent to leaders of wood-using industries, consumers of lumber, workers in building crafts and the general public. If these varied classes, who are vitally interested in the conservation and proper development of American forests, can be stirred to

(Continued on Page 87)



CHAS. W. FISH LUMBER CO., ELCHO, WIS.

**"Our Experience with Disston Saws and Knives Has Been
Extremely Satisfactory."—President Fish**

The Chas. W. Fish Lumber Co., of Elcho, Wisconsin cut in the neighborhood of 50,000,000 feet of mixed hardwoods and hemlock a year.

The cut runs approximately 30 per cent hemlock, the balance birch, basswood, maple, and elm.

This company has four plants. They are located at Elcho, Birnamwood, Antigo, and Hiles.

In this large cut Disston saws are mostly used. That these saws are standing up to the work is evident from the voluntary expression of the

president of the company, Mr. Chas. W. Fish, viz:

"Our experience with Disston Saws and Disston Knives has been extremely satisfactory."

Above we show a picture of the Elcho mill which stands on the bank of a great log pond in which are logs containing many feet of lumber and which are readily accessible to the mill.

The Chas. W. Fish Lumber Co. has an enivable reputation for manufacturing fine lumber. They have Disston's best wishes for continued success.

What of the Christmas Tree?

(Continued from Page 81)

The best trees for Christmas purposes are those that are symmetrical. Some of these trees are found on abandoned farm land and wornout farm woodlots, where the timbered lands are poorly managed.

The loss of potential timber when these trees are cut is not great, since open grown trees do not produce the best lumber. Yet in the forest the best formed trees are usually not only the most rapid growing, but are the ones that are relied upon for the timber crop. However, trees suitable for Christmas purposes can be removed from fully stocked timberlands in such a way that their removal will act as a thinning and the trees that remain will be benefited. This is done by selecting trees that are being crowded by larger ones and that will eventually be over-topped and shaded out.

Page 86

It is often possible to cut trees from ten to forty feet high that are being crowded, and utilize the top for a Christmas tree. The removal of these trees will not reduce the growing stock or "capital," but the increased light and food will enable the trees that remain to grow much more rapidly than they would, had the thinnings not been made.

The Christmas tree market will be supplied regardless of the cost. Foresters should advise farmers and timberland owners to prepare to take advantage of this new source of income by planting suitable trees, and by removing trees from their timber lands in such a way that the best trees remain undisturbed for the production of timber.

The Christmas tree market deserves special recognition and it is important that it be placed on a permanent basis.

TREE WITH HORNS

THE freak trees published in recent issues of THE CRUCIBLE have been the subject of interesting comment from our readers.

Not long since, Mr. Willis G. Corbitt, Forest Engineer of The Pacific Lumber Company, Scotia, California, generously contributed the freak-tree here illustrated to the collection.

Scotia has long been famous for its giant Sequoias, The Great Pacific Lumber Co., and their famous red-wood nurseries, but here is a bid for fame that will keep the green-eyed monster busy in neighboring sections for some time.

Growing horns on trees! Great idea, but rather than be outdone we should not be surprised that some genius across the Scotian border line will soon be growing tails on trees to keep the flies off the sawyers while felling them.

If this thing keeps up Disston's will be obliged to furnish a lasso with every cross-cut that goes into this section (?)

In a note accompanying this picture Mr. Willis says:

"Although we believe in protecting the forests from fire, we have not contemplated growing horns on trees to keep them protected from destruction by man or animals."

"The Elk horns were found grown into a Madrona tree about three feet above the ground. The skull is encased in the wood but may be seen where the tree trunk has been split. When found by a chopper the horns were pointed towards the ground. One solution as

to the reason they were in the tree is that an Indian hunter might have placed them in the forks of the tree when it was small. At the time of cutting it was about 14 inches in diameter and at least fifty years old. As there have been no elk seen in this country for many years, it is doubtful if it is the work of a white man."

Lumber Manufacturing City

Portland is the largest lumber manufacturing city in the world, as well as the leading lumber exporting port. The cut last year for Portland mills amounted to 920,000,000 feet.



Elk horns grown into Madrona Tree

Mr. Sydney W. Batty

(Continued from Page 83)

touch to a well-rounded experience in the manufacture and sale of Disston saws, tools, files, knives, etc.

Now, readers, as you are aware, Australia is a large and important field for Disston products; Disston has extensive interests there; it is thousands of miles from the home base; it requires a man peculiarly fitted to handle their affairs at Sydney.

This brief history of Mr. Batty gives his natural and attained qualifications. When we add to this, his likeable personality and executive ability, the fact that he is married, and of English extraction, is not the wisdom of the firm in making him their Sydney Manager, apparent to you? Eight successful years have verified this wisdom.

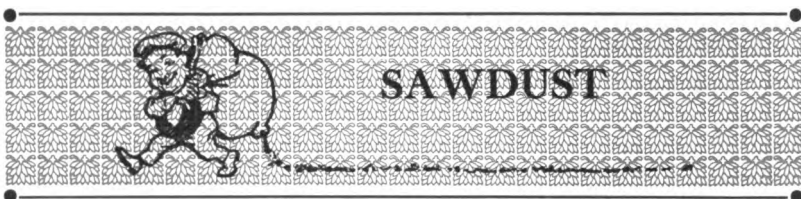
President Coolidge Urges Timber Saving and Forest Planting

(Continued from Page 85)

action by exchange of information and by the contemplation of the facts in the forest situation, immense good will be accomplished.

This conference is probably the most comprehensive attempt ever made in

the United States to have the economical use of existing timber supplies take its rightful and essential place in the national forestry program along with forest fire prevention and the growing of timber crops.



"Did you have a good time at your summer cottage last season?"

"No, but dozens of our friends did."

Eena, Meena, Minah, Mo—
Catch a song on the radio;
If it's squeaky, don't let go,
Tune it in a little mo'.—*Ex.*

An authority on the fuel situation declares that we must "learn to eke out by burning oil, gas, electricity and what not." We are glad he mentioned the whatnot. Mary, hand us the ax.—*Boston Transcript.*

A woman friend dropped in the other evening to chat with the lady of the house and was surprised to find her husband enveloped in an apron washing the dishes.

"Where's the wife?" asked the visitor.

"Over in the barber shop," was the husband's grumpy reply.

"Have you a copy of *Who's Who and What's What*, by Jerome?"

"No, sir, but we got *Who's He and Val's He Got*, by Bradstreet."

—*Greenville Piedmont.*

Smith is a young lawyer, clever in many respects, but very forgetful. He had been sent to a distant city to interview an important client, when the head of his firm received this telegram: "Have forgotten name of client. Please wire at once."

The reply he received was a masterpiece of sarcasm, irony, or something. It ran: "Client's name, Jenkins. Your name, Smith."

Page 88

"When you do a good piece of WORK don't spell it backwards in telling about it."—*Ex.*

"That ham is all right," said the storekeeper.

"No, it ain't, boss. It's sure bad."

"It can't be bad; it was only cured last week."

"Maybe, boss, it done had a relapse."

A NEW GARMENT

"Eliza," said a friend of the family to the old colored washerwoman, have you seen Miss Edith's fiance?"

Eliza pondered for a moment, then bent over the laundry tubs once more.

"No, ma'am," she said, "it ain't been in de wash yet."

A farmer came to town to insert a death announcement.

"How much do you charge?" he asked.

"Two-fifty an inch," was the reply.

"Heavens! He

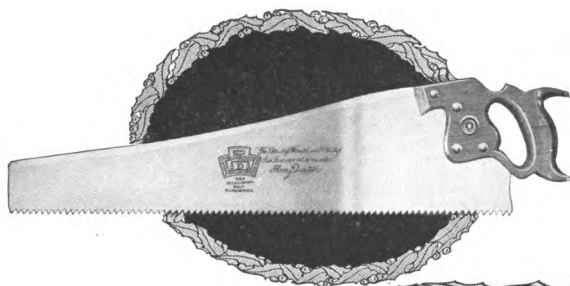
was over six feet high."

Question:—Why is a piece of blotter like a lame dog

Answer:—A blotter is

An ink line planed;
An ink line planed is
An in-cline plane.
An incline plane is
A slope up.
A slope up is
A slow pup.
A slow pup is
A lame dog.

PRINTED IN U. S. A.



A Xmas Gift for a man!

We wonder why more people don't give men tools for Christmas. A man gets as much fun from a keen tool as a boy from a rifle, and, if the tool is well made, the fun lasts. We suggest that you surprise your pal this year with a Disston tool, and then watch his pleasure

in it. Select the tool from this list.



A List of What Disston Makes

And in these Saws, Tools and Files is that quality found in

"The Saw Most Carpenters Use"

Back Saws
Band Saws for Wood and Metal
Bevels



Buck Saws
Butcher Saws and Blades
Circular Saws for Wood, Metal and Slate

Compass Saws
Cross-cut Saws and Tools
Cylinder Saws
Drag Saw Blades
Files and Rasps
Grooving Saws
Gauges—Carpenters'



Marking, etc.
Hack Saw Blades
Hack Saw Frames
Hand, Panel, and Rip Saws
Hedge Shears



Ice Saws
Inserted Tooth
Circular Saws
Keyhole Saws

Kitchen Saws
Knives—Cane, Corn, Hedge
Knives—Circular for Cork,
Cloth, Leather, Paper, etc.

Knives—Machine
Levels—Carpenters' and Masons'



Machetes
Mandrels
Milling Saws for Metal
Mitre-box Saws
Mitre Rods

One-man Cross-cut Saws
Plumbs and Levels
Plumbers' Saws
Pruning Saws
Re-saws

Saw Clamps and Filing Guides

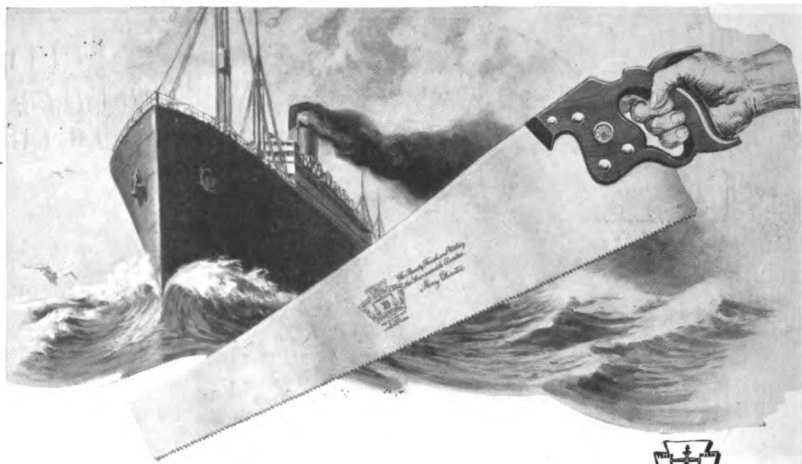


Saw Gummies
Saw-sets
Saw Screws
Screw Drivers

Screw-slotting Saws
Segment Saws
Shingle Saws
Slate Saws—Circular
Squares—Try and Mitre
Stave Saws
Sugar Beet Knives
Swages



Tools for Repairing Saws
Tool Steel
Trowels—Brick, Plastering,
Pointing, etc.
Veneering Saws
Webbs—Turning and Felloe



The Day that Europe Turned to America for Saws

OVER at your nearest hardware dealer's there is a saw you will want to see—
For it is the make that brought Europe—
and the world—to America for saws!

As though his whole future depended upon it, a young man was smithing a saw. The place was Philadelphia. The year, 1840.

The blows of the smithing hammer on that saw, in the little shop, were the real start of America's saw-making industry.

For while Henry Disston thus smithed his first saw, America was being built with saws made abroad!

The young saw maker worked on. Trying out steels in a furnace made with his own hands. Tempering and smithing blades. Setting, filing and testing saws.

His saws, he resolved, must be better than the best.

Here a carpenter, there a carpenter, tried the saws with the Disston name. They found

- hang and balance they had never known in any tool;
- temper that gave spring and life;
- clearance that made work easier;
- a cutting edge that held.

They found a saw that *worked* with hand and arm: sawing straight, cutting keenly without dragging, and with never a wobble.

The news spread!

And then came the day of the American-made saw—the day when Europe reached across the Atlantic for Disston Hand Saws.

Henry Disston now made his own steel—America's first crucible saw steel.

And Disston Saws of Disston Steel won the world!

All the while,—a greater thing than working with metals, he worked with men: Making saw makers, passing on to them his skill, his ambitions, his tirelessness for excellence.

The little shop became the largest saw works on earth—68 buildings, 3600 craftsmen.

Remember all this, when next you visit your hardware dealer's. Ask to see the Disston Hand Saw "The Saw Most Carpenters Use."

Grasp the handle and try the balance. Note the taper and finish; the filing and set of the teeth.

Then make that saw your own. Don't stop until you have drawn a line across a board and sent your Disston saw singing along that line—straight and true.

ASK DISSTON

Tell us what kind of work you are doing, in wood, metal, stone, ivory, rubber, leather, cloth, fibre or other material, and we will tell you what types of saws to use to do your work better and easier. Disston issues many books to aid the user of saws and tools.

DISSTON

JAN 14 1925

UNIVERSITY OF ILLINOIS *The*
DISSTON
CRUCIBLE

TO-MORROW

From "Irene"

To-morrow's action! can that hoary wisdom,
Borne down with years, still doat upon to-morrow!

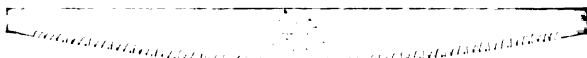
The fatal mistress of the young, the lazy,
The coward and the fool, condemned to lose
An useless life in waiting for to-morrow,
To gaze with longing eyes upon to-morrow,
Till interposing death destroys the prospect.
Strange that this general fraud from day to day
Should fill the world with wretches, undetected!
The soldier, laboring through a winter's march,
Still sees to-morrow drest in robes of triumph;
Still to the lover's long-expecting arms
To-morrow brings the visionary bride,
But thou, too old to bear another cheat,
Learn that the present hour alone is man's.

—Samuel Johnson

JANUARY, 1925

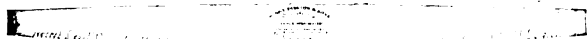
FOR FAST AND BETTER WORK USE DISSTON CROSS-CUT SAWS

No. 1 CHAMPION



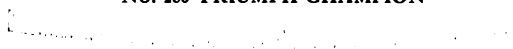
A good, medium priced saw used mostly by people who do not have constant use for a saw and where extreme speed is not important. Two-cutter with raker tooth type. Made of Disston-made steel. Ground four gauges thinner on the back than on tooth-edge. Regular lengths 5 to 8 feet, longer or shorter if desired.

No. 477 LANCE PERFORATED



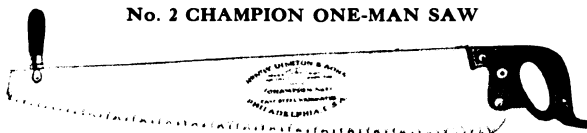
A good, medium priced saw having four cutting teeth with raker. Some users prefer this type instead of a two cutter because when filing if one tooth in a section should be filed a trifle short there would be another tooth in the same section to score. Made of Disston-made steel. Ground four gauges thinner on back than on tooth edge. Regular lengths 5 to 8 feet, longer or shorter if desired.

No. 286 TRIUMPH CHAMPION



A low priced saw having teeth of the same pattern as the No. 1 Champion shown on top of this page. This saw is made with coarse, medium, or fine teeth, as ordered. Made of Disston-made steel. Regular lengths 4 to 8 feet, longer or shorter if desired.

No. 2 CHAMPION ONE-MAN SAW



A very good medium priced saw, popular with those who do not have constant use for a one-man saw and with whom ordinary speed in cutting meets the demand. Medium width blade. "Two-cutter" type and has large grip handle. Made of Disston-made steel. Ground two gauges thinner on the back than on the tooth edge. Regular lengths $2\frac{1}{2}$ to 6 feet, or longer if desired.

DISSTON CANT OR LIGHTNING FILE



The Cant or Lightning File is principally used to sharpen teeth of cross-cut saws which are M-shaped, and to sharpen the raker teeth of cross-cut saws. It also is a favorite file for sharpening wood or buck saws.

No. 101 TRIUMPH REVERSIBLE CROSS-CUT HANDLE

No. 101 Triumph Reversible. 12 $\frac{3}{4}$ inches long, 1 $\frac{1}{4}$ inches diameter at thickest part. Grey iron castings, malleable iron bolt and nut.



No. 106 CROSS-CUT HANDLE

No. 106. Loop handle, 10 $\frac{3}{4}$ inches long, 1 $\frac{3}{8}$ inches diameter. Malleable iron washer, loop rod and inside nut.



CROSS-CUT BOOK FREE

The Disston Cross-cut Saw Book contains much information which is helpful to lumbermen. Write for your copy. Address Dept. O.

HENRY DISSTON & SONS, Inc., Philadelphia, U. S. A.

DISSTON CRUCIBLE

A MAGAZINE FOR MILLMEN

M. S. MEREDITH, EDITOR

VOL. XIII

JANUARY, 1925

No. 12

NEW YEAR'S DAY FROM A NEW ANGLE

**"The Moving Finger writes; and, having writ,
Moves on; nor all your Piety nor Wit
Shall lure it back to cancel half a Line,
Nor all your Tears wash out a Word of it."**

—Omar Khayyam

THE immortal Persian poet has made us think of New Year from a new angle—started a train of thoughts that are edifying, at least to the writer. If they savor of preaching we ask your indulgence, as that is far from our object. We wish only to pass on what we hope will prove to be a helpful thought.

To many, the advent of a New Year brings not only a sense of joy for fresh opportunities, but a burden of regret at the passing of another twelve months with hopes unfulfilled, plans miscarried, mistakes made, and another milestone added to what we call age.

But why should the first day of a year be different from any other day of the year? In reality, it is not. Each day covers the same period of time—twenty-four hours of sixty minutes each; begins at the same hour; ends at the same hour; has its part light and part darkness.

The passing from one day to another could not be determined were it not for the presence of time indicators. And even then in large countries like the United States, the day in the East begins hours before it begins in the West. A day then, is merely a certain period of time. This same period of

time is Saturday to some people, Sunday to others, and Monday to still others.

Why, then, should it be more appropriate on what we call New Year's Day, than on any other day, to make resolutions and lament or be amused at the breaking of old ones?

"The moving finger writes, and having writ,
Moves on."

It has been writing and moving on from time immemorial. It writes the same on the Fourth of July as it does on New Year; the same on Easter as it does on Christmas.

It does not start to write a new page on the first day of our Solar or Calendar Year. The moving finger recognizes neither old year nor new year; no yesterday nor today. It only writes in

the eternal present.

The Sage says nothing about writing in the future, but states very forcibly that what has been written can never be erased

This truism, if properly grasped, will be more encouraging than disheartening. Why worry about or lament things done in the past when there is ever present opportunity to plan, to start, to do, to profit by the past.

(Continued on Page 94)



"The Moving Finger" recognizes neither Old Year nor New Year.

"THE ADVENT OF THE DISSTON INVINCIBLE CHISEL TOOTH CIRCULAR SAW"

MANY times during the past—especially the past century—the proverbial stork has presented to the world tools, machinery, chemicals, wares, appliances of many kinds, and scientific knowledge along various lines, which revolutionized the existing order of things to the good of mankind.

In some cases these wares or appliances differed but slightly from those in current use but the difference made the article so practical and usable that it soon became standard. For instance, by the skillful manipulation of a piece of wire, there evolved the indispensable safety pin. A few slight bends in wire hair pins increased their usefulness so that thereafter there was scarcely any demand for the straight-wire pin.

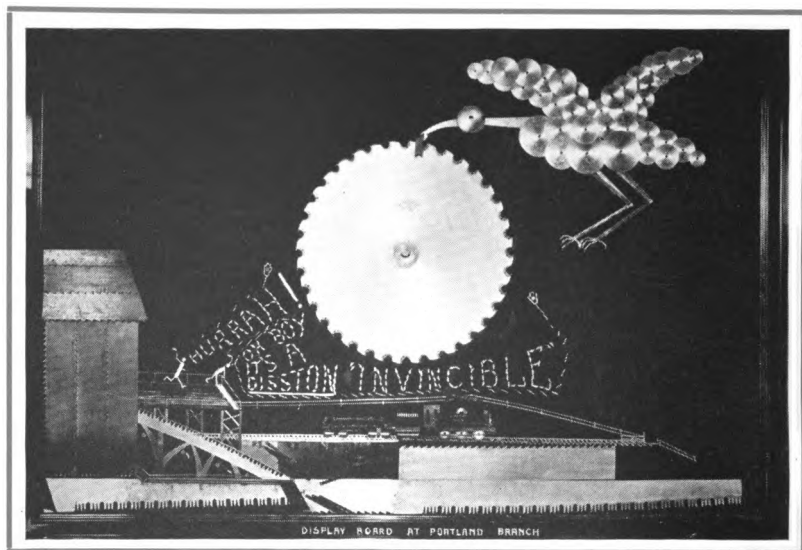
Back in 1920, the stork presented the Disston Invincible Chisel Tooth Saw to the saw world, and, by so doing, presented to users of inserted-tooth circular saws a way to cut better lumber, faster, and with less power. The different, patented way the teeth and holders of this saw are locked in the blade, the new design which permits the use of one size of tooth in any one of the several

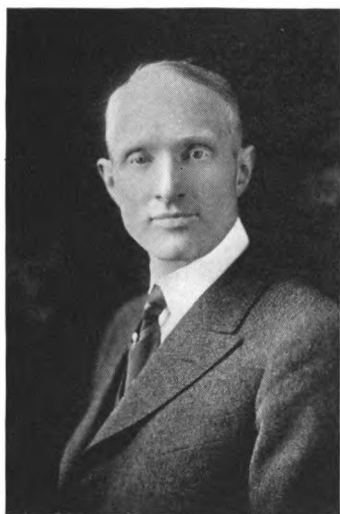
different sizes of holders, the peculiar shape and pitch of teeth, plus the large and different-shaped gullet, all, has already demonstrated to millmen and lumbermen, superiority which has placed the "Invincible" in that improved class of tools which are rendering better service.

Illustration at the bottom of the page is reproduced from the display board in the Disston Branch at Portland, Oregon. The design was conceived and executed by Mr. E. G. Hendricks of the Portland staff. It is composed entirely of saws and saw accessories. The wording is formed with the Invincible Chisel points. Circular, band, cross-cut and hack saws, files, etc., all Disston products, were used in building this unique and artistic display board.

Of all the elements of success none is more vital than self-reliance—a determination to be one's own helper, and not to look to others for support. It is the secret of all individual growth and vigor, the master-key that unlocks all in every profession or calling.

— *Matthews.*





MR. ALEXANDER A. GARDNER
General Manager of the Disston West Coast Branches

When Disston needed a general manager for its West Coast branches it was not necessary to make a selection from a number of aspirants, as is generally the case when such a position is filled.

The firm was fortunate in having associated with it as local manager of the Seattle branch, Mr. Alexander A. Gardner, whose twenty-one years of training in the saw business, intimate knowledge of Disston methods, and West Coast saw and saw accessories requirements, plus his managerial ability made him the natural heir to the position.

When Mr. Jenkins was called to the home office, Mr. Gardner took up the reins. No interruption or delay in the regular routine of business, notwithstanding Mr. Gardner was left the legacy of building the commodious Disston factory at Seattle, and assembling the largest stock of saws and saw accessories on the Pacific Coast.

Mr. Gardner is well and favorably known among the lumbermen and millmen of the West Coast so that to them it would seem superfluous for us to give a brief history of his activities in the saw field. However, THE CRUCIBLE is

read by lumbermen and millmen in all sections of the civilized world, who no doubt, will be interested in learning what manner of man is entrusted with the extensive West Coast business of the largest saw works in the world.

Mr. Gardner has lived on the Pacific Coast for more than forty years, practically all of the time in Seattle. He is six feet, 3 inches tall and proportioned accordingly.

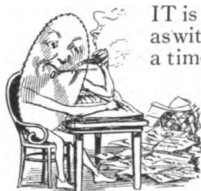
After his high school days he took a course at Washington University where he achieved fame in athletics. He contended that it was not well to build up the mind at the expense of the body.

It was said of the Duke of Wellington that once when watching the boys in their sports at Eton, remarked: "It was here that the battle of Waterloo was won," and it may have been on the gridiron of his *alma mater* that A. A. [Able Alec.] won the general manager-ship of Disston's West Coast branches.

Mr. Gardner's first experience in the saw game was with the California Saw Works, then Disston's Pacific Coast distributors of mill saws. He was naturally qualified for his job and was successful from the start. Acquiring a

(Continued on Page 95)

AUTOBIOGRAPHY OF A



As I sat and writ—

IT is the same with saws as with men. There comes a time when they are required to meet the acid test, when'the stuff they are made of will tell.

When I lay stacked up in the warehouse with many other saw plates awaiting the call to be fashioned into a Disston product, little was known of my individuality. I was conscious that I had the right stuff in me, as I had the best of handling and attention by old experienced steel makers up to this time.

The first inkling I had as to my future career came when I received my all-important teeth. The cutting of them was a painful operation, but I was quite proud of them after they were all cut.

During this period of my life, I was soft and without temper to protest against this crucial operation. This condition was soon remedied, however.

I was placed in a large, hot furnace and heated until I glowed a bright red. At the proper moment I was taken out and plunged into a vat of oil, when I felt myself stiffen all over and my condition became strained and unnatural.

To relieve this condition and get me ready for a massaging at the hands of the anvil men, I was again slowly heated until I felt quite comfortable. Then, I was placed between two large plates which closed up on me with tremendous pressure. This procedure helped to cool me off and took out some of the kinks.

I was then rolled into the anvil room and awaited my turn at the hands of a relentless but expert smith. I'll never forget the pounding I received here, but this drastic treatment eliminated all my bumps and strained sections. I hope I shall never again be

required to endure such an experience.

Up to this time I did not realize how black and scaly I was, neither did I know that I was a little over weight, so I was quite anxious for the good cleaning up which had been promised me. This process was not nearly so tortuous as I had anticipated.

The men on this operation also knew their business and kept me cool by running a steady stream of water over me; neither would they permit the big sand-stone wheel to crowd me too hard.

With the surplus scale removed I looked fine, except for a few little scratches. I was then rolled in to the anvil room where all inequalities in tension were corrected. Then I was put back in the grinding machine. This operation removed all hammer marks and reduced me to exact thickness. Then I was put through what they call a balancing-bar test. My, how particular they were to make me balance perfectly!

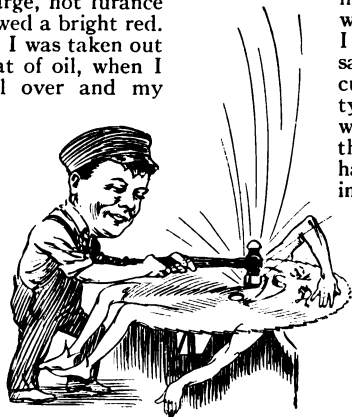
There is a great deal about me that makes for high quality, which is unseen, and while I might look like other saws the secret of my cutting and staying ability lies in the steel from which I am made, and the intelligent, expert handling I have received in fitting me for my intended duty.

After I had been polished and wiped off with a light oil I found myself back in the anvil room again. However, this ordeal was not as trying as my first experience. All uneven strain was removed and I was given what is called

tension. This is an unseen quality which enables me to adjust myself to speed and to keep steady when cutting.

After the experts were satisfied that I was exactly right in proportion, temper, tension, teeth, polish, staying qualities, etc., I was branded for life.

To be branded a Disston product



I'll never forget the pounding I received

Interesting Incidents in

By Mr. O

DISSTON CIRCULAR SAW

Development and Use

Goes

quality reputation, and furthermore, one has the confidence that he can do it.

I have told of the various stages in my development so that you may better understand how it was possible for me to perform the feat which I am about to relate.

It was while I was in the filing room getting my teeth shaped and pointed that I met my running mate, an exact duplicate of myself, ordered for the same mill.

We were both taken to the packing room and fastened together on a shipping board and then loaded into a freight car containing many other Disston products, including band saws, files, hack saws, and some keen-looking knives.

We were all glad that the files were well boxed as they are certainly hard and tough. This car was consigned to Disston's Chicago branch.

On our arrival there we were re-routed to our final destination. While waiting there in the shipping room, we heard that our immediate future was not going to be any soft snap.

We were going into the hands of strangers who had decided to adopt us. The timber we were intended to cut was tough and stringy and known as black-jack timber, and frozen through. We were to be pioneers in a new territory, so it was up to us to win our way.

The journey from Chicago was long and the latter part of it was in small under-sized box cars over rough narrow-gauge tracks. We heard the brakeman say the tracks were laid at night and never lined up.

Our arrival at the mill was the occasion for a critical inspection. They say some men will fight a buzz saw. I know now they will, at least when the saw is

means that one must be able to live up to a high

bolted safely to a board where they can stand on the side and kick at it. We could only wait for an opportunity to prove our real merit.

The day finally arrived. My running mate was first tried out. While I anxiously awaited my turn, I learned from the other saws in the filing room he was making an unusually long, continuous run.

Late in the afternoon, the sawyer came into the filing room and told the filer: "That Disston saw was all right, now let us try the other one." Shortly afterward I found myself fastened to the arbor and ready to go.

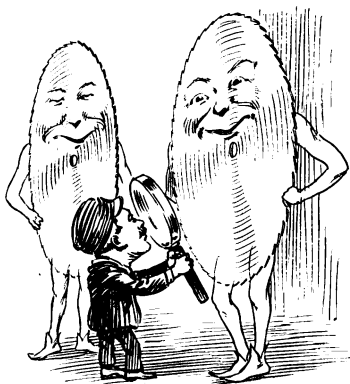
They surely crowded me, but I stayed right with them, and went through those logs as if they were made of cheese.

I had already earned the respect of the sawyer, and we were getting on fine when the accident occurred that put me high with him for all time to come.

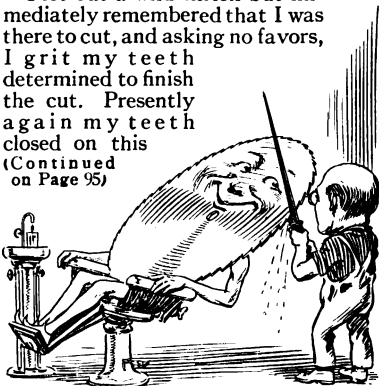
While deeply buried in a large log I unwittingly bit into something cold and hard with such force that it fairly staggered me.

I let out a wild shriek but immediately remembered that I was there to cut, and asking no favors, I grit my teeth determined to finish the cut. Presently again my teeth closed on this

(Continued on Page 95)



Our arrival at the mill was the occasion for a critical inspection



The filer soon dressed them up and I was ready for more work

BLISS-VAN AUKEN LUMBER COMPANY

The Oldest and Largest Saw Mill in Saginaw, Mich. Cuts Ten Million Feet of Hardwoods Annually

BLISS-VAN AUKEN LUMBER COMPANY was organized in 1890 by Aaron P. Bliss and Willis G. Van Auker who purchased the saw mill and site of Williams Bros., then the oldest saw mill in Saginaw. The following year the property of N. A. Barnard Co. was purchased and the two plants combined into the holdings of the Bliss-Van Auker Co. Several years later the timber holdings of the Bliss-Van Auker Co., being exhausted in Michigan, the mill was supplied from Canadian timber towed across the lakes from Thessalon Territory.

Their mill being destroyed by fire in the winter of 1900 the plant was

operated as a distributing yard for four or five years when a band mill was constructed on the present site and supplied from the hardwood holdings of the Batchelor Timber Co., near Gaylord, Michigan.

In February, 1913, the entire plant was sold to James T. Wylie the present owner. Business is conducted under the name of Bliss-Van Auker Lumber Co.

The saw mill and planing mill were destroyed by fire in 1915 and were rebuilt the following year. This mill remains the oldest and largest saw mill in the city of Saginaw. The annual cut is about ten million feet—all hardwood.

The officers of the company are:—

James T. Wylie,
President
George Strable,
Vice President
C. E. Kynast,
Secy. & Treas.
Chas. Lemmer is
Supt., and James
Fisher, Filer.



Bliss-Van Auker Lumber Co. Mill, Saginaw, Michigan



New Year's Day From a New Angle

(Continued from Page 89)

Our own admired Longfellow, who wrote centuries after the "Tentmaker" voiced similar sentiment:—

"Let the dead past bury its dead!
Act, act in the living present!
Heart within, and God o'erhead!"

Forever vanish from our thought, as the old year in the illustration is passing into oblivion, that one day is better or more appropriate than another to do things.

The eternal present—the ever-New-Year's-Day—is rich in opportunity.

DISSTON CIRCULAR SAW IN USE 45 YEARS

"Still Stands Up in the Work Straight as a Die, and Makes a True Cut"

Recently our Mr. Timpone, who is associated with the Disston Atlanta, Georgia, Branch attended the Macon, Ga., fair. Incidentally he met Mr. R. L. Harrison of Griswoldville, Ga. In course of conversation Mr. Harrison acquainted Mr. Timpone with a record of a Disston Inserted Tooth Circular Saw which probably has never been excelled. If it has been, we would be very glad to learn of it.

Mr. Harrison said:

"In the year 1884 I bought a second-hand mill. On it there was

a Disston 48-inch Inserted Tooth Saw with 32 teeth. The saw had been in use five years before I bought it. The original owner buying it from Henry Disston in 1879.

"I ran this saw twenty years before it was hammered, and then had it cut down to 44 inches with 26 teeth. At the present time it stands up in the work straight as a die and makes a true cut.

"Those who worked on it claimed it was the best piece of steel they ever handled. Surely I was not 'stuck' when I purchased that saw."

Mr. Alexander A. Gardner

(Continued from Page 91)

detailed knowledge of saws and saw requirements, he enjoyed a wide-spread reputation as master of saw problems.

When Disston opened its own branches on the Pacific Coast, it recognized Mr. Gardner's ability and he in turn was acquainted with Disston-quality mill goods, so by mutual desire, and to their mutual interests, their business relations were effected.

Autobiography of a Disston Circular Saw

(Continued from Page 93)

hard cold thing, this time biting it almost through, when the operator reversed the carriage and shut down the mill.

All hands were under cover; some-

thing had gone wrong. I then learned that I was not expected to bite through iron head blocks. However, I was none the worse for my experience, except several of my teeth were made a bit dull. The filer soon dressed them up and I was ready for more work.

We are now the best of friends. The manager says we are getting out more and better lumber than ever before on this mill; the sawyer and filer claim I am a real saw. We appreciate these kind words from these old timers.

The sale of two Disston 56-inch, 7-gauge straight solid tooth circular saws to the South-western Colorado Lumber Co., Dyke, Colo., and their splendid work for this company inspired "The Autobiography of the Saw." [Ed.]

"True friendship, like French china,
Is costly, rich and rare.
When once broken it can be mended
But the crack is always there."

—Ex.



The team of oxen has had its day



SAWDUST

"Say, niggah, cain't you all play honest? Ah knows what cards ah done dealt you."

Cop—"You're pinched for speeding."

Copped—"What's the big idea? Doesn't that sign say 'fine for speeding'?"

"Papa, the preacher was here to lunch today."

"You don't mean it?"

"Yes; and he swore about mother's cooking the same as you do only he put his hand over his eyes." —*Burr.*

Ruff—"My feet's wet."

Tuff—"Do they?"

Ruff—"Naw—they is."

Mary was the proprietress of a diminutive incipient sheep.

Whose outer covering was as devoid of coloring as congealed atmospheric vapor.

And to all localities to which Mary perambulated,

The youth Southdown was sure to follow.

It tagged to her dispensary of learning,

One diurnal section of time—

Which was contrary to all precedent—

And excited the cachination of the seminary attendants

When they perceived the juvenile mutton at the establishment of learning.

Consequently, the preceptor expelled him from the interior.

Which precipitated Mary into a lachrymose condition.

But he remained in the immediate vicinity without fretfulness.

Until Mary once more became visible.

—*Judge*

She: "Won't you join me in a cup of tea?"

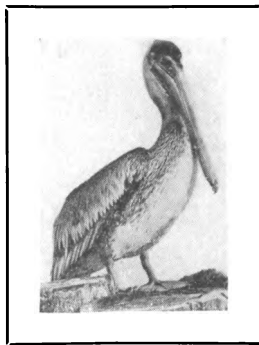
He: "Well, you get in, and I'll see if there's any room left."

One Democratic lady to another: "Does your husband favor McAdoo?" "No, he really doesn't look a bit like him."

Biltmore Hound:—"Have you seen (hic) my fren' Jones lately?"

Clerk:—"He was here half an hour ago."

B. H.:—"Was he alone or was I wiz him?"—*Record.*



A great old bird is the Pelican.
His beak holds more food than his belican.

He can put in his beak,
Enough food for a week.

I don't see how in the helican.

"Liza, what fo' yo' buy dat new box of shoe blackin', yo' had one already."

"Go on child, dat aint shoe blackin', dats my massage cream."

Ikey was teaching his four-year-old offspring the traditional lesson of thrift.

"Now, Abey," he said, "vat is two times two?"

"Six, mine fadder."

"Oy mine Gott, Abey, vill you never learn? Two times two is four, always."

"But, mine goodness, fadder, what for are you in business? Couldn't

you jew me down two?"—*Whirlwind.*

Teacher: "You'll have to stay in after school and work on your geography lesson. You didn't locate a single one of the cities."

Willie: "I can't locate them, but I know how to tune in on the whole blame lot."—*Ex.*

How do they put the cats out in Venice?

Better Work

We established the following branches to give the best possible service to Disston customers. Take advantage of the service offered by the one nearest to you.

BRANCHES:

Henry Disston & Sons, Inc., of Illinois
Jefferson Street & Washington
Blvd., Chicago, Ill.

R. B. McKim Company, Inc.
116-118 Pearl Street
Boston, Massachusetts

The Henry Disston's Sons Company
Sixth & Baymiller Streets
Cincinnati, Ohio

R. B. McKim Company, Inc.
120-122 Exchange Street
Bangor, Maine

Henry Disston & Sons, Inc.
1555-65 4th Avenue, South
Corner Mass Street
Seattle, Washington

The Reichman-Crosby Company
223-235 South Front Street
Memphis, Tenn.

Henry Disston & Sons, Inc.
144 Second Street
San Francisco, Calif.

C. T. Patterson Co., Ltd.
New Orleans, La.

Henry Disston & Sons, Inc.
130-132 Marietta Street
Atlanta, Ga.

Henry Disston & Sons, Inc.
91 First Street
Portland, Oregon

Henry Disston & Sons, Ltd.
2-20 Frazer Avenue
Toronto, Canada

Henry Disston & Sons, Ltd.
80 Sussex Street
Sydney, N. S. W., Australia

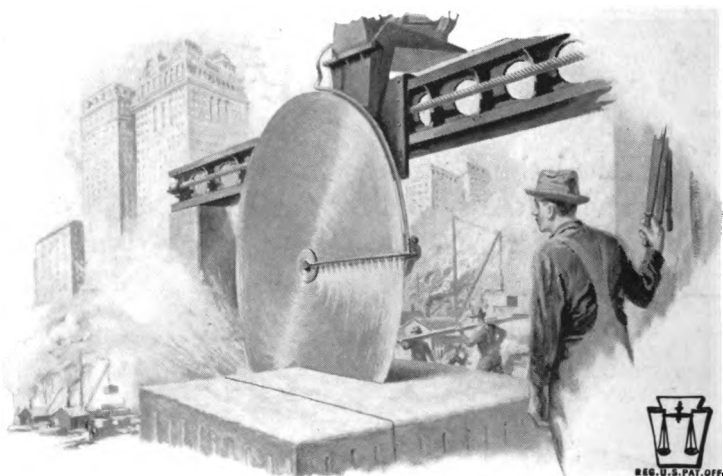
Henry Disston & Sons, Ltd.
Vancouver, B. C., Canada

Henry Disston & Sons, Inc.
120 Broadway
New York City

**Distributors for Great Britain
and Ireland:**

Henry Disston & Sons (Great Britain) Ltd.
35, 36, 37, Upper Thames Street
London, E. C. 4, England

HENRY DISSTON & SONS, Inc.
GENERAL OFFICES AND FACTORY
PHILADELPHIA, U. S. A.



Disston Saws Set with Diamonds

cut the stone for your skyscrapers

SINCE the time of the Pyramids, building stone had been cut by hand.

But America could not wait on the stone cutter with his mallet and chisel.

So the quarries and the builders turned to Disston for help.

And Disston, maker of "The Saw Most Carpenters Use," made circular saws that cut stone.

Saws, for example, 98 inches in diameter, with 180 teeth inserted in a blade of Disston Steel, and six cutting diamonds set in every tooth.

But the saw set with diamonds is only an incident in Disston Saw history, while the Disston Hand Saw is a world achievement.

Before Henry Disston began making saws, in 1840, getting a good hand saw was pure luck. But users came to know that the name Disston on a saw blade meant a good saw every time.

For Henry Disston made it his business to know steel, from ore to crucible ingot. He found out how to roll, harden, and temper saw steel to give it life and spring, to make it hold its cutting edge.

Disston trained men to make saws such as never were made before. And these men loved their work, took pride in the Disston standard, taught their sons how to meet it.

It takes years to make a Disston saw-maker; and the skill of three generations of saw makers is back of your Disston Hand Saw.

You want a good hand saw—a saw that cuts true to the line, cuts fast without binding, makes your work easy. You want "The Saw Most Carpenters Use."

Go to the hardware store.

Take a Disston Hand Saw in your hand. Feel its hang, its balance, the way it responds to your touch and your will. No other saw works with you like that!

Note the spring and life in a Disston blade.

See the taper—thin on the back, thinnest at the further end—to give clearance to the blade and make the saw run easy.

On the blade, over the Disston signature, read the words that every carpenter knows by heart:

"For Beauty, Finish and Utility, this Saw cannot be Excelled."

Then, and every day when you use your Disston Saw, you will know what mechanics, the world over, have learned—that the way to judge a good saw is to look for the name Disston.

ASK DISSTON

Tell us what kind of work you are doing, in wood, metal, stone, ivory, rubber, leather, cloth, fibre or other material, and we will tell you what types of saws to use to do your work better and easier. Disston issues many books to aid the user of saws and tools.

DISSTON

UNIVERSITY OF ILLINOIS-URBANA



3 0112 065805076