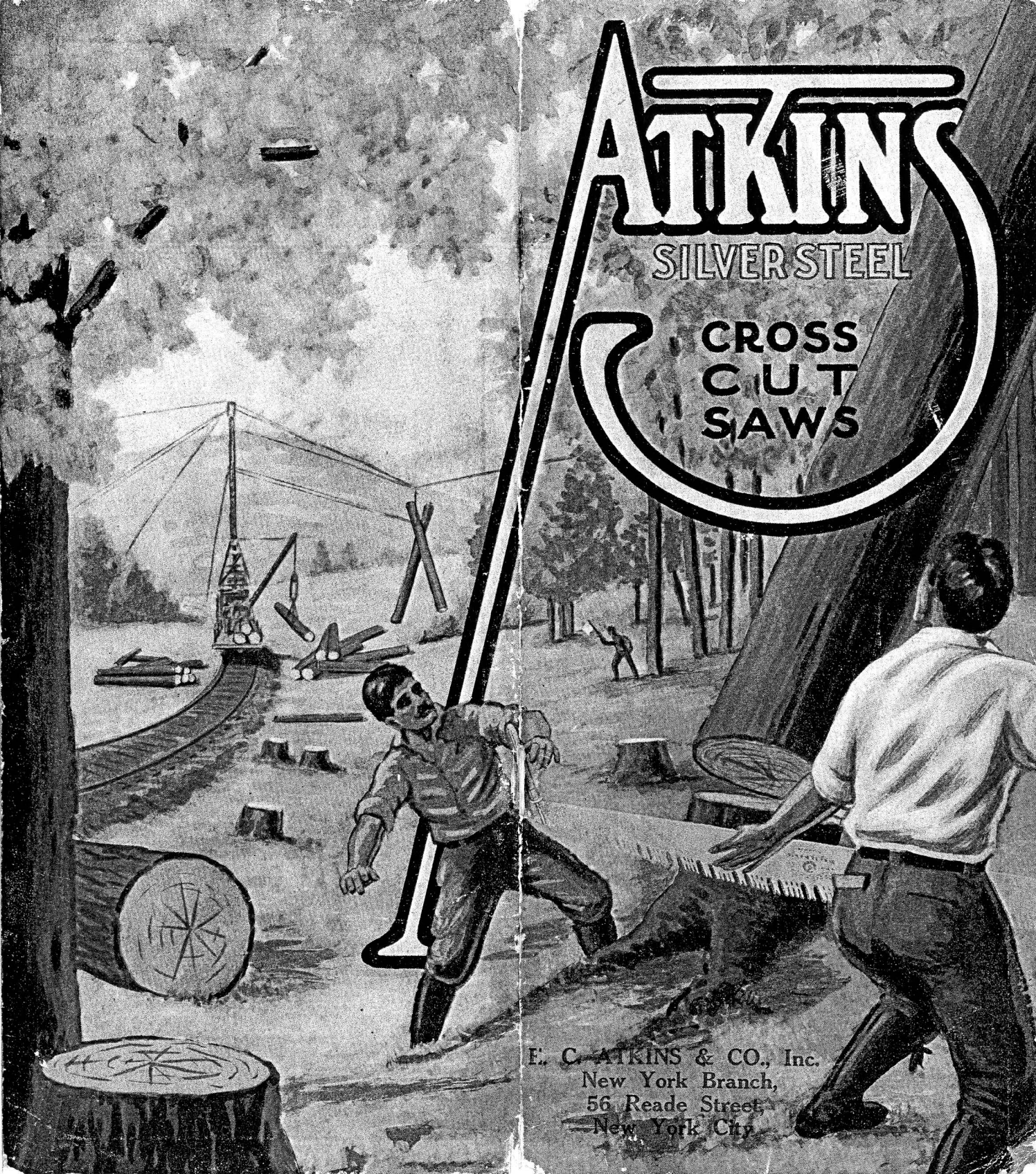


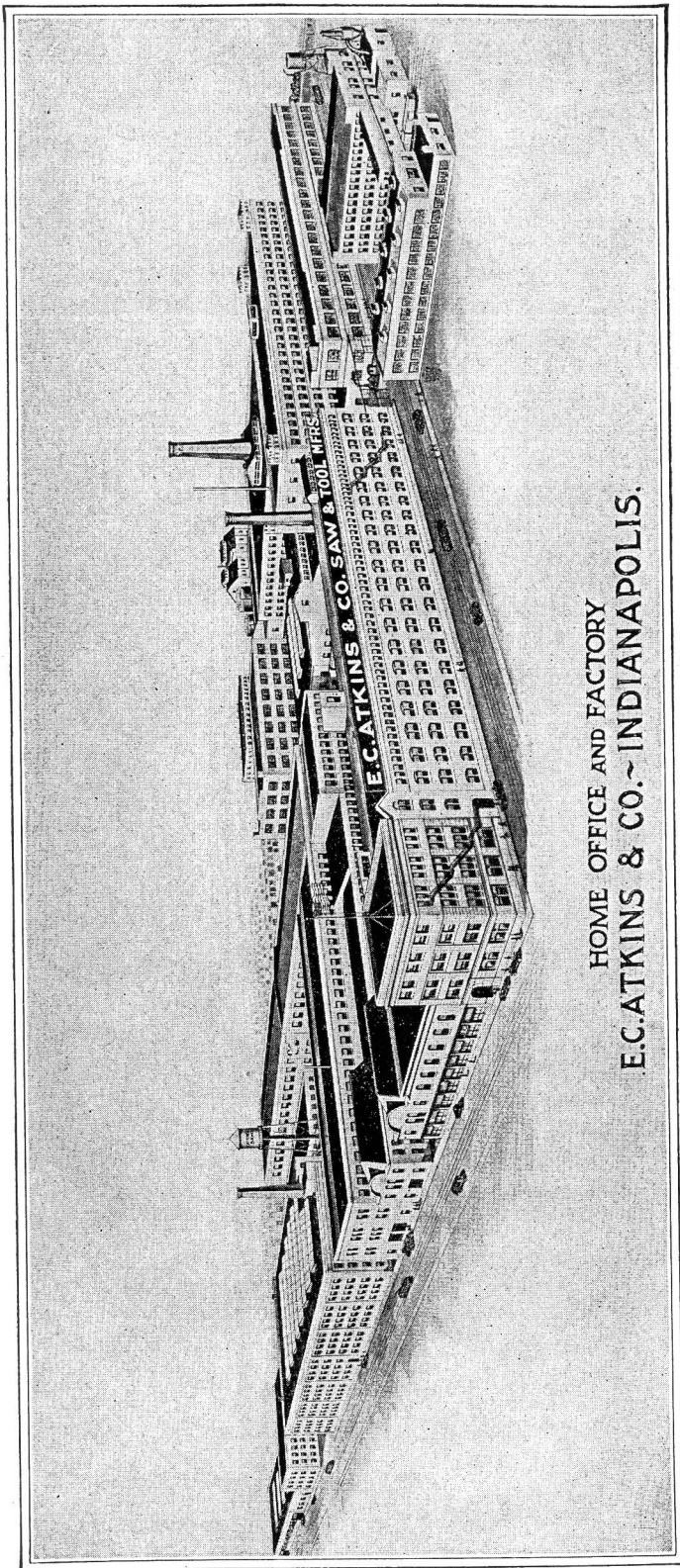
# ATKINS

SILVER STEEL

CROSS  
CUT  
SAWS



E. C. ATKINS & CO., Inc.  
New York Branch,  
56 Reade Street,  
New York City



HOME OFFICE AND FACTORY  
E.C. ATKINS & CO. - INDIANAPOLIS.

## ATKINS SILVER STEEL SAWS

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### Note the Following

**A**TKINS SILVER STEEL SEGMENT GROUND CROSS-CUT SAWS are made with the definite object in view of supplying the every day user of Cross-Cut Saws with Saws which are so eminently superior to any other that their merits will be immediately appreciated. They *must* be so much better in every particular that any fair trial will at once demonstrate their superiority.

We claim that our SILVER STEEL CROSS-CUT SAWS are superior to those of any other manufacturer in MATERIAL, TEMPER, GRINDING and FINISH, and that they will run easier, cut twenty-five per cent *more timber*, and will hold their cutting edge *longer* than any Saw that has ever been made.

As a user of Cross-Cut Saws *you owe it to yourself* to investigate the truthfulness of these statements, and in order to do so we want you to give ATKINS CROSS-CUT SAWS a practical test. Put them into operation and keep a careful *record* of the *results* as compared with any other saw you have been using. Compare, First, the *ease* with which they run; Second, their *speed*; Third, the *amount of timber* they will cut, and lastly, the *length of time* they will run without refiling.

We are satisfied to place ATKINS SILVER STEEL, SEGMENT GROUND CROSS-CUT SAWS entirely on their merits, knowing full well that if you subject them to a fair, conscientious test that you will find them to be as we have claimed for over fifty years, "The Finest on Earth."

The *easy running* quality found in ATKINS SILVER STEEL, SEGMENT GROUND CROSS-CUT SAWS is secured through the scientific principle with which the cutting teeth are constructed.

E. C. ATKINS & CO., Inc.,

*E. C. Atkins*  
President

About Silver Steel

THE STEEL used in ATKINS SILVER STEEL, SEGMENT GROUND CROSS-CUT SAWS is made under *our own* secret formula. It is the finest steel that has ever been put into Saw Blades.

There is no Steel as good as SILVER STEEL. Others have tried to imitate it and may tell you that their steel "is just as good as SILVER STEEL." But it isn't, and a trial will convince you of this fact.

SILVER STEEL receives our special process of Gas Tempering, which makes it *tough* and *stiff*, without being brittle. This is the reason why ATKINS SILVER STEEL, SEGMENT GROUND CROSS-CUT SAWS will hold their edge longer.

No one can sell you Saws that will stand up to their work as long as ours, as the formula for SILVER STEEL and our process of Gas Tempering are OUR secrets. Others do not "know how."

SPECIFICATIONS OF TEETH

Saw Number	Depth of Raker Gullet	Width of Raker Gullet Widest Place	Depth of Tooth Gullet	Width of Tooth Gullet Widest Place
1	1 1/2"	7/8"	1"	3/4"
540	1 3/8"	7/8"	1"	3/4"
550	1 3/8"	7/8"	1"	3/4"
6	1 5/16"	1 3/16"	1 1/16"	11/16"
3	1 5/8"	1"	1 5/16"	3/4"
545-5	1 13/16"	1"	1"	9/16"
544-4	1 13/16"	1"	1"	9/16"
11	1 3/8"	3/4"	3/4"	11/16"
12	1 5/8"	1 5/16"	1"	9/16"
654-741	1 1/2"	5/8"	1 5/16"	5/8"
389	1 1/16"	9/16"	1 13/16"	9/16"
51	1 7/8"	1 1/8"	1 9/16"	9/16"
52	1 7/8"	1 1/8"	1 9/16"	9/16"
55	1 13/16"	1"	1"	9/16"
64	2 3/16"	1 1/4"	2 3/16"	1 13/16"
67	2 3/16"	1 1/4"	2 3/16"	1 13/16"
68	2"	1 3/8"	2"	1 11/16"
69	2"	1 3/16"	2"	1 11/16"

What Is Segment Grinding?

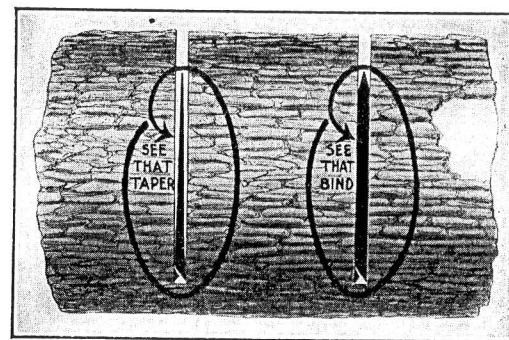
Our process of SEGMENT GRINDING is patented.

NO SAW BUT AN ATKINS SAW IS SEGMENT GROUND. NOW, REMEMBER THAT! SEGMENT GRINDING gives our Cross-Cut Saws CLEARANCE with very little set.

This picture illustrates plainly the difference between Atkins process of SEGMENT GRINDING and the imitation. Note carefully how the ATKINS blade tapers from tooth edge to back, and then look at the so-called taper on the other saw. They may gauge the same on the extreme back, but down in the center of the blade, where clearance is needed, the other Saws have no taper at all, while ATKINS SEGMENT GROUND SAWS run free and easy.

Imitators of our Segment Ground Saws simply "dubb" them off for an inch or so on the back edge and call them patent ground. DON'T BE DECEIVED. Insist on having ATKINS.

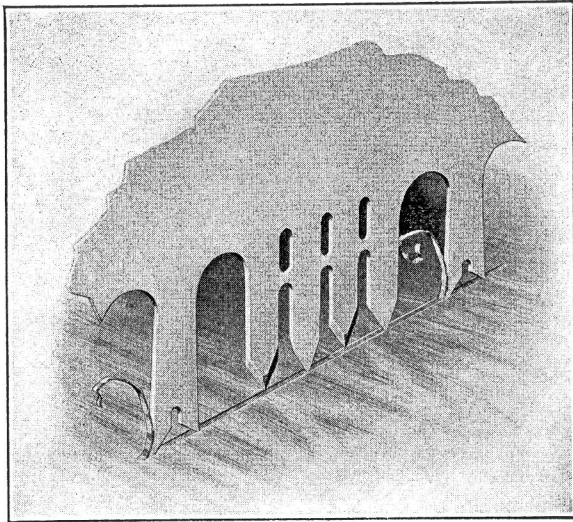
ATKINS SILVER STEEL SEGMENT GROUND CROSS-CUT SAWS can be ordered from your Jobber, from us at Indianapolis, or at any of our Branches.



Segment Ground

An Imitation

Shavings—Not Saw Dust

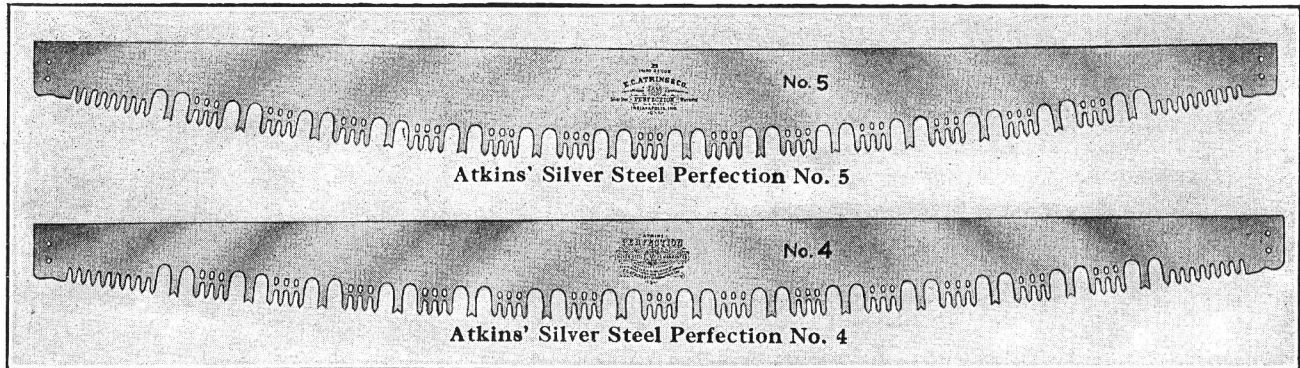
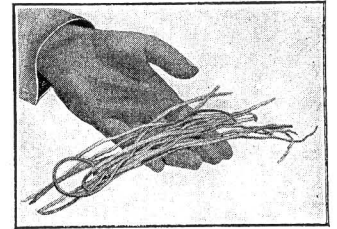


By referring to this illustration, you will see how perfectly the alternating cutting teeth *cut* the sides of the kerf, *clean* and *smooth*, leaving the rakers to *clear* the bottom.

The principle is just the same as that of cutting the sides of a groove with an ordinary Saw and clearing the center with a chisel.

Notice this illustration and see "how they cut." We call your attention especially to the fact that ATKINS SILVER STEEL, SEGMENT GROUND CROSS - CUT SAWS cut *SHAVINGS*—not saw dust.

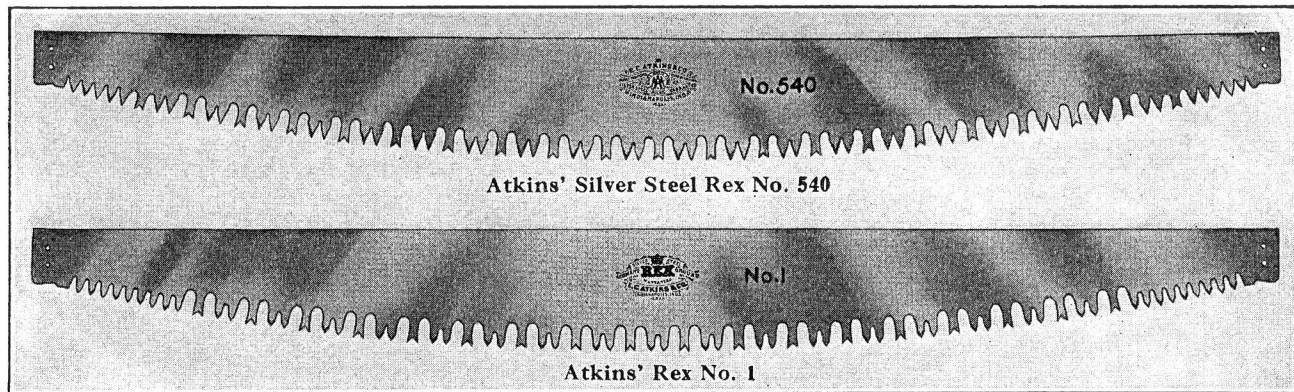
"Every tooth and point has its purpose," and is so constructed that it performs its work with ease and precision.



Atkins No. 5 is a famous saw for hard woods. It has four cutting teeth and raker. The gauge along the entire tooth edge is 14, and on the ends at the back, 17; in the center of the back it is 20 gauge. It is a most popular saw where quality is appreciated. Made in lengths from 4 to 8 feet. See price list on page 10. These saws weigh 6½ lbs. each in 6' lengths and are 7" wide in center. At the ends they are 3¼" wide. Packed 25 in a box in 6' lengths, and weigh approximately 225 lbs., boxed ready for shipment.

Our No. 4 is similar in every way to the No. 5, except as to the width of the blade in the center. Made in lengths from 4 to 8 feet. See price list on page 10. The weight of one of these saws is 5½ lbs. in 6' length. They are 6" wide at the center and 3" wide at the ends. Packed 25 in a box in 6' lengths, weighing 185 lbs., boxed ready for shipment.

ATKINS SILVER STEEL SAWS

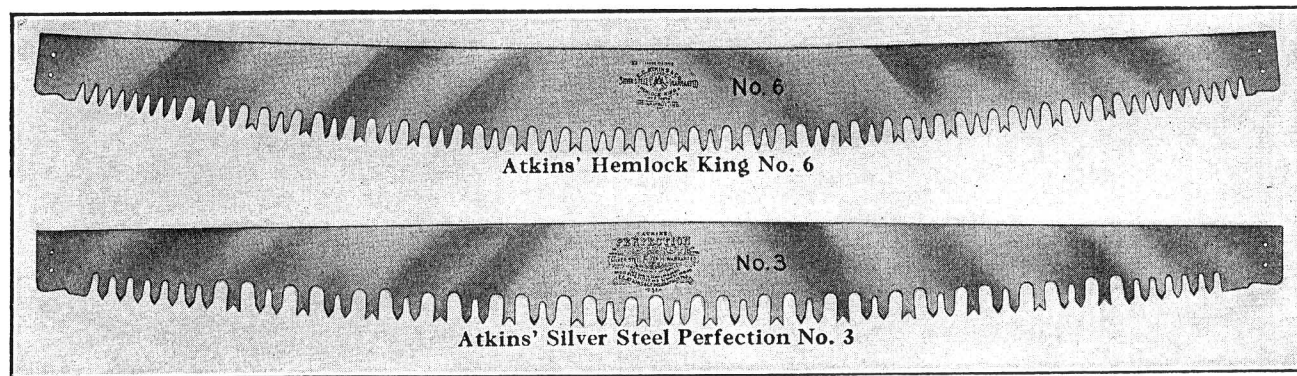


The No. 540 has two cutting teeth and a raker. It is the "Finest on Earth" for cutting oak and other hard woods. It is Segment Ground, being 14 gauge on tooth edge, 17 gauge full at ends and 20 gauge on center of back.

ATKINS REX No. 550 is the same as No. 540, except the blade is narrower and is made with a flat 3½-inch shoulder at ends. Width at center in 6-foot saws, 5¾"; 3⅜" wide at ends.

The Rex No. 1 will be found superior for cutting soft woods. It is made with two cutting teeth and raker. The gauge on the tooth edge is 14 and it is 16 gauge on the ends at back, 20 gauge in the center of back. Made in lengths from 4 to 8 feet. See list on page 10. The width of this saw in the center is 7" and 3¼" wide at the ends. We pack the Rex Nos. 1, 540 and 550, 25 to the box in 6' lengths. Weight ready for shipment about 225 lbs.

ATKINS SILVER STEEL SAWS



The No. 6 is a very popular Saw throughout the Northwest. The gauge is 14 x 19. We make this Saw in lengths from 4 to 8 feet. A 6' Saw weighs 5½ lbs. The blade is 5½" wide at the center and 3¼" wide at ends. Packed 25 in a box in 6' lengths.

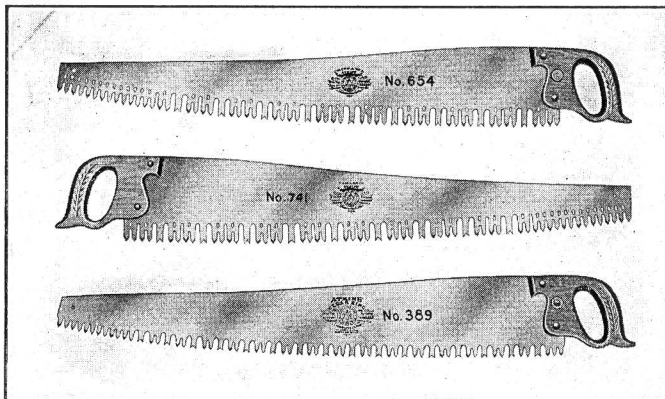
Our No. 3 is a very popular Saw. It is 6" wide at the center and 3¼" wide at the ends. We make it in lengths from 4 to 8 feet. See list on page 10. It weighs 5½ lbs. in 6' lengths. We pack these saws 25 in a box in 6' lengths, weight approximately 185 lbs.



The Rex Falling No. 11 is exactly similar to Nos. 1 and 3, excepting as to width of blade, which is similar to the Perfection Falling. Made especially for falling trees. We make it in lengths from 4 to 8 feet. See list on page 10. Weight, 4 lbs. 9½ ozs. in 6' lengths. The blade is 4½" wide at center and 3¼" wide at ends. Packed 25 in a box in 6' lengths, weighing about 180 lbs.

Atkins Perfection Falling No. 12 is similar to the Nos. 4 and 5, excepting as to the width of the blade in the center. Recommended particularly for falling trees. Blades made in lengths from 4 to 8 feet. See list on page 10. Weight in 6' lengths, 4 lbs. 9½ ozs. each. It is 4½" wide at center and 3¼" wide at ends. Blades 6' in length, packed 25 in a box, weighing about 180 lbs.

ATKINS SILVER STEEL ONE-MAN SAW No. 654



The blade is the same pattern as our Cedar King and it is taper ground. Lance teeth, perforated. Perfection shape rakers, same as 741. Handle is also the same as our No. 741. It is made with extra large hand hold and can be used with heavy gloves for winter sawing. Attached to the saw with three brass screws. This saw is ground 17 gauge on tooth edge, and 19 gauge on the back at the point. The center is 20 gauge, and at the butt, near handle, 19 gauge.

ATKINS SILVER STEEL TAPER GROUND ONE-MAN SAWS—TAMARACK No. 741

Extra heavy gauge. Taper ground. Lance tooth, perforated. Perfection shape rakers. Extra large hand hold, for use with heavy gloves. Made of Silver Steel and handle fitted with three brass screws.

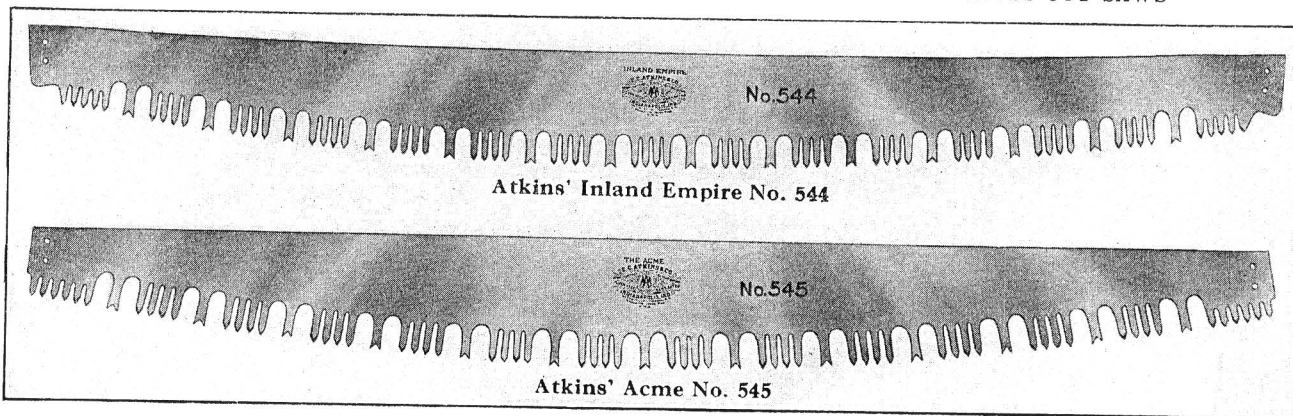
ATKINS SPECIAL STEEL TAPER GROUND ONE-MAN SAWS—CEDAR KING No. 389

The finest One-Man Cross-Cut saw that has ever been manufactured. The blade is of Atkins High-grade Special Steel. Teeth are same pattern as the Rex Cross-Cut Saw. The raker teeth are swaged. Skew back. An easy grip handle, finely carved, varnished edges, fastened to the blade by three brass screws and a medallion.



# ATKINS SILVER STEEL SAWS

## ATKINS PACIFIC COAST PATTERN SILVER STEEL SEGMENT GROUND CROSS-CUT SAWS



**Inland Empire No. 544**—Timbermen throughout the West are delighted with the INLAND EMPIRE No. 544. Blades are 14 gauge on the tooth edge, 17 gauge on the ends at back and 20 gauge at center of back.

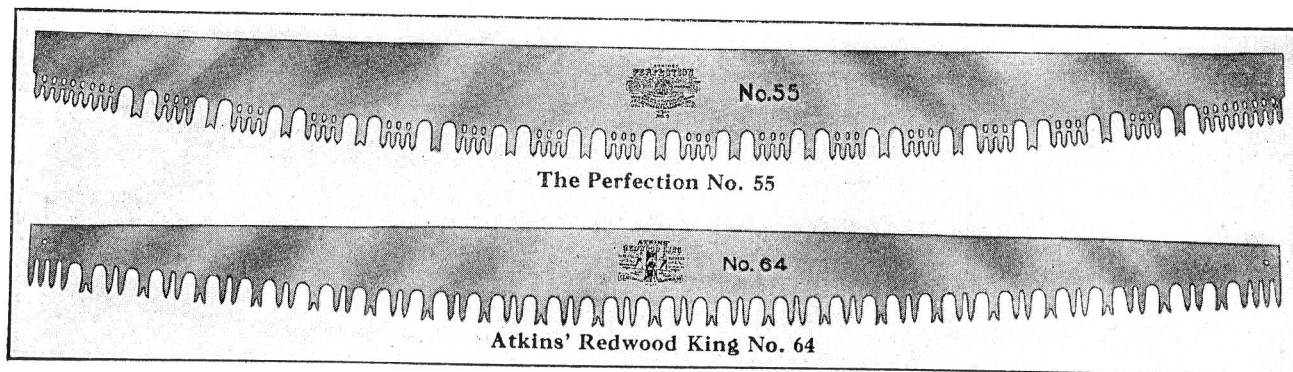
Length.....feet	4	4½	5	5½	6	6½	7	7½	8
Price.....each	\$3.10	\$3.60	\$4.10	\$4.80	\$5.60	\$6.40	\$7.30	\$8.30	\$9.30

**Acme No. 545**—The Acme is 13 gauge on the tooth edge, 18 gauge in the center of the back and gradually tapers from the thickest to the thinnest point. This Saw, as well as the Inland Empire, No. 544, is made with extra long cutting teeth and large roomy gullets for taking out the sawdust.

Length.....feet	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12
Price.....each	\$6.00	\$6.60	\$7.20	\$7.80	\$8.40	\$9.00	\$9.60	\$12.00	\$13.10	\$14.25	\$15.50	\$18.50	\$22.00

# ATKINS SILVER STEEL SAWS

## ATKINS PACIFIC COAST PATTERN SILVER STEEL SEGMENT GROUND CROSS-CUT SAWS



**Perfection No. 55**—Now being used extensively throughout the Western coast. Full width blade. Four cutting teeth and raker. Toothed to end.

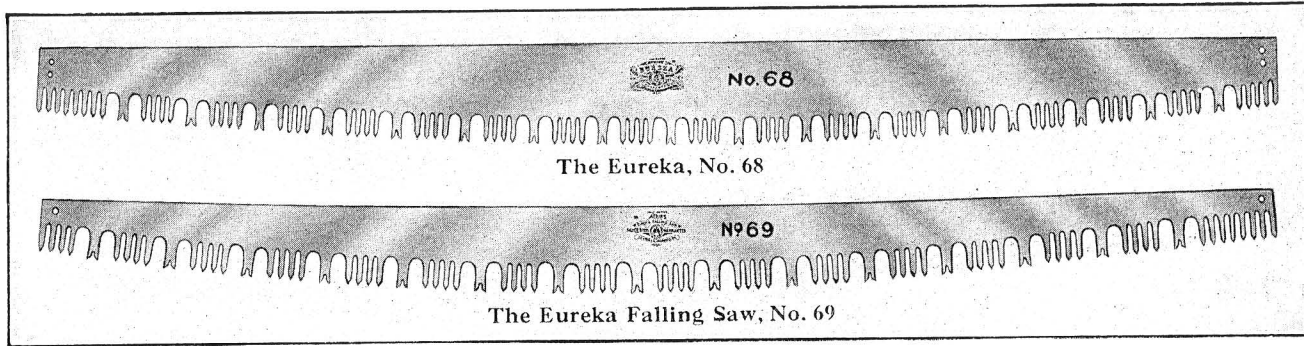
Length.....feet	4	4½	5	5½	6	6½	7	7½	8
No. 55, Perfection, Silver Steel, only 14 x 18 gauge.....each	\$3.10	\$3.60	\$4.10	\$4.80	\$5.60	\$6.40	\$7.30	\$8.30	\$9.30

**Atkins Redwood King No. 64** is used almost exclusively for cutting redwood and woods similar. Adapted for bucking; is a wide, heavy blade  $4\frac{1}{8}$ " wide at end, 7" at center, with  $1\frac{1}{4}$ " bow on back. Lengths 6' to 20' in several different thicknesses. **Redwood Falling No. 67**—This is the companion Saw to Redwood King No. 64, but it is designed particularly for falling purposes and averages  $1\frac{1}{2}$ " narrower.

Length.....feet	5	5½	6	6½	7	7½	8	8½	9	9½	10	11	12	14	16	18	20
No. 64, Standard, 13 gauge, and No. 67, 12 gauge.....each	\$6.00	\$6.60	\$7.20	\$7.80	\$8.40	\$9.00	\$9.60	\$12.00	\$13.10	\$14.25	\$15.50	\$18.50	\$22.00	\$26.00	\$30.00	\$34.00	\$40.00
No. 64, 11 gauge.....each			7.44	8.06	8.68	9.30	9.92	12.34	13.46	14.63	15.90	18.94	22.48	26.56	30.64	34.72	40.80



ATKINS PACIFIC COAST PATTERN SILVER STEEL SEGMENT GROUND CROSS-CUT SAWS



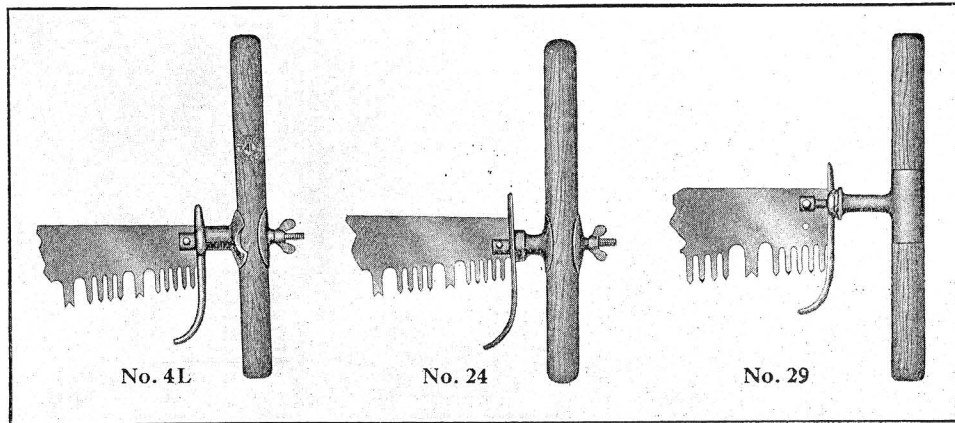
**Eureka No. 68** was first designed for California trade, for use in cutting Western redwood pine, fir and other woods, but its reputation is spreading until it is now in general use throughout all sections of the Western coast. An extra heavy blade, toothed to the end, and used for bucking. **No. 69** is exactly similar to the No. 68, excepting that it is a narrower blade and is used for falling and cutting smaller timber. Both of the above Saws are made of **Atkins Silver Steel**, and tempered in our gas furnaces to a very high degree of toughness and hardness. They will require very little refitting. Being Segment Ground, they will cut very fast and easy, needing but little set.

Length.....feet	6	6½	7	7½	8	8½	9	9½	10	11	12	14	16	18	20
No. 68, Eureka, 13 x 17 gauge.....each	\$7.20	\$7.80	\$8.40	\$9.00	\$9.60	\$12.00	\$13.10	\$14.25	\$15.50	\$18.50	\$22.00	\$26.00	\$30.00	\$34.00	\$40.00
No. 69, Eureka Falling, 13 x 17 gauge.....each	9.	9.83	11.	11.90	12.70	13.3	13.9	14.5	15.1	16.3	17.5	19.9	22.3	24.7	27.1
Weight, No. 68, Eureka, per saw.....pounds	7.	7.78	8.40	8.99	9.69	10.63	10.93	11.66	12.25	12.80	13.20	14.80	16.40	18.00	19.60
Weight, No. 69, Eureka Falling, per saw.....pounds															

PRICES AS GIVEN ABOVE DO NOT INCLUDE HANDLES

**No. 24**

This Handle is especially adapted to the Pacific Coast. 14" in length. Malleable, machine-made bolt, heavy wing nut. All metal parts are of malleable iron. Japan black. The post and guard are reversible for sawing standing timber. Packed 50 pair in a box weighing 160 lbs.



**No. 29**

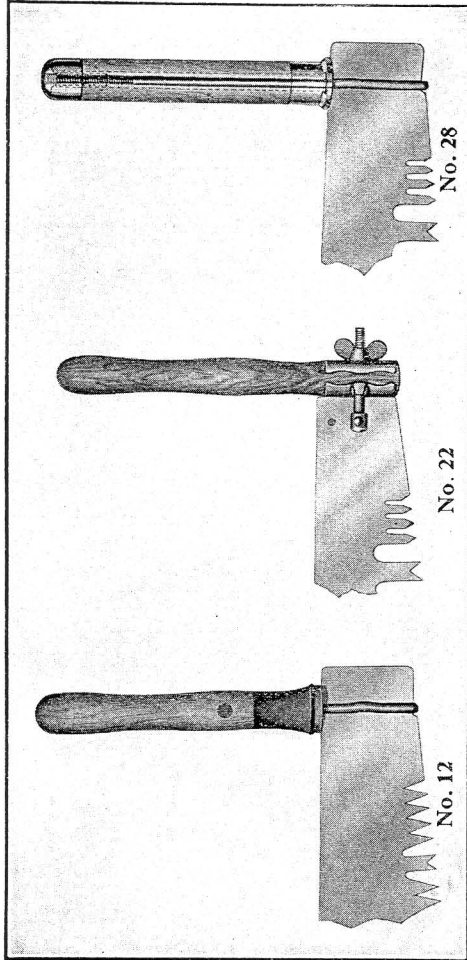
14 inches long. New Pacific Coast pattern Turned machine steel bolt, fastens to blade by rivet, opposite end screws into malleable socket. Saw fastened by revolving handle. Operated at horizontal or vertical position. Hardwood, finely finished. Packed 50 pairs in wire-bound box weighing 200 lbs.

**ATKINS No. 4-L CROSS CUT HANDLE**

This is the most popular pattern of Cross Cut Handle used on the Pacific Coast. Fourteen inches in length, of thoroughly seasoned hard wood. Machine-made steel Bolt—carefully threaded. Extra heavy malleable Wing Nut. All Metal Parts of Malleable Iron Japanned Red. Reversible for use in either fallen or standing timber. The deep thread and heavy Wing Nut facilitates removing or reversing the Handle. Packed 50 pair in a wire-bound box weighing 170 pounds.

### No. 12 Cross-Cut Handle

is 10 inches long. High grade. Contains exclusive features. Non-breakable malleable socket, washer and nut. Spot electric welded steel loop. Selected clear white hardwood stock. Japanned red. Capacity three to four and one-half inches. Packed 50 pairs in wire-bound box weighing 98 lbs.



### No. 28 Handle

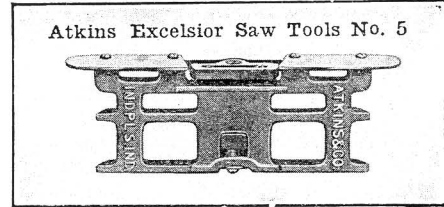
is 8 inches long. Designed to be the most popular handle in the world. Short and "stocky." High tensile strength, cold drawn steel loop, spot electric welded, extends through-out handle and screws into pressed steel ferrule on end. Capacity  $2\frac{3}{4}$  to  $4\frac{1}{2}$  inches. Packed 50 pairs in wire-bound box weighing 81 lbs.

**No. 22 Handle** is 14 inches long. We recommend this pattern highly. Nothing finer made. Extra strong. Easily adjusted. Extra heavy malleable castings. Machine-made steel bolt, extra large. "Big Bolt" pattern. Extra large wings prevent casting from slipping. Japanned black. Packed 50 pairs in wire-bound box weighing 85 lbs.

## Atkins Saw Tools

This briefly describes two of our most popular patterns of Saw Tools. For further information on Saw Tools make request for our Catalog.

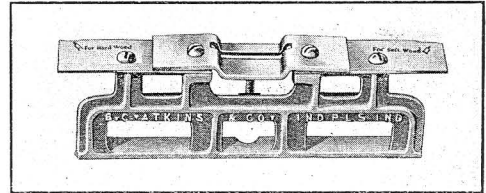
### Atkins Patent Excelsior Saw Tool No. 5



It is used as a jointer, as a raker gauge and also as a side file.

An 8-inch file is fastened in the tool. The set screw slightly bends the file, giving it the proper curve. After jointing, the tool may also be used for gauging proper length of raker teeth, after which, by re-adjusting the file, it may be used for side filing. A tooth set gauge is also included. This is made with long and short ends, which by reversing, indicates a correspondingly light or heavy set as desired.

### Atkins "AAA" Saw Tool No. 9



is a decided improvement over any other similar tool used for fitting cross-cut saws in order to get the best results from them. The tool is 7 inches long by  $1\frac{1}{8}$  inches wide and made of good substantial material throughout. All parts are carefully fitted. It will last for years.

The Raker Gauge Plate is tempered file proof. The ends are beveled so that the depth of the gauge may be regulated by the use of the two thumb screws. This does away with paper packing, which has been used on all tools heretofore.

For jointing, fasten a flat file by set screw, and pass same lightly over the points of the teeth until filed to a uniform height.

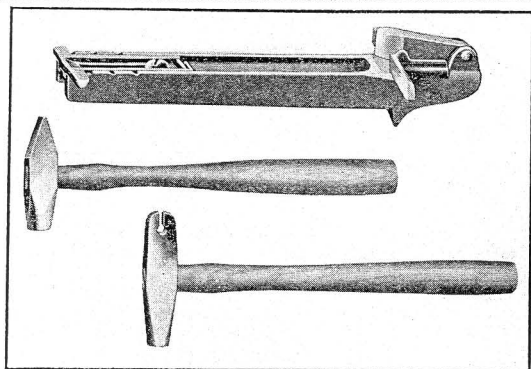
For jointing the rakers, place the tool over the raker teeth. Turn thumb screws until the rakers protrude the desired distance through the gauge, then file them off to a level with top of gauge. This will render all raker teeth exactly the same length.

For gauging the rakers, reverse the tool and set gauge pin and tighten by use of thumb screw, then pass the tool along toothed edge, thus measuring the proper length for each raker. This will be indicated when the point of the raker tooth touches the gauge pin.

The Bearing Plates are the only parts of the tool touching the teeth points and are made of SMOOTH, HARD TOOL STEEL, and will neither dull the points nor wear with use.

The extra length of the tool causes it to cover more teeth at the same time and thus insures greater accuracy in operation.

The tool being open in construction, it is possible to see all work plainly at all times.



### Atkins Saw Fitting Tools

Our Silver Steel Cross-Cut Saws are especially adapted for the use of a Hammer set instead of the old lever spring setting device. This eliminates the liability of breaking the teeth and assures a more uniform set.

We recommend our Criterion Saw-Set for Cross-Cut, Hand, Wood and small Saws.

This Set has a die which rests on the teeth, the blow of the Hammer is delivered to the die instead of coming into direct contact with the tooth. It is adapted to any size of teeth and the desired degree of set is secured by a set-screw which can be instantly adjusted.

It is made of high quality refined malleable iron; the die and anvil are of the best tool steel properly hardened, drop forged.

We make three patterns of setting Hammers to be used in connection with this tool.

The numbers 1 and 2 are made of a specially treated cast steel, nicely finished and of the proper weight to give the best results. The number 1 is of solid peen pattern, while the number 2 is supplied with a slotted peen that may be used for setting purposes when desired.

The number 3 is of a special high grade tool steel, drop forged, slotted peen pattern, nicely finished. A strictly high grade article.

The Handles are of the best quality seasoned hardwood and are fitted to the head by a special wedge, eliminating frequent handle re-fitting.

# Saw Fitting

## FOR BEST RESULTS

### Instructions for Filing and Setting Cross-Cut Saws

The best saw in the world, pulled by the best sawyer, cannot do efficient work unless the teeth are kept in proper shape to cut and rake out the sawdust. The best saw filer must have proper gauges and tools, or he cannot do his work accurately.

We must illustrate the fitting of saws by illustrating the use of proper saw-fitting tools. Fitting cross-cut saws is based on a few well-known principles. With these principles in mind, slight variation must or can be made in the bevel of the teeth, shape of the teeth, angle of the cutting point, shape and length of the raking or clearing teeth to suit local requirements. These slight variations are made expedient by reason of the fact that it is necessary to adapt the saw for cutting in different kinds of wood; sometimes hardwood, sometimes soft or frozen logs, knotty logs, and logs that are full of pitch.

The principles involved in making the teeth of cross-cut saws are as follows:

1. The cutting teeth constitute a series of knives adapted to sever all fibers of the wood. When these fibers are cut through they must be collected in the gullets of the teeth, or dust chambers, and carried out of the kerf, so as to enable the saw to freely start in on a new cut.

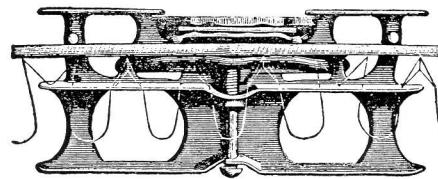
2. The clearing teeth constitute a series of rakers to free the kerf from the dust or shavings that are severed by the cutting teeth.

With these principles in mind we come to the preparation of the teeth for the work.

1. All cutting teeth must be the same length, so that each tooth will do its share of the cutting, and no more.

To make all teeth the same length place the saw in a vise, or, if the filing is to be done in the woods, where no vise is available, place the blade, teeth uppermost, in a notch in a convenient stump, pass a file carefully over the teeth, as shown in Figure 1, until all teeth touch the file. This can readily be determined by the bright, flat tops on the cutting teeth.

Figure 1—Showing Excelsior Jointer



Care must be taken to hold the file squarely, so that the cutting teeth on each side of the saw will be the same length. If the file is allowed to pass over the teeth at an angle, one side of the saw will be longer than the other, and this will invariably make a saw run to the side which has the longest teeth, as this side cuts faster.

2. When all of the cutting teeth are even on top, the next operation should be to regulate the length of the rakers or clearing teeth. We advocate regulating the length of the rakers at this point, because the rakers should be adjusted by gauge, and any tool which is used for this purpose would have a tendency to dull the sharp points of the cutting teeth if it was used after they had been finally finished.

This operation is one which requires the same accuracy and attention to details. Experience is the best teacher in determining the proper length of rakers, as compared to the length of the cutting teeth. It is essential for good cutting that the rakers should be some shorter than the cutting teeth—not less than 1/100 part of an inch, nor more than 1/64 of an inch. If the rakers are to be swaged, it is proper to leave them the same length as the cutting teeth and allow the swaging to shorten them sufficiently for good work. Unswaged rakers should be cut off accurately to gauge, as shown in Figure 2.

Figure 2—Cutting down rakers Excelsior Raker Gauge



The saw teeth will now look like Figure 3.

3. The next operation consists of filing up the rakers to a keen, sharp edge, using care that their tops shall be square with the side of the blade. It is necessary to point up the rakers in this manner, whether they are to be swaged or not. (Fig. 1.)

4. After determining the shape you desire in the cutting teeth, proceed to shape them to suit you before starting to bevel. It is much better to preserve a uniform tooth formation, and to use that which is best adapted to the various kinds of wood, as can be seen in the different styles of teeth shown at the end of these instructions. Shaping of the teeth should be done at right angles to the teeth, always making square lines, not attempting to do any beveling until all teeth are formed. Carry the square shape up to the point of the teeth. It is important to square up the cutting teeth of a cross-cut saw from the same side of the teeth that you intend to do the beveling. The reason for this is that it is very difficult to handle a file on a thin cross-cut saw absolutely square across the saw, without having it chatter more or less. In the effort to keep the file from chattering you will naturally lean the file slightly toward you at the handle end, which will form a slight bevel on the teeth.

5. You now have your teeth the right length and the correct shape, and can proceed to bevel. The amount of bevel required can be determined by your own experience, and by reference to cuts of various bevels shown at the end of these instructions. Care must be taken not to cut off the points of the teeth in beveling.

To make a flat, straight bevel a full, straight stroke of the file is necessary, but if a rounded bevel is wanted to follow a round-tooth formation (Figs. 14 and 15, Page 24)

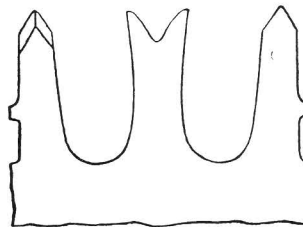
it is necessary to roll the file, following the contour of the saw teeth.

File all cutting teeth to a sharp point.

Your cutting teeth should now be finished, and if you are using unswaged rakers your rakers are finished and the saw is ready to set. If you are using swaged rakers, you are now ready for the swaging process.

6. Swage the rakers with light blows of a light hammer, using care not to spread the point of the raker to a thickness exceeding that of the saw plate. This can be done by inclining your hammer slightly, as shown in Figure 4.

Figure 3



This will give your raker teeth a formation as shown in Figure 10, Page 24.

An unswaged raker breaks up the fibers which are severed by the cutting teeth into short pieces, which are more apt to pass by the side of the saw and cause the saw to bind.

Whereas, swaged rakers act as a plane on the bottom of the cut, going under the severed fibers and planing out the V-shaped chip left in the bottom cut. See Figure 5, Page 22.

Your saw is now ready to set.

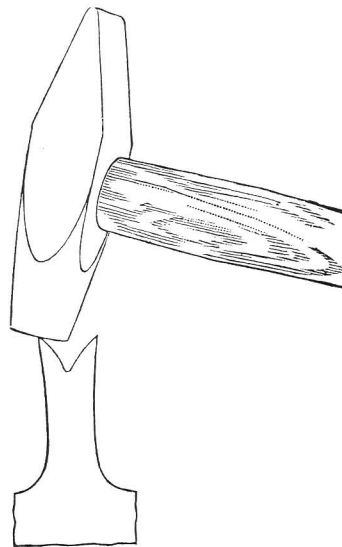
7. The amount of set necessary is determined by the kind of material to be cut. Perfect alignment is absolutely necessary. Therefore, always use the set gauge. The use of a set gauge is shown in Figure 6, Page 22.

The operation of setting can be accomplished in several ways. If filing is done in the woods, the saw can be set as shown in Figure 7, Page 22.

Or by what is usually termed a stump set. See Figure 8, Page 23.

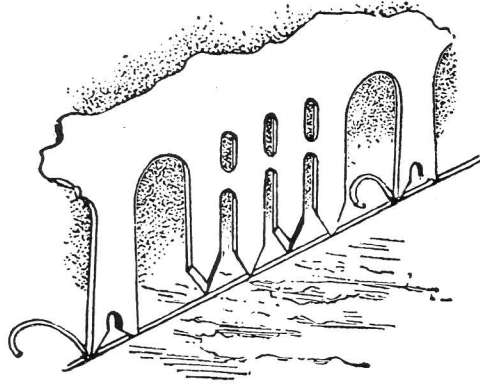
In either case the point of the tooth should project about 1/4 inch over the apex of the setting block, and the setting should be done by means of a firm, sharp blow on the top, just at the place where it rests on the apex of the setting block. If too large set is imparted, reduce the set by hammering the tooth placed on the flat surface of the set-block. If too little set is imparted at the first blow, reset the tooth as in the first operation, either using a little harder blow or allowing the tooth to project a little farther from the apex of the anvil.

Figure 4



Each tooth, after setting, should be gauged for accuracy, as shown in the cut illustrating the use of a set gauge. (Fig. 6.)

Figure 5

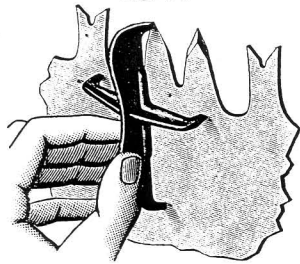


We submit herewith a number of cuts for your consideration which show the principal forms of saw teeth, both cutting teeth

and rakers for different kinds of timber and different requirements.

You will note by carefully studying the different forms of teeth and the different beveling, that the same principle is involved in each case, but different methods are employed to cover special requirements.

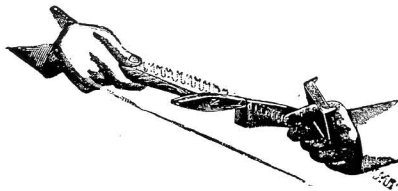
Figure 6



In frozen timber, exceedingly hard wood, or wood that has many hard knots (See Figs. 13, 14 and 15, Page 24,) you will find that it is always better not to make the bevel too

flat. Yet by following out the lines laid down in rounded-point beveling (Figs. 14, 15), you are able to secure a fast-cutting saw with plenty of bevel, without the danger of leaving the extreme point of the tooth too weak. In other words, a rounded-point beveling will leave more backing to the point of the tooth than a flat bevel, and still leave the saw in shape to do fast cutting. It is considerably more work, however, to file a saw with a rounded point than a saw with a straight, flat bevel.

Figure 7



If your saw has a tendency to lose its points, we would advocate reducing your bevel or perhaps increasing the angle of your cutting point. In hard hemlock knots the points have a tendency to bend. Very often with a little less bevel your saw will stay sharpened twice as long, and will cut just as fast, and preserve its points. We would always advocate filing the saw with as much bevel as possible, consistent with leaving enough backing to the point of the teeth so that the point will neither bend nor break

off in striking small knots in such timber as hemlock or hard woods.

There are many who advocate beveling the teeth clear down to the gullet, but such beveling necessitates extra filing, which is unnecessary, as the point of the teeth is the part of the saw which does the cutting. Each stroke of the saw only allows the point of the teeth to sink as far into the wood as the wedge-shaped point of the bevel will allow it. This is governed to a certain extent by the action of the rakers, which are clearing the cut ahead of the cutting teeth, but as a rule one stroke of the cutting tooth of a cross-cut saw will carry each tooth only down to a point where the bevel causes the tooth to wedge into the cut.

Always set your saw wide enough so that it cuts freely, but do not set it wide enough to chatter, as every 1/1000 part of an inch means an excess of power required to pull the saw, as the cut is just that much wider.

In frozen timber, properly ground saws ought to work with very little set. In hard woods they require very little; in pitchy pine woods the saws usually require a little more set, but if they are kept well cleaned, a saw set for hard wood ought to cut in yellow pine.

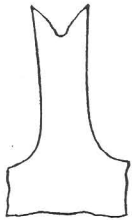
Figure 8



We sincerely hope that these instructions will be of service to you in carrying on your work, and if at any time we can be of assistance to you, we are at your service.

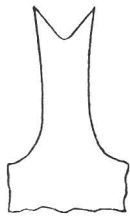
For Figures Nos. 9 to 19 inclusive, see Page 24.





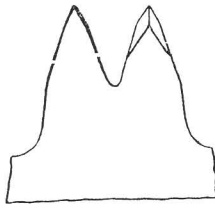
Number 9

R a k e r without Swage.



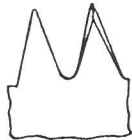
Number 10

Swaged Rakers.



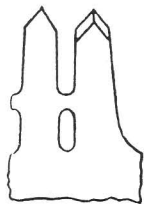
Number 11

Diamond Point Bevel, considered the best point holding method of filing and easy to maintain in good order.



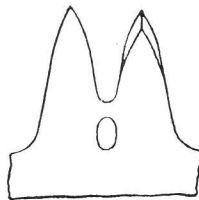
Number 12

Bevel for common tooth, where there are no Rakers, each tooth doing its share of the clearing.



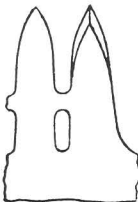
Number 13

Bevel suitable for knots and frozen timber, where extra strength is needed in the extreme point. Not adapted for fast sawing.



Number 14

Round point bevel, for fast, smooth sawing where strength of point must be considered as in the case of pine knots.



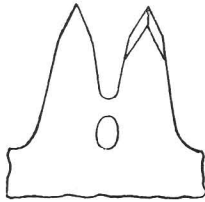
Number 15

Bevel for fast, smooth sawing and where strength in the teeth must be considered.



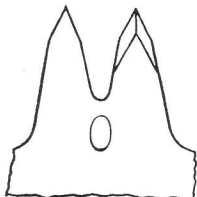
Number 16

Bevel for ordinary work, where skill is not essential. A poor method and a poor tooth. Point too delicate to stand hard usage.



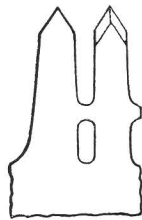
Number 17

Flat, thin bevel, for soft wood and fast sawing, where strength in points is not particularly essential.



Number 18

Bevel adapted for general work.



Number 19

Bevel suitable for general work.

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