

THE HAND-SAW.

HOW TO USE IT,

HOW TO CHOOSE IT,

AND

HOW TO KEEP IT.

Being a series of Practical Hints to
Practical Mechanics.

BY ONE WHO KNOWETH WHEREOF HE SPEAKETH.

HENRY DISSTON & SONS,

Keystone Saw, Tool, Steel, and File Works,
Front and Laurel Streets,

PHILADELPHIA, PENNA.

Represented by Wm. H. Hankin
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THE HAND-SAW.

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Being a Series of Practical Hints to Practical Mechanics.

The writer of these pages has spent forty years of his life in the earnest endeavor to improve that useful, nay, indispensable tool. The vigorous and almost fabulous growth of his reputation, and the brilliant success which has ultimately crowned his efforts, sufficiently attest the intrinsic value of his manufactures, and also the estimation in which they are held by a discerning and appreciative public. A man who has *made* a reputation for his goods knows its *value* as well as its *cost*, and will always guard, defend, and maintain it under all and every circumstance.

In selecting a Saw, get one with a name on it which has some "*reputation*." If a man desires to purchase a first-class watch, he selects a maker who has attained a reputation. This remark applies with equal force in the choice of a Saw.

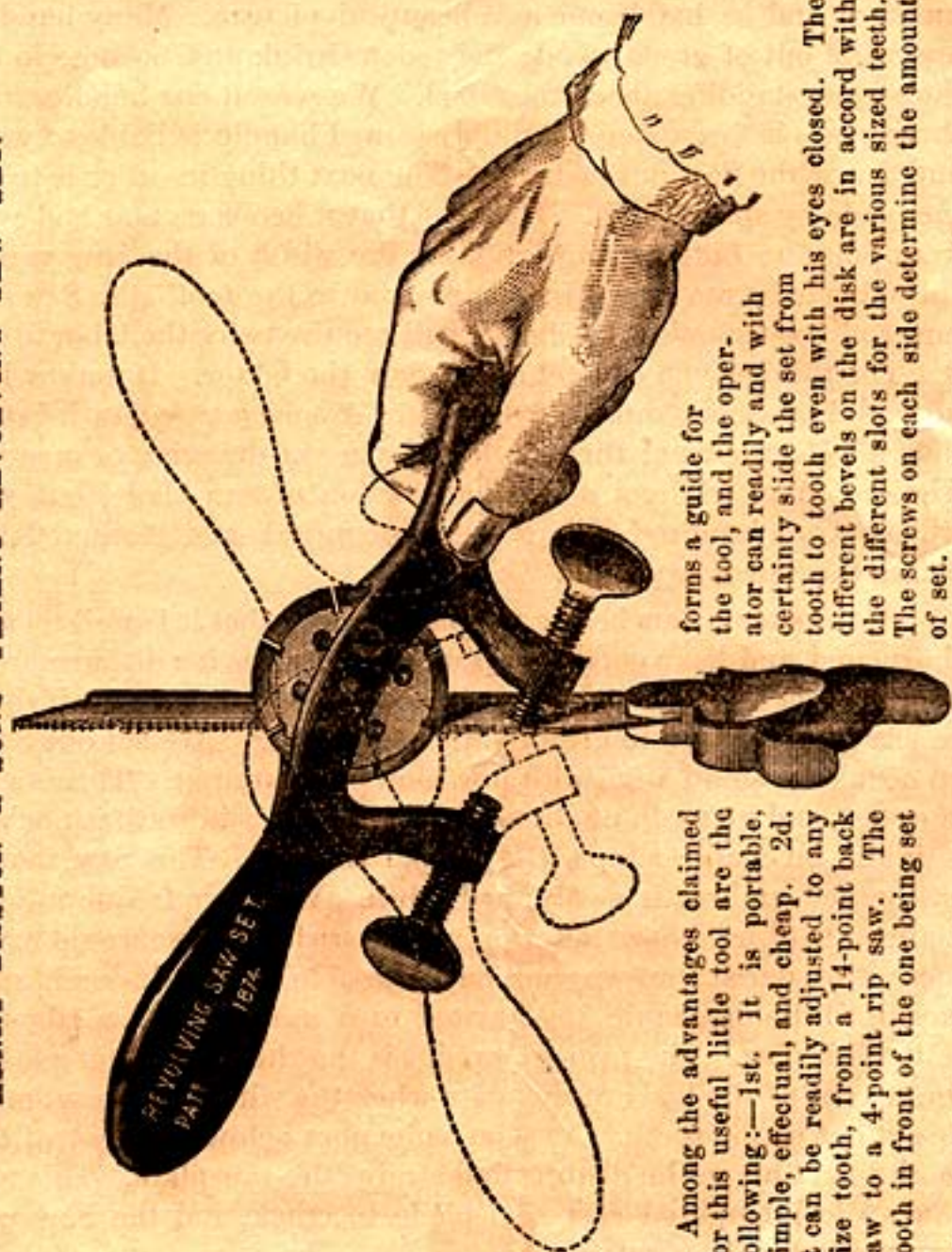
The first point to be observed in the selection of a Hand-Saw is to see that it "*hangs*" right. Grasp it by the handle and hold it in position for working. Then try if the handle fits the hand properly. These are points of great importance. A handle ought to be sym-

metrical and as handsome as a beautiful picture. Many handles are made out of green wood; they soon shrink and become loose, the screws standing above the wood. We season our handle-wood three years before using. An unseasoned handle is liable to warp and throw the Saw out of truth. The next thing in order is to try the blade by springing it. Then see that it bends regular and even from point to butt in proportion as the width of the Saw varies. If the blade be too heavy in comparison to the teeth, the Saw will never give satisfaction, because it will require twice the labor to use it. The thinner you can get a stiff Saw the better. It makes less kerf, and takes less muscle to drive it. A *narrow* true Saw is better than a *wide* true Saw; there is less danger of dragging or creating friction. You will get a smaller portion of saw-blade, but you will save one hundred dollars' worth of muscle and manual labor before the Saw is worn out.

Always try a Saw before you buy it. See that it is well set and sharpened, and has a good crowning breast; place it a distance from you, and get a proper light to strike on it, and you can see if there be any imperfection in grinding or hammering. We set our Saws on a stake or small anvil with one blow of a hammer. This is a severe test, and no tooth ought to break afterwards in setting, nor will it, if the mechanic adopts the proper method. The Saw that is easily filed and set is easily made dull. We have frequent complaints about hard Saws, but they are not as hard as we would make them if we dared; but we shall never be able to introduce a harder Saw until the mechanic is educated to a more correct method of setting his Saw. The principal point is that he tries to get part of the set out of the body of the plate when the whole of the set must be got out of the tooth. As soon as he goes below the root of the tooth to get his set he distorts and strains the saw-plate. This will cause a full-tempered cast-steel blade to crack, and the Saw will eventually break at this spot.

To overcome this difficulty we manufacture the Revolving Saw-Set, represented in the annexed engraving.

HENRY DISSTON & SONS' PATENT REVOLVING SAW SET.



Among the advantages claimed for this useful little tool are the following:—1st. It is portable, simple, effectual, and cheap. 2d. it can be readily adjusted to any size tooth, from a 14-point back saw to a 4-point rip saw. The tooth in front of the one being set

forms a guide for the tool, and the operator can readily and with certainty slide the set from tooth to tooth even with his eyes closed. The different bevels on the disk are in accord with the different slots for the various sized teeth. The screws on each side determine the amount of set.

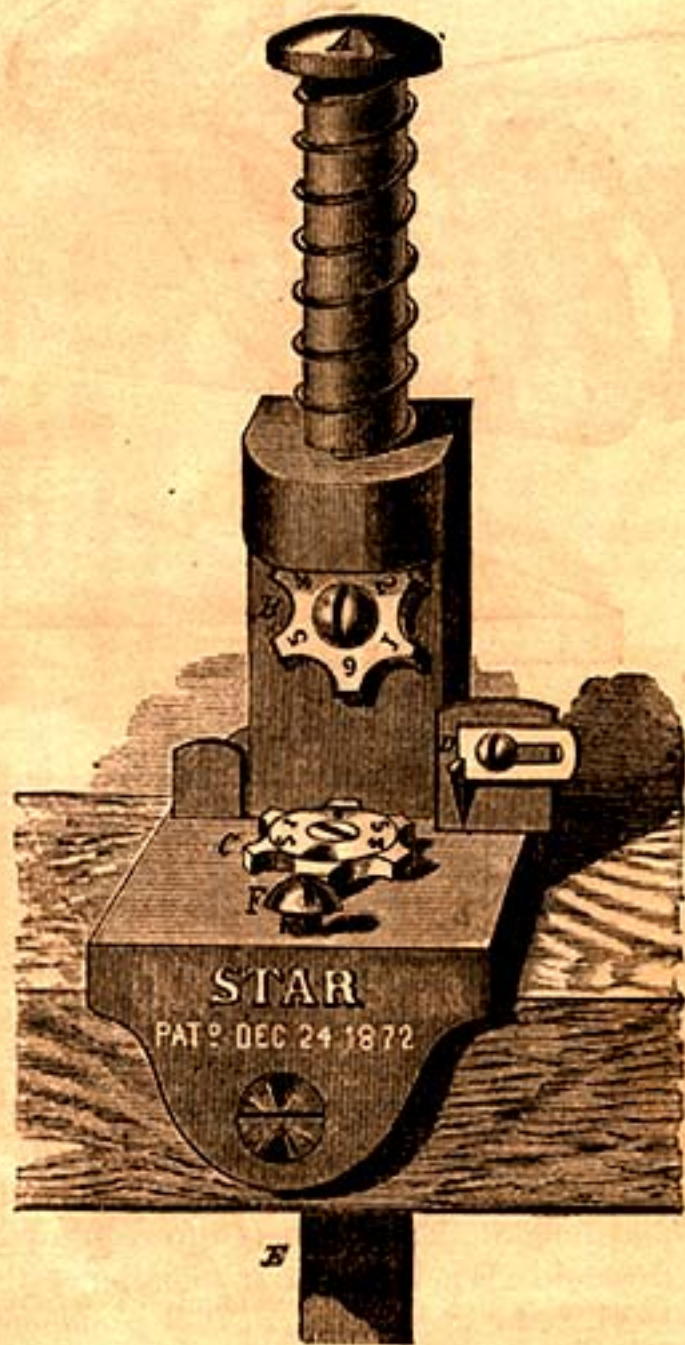
No. 1, Large Size, 75 cents.

No. 2, Small Size, 50 cents.

This Saw Set is portable and is used by hand. The Star Saw Set is also much recommended.

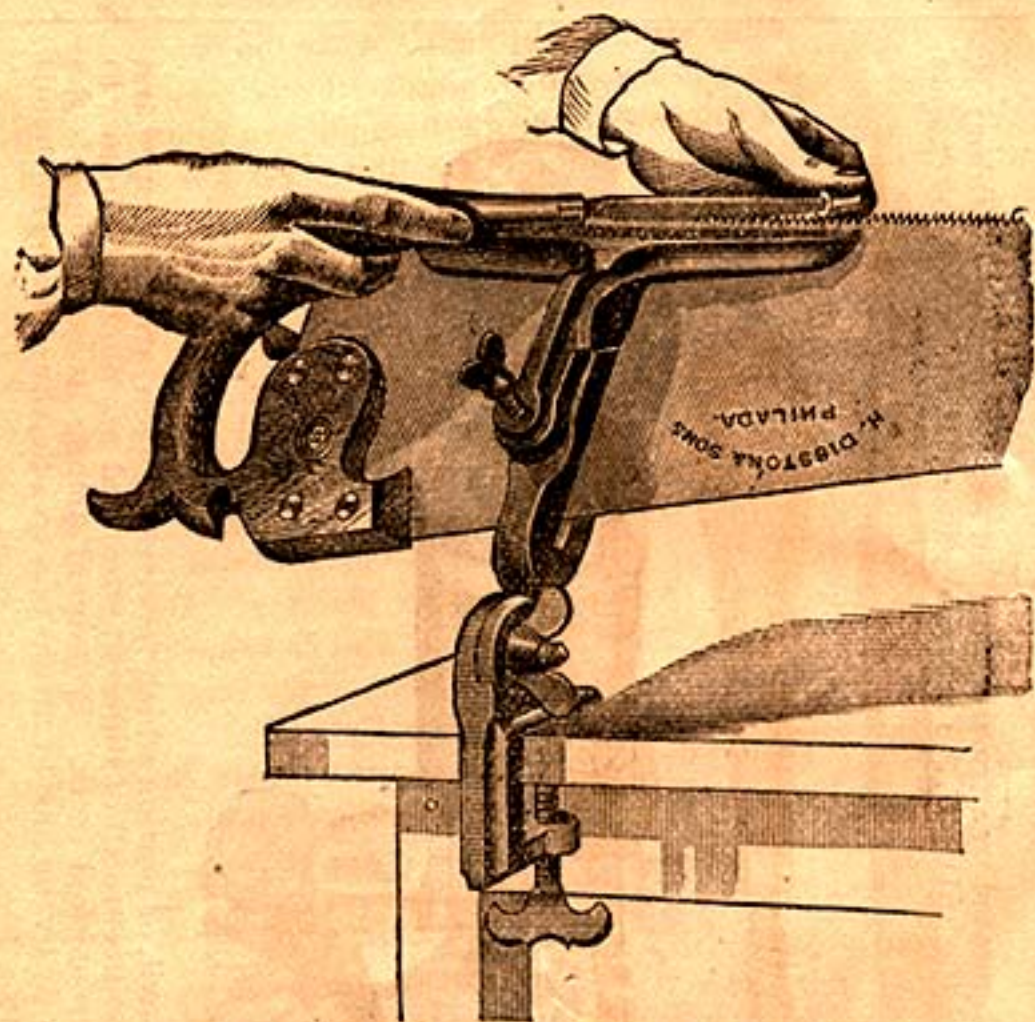
DISSTON'S "STAR" SAW SET.

A is the plunger, which is operated by a treadle attached to E, under the machine; B, the hammer or striking part; C, the anvil; D, the movable gauge; F, the screw, to regulate the amount of set.



The striking part and the anvil, or portion which receives the blow, are star-shaped and similar in construction. The points are all of different sizes, and are numbered from 1 to 6; and are designed to set different-sized teeth. Prominent among its advantages is the fact that it can be operated wholly by the foot by means of a treadle, thus leaving the hands to guide and manipulate the Saw.

KEYSTONE SAW, TOOL,



ADJUSTABLE SAW CLAMP.

Care should be taken in filing a Saw to keep the teeth of uniform size,—not one large and one small, one up and one down. Unless your teeth be regular, your set can never be regular. Whenever the teeth of a Saw become irregular in size, it is useless to attempt to regulate them without racing them down until all the teeth are of equal height. Then proceed to regulate the size by filing straight through. We know from experience that not one man in a thousand, be he ever so practical or proficient, can regulate the teeth of a Saw without first filing or racing down and then

STEEL, AND FILE WORKS.

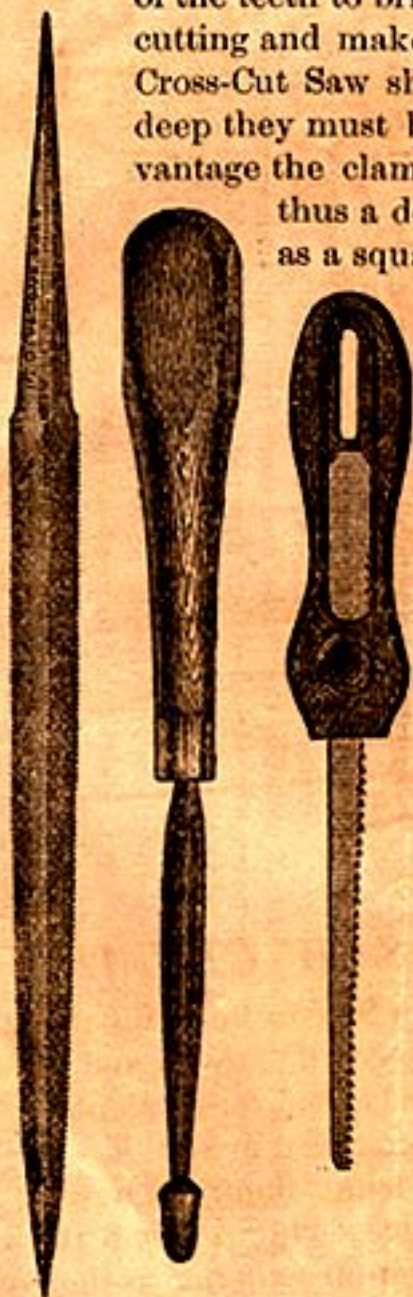
filing straight through. After the Saw has been properly set and sharpened, a light cut with a flat file over the points of the teeth to bring them all on a line will insure smooth cutting and make the filing last longer. A fast-cutting Cross-Cut Saw should have deep teeth. To make them deep they must be filed on an angle; to do this to advantage the clamp (see engraving) should be used, and thus a deep gullet tooth can be filed as readily as a square bottom tooth.

The Little Wonder Saw File or the Slim Taper are just the thing for filing these Saws. A saw file that is more than twice the width of the tooth is only in the way. The centre is never used. The files shown in the engraving are sufficiently large for all practical purposes.

Be sure to clean the teeth of a Saw before filing or setting.

KEY-HOLE SAW AND PAD.

This is a cheap and convenient combination of a Key-hole Saw, Saw Pad, and Screw-driver.



NEW PATENT SKEW-BACK HAND-SAW, CHOICE.

No. 80.



On the opposite pages we have endeavored to instruct the mechanic in the selection of his Saw, and also as to the proper mode of keeping it in order. We are positive that if the suggestions are carried out, he will be the gainer. Our next endeavor shall be to describe some of our *special* Saws, made for special purposes.

It is singular, yet true, that although immense improvements have been made, of late years, in the grinding, temper, and finish of Hand-Saws, still, in shape and style they much resemble the Hand-Saws of centuries ago. We have recently patented **THE SKEW-BACK** Hand-Saw, which, we believe, combines numerous advantages over the old-style Saw, being lighter and more easy to handle, stronger in proportion to the amount of metal in the blade, and more free from tremor when in use, than the ordinary Hand-Saw. To these Saws are attached our new patent handles, which possess many advantages over the old style. They bring the operator closer to his work, and in some of them the blade of the Saw is embedded in the handle, imparting strength in case of an accidental blow or fall. The Rip-Saw handle is coped out to admit the thumb of the left hand, and thus give the operator unlimited power and command over the Saw when it is desirable to use both hands.

They have been tested by some of the best mechanics, and pronounced to be, in many respects, superior to the old style Saw; and the rapidly increasing demand, both in this and other countries, sufficiently bears testimony to their growing utility and increasing popularity.

HENRY DISSTON & SONS,

PATENT SKEW-BACK HAND-SAW, ACME, NO. 120.

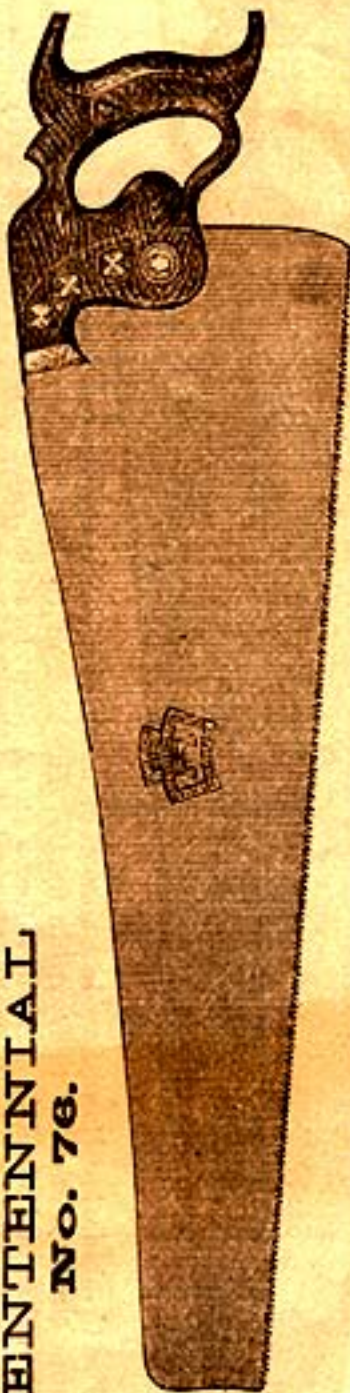
KEYSTONE SAW WORKS.



This Saw combines all the valuable improvements in Hand-Saws that have been made by us of late. The first and most important improvement is the hollow or skew-back, the success of which can best be attested by the numbers sold. The peculiar shape of the butt or heel, coupled with the new method of fastening to the handle, gives a full stroke of the blade without fear of catching or hooking in the work; and as the handle is put further on the blade you have a full stop at the proper point, and a greater command over your Saw, by reason of being two inches nearer the point, which must give more power.

The Saw being let into the handle on a circle has a perfect bearing, which, with the new screws, makes it stronger and almost impossible to work loose, and avoids the unsightly gap that is seen on the back of the old style handle. All the above features are patented.

CENTENNIAL No. 76.



We are now supplying the trade with an entirely new Hand-Saw, called the "Centennial No. 76," which has gained great popularity. This Saw is ground on the back, to taper gradually from butt to point, being only 26 gauge at the point. By this mode of grinding, the Saw, when tested, makes a complete "whip bend." The handle is applewood, oil finish, the screws are flush and polished, and the Saw is superior to any ever offered to the trade in this or any other country at the price. It is the sweetest-cutting, nicest hanging Saw that can possibly be manufactured, feeling as light as a feather at the point, owing to its peculiar construction. The screws are finished before being put into the handle, and, should they become loose, can be readily tightened with an ordinary screw driver, and still make a good finish. Mr. Hexay Dixon is willing to risk his reputation as a Saw Maker upon "the Centennial No. 76." Send for samples and place them in the hands of the Carpenters—to be returned if not as represented.

FULL COMBINATION.

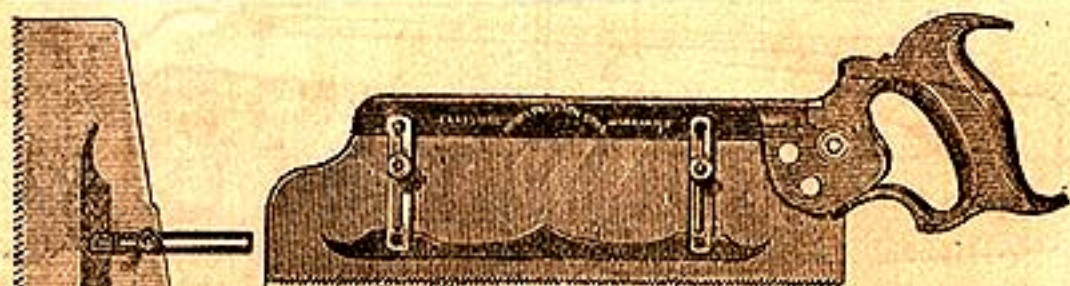


The Combination Hand-Saw is a marvel of usefulness,—a veritable “*multum in parvo*,” each Saw combining almost a chest of tools within itself. The back of the Saw is a straight edge, and, being marked with inches and sections of inches, forms an excellent two-foot rule. The handle is securely fastened at right angles with the back of the blade, and forms at once a truthful and reliable square. Inserted in the handle are two spirit levels placed at right angles, and securely fastened, the one in conjunction with the back of the Saw forming an accurate plumb, and the other a truthful level. A scratchawl is contained in the handle; thus six separate and reliable tools are combined in this well-named Combination Saw. We also manufacture a cheaper Combination Saw, well adapted for farmers and plantation use. It is made with the Keystone tooth, and can be used with equal facility for both ripping and cross cutting.

(See engraving.)



KEYSTONE SAW, TOOL,

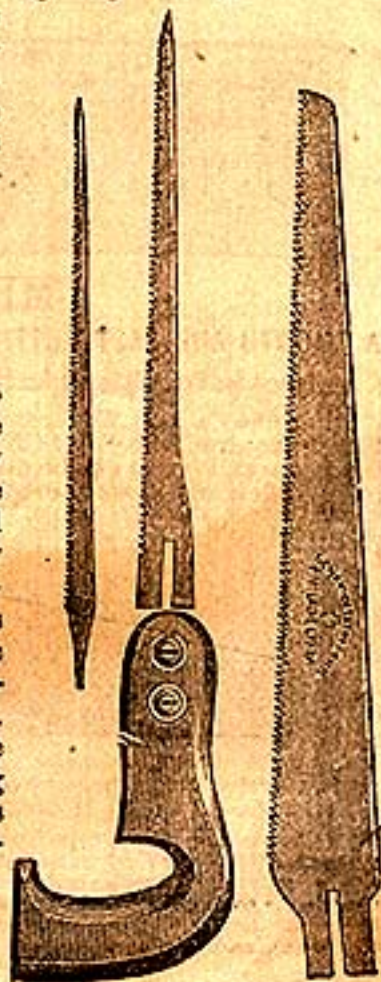


GAUGE SAWS, "HAND AND BACK."

The engravings on this page represent our patent Gauge Saw, which is an invaluable improvement where a fixed and definite depth of cut is required. For Tenoning, Shouldering, Dovetailing, Curving, Cog-Cutting, etc., it is just the tool. We manufacture them in both Hand and Back-Saws. Remove the gauge from the Hand-Saw and it can be used for any of the purposes to which a Hand-Saw is adapted.

NEST OF SAWS.

Admirably adapted to Plumbers' use, where blades are frequently broken, as they can be immediately substituted in the same handle. They will also be a great acquisition to the Gentlemen's Tool Chest, the three blades readily interchanging in the same handle. The large blade can be used as a Table or Pruning Saw, and the smaller ones as Lock, Compass, or Key-hole Saws.



STEEL, AND FILE WORKS.



HAND-SAW WITH MOVABLE BACK.

Can be used with equal facility for either a Hand or Back-Saw. When the back is removed, the Saw can be used as a Hand-Saw. Replace the back, and a first-class Back-Saw is the result.



MECHANICS' OWN.

A SMOOTH AND FAST CUTTING SAW, MADE TO RUN ENTIRELY WITHOUT SET.

Designed for first-class workmen only. Manufactured in Rip, Cross-Cut, and Back-Saws.

For fine Cabinet Work, sawing mitres, and in all instances where smooth cutting is required, the "**BACK-SAW**" is particularly adapted. The use of a shooting plane and board can be dispensed with where this Saw is used, as it will cut a joint sufficiently smooth to glue without planing.



A 6 point Saw of this make will cut smoother than the finest ordinary dovetail Saw ever made, thereby saving time and labor in sharpening, and the 6, 7, and 8 point Hand-Saws take the place of the 10, 11, and 12 point of the ordinary make.

The hammer work and grinding of these Saws are of the most perfect character. They are intended for inside work only, and must be kept in the same order in which they leave the factory: this is easily done by observing the following directions. The Cross-cut or Cutting-off Saw must be filed on the front of the tooth at an angle of at least forty-five degrees, whereas the Rip-Saw must be filed on the top or back of the tooth at an angle of say thirty degrees. This will give either Saw all the clearance required.