

www.roseantiquetools.com

THIS booklet presents the finest line of Cross-cut Saws made. The mere statement that they are "the finest" carries very little weight of itself and this claim can be used by anyone, but when you consider the fact that Disston Saws have been made and used for over seventy-nine years in ever-increasing quantities, you must agree that there must be *more than ordinary merit in that brand of goods which has created and satisfied the demand for so long a time.*

Since this business was founded, in 1840, the demand for saws bearing the "Disston" brand has steadily increased, necessitating, constantly, the erection of new buildings, the employment of additional men, and the constant installation of additional mechanical facilities. For many years the Disston Works has been and still is the largest of its kind in the world, without exception.

This is the result of furnishing the world with saws of the highest efficiency. Recognizing this, no effort or expense will be spared in maintaining the high prestige we have justly earned for Disston Saws, Tools and Files.

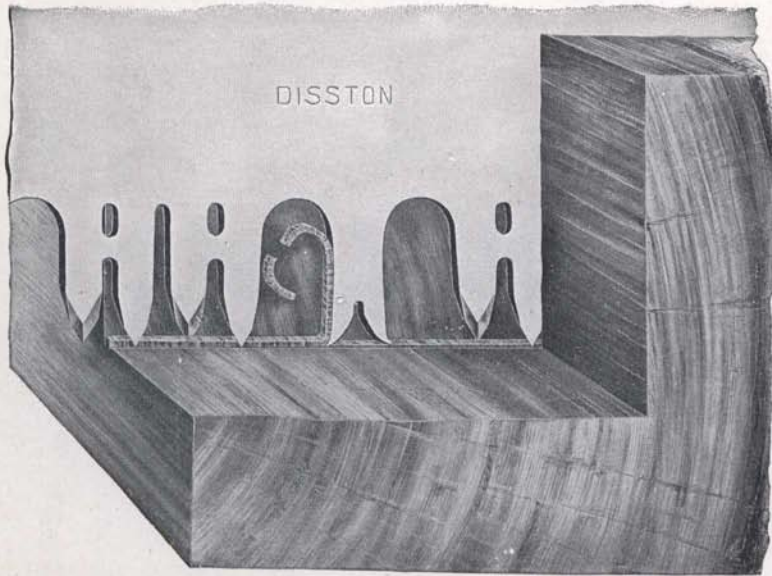
No matter how extensive our plant may become, *quality shall always be paramount to quantity*, and if earnestness of purpose, long practical experience, together with up-to-date facilities count—then, Disston Saws will continue to be the leaders in the markets of the world.

*All goods branded "DISSTON"
are fully guaranteed in Material
and Workmanship*

HENRY DISSTON & SONS
Incorporated
KEYSTONE SAW, TOOL, STEEL AND FILE WORKS
PHILADELPHIA, U. S. A.



www.roseantiquetools.com



THE RAKER OR CLEANER TOOTH

The question of the proper length or height of the "RAKERS" or Cleaner Teeth in Cross-cut Saws is frequently brought up and statements are sometimes made that the "Rakers" do all the work, and therefore should be on line or even with the cutting points of the saw. The latter claim will appear ridiculous to experienced Cross-cut Saw users

but since new men are constantly entering the field who are not expert saw fitters, an explanation is worth while, for quick progress can only be made in profiting by the experience of others.

When considering the subject of Rakers, it must be borne in mind that several patterns of saws are made and used without Raker Teeth which do good work, especially in dry seasoned timber; and it was the development of the Cross-cut Saw for the particular use of Logging Operators which led to the introduction of the Raker for quick clearing action.

In this article we shall dwell only on that type of saw, it being an evolution which led to faster cutting; the Raker planing out and keeping the cut clear of sawdust, which otherwise would interfere with the wearing of the cutting or scoring teeth. See Figs. 1 and 2.

When cross-cutting timber or lumber, that is, cutting across the grain, the points and edges of the

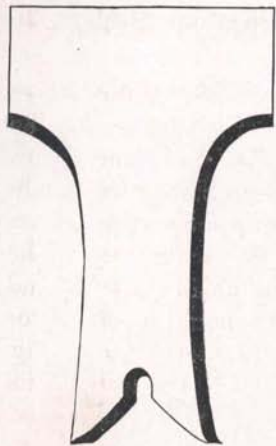


Fig 1
SWAGED RAKER

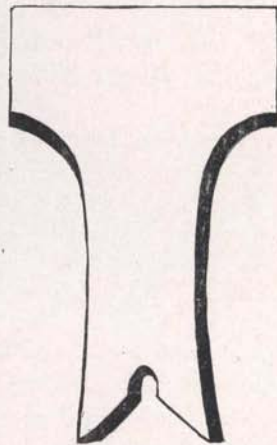


Fig. 2—PLAIN RAKER

cutting teeth strike the fibre of the wood at right angles to its length, severing it from the main body on each side of the saw. In other words, the cutting teeth do the SCORING while the RAKERS plane and clean out the ridge of wood left which is thrown out in the form of a shaving as shown in Fig. 3.

The scoring teeth properly beveled leave a space between the knife-edge of the tooth on one side and that on the other and necessitates the employment of some agency for the removal of the ridge of wood left between the scorings made by the cutting teeth. This action is accomplished by providing, at short intervals, a tooth which is filed straight across and left slightly shorter in length than the cutting teeth, which tooth is termed a "Raker" or Cleaner by reason of its function of raking or planing out the cut.

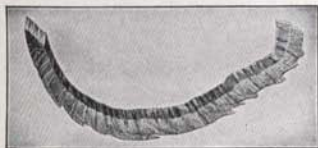


Fig. 3—PLANING

We now reach the question: "What is the proper length for the Raker?"

Some Rakers are left but one one-hundredth of an inch shorter than the cutting teeth, and from that anywhere to one thirty-second of an inch, a gauge being used to insure uniformity. The length of the raker is determined by the kind and class of timber to be cut. For the very hardest and driest woods they should be one one-hundredth of an inch shorter than the cutting teeth, while for hard, green woods the Rakers should be one sixty-fourth of an inch

shorter than the scoring teeth and from that the length varies to an extreme of about one thirty-second of an inch when cutting softer woods according to the condition of the timber.

The Rakers absolutely must be shorter than the cutting teeth, for if they are too long they will not allow the cutting teeth to come in proper contact with the work and the saw will not cut freely.

Even if just a slight fraction too long they will prevent the saw from doing good work and the sawdust or thick shavings will have what the woodsmen term "whiskers" as shown in Fig. 4. This proves that the Rakers are too long, for they go below the scoring of the cutters, breaking the fibre and tearing it out.

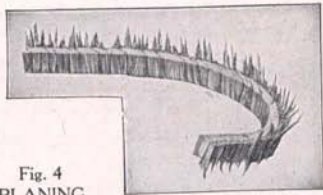


Fig. 4
PLANING
SHOWING "WHISKERS"

When the Rakers are in this condition the sawing is difficult and the saw hard to pull through the cut, while, on the other hand, where the Rakers just clean out the cut, leaving a faint mark of the scoring teeth, they are then of proper length and the saw will cut fast with the least exertion.

It is well to understand that extra weight is of no benefit in a Cross-cut Saw. The chief points are the Cutting Teeth, the Rakers, the grinding or Taper, and the quality of the steel which naturally is the foundation upon which rests all subsequent work. Beyond all other points remember that **THE RAKERS ARE THE CONTROLLING FACTOR OF SAW EFFICIENCY**, for if too long they

cause the saw to ride or jump and prevent the cutting teeth from scoring, while if properly fitted they steady the blade, draw it into the wood, bringing the cutting teeth into more active work.

This article is not based on theory, but is the result of long experience and practical tests made in various kinds of woods in all parts of the country with saws "fitted up" with the Rakers of various lengths—from very short Rakers to those equal in length with the cutting teeth—each saw being put to actual work, records made of the time consumed in cutting, the number of strokes required to cut a given size log; consideration being given to the power required and the smoothness of the cut.

Not one only, but several tests were made of each saw, then a comparison of all records determined beyond doubt the particular style of "Fitting" (*i. e.*, length of Raker, bevel or fleam of tooth, etc.,) productive of greatest results. To make it more conclusive, the outcome of these demonstrations agrees with the general experience of well-qualified, practical woodsmen.

You will see from the foregoing that Disston Saws are made, not merely to sell, but for practical use, and when properly fitted will RUN EASIEST, CUT FASTEST AND LAST LONGEST.

No. 495. SUWANEE



Tapered 14 and 20 Gauge

Width at centre	5 $6\frac{5}{16}$	$5\frac{1}{2}$ $6\frac{11}{16}$	6 $7\frac{1}{16}$	$6\frac{1}{2}$ $7\frac{9}{16}$	7 $7\frac{15}{16}$	$7\frac{1}{2}$ $8\frac{3}{16}$	8 $8\frac{9}{16}$	feet inches
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No. 289. VIRGINIAN



Tapered 14 and 20 Gauge

Width at centre	5 $6\frac{5}{16}$	$5\frac{1}{2}$ $6\frac{11}{16}$	6 $7\frac{1}{16}$	$6\frac{1}{2}$ $7\frac{9}{16}$	7 $7\frac{15}{16}$	$7\frac{1}{2}$ $8\frac{3}{16}$	8 $8\frac{9}{16}$	feet inches
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**COMBINATION
CROSS-CUT
SAWS**

The increasing demand for Saws of this character has led to the production of the

ZIP, BUZZ, KENNEBAGO and BEAVER
patterns for Felling and Buck Sawing.

The Disston line of Saws is up-to-date and meets all emergencies.

No. 270. ZIP



Tapered 14 and 19 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre.....	5	5	5¼	5½	5½	6	6¼	6⅜	6½	inches

No. 470. BUZZ



Tapered 14 and 19 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre.....	5	5¼	5½	5¾	6	6¼	6½	7	7½	inches

No. 288. KENNEBAGO



Tapered 14 and 17 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre.....	4	4⅛	4⅜	4½	4⅞	5⅛	5⅜	5⅝	5⅞	inches

**MATERIAL
UNEQUALED**

The foundation on which the success of Disston Saws rests is the Crucible Steel made in our own Steel Works by our Special Processes.

These processes are the outgrowth of constant careful experimentation in our own chemical laboratories, aided by a thorough knowledge of the requirements of saws. The importance of having steel particularly adapted to meet the requirements of each type of saw is unquestioned. It is our policy to make QUALITY the first consideration.

The Disston Steel Works, started in 1855, was the first plant in America of its kind for making saw steel exclusively and we were the first saw makers to have our own steel works. We have attained a degree of perfection in this specialty which has never been reached by any other manufacturer.

No. 494. BEAVER



Tapered 14 and 17 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre.....	4	4½	4¾	4½	4¾	5½	5¾	5¾	5¾	inches

No. 489. ORIOLE



Tapered 14 and 19 Gauge

	5	5½	6	6½	7	7½	8	feet
Width at centre.....	6¼	6½	6¾	7	7¼	7½	7¾	inches

**ASSURES
EVEN
QUALITY**

Equipped with all modern devices and machinery for making steel of the very highest quality, our own Steel Works operated by the most careful and expert men, enables us to assure a uniformity of material and temper that cannot well be produced in an establishment which makes a general line of steel.

Fuel gas and oil are used exclusively in the melting, hardening and tempering processes, by which they are easily controlled and absolute uniformity obtained.

Each ingot and plate is carefully tested and proved by our laboratories before the plates are passed into the saw shop for conversion into saws.

No. 285. GREAT SOUTHERN



Tapered 14 and 19 Gauge

Width at centre	5	5½	6	6½	7	7½	8	feet
	6¼	6½	6¾	7	7¼	7½	7¾	inches

No. 287. DIAMOND POINT VIM CHAMPION



Tapered 14 and 19 Gauge

Width at centre	5	5½	6	6½	7	7½	8	feet
	6¼	6½	6¾	7	7¼	7½	7¾	inches

UNIFORMITY OF TEMPER

The PERFECTION and UNIFORMITY of TEMPER in saws is governed by the quality and uniformity of the steel itself.

Manufacturing the steel used in our saws, we are, consequently, familiar with its makeup. This knowledge enables us to adjust the hardening and tempering processes to the degree giving the perfect combination of hardness and toughness that produces the "edge and set holding qualities" for which Disston Saws are renowned.

No. 477. LANCE—PERFORATED



Tapered 14 and 18 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	5½	5¾	6	6¼	6½	6¾	7	7¼	7½	inches

No. 365. LANCET



Tapered 14 and 18 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	6⅛	6⅜	6⅝	6⅞	7⅛	7⅜	7⅝	7⅞	8⅛	inches

EXCLUSIVE PROCESSES

The Process of Grinding saws is equal in importance to the material and temper.

The machinery for this work is of our own design and used exclusively by us under our own individual methods.

Our method of grinding Cross-cut Saws provides the maximum amount of Clearance, without sacrificing elasticity and stiffness, and insures an even thickness or gauge on the cutting edge with a relative and uniform taper throughout the body, to a thin or extra thin back, as may be desired.

No. 1. LUMBERMAN



Tapered 14 and 18 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	6¼	6½	6¾	7	7¼	7½	7¾	8	8¼	inches

No. 1. DIAMOND



Tapered 14 and 18 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	6⅛	6⅜	6⅝	6⅞	7⅛	7⅜	7⅝	7⅞	8⅛	inches

**MOST
EFFICIENT**

In Blocking, Polishing, Stiffening and final processes of manufacture, the same high order of skill is exercised as in the Hardening, Tempering and Grinding, the result being saws of the highest quality and efficiency that human ingenuity coupled with skill is capable of producing.

No. 1. CHAMPION



Tapered 14 and 18 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	6½	6¾	7	7¼	7½	7¾	8	8¼	8½	inches

No. 1. TUTTLE



Tapered 14 and 18 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	6¼	6½	6¾	7	7¼	7½	7¾	8	8¼	inches

**BUILT FOR
RESULTS**

The wide-spread demand for Saws of Disston Brand is the perfectly natural result of an earnest, well-directed effort to make Saws to do the work intended; formed to do it with the greatest ease, of a superior quality of material, so tempered as to hold the cutting-edge the longest possible time, and finished in a workmanlike manner.

The Disston Saws will do more work with less exertion and hold the cutting edge longer than any other brand.

No. 1. TENON



Tapered 14 and 18 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	6¼	6½	6¾	7	7¼	7½	7¾	8	8¼	inches

No. 1. PLAIN



Tapered 14 and 18 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	6¼	6½	6¾	7	7¼	7½	7¾	8	8¼	inches

**INVINCIBLE
FACTORS**

The High Standing, the Wide Reputation and the Great Sales of Disston Saws demonstrate more strongly than any mere argument their superiority of material, workmanship and efficiency.

No. 599. TOLEDO



Tapered 14 and 19 Gauge

	5	5½	6	6½	7	7½	8	feet
Width at centre	6	6¼	6½	6¾	7	7¼	7½	inches

No. 1. GREAT AMERICAN



Tapered 14 and 19 Gauge

	4	4½	5	5½	6	6½	7	7½	8	feet
Width at centre	6¼	6½	6¾	7	7¼	7½	7¾	8	8¼	inches

**PREVENTS
KERF-BINDING**

Our Triumph Great American, Triumph Champion and other regular patterns of narrow width Saws are designed particularly for felling timber.

The blades being made as narrow as a fair margin of strength and a proportionate amount of wear permits, can be used to good advantage with a minimum amount of Set without Kerf-binding.

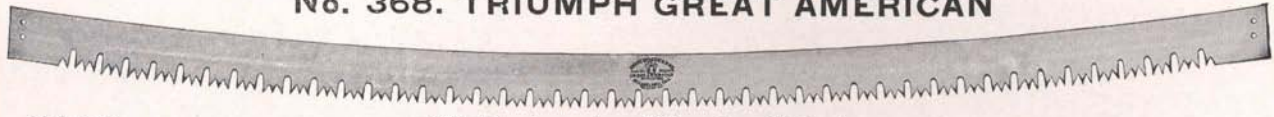
No. 598. TRIUMPH TOLEDO



Tapered 14 and 16 Gauge

Width at centre, all lengths, $3\frac{3}{4}$ inches.

No. 368. TRIUMPH GREAT AMERICAN



14 Gauge

Width at centre, all lengths, $3\frac{1}{4}$ inches.

No. 286. TRIUMPH CHAMPION



14 Gauge

Width at center, all lengths, $3\frac{1}{4}$ inches.

**PRINCIPLES
STAND
PRESSURE**

The DISSTON One-man Cross-cut Saws are made of the same quality of Steel used in our best Hand Saws.

The Hardening, Tempering, Hammering, Grinding, Tensioning and Blocking are all done on scientific principles that make these Saws capable of standing all necessary "thrust" pressure without buckling, and, at the same time, easy and rapid cutters.

**ONE MAN CROSS-CUT SAWS
No. 1. LANCE PERFORATED**



No. 2. LANCE PERFORATED



No. 1 and No. 2—Width at butt

3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	feet
$7\frac{3}{8}$	$7\frac{1}{2}$	$7\frac{5}{8}$	$7\frac{3}{4}$	$7\frac{7}{8}$	8	$8\frac{1}{2}$	inches

HIGHEST PERFECTION

In Design, Material, Temper and Workmanship the Disston Saws represent everything that is desirable in Cross-cut Saws, and when properly fitted will cut faster, run easier and last longer than any other make of saw on the market.

The D10 and D210 Skewback Saws are ground thin towards the back, narrower in width than regular One-man Saws, teeth long and slim, extra wide gullets, rakers special shaped with "undercut" for clearance. The D10 handle has extra large grip.

ONE MAN CROSS-CUT SAWS

FOUR CUTTER

D
210



TWO CUTTER

D
10



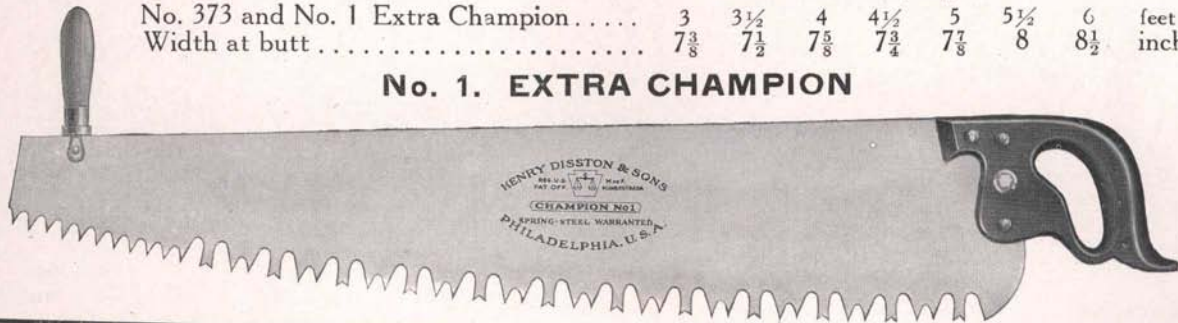
D210 and D10—Width at butt.....	3	3½	4	4½	5	5½	6	feet
	7⅜	7½	7⅝	7¾	7⅞	8	8½	inches

No. 373. GREAT AMERICAN



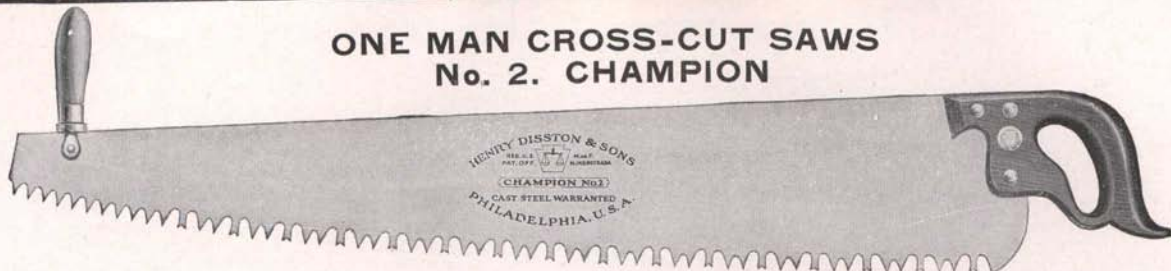
No. 373 and No. 1 Extra Champion	3	3½	4	4½	5	5½	6	feet
Width at butt	7⅜	7½	7⅝	7¾	7⅞	8	8½	inches

No. 1. EXTRA CHAMPION



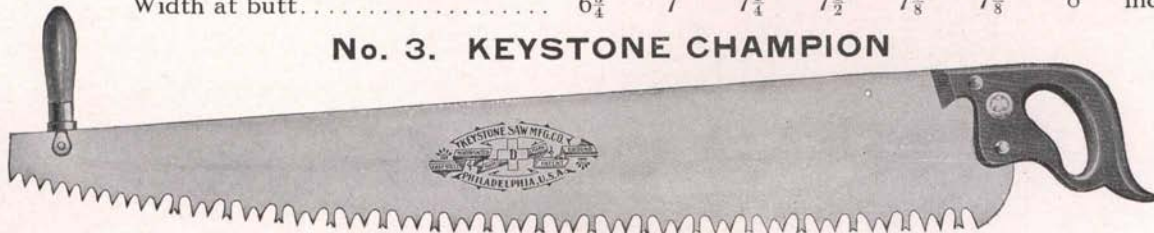
ONE MAN CROSS-CUT SAWS

No. 2. CHAMPION



Width at butt.....	3	3½	4	4½	5	5½	6	feet
	6¾	7	7¼	7½	7⅝	7⅞	8	inches

No. 3. KEYSTONE CHAMPION



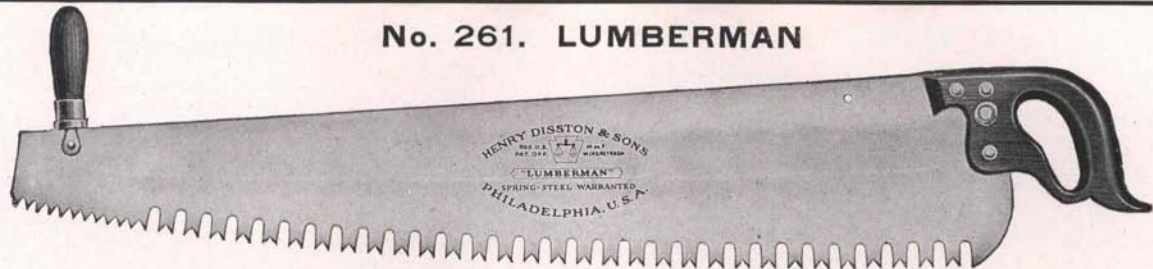
Width at butt.....	3	3½	4	4½	5	5½	6	feet
	6⅛	6¼	6¾	6⅞	7	7⅞	7¼	inches

**PERFECT
RESULTS**

The same general principles employed in the manufacture of our highest grade One-man Cross-cut Saws are followed in the making of the lower priced saws.

This policy, in connection with the material used, enables us to guarantee our Patrons the best Saws that can be produced for the money.

No. 261. LUMBERMAN



Width at butt.....	3	3½	4	4½	5	5½	6	feet
	7⅜	7½	7⅝	7¾	7⅞	8	8½	inches

No. 191. PLAIN



Width at butt.....	3	3½	4	4½	5	5½	6	feet
	6¾	7	7¼	7½	7⅝	7⅞	8	inches

**EQUAL
TO THE
OCCASION**

The enormous size of timber on the Pacific Coast, the peculiarities of the fibre of the different woods and the methods employed in Logging have always been carefully considered by us in designing and manufacturing Cross-cut Saws for California, Oregon and Washington trade.

Our careful study of the requirements of these special Saws, together with extensive experiments, enables us to produce Saws that are particularly adapted to cross-cutting the timber of the Pacific Coast.

THE LATEST PATTERNS FOR PACIFIC COAST USE

No. 498. FELLING



Tapered 13 and 17 Gauge

	6	6½	7	7½	8	8½	9	10	12	feet
Width at centre	5½	5⅝	5¾	5¾	5¾	6	6	6¼	6½	inches

No. 499. BUCKING



Tapered 13 and 17 Gauge

	6	6½	7	7½	8	8½	9	10	12	feet
Width at centre	6¾	7	7¼	7½	7½	7¾	8	8½	9½	inches

Following our policy of keeping absolutely up to date, we have originated and put on the market the No. 498 Felling and No. 499 Bucking Saws.

These two saws represent the last word in Cross-cut Saws for Pacific Coast use.

**QUALITY
ADAPTATION**

All our regular Pacific Coast Cross-cut Saws are also made in the Felling patterns, which possess all the best *features* of the Wide Saws, and are ground on special lines that give the greatest possible stiffness and the proper clearance to prevent kerf-binding and buckling, which are the most essential *features* in Felling Saws.

No. 448. COUGAR FELLING

HENRY DISSTON & SONS
 MANUFACTURERS
 OF ALL KINDS OF
 CUTTING TOOLS
 PHILADELPHIA, U.S.A.

Tapered 13 and 17 (or 12 and 16) Gauge

	6	6½	7	7½	8	8½	9	10	12	feet
Width at centre	5½	5½	5½	5½	5¾	6	6	6¾	7	inches

No. 449. COUGAR

HENRY DISSTON & SONS
 MANUFACTURERS
 OF ALL KINDS OF
 CUTTING TOOLS
 PHILADELPHIA, U.S.A.

Tapered 13 and 17 (or 12 and 16) Gauge

	6	6½	7	7½	8	8½	9	10	12	feet
Width at centre	6½	6¾	7	7¼	7½	7¾	8	8½	9½	inches

No. 298. FALCON FELLING

HENRY DISSTON & SONS
 MANUFACTURERS
 "FALCON" FELLING
 PHILADELPHIA U.S.A.

Tapered 12 and 17 Gauge

	6	6½	7	7½	8	8½	9	10	12	feet
Width at centre	6	6	6	6	6	6¼	6½	6½	6¾	inches

No. 299. FALCON

HENRY DISSTON & SONS
 MANUFACTURERS
 "FALCON"
 PHILADELPHIA U.S.A.

Tapered 12 and 17 Gauge

	6	6½	7	7½	8	8½	9	10	12	feet
Width at centre	6½	6¾	7	7¼	7½	7¾	8	8½	9½	inches

*Quality
Sells*

The growing popularity of our Special High-Grade Pacific Coast Cross-cut and Felling Saws, and the steadily increasing demand, is the best evidence of their superiority.

In addition to our regular line of Pacific Coast Saws, such as the Cougar, Falcon, Nevada, Oregon and Lancet, we will make any of our Standard Patterns of Saws after the Coast designs when desired.

No. 496. NEVADA FELLING

HENRY HASTON & SONS
MANUFACTURERS
OF ALL KINDS OF
FELLING TOOLS
PHILADELPHIA U.S.A.

Tapered 13 and 17 (or 12 and 16) Gauge

Width at centre, all lengths, $5\frac{3}{4}$ inches.

No. 497. NEVADA

HENRY HASTON & SONS
MANUFACTURERS
OF ALL KINDS OF
FELLING TOOLS
PHILADELPHIA U.S.A.

Tapered 13 and 17 Gauge

Width at centre.....

6	$6\frac{1}{2}$	7	$7\frac{1}{2}$	8	feet
$6\frac{1}{2}$	$6\frac{3}{4}$	7	$7\frac{1}{4}$	$7\frac{1}{2}$	inches

**SUPREME
TEST**

There certainly must be more than ordinary merit in that brand of goods which creates and satisfies the demand over a long period of time.

The DISSTON BRAND SAWS have been made and sold in constantly increasing quantities for over seventy-nine years.

ESTABLISHED 1840

No. 475. OREGON—PERFORATED

HENRY DISSTON & SONS
 MADE IN U.S.A.
 OREGON PERFORATED
 SPRING-STEEL WARRANTED
 WITH LANCET TOOTH OR SAW
 PHILADELPHIA, U.S.A.

Tapered 14 and 18 (or 13 and 17) Gauge

Width at centre	6	6½	7	7½	8	feet
	7	7¼	7½	7¾	8	inches

LANCET
 FOR PACIFIC COAST

HENRY DISSTON & SONS
 MADE IN U.S.A.
 LANCET
 SPRING-STEEL WARRANTED
 WITH LANCET TOOTH OR SAW
 PHILADELPHIA, U.S.A.

Tapered 13 and 17 Gauge

Width at centre	4	4½	5	5½	6	6½	7	7½	8	feet
	6⅛	6⅜	6⅝	6⅞	7⅛	7⅜	7⅝	7⅞	8⅛	inches

SECTIONAL VIEW
No. 122

- Heavy, malleable iron cap _____
- with
- Long neck, tapped for Loop Rod. _____
- Wood thoroughly seasoned and well finished. _____
- Heavy ferrule, malleable iron. _____
- Anti-friction washer. _____
- Loop rod, malleable iron, extra heavy and strong. Well-cut threads. _____



The DISSTON Cross-cut Saw HANDLES are made of carefully selected, thoroughly seasoned wood, properly fitted with best malleable iron castings. They are strong and durable, readily adjusted to the blade, and have an easy, comfortable grip.

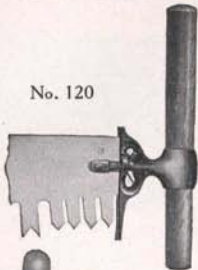
Quality of material and workmanship, design and weight of castings being considered, the Disston Handles for Cross-cut Saws are the lowest in price of any on the market, and should not be compared with those of inferior make.

DISSTON CROSS-CUT SAW HANDLES

No. 103
OLD CLIMAX



No. 120



No. 122



No. 108
OLD STYLE
LOOP



No. 119



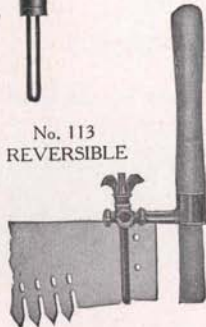
No. 109



No. 106



No. 113
REVERSIBLE



No. 118



No. 218 ONE-MAN



PRICES QUOTED ON APPLICATION

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CARE OF CROSS-CUT SAWS

It is a well understood fact, although often unheeded or neglected, either through carelessness, hurry or possibly from lack of experience, that to obtain the highest results from any cutting tool requires the keeping of that tool in the best possible condition. It matters not how well a tool may be made, nor how high the quality, it will render but poor service if not kept in proper order.

This is particularly applicable to Saws, for, as a rule, if the user becomes dissatisfied, the blame is placed on the quality or style of Saw, when all that usually is needed is to spend a little time in the setting and sharpening, which will make the Saw cut faster, run easier and true as well as lengthen its life.

With this in view, particular attention is called to the following instructions for the "Fitting" of Cross-cut Saws with the use of the new and improved DISSTON IMPERIAL CROSS-CUT SAW TOOLS, which if properly followed will enable the sawyer to obtain better and greater results with the least possible exertion.

DISSTON IMPERIAL CROSS-CUT SAW TOOLS

THIS SET OF TOOLS INCLUDES

A JOINTER, RAKER-TOOTH GAUGE, SETTING BLOCK OR ANVIL AND SET GAUGE

We call special attention to the following points in the make-up of the IMPERIAL:

The parts that rest and slide on the cutting teeth of the saw, while "cutting down raker," in all tools are subject to the greatest wear. In the IMPERIAL these parts are not only made of high-grade steel and specially hardened, giving great durability, but are also easily detached by the mere loosening of a screw. This, while holding parts firmly, also permits of renewal when worn, thus prolonging efficiency of tool indefinitely, and overcoming a feature so objectionable in all other Cross-cut Saw Tools on the market.



The Raker Gauge is also made of Steel and hardened to such a degree that the best superfine file will not cut it.

Another important feature, found in no other Cross-cut Saw Tool, is the improvement in the screw adjustment to set the Raker Gauge, whereby the Gauge can be adjusted to the smallest fractional part of an inch to obtain the particular length of Raker desired. When adjusted and locked with the two lock-nuts on the lower end of Raker Gauge, the gauge cannot work loose and will remain in its position indefinitely, requiring readjustment only when a different length of

Raker is desired to suit the changes necessitated by the kind of timber to be cut.

Notice the long bossed rib which forms a rest for the jointer file, and affords a firm bearing. The slight curve which is given to the file insures quick, direct action on the teeth.

The material entering into the make-up of this *Imperial Cross-cut Saw Tool* is the best that can be procured for the purpose, the workmanship is most thorough, and we unhesitatingly pronounce it superior to any Cross-cut Saw Tool on the market—one that fills a long-felt want.

SETTING AND SHARPENING (OR "FITTING") WITH THE DISSTON IMPERIAL CROSS-CUT SAW TOOL

To properly fit up a Cross-cut Saw, it is necessary:

First—That the teeth be uniform in length. To accomplish this place a file edgewise in the frame and secure it by thumbscrews. Pass the tool lightly over the teeth until file touches the shortest cutting tooth. See Fig. 1.

Second—Where swaged rakers are used, the swaging should follow the jointing. The two points of the rakers are first filed to sharp edges without reducing their length, after which each raker point should be swaged or bent outward and downward by the use of the swaging hammer as shown in Fig. 2, reducing the length of rakers from $\frac{1}{100}$ to $\frac{1}{32}$ of an inch according to the kind of timber to be cut.

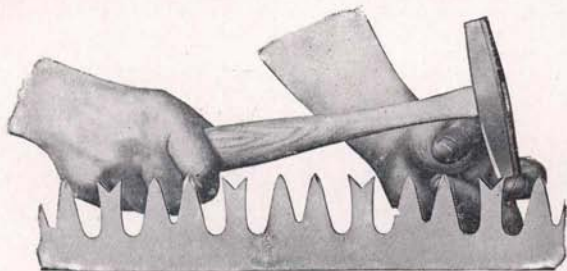


Fig. 2—METHOD OF SWAGING RAKERS

The uniformity in the length or height of raker points can readily be gauged by the use of the graduated gauge as shown in Fig. 6.

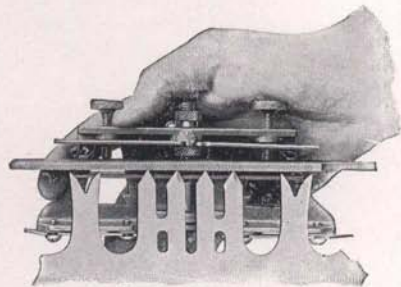


Fig. 1—JOINTING

The faces of the gauge are marked from one to six, the gauge being held rigid by small roundhead screw; to adjust gauge loosen the screw and turn gauge so that face opposite number wanted projects above and parallel with steel plate, against which teeth of saw rest, then tighten screw. The points of rakers should just touch the face of gauge. Face marked (1) makes raker $\frac{1}{128}$ of an inch shorter than cutting teeth; (2) $\frac{1}{64}$; (3) $\frac{1}{32}$; (4) $\frac{1}{16}$; (5) $\frac{1}{8}$; (6) $\frac{1}{4}$.

Third—To “fit” the straight or unswaged raker—where preferred—place the gauge over the raker teeth, as shown in Fig. 3, adjust for length of raker required, and file them down. Then file to sharp edge.

Care should be taken to have the rakers shorter than the cutting teeth. If the rakers are too long they will not allow the cutting teeth to come in proper contact with the work and the saw will not cut freely. For the very hardest and driest woods the raker should be $\frac{1}{100}$ part of an inch shorter than the cutting teeth. For hard green wood the rakers should be $\frac{1}{64}$ of an inch shorter than the cutting teeth, and graduated from $\frac{1}{64}$ to $\frac{1}{32}$ of an inch, according to conditions and timber when cutting softer wood.

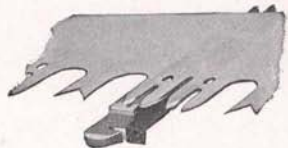


Fig. 4—SETTING BLOCK



Fig. 5—SET GAUGE

Fourth—When filing, bring each tooth to a keen cutting edge, taking care not to reduce the length of the tooth any more than is necessary to remove the marks of Jointing. The amount of bevel to the tooth should be determined by the class of timber to be cut. Hard wood requires less bevel than soft wood. Figure A on page 49 illustrates a style of “fitting” which we strongly recommend, particularly for very hard or dry stock. This style of fitting produces a long knife-like edge which, through a shearing cut, readily severs the fibre of the hardest wood.

Note particularly how the saw is filed when new and keep it as near that shape as possible.

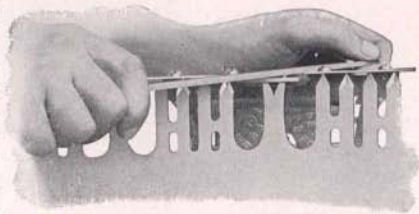


Fig. 3—FILING RAKER TOOTH

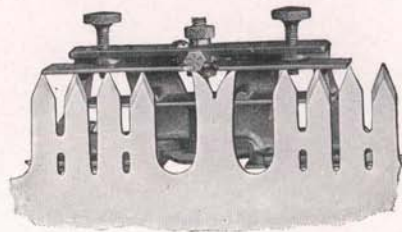
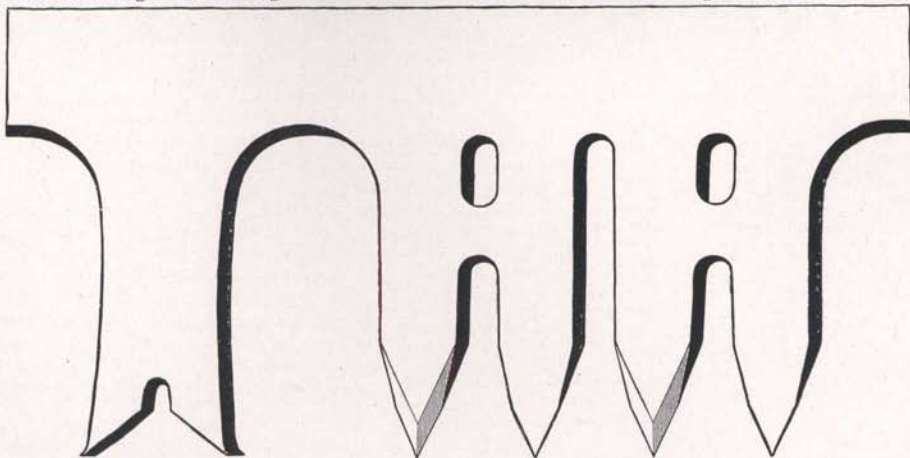


Fig. 6—GRADUATED GAUGE

Fifth—If a saw requires Setting, lay the block or anvil, Fig. 4, on some convenient flat, solid surface and hold the saw so that the *point* of tooth projects over the beveled edge of anvil about one-quarter of an inch. Give two or three blows with a light hammer, striking the tooth always about one-quarter of an inch from point. It is very important that the "Set" should be perfectly uniform, that is, exactly the same amount of set to all teeth. This can be regulated by the use of *Set Gauge*, Fig. 5. The amount of set required is largely determined by the kind of timber to be cut and the manner in which the saw is ground. *The Disston Extra Thinback Saws* when properly filed do not require more than $\frac{1}{100}$ part of an inch set to each side of the saw in general sawing, and can be run with less set in hard, firm-grained timber.

A



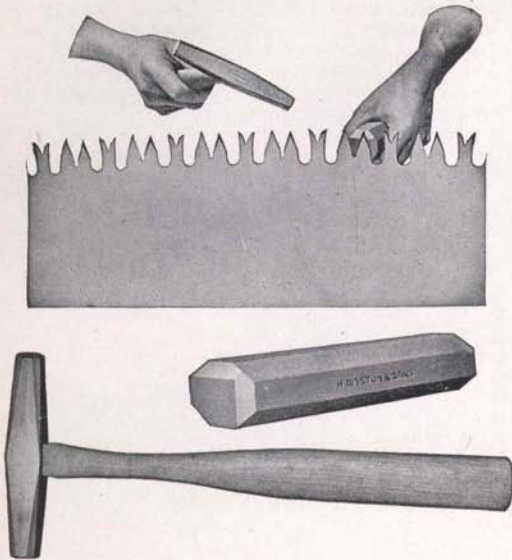
HAMMER AND ANVIL

FOR SETTING THE TEETH OF CROSS-CUT SAWS

High Grade Cross-cut Saws are necessarily made with a special temper for the purpose of holding their set and cutting-edges the longest possible time. Being so high in temper, it is almost an impossibility to set them with the old-fashioned lever spring-setting device, hence the demand for tools that will do the work properly and with the least trouble. This led to the method shown in illustration, which is so plain in its operation that it needs no explanation. These tools are the simplest and best on the market for setting Cross-cut Saws. Both the Hammer and Anvil are made of tool steel and fully guaranteed.

The Hammer is of a weight best adapted for the setting and swaging of saw teeth. The Anvil, octagon shape, is $1\frac{1}{2}$ inches in diameter, 5 inches long, which gives the necessary body and weight. The faces are accurately machined to give them a good true bearing and proper angles to form the set, thus enabling the filer to adjust the set to the exact degree suitable for the character of timber to be cut, the setting being done while the saw is in the vise or filing clamp.

To secure the best results from Cross-cut Saws they must be properly set and sharpened, which can only be accomplished by an experienced filer supplied with proper tools. The Setting Hammer and Anvil herewith illustrated, in connection with our Imperial Cross-cut Saw Tools, are recommended as best for the purpose.



DISSTON BRAND FILES

WE MANUFACTURE A FULL AND COMPLETE LINE

**KEEN CUTTING
DURABLE**

The DISSTON FILES are made of strictly first quality crucible steel. The blanks are full size and weight and carefully *forged* to correct shape for different classes of work. The teeth are formed to give the greatest amount of strength, with sharp, keen cutting-edges, and at the same time to allow sufficient clearance to prevent clogging.

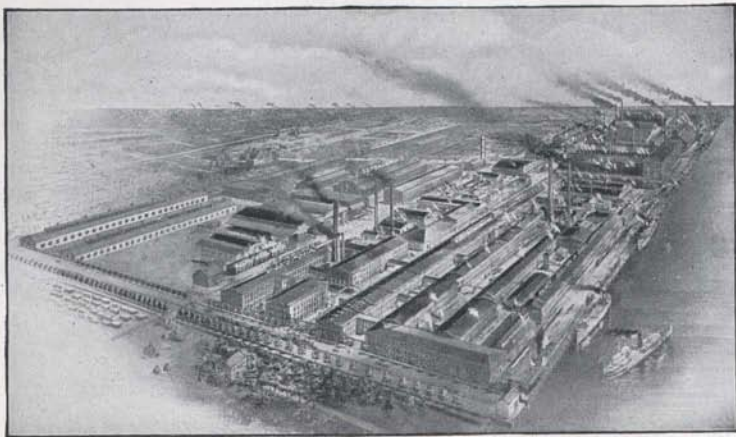
Every Disston File is carefully examined and subjected to an actual test of cutting qualities.

We use thirty-five thousand dozen Disston Files annually in our Saw Works, Handle Factory and Machine Shops, therefore know what a good file should do, and make them so they will do it.

IMPERIAL CROSS-CUT SAW FILE



Especially made for use with Imperial Cross-cut Saw Tool



DISSTON
*Quality
Sells*

IT MADE POSSIBLE THE BUILDING OF THIS, THE LARGEST SAW MANUFACTURING PLANT IN THE WORLD.

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DISSTON



THE **BRAND** THAT STANDS
THE TEST OF TIME

HAS STOOD FOR ALL THAT IS BEST IN SAWS FOR THE PAST SEVENTY-NINE
YEARS AND WILL MAINTAIN THAT REPUTATION IN THE YEARS TO COME

IT CARRIES A FULL WARRANTY

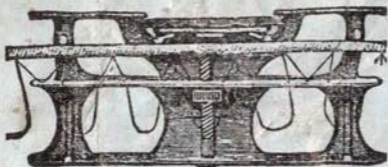
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DISSTON

*Quality
Tells*

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NO. 1



JOINTER.

NO. 2



RAKER TOOTH GAUGE.

NO. 3



SETTING BLOCK.

NO. 4



SET GAUGE.

NO 5



SIDE FILE.

INSTRUCTIONS FOR FITTING CROSS-CUT SAWS WITH SAW TOOL

JOINT THE SAW — Clamp an eight-inch file on edge in the frame of the saw tool and adjust the clamping screw to curve the file to suit the curvature on the tips of the saw teeth. Then with the lugs of the frame resting against the flat surface of the saw pass the curved surface of the file over the tips of the cutting teeth until all of them are jointed to a uniform height. See illustration No. 1.

FILE THE RAKER TEETH — Apply the saw tool frame to the flat of the saw with the lower surface of the flanged edge resting on the tips of the cutting teeth and with a raker tooth projecting through the slot in the gauge block. File the tips of the raker tooth to the level of the gauge block. Repeat until all raker teeth have been filed. See illustration No. 2.

As supplied, the top surface of the gauge block is $\frac{1}{16}$ inch below the flange surfaces against which the cutting teeth make contact during this operation. The height of the gauge block surface may be changed by changing the cardboard shim between it and the frame. The raker teeth should be $\frac{1}{16}$ inch shorter than the cutting teeth for soft and medium-hard woods, and $\frac{1}{8}$ inch shorter for hard woods.

SET THE CUTTING TEETH — Place the setting block on a log, stump, or block of wood. Drive in the spur, and if desired secure the block more firmly with a nail or screw driven through the slot in the end of the block. Lay the saw on the block with the points of the cutting teeth projecting over the bevel and strike each tooth two or three blows with a light hammer. See illustration No. 3.

Gauge the set with the set-gauge by applying three of its points to the flat of the saw and the fourth point to the tip of each cutting tooth. Either the short end or the long end of the set-gauge may be applied to the tooth according to the amount of set desired. The short end provides for the smaller amount of set, and the long end for a greater set. The points of the set-gauge may be filed to regulate the amount of set that the gauge will measure. See illustration No. 4.

A wrench or "spring set" may be used to adjust and equalize the set of the teeth as they are set with the hammer and setting block. However, such tools should be used as little as possible and only to correct and adjust the work as it comes from the setting block — never to set the teeth originally.

SWAGE THE RAKER TEETH — Tap each point of each raker tooth with a light hammer to produce a slight hook at the aid. All raker teeth should be swaged or hooked to the same extent.

FILE THE SAW — Observe carefully the manner in which the saw is filed when new, and duplicate the original filing as nearly as possible.

SIDE-FILE THE SAW — Clamp an eight-inch file in the saw tool frame flatwise between the square nut on the clamping screw and the lugs provided to bear upon the edge of the file opposite the nut. With the frame serving as a holder pass the center of the exposed flat face of the file lightly over the sides of the teeth to remove burrs left after filing and to equalize minor irregularities in the setting. See illustration No. 5.

Do not side-file more than absolutely necessary to remove burrs, feather edges, and very slight irregularities in setting. Reset any teeth from which side-filing would actually remove stock, or which the side-file fails to touch.

Made in U.S.A.