



Saw Sense



Atkins Saws, Saw Tools Plastering Trowels *and* ===== Specialties =====

ARE FOR SALE by the best dealers almost everywhere. It may be, however, that your local dealer has not in stock the particular article that you wish.

Now we want you to know
that he

Can get it for you

and will be glad to do so if you only

Ask him

We want to make it easy for you to buy Atkins products, and will do so if you will help us just a little. If you should have the least trouble, let us know. We'll see to it that you can easily secure the particular saw, trowel, tool or specialty that you wish.

E. C. ATKINS & CO., Inc.

(Established 1857)

Home Office and Factory
Indianapolis, Ind., U. S. A.

Machine Knife Factory
Lancaster, N. Y.

Canadian Factory, Hamilton, Ont.

BRANCHES

Atlanta

Chicago

Memphis

Minneapolis

New York

Vancouver, B. C.

New Orleans

Portland

San Francisco

Seattle

Sydney, N. S. W.

Paris, France

THE SAW

is the most important tool in the
Carpenter's kit.

In order to do the best work with the least exertion, your saw must be made of the proper material and scientifically constructed.

ATKINS SILVER STEEL SAWS have marked an epoch in the history of the saw. They are not only made of the very finest material, but are constructed on new, exclusive scientific principles which are instantly appreciated by the lover of fine tools.

SILVER STEEL

SILVER STEEL is the invention of Mr. E. C. Atkins, the founder of E. C. ATKINS & CO. He was the first manufacturer of saws to realize that high-class mechanics would appreciate the greatest value and finest quality. SILVER STEEL was born of this idea.

It is manufactured under a special formula for E. C. ATKINS & CO., (exclusively). Nothing but virgin ore is used, combined with the finest and most expensive ingredients, and the result is a steel of as high quality as the finest RAZOR STEEL. No saw is a genuine SILVER STEEL SAW unless the name *SILVER STEEL* is plainly etched on the blade.

THE TEMPER

All ATKINS SILVER STEEL SAWS are tempered by gas. The degree of temper to be given to each blade is prescribed by the chemist in the laboratory and regulated in the tempering room by mechanical devices which insure absolute uni-

formity. They are not dependent upon the judgment of any one man, nor subjected to the variation which might occur by the old-fashioned "rule of the thumb."

The use of this heat treatment renders the blade uniformly tough and hard without being brittle, and prevents hard and soft spots which sometimes occur in blades of inferior and cheaper manufacture. The saw cuts and wears evenly throughout the entire blade. This is one of the reasons why a SILVER STEEL SAW will retain its cutting edge longer than any other. This also enables you to file the saw easier, and to make each tooth uniform.

THE SMITHING

The smithing of a hand saw is the process which enables the blade to run true to the line. It is not apparent to the naked eye, and for this reason is omitted from many of the cheaper saws, and given but slight consideration in other brands.

In the Atkins plant, the process of smithing is deemed one of the most important features in the manufacture of saws, and in this process we employ only the most skilled and experienced workmen.

THE GRINDING

Taper grinding consists in passing each blade (according to a templet) between rapidly revolving grindstones so that the blade actually tapers from the tooth edge, which is the thickest part, THROUGHOUT the entire blade toward the point on the back. The blade, therefore, resembles in shape an inverted wedge, and the kerf cut by the teeth is sufficiently wide to permit the balance of the blade to drop naturally into the cut, without an excessive set and with no possibility of binding or buckling in the cut.

You should realize the distinction between **ATKINS TAPER GRINDING** and the so-called thin back saw of other makes, which is ground an even thickness along the tooth edge and simply dubbed off somewhat thinner on the back. Taper grinding produces a saw say 19 gauge along its entire tooth edge, 21 gauge on its back at the butt, and from 23 to 24 gauge on the back at the point, and—now mark this well—**GRADUALLY TAPERING THROUGHOUT THE BLADE FROM THE THICKEST TOWARD THE THINNEST POINT**. This is another exclusive Atkins feature, and is to be found only in a genuine **ATKINS SILVER STEEL SAW**.

THE HANDLE

We make virtually two styles of handles—the old style straight across shape and the **ATKINS IMPROVED PERFECTION PATTERN**. The old style block handle is still made by us because there is a certain demand for it among mechanics who have not thoroughly tested the Perfection Pattern, or who may in any event prefer it. The distinction between the old style and Perfection will be apparent upon noting the illustration, which shows the Perfection Handle on a saw, and a *skeleton outline* of how the same saw would hang with an old style handle.



Save Man Power—Use Saws with Perfection Handles.

Please follow the dotted lines in the picture which represent the position in which the saw blade is naturally operated through the use of the old style straight across handle. You will see that the position of the handle throws the blade downward so that the point of greatest energy—namely, in a straight line from the elbow through the saw arm and wrist—is directed against the BACK of the saw. This forces the operator to exert a downward pressure with his wrist in order to secure a proper cutting force.

Now, note the Perfection Handle, which is the one shown most prominently in the picture above. Apply the straight line test to this saw and you will find that the point of greatest energy is directed immediately upon the CUTTING TEETH. There is no strain on the wrist and every ounce of pressure counts. In other words, it is the same principle as if you attempted to push a heavy object from an elevation ABOVE YOUR HEAD or on a line with your waist.

IMPORTANT—Do not overlook the fact, however, that we make the old style straight across handles when preferred, and furnish same regularly on certain numbers of hand saws.—See illustrations, pages 8 to 12.

THE FINISH

ATKINS SILVER STEEL SAWS may be easily distinguished by the beauty and fineness of their polish. We are the originators of the famous Damaskeen and Mirror polishes, which are unique and absolutely superior to anything put out by other manufacturers. Each saw is packed in a moisture-proof bag, and is plainly marked on the blade for identification.

ATKINS SILVER STEEL SAWS

How Classified

By reference to pages 8, 9, 10, 11 and 12 you will find the popular patterns of Atkins SILVER STEEL Saws. We illustrate and describe them fully, so that you can readily ascertain the saws that are fitted with Improved Perfection Handle or Old Style Block Handle; also how they can be obtained in Skew Back, Straight Back or Ship Point patterns. Our slogan is "A Perfect Saw for Every Purpose."

HOW TO TEST AN ATKINS SAW

Hold the saw at arm's length, bending the blade slightly to bring the points of the teeth into view along the entire breast of the blade. The points should all show the same length. The breast should be slightly crowning, about $\frac{1}{8}$ -inch in 30 inches. Next hold the saw in such a manner that you can look from the back along the flat side of the blade in order to examine the set. This should be uniform on both sides to perform accurate and smooth work. The setting should not extend more than one-half the length of the tooth, and under no circumstances should it be carried beyond the base of the tooth into the blade.

The handle must be in proportion, comfortable to the grasp and so fitted to the saw as to hang properly to bring the lines of force exerted in sawing at the proper point. It is very essential that the material used in making these handles is thoroughly seasoned. The wood used in Atkins handles is air dried for three years. This prevents warping or twisting, and insures tight screws that will always hold the blade properly. The handle must be slit true, for the blade and the slit must be only wide enough to admit the blade under pressure.

What you most require as a skilled mechanic is a saw that will enable you to do good work with the greatest ease. An additional cost of twenty-five or fifty cents for an ATKINS SILVER STEEL SAW in preference to some other cheaper saw will prove a paying investment for you.

ATKINS GUARANTEE

Your dealer is authorized to exchange for a new saw any saw bearing our brand which, for any reason fails to give you perfect satisfaction, or is defective in any particular.

The dealer who has presented you with this book is a duly authorized ATKINS agent, and will take your order for any particular saw that you may wish should he not carry that saw in stock.

IMPORTANT.—Any dealer, however, whether he is an ATKINS agent or not, will take your order for anything shown in this book, as he can easily secure it from his wholesale house. Should he not carry ATKINS SILVER STEEL SAWS do not hesitate to ask him to get them for you and he will be glad to do so.

SHOULD YOU HAVE ANY DIFFICULTY IN GETTING ANY SILVER STEEL SAW THAT YOU WISH, AS SUGGESTED ABOVE, LET US KNOW AND WE WILL SEE THAT YOU ARE TAKEN CARE OF TO THE BEST ADVANTAGE.

HOW TO KNOW THEM.—Every genuine ATKINS SILVER STEEL SAW is plainly marked with the three A trade-mark, as shown on the back cover of this book, and is also etched with the signature.

E. C. Atkins & Co.

No Atkins Saws are sold under any other brand.

No other is genuine.

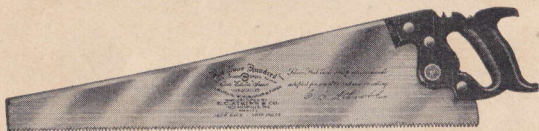
ATKINS HAND, RIP AND PANEL SAWS

SILVER STEEL

TRADE **"The Four Hundred"** MARK



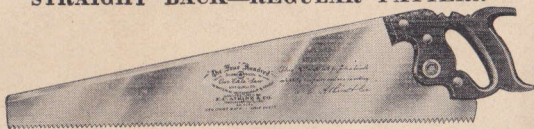
SKEW BACK—REGULAR PATTERN



SKEW BACK—SHIP POINT



STRAIGHT BACK—REGULAR PATTERN



STRAIGHT BACK—SHIP POINT

A saw extraordinary in quality, workmanship and finish. Genuine SILVER STEEL blade, FIVE gauges taper ground. MIRROR finish. Solid ROSE-WOOD handle, Perfection Pattern. Nickel-plated screws.

For the critical artisan who purchases special extra fine tools, this saw is recommended.

This saw is the Elite of the saw world. It is preferred by master carpenters because it is, as our slogan implies,

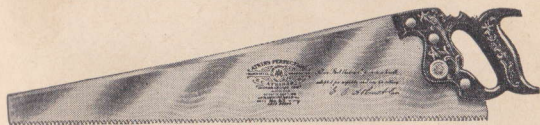
"The Finest on Earth"

ATKINS HAND, RIP AND PANEL SAWS

SILVER STEEL



NO. 53—REGULAR PATTERN



NO. 53—SHIP POINT

This saw appeals to high-class mechanics for general carpentry work and is the most popular saw on the market today. The blade is of genuine **SILVER STEEL**, taper ground. It is given the Atkins Exclusive Damaskeen Finish. It has a skew back and is fitted with the **ATKINS PERFECTION HANDLE**, made of applewood, embossed and polished. Made in both regular and ship patterns, as illustrated.



NO. 65—REGULAR PATTERN



NO. 65—SHIP POINT

Another of our most popular patterns. Same saw as No. 53, except straight back. **SILVER STEEL**, Damaskeen finish, embossed and polished applewood handle, Perfection pattern. Made in both regular and ship patterns, as illustrated.

ATKINS HAND, RIP AND PANEL SAWS

SILVER STEEL



NO. 51—REGULAR PATTERN



NO. 51—SHIP POINT

This saw is similar to No. 53 in general specifications, excepting that it is made with the old style straight across handle. We guarantee this saw to give perfect satisfaction or your dealer will exchange it for a new saw. Our leading old-style handle pattern. Applewood handle, polished. Made in both regular and ship patterns, as illustrated.



NO. 50—REGULAR PATTERN



NO. 50—SHIP POINT

Same saw as No. 51, except it has a straight back. Made in both regular and ship patterns, as illustrated.

ATKINS HAND, RIP AND PANEL SAWS

SILVER STEEL



NO. 64—REGULAR PATTERN



NO. 64—SHIP POINT

An old and very popular pattern

This is an extra heavy large blade, particularly adapted for all kinds of carpentry work where fast and accurate cutting is required.

It is made of **SILVER STEEL**, straight back. Damaskeen finish. **EMBOSSSED** and polished apple-wood handle, of the old style straight across pattern. Made in both regular and ship patterns.



NO. 54—REGULAR PATTERN



NO. 54—SHIP POINT

This is a finely finished saw, but is made to sell at a somewhat lower price than others. The blade is of genuine **SILVER STEEL**, straight back, Damaskeen finish. The handle is beech, with polished surface, old style straight across pattern. Made in both regular and ship patterns.

ATKINS HAND, RIP AND PANEL SAWS

SILVER STEEL



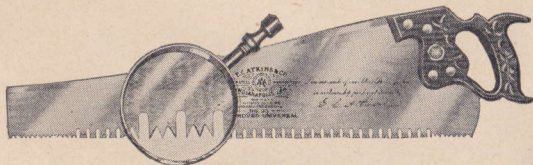
NO. 72—SHIP POINT

Made only in ship pattern. A very popular saw for a person desiring a light saw. Made of SILVER STEEL, straight back, carved and polished handle, old style pattern.



NO. 52

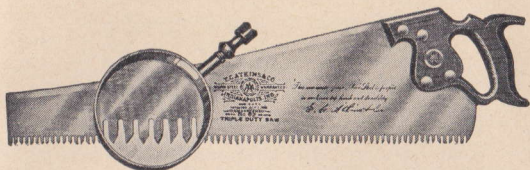
Made for specially fine CABINET work where very delicate sawing is essential. For use in seasoned and dry lumber; should be filed only, not set.



NO. 93—IMPROVED UNIVERSAL

This saw is made with a special patented tooth. Extra large gullet and raker tooth. It is especially adapted for heavy work. It cross-cuts, mitres and rips equally well. Blade is made of high-grade SILVER STEEL, skew back, embossed and polished old style handle.

Made in 26-inch length only.



NO. 82—TRIPLE DUTY SAW

A splendid saw for heavy work. Will cross-cut, rip or mitre equally well. This saw can be fitted with no more work than a regular hand saw. Made in 26-inch length only.



ATKINS JUNIOR MECHANIC

Made in 20-inch length only, skew and straight back, nine point, taper ground blade, highly polished. Cherry handle, mission stained, full carved, with two nickel-plated screws and a medallion. Packed in attractive individual boxes.



NO. 21—METAL CUTTING HAND SAW

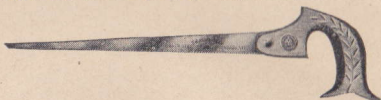
This blade is made of SILVER STEEL and will cut all classes of ordinary metal with ease.

The blade is straight breast and back. It is 18 gauge on the toothed edge, 20 gauge on the back and gradually tapers to 23 gauge on the point.

The teeth are specially milled, straight across, but are tempered for slow filing.

The handle is made of thoroughly seasoned hardwood, polished, fastened to the blade by medallion and two brass screws.

No. 22 same as No. 21, only adjustable handle.



ATKINS NO. 2 COMPASS SAW

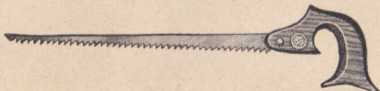
The blade is made of SILVER STEEL, specially tempered. The handle is of carved and polished applewood, made in lengths from 10 to 18 inches.

We make a number of other Compass Saws of similar construction.



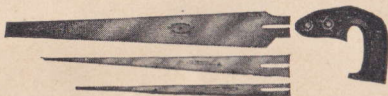
ATKINS NO. 11 ADJUSTABLE COMPASS SAW

Here is a saw that will be found most convenient for general use. The blade is notched so as to fit into an adjustable handle and may be adjusted so as to cut at various angles. Made in lengths from 10 to 18 inches. SILVER STEEL.



ATKINS NO. 6 KEYHOLE SAW

The finest keyhole saw in the world. SILVER STEEL adapts itself to this class of saw most admirably. On account of its extreme toughness, the blade holds its sharp cutting edge and is not easily broken.



ATKINS NO. 1 NEST OF SAWS

This supplies a tool which should be in every carpenter's kit. The No. 1 set consists of a keyhole blade 12 inches long, compass blade 14 inches long and pruning blade 18 inches long. All fitted to an interchangeable handle.

No. 2 Nest is composed of a 10-inch keyhole blade, together with a 12 and 16-inch compass blade and an interchangeable handle.



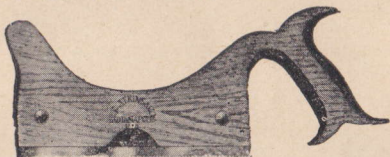
ATKINS NO. 3 NEST OF SAWS

Here is the best of all. It contains a keyhole and compass blade same as No. 1, but includes an 18-inch special nail-cutting blade. This does away with the use of cold chisel and pliers when nails or other metals are encountered, as you may easily cut through the metal with a nail-cutting blade and proceed with your regular hand saw. Adjustable pattern handle.



ATKINS NO. 28 CARPENTERS' HANDY SAW

This is an indispensable tool for the general carpenter. It is light and compact and may be used in hundreds of cases where the ordinary saw blade is too large or cumbersome. The blade is of genuine SILVER STEEL, carved apple handle.



ATKINS NO. 27 STAIRBUILDERS' SAW

This saw is designed for sawing into flat surfaces where it is necessary to cut to an even depth. The blade is adjustable so that it may be set to cut the depth desired. The wood parts are of beech with varnished edge. Made in lengths 6, 8 and 10 inches.



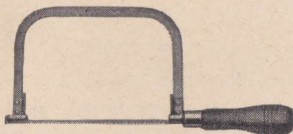
ATKINS No. 1 MITRE SAW

In the manufacture of this saw we use our genuine high-grade SILVER STEEL. This insures the longest life to the edge of the fine saw teeth as well as the retention of its straight cutting qualities. The back is of extra heavy spring steel, and is clamped in place so as to hold the blade rigid. The handle is of applewood with polished edge. Made either 4, 5 or 6 inches under back.



ATKINS No. 100 FLOORING SAW

This saw is designed for sawing into flat surfaces, such as floors, without necessity of boring or using a keyhole saw or chisel. The point is toothed on both edges so that out of the way spots may be reached with ease. It is made of SILVER STEEL, beautifully polished and etched. Made only in 18-inch length, 10 point.



ATKINS NO. 50 COPING SAW

A strictly high-grade tool sold at a moderate price. Strong, durable, action perfect. Frame, $\frac{3}{8}$ inch wide; 3-16 inch thick; made of cold-rolled steel, nicked and buffed, $7\frac{1}{4} \times 4\frac{5}{8}$ inches deep. Blade cuts at any angle.



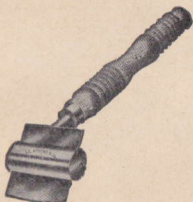
Atkins No. 4 Ramshorn Floor Scraper

Hardwood frame, easy grip, will not chatter. Furnished with genuine SILVER STEEL scraper blade which holds its edge.



Atkins No. 5 Scraper

Made of solid metal, 11 inches long. Two thumbscrews hold blade securely in place. Center thumbscrew presses into convex form so as to hug the work closely. SILVER STEEL blade.



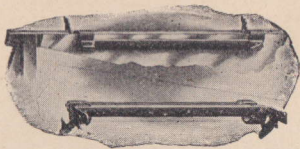
Atkins No. 3 Perfection Scraper

The most popular pattern. Hardwood handle, metal parts nicked and buffed. Blade cuts on all four sides.



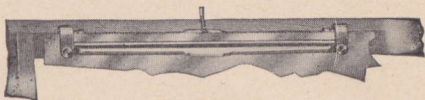
Atkins No. 0 Scraper Blades

SILVER STEEL is admirably adapted for this purpose and you will find that it makes the best scraper blades that you have ever used. All standard sizes. Each blade packed in wax paper carton.



ATKINS "AAA" SAW CLAMP NO. 1

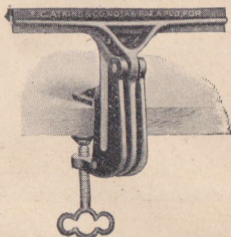
The handiest tool in your kit. Made of cold-rolled sheet steel. About the same size and weight as a chisel. Conveniently carried, instantly attached to or detached from any square surface. Saw reversed for jointing and setting without removing the clamp.



ATKINS "AAA" SAW CLAMP NO. 2

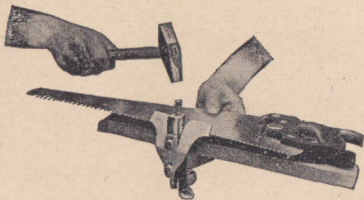
This clamp differs from No. 1 in that the saw is fastened by an eccentric roller running between the two connecting arches instead of thumbscrews. It is attached by use of either a single wood screw or a loose lug which is driven into place at the center.

Fasten the saw into position by lifting the front jaw by use of the flange at the center. Grasp the saw on the back, place it in position and bear downward, which causes the eccentric to clamp the saw firmly at all points between the connecting arches. The saw is removed by a slight upward pressure.



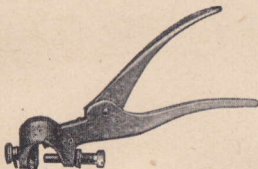
ATKINS "AAA" SAW VISE

Rubber cushions prevent noise. Lock lever principle, easily attached. An old favorite.



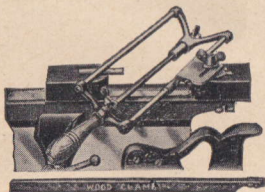
ATKINS "AAA" SAW SET NO. 5

A hammer blow reaches the tooth through a plunger, insuring a uniform set with no likelihood of breaking the saw teeth. Amount of set easily and accurately adjusted.



ATKINS NO. 95 LEVER SAW SET

Atkins No. 95 Lever Set is one of our most convenient and popular patterns. The indicator and dial are on the outside and at the end of the tool. It is very easily adjusted. The revolving eccentric anvil has the required bevel and length for all saw teeth, ranging from 4 to 16 to the inch. Hardened anvil and plunger. Finely tempered steel spring. Heavily nicked and buffed with a high finish.



ATKINS HAND-SAW FILER

A simple, accurate tool whereby saws may be uniformly filed. Action virtually automatic. Can be used with any clamp.

HACK SAW BLADES

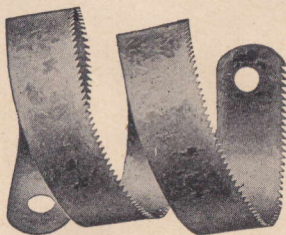


ATKINS "AAA" HACK SAW BLADES

ATKINS "AAA" HACK SAW BLADES are made of an exceptionally fine grade of alloy steel which responds to our heat treatment in a perfect manner.

Our principal advantage, however, lies in our ability to secure a temper which, while extremely hard, is yet less brittle than other blades.

The teeth in all ATKINS Blades are milled and set so that they present the square point to the material which is being cut, instead of a corner, as in many other blades.



ATKINS NON-BREAKABLE BLADE

We are manufacturing a line of blades which are practically NON-BREAKABLE. These should not be confused with the old style flexible blades.

The cutting edge of these blades is fully as hard and tough and will cut as fast as the all hard blades, yet there is no likelihood of breakage. Will not shell or strip. This is unquestionably the most economical Hack Saw Blade in the world. Hand blades made in lengths from 8 to 12 inches and from 14 to 32 teeth to the inch.

HOW TO FILE HAND SAWS

A subject of never-failing interest to the average worker in wood is the care of tools and how to sharpen them to the best advantage. That opinions differ as to the way the work should be done is not surprising, especially when the question of filing a Saw is considered.

It does not necessarily require any great skill, as many people suppose, to file and set their Saws, but there are a few essential points which should be observed if you wish to get the best results. These observations are based on long experience and careful study, and it is earnestly hoped will prove of benefit.

The first operation should be what is commonly called jointing. It is better to take a flat mill file and rub the teeth down until their length is uniform. For instance, in a straight-breasted Saw, if you should put a straight edge along the teeth, every one should just touch it. Then comes the setting. Use, if you have one, a regular setting block, and care should be used in preparing said block not to have a sharp edge where the tooth bends down, as it is apt to cause breakage. Do not set your tooth too far into the Saw. A turning of the point is sufficient and far better for the Saws. The teeth should be set alternately right and left. A highly tempered Saw, which will hold the edge best, must be carefully handled or you will lose many teeth in this operation. Do not put any more set than just enough to clear nicely.

Your Saw is now ready to file, and you will find it advisable to select your files carefully. For a six and seven-point Saw use a 7-inch slim taper. For eight and nine points use 6-inch slim taper, and for ten, eleven and twelve points use a 5-inch slim taper. After placing your Saw securely in the vise, commence to file at the point and progress toward the butt or heel. Many skilled filers, however, file from the butt to point. Always file the teeth which are set away from you, and as to the amount of beveling, it is entirely at the discretion of the carpenter. It is essential, however, that the bevel be placed on the front of the tooth. When through with one side, reverse the Saw and proceed as before. At this point it might be well to use the flat mill file, and do what is commonly called side filing the teeth. This is to guard against any uneven setting, and will be appreciated in the finished Saw.

To prepare Rip Saws proceed as in Hand Saws, except always use 7-inch slim taper, and if the Saw is intended to cut hard lumber a slight bevel is advisable, but if for ordinary and soft wood it is best to file straight across.

To insure a keen, sharp cutting edge to your Saw, it is well to pass a hard oil stone lightly over the sides of the teeth to take off all burr or wire edges left in filing.

With these points carefully in mind, we see no reason why you should not be a success in the care of your own Saws.

Special care should be used in setting Hand Saws, not to bend the tooth below its center. If your saw teeth break, try another set, as they did not break when set at the factory. You may be losing the best kind of a saw by taking one back because some of the teeth have broken out, but the harder your saw is, the better service it will give. Atkins Saws require very little set on account of their taper grinding.

Some Valuable Suggestions to the Everyday Carpenter

ROOF FRAMING

1. A Simple Method for Getting Lengths of Hips and Jacks for Any Pitch Roof

Draft the half of one end of building to scale with the base of the triangle equal to $\frac{1}{2}$ of the building, at one end erect a perpendicular equal to the length of common rafter, then the line joining the extremities of the legs (hypothenuse) is equal to the length of the hip for that particular building.

The jacks may be found by spacing off the building so that you have the required number of jacks. There will always be one more space than jacks. Then divide the length of the common rafter by the number of spaces and this quotient will be the length of the shortest jack. Double this for the second, treble for the third and so on.

2. Other Rules for Finding Lengths of Common Rafters

I. For one-quarter pitch roof, multiply the width of building by the decimal .56—example: 12 feet equal $W \times .56$ equal 6.72 feet or 6 feet 9 inches.

II. For one-third pitch roof, multiply width of building by the decimal .6—example: 12 $W \times .6$ equal 7.20 or 7 feet $2\frac{1}{2}$ inches.

III. For one-half pitch roof, multiply the width of building by the decimal .71—example: 12 $W \times .71$ equal 8.52 or 8 feet 6 inches.

IV. For one full pitch, multiply the width of building by the decimal 1.12—example: 12 $W \times 1.12$ equal 13.44 or 13 feet $5\frac{1}{2}$ inches.

Another Method for Finding Lengths of Rafters

Take the number of inches the roof is to rise to the foot on the tongue and one foot on the blade, which is the rise and run of one foot, then apply the square to the timber as many times as the number of feet in half the width of building. This gives you the exact length of the rafters, also the line of the tongue gives you the plumb-cut, and the line of the blade gives the seat cut.

Table for Finding the Length and Side Cuts of Jack Rafters

1. One-quarter pitch roof.
 13.5 in. shorter when spaced 12 in. on center.
 18 in. shorter when spaced 16 in. on center.
 27 in. shorter when spaced 24 in. on center.
 12 and 13.5 gives the side cuts for jacks in this pitch; the plum-cuts and seat-cuts are the same as the common rafters for this pitch.
2. One-third pitch roof.
 14.4 in. shorter when spaced 12 in. on center.
 19.2 in. shorter when spaced 16 in. on center.
 28.8 in. shorter when spaced 24 in. on center.
 12 and 14.4 gives the side cut on jacks for this pitch.
3. One-half pitch roof.
 17 in. shorter when spaced 12 in. on center.
 22.6 in. shorter when spaced 16 in. on center.
 34 in. shorter when spaced 24 in. on center.
 12 and 17 gives the side cut on jacks for this pitch roof.

SHINGLING

To Find the Number of Shingles Required to Cover 100 Square Feet or One Square

Deduct 3 inches from length of shingle, divide the remainder by three, the result is the exposed length of shingles.

One square equals 14,400 square inches. Divide this number by the exposed surface; equals the required number of shingles.

Note—A shingle is 4 inches wide and of various lengths, as 15, 18, 21, 24, 27 inches.

Table for Estimating Shingles

Length Exposed Shingle to weather		Sq. ft. covered by 1000 shingles		Shingles for 100 sq. ft.	
Inches	Inches	4 in. wide	6 in. wide	4 in. wide	6 in. wide
15	4	111	167	900	600
18	5	139	208	720	480
21	6	167	250	600	400
24	7	194	291	514	343
27	8	222	333	450	300

To Find the Number of Shingles Required for a Roof

Multiply the length or ridge pole by twice the length of one rafter. This gives you the number of square feet in roof. If exposed $4\frac{1}{2}$ inches to weather, multiply square feet by nine, but if exposed 5 inches to weather, multiply square feet by eight.

Note—(a) Shingles are put up in two kinds of bundles, a 250 and a 200 bunch.

(b) 1 M shingles weigh about 250 lbs.

(c) 5 lbs. shingle nails will fasten 1 M shingles on a roof.

LATH

Lath are of two lengths, 48 inches and 32 inches. The following estimates are based on the 48-inch lathing, which are 4 feet long, $1\frac{1}{2}$ inches wide, which covers an area of 72 square inches. Obtain the number of square yards in building, which multiply by 15, the number required to cover one square yard. Eleven (11) lbs. of nails are required to put on 1000 laths.

HOW TO FIGURE PLASTERING

Multiply the distance around the room by the height of room, then for the ceiling multiply the length of room in feet by the width of room in feet. Add the two products and divide by nine, which gives you the number of square yards.

Multiply the number of yards by the price per square yard; equals the total price.

Mixtures—Six to eight bushels of lime and 40 cubic feet sharp sand, $1\frac{1}{2}$ bushels of hair will plaster 100 square yards with two coats of mortar.

To every bushel of lime, estimate about $\frac{5}{8}$ cubic yards (17) sand for plastering. One-third barrel of stucco will hard finish 100 square yards of plastering.

Two bushels of lime will white coat 100 square yards of wall.

NUMBER OF NAILS REQUIRED IN CARPENTRY WORK

To case a door, 1 lb. of nails are required.

To case a window, 1 lb. of nails are required.

To put on rafters, joists and studding, etc., 3 lbs. to the 1000 feet.

To lay a 6-inch pine floor, 15 lbs. to the 1000 feet.

To find side of square that will inscribe in a given circle, multiply diameter by .7071.

To find the capacity of a square tank or cistern, multiply the number of cubic feet by $7\frac{1}{2}$ (or 7.48) and the result will be in gallons.

To find contents of cistern or tank, multiply the square of the mean diameter by the depth (all in feet) and this product by $5\frac{1}{8}$, the result will be in gallons.

One-fifth more siding and flooring is needed than the number of square feet of surface to be covered, because of the lap in the siding and matching.

To measure square timbers, multiply the length, width and thickness together and divide the product by 12.

NUMBER OF NAILS PER POUND

Size	Length and Gauge	Approx. No. to Lb.
2d	1 inch No. 15	876
3d	$1\frac{1}{4}$ inch No. 14	568
4d	$1\frac{1}{2}$ inch No. $12\frac{1}{2}$	316
5d	$1\frac{3}{4}$ inch No. $12\frac{1}{2}$	271
6d	2 inch No. $11\frac{1}{2}$	181
7d	$2\frac{1}{4}$ inch No. $11\frac{1}{2}$	161
8d	$2\frac{1}{2}$ inch No. $10\frac{1}{4}$	106
9d	$2\frac{3}{4}$ inch No. $10\frac{1}{4}$	96
10d	3 inch No. 9	69
12d	$3\frac{1}{4}$ inch No. 9	63
16d	$3\frac{1}{2}$ inch No. 8	49
20d	4 inch No. 6	31
30d	$4\frac{1}{2}$ inch No. 5	24
40d	5 inch No. 4	18
50d	$5\frac{1}{2}$ inch No. 3	14
60d	6 inch No. 2	11

THE HARDWARE LINE

Owing to the varied uses for saws and other tools of our manufacture and the fact that so many different classes of business are affected, our complete product has been divided into departments.

Each of these departments is under the direct personal supervision of experts who have made their particular line a life study. We make:

Hand Saws, Cross-cut Saws, Wood Saws, Ice Saws, Mitre Box Saws, Back Saws, Manual Training Saws, Compass and Keyhole Saws, Pruning Saws, Butcher Saws, Nest of Saws, Coping Saws, Stairbuilders' Saws, Dehorning Saws, Pattern-makers' Saws, Braces, Grass Hooks, Floor Scrapers, Bench, Wall and Belt Scraper, Cabinet Scrapers, Corn Knives, Cane Knives, etc.

ATKINS-OVA ZARUKA

Obchod, v ktorom kupujete, je opraven, aby vam dal novou pilu za jakoukoli pilu, ktera ma nasi znacku, kdyz z te neb one priciny nejste s ni spokojeni anebo kdyz ma sebe mensi vadu.

ATKINSA GWARANCYA

Wasz dostawca upowaznionym jest zmienic pite na nowa, jezeli jest naszego wyrobu, w razie gdyby z jakiegokolwiek powodu was nie zadawolita, lub gdyby miata jakiekolwiek uszkodzenia.

“ATKINS” JOTALLASA

Barmely furesz, mely a mi gyartmanyunk es melyen fel van tuntetve ceg jegyunk, kicserelheto egy teljesen uj fureszszel, azon kereskedo altal a kinel vette, ha a furesz nem volna tokeletes, vagy esetleg serult allapotban volna.

ATKINS TROWELS

Whether you are "a real expert" in the matter of tools—and demand the very finest—

Or whether you are satisfied with a cheaper Trowel—this High Grade line of Trowels should have your consideration.

We have a decided advantage over those who make Trowels exclusively, because we are the largest manufacturers of Saws and Saw Tools in the world.

In the making of ATKINS TROWELS we use the same high-grade steel as is used in Saw Blades.

This is finer material than others could possibly afford to use and sell at the same price.

The construction of our Trowels is scientific and along the lines so popular among the best mechanics.

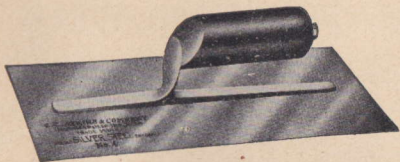
There is a decided advantage, therefore, in the use of Atkins "AAA" Trowels, which a trial will demonstrate.

Look through this book and select the Trowel you want.

Order from your dealer. If he does not sell your pattern, he will order for you from his wholesale house.

See that your Trowel is marked the same as shown in this book.

None are genuine without our signature.



ATKINS No. 4 TROWEL

Indiana Pattern

The general construction, shape, hang and handle of this Trowel will be familiar to you, as it is similar to another well-known pattern.

The advantage which it possesses is in the material used in the blade.

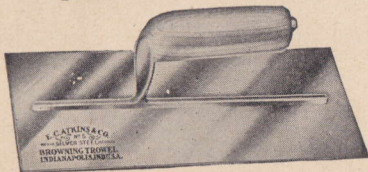
The **BLADE** is of polished **SILVER STEEL**, the same exactly as used in our finest Saws.

The **MOUNTINGS** are of Cast Steel. These are fastened to the blade with ten steel rivets, making as strong an attachment as if the whole Trowel were in one piece.

The **EDGES** will not wear easily, because the blade is made of **SILVER STEEL** and is, therefore, very tough and hard.

The **HANDLE** is large and comfortable and fastened to the shank by a hexagon nut and is sunk into a flange so that it can not turn.

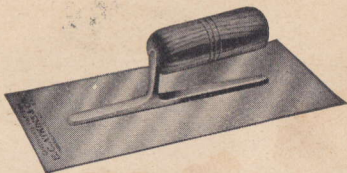
Made in lengths from ten to thirteen inches.



ATKINS No. 5 TROWEL

For Browning

This Trowel is made for browning purposes. It is exactly similar to the No. 4 Trowel, excepting the blade is made heavier for browning purposes. Notice the extra long mounting. Fastened to the **SILVER STEEL BLADE** by ten steel rivets. Handle beveled off on nose and fastened to shank with hexagon nut. Non-turnable attachment. Twenty-one gauge steel. Made in lengths from ten to thirteen inches.

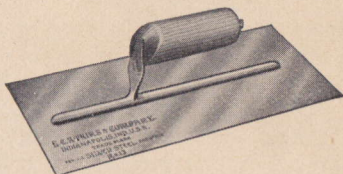


ATKINS NO. 1 TROWEL **Cincinnati Pattern**

This Trowel will be recognized by many users, as it is similar to another well-known pattern. Its superiority lies in the fact that the blade is made of SILVER STEEL which is extremely hard and tough and which will hold its edge remarkably.

The mounting is of malleable iron fastened to the blade by five rivets. Handle, straight, natural wood finish.

Made in lengths from ten to thirteen inches.



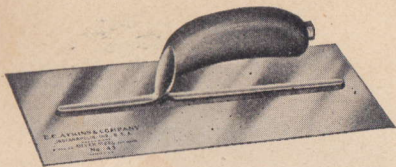
SHEFFIELD NO. 13 TROWEL

The mountings are of high-grade malleable, extra strong, and are fastened to the blade with seven rivets. All metal parts are lacquered to prevent rusting.

The handle is large and has a shaped nose, fitting the mountings snugly. It is fastened to a shank by a hexagon nut and is made non-turnable. It is dyed a rich red, which is a superior finish to varnish, as it permits the grain of the wood to rise when wet, requiring less grip. The handle is also less liable to scratch or mar in ordinary handling.

Each blade shipped in moisture-proof bag, to prevent rusting, and with full description printed thereon.

Made in lengths from ten to thirteen inches.



ATKINS NO. 3 PLASTERING TROWEL

This pattern of Trowel is popular in many sections of the country, and is a strictly high-grade tool.

Blade of SILVER STEEL, cast steel MOUNTINGS and hardwood, curved, non-turnable pattern handle, fastened to the blade by ten rivets.

Made in lengths from ten to twelve inches.

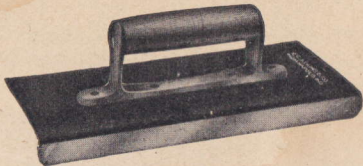
INSIST ON ATKINS TROWELS

Atkins Trowels can be purchased from your dealer. Should he not have them in stock, he will order for you from his jobber, or direct from the factory at Indianapolis. The savings that can be effected through the use of SILVER STEEL Trowels are great, and you should insist upon getting them. The guarantee tag shown on inside front cover insures you of the satisfaction these Trowels will give.



Made in any desired lengths or angles of the finest SILVER STEEL. Beveled on long edge, or as specified.

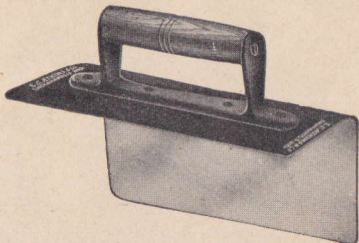
Ask your dealer; if he can not supply you, write us.



ATKINS No. 6 TROWEL

For Cement Work

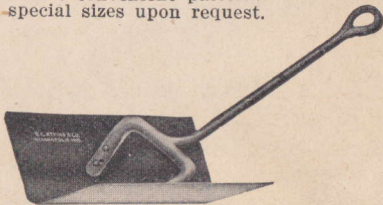
The blade is made of High Grade SILVER STEEL, same as used in our finest saws, and while light, will retain its straight edge remarkably. It is strong and durable and best adapted for this use. Made 11½ inches long.



ATKINS No. 7 TROWEL

For Guttering

This Trowel is made for guttering or curbing and is the most durable and effective tool on the market for that purpose. The Blade is made of High Grade SILVER STEEL. It is ten inches long, five inches wide, five inches deep and has a radius of one and one-half inches. The HANDLE is fastened securely to the blade and is of most convenient pattern. Made in special sizes upon request.

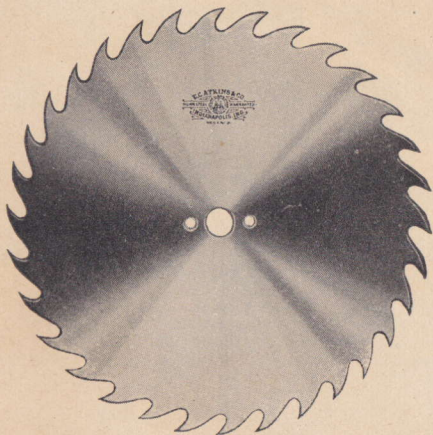


ATKINS No. 9 TROWEL

The BLADE is made of High Grade SILVER STEEL and will not wear easily. The Handle is fastened to the blade by four strong steel rivets. You will find this the most effective guttering Trowel on the market. The Blade is ten inches long, five inches wide, five inches deep and one and one-half inch radius. Made in special sizes upon request.

The Saws and Tools shown in this booklet are very popular with carpenters and good mechanics everywhere. Space does not permit us to show more. We are the largest Saw and Machine Knife Manufacturers in the World.

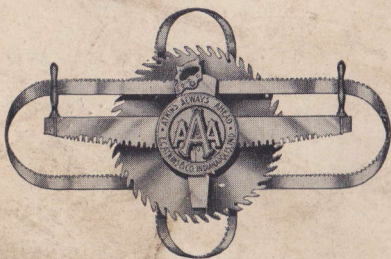
We make Circular and Band Saws for saw and planing mills, wood-working plants and furniture factories; also Metal Cutting Saws of all descriptions for industrial plants, rolling mills, etc.



THE ATKINS GUARANTEE

Your dealer is authorized to exchange for a new saw any saw bearing our brand which, for any reason fails to give you perfect satisfaction, or is defective in any particular.

H. C. Atkins.
President



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