THE SHIMER CUTTER HEADS



CATALOGUE AND PATTERN BOOK No. 30.

SAMUEL J. SHIMER & SONS,
MILTON, PA.,
U.S.A.

Shimer Cutters are Circular Cutters

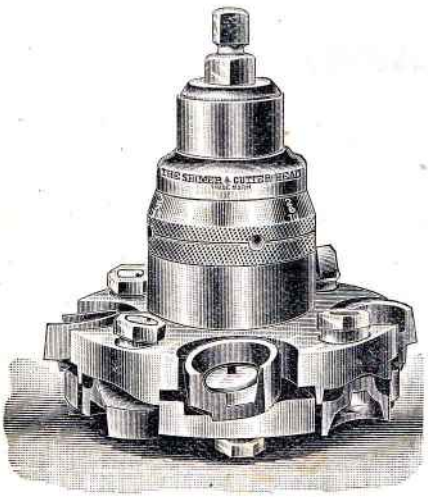
THEY carry the shape you want to work; always uniform, convenient and time-saving. Each Cutter clears itself from friction, and cuts cross-grained and knotty lumber with ease.

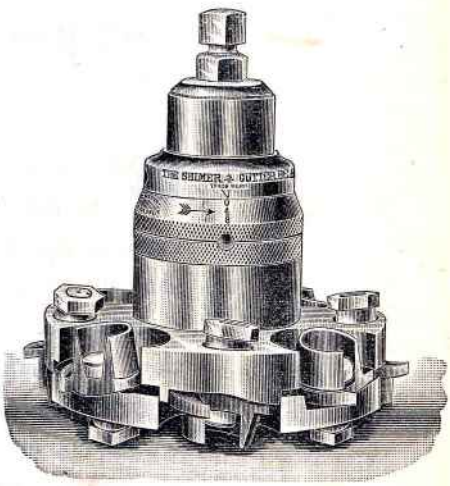
In their contours you find three to five times more wear, consequently more lasting and cheaper.

CATALOGUE AND PATTERN BOOK, No. 30

1868-1910.

THE SHIMER CUTTER HEADS





TO MATCH { FLOORING, CEILING, SIDING, WAINSCOTING, SHIP LAP, O. G. BATTEN, JOINTING;

TO WORK { patterns of special shape in almost endless variety from 35 to 150 lineal feet per minute.

MANUFACTURED ONLY BY

SAMUEL J. SHIMER & SONS,

MILTON, PENNSYLVANIA, U. S. A.

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WE CALL particular attention to the fact that this Catalogue is copyrighted, and that we shall fully protect our rights.

Legal decisions rendered in relation to copyright, show that the copyrighting of a Catalogue is intended not only to give protection to classifications, tables, directions and general information, but also to prevent illustrations contained therein from being deliberately copied by photographic or other processes.

IN THIS Catalogue and Pattern Book we illustrate a number of new tools as also a large variety of useful patterns, many of which were designed for the Shimer Cutter Head and are presented for the approval of the Wood-working Fraternity. We wish to make this a reliable Pattern Book for lumbermen and users of Cutter Heads, Cutters, Knives and Bits.

The Shimer Cutter Head presents to the wood-worker a tool which is complete as to its purpose; practical in its operation and economical in every sense of the word. Close attention to details of construction in order to eliminate every faulty feature and to provide a tool which the average wood-working mechanic can readily understand and care for, has resulted in placing many thousands of them in the mills of the United States and foreign countries.

The division of the chip, permitting of a reliable clearance protection to the Cutters, is brought out in a very practical way. It provides a reliable and safe means to prolong uniform results in every class of work to which the tools are applied.

Notwithstanding the careful and painstaking construction which is a vital part of every Shimer Cutter Head, the prices range continuuosly low by reason of a thorough system of shop practice and up-to-date appliances in tool making.

Some new features are presented here, applied especially to a more accurate fitting of machine spindles; a finer running balance; also the act of jointing cutter edges for the finer edge finish under high speed matching.

Thousands of samples and drawings are filed away in fire proof vaults, agreeing with the special shapes given to the cutters for The Shimer Cutter Heads, giving all particulars, each carefully numbered and placed within our system of records, so as to permit of ready reference and exact duplication of parts at any future time they may be required to replace worn out parts, etc. In some instances we have no occasion to refer to them for 6 or 8 years, and we frequently refer to records made more than 30 years ago.

As in the past we recommend the Interchangeable Head System as most economical. The Heads for matching Flooring, Ship Lap, or jointing square edges, cover a large percentage of the work done, and are all arranged to work upon the same surface cut diameter, avoiding all changes of machine guides.

The changes from one class of work to another are almost instanteous, requiring no more time than that of taking off the one set and slipping on the other.

This system is fully set forth on pages 6 to 18 of which we would ask a careful reading.

We also illustrate, describe and give net prices of the Reversible and One-Way Cutter for the Variety Moulder. They are carefully formed on their contours to the exact counterpart of the work and sharpened so as to retain the shape until worn out.

Assuring you of our appreciation of your many past favors, we solicit your further valued orders.

Respectfully yours,

Samuel J. Shimer & Sons.

Milton, Pa., 1910.

Terms in General.

CASH

Within thirty days, unless otherwise specifically agreed at the time of purchase.

ACCOUNTS

Not maturing in thirty days must be settled for by note or acceptance.

DRAFTS.

We reserve the right to draw at sight for all accounts overdue, with exchange without notice.

CLAIMS

For errors, deficiencies or imperfections will not be entertained unless made with reasonable promptness after receipt of goods. We intend that our customers shall be satisfied if fair dealing will do it.

SHIPMENTS.

Lowest freight and express rates secured at all times. Our responsibility for goods sold ceases as soon as they pass into custody of the railroad company or express company.

GUARANTEE.

We will replace any Cutter Head or any part thereof, found defective when used for the purpose for which it is sold, but we will not pay claims for labor or damages.

EXCHANGING HEADS OR CUTTERS.

Should you find it necessary to send us Heads or Bits for exchange or repair, mark them plainly and securely with your name and address. Don't depend upon the letter you write us alone.

Samuel J. Shimer & Sons,

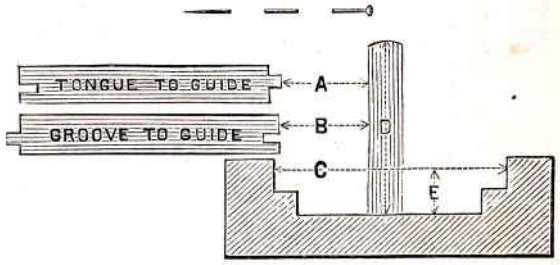
Milton, Pennsylvania.

HOW TO ORDER

We send special measurement card on request (a copy of this exactly). Fill in the measurements and mail it to us and we will take the chances of fitting your machine and of pleasing you in every particular.

If you already have a set of Shimer Cutter Heads that fit your machine, and you want another set, then the best way to order is to write us as follows: "Make for us a set of Heads to work interchangeably with Heads numbered . . . . (find number stamped on Heads you have) naming purpose for which you want the Heads and we will understand.

We keep a record of every head we make, in *fire-proof vaults.* We note down carefully every feature pertaining to the Head and can duplicate it in whole or in part at any time.



This cut represents the Spindle to the right as you stand feeding the machine, and for measure GIVE

Height of Spindle Line D ..... *inches*

Send a Wire the Diameter of Spindle ▬▬

Depth of Recess below level of Bed, Line E ..... *inches*

Free scope Head has to turn in, Line C ..... "

Diameter of Head in use, (solid) across Bottom ..... "

Can you move the Fence or Guide?

Give length of Line from Spindle to jointed edge of Board, A or B ..... *inches*

Tongue or Groove to Guide (see diagram) and cross one of them out.

Groove ¼ wide by ⅜ deep, or .....

Give Maker's Name of Planer .....

Is the **Board Matched Surface Side** *up or down?* .....

We give correct measure for ..... *Heads which you may send on trial for* ..... *days; if they work to our profit we will pay for them; if not we will return them. Send Heads to*

.....

(OVER.) .....

You set the guides in your machine for any one set and they are suited for all the others. Save your time in changing Bits—using interchangeable Heads.

Address all communications to

SAMUEL J. SHIMER & SONS, Milton, Pa.

DESCRIPTION.

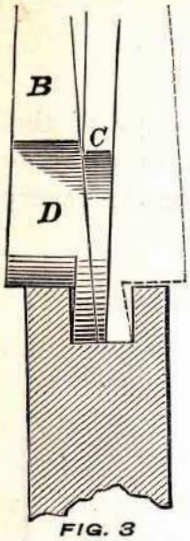
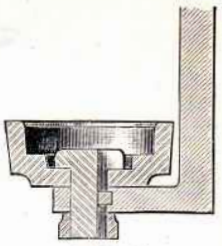


FIG. 3

The Shimer Cutter Heads are all made after one general plan. They all have alternate bit seat chambers within which are seated the Bits in upper and lower series, alternately arranged to shave out the chip from a dividing line of cut. First one Bit makes a cut, then the next Bit of the other series follows. The entire cut is, therefore, not made at one carve, but first one shave is made, then the other, and both slightly shearing—dividing the chip along the centre line of cut.

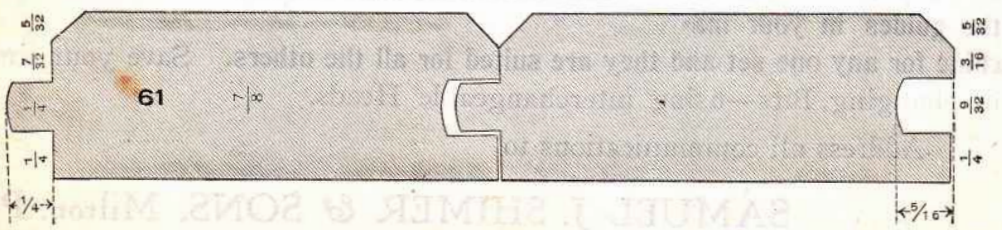

FIG. 7.

This Fig. 7 illustrates the bit seat with only one way incline, for clearance, viz: forward or backward at right angles to the radial line (the centre line of the bit seats being radially parallel to the plane of revolution) of the Cutter Head. This bit seat is common to Fig. 1 and Fig. 2, either Solid or Expansion Head. See pages 25 to 29.

The Bits work in pairs to make the full carve: one Bit is placed in the upper series on the Head and upon inclined seats that give to the Bit a position to clear its cutting points, the other Bit is placed in the lower series on the Head, and upon inclined seats, that gives to this Bit a position to clear its cutting points—both Bits work together to complete the full carve, but they cut alternately and rest upon seats having opposite inclinations working to and from a dividing line of cut.

Permit us to illustrate by diagram, Fig. 3, showing groove Bit D in the position it occupies when making cut. The Bit C which follows to complete the work, is given in outline. This shows how the chip is divided, and from it you will understand that the several Bits that thus complete the work are arranged in upper and lower series, upon a special Head, that has a series of seats to which these Bits are secured.

The Bits are inclined alternately to and from a dividing line central to this arrangement of seats. **The object of the inclining seats,** *is to give to the Bits thus arranged a side clearance, and they take a position the same as a saw tooth when set.* You will observe, therefore, that the Bits when at work strike the lumber with their edges only, which are slanting, to counteract the inclining of the seats and cut square. The special feature of the draw cut, as made with Bits having perfect side clearance and a division of chip, is plainly illustrated by the several engravings, and fully appreciated by every mechanical mind. The tools will turn out first-class work on hard, cross-grained and knotty lumber, and will save their cost many times in a single season. The experienced workman can readily operate them and the mechanic well up in the art of working in wood fully appreciates their make-up.



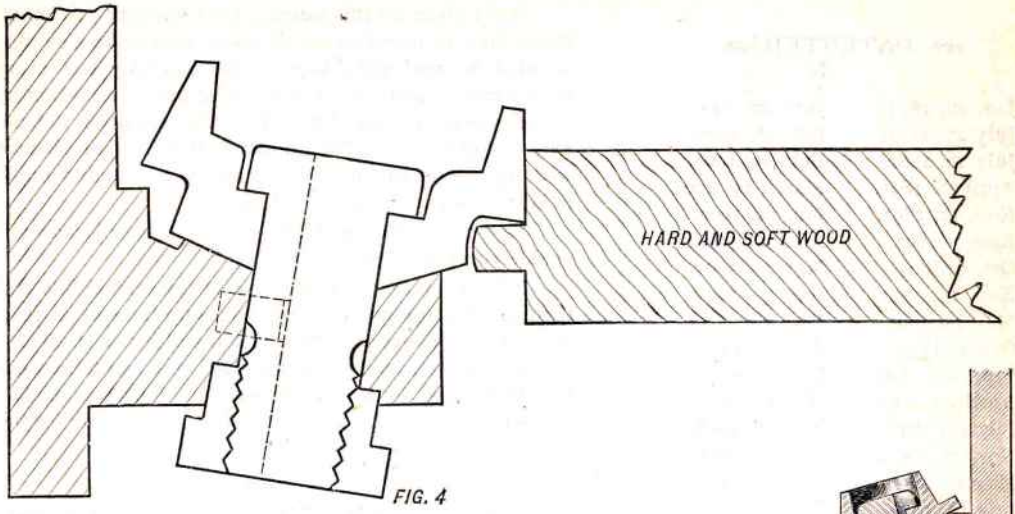


FIG. 4

This Fig. 4 illustrates the bit seat with the duplex incline, viz: the forward or backward incline for clearance, and the outward incline to make the overcut. This bit seat is made either flat like Fig. 1 and Fig. 2 improved (see pages 25 to 29) or conical as represented in the cut and like Figs. 22 and 23, page 16, or Figs. 202 and 203, page 13. The best part of every Cutter Head is in the bit seats and their combinations. That being right, all is right.

FIG. 6

Figs. 3 and 7 illustrate what we call our Old Style Flat bit seats. Figs. 4 and 6 illustrate the New Style Concaved bit seat.

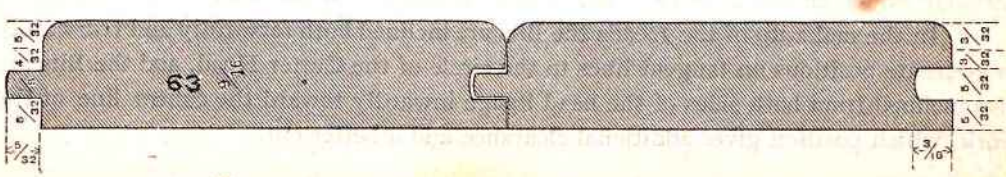
The advantage in having the Bit rest within a concaved seat consists in its being held not only by the bolt, but by the head metal that forms the bit socket. This relieves the lateral force that falls upon the bolt when the drive belts to the Cutter Heads break, or fall off, when the board is feeding into the machine.

The bit seats as shown in Fig. 4 and Fig. 6 have both a lateral and an outward slant. The lateral slant clears the work the Bit does in the groove as shown by Fig. 3. The outward slant sets the Bit in position to make the overcut on Beaded Siding, Partition, etc. See diagrams No. 61, No. 63 and No. 70.

Perfect Workmanship and Up-to-Date Improvements

Have kept The Shimer Cutter Heads in the lead—and they have made for themselves a name in the "History of the Planing Mill." Their record as coming to us through the mails, gives them **a matching capacity of 150 lineal feet per minute.** Just what rate of feed builders of wood-working machinery will next maintain remains a question, but The Shimer Cutter Heads *will match at any rate of feed the top cylinder of the planing machine will take.*

To be of further service to the Planing Mill industry, now largely engaged in *matching hard wood*, we have developed our latest improvements, covered by U. S.



PATENTED

Jan. 26, 1875.	June 26, 1900.
July 27, 1875.	Oct. 16, 1900.
July 18, 1882.	Feb. 19, 1901.
April 28, 1891.	March 19, 1901.
Nov. 17, 1891.	Jan. 14, 1902.
June 7, 1892.	April 22, 1902.
Oct. 9, 1894.	May 20, 1902.
Nov. 13, 1894.	July 22, 1902.
May 28, 1895.	Jan. 27, 1903.
Oct. 1, 1895.	April 7, 1903.
Sept. 15, 1896.	Feb. 9, 1904.
April 20, 1897.	May 2, 1905.
July 19, 1898.	May 15, 1906.
Nov, 22, 1898.	July 17, 1906.
May 23, 1899.	Jan. 15, 1907.
July 18, 1899.	Feb. 5, 1907.
May 29, 1900.	Feb. 12, 1907.
June 12, 1900.	Others pending.

What about all this patent advertisement? Nothing, more than to manifest our disposition to make a success of what we undertake to do. We carefully test every improvement that may come under our observation by experience in this one line. By strict attention to business we keep users of The Shimer Cutter Head in advance with up-to-date methods for quantity and quality finish of single tongue and groove flooring.

TEN CENTS worth of The Shimer Cutter Heads will enable you to earn $50.00 any day.

It is the bit seat, the division of the several Bits and their relative agroupment that makes up the special feature of value in every Cutter Head, and if you study our illustrations and read our description, you can tell an up-to-date Shimer Cutter Head from any imitation of The Shimer Cutter Head. *If you think you can't*, look for the Trade Mark, registered December 18, 1894,

TRADE

See ☞ **The Shimer Cutter Head**

MARK.

Stamped on every Cutter Head in full sight.

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patents (see dates in list above) and now build The Shimer Cutter Heads with seats concaved or dished out about their bolt hole centres to receive the conical under portion of the *Improved Circular Bits* that center themselves about the holding bolts—which bolts take the position shown in Fig. 6, central to the *New Concaved Seat* which is inclined for clearance after a line between that of the axial line and the tangent line of the Head, by reason of which we are enabled to build up more of a **diamond point for the Bit** to lead in the cut, and the edge line of the Bit takes a better position for matching hard woods.

The bit holding bolt, by reason of its slanting position, locates the nut further away from the strip or piece of lumber that is passing through the machine, and takes a deeper and stronger grip upon the head metal. See Fig. 6, showing the Bit as we fasten it to the concaved seat, which is not in a direct line with the force of the cut, therefore the stroke does not have so great a twirling power on the Bit, and a lighter tension on the bolt will hold the Bit in cutting position upon its centre than is required to hold a Bit upon a flat seat in line with the cut. (Compare Figs. 6 and 7.) Much attention has lately been given to

THE MATCHING OF HARD WOODS

And we have strengthened The Shimer Cutter Heads in all their parts and especially in their bit and seat combinations, with improvements on the shape and shear cut of the Circular Bit, to enable us to meet the demand coming from the hard wood districts.

In the make-up of the Heads the Bits are inclined both forwardly and rearwardly in alternate positions on tangent lines to the circle of the Cutter Head, and the Bits are also inclined from both sides of the head flange inwardly toward the centre line of the work, which position gives additional clearance and a better cut.

The Bits only touch the work with their cutting edges, which are sharpened with a file or an emery wheel when dull, and as they wear away they are brought forward into their working positions by moving them about their center. It will be noticed that *the entire circle of Bit serves in turn to make up the cutting edge*—comparatively the Circular Bit outwears any other many times and always produces the same standard work on cross-grained and knotty lumber just as completely as on the best selected No. 1 material.

The Bits must be sharpened after the same shear line of cut—and only from the notch side—*don't touch them with a file on their outer circles* into which their cutting shapes are moulded. They must also be set into the same cutting position on the Head to cut the exact pattern for which the Bits are shaped—usually a pattern of your own selection when you order the Head. A variety of patterns in full outline are shown elsewhere in this catalogue.

GAUGE
For the Tongue Head.



FIG. 14.

GAUGE
For the Groove Head.



FIG. 15.

We here show a set of Gauges (Figs. 14 and 15) one for the Tongue Head and one for the Groove Head. To set the Bits into their cutting positions, place the arms of the Gauge 1, 1, in touch with the round part of the nut that holds the Bit. The arms 2, 2, pass down by the sides of the Head as a steady guide; the lug on the inside located where we place figure 3, will rest on the outer circle of the head. When the gauge in this position, bring the notch of the Bit up against the face of the gauge and the cutting edge of the Bit will be in the right position to work the exact pattern for which the Bits are made. The gauges reverse to set both the upper and lower Bits on the head—have slanting faces and the Bit edges filed or sharpened thereto, will have a draw cut, a division of chip and perfect clearance—a combination fully appreciated by every mechanical mind.

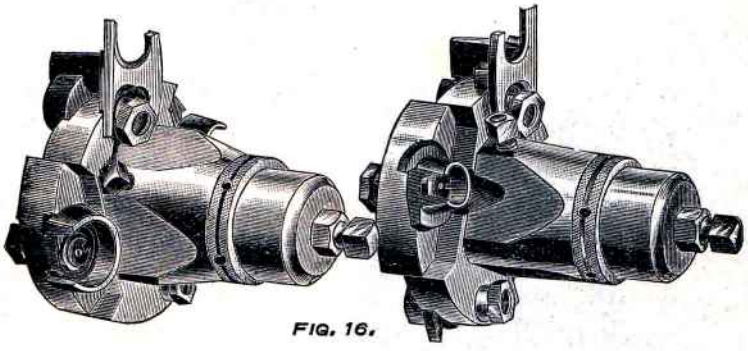
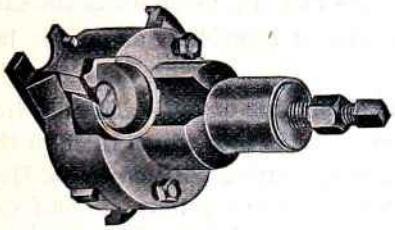


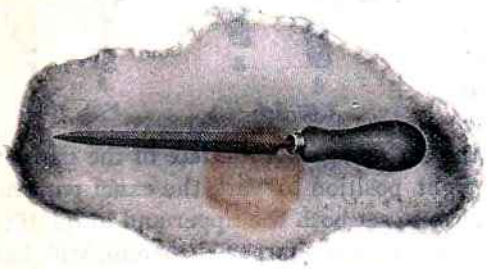
FIG. 16.

We here show a set of Heads (Fig. 16) with the gauge for Tongue Head in place to fix the position of the lower Bit on the Tongue Head and the gauge for the Groove Head is in place to fix the position of the lower Bit on the Groove Head. *By a careful use of these gauges you will keep your work up to the true standard*, a consideration of much value, to have one shipment of flooring match with the other shipment made months or years previous. Dealers and builders greatly appreciate this uniformity of pattern.

The Importance of Filing Bits to Gauge.

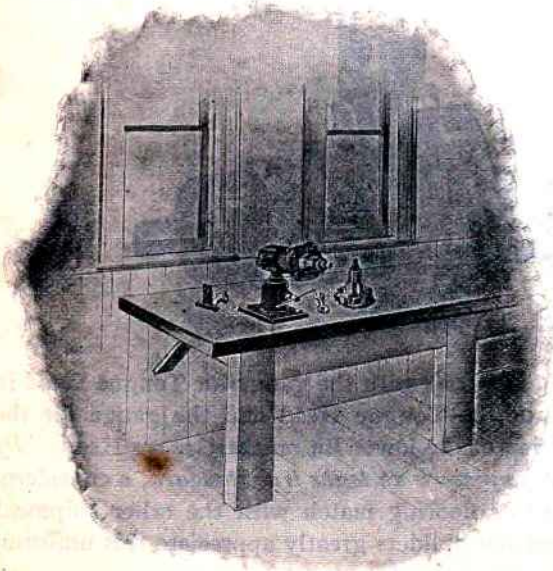
In designing the Bits for Matcher Heads and other tools we do it with the intention of filing the cutting edge with slant and hook as indicated by the gauge. If you give the edge of the Bit a different slant you change the relation of the cutting edge to the contour of the Bit and it will no longer cut the true shape of the mould. Should the hook of the Bit, that is, the slant from the edge to the throat be altered or increased, the Bit will cut deeper than originally intended, and should the hook be lessened, the Bit will cut shallower. All this we refer to here so that the user may accustom himself to the use of the gauge and file and set the Bits thereby, which is a very simple operation and one that requires no more time than that of filing a saw tooth. It requires no fitting whatever, and the Bits should never be filed on the outer circle.





Use an 8-inch taper or three-cornered file as here shown, which is the most convenient size and shape for all sizes and kinds of Cutters of our make.

A 4-inch or 6-inch half round file is useful in filing away the inside of edge for Cope Bits, etc., where the very keen edge is necessary to properly cut and form tenons across the grain.



A wooden bench can readily be placed where good light can be had and if it is fitted with one of our Filing Stands, illustrated elsewhere in this book, the operator will have the necessary equipment to care for the Heads in the best manner.

Any machinist's bench vise may be used in lieu of our special device, if desired.

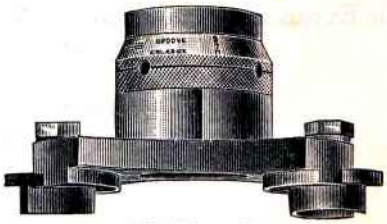
Machine operators and others wishing any special information concerning these tools are invited to correspond with us.

THE SHIMER
CUTTER HEAD EXPANSION

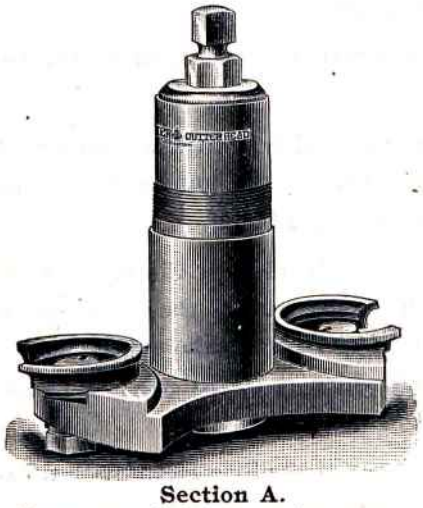
Is operated by the Corrugated Spanner Nut, which Locks Automatically at every Stop, and Registers in Sight.



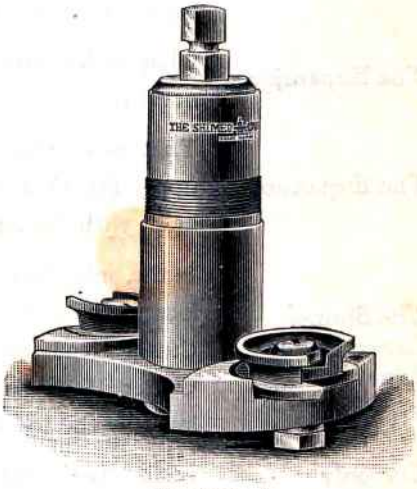
Section B.



Section B.



Section A.
Tongue Head with Expansion, apart.



Section A.
Groove Head with Expansion, apart..

Each Head is made in two sections. The top section which carries the lower series of Bits is made to slide over the lower section (Section A) and the flange of the one section interlocks with the flange of the other, fitting together perfectly in the construction of a single Expansion Head. When the Head is thus assembled the up and down adjustment is limited by stops both ways so as to keep the Bits within the range of adjustment allotted to them.

To set and reset the Expansion by the lower cutting Bits, turn the Spanner Ring the way the arrow points and count the figures as being equal to that many sixty-fourths.

Thus: The Bits being regular, will cut the tongue and the groove ¼ thick when the pointer is at o. To every one-quarter turn of the Spanner Ring the way the arrow points add one sixty-fourth (to the ¼ inch the normal thickness for tongue and groove) and you make the tongue ¼ plus 1-64 thick. With the pointer at 2, you make the tongue ¼ plus 2-64 thick. With the pointer at 3, you make the tongue ¼ plus 3-64 thick. With the pointer at 4, (one full turn) you make the tongue ¼ plus 4-64 or or 5-16 thick, and thus on to the limit. There are also 3 automatic stops between every count, each equal to ⅓ of 1-64 of an inch, which serve to make a very fine adjustment to regulate for tight or loose fit of tongue or groove.

The Shimer Cutter Heads with The Shimer Cutter Head Expansion.

The Expansion	That registers (thick or thin) size of tongue and groove in sight.
The Expansion	That closes up when it undertakes a heavy job and gets right down to it. When the lighter work is being done the Cutter Head sections are expanded.
The Expansion	That you can set for any thickness of single tongue and groove the Bits will cut, by simply turning the spanner nut, without taking the Head off the spindle.
The Expansion	That you can set and reset for tight or loose fit of tongue in groove without disturbing the alignment cut of the Side Heads with the surface cut of the cylinder.
The Expansion	That locks automatically at every set, and reset, of the spanner nut.
The Expansion	That moves the lower Bits up or down without changing the upper Bits that are set (and carried by the top screw) in alignment with the surface cut of the cylinder.
The Shimer Cutter Head Expansion	Is the only Expansion to a Cutter Head with Circular Bits that locates the *Lower Bits* on the under side of the upper movable Cutter Head section, and the *Upper Bits* on the upper side of the Cutter Head section proper, which is carried and set (high or low) by the top screw.
The only Expansion	With a permanent alignment cut of the Side Heads with the surface cut of the cylinder in all the world.

By means of The Shimer Cutter Head Expansion adjustable cutter head practice is already the rule to accommodate the cut of the Bits to the kind and condition of the woody fiber as you find it in oak, pine and poplar—dry, half dry or just as you get it from the log. Wood that is soft or green will not stand up in the cut with the same resistance as the wood that is dry and hard, therefore the same set of Bits will not make the tongue and groove to fit the same, in oak as in pine, in dry as in green lumber; neither will the cut of the newly sharpened set of Bits make the tongue and groove exactly like that which they will cut when they are dulled. THEREFORE THE IMPORTANCE OF THE SHIMER CUTTER HEAD EXPANSION to quickly right up these little differences without taking the heads off the spindles.

To change the fit (tight and loose) of tongue in groove, stop the machine, loosen the set screw, turn the spanner nut to the right, one, two, three stops, to make the tongue or the groove 1-64 thinner; to the left one two, three stops, to make the tongue or the groove 1-64 thicker; tighten the set screw.

"Best of All" The Shimer Cutter Heads

WITH FOUR BITS TO EACH HEAD.

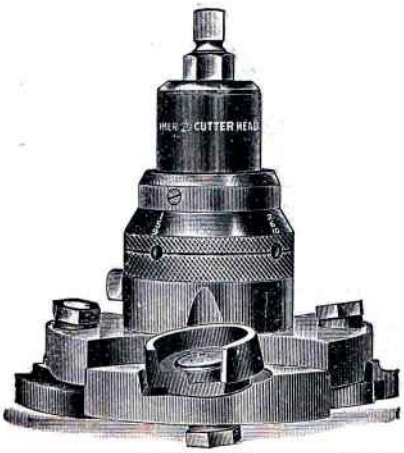


FIG. 202

With 4 Conical Duplex Bit Seats and The Shimer Cutter Head Expansion.

For All-Round Service—Most Popular Tools.

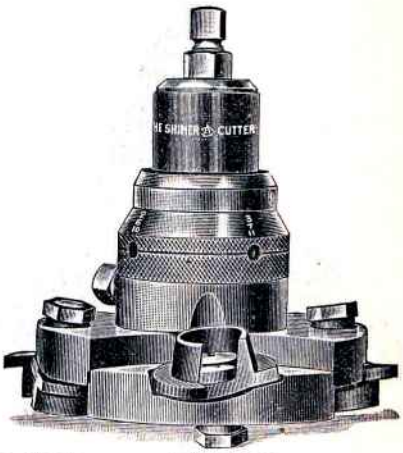


FIG. 203

With 4 Conical Duplex Bit Seats and The Shimer Cutter Head Expansion.

These are Our Net Prices.

One set of Cutter Heads with The Shimer Cutter Head Expansion.		
Two Heads, complete with Bits to match	*⅜ to ½ inch*	$32.24
" " " " " "	*⅝ to ¾* "	32.24
" " " " " "	*15/16 to 1½* "	33.12
" " " " " "	*1½ to 2* "	34.48
One set of 8 Bits to match	*⅜ to ½ inch*	$8.40 *Each* $1.05
" 8 " "	*⅝ to ¾* "	8.40 " 1.05
" 8 " "	*15/16 to 1½* "	9.28 " 1.16
" 8 " "	*1½ to 2* "	10.64 " 1.33

Any one set of the above Bits will work interchangeably on these Cutter Heads.
Prices subject to change without notice.

Every stop equals a change of ⅓ of 1-64 of an inch; every 12 stops (a full turn of the spanner nut) equals a change of 1-16 of an inch.

At every third notch in the turn there is a perpendicular row of figures thus: Four perpendicular rows about the spanner nut.

With the UPPER SECTION up as far as it will go, and the pointer **v** at 0, the Bits will cut the thinnest tongue and groove; with the UPPER SECTION down as far as it will go, the Bits will cut the thickest tongue and groove that they can make.

				v
3	2	1	0	
7	6	5	4	
11	10	9	8	
			12	

Every figure represents that many 64ths of an inch in the adjustment. On the first turn of the spanner nut you count by the figures 1, 2, 3 4. On the second turn you count by the figures 5, 6, 7, 8, and so on to the limit of the adjustment. The automatic stops are rigid, the adjustment positive and true to measure.

We show on page 14 a set of Circular Bits to match single tongue and groove. These Bits will cut a tongue ¼ of an inch thick, and a groove ¼ of an inch wide when the pointer **v** stands at 0. With the pointer **v** above the figure 4 after the first turn of the spanner nut, the tongue and the groove will measure 5-16 thick; with the

"Best of All" The Shimer Cutter Heads

WITH SIX BITS TO EACH HEAD.

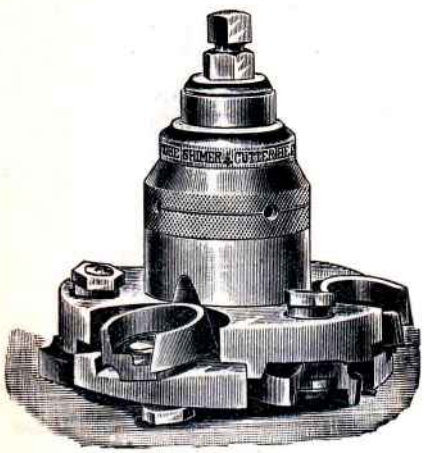


FIG. 202

With 6 Conical Duplex Bit Seats and all the late Improvements. Very popular tools.

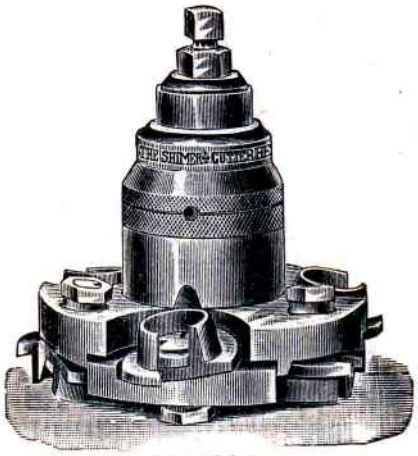


FIG. 203

With 6 Conical Duplex Bit Seats and all the late Improvements. Very popular tools.

These are Our Net Prices.

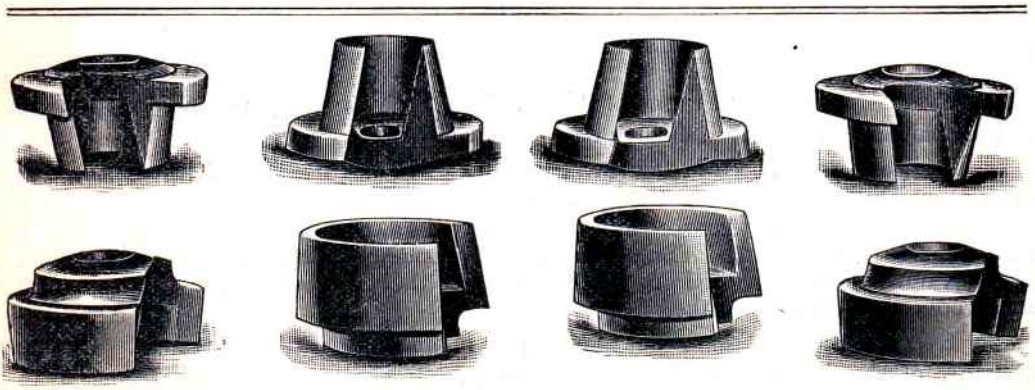
One set of Cutter Heads with The Shimer Cutter Head Expansion,	
Two Heads complete with Bits to match ⅜ *to* ½ *inch*	$38.52
" " " " " " ⅝ *to* ¾ "	38.52
" " " " " " $\frac{15}{16}$ *to* 1½ "	39.84
" " " " " " 1½ *to* 2 "	41.88

Cutter Heads 5½ inches surface cut diameter and larger will take 6 bit seats.

One set of 12 *Bits to match* ⅜ *to* ½ *inch*	$12.60	*Each* $1.05
" 12 " " ⅝ *to* ¾ "	12.60	" 1.05
" 12 " " $\frac{15}{16}$ *to* 1½ "	13.92	" 1.16
" 12 " " 1½ *to* 2 "	15.96	" 1.33

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.



pointer above the figure 8 after the second turn of the spanner nut, the tongue and the groove will measure ⅜ thick, which is equal to 8-64 added to ¼ of an inch, the thickness the Bits will cut when the pointer stands at o.

Other Bits (for either conical or flat bit seats) are formulated by these Bit proportions to cut any pattern of single tongue and groove flooring that you may specify either by drawing or sample.

"Best of All" The Shimer Cutter Heads

WITH EIGHT BITS TO EACH HEAD.

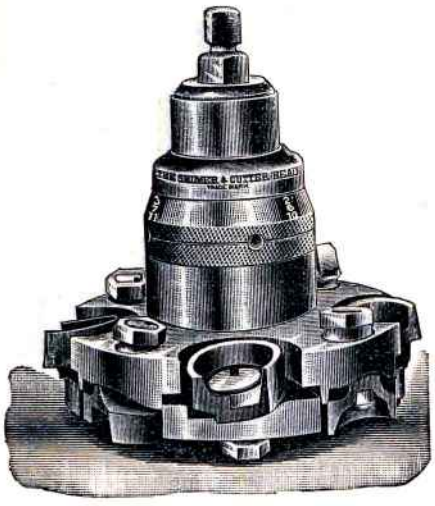


FIG. 202

With 8 Conical Duplex Bit Seats and all the late improvements.

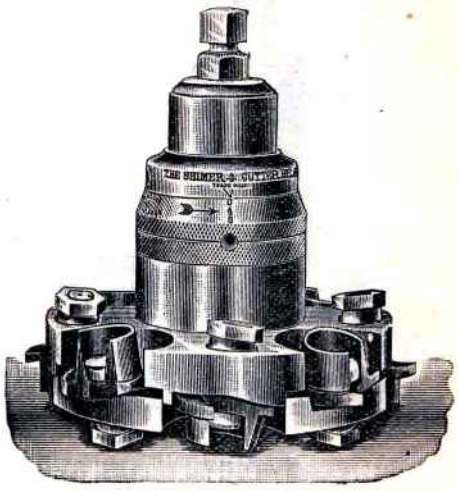


FIG. 203

With 8 Conical Duplex Bit Seats and all the late improvements.

For Rapid Feeds and Hardwood.

Provided with

The Duplex Bit Seats To set the Bits to make the under cut in the groove and the overcut above the groove *with clearance.*

The Conical Bit Seat To protect the Cutter Heads against injury when the drive belt breaks and the feed is on.

The Diamond Tool Point To start the cut, and shave the chips away from the divided incut, where the heaviest work is done.

The Strongest Bit Construction And every other most valuable improvement is built into these Cutter Heads.

These are Our Net Prices.

One set of Cutter Heads with The Shimer Cutter Head Expansion,	
Two Heads complete with Bits to match 3/8 to 1/2 inch	$44.80
" " " " " " 5/8 *to* 3/4 "	44.80
" " " " " " 15/16 *to* 1 1/2 "	46.56
" " " " " " 1 1/2 *to* 2 "	49.28

Cutter Heads 6¾ inches surface cut diameter and larger will take 8 bit seats.

One set of 16 Bits to match 3/8 to 1/2 inch	$16.80	*Each* $1.05
" *16* " " 5/8 *to* 3/4 "	16.80	" 1.05
" *16* " " 15/16 *to* 1 1/2 "	18.56	" 1.16
" *16* " " 1 1/2 *to* 2 "	21.28	" 1.33

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

The "Up-to-Date" Shimer Cutter Heads

WITH FOUR BITS TO EACH HEAD.

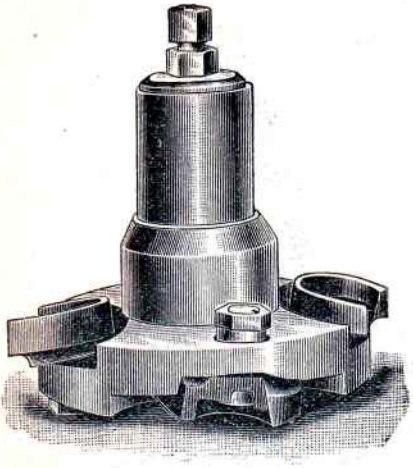


FIG. 22
In Solid Section with 4 Conical Duplex Bit Seats.

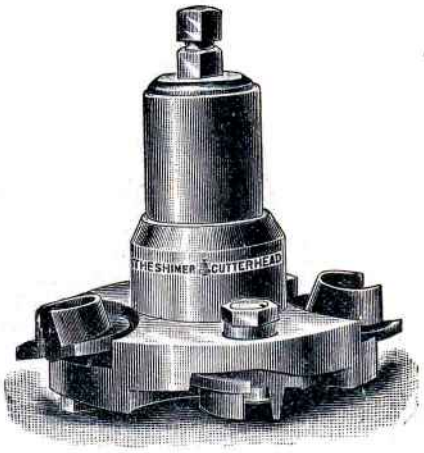


FIG. 23
In Solid Section with 4 Conical Duplex Bit Seats.

For Fig. 22 and Fig. 23 with Expansion, see Fig. 202 and Fig. 203, Page 13.

These four Cutter Heads represent the strongest of all The Shimer Cutter Heads, in combination with the strongest of all the Circular Bits to match single tongue and groove flooring from 15-16 to 1½ inches in thickness. They are provided with

The Duplex Bit Seats To set the Bits to make the under cut in the groove and the overcut above the groove *with clearance.*

The Conical Bit Seat To protect the Cutter Heads against injury when the drive belt breaks and the feed is on.

The Diamond Tool Point To start the cut, and shave the chips away from the divided incut, where the heaviest work is done.

The Strongest Bit Construction And every other most valuable improvement is built into these Cutter Heads.

These are Our Net Prices.

One set of Cutter Heads in Solid Section.

Two Heads complete with Bits to match	⅜ *to* ½ *inch*	$28.04
" " " " " "	⅝ *to* ¾ "	28.04
" " " " " "	1⅛ *to* 1½ "	28.92
" " " " " "	1½ *to* 2 "	30.28

One set of 8 *Bits to match*	⅜ *to* ½ *inch*	$8.40	*Each*	$1.05
" 8 " "	⅝ *to* ¾ "	8.40	"	1.05
" 8 " "	1⅛ *to* 1½ "	9.28	"	1.16
" 8 " "	1½ *to* 2 "	10.64	"	1.33

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

The "Shimer Limited"

(IN SOLID SECTION, STEEL FORGED)

Designed and Built Throughout for the High Speed Matcher.

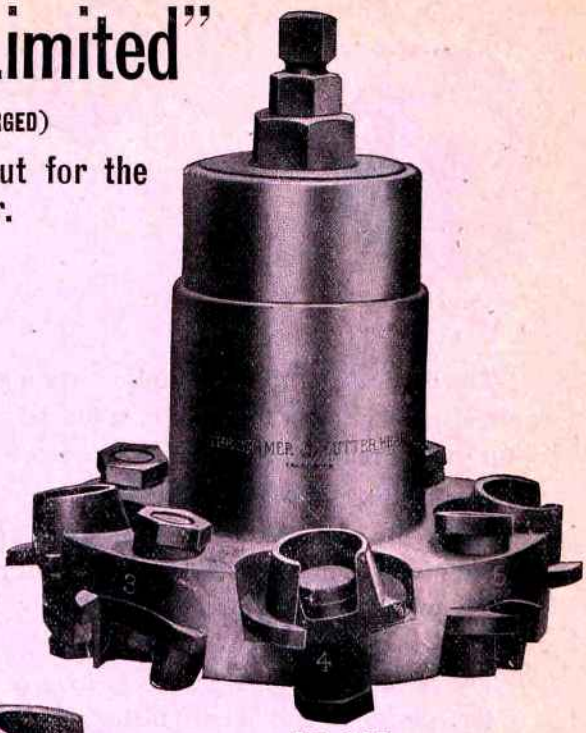


FIG. 625

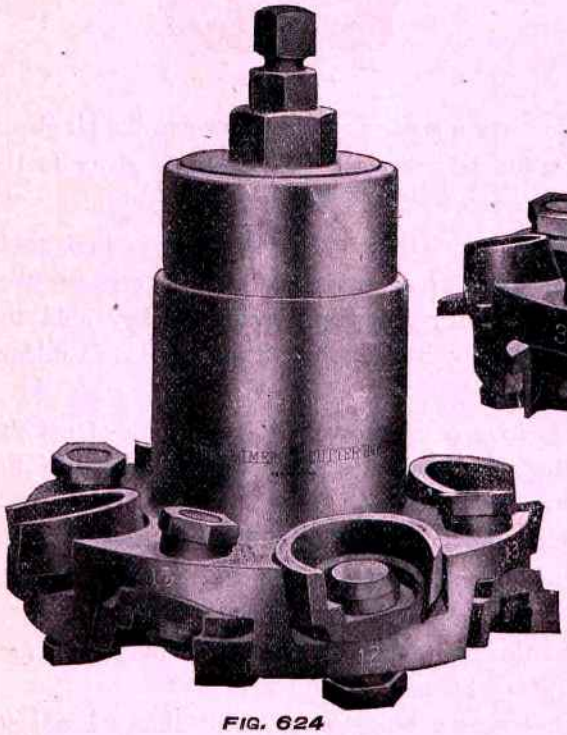
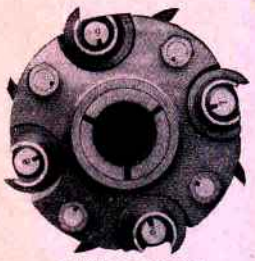


FIG. 624

The construction of the "Shimer Limited" differs from our Fig. 22 and Fig. 23, which they closely resemble, in the method of attaching them to the spindle; in a special construction of the bit seat; and of the bit designed for faster cutting; in the greater strength of the holding bolts; in the self-centering device which clings to the spindle when drawn up, securing it firmly thereto.

To match flooring at the rate of 150 to 170 feet lineal per minute the side heads must be in perfect balance and the Bits must be jointed. The former will be found to be a feature of each head as sent to the user and the latter we furnish facilities for in our new Hand Jointing Machine.

The Head consists of a solid steel forging, the central bore of which is tapered, and the upper portion has fitted thereto a rotatable cap and nut. Into the bore of the Head a taper collet projects, having an upper threaded portion fitting the rotatable nut. The collet is so arranged as to contract when top nut is drawn up as shown in Fig. 626, and thereby binds itself firmly to the spindle. These various parts are made of good steel forgings and the collets are hardened and ground true to size. The entire construction of this tool is the finest, both in workmanship and material.



BOTTOM VIEW

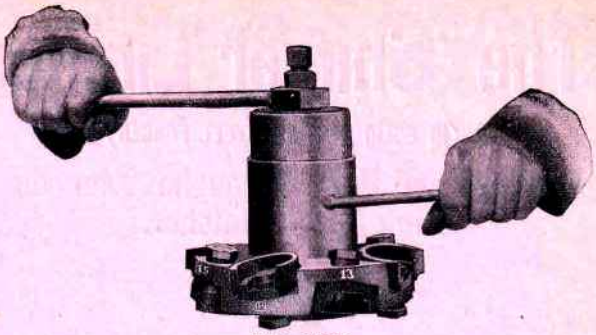


FIG. 626

The Bit Seats in these tools also carry a greater areal surface and the bit chambers are of greater depth to compensate for the new acute cutting angle given to the Bits, for greater relief to the parts coming into contact with the lumber.

The holding bolts are strengthened several times over by the use of a high grade of steel especially made for our use. It is the strongest and toughest material we have ever heard of and especially suited for these heavy jarring strains. They hold the Bits firmly upon the bit seats so that a turning back from cutting strains is seldom heard of.

The spindle gripping device is positive and effective in its purpose of holding fast to the spindle, as also in centralizing the Head for a more uniform action of the cutters after being jointed by our jointing machine.

Having especially equipped for the production of the Shimer Cutter Head to suit the several fast feeding machines now upon the market, we can promptly execute any order that may be sent in to us.

Some tools made for machines of this new type are heavy and cumbersome, requiring intricate machines to keep the heads themselves in order.

The real worth of a tool so comprehensive, therefore, as this "Shimer Limited" and so simple to keep in order, can well be imagined. Its quality is exceptionally good and its earning power will manifest itself under trial and observation.

The user of every high speed matcher is interested in the production of flooring at the lowest price consistent with good work. He feels the necessity, therefore, to procure tools and appliances that will not only do much good work but also such as will add conveniences for the workmen with genuine labor-saving advantages for years of service. And these qualities are found in their most complete state in the "Shimer Limited" Cutter Heads.

These Are Net Prices:

One set of Cutter Heads in Solid Section :

Two Heads complete with Bits to match	⅜ *to* ½	$50.74
" " " " " "	⅝ *to* ¾	50.74
" " " " " "	$\frac{15}{16}$ *to* 1½	52.50

Cutter Heads 6¾ surface cut diameter and larger will take 8 bit seats.

One set of 16 Bits to match	⅜ *to* ½	$16.80	*Each*	$1.05
" " *16* " "	⅝ *to* ¾	16.80	"	1.05
" " *16* " "	$\frac{15}{16}$ *to* 1½	18.56	"	1.16

Any one set of these Bits will work interchangeably on these Heads.

Prices subject to change without notice.

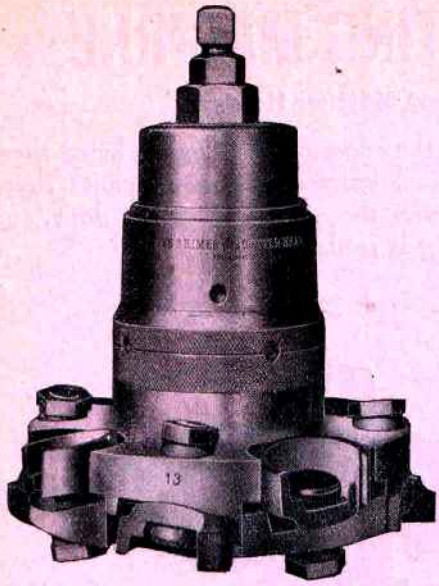


FIG. 627

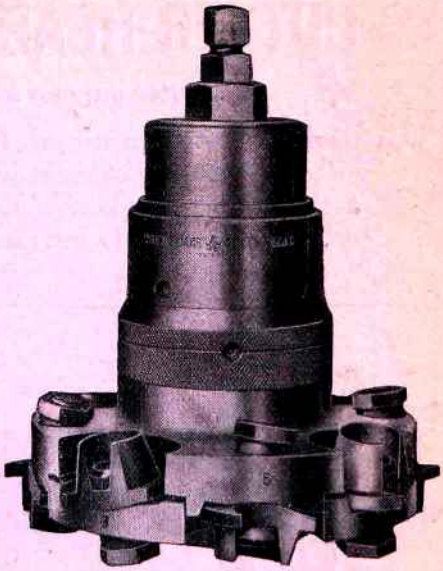


FIG. 628

THE "SHIMER LIMITED"
WITH EXPANSION

Fig. 627 and Fig. 628, are shown here. Made of Steel Forgings their strength is not exceeded. Their cutting bits and holding devices, self-centering features and seat inclines, like Figs 624 and 625, are all especially designed to meet the requirements of the high speed matcher—160 lineal feet capacity per minute or more—with the added feature of Expansion. The usefulness of this feature is fully explained on pages 11 to 19 of our No. 30 catalogue. All slight changes to secure perfect fitting of the tongue in groove are made in the usual manner, as well as any adjustments for thicker material within the limit of allowance made for the Bits, usually 1/8 inch for tongue and groove.

All cutters are preferably made of high quality tool steel tempered to file. They hold an edge for any hard lumber for five hours and in many instances for a ten hours run.

It is important that all Heads shall be jointed in order that a perfect register of cutting edges shall be secured, as only the best work may be secured under favorable tool conditions. Give the Shimer Cutter Heads the attention they should have and results will be in keeping with the highest attainments, and that with least amount of labor.

☞What not to do. If your matcher is designed for 80 to 100 foot work, don't expect to do 150 foot with it by adding these tools, but in that event select the tools Figs. 202 and 203, with six Bits each.

These Are Net Prices:

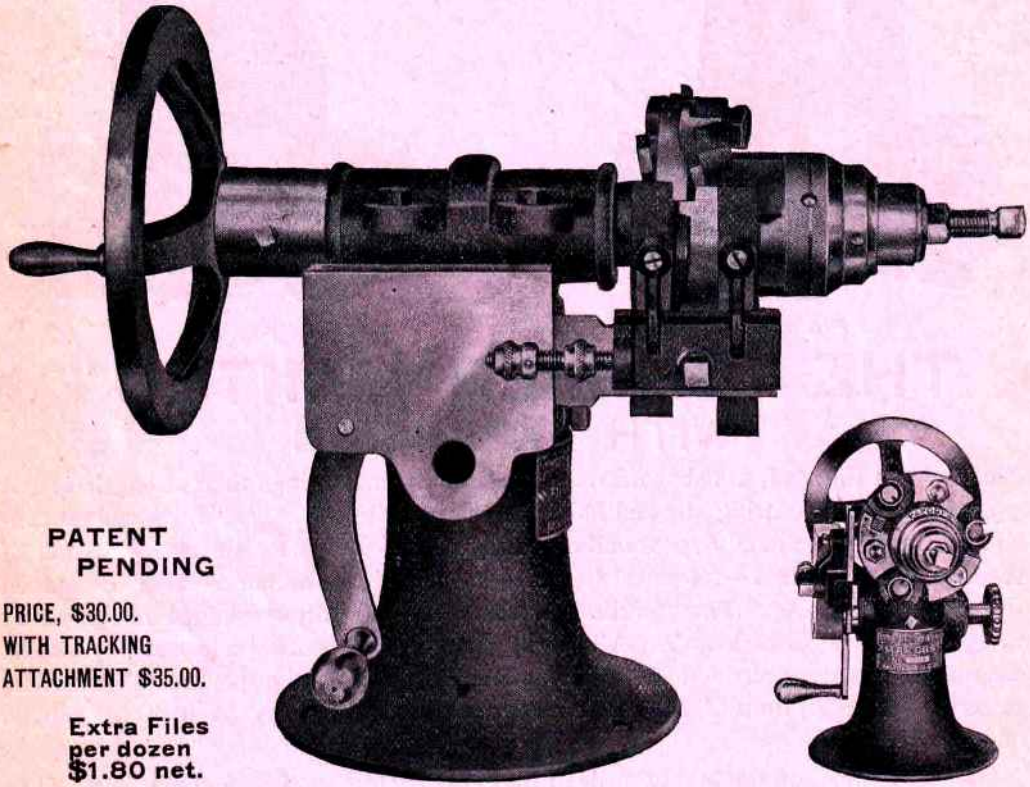
One set of Cutter Heads with Expansion.

Two Heads, complete with Bits to match	3/8 *to* 1/2 *inch*	$54.94	
" " " " " "	5/8 *to* 3/4 "	54.94	
" " " " " "	15/16 *to* 1 1/2 "	56.70	
One set of 16 Bits to match	3/8 *to* 1/2 *inch*	$16.80	*Each* $1.05
" " *16* " "	5/8 *to* 3/4 "	16.80	" 1.05
" " *16* " "	15/16 *to* 1 1/2 "	18.56	" 1.16

CUTTER HEAD JOINTING MACHINE

(Suited only for our High Speed Matcher Heads.)

This machine, with the use of files, joints the edges of the Bits to bring them within a common cutting radius, so that each knife edge does an equal share of the cutting. Its careful use will improve the quality of work done, and enable the operator to increase machine feeds if desired.



PATENT PENDING

PRICE, $30.00. WITH TRACKING ATTACHMENT $35.00.

Extra Files per dozen $1.80 net.

DESCRIPTION

This machine consists of a base with an upright central column of cast iron with babbeted box and journal at the top, one end of which journal is fitted with a hand wheel adapted to be turned by hand, the other to suit the bore of the head to be jointed. At the rear is a knurled hand wheel which adjusts the file supports in and out to suit the required cutting diameter.

The file support is limited in its throw longitudinally by means of the threaded screw and knurled nuts thereon at the front of the machine. Care should be taken to have the adjustment or throw of the files arranged so as not to touch the leading point of the groove bits. These files should be adjusted before rotating the head to joint, and the limit of adjustment should be made to agree with the bits on the head as lined up when the head is fastened upon the spindle stub and the point of bit brought around to a point close to but not permitting it to touch the edge of the file. The flat side of the files have an independent adjustment so as to cause them to merely touch the jointing edge of the bits—probably less than one thousandth part of an inch will be removed from some of the edges, whereas others will show more. Two of these rotations of the head will be sufficient to produce the desired results.

When rotating the head in jointing the bits move the lever near the base of the machine which gives the files a longitudinal movement to cover the full edge to be jointed.

The "Up-to-Date" Shimer Cutter Heads

WITH SIX BITS TO EACH HEAD.

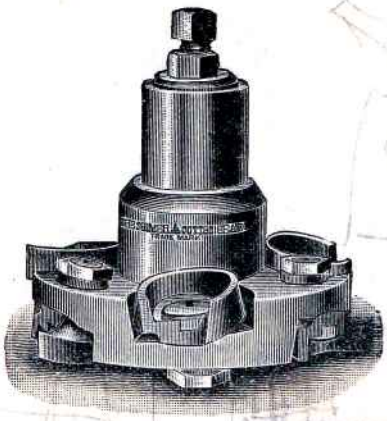


FIG. 22
In Solid Section with 6 Conical Duplex Bit Seats.

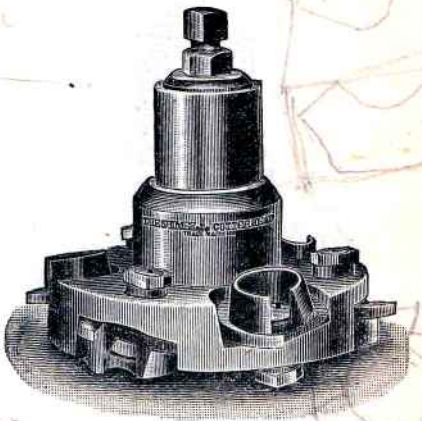


FIG. 23
In Solid Section with 6 Conical Duplex Bit Seats.

For this style of Head with the Expansion, see Page 14.

These Six Bit Solid Flange Heads represent tools as we make them for some of the large and heavy matching machines. They will apply to any machine that will receive heads whose surface cut diameter exceeds 5½ inches They have more cutters with which to carve away the lumber in shaping up the single tongue and groove joints than the heads shown on opposite page, and in all places where the tools are used on hard wood this item figures to advantage. Each cutter is firmly seated upon the Conical Duplex Bit Seat as fully described on pages 6 and 7 to which we would now refer. Heads made of steel forgings place before each buyer the strongest material that is available for the purpose, exceeding in strength that of steel castings or gun metal fully 50 per cent.

These are Our Net Prices.

One set of Cutter Heads in Solid Section.

Two Heads complete with Bits to match ⅜ to ½ inch	$34.32
" " " " " " ⅝ to ¾ "	34.32
" " " " " " 15/16 to 1½ "	35.64
" " " " " " 1½ to 2 "	37.68

One set of 12 Bits to match ⅜ to ½ inch	$12.60	*Each* $1.05
" 12 " " ⅝ to ¾ "	12.60	" 1.05
" 12 " " 15/16 to 1½ "	13.92	" 1.15
" 12 " " 1½ to 2 "	15.96	" 1.33

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

The "Up-to-Date" Shimer Cutter Heads

WITH EIGHT BITS TO EACH HEAD.

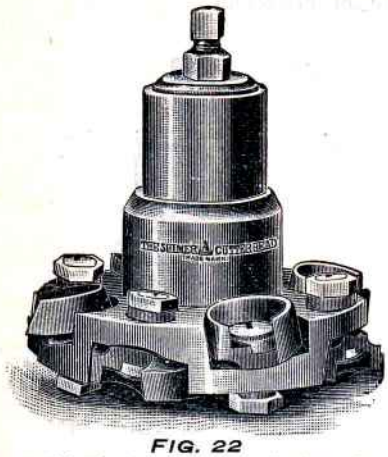


FIG. 22
In Solid Section with 8 Conical Duplex Bit Seats.

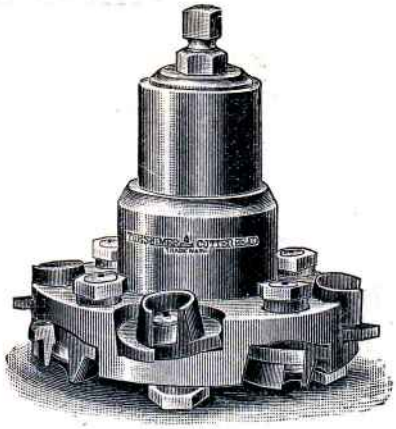


FIG. 23.
In Solid Section with 8 Conical Duplex Bit Seats.

For this style of Head with the Expansion, see Page 15.

Every feature that serves to save time of the operator or that goes to promote his labors and accomplish his ends more economically are found in The Shimer Cutter Head. Those who have machines that will surface at 6¾ inches diameter or larger can use the 8 Bit Matcher Heads above represented and increase machine feeds thereby or improve their work under same rate of feed. They are the strongest 8 Bit Heads we make in combination with the strongest of all the Circular Bits to match single tongue and groove flooring from 15-16 to 1½ inches in thickneness. They are provided with

The Duplex Bit Seat. To set the Bits to make the under cut in the groove and the overcut above the groove *with clearance.*

The Conical Bit Seat. To protect the Cutter Heads against injury when the drive belt breaks and the feed is on.

The Diamond Tool Point. To start the cut, and shave the chips away from the divided incut, where the heaviest work is done.

The Strongest Bit Construction And every other most valuable improvement is built into these Cutter Heads.

These are Our Net Prices.

One set of Cutter Heads in Solid Section.

Two Heads complete with Bits to match						*⅜ to ½ inch*	$40.60
"	"	"	"	"	"	*⅝ to ¾ "*	40.60
"	"	"	"	"	"	*1⅛ to 1½ "*	42.36
"	"	"	"	,,	"	*1½ to 2 "*	45.08

Cutter Heads 6¾ inches surface cut diameter and larger will take 8 bit seats.

One set of	*16*	*Bits to match*				*⅜ to ½ inch*	$16.80 *Each* $1.05
"	*16*	"	"			*⅝ to ¾ "*	16.80 " 1.05
"	*16*	"	"			*1⅛ to 1½ "*	18.56 " 1.16
"	*16*	"	"			*1½ to 2 "*	21.28 " 1.33

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

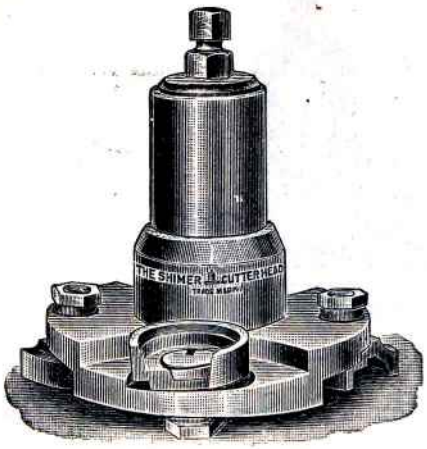


FIG. 12
In Solid Section with 4 Flat Duplex Bit Seats.

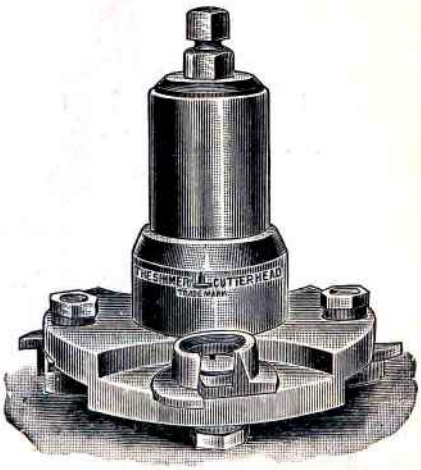


FIG. 13
In Solid Section with 4 Flat Duplex Bit Seats.

The Heads on pages 19 to 24, inclusive, all belong to the same series, having Flat Duplex Bit Seats.

The Steel of the forging has a tensile strength of 60,000 lbs. to the square inch. The Bronze of the casting has a tensile strength of 40,000 lbs. to the square inch. | The steel is ⅓ stronger than the bronze.

Cutter Heads made of solid steel forgings will not tear out or elongate at the bolt holes as do some made of bronze castings, and the boy finder of brass don't want them, because the junk dealer won't buy them.

The conical bit seat, Fig. 4, Page 7, is stronger than the flat seat, Fig. 7, page 6.

These Cutter Heads are provided with the flat duplex bit seats, that have an outward incline radially, in combination with the alternate incline that make The Shimer Cutter Heads popular. This bit seat sets the Bit to make the undercut, in the groove, and the overcut, above the groove, with an all-round clearance to work pattern 70 or any other pattern of Car Siding or Partition that may be wanted.

It is the bit seat, the set of the Bits, and their relative agroupment that makes the Cutter Head valuable. With this and every other improvement built into the several up-to-date and "Best of All" The Shimer Cutter Heads, we are in position to offer the best Cutter Head in the market today, for every class and style of single tongue and groove matching.

These are Our Net Prices

One set of Cutter Heads in Solid Section,

Two Heads complete with Bits to match	⅜ *to* ½ *inch*	$26.48
" " " " " "	⅝ *to* ¾ "	26.48
" " " " " "	1⅛ *to* 1½ "	27.28
" " " " " "	1½ *to* 2 "	28.56

One set of 8 *Bits to match*	⅜ *to* ½ *inch*	$8.00	*Each* $1.00
" 8 " "	⅝ *to* ¾ "	8.00	" 1.00
" 8 " "	1⅛ *to* 1½ "	8.80	" 1.10
" 8 " "	1½ *to* 2 "	10.08	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Bed Rails—Bed Rail Heads are preferably made of this style.

Fig. 13, to groove ½ or 9/10 *inch deep, in Solid Section, (with flat bit seats) each*	$9.24
" 213, " " " " " *Expansion, (with flat bit seats) each*	11.34
Price for Bits to match plank heavier than 2 inches thick, each	1.56
The price of Bed Rail Moulded Bits, each	1.74
" " " " *Plain Bits, each*	1.39

Prices subject to change without notice.

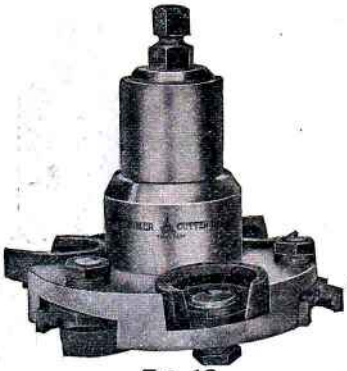


FIG. 12

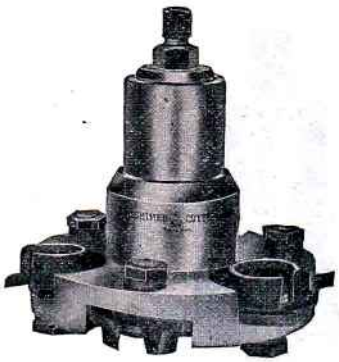


FIG. 13

In Solid Section with Six Flat Duplex Bit Seats to each Head.

☞This Head with the Expansion feature will be found represented on page 23.

These Heads, made of steel forgings and six Flat Duplex Bit Seats, readily distinguish themselves with regard to their quality when working on Car Siding Wainscoting and various patterns calling for a distinct clearance for cutting edges above or below the groove lines in working out their special configurations.

The bit seats in these Heads, like those represented on page 19, give not only a clearance to the tongue and groove portions of the cut, but as well provide for a clearance to the over-cut or under-cut as in pattern 70 of the Car Siding and other designs of a similar nature.

For matching square joints, that may be laid either side up, thus selecting the best side for the face, two extra tongue and groove bits should be used for the lower series of cut for each head. They are filed and set by the usual gauge that accompanies the head, and cut a tongue and groove joint that is uniform and true to patterns and square with the surface.

The Bits are adjusted upon their seats for different thicknesses by means of washers that accompany each Head.

The washer adjustment goes with the Shimer Cutter Heads in Solid Section. To get the user away from the necessity of using the washer, we make these Heads in two solid sections each (the one sliding freely upon the other) for adjustment of the Bits, set the *lower Bits* up or down for tight or loose fit of tongue in groove.

These are Our Net Prices

One set of Cutter Heads in Solid Section.

Two Heads complete with Bits to match ⅜ to ½ inch	$32.56
" " " " " " ⅝ to ¾ "	32.56
" " " " " " $\frac{15}{16}$ to 1½ "	33.76
" " " " " " 1½ to 2 "	35.68

Cutter Heads 5½ inches surface cut diameter and larger will take 6 bit seats.

One set of 12 Bits to match ⅜ to ½ inch	$12.00	*Each* $1.00
" 12 " " ⅝ to ¾ "	12.00	" 1.00
" 12 " " $\frac{15}{16}$ to 1½ "	13.20	" 1.10
" 12 " " 1½ to 2 "	15.12	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

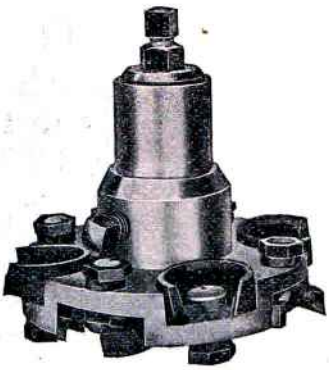


FIG. 12

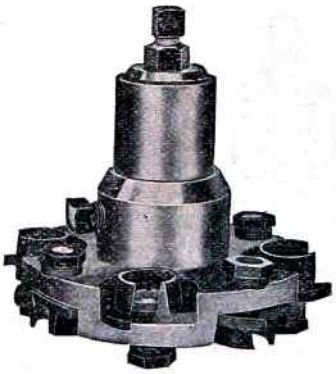


FIG. 13

In Solid Section with Eight Flat Duplex Bit Seats to each Head.

☞This Head with the Expansion feature will be found represented on page 24.

The use of eight Bits to each Head still further augments the very effective work of these tools on special machines permitting the use of tools of 6½ inches surface cut diameter or larger, in the production of smoothly finished work under rapid feeds. The clearance protection given these Bits for a two-fold purpose—that of effectually clearing all leading points in carving the tongue and groove proportions, as well as that portion of the cutter cutting the special outline above or below the tongue or groove, as in making Wainscoting or Car Siding and the like, have every available protection against unnecessary friction and wear. The Bits may be filed or ground for sharpening and when set to the gauge will maintain the uniform size and shape "the pride of the mill."

One important feature that characterizes The Shimer Cutter Head Expansion is this: The lower Bits are "the Bits that change position to make tight or loose fit of the tongue in the groove. This leaves the upper Bits, as set by the screw, *in alignment with the surface cut of the cylinder undisturbed.* This is important.

The spanner nut (which operates the Expansion) is provided with an automatic lock that makes 12 stops to every full turn. Every third stop changes the scope of the cut 1-64 of an inch. Every full turn of the spanner nut widens or narrows the cut of the Bits 1-16 of an inch. It locks at every notch or click of the spring inlaid within the spanner nut.

These are Our Net Prices

One set of Cutter Heads in Solid Section.

Two Heads complete with Bits to match ⅜ to ½ inch	$38.64
" " " " " " ⅝ to ¾ "	38.64
" " " " " " $\frac{15}{16}$ to 1½ "	39.24
" " " " " " 1½ to 2 "	42.80

Cutter Heads 6¾ inches surface cut diameter and larger will take 8 bit seats.

One set of 16 Bits to match ⅜ to ½ inch	$16.00	*Each* $1.00
" *16* " " ⅝ to ¾ "	16.00	" 1.00
" *16* " " $\frac{15}{16}$ to 1½ "	17.60	" 1.10
" *16* " " 1½ to 2 "	20.16	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

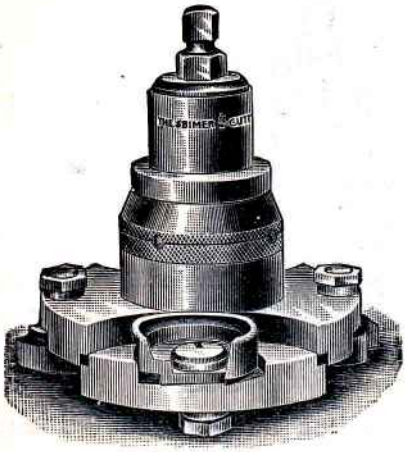


FIG. 212.

With 4 Flat Duplex Bit Seats and the Shimer Cutter Head Expansion.

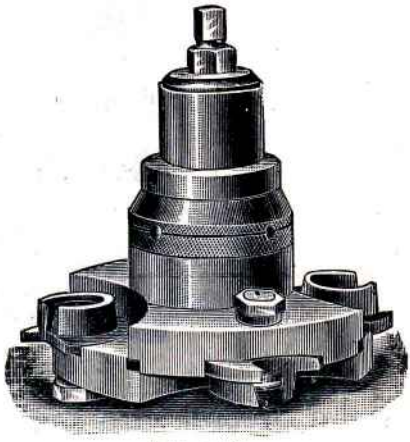


FIG. 213.

With 4 Flat Duplex Bit Seats and the Shimer Cutter Head Expansion.

The Steel of the forging has a tensile strength of 60,000 lbs. to the square inch. The Bronze of the casting has a tensile strength of 40,000 lbs. to the square inch. | The steel is ⅓ stronger than the bronze.

Cutter Heads made of solid steel forgings will not wear out or elongate at the bolt holes as do some made of bronze castings, and the boy finder of brass don't want them, because the junk dealer won't buy them.

The conical bit seat, Fig. 4, Page 7, is stronger than the flat seat, Fig. 7, page 6.

Following the series of Cutter Heads with solid flange and Flat Duplex Bit Seats, we arrive at the same series with regard to seat combinations and inclines with THE EXPANSION FEATURE as is illustrated on this and the next two succeeding pages. All that is good is embodied in these steel forged EXPANSION MATCHER HEADS as pertains to the bit fastenings and their seat combinations for the working of deep grooves or the clearance under-cut and over-cut features in working Wainscoting and like designs.

These are Our Net Prices

One set of Cutter Heads with The Shimer Cutter Head Expansion.

Two Heads complete with Bits to match ⅜ to ½ inch	$30.68
" " " " " " ⅝ *to* ¾ "	30.68
" " " " " " $\frac{15}{16}$ *to* 1½ "	31.48
" " " " " " 1½ *to* 2 "	32.76

One set of 8 *Bits to match* ⅜ *to* ½ *inch*	$ 8.00	*Each*	$1.00
" 8 " " ⅝ *to* ¾ "	8.00	"	1.00
" 8 " " $\frac{15}{16}$ *to* 1½ "	8.80	"	1.10
" 8 " " 1½ *to* 2 "	10.08	"	1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Bed Rails—Bed Rail Heads are preferably made of this style.

Fig. 13, to groove ½ or $\frac{9}{16}$ *inch deep, in Solid Section, (with flat bit seats) each*	$ 9.24
" *213,* " " " " " " *Expansion,* " " " " "	11.34
Price for Bits to match heavier than 2 inches thick, each	1.56
The price of Bed Rail Moulded Bits, each	1.74
" " " " *Plain Bits, each*	1.39

Prices subject to change without notice.

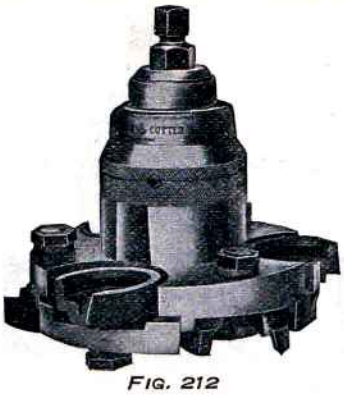


FIG. 212

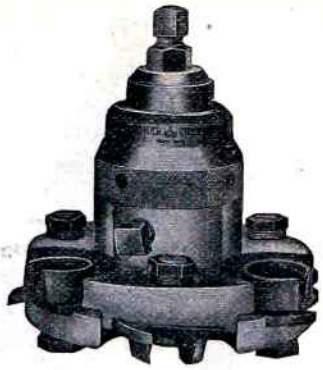


FIG. 213

With Six Flat Duplex Bit Seats and the Expansion Feature.

The all-important feature in the make-up of The Shimer Cutter Head is in the set of the Bit upon its seat and the bolt combination to firmly secure it in position. The Duplex Incline clears the leading points which cut down the square offsets in working single tongue and groove joint, free up the cutter in every portion of its edge outlines, both above and below the tongue and groove lines and make possible a perfect cutting tool in any patterns of Wainscoting, Bed Rail and various similar designs. This incline determines the shape of the Bit that takes a diamond point finish to make a shearing cut.

THE NEVER-BREAK STEEL FORGINGS from which they are tooled are solid in diametrical line, overcoming all weaknesses and render only the best and most accurate service.

The washer adjustment goes with The Shimer Cutter Heads in Solid Section. To get the user away from the necessity of using the washer, we make these Heads in two solid sections each (the one sliding freely upon the other) for adjustment of the Bits, to set the *lower Bits* up or down for tight or loose fit of tongue in groove.

One important feature that characterizes The Shimer Cutter Head Expansion is this: The lower Bits are "the Bits" that change position to make tight or loose fit of the tongue in the groove. This leaves the upper Bits as set (by the top screw) *in alignment with the surface cut of the cylinder undisturbed.* This is important.

For general description read pages 6 to 9.

These are Our Net Prices.

One set of Cutter Heads with The Shimer Cutter Head Expansion,	
Two Heads complete with Bits to match ⅜ to ½ inch	$36.76
" " " " " " *⅝ to ¾* "	36.76
" " " " " " *15/16 to 1½* "	37.96
" " " " " " *1½ to 2* "	39.88

Cutter Heads 5½ inches surface cut diameter and larger will take 6 bit seats.

One set of 12 Bits to match ⅜ to ½ inch	$12.00	*Each* $1.00
" *12* " " *⅝ to ¾* "	12.00	" 1.00
" *12* " " *15/16 to 1½* "	13.20	" 1.10
" *12* " " *1½ to 2* "	15.12	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

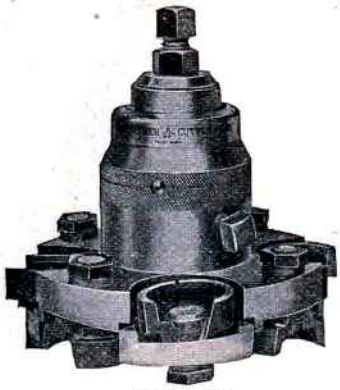


FIG. 212



FIG. 213

With Eight Flat Duplex Bit Seats and the Expansion Feature.

TOOLS THAT LAST A LIFE TIME should be selected with care, as on your selection depends your peace of mind and profit for many years to come. By reason of their special construction these tools are strong, and in addition we make them still stronger by using Solid Steel Forgings—the Cutter Head metal for STRENGTH and DURABILITY.

The spanner nut (which operates the Expansion) is provided with an automatic lock that makes 12 stops to every full turn. Every third stop changes the scope of the cut 1-64 of an inch. Every full turn of the spanner nut widens or narrows the cut of the Bits 1-16 of an inch. It locks at every notch or click of the spring inlaid within the spanner nut.

For general description as to their make up, read pages 6 to 9.

☞These tools belong to the series represented on pages 19 to 24, being distinguished as those provided with the Flat Duplex Bit Seats

These are Our Net Prices.

One set of Cutter Heads with The Shimer Cutter Head Expansion,

Two Heads complete with Bits to match	⅜ *to* ½ *inch*	$42.84
" " " " " "	⅝ *to* ¾ "	42.84
" " " " " "	$\frac{15}{16}$ *to* 1½ "	44.44
" " " " " "	1½ *to* 2 "	47.00

Cutter Heads 6¾ inches surface cut diameter and larger will take 8 bit seats.

One set of 16 Bits to match	⅜ *to* ½ *inch*	$16.00	*Each* $1.00
" 16 " "	⅝ *to* ¾ "	16.00	" 1.00
" 16 " "	$\frac{15}{16}$ *to* 1½ "	17.60	" 1.10
" 16 " "	1½ *to* 2 "	20.16	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice

☞*How to order, see page 5.*

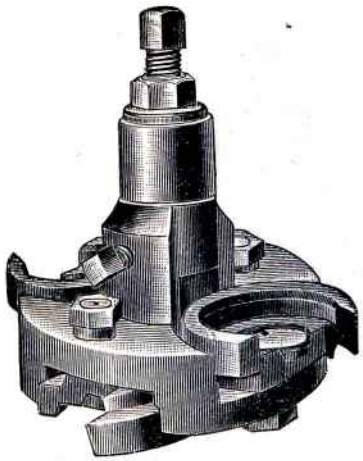


FIG. 1

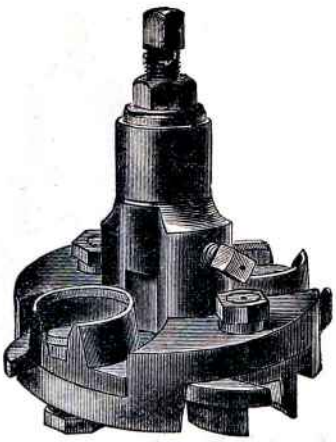


FIG. 2

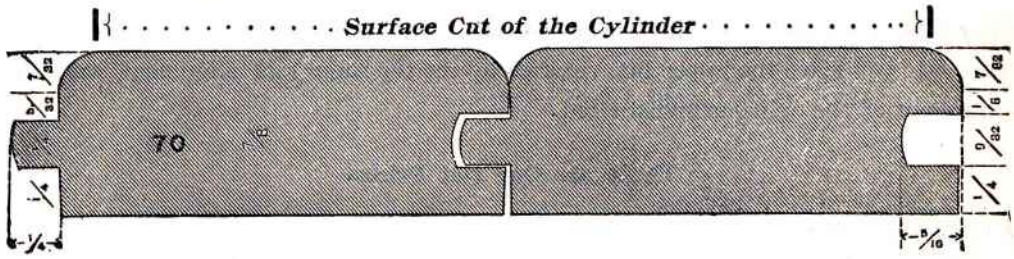
The Steel of the forging has a tensile strength of 60,000 lbs. to the square inch. The Bronze of the casting has a tensile strength of 40,000 lbs. to the square inch. | The steel is ⅓ stronger than the bronze.

Cutter Heads made of solid steel forgings will not tear out or elongate at the bolt holes as do some made of bronze castings, and the boy finder of brass don't want them, because the junk dealer won't buy them.

The conical bit seat, Fig. 4, Page 7, is stronger than the flat seat, Fig. 7, page 6.

This construction of The Shimer Cutter Head, with Circular Bits in combination with bit seats that are inclined to the plane of revolution to set the Bits to work free in the cut, so that no part of the Bit other than its cutting edge is in touch with the lumber, *is what made The Shimer Cutter Head popular.*

The bit seats are flat and they are inclined the one way to give the groove Bit the proper clearance to make the undercut in the groove, but this one-way clearance does not give the Bit the proper set to clear in making the overcut to round up the corner above the groove. See diagram.



These are Our Net Prices.

One set of Cutter Heads in Solid Section.

Two Heads complete with Bits to match	⅜ *to* ½ *inch*	$24.20
" " " " " "	⅝ *to* ¾ "	24.20
" " " " " "	$\frac{15}{16}$ *to* 1½ "	25.00
" " " " " "	1½ *to* 2 "	26.28

One set of 8 Bits to match	⅜ *to* ½ *inch*	$ 8.00	*Each* $1.00
" 8 " "	⅝ *to* ¾ "	8.00	" 1.00
" 8 " "	$\frac{15}{16}$ *to* 1½ "	8.80	" 1.10
" 8 " "	1½ *to* 2 "	10.08	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.



FIG. 1

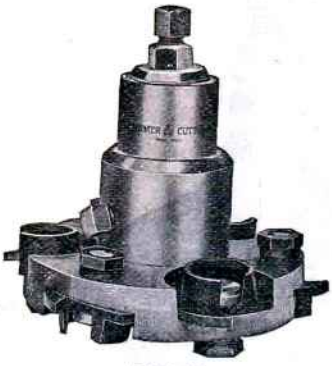


FIG. 2

In Solid Section with Six Flat Bit Seats to Each Head.

Aside from this overcutting to make bead, cove or bevel Siding, Partition, etc., this series of Heads, like possibly 40,000 other Shimer Cutter Heads yet in use, made 10 to 25 years ago, are just as good for plain matching and will work just as fast as any set of the Improved Shimer Cutter Heads, but while they make the undercut in the groove they do not make the overcut above the groove with like clearance. See the up-to-date construction of The Shimer Cutter Heads on pages 13 to 18. For standard work up to 1½ inches thick, Figs. 22 and 23, or Figs. 202 and 203, are usually preferred. For matching heavy 4-inch plank, see pages 48 and 49, Fig. 400, and for 2-inch plank we recommend Figs. 12 and 13, and Figs. 212 and 213, pages 19 to 24. See also, pages 33 and 36. You will find full description with each illustration.

With Cutter Heads of Solid Section washers must be used, preferably under the lower Bits, to set and reset for tight or loose fit of tongue in groove. By adjusting the lower Bits you leave the upper Bits (carried by the top screw) in alignment with the surface cut of the cylinder undisturbed.

These are Our Net Prices.

***One** set of Cutter Heads in Solid Section.*

Two Heads complete with Bits to match ⅜ to ½ inch	$30.28
" " " " " " ⅝ *to* ¾ "	30.28
" " " " " " $\frac{15}{16}$ *to* 1½ "	31.48
" " " " " " 1½ *to* 2 "	33.40

Cutter Heads 5½ inches surface cut diameter and larger will take 6 bit seats.

One set of 12 Bits to match ⅜ to ½ inch	$12.00	*Each* $1.00
" 12 " " ⅝ *to* ¾ "	12.00	" 1.00
" 12 " " $\frac{15}{16}$ *to* 1½ "	13.20	" 1.10
" 12 " " 1½ *to* 2 "	15.12	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

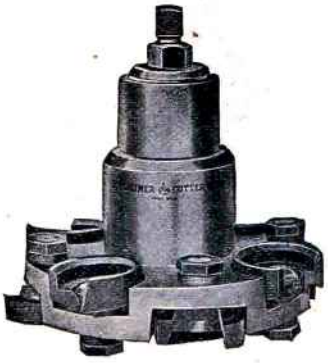


FIG. 1



FIG. 2

In Solid Section with Eight Flat Bit Seats to Each Head.

For all who do plain matching only, wishing the largest number of Bits upon the Head, and having machine that will accommodate 6¼ inches surface diameter, these Heads will work out successfully. But for hard, knotty lumber, either the Conical Duplex or the Flat Duplex Bit Seat will more nearly meet the requirements, owing to the special leading points given to the Bits by reason of their peculiar bit set inclines.

This construction of The Shimer Cutter Head, with Circular Bits in combination with bit seats that are inclined to the plane of revolution to set the Bits to work free in the cut, so that no part of the Bit other than its cutting edge is in touch with the lumber, *is what made The Shimer Cutter Head popular.*

The bit seats are flat and they are inclined the one way to give the groove Bit the proper clearance to make the undercut in the groove, but this one-way clearance does not give the Bit the proper set to clear in making the overcut to round up the corner above the groove.

In general construction and workmanship they are not excelled by any.

These are Our Net Prices

One set of Cutter Heads in Solid Section.

Two Heads complete with Bits to match ⅜ to ½ inch	$36.36
" " " " " " ⅝ *to* ¾ "	36.36
" " " " " " 1⅛ *to* 1½ "	37.96
" " " " " " 1½ *to* 2 "	40.52

Cutter Heads 6¼ inches surface cut diameter and larger will take 10 bits.

One set of 16 Bits to match ⅜ to ½ inch	$16.00	*Each* $1.00
" *16* " " ⅝ *to* ¾ "	16.00	" 1.00
" *16* " " 1⅛ *to* 1½ "	17.60	" 1.10
" *16* " " 1½ *to* 2 "	20.16	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

Prices subject to change without notice.

☞ *How to order, see page 5.*



FIG. 1



FIG. 2

With Four Flat Bit Seats and the Expansion Feature.

The Steel of the forging has a tensile strength of 60,000 lbs. to the square inch. The Bronze of the casting has a tensile strength of 40,000 lbs, to the square inch. | The steel is ⅓ stronger than the bronze.

Cutter Heads made of solid steel forgings will not tear out or elongate at the bolt holes as do some made of bronze castings, and the boy finder of brass don't want them, because the junk dealer won't buy them.

The conical bit seat, Fig. 4, Page 7, is stronger than the flat seat, Fig. 7, page 6.

When the Shimer Cutter Head Expansion is built into the Head **you don't use Washers,** but simply turn the spanner nut (it moves the lower Bits up or down for tight or loose fit) which LOCKS AUTOMATICALLY at every stop, and registers in sight. Notice

The Shimer Cutter Head Expansion moves the LOWER BITS ONLY and leaves the upper Bits, as set by the top screw, in alignment with the surface cut of the cylinder undisturbed by the set and reset for tight or loose fit of tongue in groove. This important feature is covered by one of our U. S. patents, but that costs you nothing, because we can put the upper Bits on the top side of the principal Cutter Head section and have it right, just as easily as to reverse the order of things and have it wrong.

We build every improvement into The Shimer Cutter Heads from year to year and you get any one or all of them for the asking, without charge, other than for the extra labor cost.

These are Our Net Prices.

One set of Cutter Heads with The Shimer Cutter Head Expansion.			
Two Heads, complete with Bits to match	⅜ *to* ½ *inch*		$28.40
" " " " " "	⅝ *to* ¾ "		28.40
" " " " " "	$\frac{15}{16}$ *to* 1½ "		29.20
" " " " " "	1½ *to* 2 "		30.48
One set of 8 Bits to match	⅜ *to* ½ *inch*	$ 8.00	*Each* $1.00
" 8 " "	⅝ *to* ¾ "	8.00	" 1.00
" 8 " "	$\frac{15}{16}$ *to* 1½ "	8.80	" 1.10
" 8 " "	1½ *to* 2 "	10.08	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.

The Shimer Cutter Heads illustrated on pages 19 to 28, made to work with interchangeable Ship Lap Bits, 52 cents extra for each bit seat.

Prices subject to change without notice.

☞ *How to order, see page 5.*

Figs. 1 and 2 with Six Flat Bit Seats and Expansion Feature.

The bit seats in all of our Fig. 1 and Fig. 2 Heads represent the original tool as constructed many years ago for clearance to the cut only. See page 6, Fig. 7. In every other respect they are brought up to the high standard of workmanship and design agreeing with improved tools as pertains to the Expansion devices.



FIG. 1



FIG. 2

The particular Heads here represented are supplied with 6 Bits each. They are popular tools for plain tongue and groove joint, but will not receive Bits for Wainscoting or designs of this character.

These are Our Net Prices.

One set of Cutter Heads with The Shimer Cutter Head Expansion.			
Two Heads complete with Bits to match	⅜ *to* ½ *inch*		$34.48
" " " " " "	⅝ *to* ¾ "		34.48
" " " " " "	$\frac{15}{16}$ *to* 1½ "		35.68
" " " " " "	1½ *to* 2 "		37.60
One set of 12 *Bits to match*	⅜ *to* ½ *inch*	$12.00	*Each* $1.00
" 12 " "	⅝ *to* ¾ "	12.00	" 1.00
" 12 " "	$\frac{15}{16}$ *to* 1½ "	13.20	" 1.10
" 12 " "	1½ *to* 2 "	15.12	" 1.26

Any one set of the above Bits will work interchangeably on these Cutter Heads.
Prices subject to change without notice.

With Eight Flat Bit Seats and the Expansion Feature.



FIG. 1

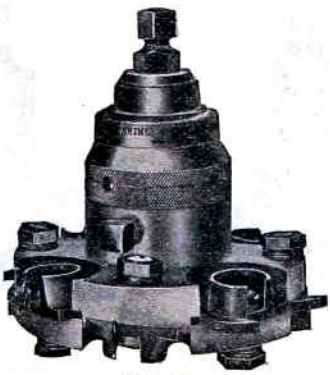


FIG. 2

Agreeing with the tools represented above and on page 28 we show Heads as constructed with 8 Bits, regular inclined seats for clearance. For pine, hemlock, spruce, etc., these tools will work out good patterns with rapid feeds. Steel forged Heads finished in best workmanlike manner, always ready for work and plenty of it.

These are Our Net Prices.

One set of Cutter Heads with The Shimer Cutter Head Expansion.			
Two Heads complete with Bits to match	⅜ *to* ½ *inch*		$40.56
" " " " " "	⅝ *to* ¾ "		40.56
" " " " " "	$\frac{15}{16}$ *to* 1½ "		42.16
One set of 16 *Bits to match*	⅜ *to* ½ *inch*	$16.00	*Each* $1.00
" 16 " "	⅝ *to* ¾ "	16.00	" 1.00
" 16 " "	$\frac{15}{16}$ *to* 1½ "	17.60	" 1.10
" 16 " "	1½ *to* 2 "	20.16	" 1.26

Any one set of the the above Bits will work interchangeably on these Cutter Heads.
Prices subject to change without notice.

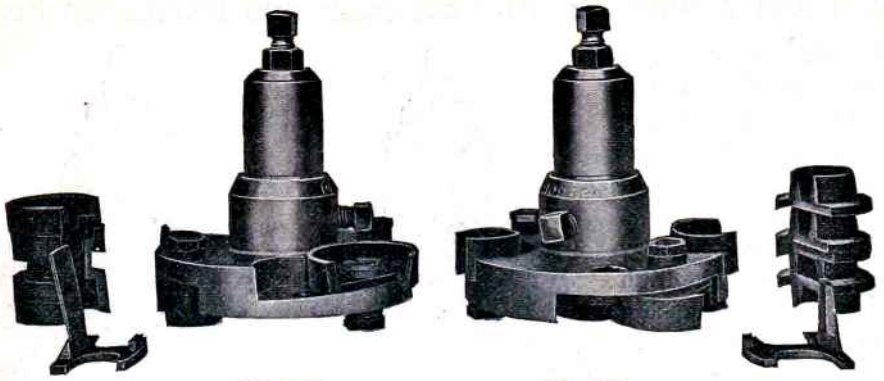


FIG. 214 FIG. 215

This Combined Matcher and Ship Lap Head is regularly made as a Matcher Head with four bit seats so spaced within the head flange as to allow for two extra bit seats suitable for the Ship Lap Rabbeting Bits. These Rabbeting Bits require special seat inclines and central bolt hole location. By thus combining the two features (suitable for flooring and ship lap) one set of Heads can be arranged to do both classes of work, a change of Bits being all that is necessary.

Price per set with Matcher Bits, net $26.04
" *For one set of Ship Lap Bits, extra* 9.66

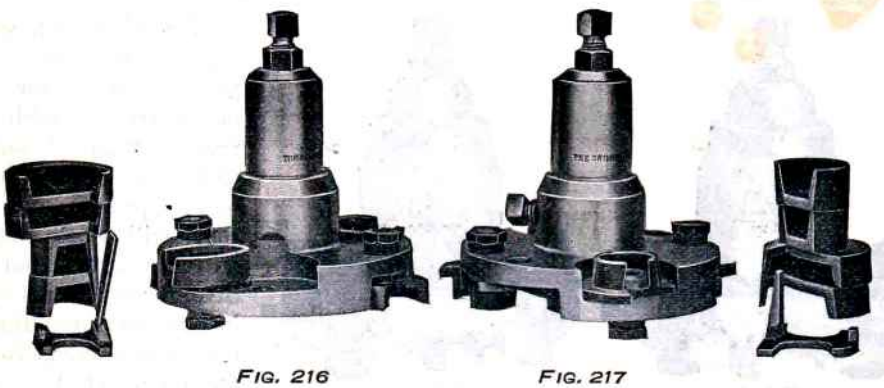


FIG. 216 FIG. 217

This engraving represents our Matcher Head above with Bits as changed to work Ship Lap. The Heads work either flooring or ship lap upon the same surface cut diameter thus avoiding any change of machine guides in changing the Heads from one class of work to the other. The only disadvantage in the use of these Heads is in the time consumed in making the changes of the Bits, as in all other respects the Heads will be found convenient to handle, and good cutting tools strong and reliable.

INTERCHANGEABLE MATCHER AND SHIP LAP

Expansion Heads.

These tools represent the same Heads as shown on page 30 with the addition of the Expansion feature, which is especially desirable in the Matcher Heads, but figures no particular advantage in the Head when used with the Ship Lap Bits. These tools belong to the series Fig. 1 and Fig. 2 having flat bit seats and inclined for clearance protection only. They are well made and reliable tools, having for their special advantage principles controlling their seat arrangement in such a way as to make one set of Heads do the work of two.

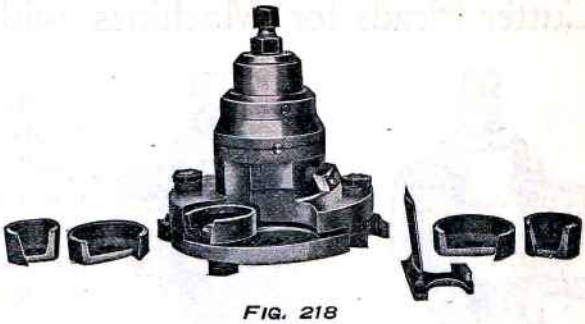


FIG. 218

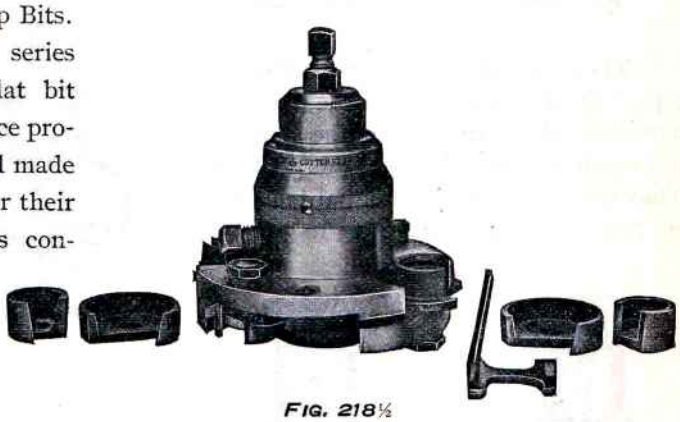


FIG. 218½

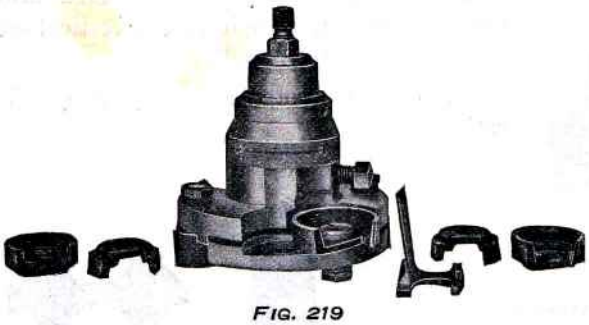


FIG. 219

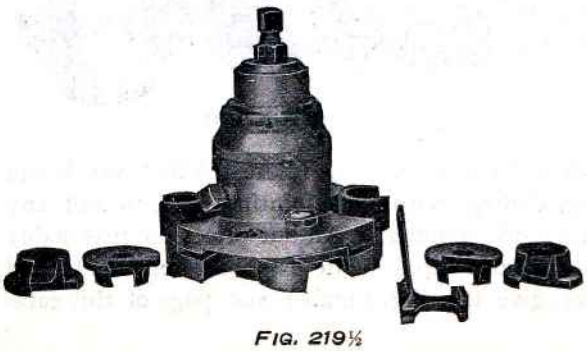


FIG. 219½

Expansion Heads with Interchangeable Ship Lap Bits on.

These Expansion Matcher and Ship Lap Heads are represented with Ship Lap Bits on seats and Matcher Bits removed. The Ship Lap Bits being set up with the same gauge as the Matcher Bits, the Heads are as convenient to keep in order as it is possible to make them.

Any further information regarding these tools that may be desired will be cheerfully furnished. We make them of any size, large or small, and to suit any make of machine.

Cutter Heads for Machines with Low Down Spindles.



FIG. 225



FIG. 226

This cut represents a pair of Ship Lap Heads as made for machines having side spindles even with or below the level of the planer bed. The hub carrying the set screw projects below the flange as low as may be necessary to receive a substantial bearing.

Prices same as that given on page 71

These Expansion Matcher Heads are especially designed to meet the demand for machines where the top of the spindles do not reach up to the level of the planer bed. They are strong and substantial tools which we price in detail on pages 13 to 30.



FIG. 227



FIG. 228



FIG. 229



FIG. 230

The Shimer Cutter Heads to suit machines having long side spindles with upper bearing or box. The long sleevelike hub is made in two pieces, one threaded into the other so as to permit of the vertical set of the head on the spindle.

Net prices quoted on receipt of specifications.

This cut will show how the Expansion Head is made. The hub of one fits over that of the other, the Bits interlocking in the flange. For only $2.10 each Head is equipped with the Expansion Feature.



FIG. 231

We illustrate these engravings in order to show those interested that we design The Shimer Cutter Head for Flooring, Ceiling, Ship Lap Jointing, etc., to suit any and every style of machine in use having side spindles. All our prices are reasonably low. Heads are of best material and workmanship. Write us about your wants and in referring to any of these engravings, give the Fig. number and page of this catalogue.

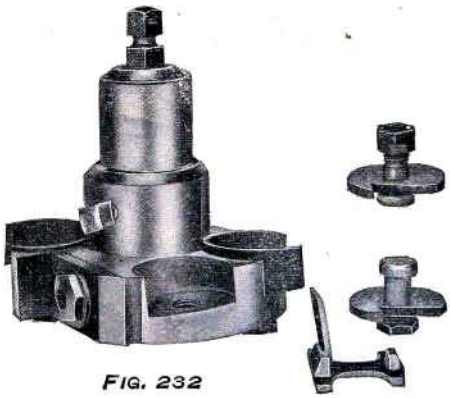


FIG. 232

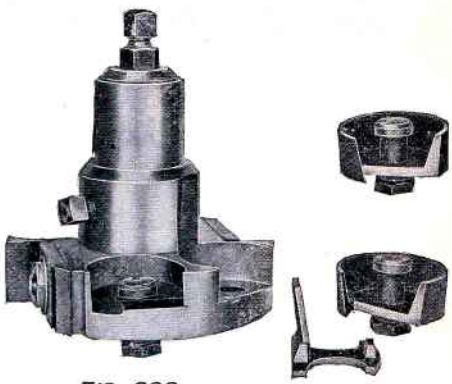


FIG. 233

SPECIAL UTILITY HEAD

For Flooring, Ceiling, Ship Lap and Jointing.

We here represent two views of a Combination Matcher, Ship Lap and Jointer Head, Figures 232 and 233. These Heads are arranged for the use of two Straight Knives for cutting the vertical edges of the flooring, with Intermediate Circular Cutters for tonguing and grooving and other Intermediate Circular Cutters for rabbeting or Ship Lap work.

The plain Straight Bits will joint the edge of the stock when a jointed edge only is desired. The same Straight Bits on the groove Head with the use of the intermediate grooving Bits will work the groove side of the flooring; and with the addition of two Straight Bits for the tonguing Head, so arranged as to allow for the forming of the tongue, a change is made for flooring.

For working Ship Lap no change is made in the grooving Head except that of turning back the grooving Bits and setting to the gauge the circular rabbeting Bits; for the tonguing Head the proper jointing Bits (straight) are placed upon the Head, the tonguing Bits are set back and the Rabbeting Bits are set up to the gauge, thus making a quick change for three classes of work without laying aside any more than two straight Bits for the tonguing Head. All Circular Bits can retain their position upon the bit seats by simply turning them back so as to be out of the cutting range when not desired. All cutters are provided with perfect side clearance protection aud thus carry all the essentials necessary to maintain uniform tongue and groove proportions.

The Heads are well made from steel forgings and guaranteed in every respect. They will carry a feed not to exceed 60 lineal feet per minute, doing good work.

A special feature of this outfit is its low cost and at the same time giving some special advantages for quick changes for short runs to meet the demand for the jobbing trade in the smaller mills.

These are Our Net Prices:

	SET.	EACH.
One set of Cutter Heads with 4 circular bit seats and 2 straight bit seats . . .	$18.28	$9.14
Extra for Bits as per list.		
One set of 4 Jointing Bits (straight) 1½ inches wide, slotted for bolts	2.12	.53
" " *Bits, 2 tonguing and 2 grooving tang Bits (circular)*	2.72	.68
" " *Rabbeting Bits (circular)*	5.44	1.36

Expansion Matcher, Ship Lap and Jointer Heads.

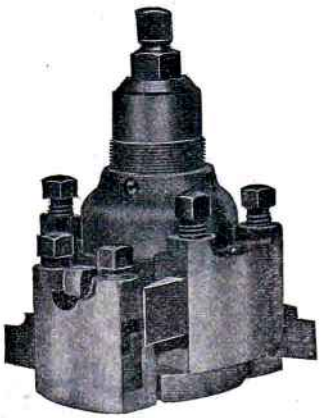


FIG. 35



FIG. 36

This compactly built and neatly designed Straight-Bit Expansion Matcher, Jointer and Ship Lap Head, is made in two sections in such a manner that the Bits may be expanded or contracted to suit any thickness of Flooring within the range of the Bits by simply turning the expanding ring upon the hub to the right or left. The Heads are thus provided with four wings or mortises into which the knives are secured when set. The Bits break the chip upon a central line of the work and are divided into upper and lower Bits operating alternately as the Head revolves. The Bits are milled on the back to suit exact shape and each cutter carries its own clearance feature free of all friction and contact with the lumber, except the cutting edge. The Bits being milled upon their backs they are sharpened only upon their beveled edges, thus maintaining uniform patterns, etc.

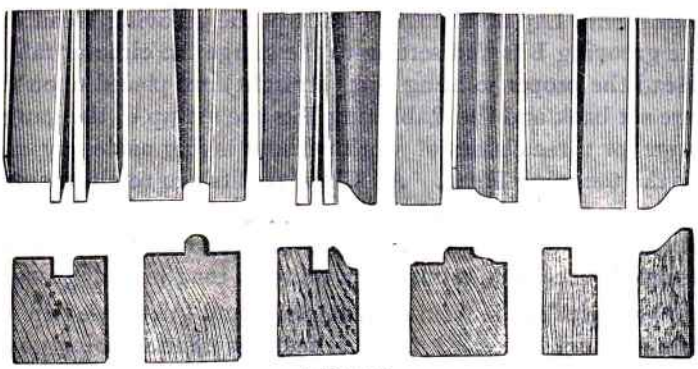


FIG. 37

A very practical tool for those wishing an all-round Head for general purposes. It is intended to meet the wants of those needing a Variety Head at little expense.

These are Our Net Prices:

One set of 2 Steel Forged Heads, Figs. 35 and 36,	$20.38	*Each*	$10.19
One set of 8 Flooring Bits,	8.00	"	1.00
" " *8 Ship Lap* "	8.00	"	1.00
" " *8 Jointer* "	8.00	"	1.00

Special Bits per order applicable to this head.

Four-side Slotted Head with Straight Bits for Flooring and Ship Lap. Bits Interchangeable.

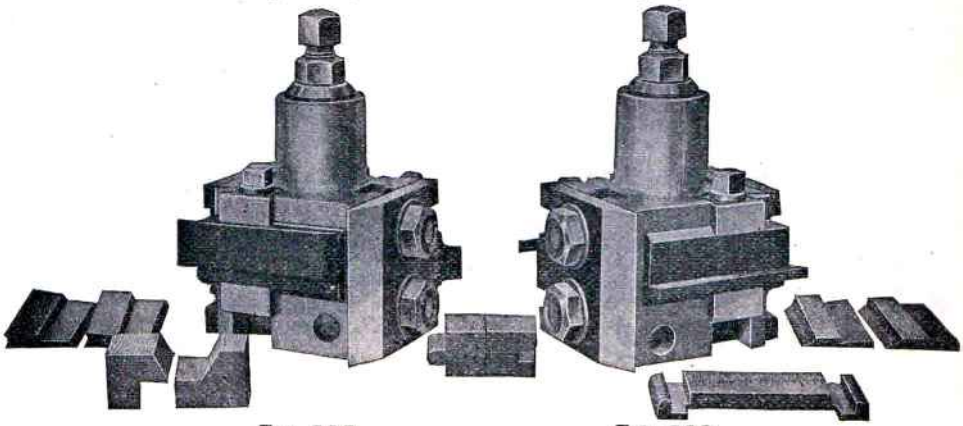


FIG. 235 FIG. 236

WITH FLOORING BITS IN POSITION.

Here is a Head with straight Jointer Bits arranged on the two opposite sides, and intermediate also on opposite two sides from each other are fixed the grooving or tonguing Bits, the one cutting the upper whereas the other as set cuts the lower half of the tongue or groove. This Head can be used for either tonguing or grooving, ship lap, rabbeting or plain jointing or rustic. When two Heads are used, you can work with either tongue or groove to guide. This Head will receive bits and knives for nearly every purpose, the knives being entirely interchangeable without the use of separate and costly attachments or fixings.

The Jointing Bits are filed or ground to suit the edge outline, a little longer on the lower side so as to provide for the usual clearance at bottom of board.

The Grooving Bits are made with clearance, the one extending upwardly, the other downwardly, each grooving cutter working alternately from upper side of groove downwardly and from lower side of groove upwardly to complete the carve.

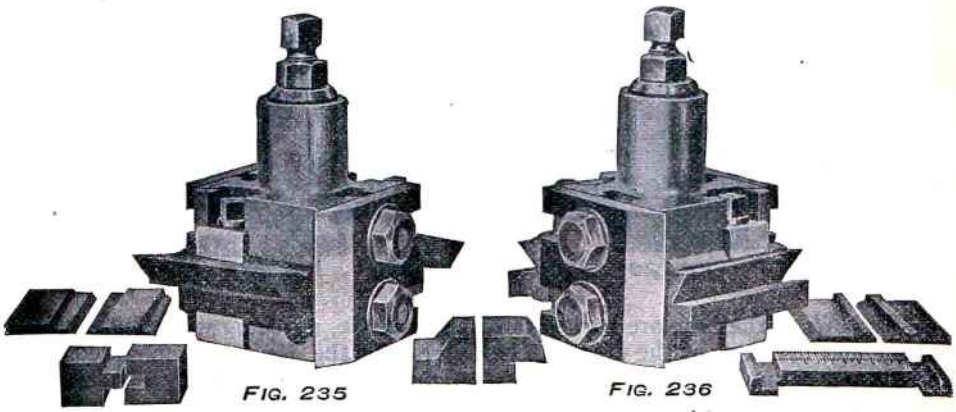


FIG. 235 FIG. 236

WITH SHIP LAP BITS IN POSITION.

The Heads are cheap, practical, and the fact that they receive Bits for almost every variety of work gives them a special field of usefulness where the user depends chiefly upon one set of Heads for the various styles of work to be done.

These are Our Net Prices.

One set of 2 Steel Forged Heads	$16.18
Flooring Bits (4 Jointing @ 72c each, $2.88; 4 tongue and groove @ 68c each, $2.72)	5.60
Ship Lap Bits each $1.00; per set of 4	4.00

Four-side Adjustable Segmental Cutter Head for Flooring, Ship Lap and Variety Woodwork.

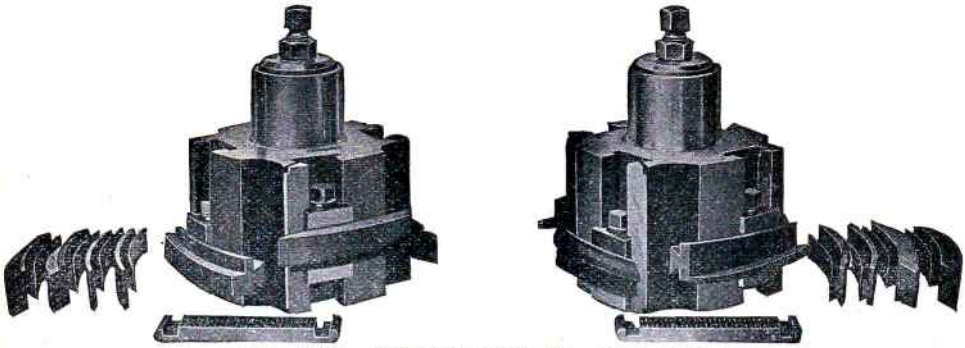


FIG. 237 With Flooring Bits. FIG. 238

This Head consists of a steel forging, bored out with central hole to fit a revolving spindle. The sides are turned off in line with the axis, upon a circle larger than that common to the axis of the Head, and each side is therefore turned separately.

The "T" slot is located a little ahead of the central lines to throw the cutting edge of the Cutter beyond, and thus prevent the heel of the cutter from striking the lumber as the Head revolves.

The dog or clamp is made of steel in two pieces, one being threaded for a bolt, the other being a sliding fit for the bolt.

The lips or jaws of the clamps are cut with bevel edge groove upon a circle agreeing with the Head side, and a perfect counterpart of the bevel lips upon the cutters. When the bolt in the dogs is drawn up, the knife is drawn down upon the curved face of the head wing, and in the vertical slot the Bit can be adjusted to suit any position along its line, at which it may be desired to fasten it, thus suiting it to various thicknesses of lumber that may be grooved with the same Bits.

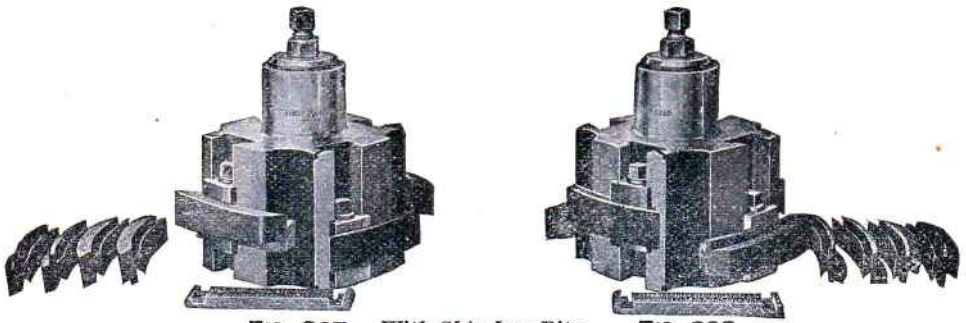


FIG. 237 With Ship Lap Bits. FIG. 238

The Bits at the base are turned out upon a circle, agreeing with that of the Head periphery and the jaws of the dogs. The exterior of the Knives is moulded agreeing with an exact counterpart of the mould to be produced *at an angle with the grooved base*, so as to give the leading points of the cutter a clearance like the set in a saw tooth. This is an important feature, as nearly every style of cutter will call for its special clearance to suit the shape of the work to be produced. The Head will receive Bits for tonguing, grooving or any special and irregular moulds, grooves or patterns where square offsets occur.

These are Our Net Prices

One set of 2 Heads, Figs. 237 and 238	$20.38	*Each*	10.19
" " *8 Ceiling Bits for ¾" stock or less*	8.00	"	1.00
" " *8 Ship Lap Bits*	8.80	"	1.10
" " *8 Flooring Bits*	8.80	"	1.10

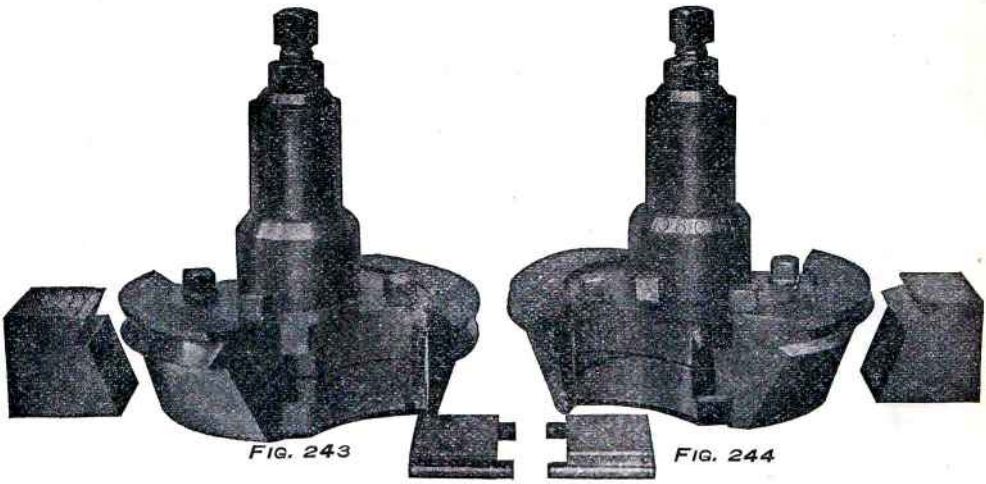


FIG. 243 FIG. 244

These special Heads are designed to make patterns of various shapes. The Heads are so constructed with regard to bit fastenings as to receive Bits for almost any work where the outline of pattern will not require a special edge clearance protection or an overlapping of central portions of the cut.

The Heads are made in two parts, the lower section carrying the long central hub which extends upwardly and carries the set and top adjusting screws. Into the periphery of this Head and with heavy backward clearance we form a dovetail or V groove for receiving the Bit which is cut or turned as an exact counterpart to match. The other head section drops down over the central hub and having also a V or dovetail cut in edge, catches the upper portion of the cutter. Thus when the screws which pass down through both head sections are drawn up, the cutters are brought to perfect alignment in the cut and will follow each other in producing a perfect outline of wood pattern.

Cutters may be applied for jointing straight or at any angle, and irregular outlines of a simple nature can be produced by a change of Bits.

These are Our Net Prices:

One set of 2 Heads Steel Forged, with gauges, bolts and wrench. . . . $18.90 *Each* $9.45
" *4 Bits* . . . . . 14.00 " 3.50

The Ettinger Expansion Matcher Head.

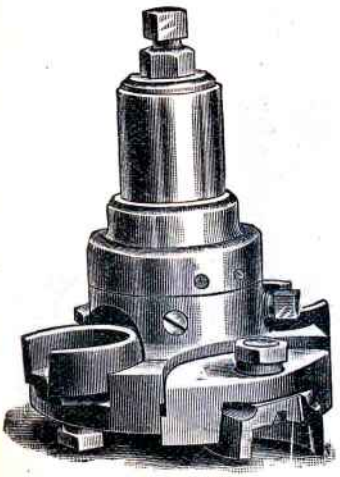


FIG. 460

Squared Bolt.



FIG. 462

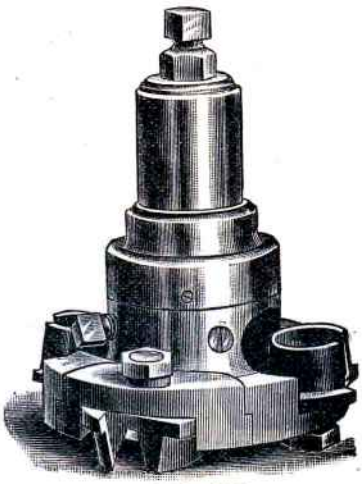


FIG. 461

Prices on pages 25 to 29.

The Ettinger solid flange Matcher Head.

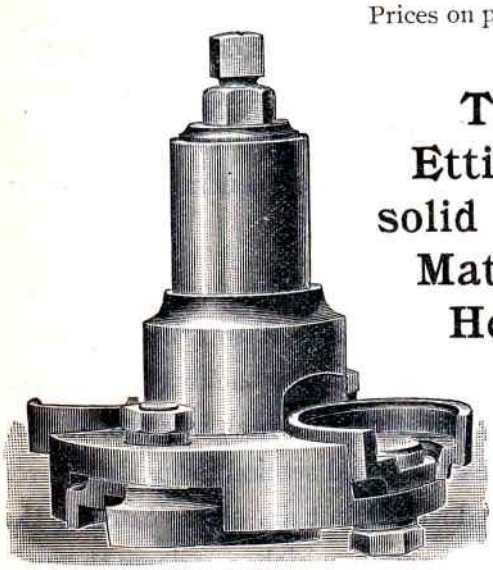


FIG. 463

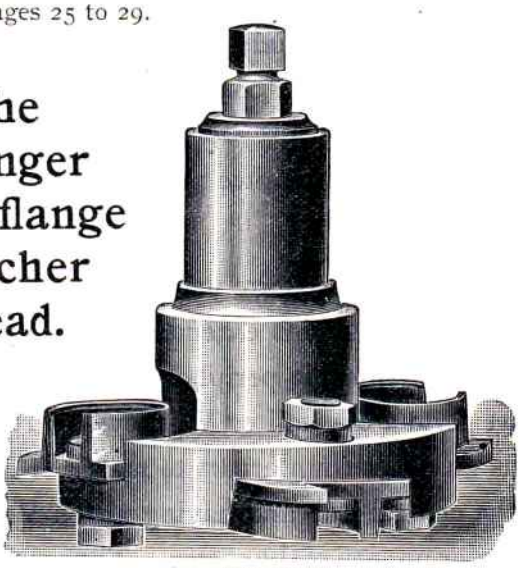


FIG. 464

NOTICE

Having acquired by purchase the business of The Ettinger Machine Co., Chester, Pa., with all special tools, templets, patterns, books and cards of records, patents, chucks and accessories, we offer supplies in the shape of new Bits, Bolts, Gauges, etc., as may be needed from time to time to suit the Heads now in use.

All records are kept separately on work already delivered by a number you will find stamped upon each head. In order to avoid confusion, specifically mention that the supplies are needed for the ETTINGER MAKE OF CUTTER HEADS numbered (as may be found.)

We are equipped to furnish any new Heads with squared holding bolts at prices agreeing with those on pages 25 to 29, which are identical, except in the bolt and Bit fastenings. They are made of bronze castings only, and the general descrip-

tion answering to Heads on pages 25 and 29 will coincide with the construction of these Heads in every way.

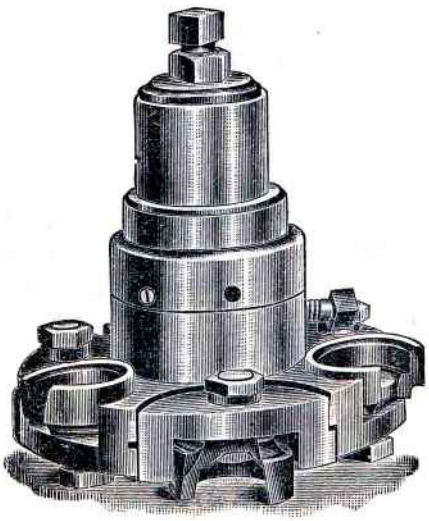


FIG. 465

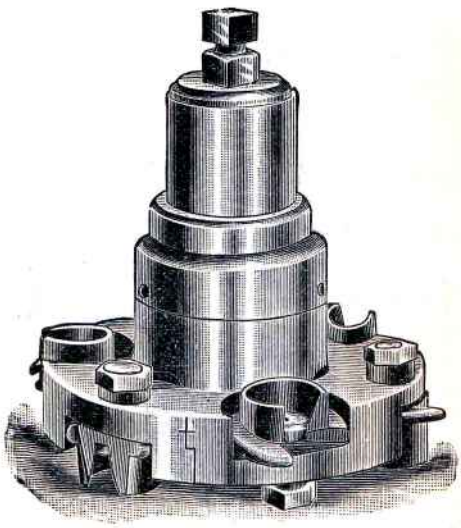


FIG. 466

The Ettinger 6 Bit Expansion Matcher Heads.

For prices see page 29 and for general description see pages 6 to 9.

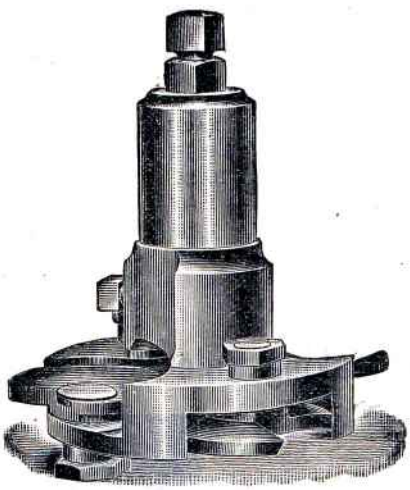


FIG. 467

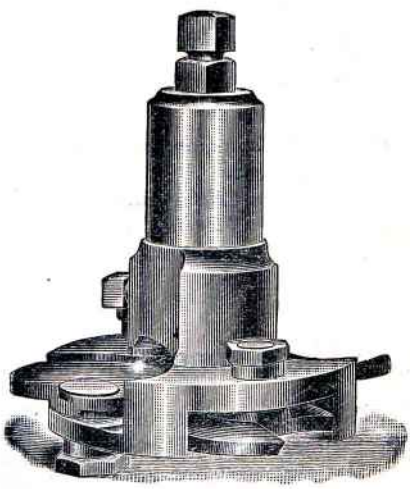


FIG. 468

The Ettinger Cloth Board Heads.

These Heads are used for beveling the edge of the finer grades of cloth boards. They work with a heavy shearing cut, doing smooth work on knotty and cross-grained lumber. They cut a uniform pattern, and are readily kept in order.

Price, Heads without Bits, each . . . . . $ 8.10
" " " *per set* 16.20
" *Bits for same, as per cut, each.* 1.31

These Heads are not made upon the Expansion principle, owing to the large cutter for the extra depth of cut.

"UPSIDE DOWN" CUTTER HEADS.

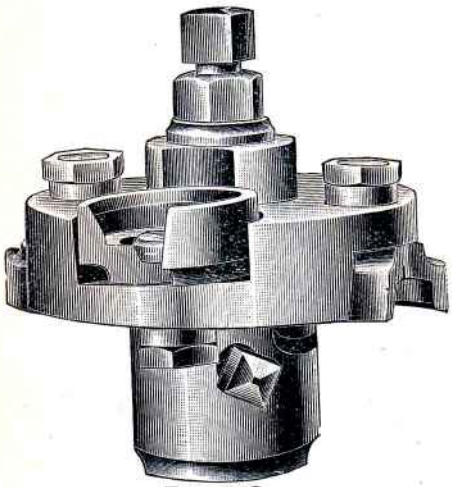


FIG. 469.

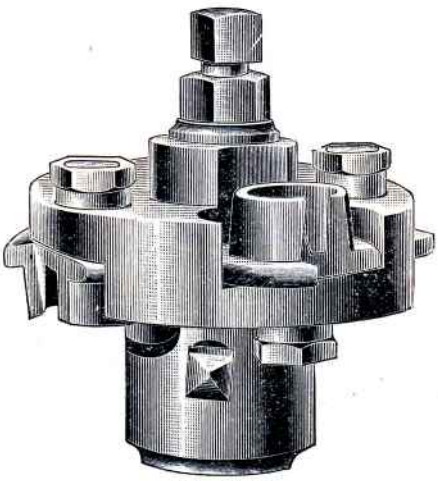


FIG. 470.

There is a class of Planing and Matching Machines with spindles the top of which extend below the line of bed level, to which these Heads are applicable. We make them of various sizes, to suit the machine and spindles.

To measure spindles give height from top of box to top of spindle, and from level of planer bed to top of box. See measurement card and fill it up regularly. We take all chances of fitting machines.

	EACH.	PER SET.
Price, solid flange, without Bits,	$ 8.14	$16.28
" *Expansion* " "	10.24	20.40
" *Bits for Ceiling, each*	1.00	8.00
" " " *Flooring, each*	1.10	8.80
" " " *2 inch Plank, each*	1.26	10.08

The Shimer Cutter Heads for making Rule Joint.

These Cuts represent a pair of The Shimer Cutter Heads as applied to the making of rule joint patterns. They are RAPID cutting tools. Having the exact shape of the rule joint represented in cutter contours they maintain a uniform outline of work from year to year. The Heads are made to fit any Moulder or Shaper spindle.

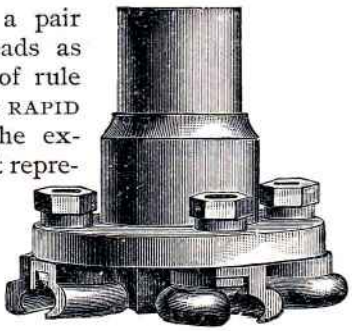


FIG. 72.

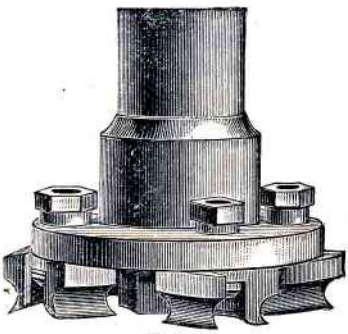


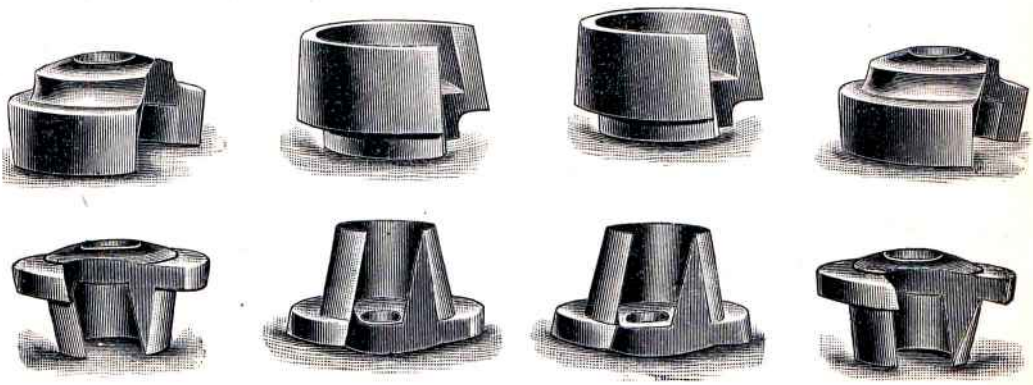
FIG. 73.

Net Price, Heads (2) complete with 8 *Bits* $25.72
" " 8 *Bits extra (each* $1.31) 10.48

SOMETHING DIFFERENT.

This is an era of new things. Every man is alert in an endeavor to find something that may supercede previous methods or that may promise an advantage over and beyond that in common use in matters pertaining to his particular line.

The steel manufacturers are no exception to this rule. When they offer steel for which unusual endurance is claimed, users will naturally begin to investigate. In this way we have come into a knowledge of the steel from which we make our "B. D. Brand" of Bits for The Shimer Cutter Heads.



A large variety of steels are thus brought to our attention and from them we have made a selection of one grade only which has served first, as an edge holding steel, and next as a steel for great strength. A steel which may hold edge a long time may be weak in its structural composition and thus break under use. A steel, therefore, to be of service for our

Black Diamond Brand of Bits

must have both strength and edge holding properties. These enduring qualities we have reduced to the most perfect state in the selection for our "B. D. Brand" of Bits and we offer these Bits as an improved article. In the hands of careful and painstaking workmen they will be worth many times their cost.

Differing from the regular carbon steel, and with a working efficiency

two to four times greater, we supply the trade with this new "B. D. Brand" of Bits. Their advantages are noted from the fact that they hold an edge many times longer, and therefore serve a longer period of time between sharpenings.

To reduce the number of sharpenings increases the efficiency of the matcher or moulder and places its output at the end of a day or week far in advance of ordinary conditions.

In the operation of nearly every planing and matching machine a sharpening of the knives and cutters becomes necessary at the end of each five to ten hour run, depending upon the class of lumber operated upon. These frequent stoppages result in the loss of a considerable amount of time which would turn to profitable account if reduced one-half or more.

To be able to set up a matcher or moulder, making all the necessary adjustments and keeping it regularly at work (day and night if you like) for

Twenty, Thirty or More Hours without Sharpening the Bits

or otherwise altering the adjustments, is what the progressive wood-worker is looking for and this is what these "B. D." cutters do.

With this object in view we have made costly experiments in the belief that those who appreciate advanced methods will be sufficiently interested in these Bits to test their advantages.

This steel under our special treatment is very dense in grain—strong and tenacious—well calculated to withstand the knots as well as the fibrous cross-grain which is characteristic of so much of our lumber.

The Bits Require Grinding to Sharpen,

for which purpose we illustrate on the next two pages our Cutter Grinding Machine and give full directions how to sharpen the cutters without removing them from the Heads.

A trial of our B. D. Cutters will convince the most skeptical with regard to their time saving features.

Price, Ceiling Bits, each, net $2.10
" *Flooring Bits, each, net* 2.63
" *Two-inch Plank Bits, each, net* 3.15

☞ NOTE.—Besides the Circular Bits that apply to our Cutter Heads we make Straight Bits, moulded and shaped to pattern, for the New Combination Heads or for Mortised Heads you may have in use.

THE SHIMER
CUTTER HEAD GRINDER, No. 1,
WITH TRACKING ATTACHMENT.

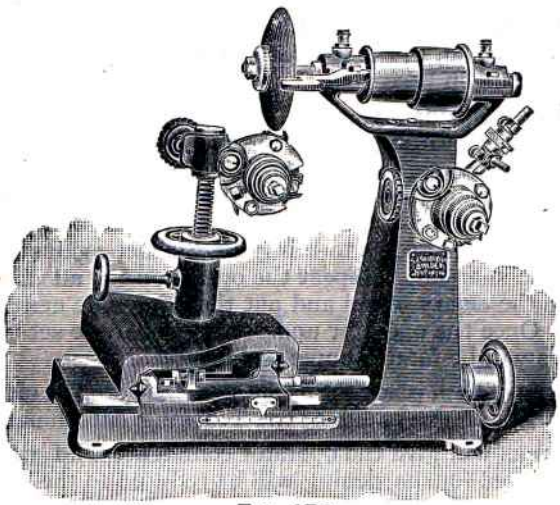


FIG. 473

Price, complete machine with one emery wheel and counter shaft (net) f. o. b. cars, $80.00

DESCRIPTION

The base is 30″x 14″ and is intended to be placed upon a wooden frame or bench about 16 inches high. The base and hollow column is in a single casting, compact and rigid. The top of the column is capped out with spindle bearings and steel spindle which carries the emery wheel and drive pulley. The counter shaft (not shown in cut) is fastened overhead and is arranged with a tight and loose pulley. The counter also carries a two-speed pulley and the belt is shiftably used on either crown to increase speed and compensate for wear of the wheel.

The machine base is provided with two ways, planed parallel with each other, extending in line therewith upon which is placed and fastened by means of gibbs, a suitably formed slide with ball tracks running transversely. One of the ball tracks is adjustable to take up any wear and to arrange for tight or loose adjustment. The carriage is arranged with ball ways underneath and from internal side extensions so as to exclude the dust. The carriage therefore has a shiftable motion at right angles with the machine base a distance equal to a little more than the movement necessary to sharpen the Head.

The carriage has an upright column threaded to receive the vertical adjusting screw and head support. There are four motions or adjustments provided for as follows, each being essential in the operation of sharpening the Bits of The Shimer Cutter Heads :

First—The Head swings to the right to obtain the proper gauge slant required by that head.

Secondly—The Head swings to the left for proper gauge slants for Bits requiring it.

Thirdly—The Head rolls with carriage toward and from the operator to pass the Bits to the wheel.

Fourthly—The Head and carriage is movable upon the ways on machine base, by which motion the hook in the Bit is attained.

A careful note should be made of this latter named position for each Head by means of the pointer and scale.

Directions for using the Cutter Head Grinder No. 1.

The stub directly under the emery wheel is selected to suit the bore in the Head. The Head is slipped on, fastened with set screw, and raised or lowered by turning the hand wheel until the wheel passes clear of touching the head flange.

To get the proper hook to the Bit, move the carriage laterally to the right or left, to the right for one Head, to the left for the other, and set carriage by means of the index pointer and scale on base plate.

To get angle of Shear swing the Head around to suit and fasten set screw. Raise or lower the Head so as **not** to grind the flange of the Head. (The carriage is arranged to run on ball bearings, sensitive and light in operation. The Ball Bearings are covered and protected from dust and dirt. An adjustment is provided to take up wear when necessary.) Now push the Head and carriage slowly and carefully at first to the wheel and turn the Head so as to bring the Bit face against the wheel, a mere touch being sufficient to sharpen. Repeat the operation for all the Bits of the same series. Then remove the emery wheel and put the other side next to the collar for the other series of Bits. Once the operator understands where to set the carriage to suit his Heads, the process will be found simple and complete.

After the grinding, then place the Head upon the stub at side of machine frame and set the Bits by means of the gauge or the Tracking Attachment as provided.

A few sharpenings will give the operator confidence and with each succeeding operation the time required for sharpening will be reduced to the minimum.

The two step cone will provide for the wear of the wheel to give greater speed as it is reduced in diameter.

Weight of machine about 300 pounds.

Shimer Improved Cutter Head Grinder, No. 2.

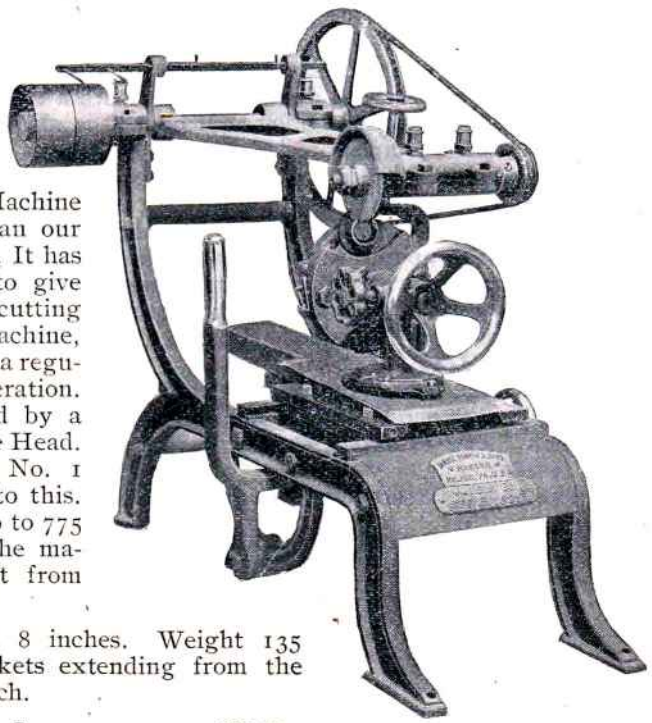


FIG. 480.

Here is a simple Grinding Machine somewhat lighter in weight than our No. 1 and of a different design. It has all the essential adjustments to give the cutter its hook and slant cutting edge, same as as our No. 1 machine, but the carriage working upon a regular slide is less sensitive in operation. The wheel is raised and lowered by a screw to suit the diameter of the Head. The general directions of our No. 1 machine will practically apply to this. Counter shaft should make 750 to 775 revolutions per minute, and the machine may be stationed to belt from any convenient overhead shaft

Floor space 1 foot by 2 feet 8 inches. Weight 135 pounds. Can be set upon brackets extending from the wall, or on any convenient bench.

Price, net, f. o. b. cars at Milton, Pa., ... $36.75

A New Filing Stand

FOR THE BENCH,

With Tracking Attachment by means of which the Bits are all set Quickly and Accurately.

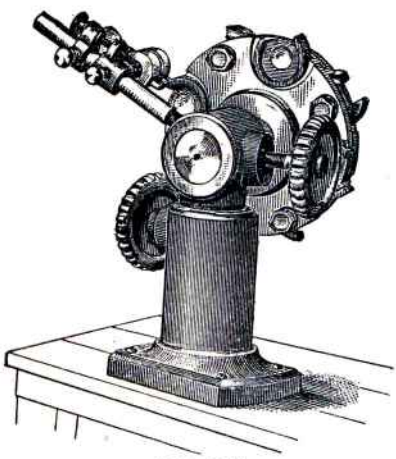


FIG. 31 A

Patented July 22, 1902.

This cut represents a new and Improved Filing Stand with Tracking Attachment. Ordinarily the gauge that accompanies each Shimer Cutter Head is all the instrument needed for doing the work, but in many instances when the machine is waiting for the sharpening and re-setting of the Bits, workmen are apt to hurry, and as a result the Bits are not set as closely as they should be. The Tracker above is a handy and convenient attachment to quickly bring the projection of the Bits to the same cutting circle.

A Head will do its best when the knives are set equidistant from the centre, and the Tracking Attachment is intended to get that fine adjustment which is almost impossible to obtain by other methods.

Price, complete, with one Stub, only $9.20. Extra Stubs, each, 80 cents.

Plain Filing Stand for Holding The Shimer Cutter Heads.

We represent herewith a Plain Filing Stand for holding the Shimer Cutter Heads in position when the Bits are being sharpened.

The Expansion Heads should not be clamped in the jaws of an iron vise, as is the practice with solid Head. The grip interferes with the movable head section. This Filing Stand consists simply of an iron base that will bolt to any ordinary vise bench. It has one vertical shaft adjustment to bring it to the height to suit the filer. This shaft is provided with a socket to take the stub of the mandrel that fits the Cutter Head. The Head shown on mandrel can take any position about the stand centre.

This Stand is also useful in holding any of the various patterns of the Shimer Cutter Heads shown in this Catalogue.

Net price, complete $3.95

Extra Spindles to fit Head 80

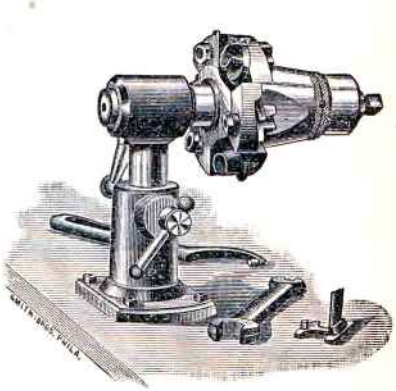
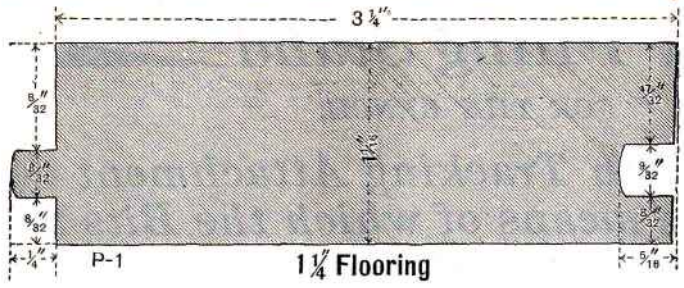


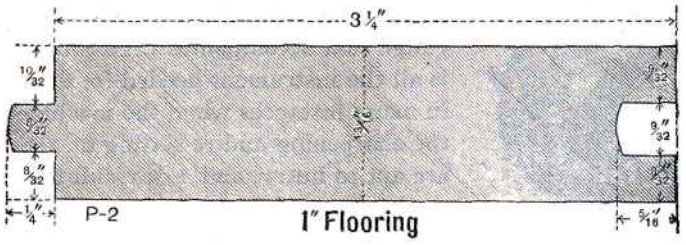
FIG. 31

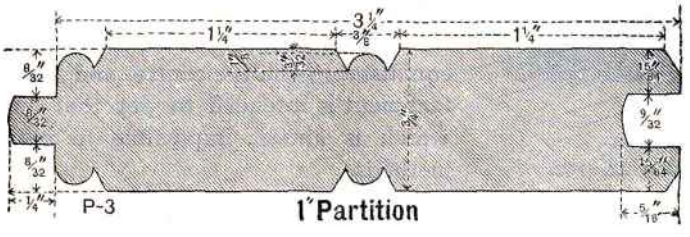
Manufactured only by

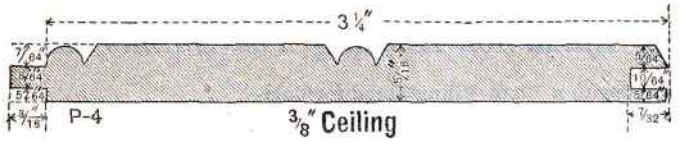
Samuel J. Shimer & Sons,

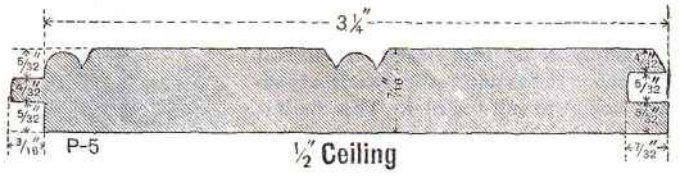
MILTON, PENNSYLVANIA.

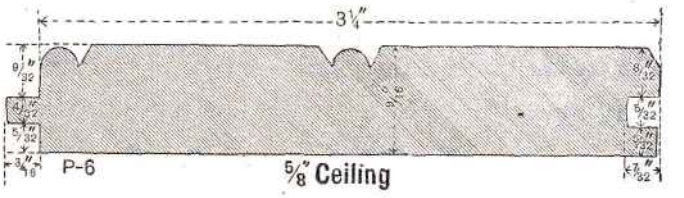

3 1/4"
P-1
1 1/4 Flooring

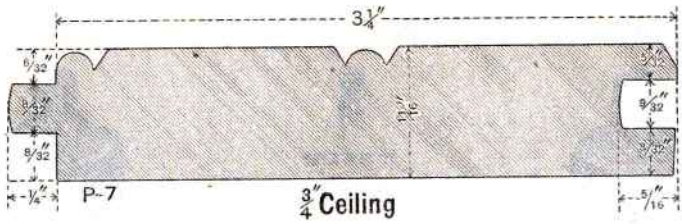

3 1/4"
P-2
1" Flooring


3 1/4"
1 1/4"
1 1/4"
P-3
1" Partition

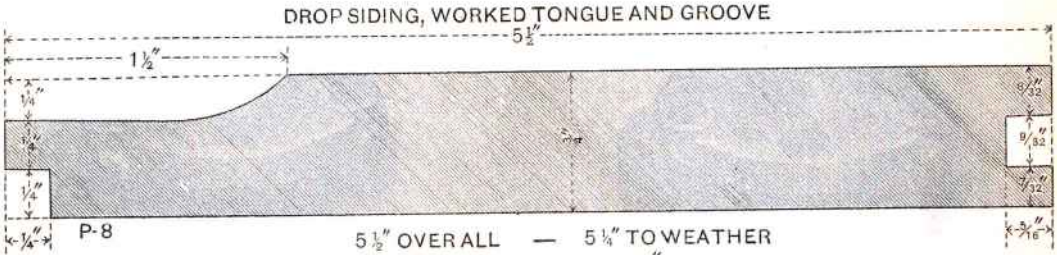

3 1/4"
P-4
3/8" Ceiling


3 1/4"
P-5
1/2" Ceiling


3 1/4"
P-6
5/8" Ceiling



DROP SIDING, WORKED TONGUE AND GROOVE



5½" OVER ALL — 5¼" TO WEATHER
ALL 6" STOCK TO FINISH 5¼" FACE

On these pages are represented the patterns adopted by the Pacific Coast Lumber Manufacturers' Association on December 13, 1904, which we designate with the letter "P" and number found at the lower left hand corner of each pattern.

In referring to any of them please mention the letter and number in order that no confusion may occur.

Orders for Bits should be accompanied with the Head numbers as well as the pattern number if selection can be made from this Catalogue. In case of special work for which Bits are desired, send a carefully made drawing or better still a small piece of the wood sample. Bits for many of these patterns are kept in stock—others will be made promptly on receipt of order.

LUMBER GAUGES

are made of any suitable design. Always send a sample of the matched lumber. State width of the face of board and the exact thickness it is finished at. We are prepared to furnish lumber gauges upon short notice for any standard or special sizes.

Address all communications to

Samuel J. Shimer & Sons,
Milton, Pennsylvania.

FOR MATCHING HEAVY PLANK.

TRADE
The Shimer Cutter Head.
MARK.

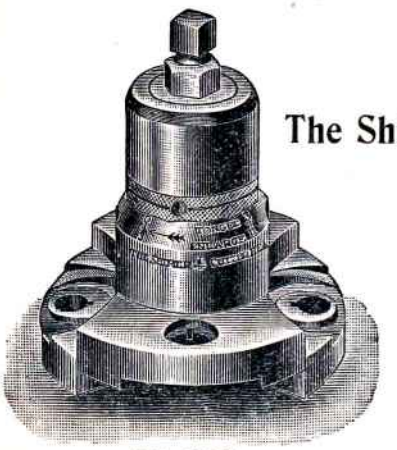


FIG. 400.
Tongue Head with Expansion, without the Bits.

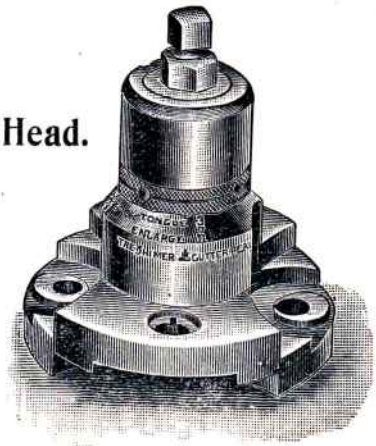


FIG. 401.
Groove Head with Expansion, without the Bits.

See the Boss Bit Seat with bolt hole excentric to the Boss (outwardly on Tongue Head, inwardly on Groove Head) to make a deep cut for Tongue and Groove.

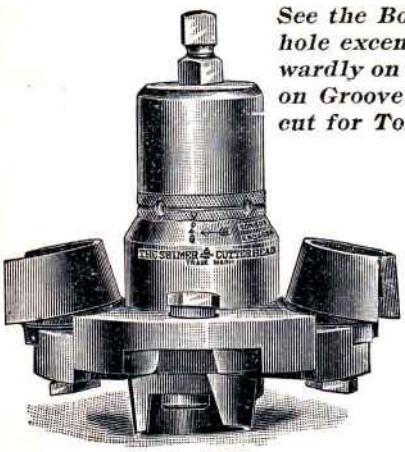


FIG. 400.
Tongue Head and Bits, with Expansion.

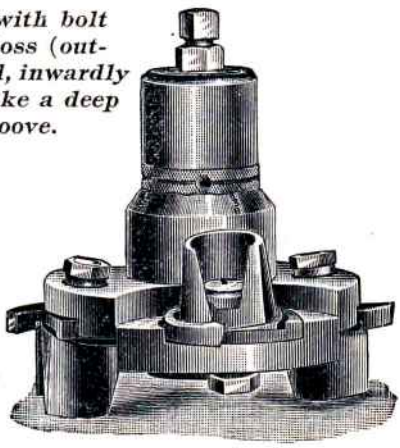
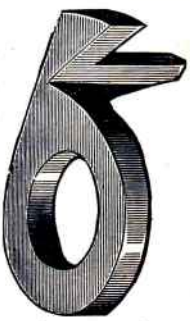


FIG. 401.
Groove Head and Bits, with Expansion.

The alternate incline of the bit seat, the automatic alignment of the several Bits and the division of the cut is what made The Shimer Cutter Heads popular.

The illustrations above represent The Shimer Cutter Heads as applied to the matching of heavy plank for mill floors, from 2½ to 4 inches thick. For the lighter work the Circular Bits of use in The Shimer Cutter Heads have each two cutting edges.



To illustrate the smallness of the bit surface left for the bit seat to hold the bit that has two cutting edges, see the old bit nearly used up. Bits thus proportioned should be limited to a cut of ½ inch deep or less.

To proportion the Bit to cut deeper than ½ inch materially lessens the bit surface for the seat, while at the same time the deeper cut greatly increases the burden of the work. Therefore, the differential center of the bit seats illustrated in The Shimer Cutter Heads, Figs. 400 to 403, to retain the largest possible bit surface for the bit seat that must hold the Bit up to the work under the burden of heavy and deep cutting.

FOR MATCHING HEAVY PLANK.

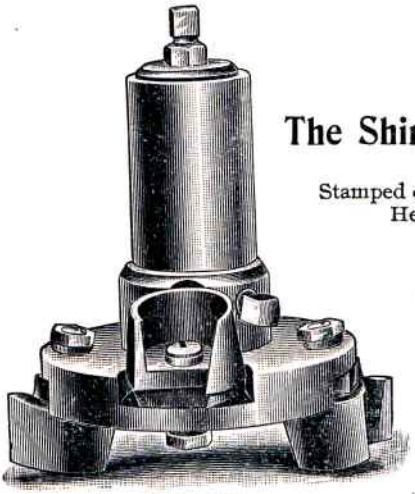


FIG. 402.
Tongue Head in Solid Section.

TRADE

The Shimer Cutter Head.

MARK.

Stamped on every Shimer Cutter Head in full sight.

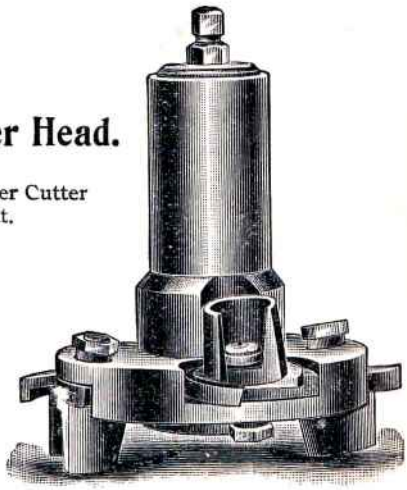


FIG. 403.
Groove Head in Solid Section.

These Shimer Cutter Heads illustrate bit and seat contact surfaces in proportion to the depth of the cut, and a Bit that is larger and more durable for the heavier work than are solid Bits (made of one piece of steel) cut away to form the two cutting edges that differentiate in their several cutting limits, ½ inch, ⅝ inch or ¾ inch. See the heavy mill floor patterns illustrated in cross section in this catalogue.

Among the changes made to produce a Cutter Head that will match (single tongue and groove) from a one inch board to a four inch plank, the following may be noted:

A change in the division of the Bits. Instead of each Bit having two cutting edges, each Bit has only one cutting edge.

A change of the bit seats upon the Cutter Head—each bit seat being provided with a Boss about which the one Bit centers. This Boss is about twice the diameter of the holding bolt and relieves the bolt of excessive strain when the drive belt breaks while the feed is on.

A change in Bit centers—one of the Bits being set out or in as may be determined by the depth of the cut to be made, both Bits being fastened with the one holding bolt.

The Bit that centers about the Boss takes the incline set the bit seat gives to it to make the undercut with clearance.

Resting on the top of the Bit that centers about the Boss is a bevel washer with a boss on its under side that drops "a fit" into the bore of the under Bit. The Boss on the bit seat and the Boss on the bevel washer are of a size and both fit the hole in the Bit that centers about the Boss. The Boss on the bit seat enters the Bit from the under side; the Boss on the washer enters the Bit from the upper side.

The bolt hole is at right angles to the upper face of the bevel washer and on its way through the bit seat passes diagonally through the Boss of the seat. The other Bit to complete the cut centers about the bolt. The holding bolt of any one bit seat being out of alignment with the Boss, also excentric to the Boss of the bevel washer, which interlocks with the lower Bit, serves as "a key" to secure the bevel washer a fixture in its one position between the Bits.

The upper Bit resting upon the upper face of the bevel washer, (which inclines outwardly) is in cutting position to make a clearance overcut.

Thus we have combined with the Boss bit seats two Bits, one to make the undercut with clearance and the other to make the overcut with clearance. The two Bits occupy relative positions between two fixed surfaces.

The Boss and the bevel washer are fixtures that carry rigidity to the grip of the bolt.

These are Our Net Prices :

The Shimer Cutter Head with the Boss for a bit center, either on the bit seat, on the beveled washer, or both. Made with 4 bit seats only.	EACH.	THE SET
Net price for Cutter Head in Solid Section, without the Bits	$10.50	$21.00
Extra for Cutter Head with Expansion	2.10	4.20
Net price for each Expansion Head, without the Bits	12.60	25.20

SINGLE TONGUE AND GROOVE BITS.

One set (16) Bits to match $\frac{15}{16}$ to 1½ inch	10.50
" (16) " " 1½ *to* 3 "	12.60
" (16) " " 2½ *to* 4 "	14.70
Extra, the Bevel Washers	.37

	IN SOLID SECTION.	FULL EXPANSION.	SHIP LAP COMBINED
One set (2) Cutter Heads, complete with Bits to match $\frac{15}{16}$ to 1½ in.	$34.52	$38.72	Add *
" (2) " " " " " 1½ *to* 3 "	36.60	40.80	" *
" (2) " " " " " 2½ *to* 4 "	38.68	42.88	" *

One set of 16 Bits to match $\frac{15}{16}$ to 1½ inch, cutting ¼ or ⅜ deep, as may be ordered, are separately listed as follows:

For Groove Head,	*4 Grooving Bits*	*Each* $ .53—$2.12	$5.28
	2 Above Groove Jointer Bits	" .84— 1.68	
	2 Below " " "	" .74— 1.48	
For Tongue Head,	*4 Tongue Edging Bits*	" .42— 1.68	$5.28
	2 Above Tongue Jointer Bits	" 1.00— 2.00	
	2 Below " " "	" .80— 1.60	

One set of 16 Bits to match 1½ to 3 inches, cutting ⅜ inch deep, or ½ inch deep as may be ordered, are separately listed as follows:

For Groove Head,	*4 Grooving Bits*	*Each* $ .58—$2.32	$6.32
	2 Above Groove Jointer Bits	" 1.05— 2.10	
	2 Below " " "	" .95— 1.90	
For Tongue Head,	*4 Tongue Edging Bits*	" .53— 2.12	$6.32
	2 Above Tongue Jointer Bits	" 1.10— 2.20	
	2 Below " " "	" 1.00— 2.00	

One set of 16 Bits to match 2½ to 4 inches, cutting ½ inch deep, or ⅝ inch deep as may be ordered, are separately listed as follows:

For Groove Head,	*4 Grooving Bits*	*Each* $ .74—$2.96	$7.36
	2 Above Groove Jointer Bits	" 1.15— 2.30	
	2 Below " " "	" 1.05— 2.10	
For Tongue Head,	*4 Tongue Edging Bits*	" .63— 2.52	$7.36
	2 Above Tongue Jointer Bits	" 1.26— 2.52	
	2 Below " " "	" 1.16— 2.32	

Bits to Ship Lap, interchangeable with Bits for single tongue and groove.

To Ship Lap from $\frac{15}{16}$ to 1½ inches (4 Jointer Bits@$1.10 each—4 Rabbeting Bits@$1.26 each)	$ 9.44
" " " " 1½ *to* 2½ " (4 " " 1.16 " 4 " " 1.47 ")	10.52
" " " " 2½ *to* 4 " (4 " " 1.32 " 4 " " 1.57 ")	11.56

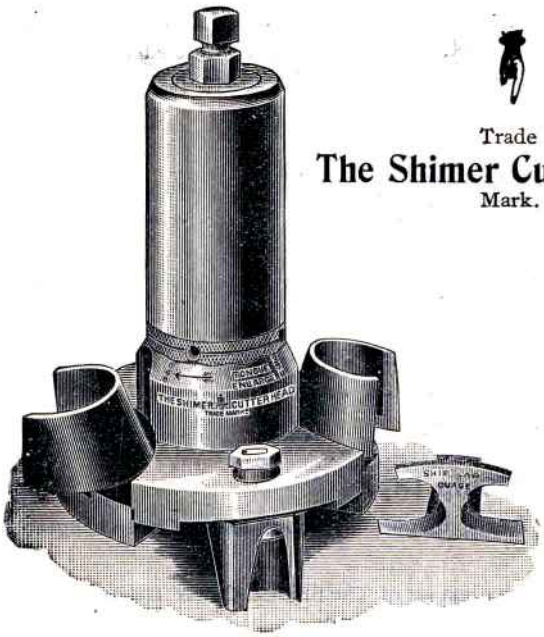
Ship Lap Bits to go with the Boss on the Washer to work interchangeably with Bits for single tongue and groove.

One set (8) Bits to Ship Lap $\frac{15}{16}$ to 1½ in.,	$ 9.44,	*from 1½ to 2½ in,* $10.52,	*from 2½ to 4 in.,* $11.56
" (8) *Cutter Head bolts*	1.35,	1.35,	1.35
" (8) *Bevel Washers @ 37 cents each*	2.96,	2.96,	2.96
One Gauge	.79,	.79,	.79
* *Bits per set, interchangeable*	14.54,	15.62,	16.66

Prices subject to change without notice.

Heads for Either Ship Lap or Single Tongue and Groove.

Trade
The Shimer Cutter Head.
Mark.



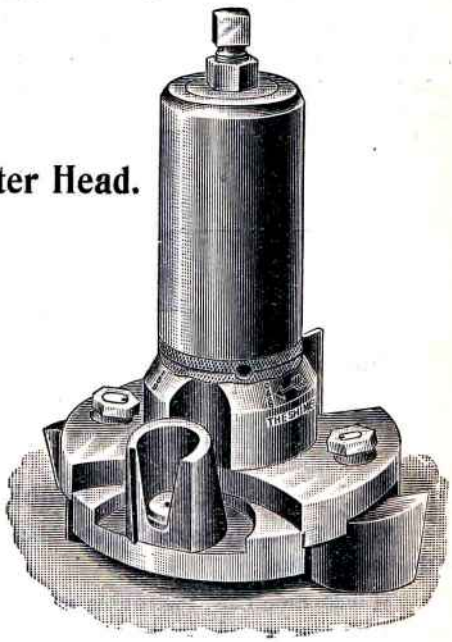
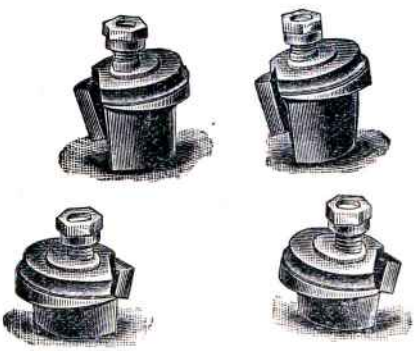
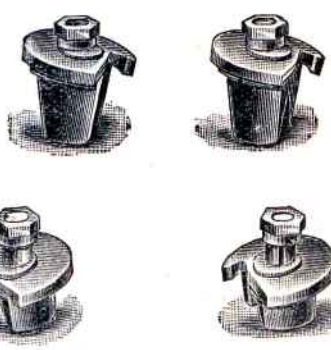


FIG. 404 **Single Tongue and Groove Matcher Heads.** *FIG. 405*

With Ship Lap Bits on. With Ship Lap Bits on.





Tongue Bits for Head Fig. 404. Groove Bits for Head Fig. 405.

The Shimer Cutter Heads represented by these two engravings will match either Ship Lap or single tongue and groove.

The Ship Lap Bits are on the Cutter Heads. The set of single tongue and groove Bits are shown off the Heads. They work interchangeably and each set of Bits is provided with the necessary Boss, washers, bolts and nuts to keep the Bits together in sets when off the Head.

The two Cutter Heads, in combination with Bits to match single tongue and groove, are in operation mechanical equivalents of Fig. 400, excepting the Boss which in this combination is on the washer, but Fig. 400 has the Boss on both bit seat and washer.

The Boss of the bevel washer in this combination drops "a fit" centrally through the under Bit and into an excentric depression about the bolt hole of the bit seat. (See the Bit illustrations on this page).

The bevel washer supported by the Bit it centres, provides a seat for the Bit it carries central to the holding bolt, which in passing excentrically through the Boss of the washer, and diagonally through the bit seat of the Cutter Head, locks the washer to its one position and securely holds the several Bits in combination between two fixed surfaces.

Wainscoting.

The half set of Bits that cut the upper half of the tongue and groove do this work. These Bits on the smaller Cutter Heads must be made sectional and should be ordered at the same time The Shimer Cutter Heads are ordered to have the Bits properly fitted thereto.

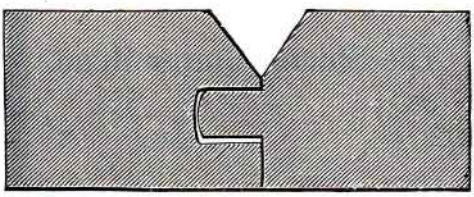


FIG. 19

Price for the Moulded Tongue Bits, each $1.68
" " " " *Groove Bits, each* 1.68

Double 3-8 Ship Lap.

These Bits apply to the regular Matcher Heads, tongue and groove, and are interchangeable with Flooring Bits.

⅜ inch Ship Lap, Fig. 21, is made with any one set of The Shimer Cutter Heads made to work single tongue and groove.

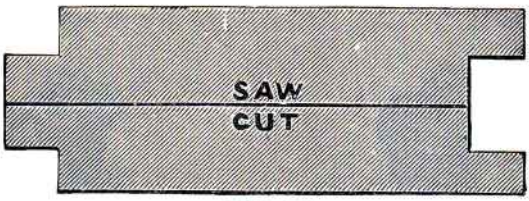


FIG. 21

Price for the set of Bits will be the same as the class that go with The Shimer Cutter Heads from which you make your selection.

German or Novelty Siding.

This is made with two Bits working on upper side of Tongue Head, but like the Cutters for Wainscoting, requires a special fitting of the Head. This is a heavy cut for a side head, and we do not recommend it for deeper work than that shown by the diagram, Fig. 20

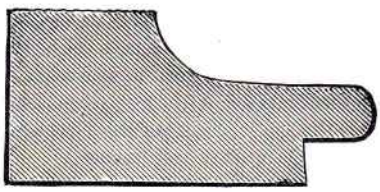
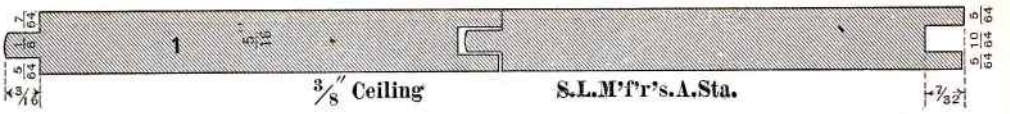


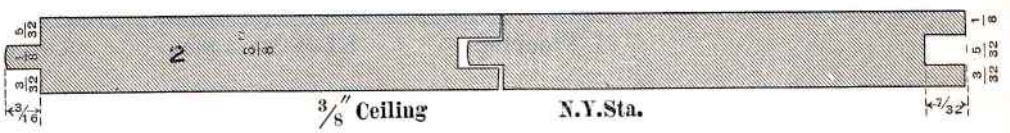
FIG. 20

An additonal cut of ¾ of an inch in depth will necessarily add 1½ inches to the swing of the Bits, and for that reason each machine should be measured carefully, to determine whether the space around spindle will allow the Bits to swing clear before giving order for them.

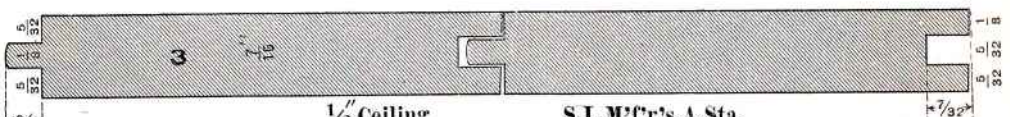
Price for the upper Novelty Siding Bit, each, net $1.85



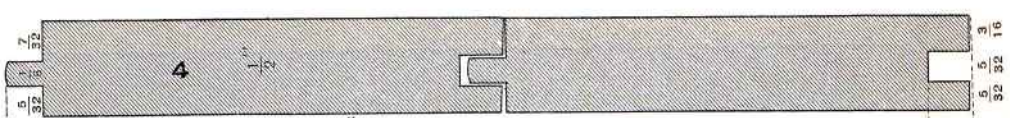
3/8" Ceiling S.L.M'f'r's.A.Sta.



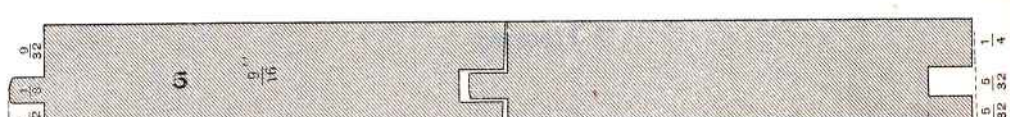
3/8" Ceiling N.Y.Sta.



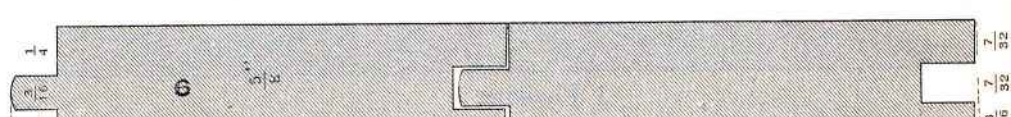
1/2" Ceiling S.L.M'f'r's.A.Sta.



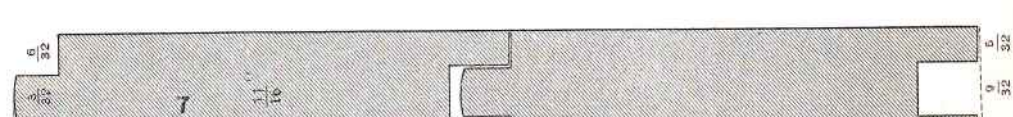
1/2" Ceiling N.Y.Sta.



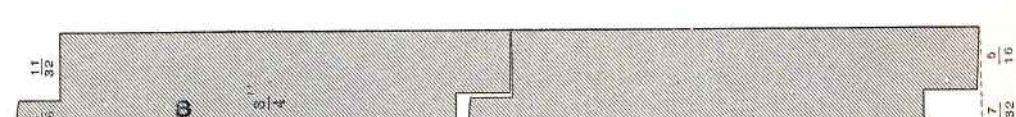
5/8" Ceiling S.L.M'f'r's.A.Sta.



5/8" Ceiling N.Y.Sta.

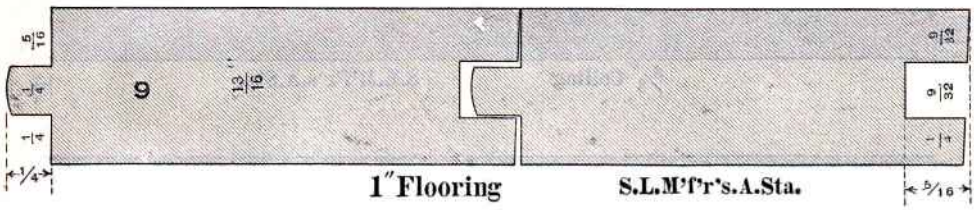


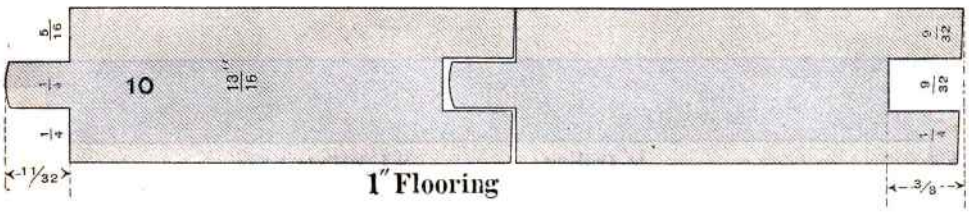
3/4" Flooring S.L.M'f'r's.A.Sta.

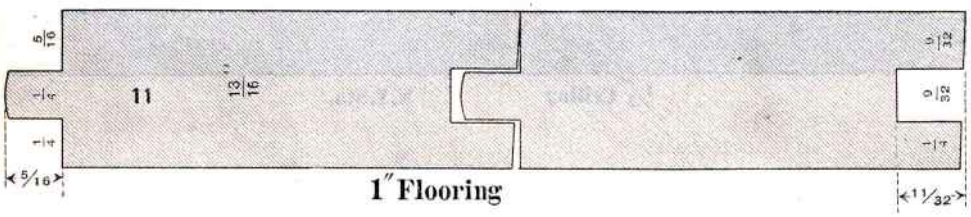


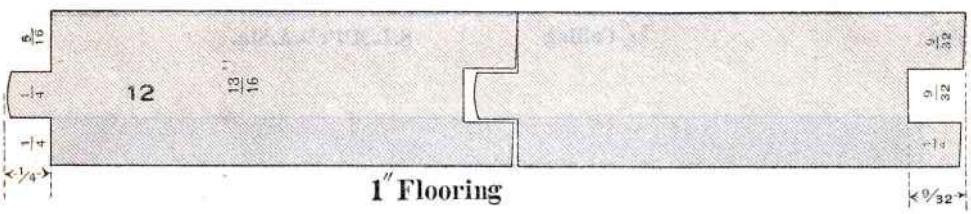
3/4" Flooring N.Y Sta.

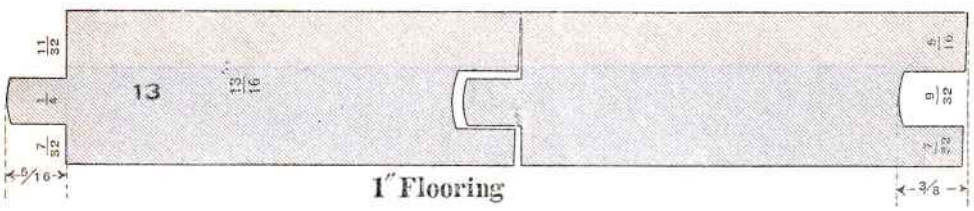
FLOORING

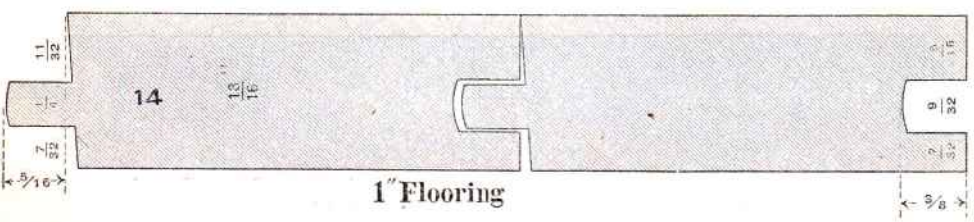

9
1″ Flooring
S.L.M'f'r's.A.Sta.

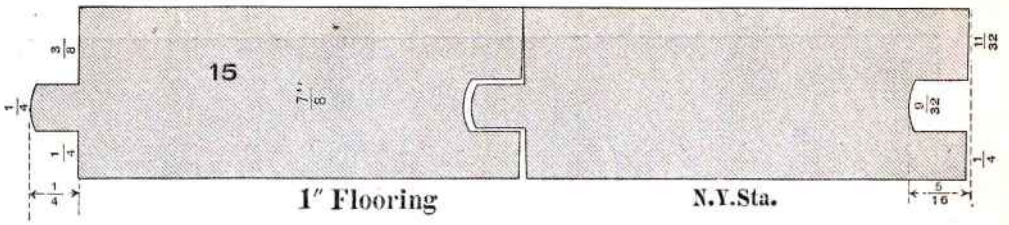

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1″ Flooring


11
1″ Flooring

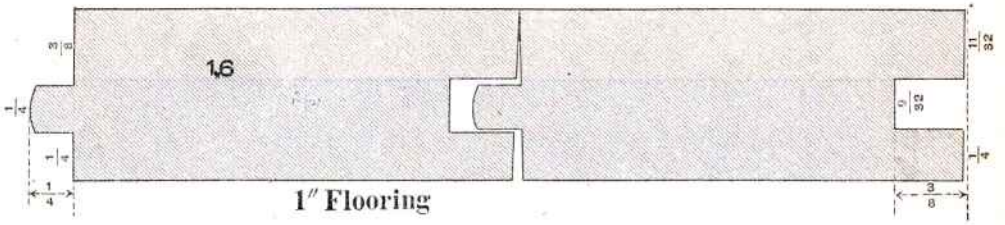

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1″ Flooring


13
1″ Flooring

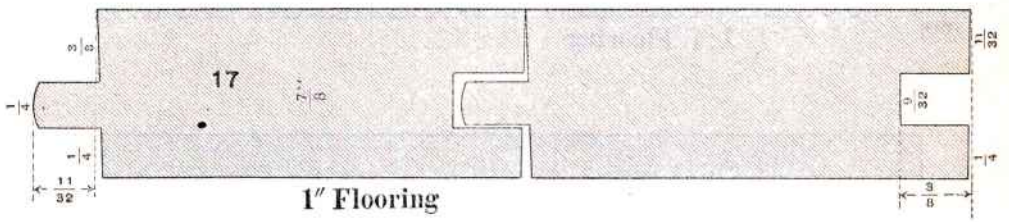

14
1″ Flooring



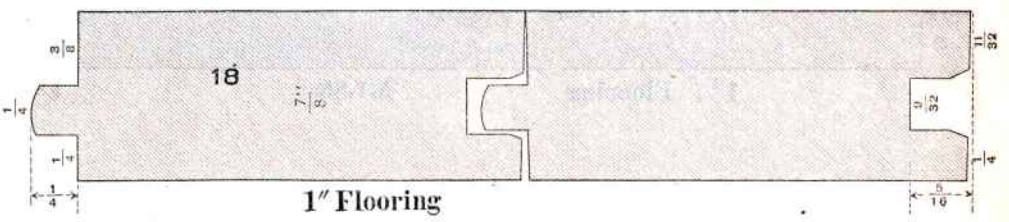
1″ Flooring N.Y.Sta.



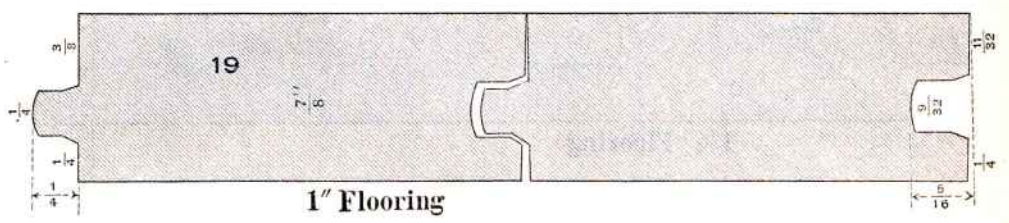
1″ Flooring



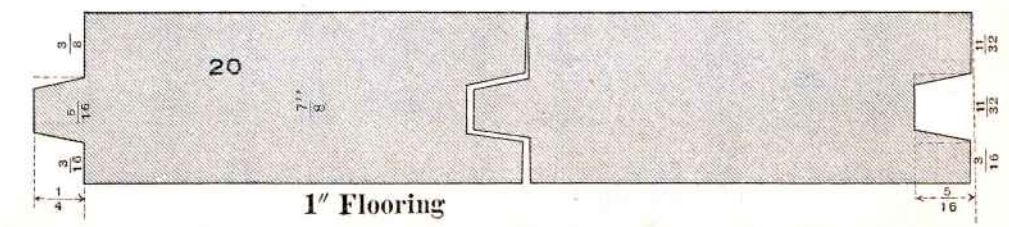
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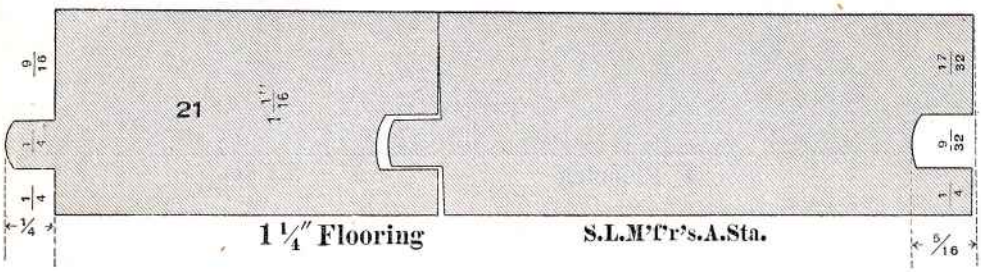
1″ Flooring



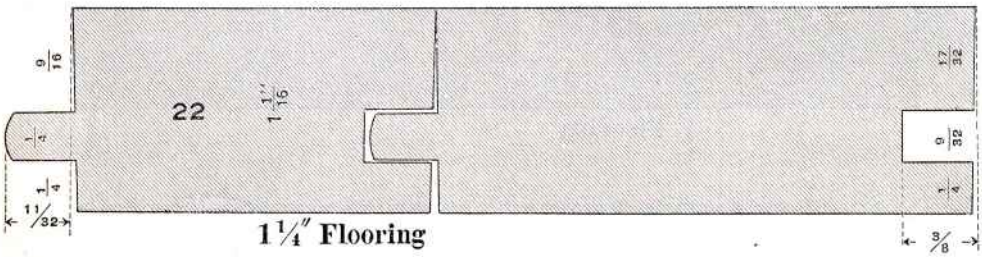
1″ Flooring



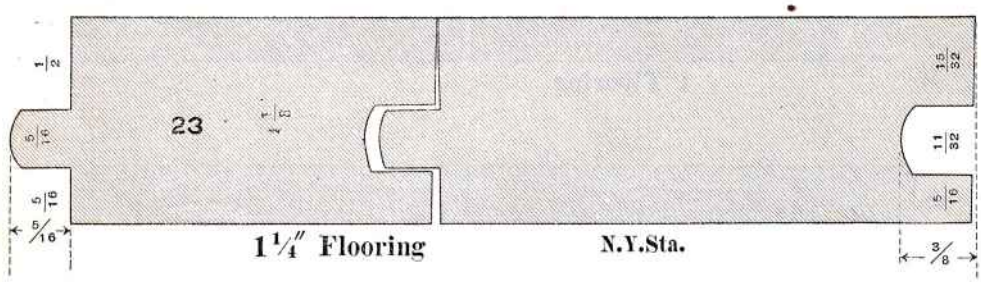
1″ Flooring



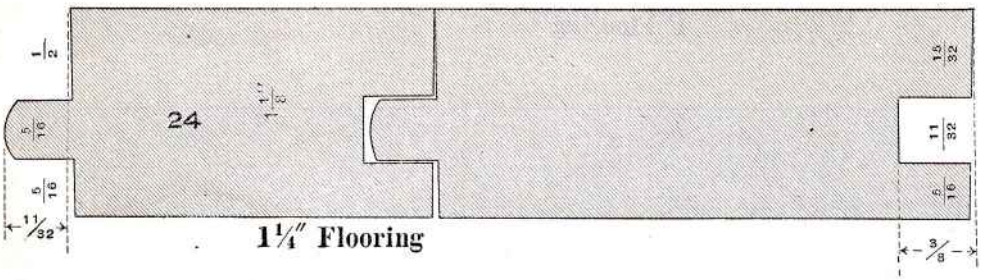
1¼" Flooring S.L.M'F'r's.A.Sta.



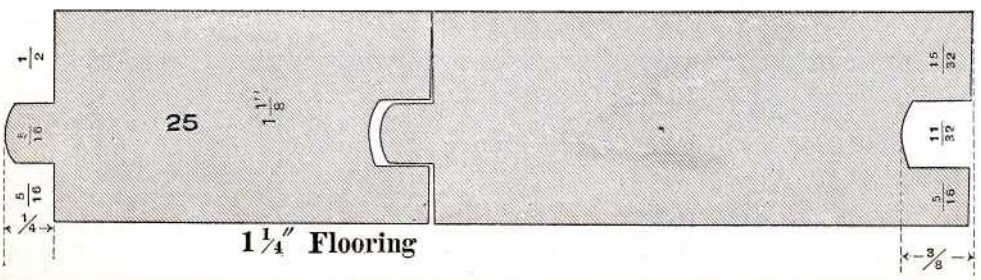
1¼" Flooring



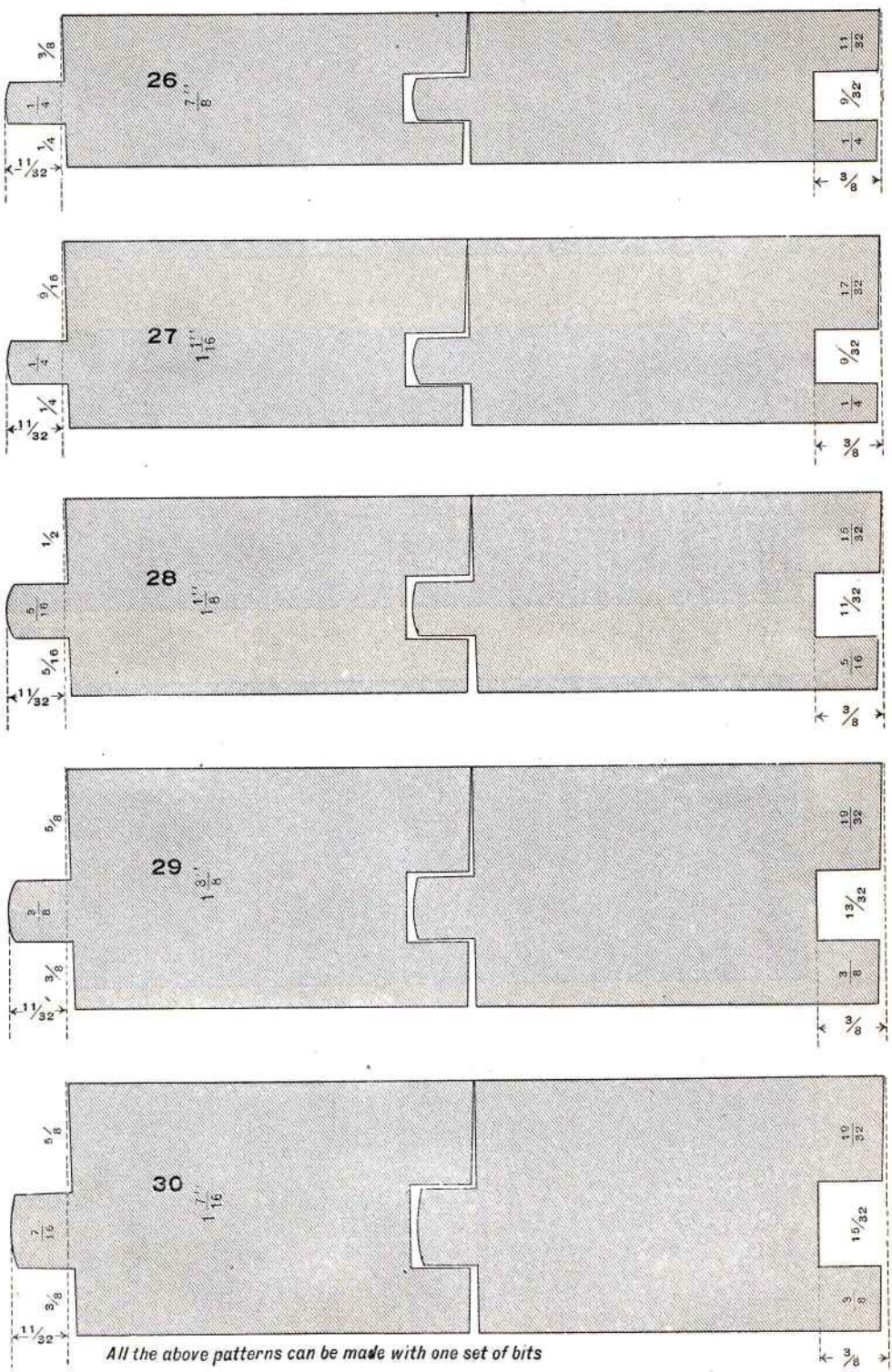
1¼" Flooring N.Y.Sta.



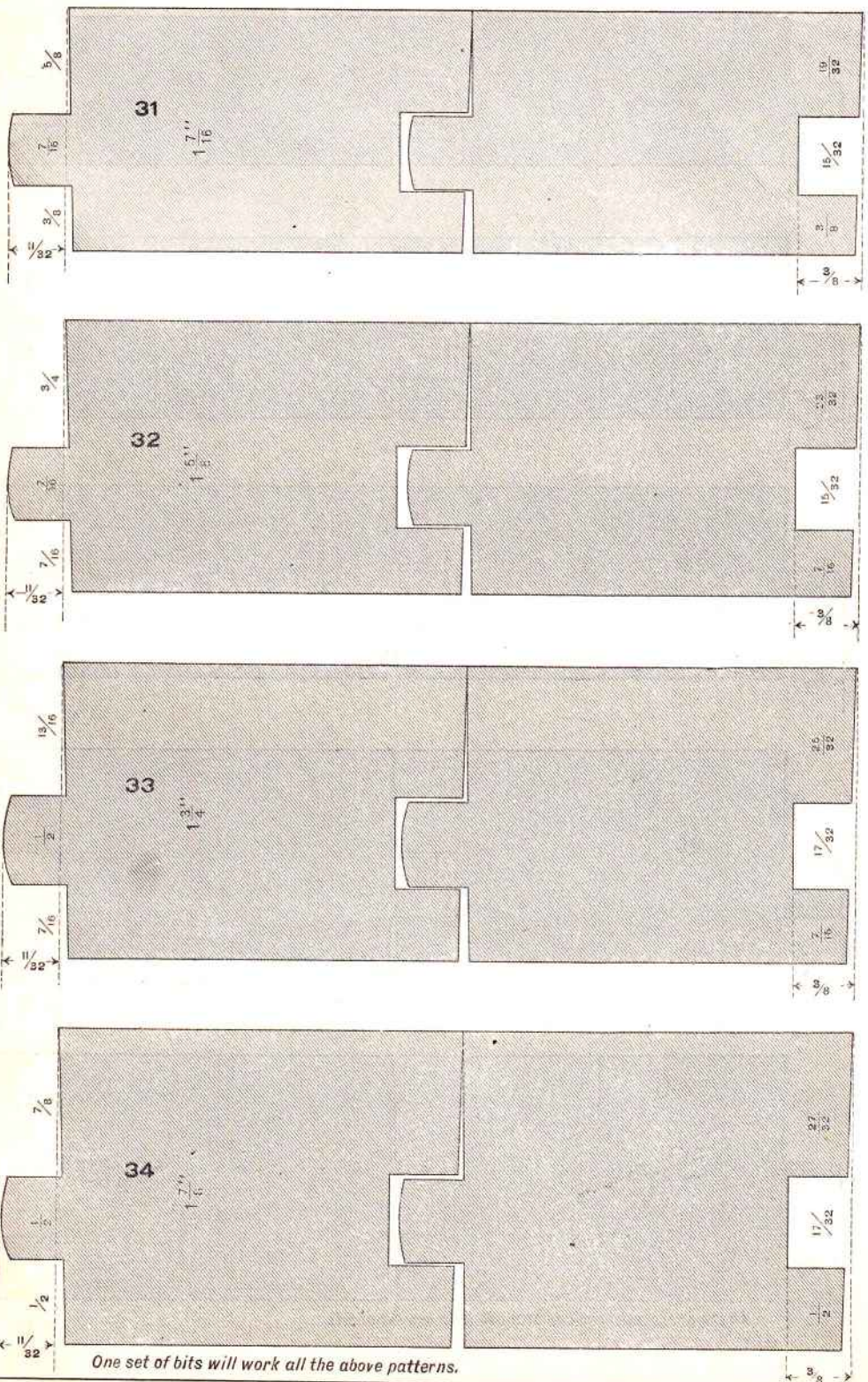
1¼" Flooring



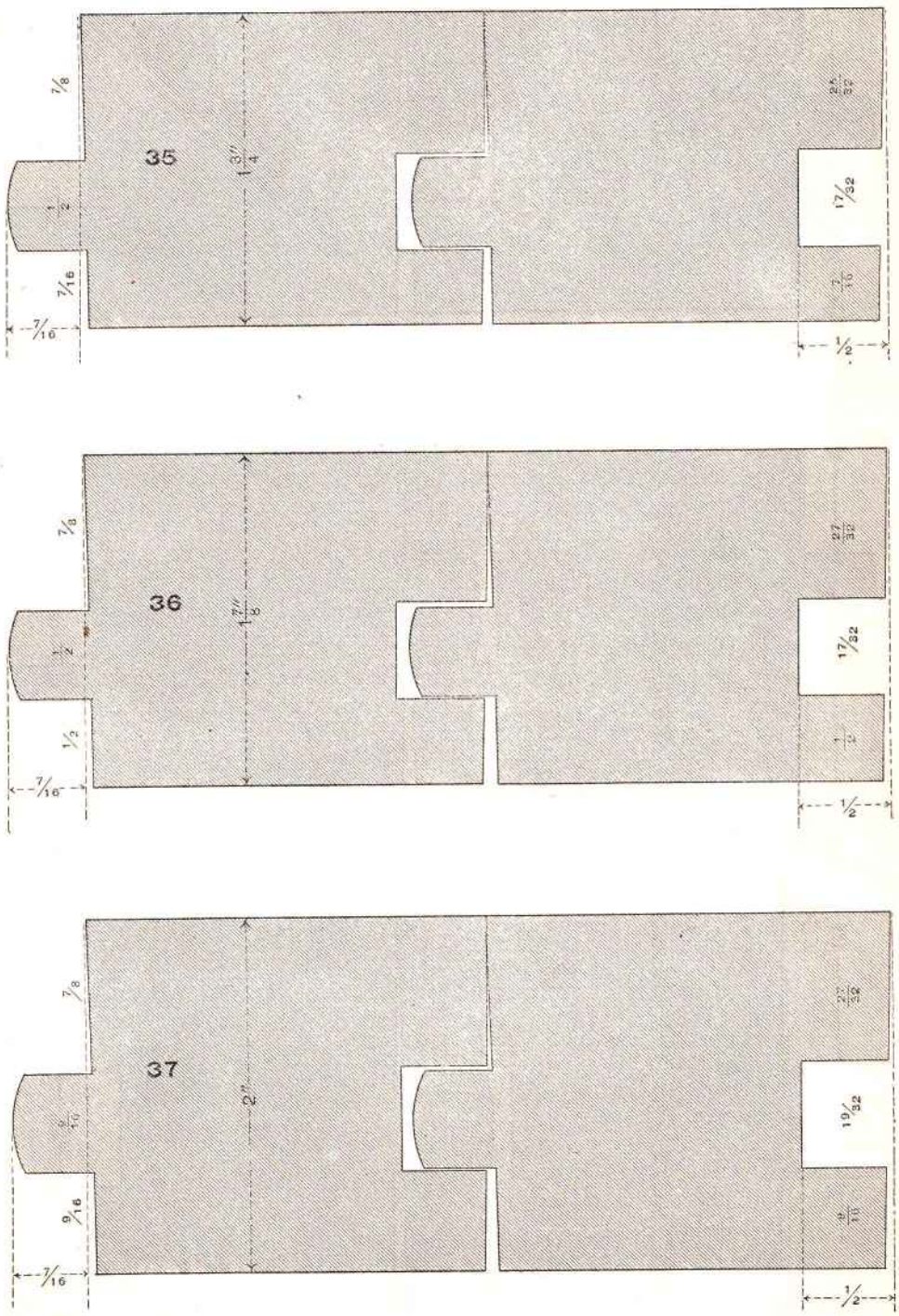
1¼" Flooring



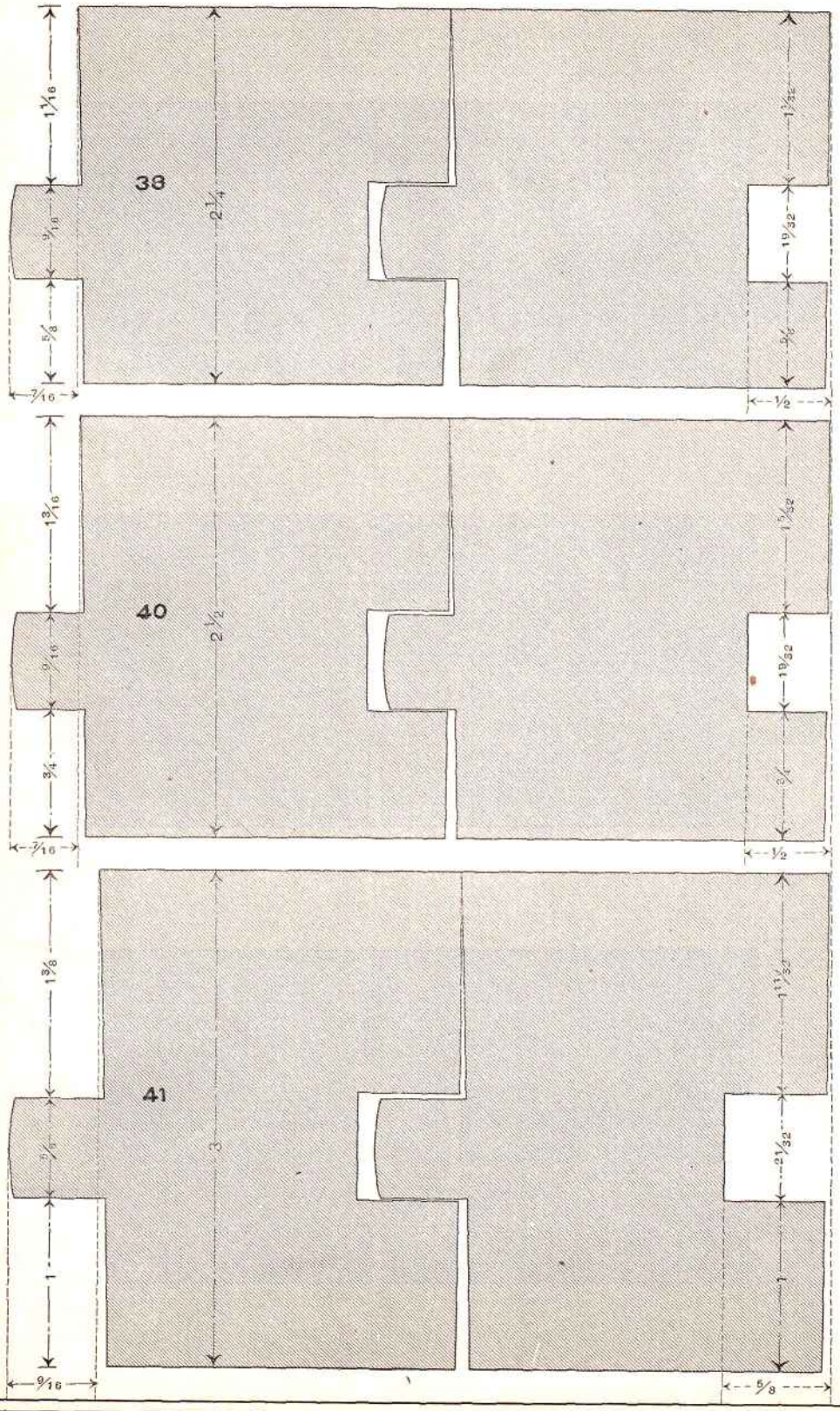
All the above patterns can be made with one set of bits

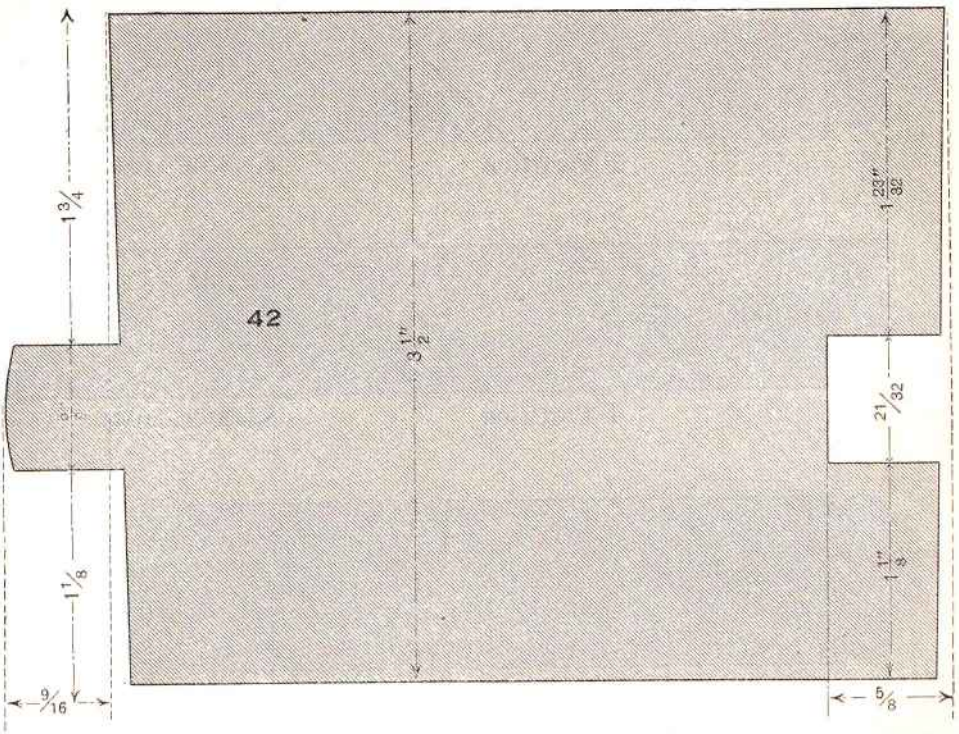


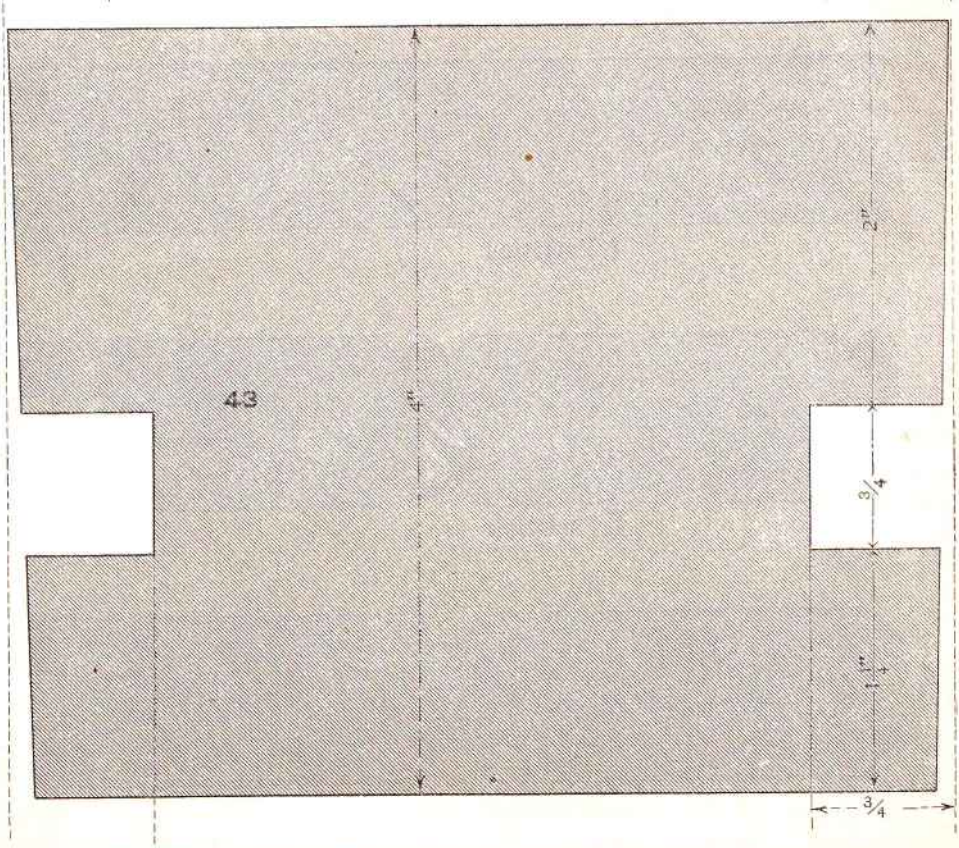
One set of bits will work all the above patterns.


35
36
37

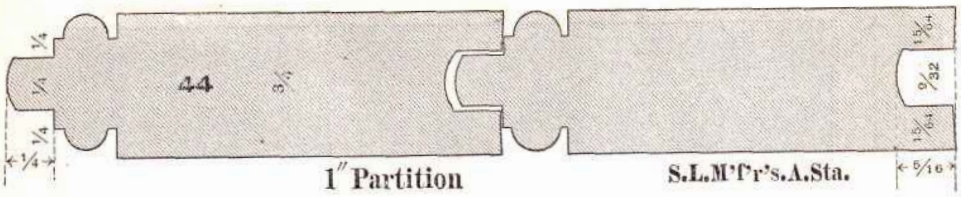
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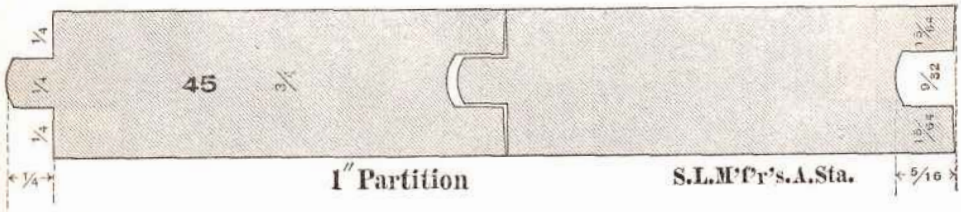

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1 1/16
9/16
5/8
7/16
2 1/4
1 1/32
19/32
5/8
1/2
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1 3/16
9/16
3/4
7/16
2 1/2
1 5/32
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1 11/32
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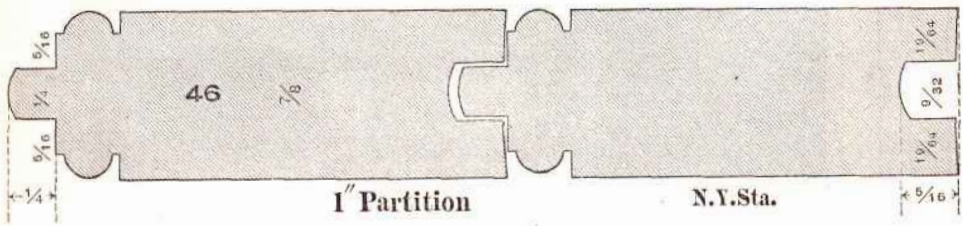

42
1 3/4
3 1/2"
1 23/32"
21/32
1 1/8"
1 1/8
9/16
5/8

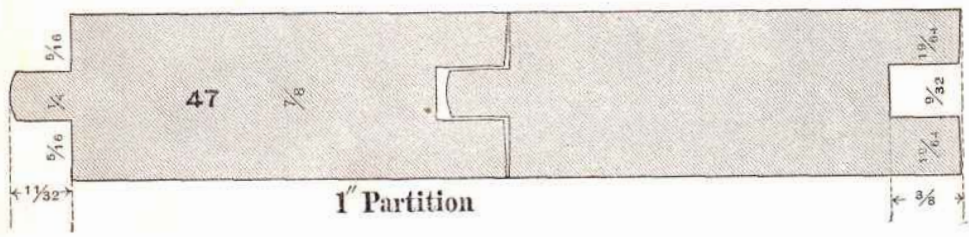

43
4"
2"
3/4
1 1/4"
3/4

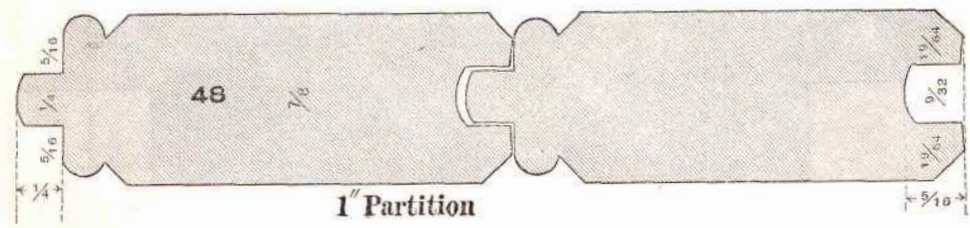
PARTITION

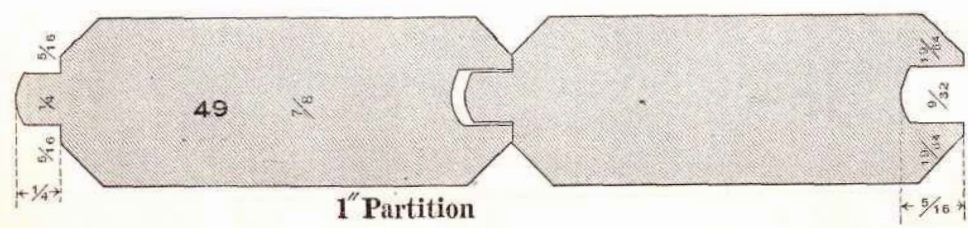

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1″ Partition
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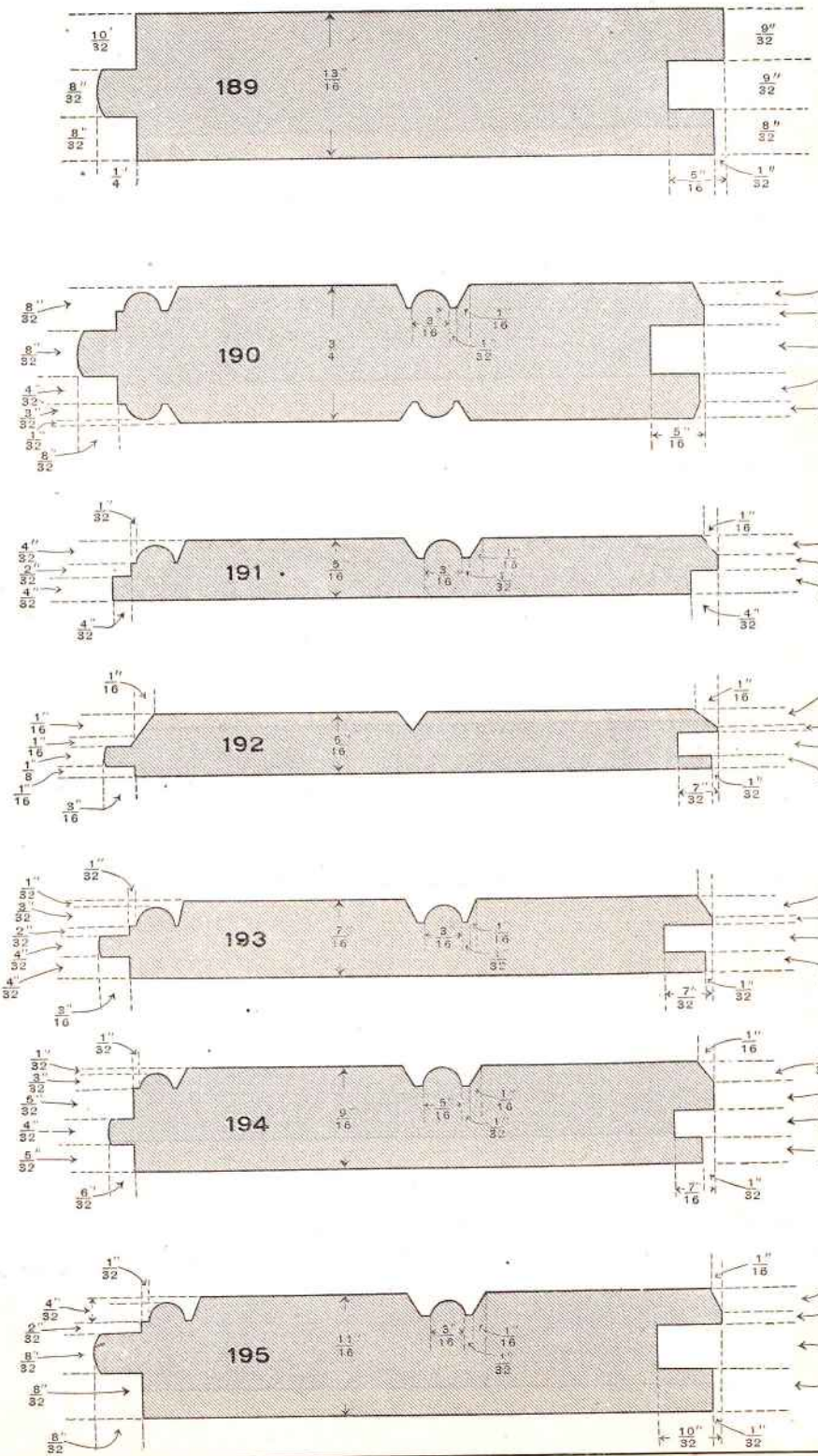

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1″ Partition
N.Y.Sta.

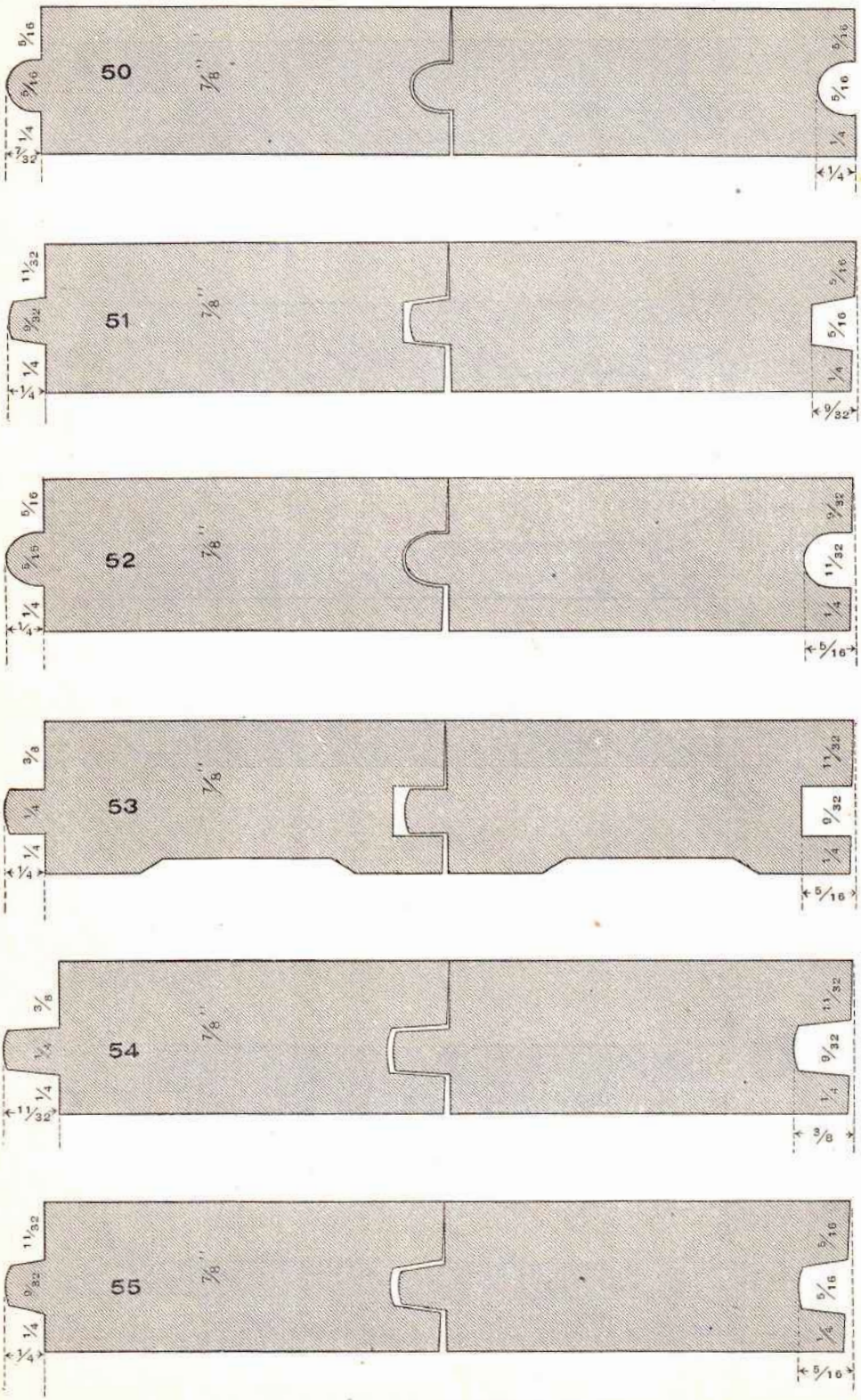

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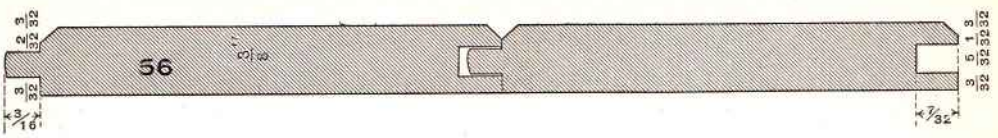

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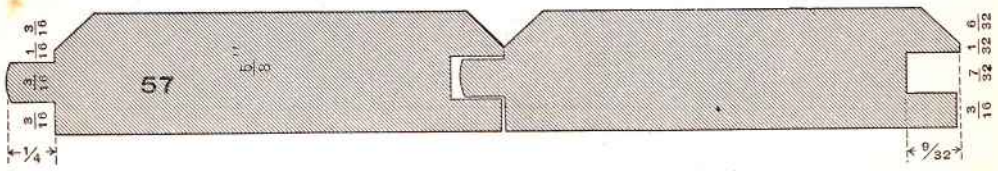

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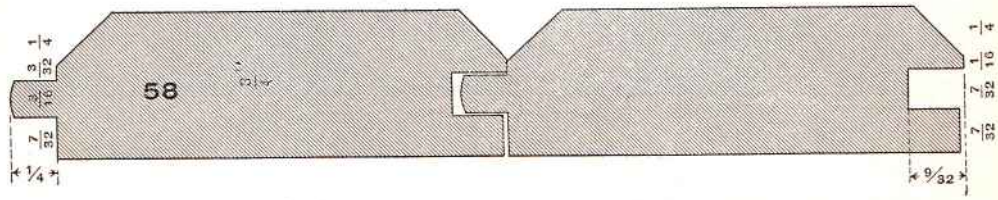

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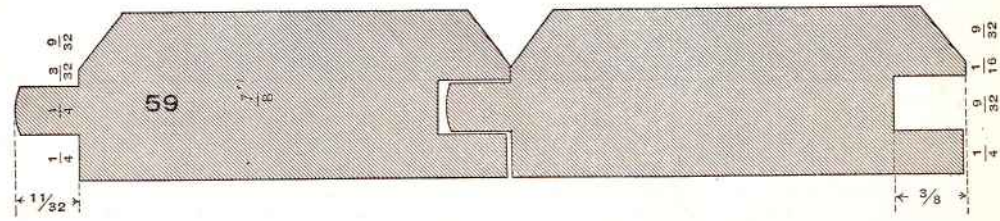
HARD WOOD FLOORING

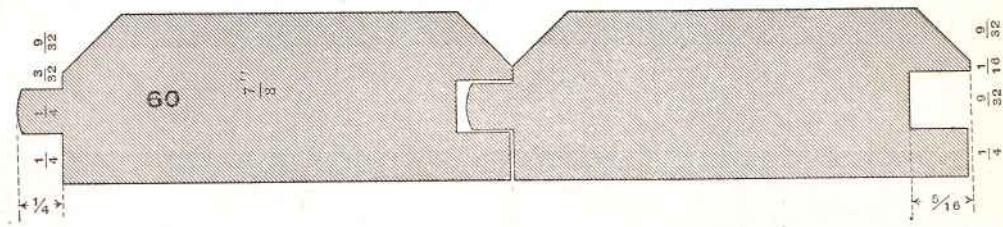


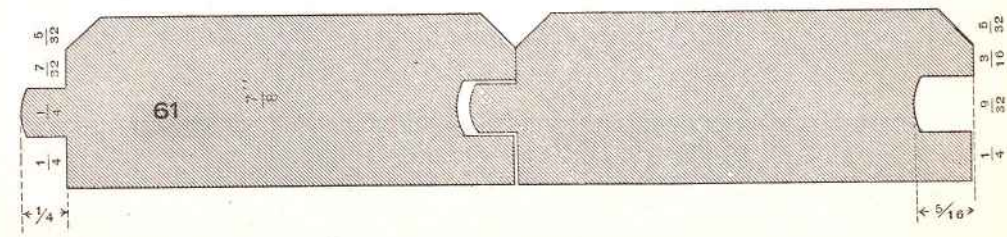

56
2 3/32
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1 3/32
7/32


57
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1 6/32
9/32

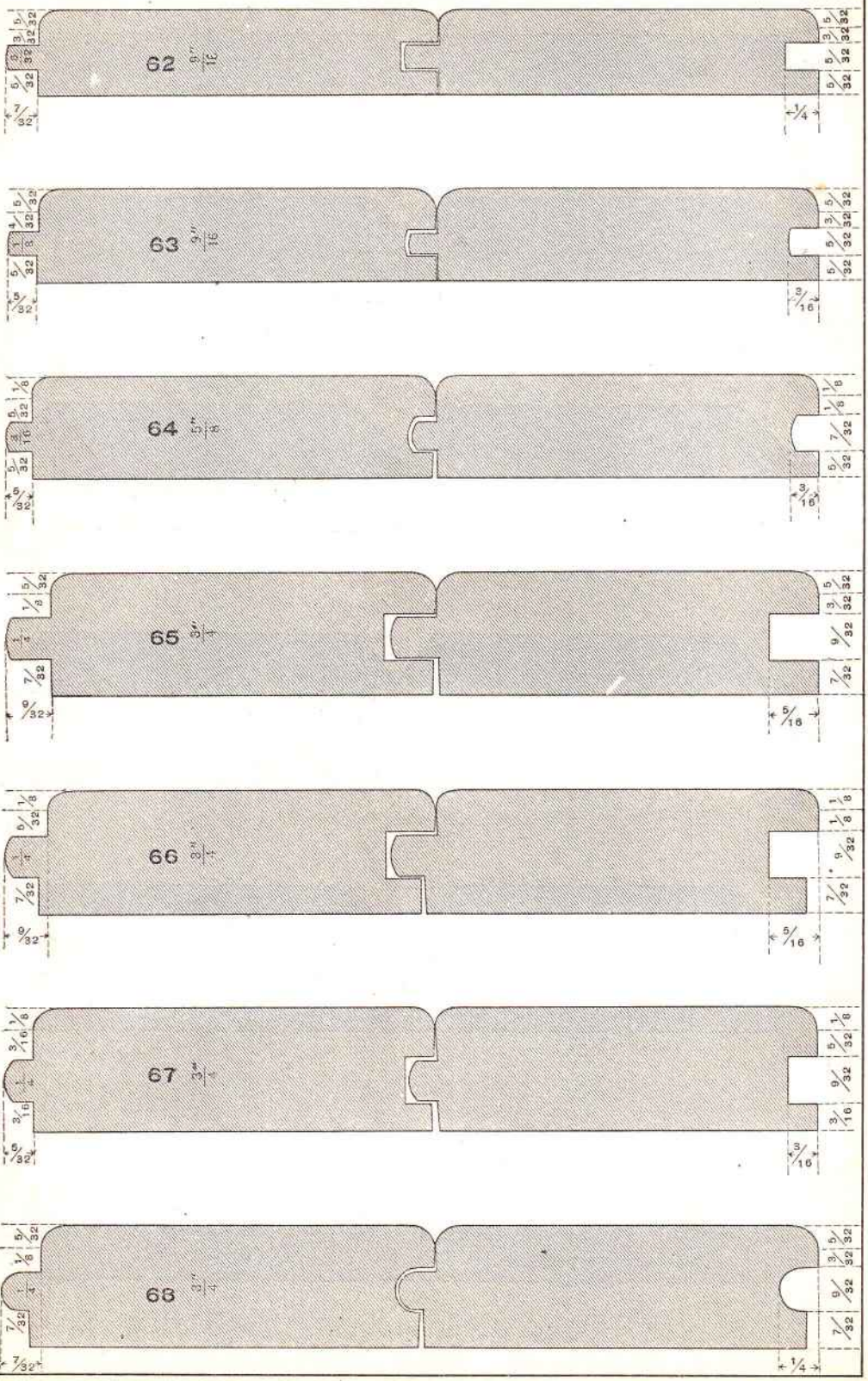

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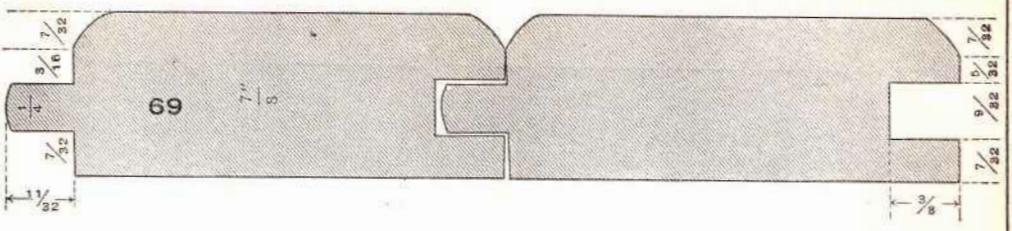

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1/4
3/8

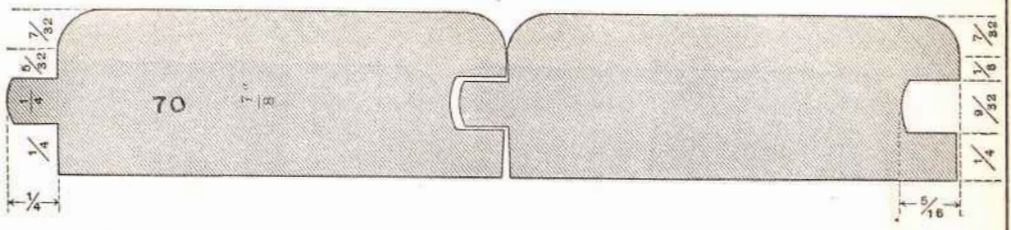

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1/4
1/16
9/32
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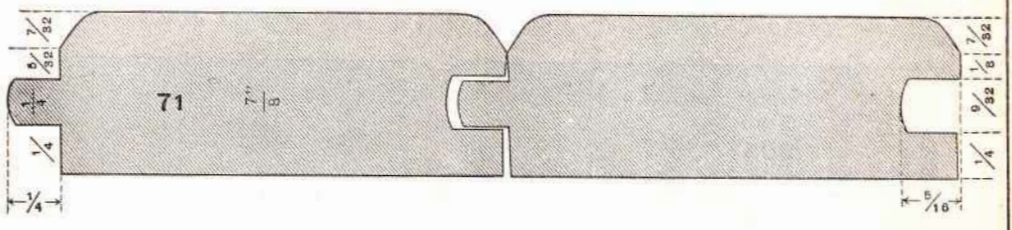

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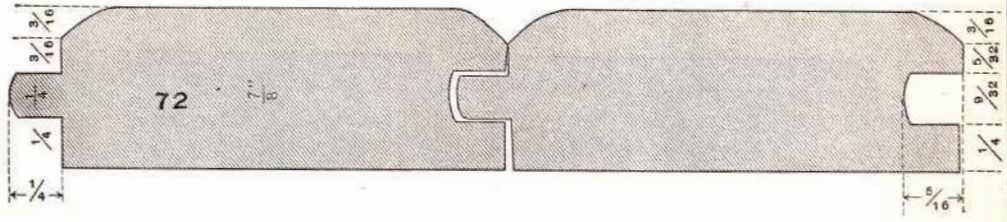
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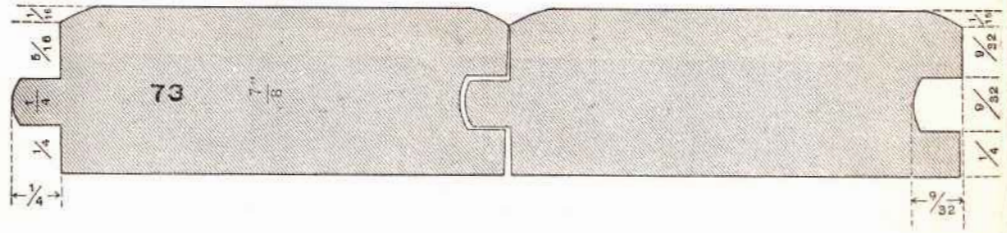


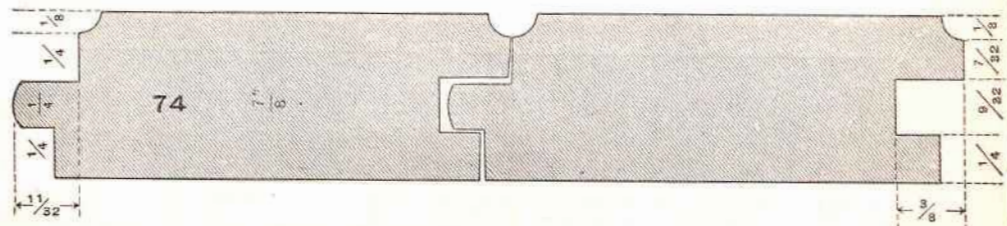

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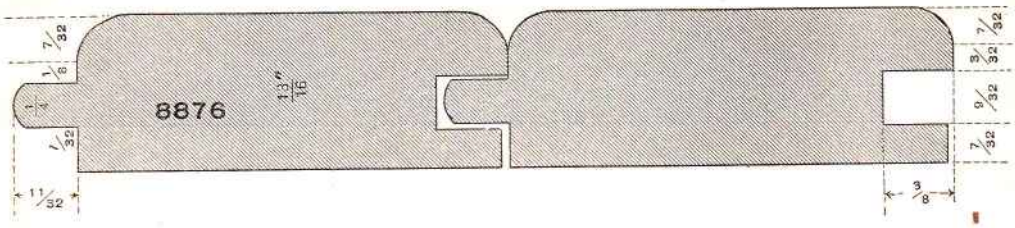

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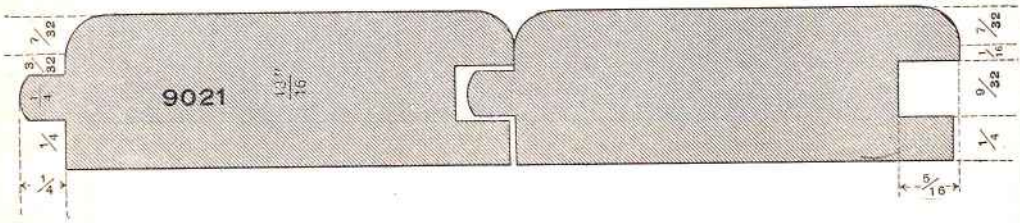

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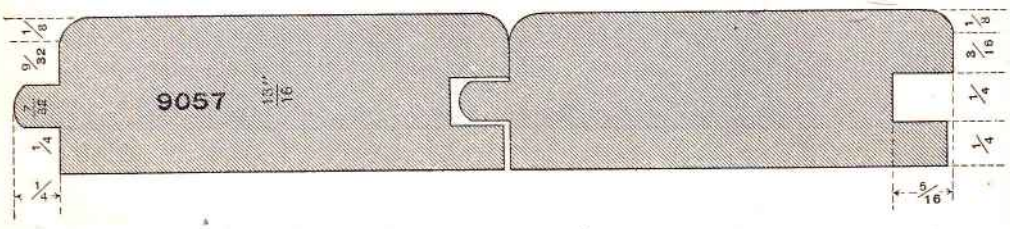

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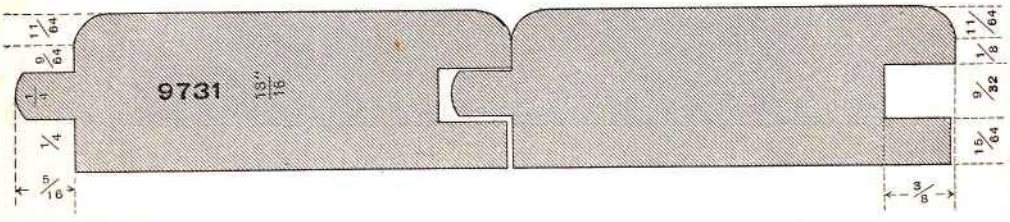

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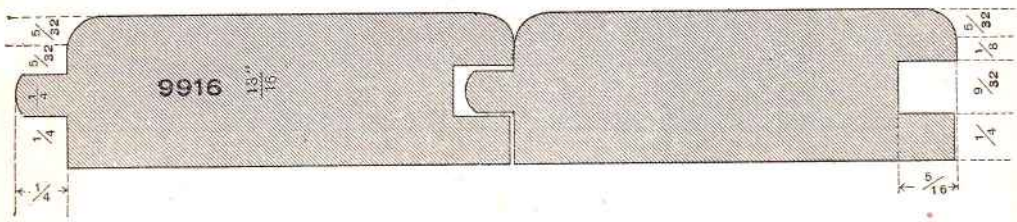
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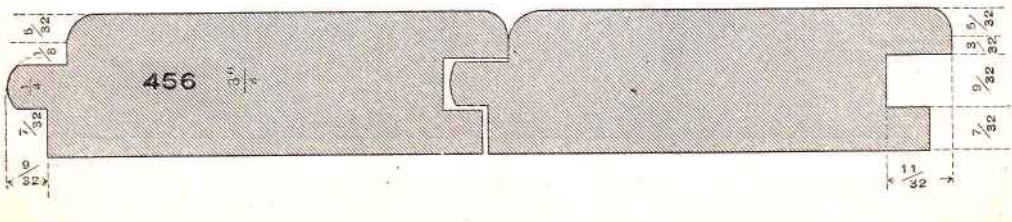

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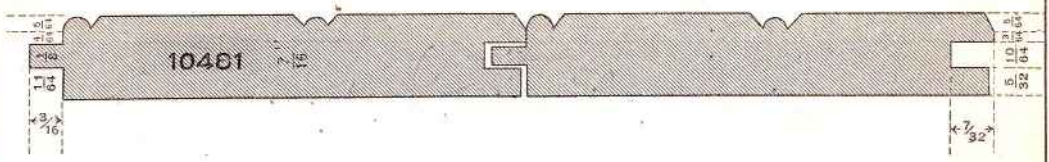

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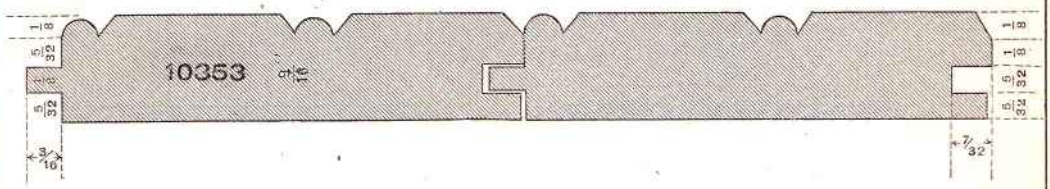

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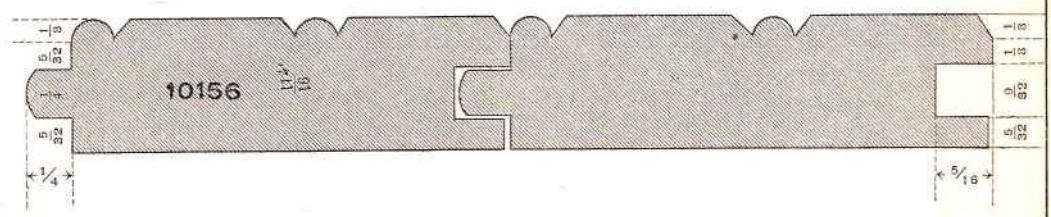

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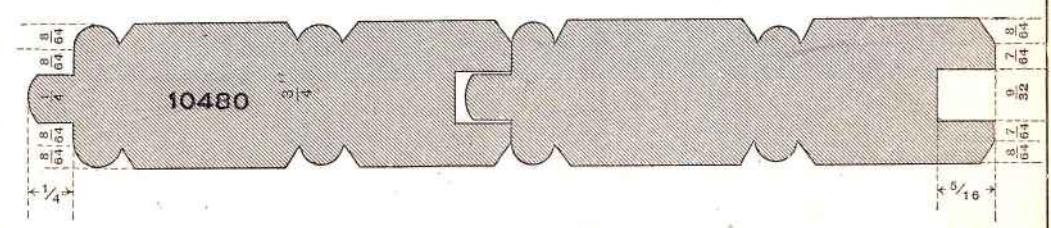

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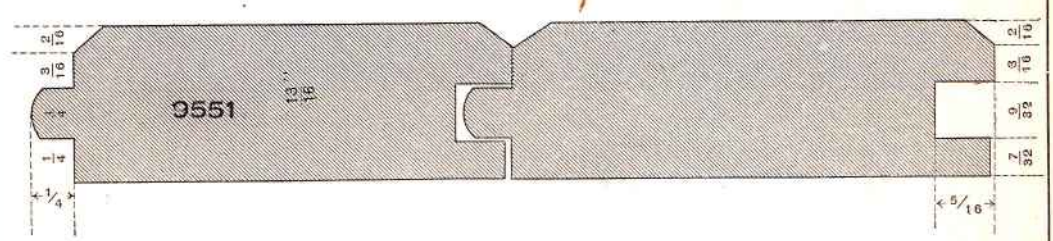

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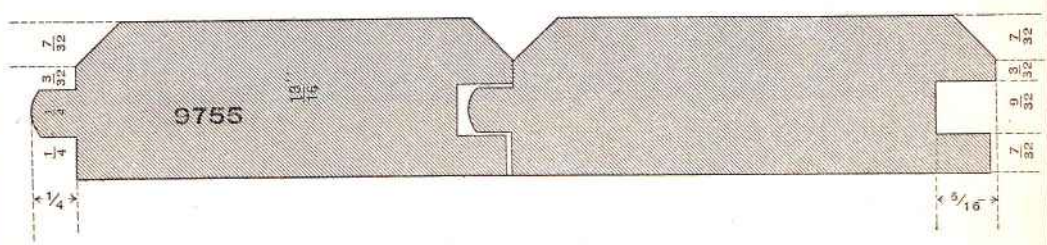

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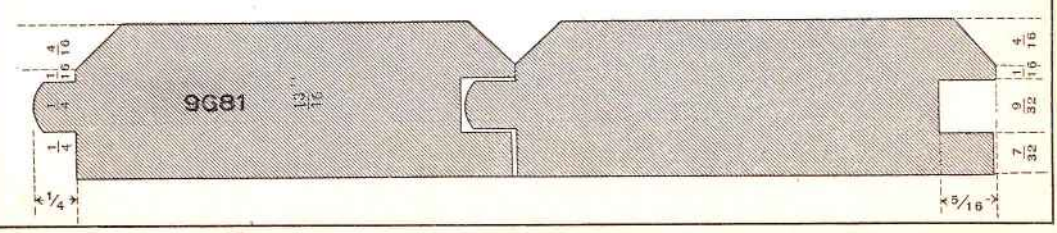

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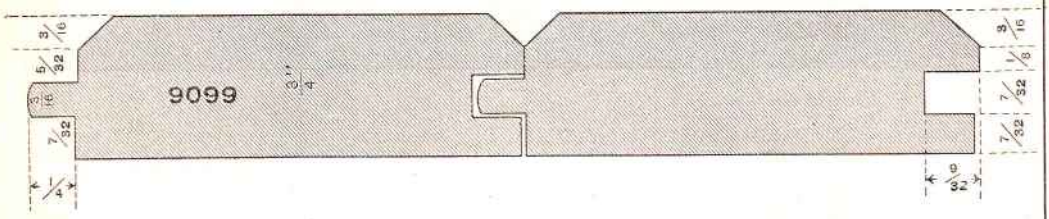

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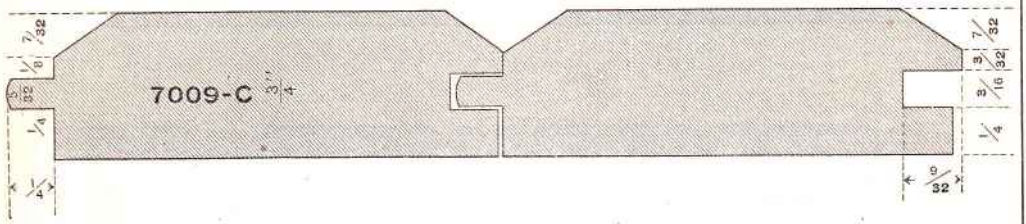

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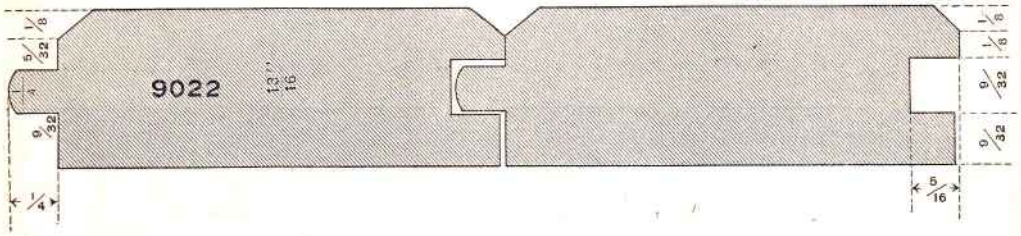

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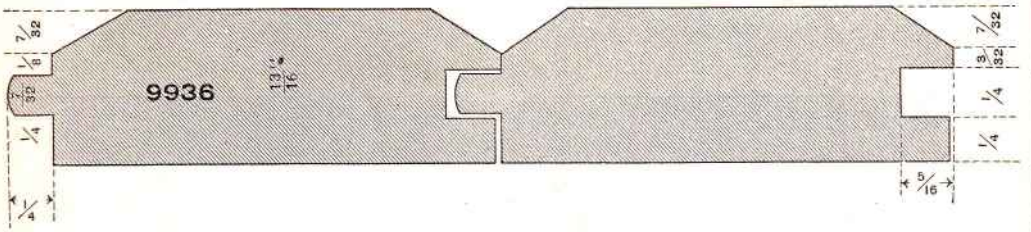

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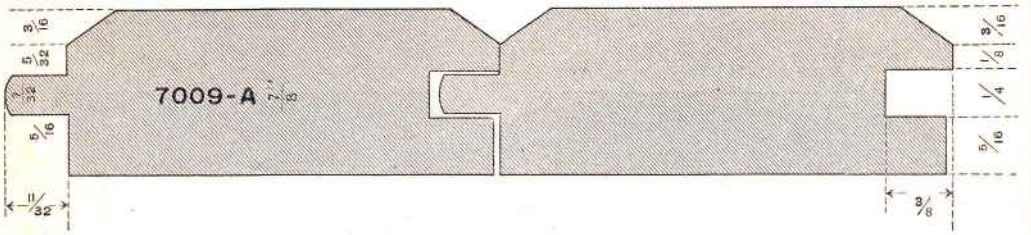
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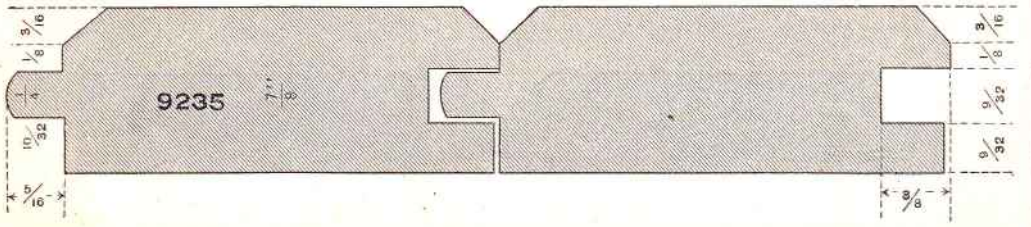












SHIP LAP HEADS.

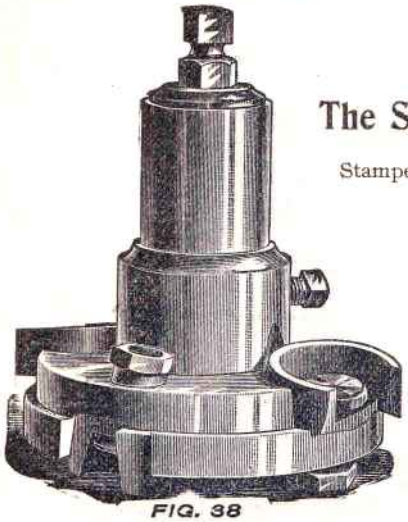


FIG. 38

In Solid Section for Ship Lap.

TRADE

The Shimer Cutter Head.

MARK.

Stamped upon every Shimer Cutter Head in full sight.

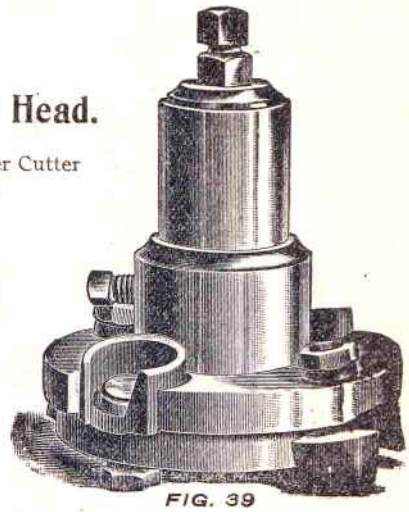


FIG. 39

In Solid Section for Ship Lap.

These two illustrations represent The Shimer Cutter Heads for Ship Lap. They are provided with flat duplex bit seats to proportion each Bit with its largest diameter upon the bit seats, where in line with a diamond pointed edge the rabbeting Bits have the heaviest work to do upon the dividing line of cut.

The draw cut is given the Bits to their fullest limit and every improvement common to The Shimer Cutter Heads goes into their up-to-date construction. They work interchangeably with Matcher Heads and are always ready for the work they have to do.

These are Our Net Prices:

	EACH.	THE SET
The Shimer Cutter Head in Solid Section with Circular Bits, for Ship Lap.		
Net price for each Cutter Head with 4 bit seats, complete without the Bits . . .	$9.24	$18.48
Extra for Cutter Head with 6 bit seats	1.04	2.08

Cutter Heads 5½ inches surface cut diameter and larger will take 6 bit seats.

To Ship Lap from ⅛ to 1½ inches.		
One set of 4 Jointer Bits . . . . . *Each 1.05—$4.20*	} *the full set of 8 Bits*	$9.68
" " *4 Rabbeting Bits* . . . . . " *1.37— 5.48*		
Bits to Ship Lap from ⅜ to ½ inch, 10 per cent. less.		
To Ship Lap from 1½ to 2½ inches.		
One set of 4 Jointer Bits . . . . . *Each 1.16— 4.64*	} *the full set of 8 Bits*	10.52
" " *4 Rabbeting Bits* . . . . . " *1.47— 5.88*		
To Ship Lap from 2½ to 4 inches.		
One set of 4 Jointer Bits . . . . . *Each 1.42— 5.68*	} *the full set of 8 Bits*	12.60
" " *4 Rabbeting Bits* . . . . . " *1.73— 6.92*		
The Shimer Cutter Heads complete for Ship Lap matching.		
One set (2) Cutter Heads complete with 4 Bits each to Ship Lap ⅜ to ½ inches thick . . .		$27.20
" " (2) " " " " 4 " " " " ⅛ *to* 1½ " " . . .		28.16
" " (2) " " " " 4 " " " " 1½ *to* 2½ " " . . .		29.00
" " (2) " " " " 4 " " " " 2½ *to* 4 " " . . .		31.08

Prices subject to change without notice.

Fig. 40 illustrates the way Ship Lap is usually made, with the undercut on the right or guide side, so that should the face of the board not be quite full the left side rabbet will show clean cut edges in the surface. Fig. 41 illustrates the work of beveling the upper edges of Ship Lap for Wainscoting (other patterns are illustrated in the pattern portion of this catalogue.) The lower half of the pattern is cut with regular Ship Lap Bits. The upper half is special and takes two special Bits to each Cutter Head, usually made sectional when the cut is deep.

Price for the upper Bit on right or guide side, each	$1.58
" " " " " " *left, opposite the guide side*	1.58

These Bits should be ordered when the Cutter Head is made if very special. Bits for regular tongue and groove will not apply to these Ship Lap Heads.

SHIP LAP HEADS FOR HEAVY WORK.



FIG. 222

Fig. 222 represents The Shimer Cutter Heads for Ship Lap matching of heavy mill floors from 3 to 4 inches thick, cutting from 1 inch to 1½ inches deep. The Cutter Heads are provided with 4 Bits in line of the heaviest cut, that work with a heavy shear cut away from the incut line of division. The jointed edge is finished with 2 Bits in line of cut.

The two little pieces illustrated with the Cutter Heads are gauges that determine the edge curvature for each Bit. You also use them to set the Bits by.

The shear cutting principle is fully illustrated by the engravings. Recommended when the lap must be cut deeper than ¾ of an inch.

These are Our Net Prices.

For Fig. 222, Steel Forged Head and Gauges for Ship Lap.	EACH.	THE SET
Net price for each Cutter Head complete without the Knives	$12.60	$25.20
One set (4) Jointer Knives to cut 1½ to 2 inches wide	1.05	4.20
" " *(8) Rabbeting Knives to cut 1½ to 2 inches wide*	1.31	10.48
" " *(2) Heads complete with 4 Jointer and 8 Rabbeting Knives*		39.88

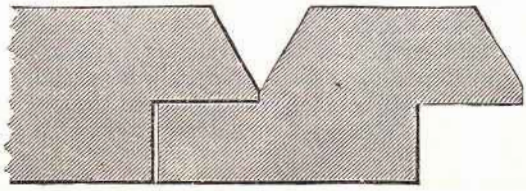
Diagram of Work.



Guide Side.

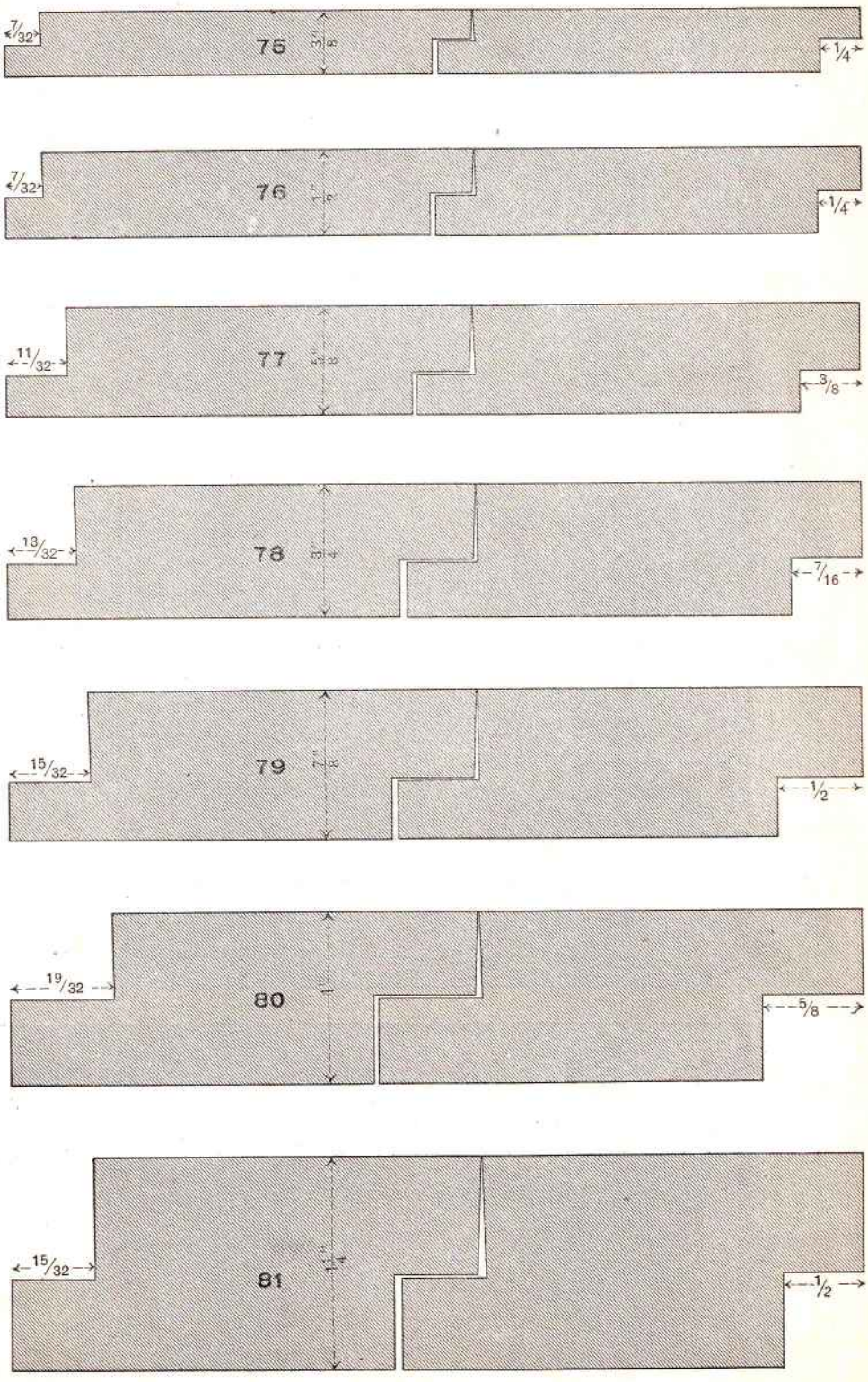
FIG. 40

Wainscoting on Ship Lap Heads.

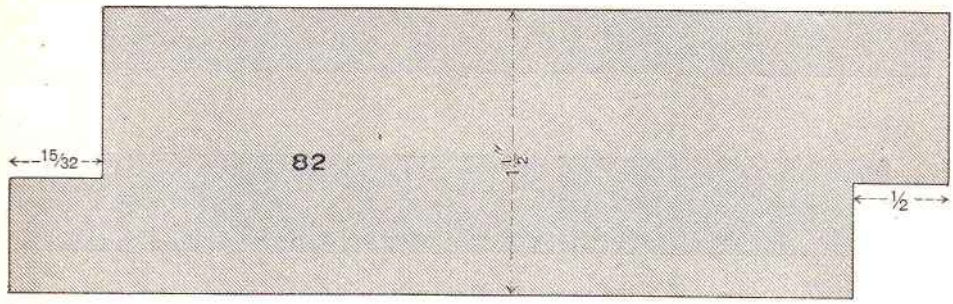


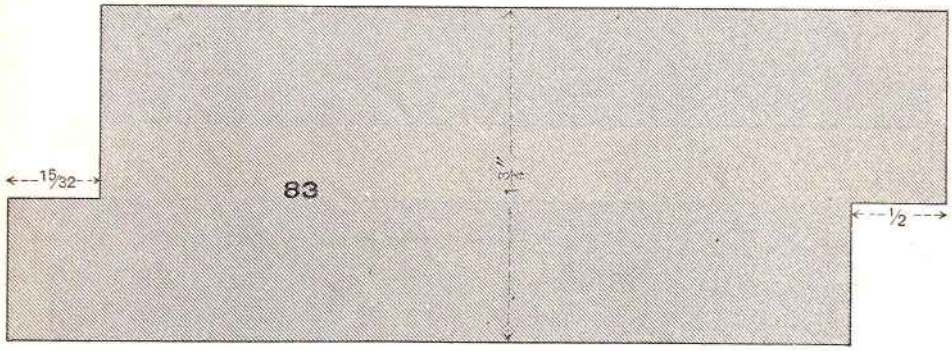
This is preferably the Guide Side.

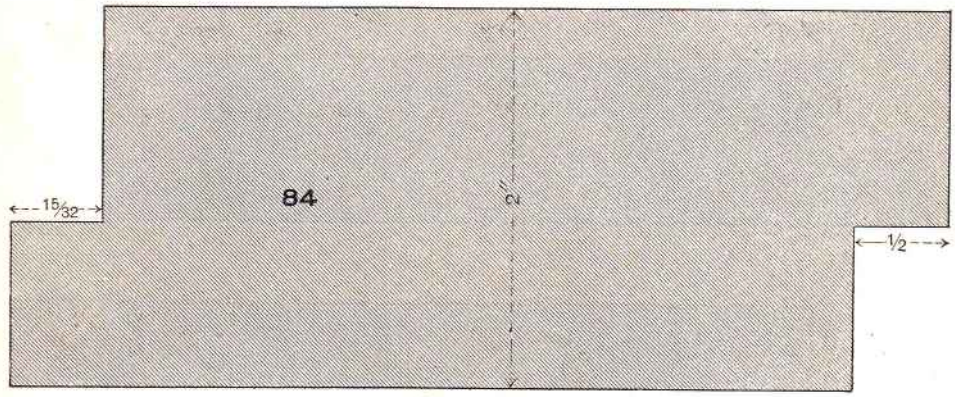
FIG. 41

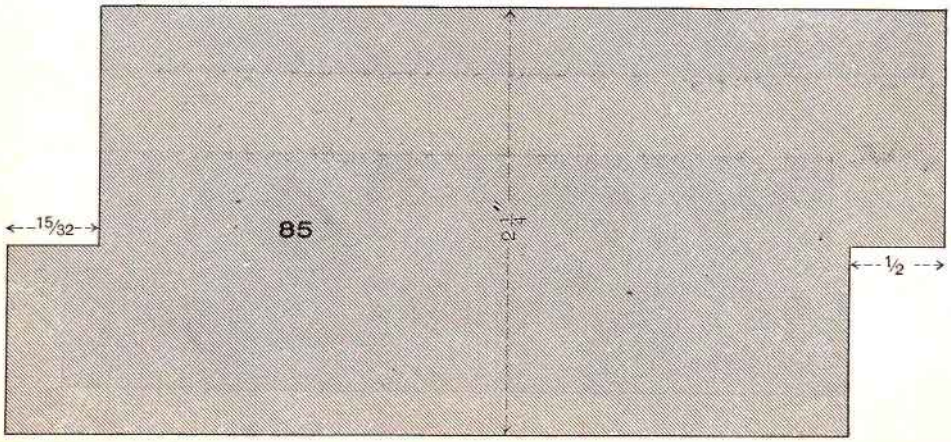

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SHIP-LAP

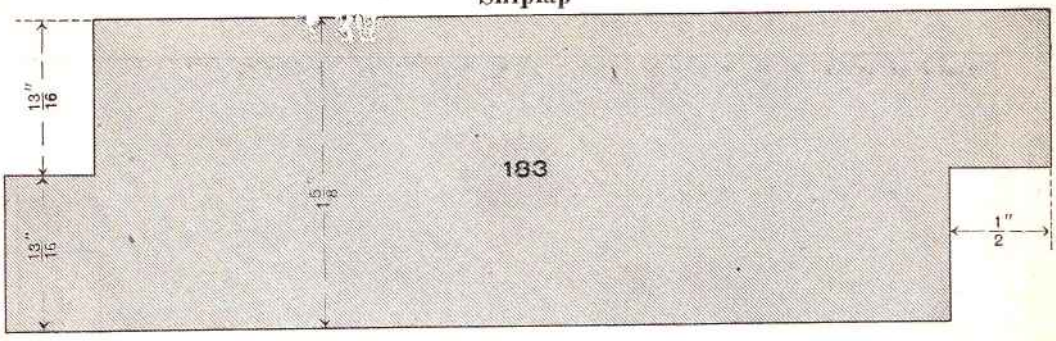




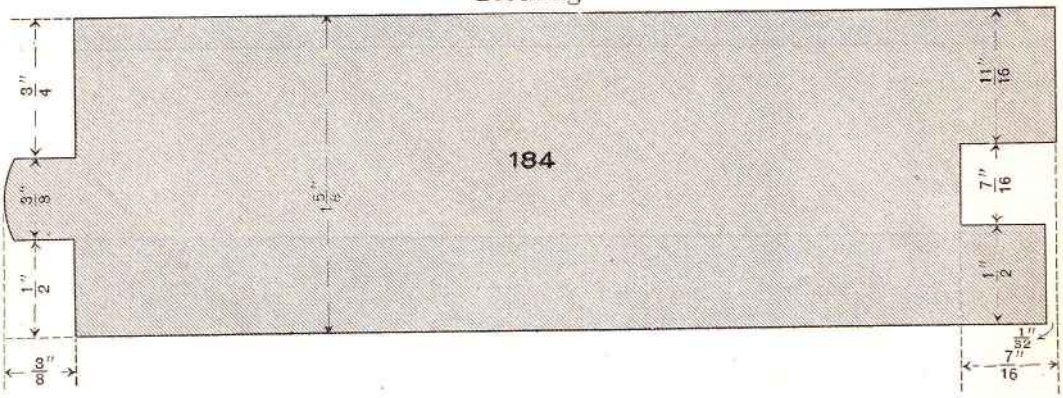


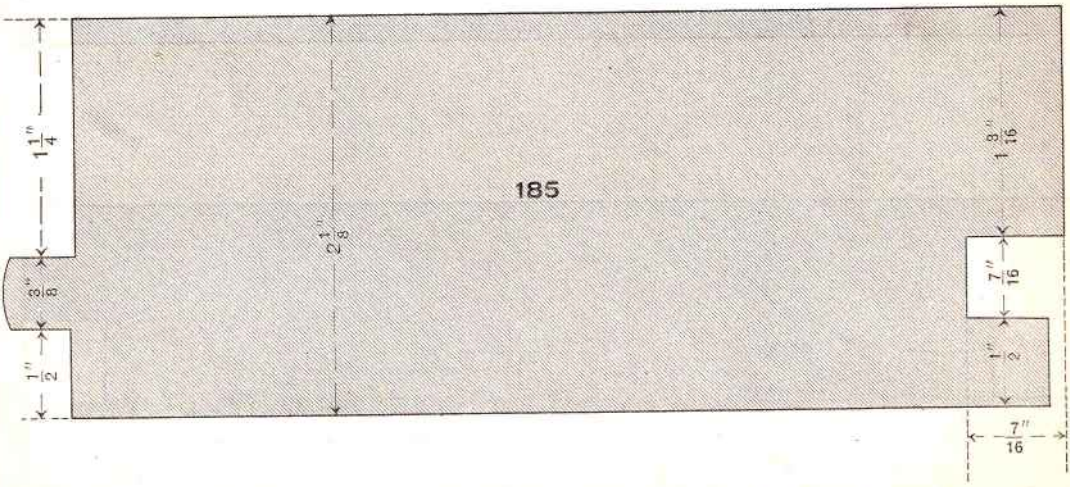


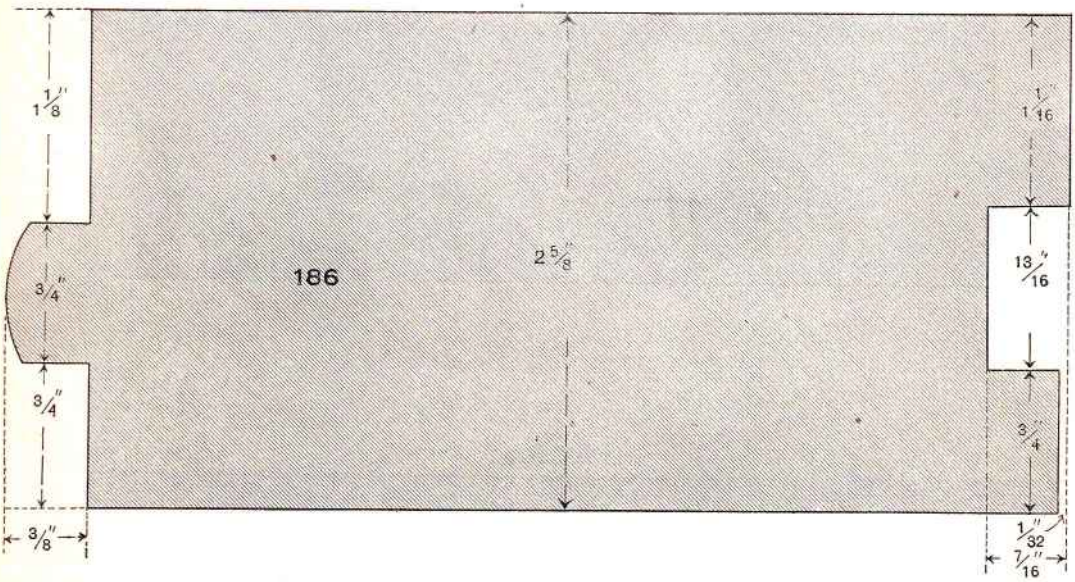
Shiplap

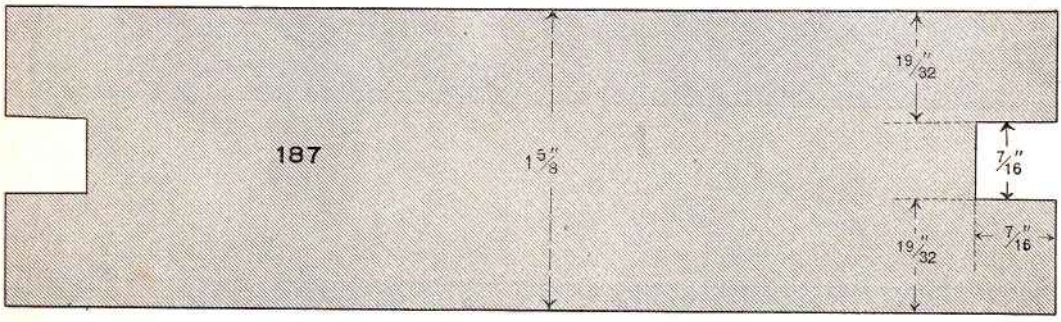


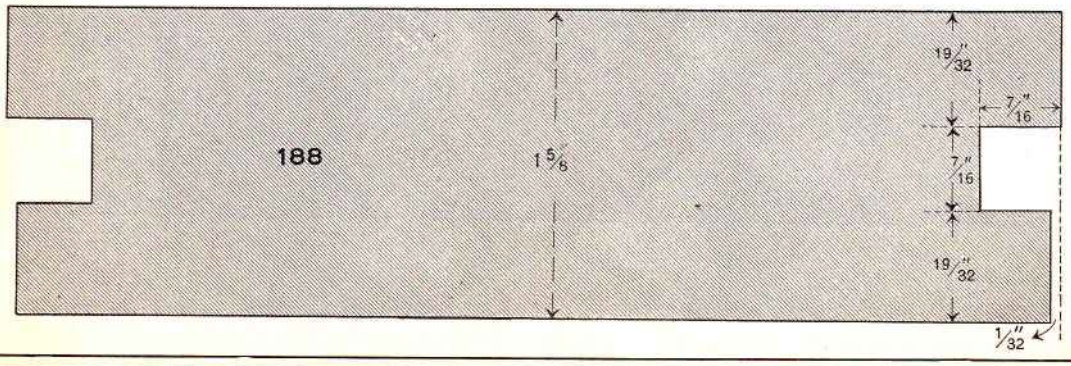
Flooring

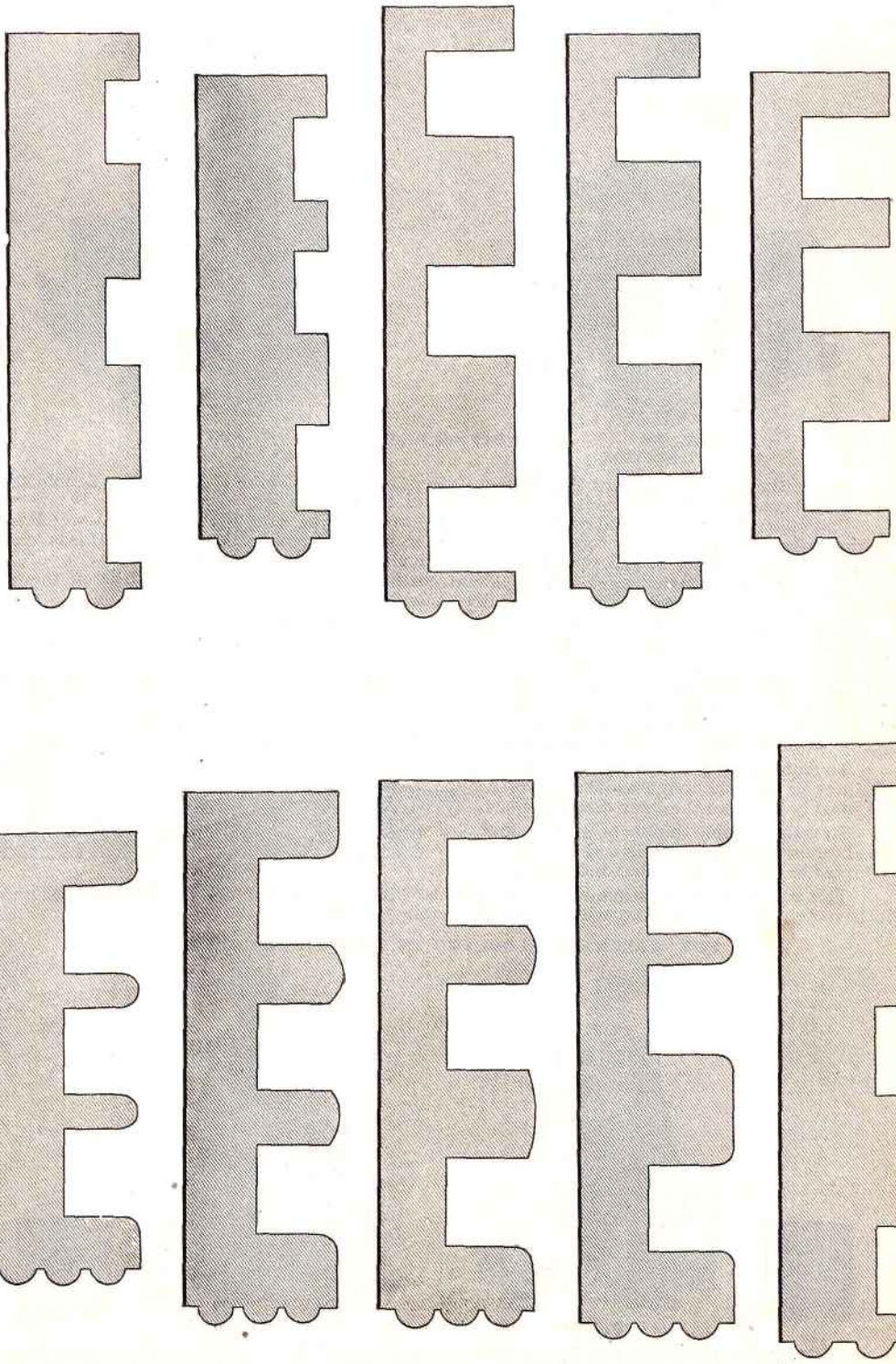





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1 5/8"
19/32"
7/16"
19/32"
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7/16"
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1/32"



HEADS FOR DOUBLE CEILING.

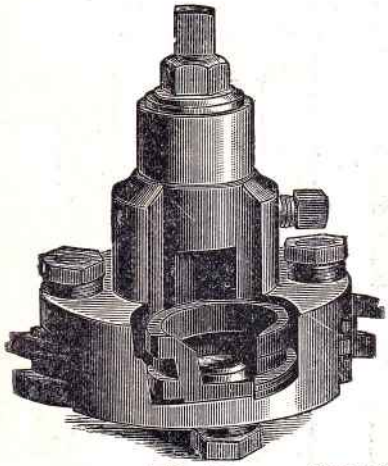


FIG. 45
IN SOLID SECTION.

For prices see page 79.

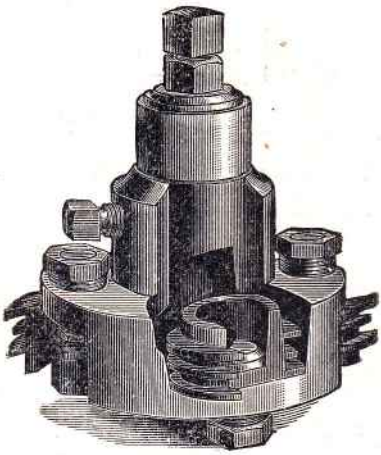


FIG. 46
IN SOLID SECTION.

These illustrations represent The Shimer Cutter Heads for matching Ceiling in double thickness with Circular Bits on each upper and lower side of the head flange.

The upper Bits cut into and make part of the lower tongue and groove. The lower Bits cut into and make part of the upper tongue and groove, and for that reason these Cutter Heads cannot be expanded, and neither will they take Bits to match single tongue and groove.

Circular Bits for matching double thickness, cutting two grooves along one side of the strip and two tongues along the other side are usually made to mark the saw cut line of division.

This mark is a guide to the eye of the sawyer, who can at once detect the least variation of the saw and correct it as the board is passing through. Two strips of like thickness are thus produced—otherwise difficult to make, as the eye cannot determine the half way distance between the tongues without the mark.

To match double thickness, ⅜ or ½ inch, with Circular Bits, the tongues and grooves are (and must be) located the same distance apart.

To match double thickness, ⅝ or ¾ inch, with Circular Bits, the tongues and grooves are (and must be) located the same distance apart.

Double Ceiling—Plan View.



FIG. 47

This rule governs the scope of a set of Circular Bits made to cut double thickness, therefore Bits to match Double ⅜ Ceiling will not match Double ⅞ Ceiling.

FOR MATCHING FLOORING IN DOUBLE THICKNESS.

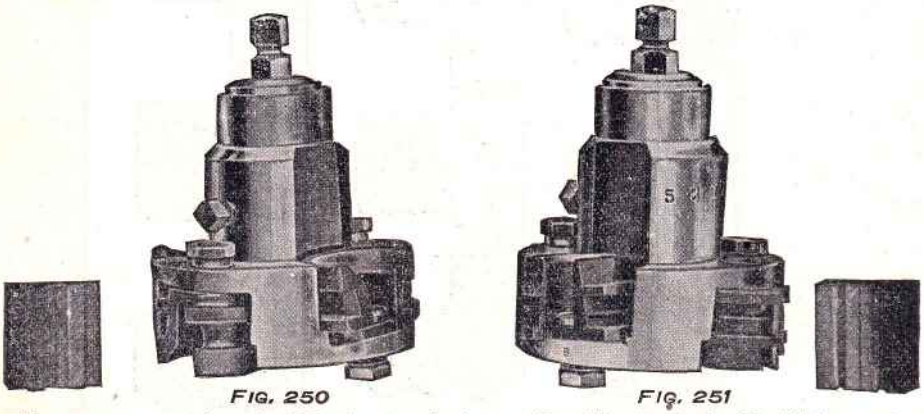


FIG. 250 FIG. 251

Above we represent a set of Heads as made for working Flooring in double thickness, together with a small piece of the finished wood as turned out by the Heads. For lining boards and other cheap work which is tongued and grooved they save much time and labor. For prices see page 79

HEADS FOR DOUBLE CEILING.

TRADE
The Shimer Cutter Head.
MARK.

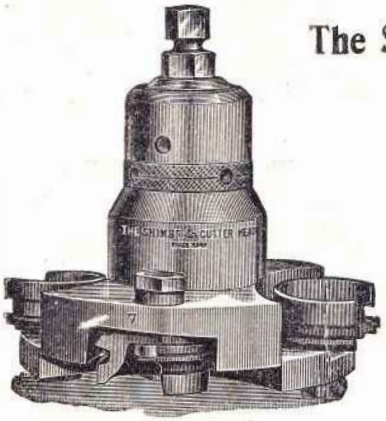
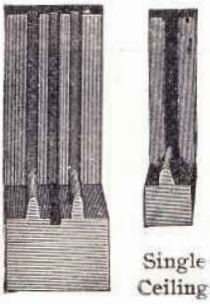


FIG. 42.
Double Ceiling Tongue Head in Two Part Section.



Double Ceiling.

Single Ceiling.

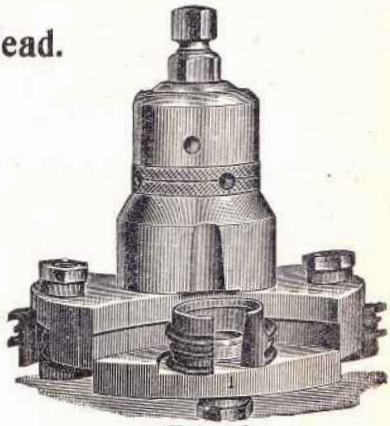


FIG. 43.
Double Ceiling Groove Head in Two Part Section.

These two illustrations, Fig. 42 and Fig. 43, represent The Shimer Cutter Head construction in two part sections to match Double Ceiling.

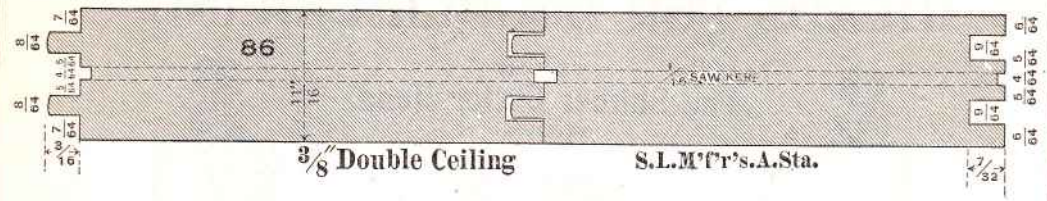
A loose collar is placed between the head sections to line the upper and lower bit seats relatively to locate Double Ceiling Bits. The upper series of Bits must cut into and make a part of the lower tongue and groove. The lower series of Bits must cut into and make part of the upper tongue and groove. In operation these two Cutter Heads work like Fig. 45 and Fig. 46, and with double ceiling Bits upon the seats their sections dare not be placed further apart or nearer together, because the Bits (cutting into both tongues and grooves, being solid) will not admit of any change. When you remove the loose collar from between the Cutter Head sections you locate the bit seats in line to cut with single tongue and groove Bits.

These two Cutter Heads are provided with the flat duplex bit seats, a description of which you will find under Fig. 12 and Fig. 13, page **19** Any adjustment of these Cutter Head sections, with Bits on their bit seats to match single tongue and groove is subject to the same rules that govern regular adjustment for tight or loose fit of tongue in groove already so fully explained in this catalogue.

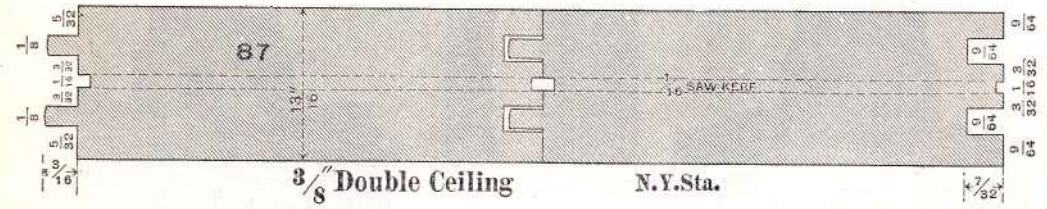
These are Our Net Prices:

	EACH.	THE SET
For Cutter Heads in Solid Section, Fig. 45 and Fig. 46.		
Net price for each Cutter Head, with 4 bit seats, without the Bits	$ 9.82	$19.64
One set (2) solid Cutter Heads, each with 4 Bits complete for double ceiling . .		33.08
For Cutter Heads in Two Part Section, Fig. 42 and Fig. 43. made to cut single or double tongue and groove.		
Net price for each Cutter Head, with 4 bit seats, without the Bits	11.55	23.10
One set (2) Cutter Heads, each with 4 Bits complete to match single ceiling, .		31.10
" (2) " " " " 4 " " " *double* " . .		36.54
" (8) *Bits to match double ⅜ ceiling, with double tongue and groove* . .	1.68	13.44
" (8) " " " ⅝ " " " " " "	1.68	13.44
" (8) " " *single ⅜ to ½ ceiling, with single T. and G* . . .	1.00	8.00
" (8) " " " ⅝ *to ¾* " " " " " " " . .	1.00	8.00
" (8) " " " $\frac{13}{16}$ *to* 1½ " " " " " " " . .	1.10	8.80

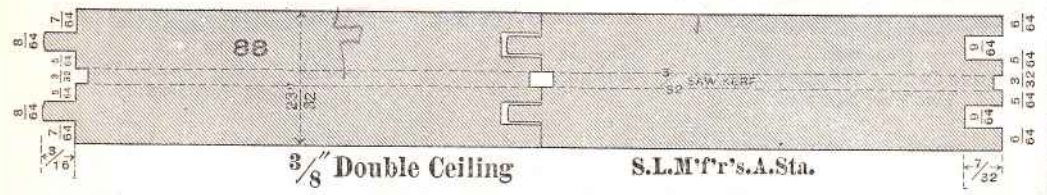
DOUBLE CEILING



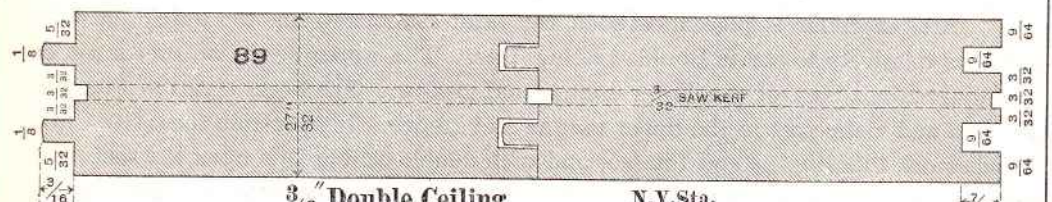
3/8" Double Ceiling S.L.M'f'r's.A.Sta.



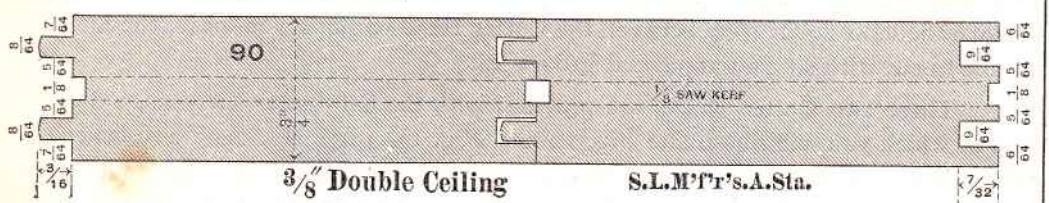
3/8" Double Ceiling N.Y.Sta.



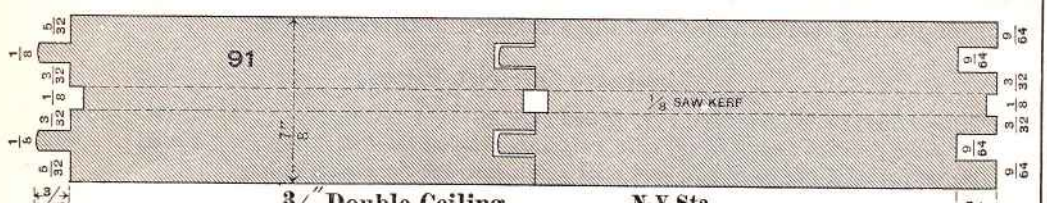
3/8" Double Ceiling S.L.M'f'r's.A.Sta.



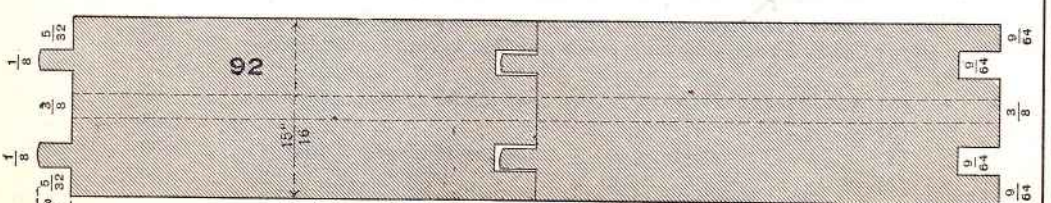
3/8" Double Ceiling N.Y.Sta.



3/8" Double Ceiling S.L.M'f'r's.A.Sta.

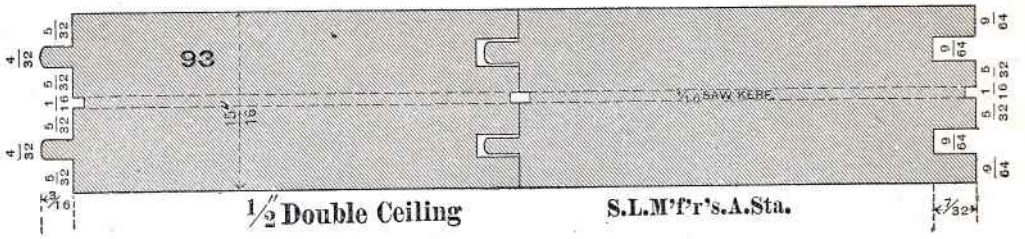


3/8" Double Ceiling N.Y.Sta.

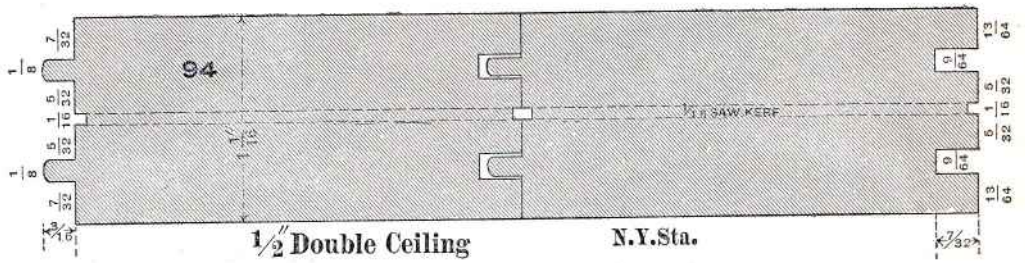


3/8" Double Ceiling

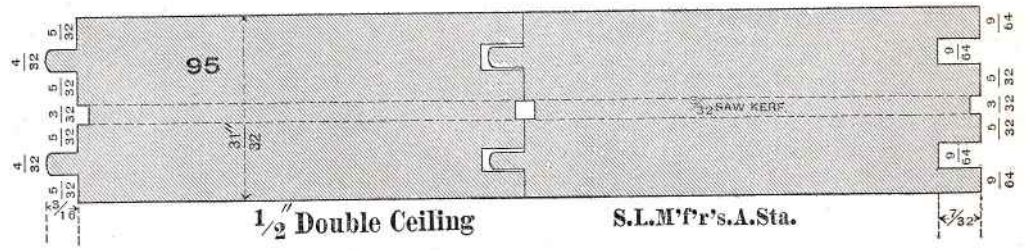
DOUBLE CEILING



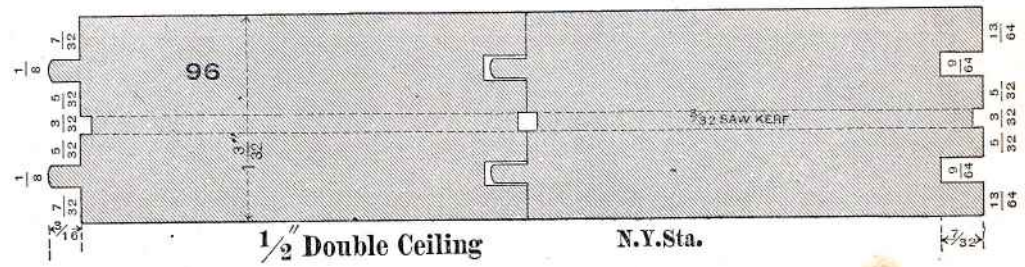
1/2" Double Ceiling S.L.M'f'r's.A.Sta.



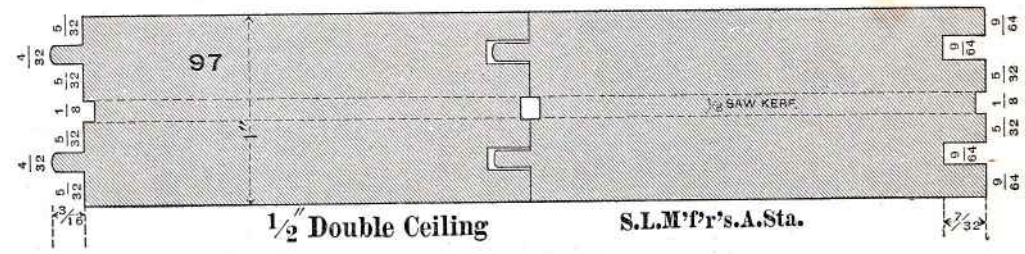
1/2" Double Ceiling N.Y.Sta.



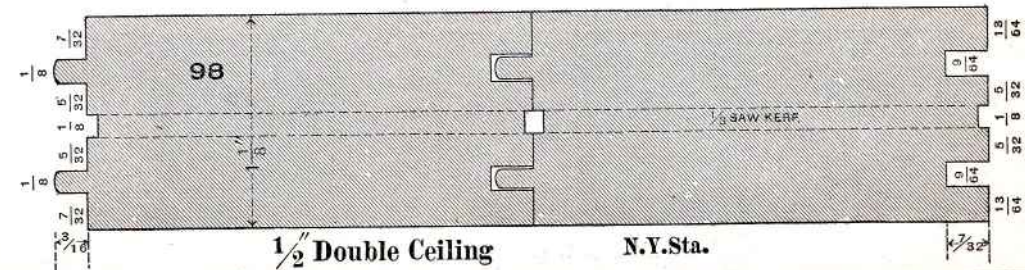
1/2" Double Ceiling S.L.M'f'r's.A.Sta.



1/2" Double Ceiling N.Y.Sta.

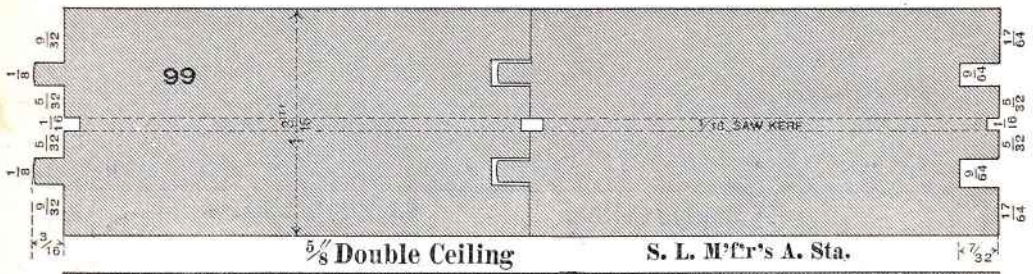


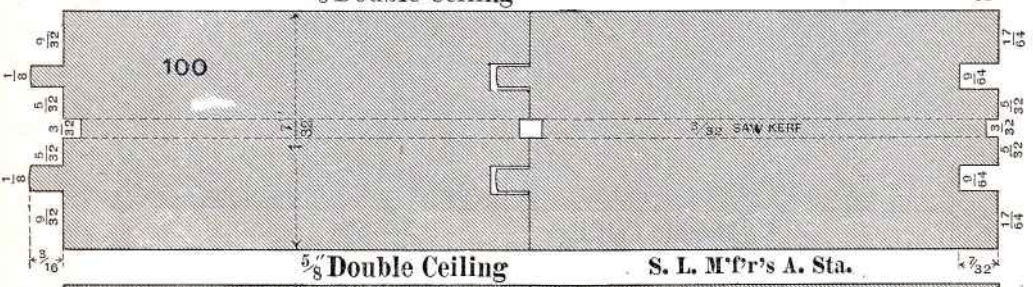
1/2" Double Ceiling S.L.M'f'r's.A.Sta.

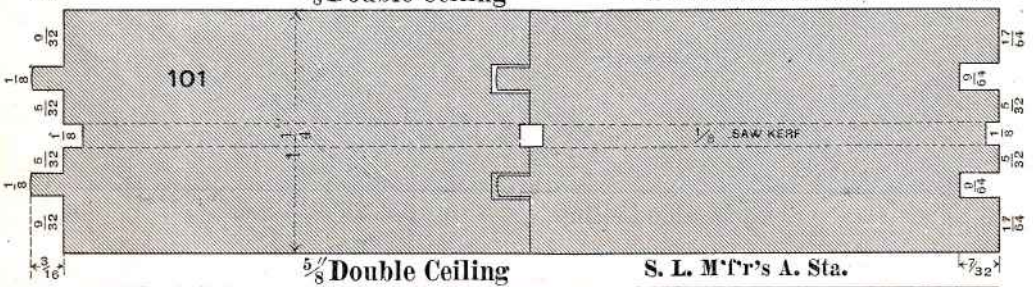


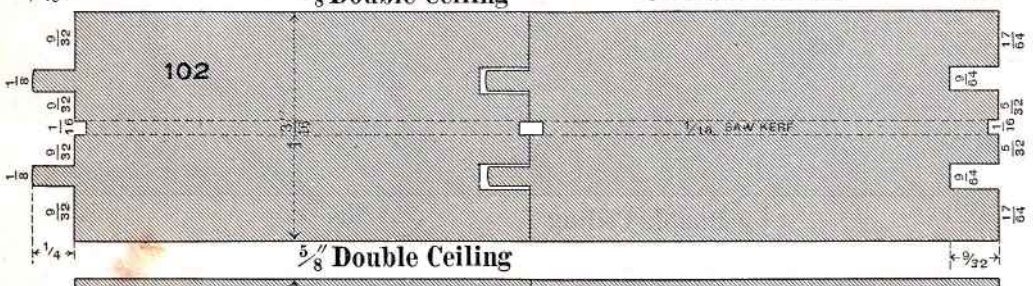
1/2" Double Ceiling N.Y.Sta.

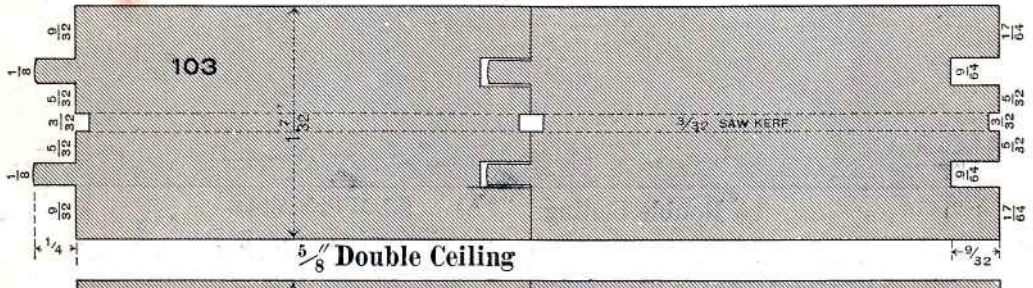
DOUBLE CEILING

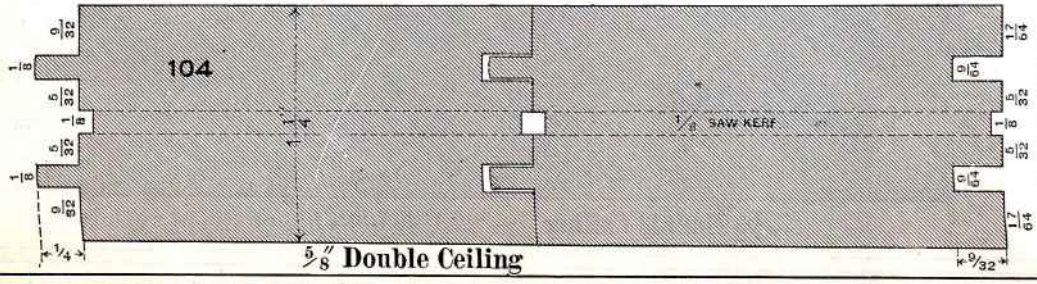


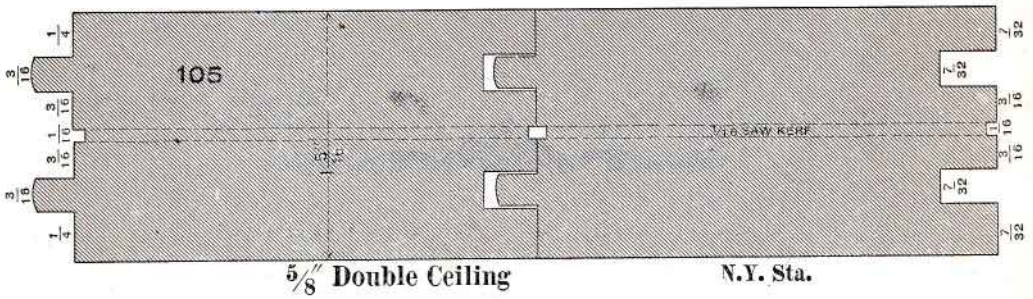




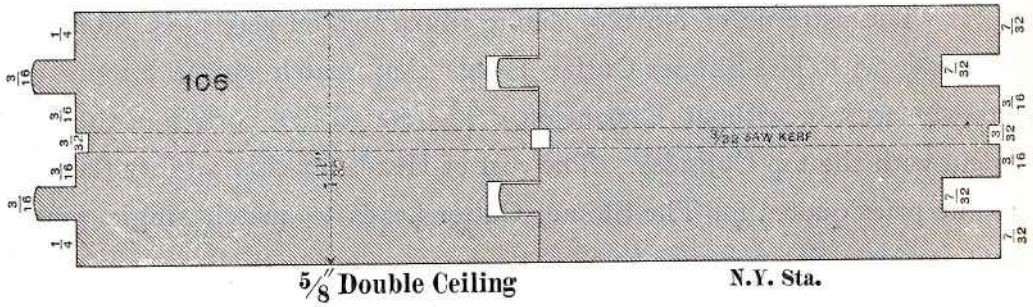




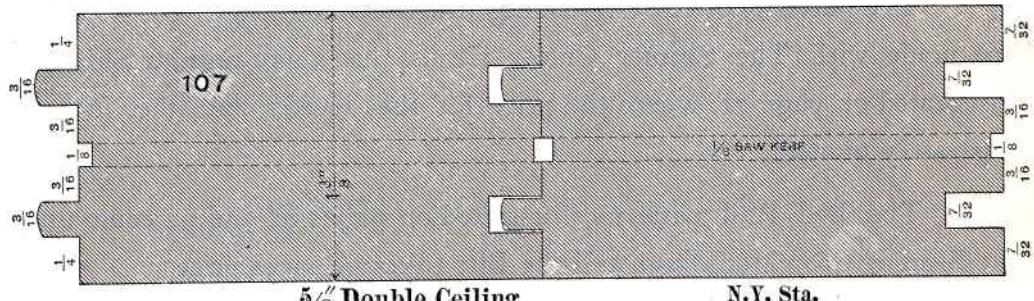




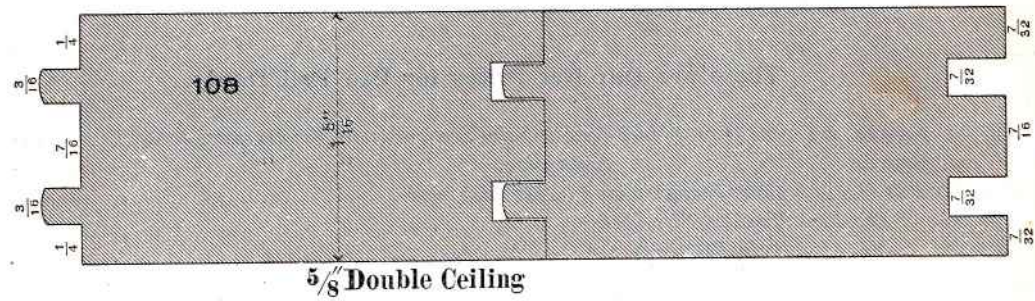
5/8″ Double Ceiling N.Y. Sta.



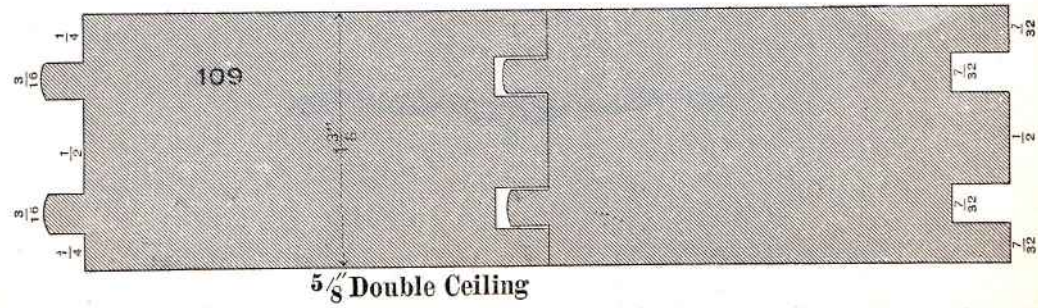
5/8″ Double Ceiling N.Y. Sta.



5/8″ Double Ceiling N.Y. Sta.



5/8″ Double Ceiling



5/8″ Double Ceiling

The patterns of Novelty Siding illustrated on pages 85, 86 and 90 are made with The Shimer Cutter Heads that match single tongue and groove—with or without Expansion. The dotted line portion of the work is cut with the top Cylinder. The cost of Heads for this work is the same as the price quoted for The Shimer Cutter heads to match single tongue and groove. See pages 13 to 29.

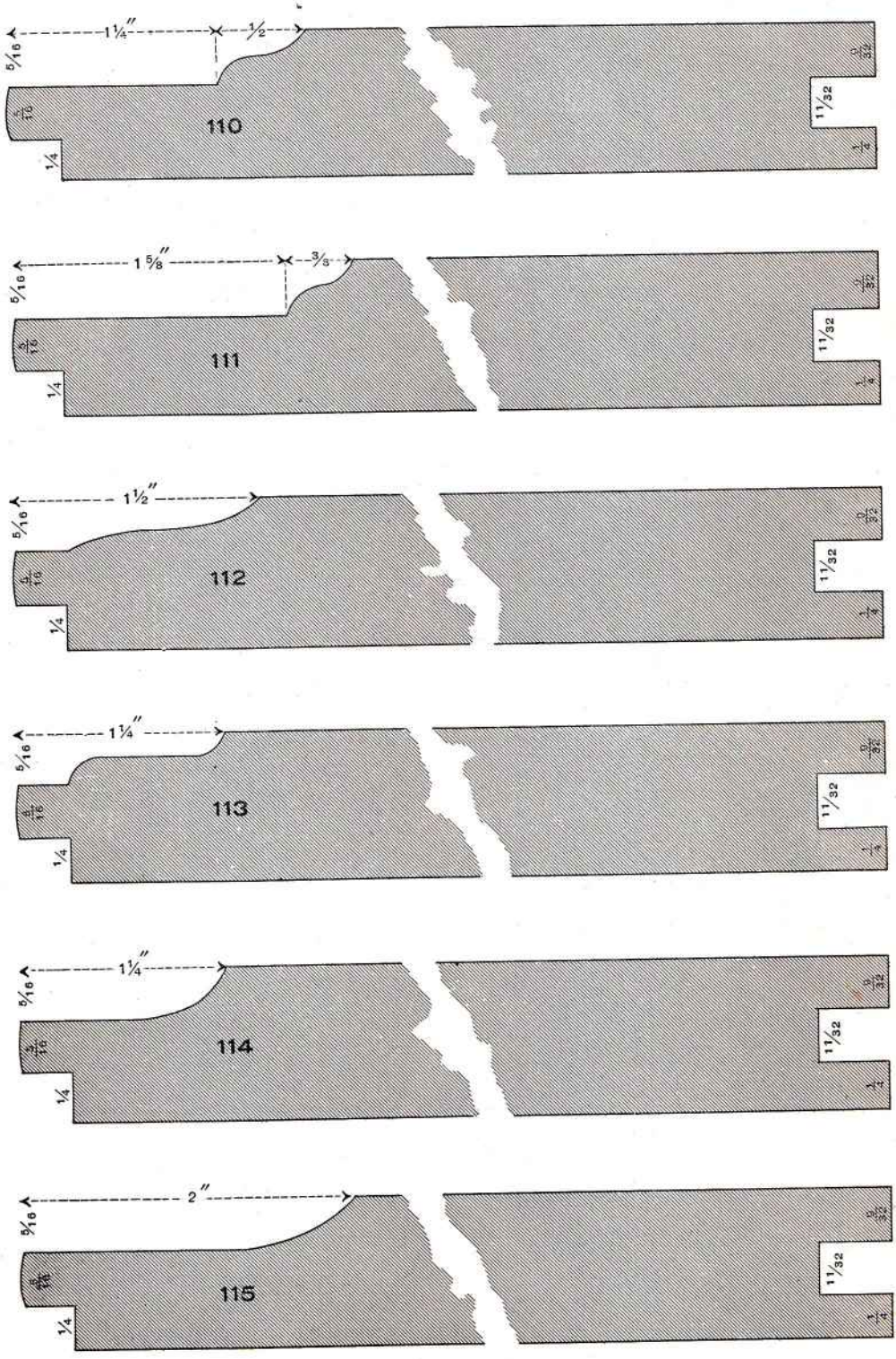
The patterns of Novelty Siding illustrated on pages 87, 88 and 89 are made with The Shimer Cutter Heads that make regular Ship Lap, illustrated on page 71, where the price for the Heads and the Bits are separately quoted.

The Bed Rail patterns illustrated on pages 91 and 92 come under the head of Door Mouldings and the Bits take the same price.

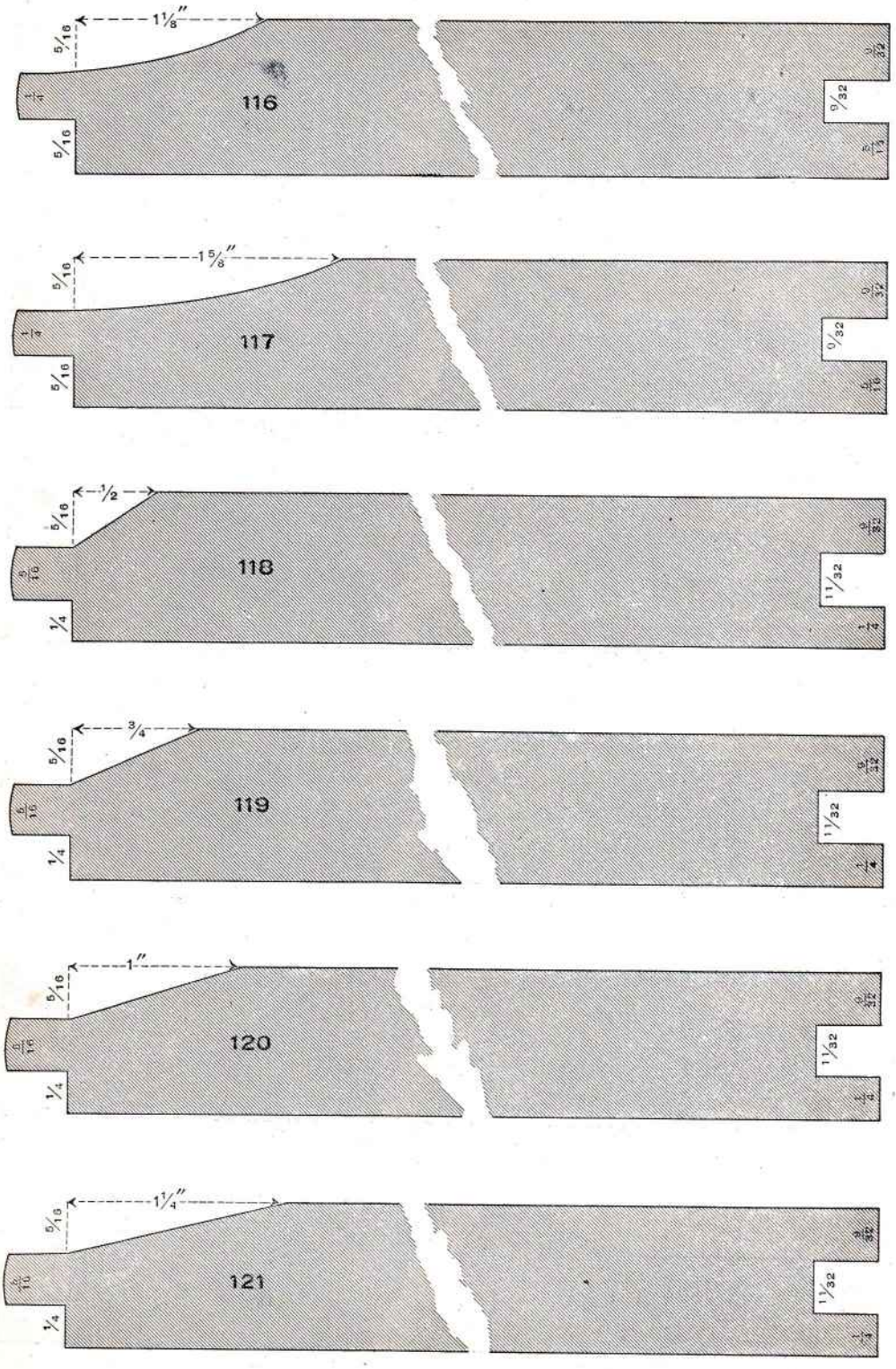
For the price of any one set of Heads complete without the Bits see prices quoted on pages 13 to 29.

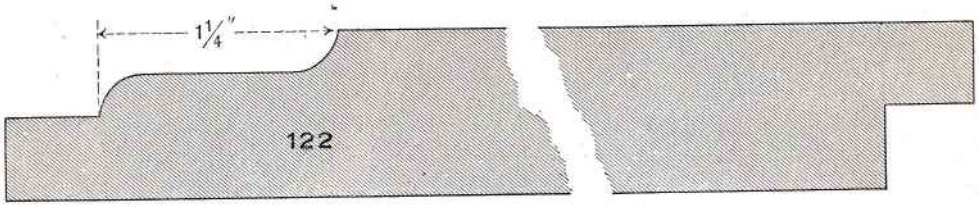
These are Our Net Prices for Bed Rail Heads.

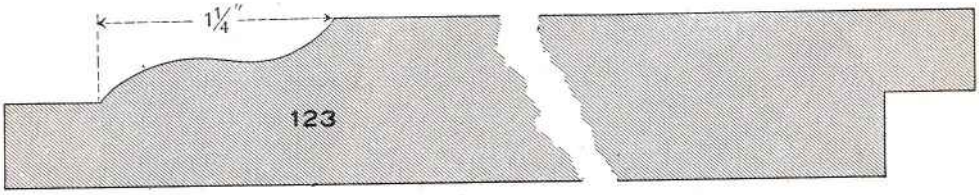
Fig. 13, page 19, to groove ½ or $\frac{9}{16}$ inch deep, in Solid Section, (with flat bit seats) each	$ 9.24
" *213, page 22,* " " " *Expansion,* " " "	11.34
Price for Bits to match plank heavier than 2 inches thick, each	1.56
The price of Bed Rail Moulded Bits, each	1.74
" " " " *Plain Bits, each*	1.39

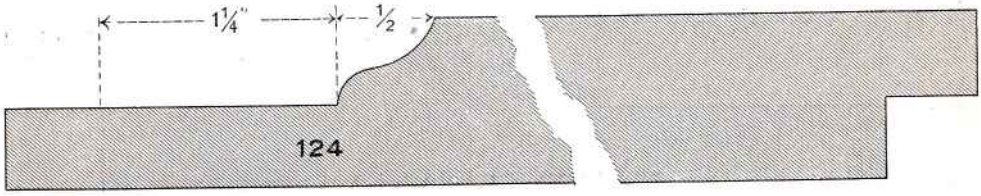

1¼″
½
5/16
110
1/4
11/32
1 5/8″
⅜
111
1½″
112
1¼″
113
114
2″
115

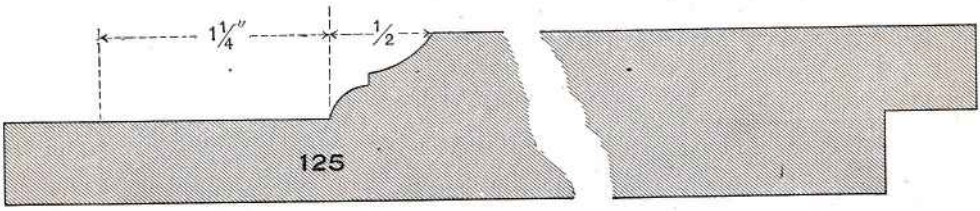
NOVELTY OR DROP SIDING

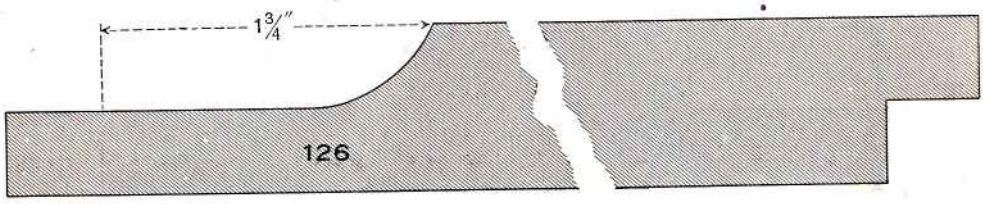


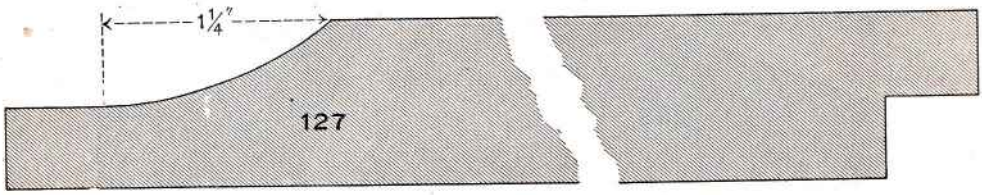

1¼"
122


1¼"
123

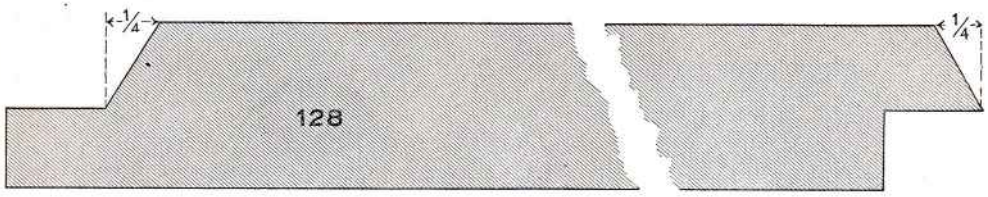

1¼"
½
124

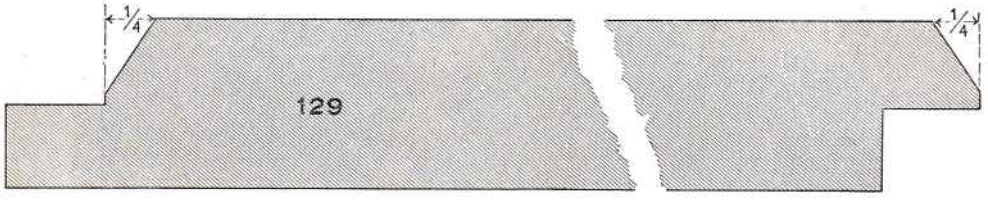

1¼"
½
125

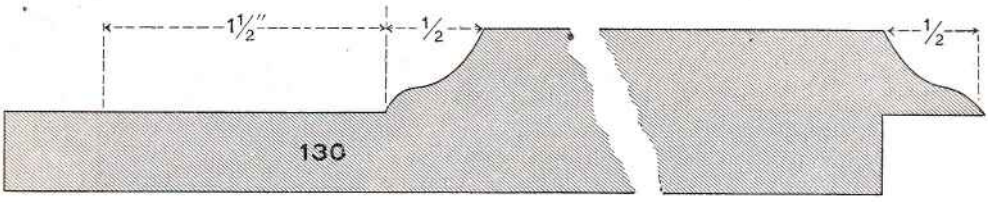

1¾"
126

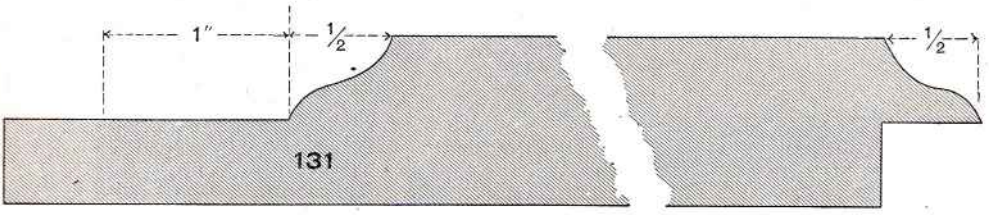

1¼"
127

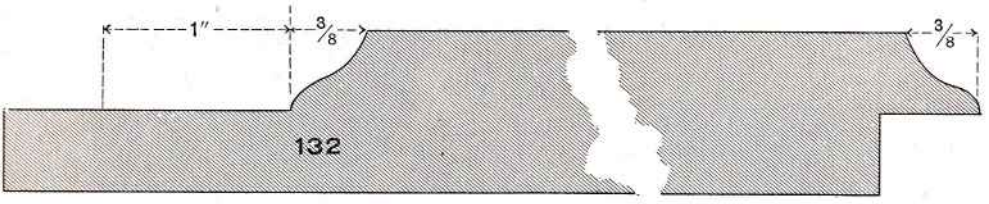
NOVELTY OR DROP SIDING

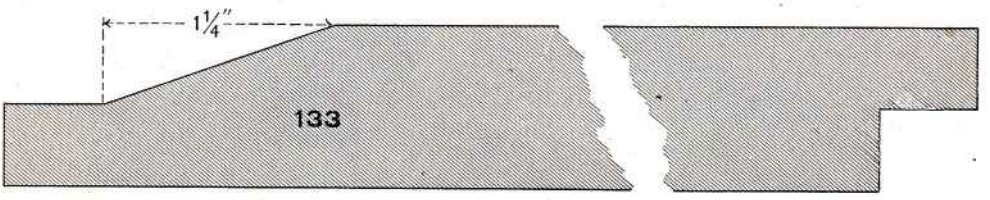




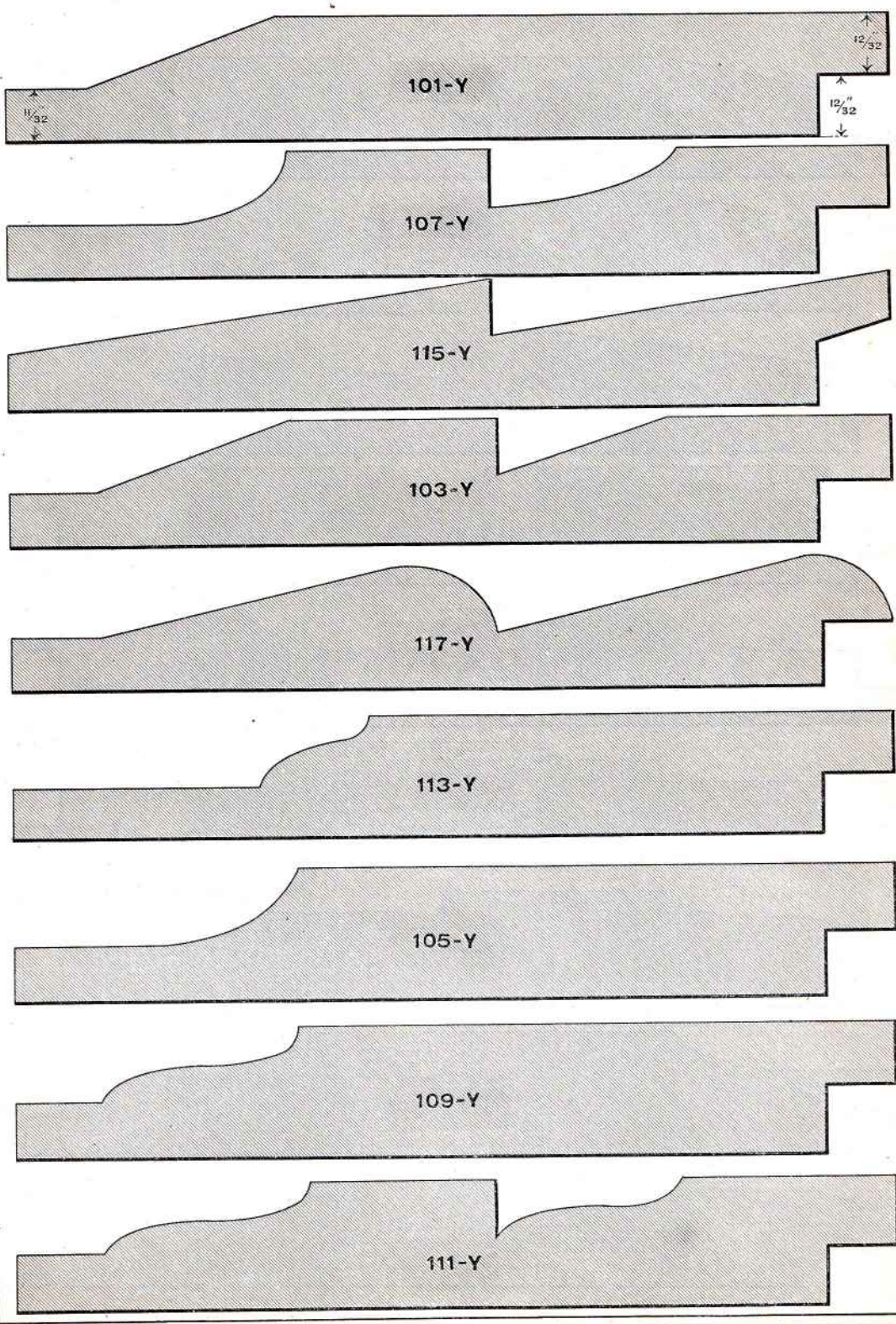




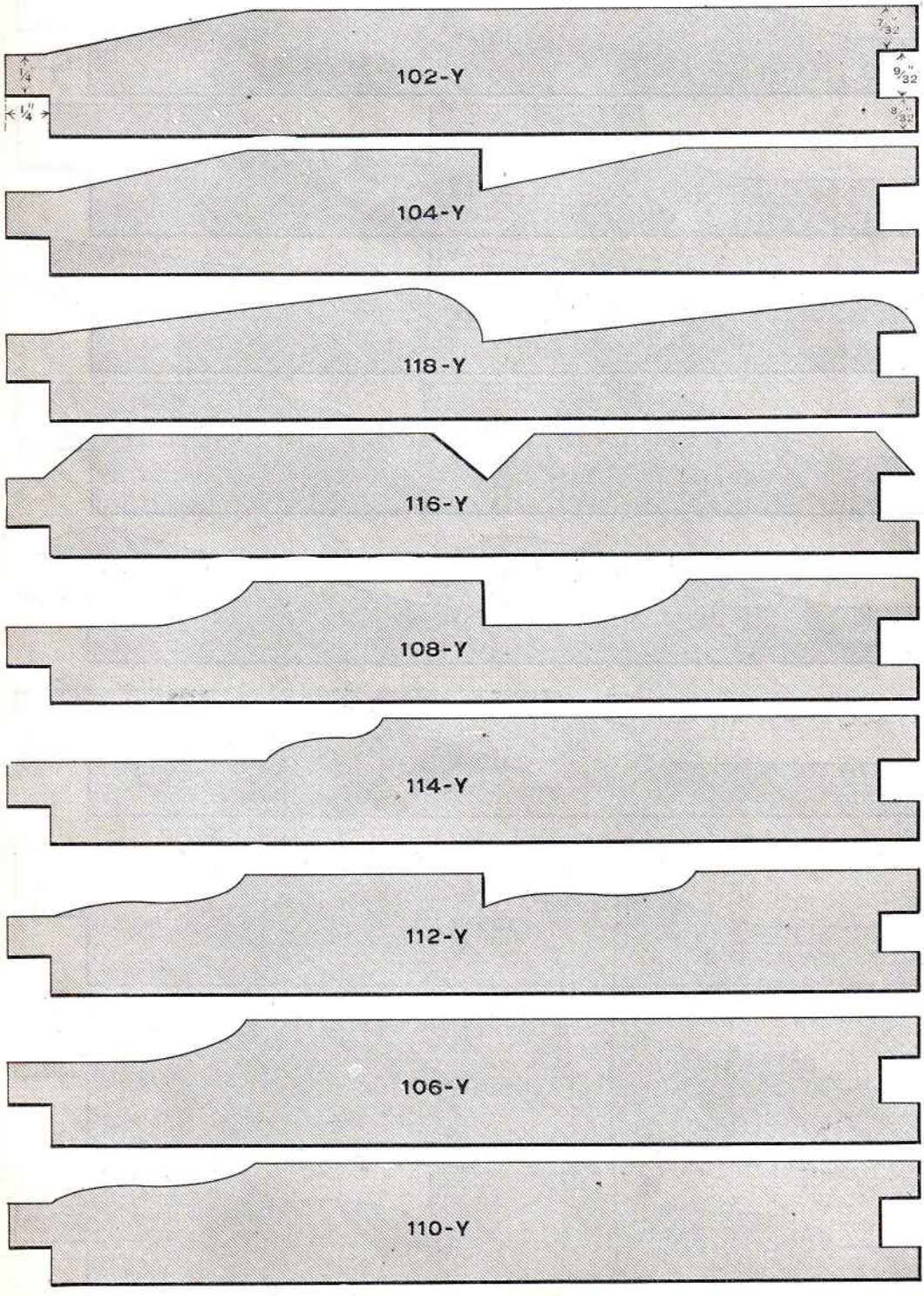


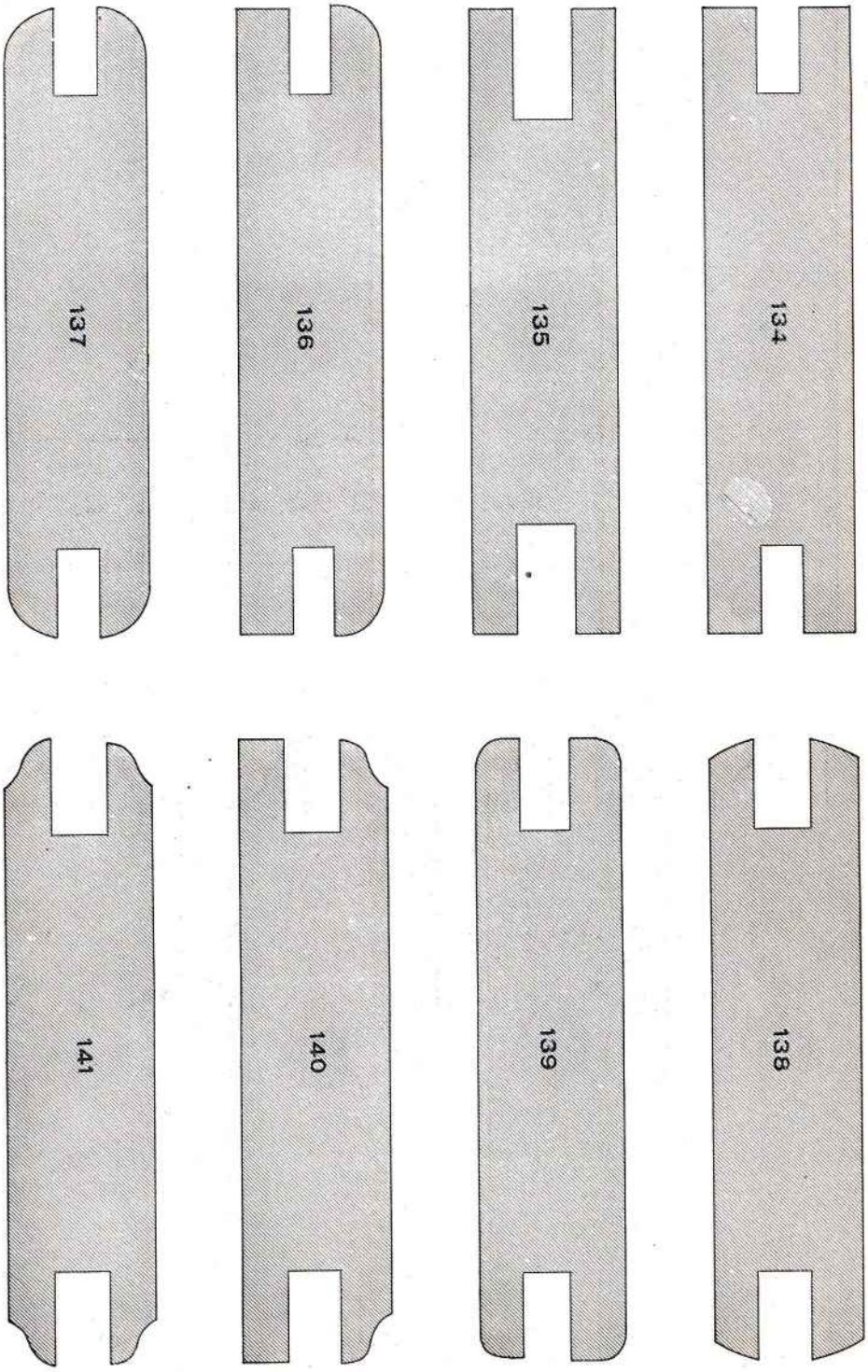


NOVELTY OR DROP SIDING

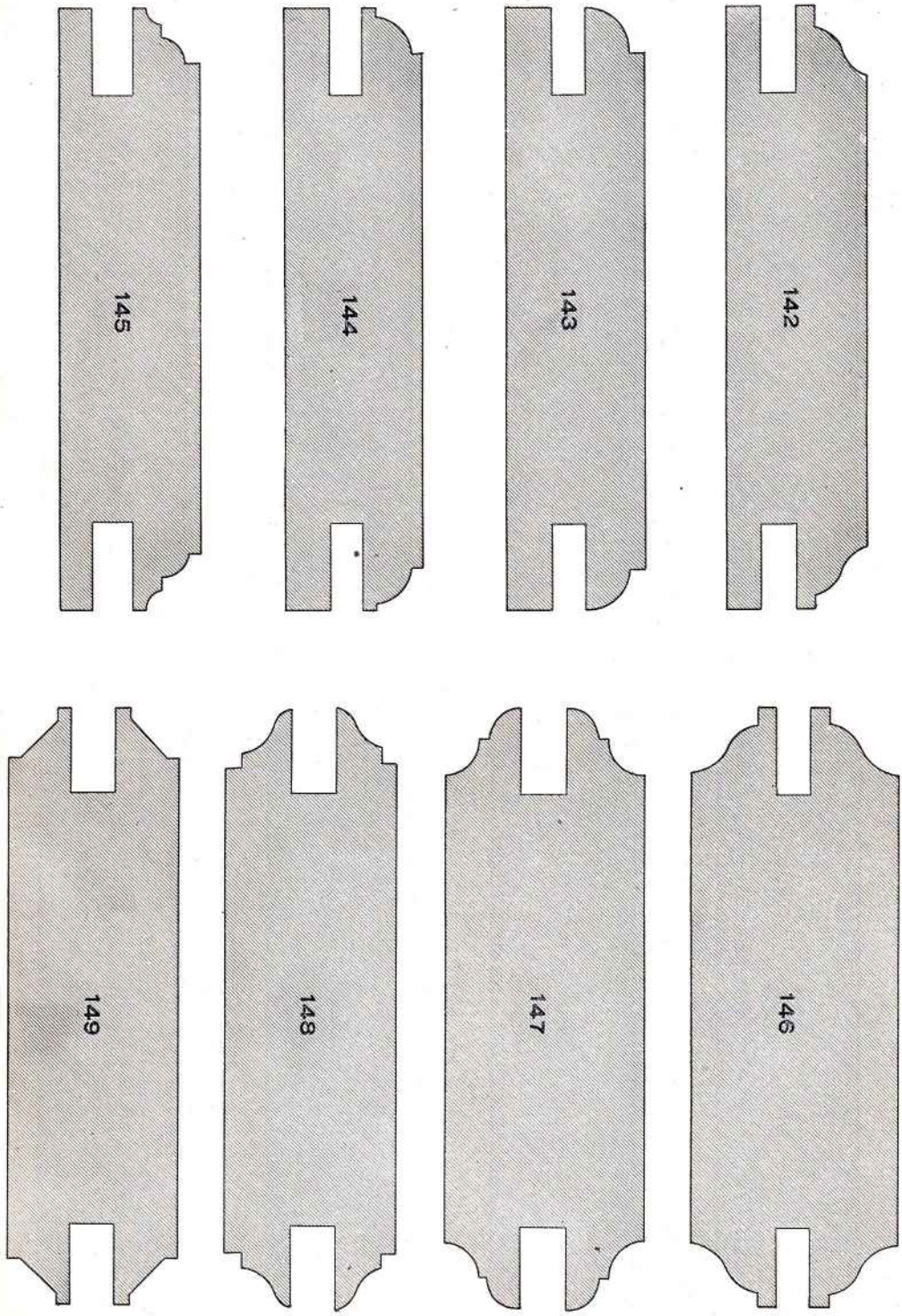


NOVELTY OR DROP SIDING




137
136
135
134
141
140
139
138

BED RAILS



The Shimer Heads to Mould O. G. Batten and Siding.

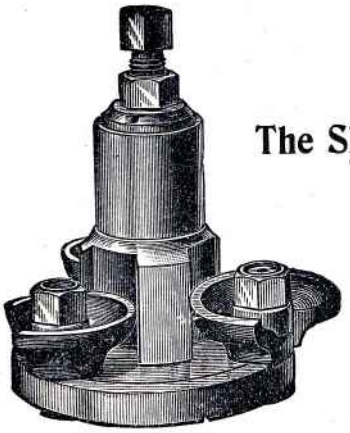


FIG. 48

Trade Mark.

The Shimer Cutter Head.

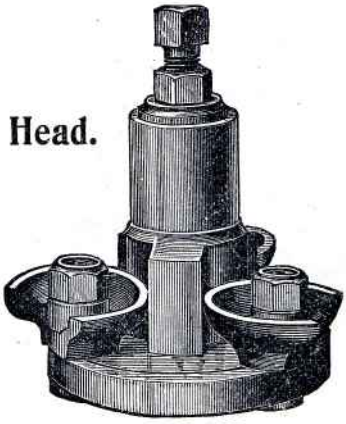


FIG. 49

The two electros, Figs. 48 and 49, represent The Shimer Cutter Heads that apply to regular flooring machines to mould O. G. Batten, with three Circular Bits in line of cut on the upper side of the Cutter Head flange. For patterns in cross section see O. G. Batten designs on page 95. In ordering give Record Numbers of our make of Flooring Heads in use, or send us measurements in detail as per page 5

To make O. G. Siding like Fig. 51, you will need one special Cutter Head with the O. G. Bits below the head flange like Fig. 52. Fig. 53 is like Fig. 49 in every particular, excepting possibly the shape of the O. G. Bits.

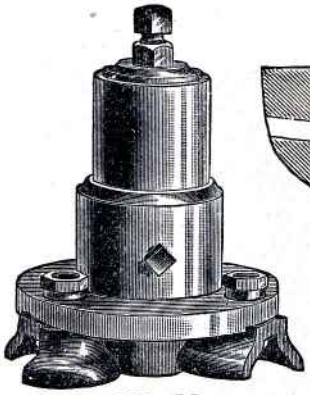


FIG. 52.

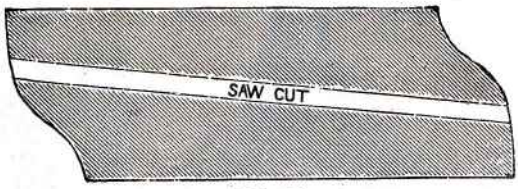


FIG. 51

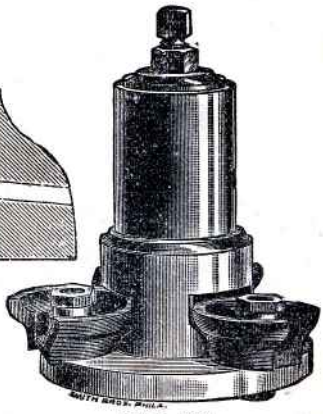


FIG. 53.

These are Our Net Prices.

The Shimer Cutter Heads with plain head flange, Figs. 48 to 53 inclusive.
(These Cutter Heads will not take Circular Bits to cut 1¼ deep.)

	EACH.	THE SET
Net price for each Cutter Head without the Bits.	$7.88	$15.76
O. G. Batten Bits to mould ¾ deep or less	1.68	
Net price for each Cutter Head complete with 3 Bits.	12.92	25.84

The Shimer Cutter Head for O. G. Batten.

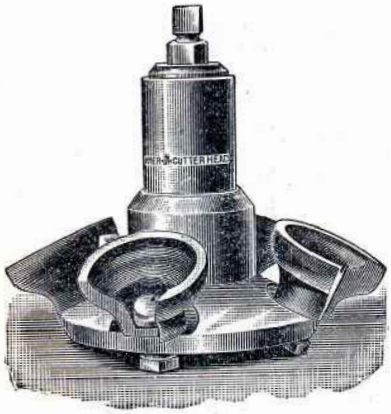


FIG. 150.

This electro represents The Shimer Cutter Head with 4 Bits in line of cut to mould O. G. Batten 1¼ inches deep or less. The overcut as made by the Bits is fully illustrated. The conical head flange gives position to the Bits and also locates the nuts of the Cutter Head bolts within the bowl shaped under surface of the Cutter Head, which by the removal of the nuts from the inside of the Bits (see the regular construction) clears away all obstructiens to the free escape of the shavings, and the Bits take better cutting edges.

Net Prices.

The Shimer Cutter Head with Conical Flange, with 4 bit seats, Fig. 150, (without the Bits) each $9.45

Bits to cut 1¼ deep mould, each 1.89

SPECIAL HEAD FOR RUSTIC.

This style of Head will also make an excellent tool for Rustic, with two Bits upon upper side of flange to cut the extra depth of cove, and arranged with two tonguing Bits upon the lower side of the flange to complete the carve. For diagram of the Rustic, see page 52, Fig. 20.

This Head is made to interchange with any Matcher, Ship Lap or Jointer Heads. When ordering, give numbers of Heads in use and send sample of the work.

Net Price for Special Rustic Head, 4 bit seats (without the Bits) 9.45

" " " *2 Rustic Bits, each* 1.89

" " " *2 Tonguing Bits, each* 1.10

The Shimer Adjustable Cutter Heads.

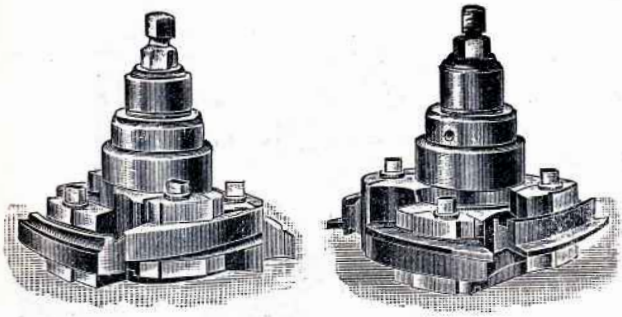


FIG. 151.

The Shimer Adjustable Cutter Head is a new development in curved bit Matcher, Ship Lap and Jointer Heads. Bits for these various purposes are interchangeable. Heads will work tongue or groove to guide with suitable bits. They are also made with the expansion feature so as to readily expand for different thicknesses of material.

Net Price for each Head without the Bits. . . $10.18

Net Price for Bits each, for tonguing, grooving, jointing or ship lap 1.10

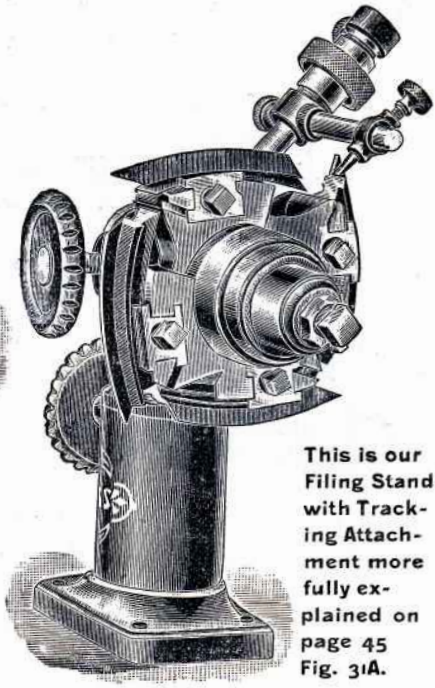
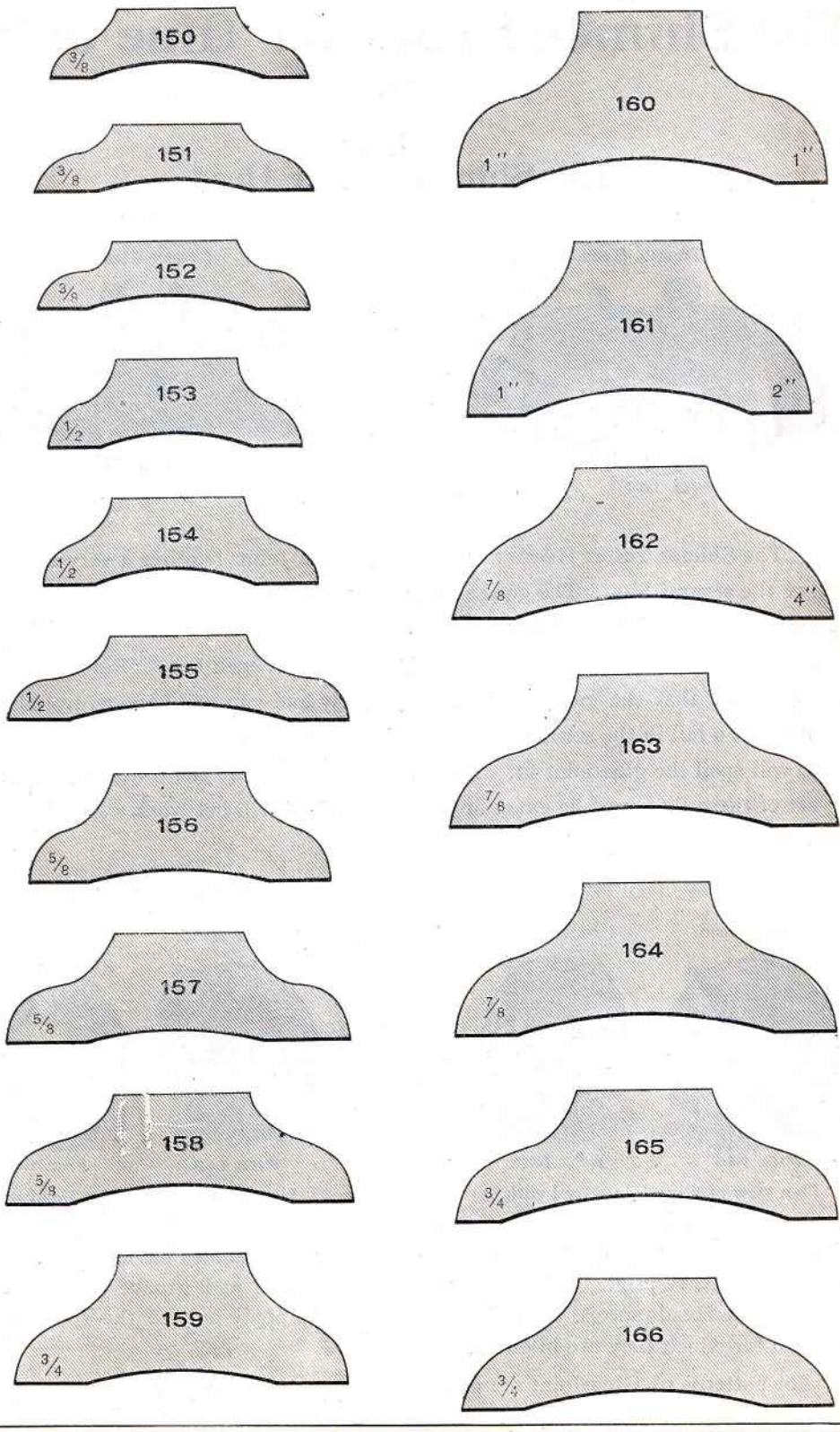


FIG. 153.

This is our Filing Stand with Tracking Attachment more fully explained on page 45 Fig. 31A.

O. G. BATTENS


150
3/8
151
3/8
152
3/8
153
1/2
154
1/2
155
1/2
156
5/8
157
5/8
158
5/8
159
3/4
160
1"
1"
161
1"
2"
162
7/8
4"
163
7/8
164
7/8
165
3/4
166
3/4

The Shimer Heads for Glue Joint.

TRADE

The Shimer Cutter Head.

MARK.

Tongue Head.

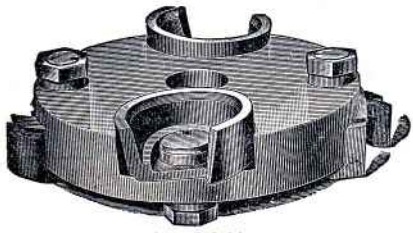


FIG. 144

Groove Head.

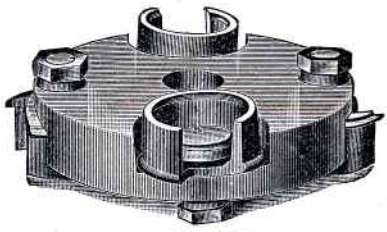


FIG. 145

The Shimer Cutter Heads to match for Glue Joint requires a very careful setting of the several Bits. The gauge must rest upon the head flange, both in front and back of the cutting edge, while the arm is in touch with the round part of the nut, from which you gauge and set the shear cutting edge of each Bit. (Refer to Fig. 16, page 9). See that the gauge is first set properly and you will have no trouble to set the Bits. To fail in the setting of the Bits 1-16 from the true position the gauge indicates, will spoil the glue joint fit. No matter how carefully the Cutter Head is made, the set of these Bits must be exact or the Cutter Head will not work a glue joint.

Tongue Head.

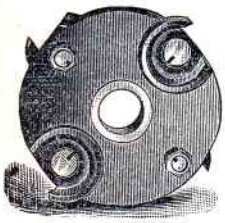


FIG. 146

Groove Head.

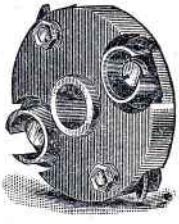


FIG. 147

Plan view of Glue Joint Head with 4 Bits complete.

Tongue Head.

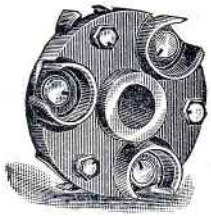


FIG. 148

Groove Head.

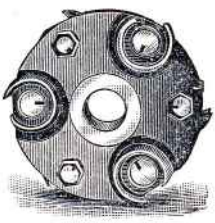


FIG. 149

Plan view of Glue Joint Head with 6 Bits complete,

The above engravings represent the Glue Jointer Heads having Bits for single tongue and groove joint. When Bits for double tongue and groove are desired we construct the Heads special to suit, therefore the Bits apply only to the special design of Head for which they are intended.

For patterns of Glue Joint see page 98. For prices see page 97

THE SHIMER CUTTER HEADS for Matching Reversible Glue Joints

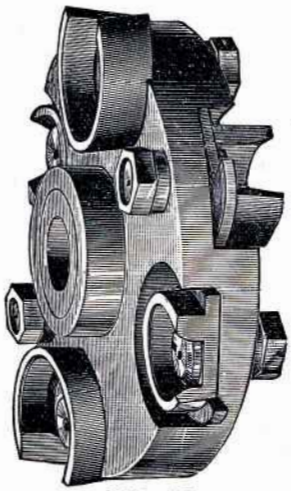


FIG. 66

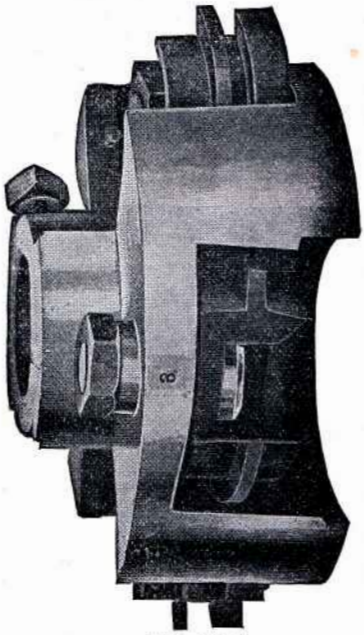


FIG. 66A

Reversible Glue Joint.

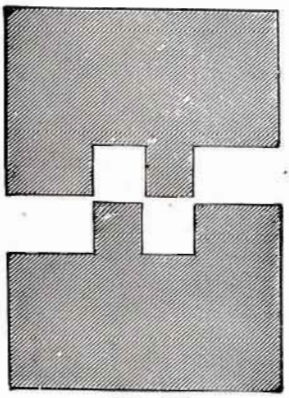


FIG. 67

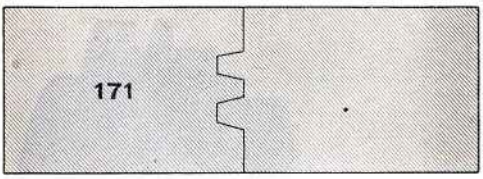
This glue joint is a pattern that makes at once a neat and strong joint, fitting and interlocking from the same piece of matched material, requiring but one Head with Bits to produce. The jointed material will fit together when pieces are sawed to length by simply turning the one piece end for end.

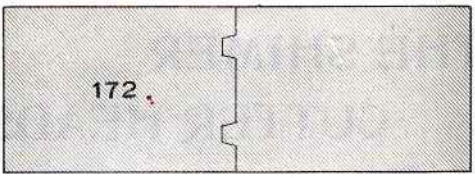
We make two styles of the Head as shown in the cuts, Fig. 66 having 6 Bits to complete the work, and Fig. 66 A having but four Bits to do the same work. The difference is accomplished by a change in the division of the Bits upon their bit seats. Both tools are well made, and either tool will give its user complete satisfaction.

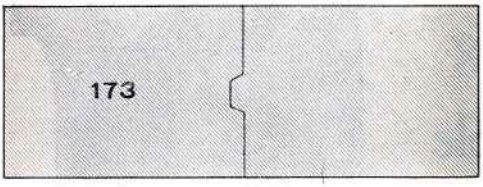
These are Our Net Prices.

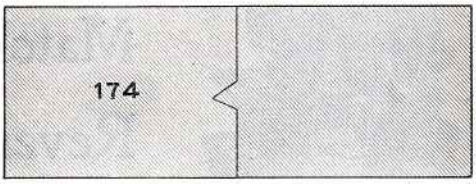
	EACH.
The Shimer Cutter Heads in Solid Section for Glue Joint.	
Fig. 66A, net price for each Cutter Head with 4 bit seats without the Bits	$7.51
" *66,* " " " " " " " " 6 " " " " "	8.55
Net prices for the Bits to make Glue Joint with single curvature or single tongue and groove.	EACH.
Bits to match Glue Joint from ¾ to 1¼ inches	1.26
" " " " " 1¼ *to* 1¾ "	1.45
" " " " " 1¾ *to* 2 "	1.62
Net prices for the Bits to make Glue Joint with double curvature or double tongue and groove.	EACH
Bits to match Glue Joint from ¾ to 1¼ inches	1.45
" " " " " 1¼ *to* 1¾ "	1.62
" " " " " 1¾ *to* 2 "	1.84

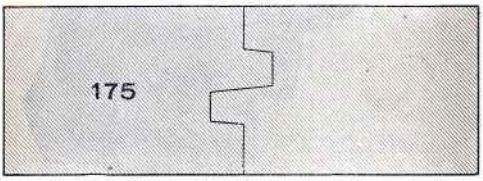
GLUE JOINT

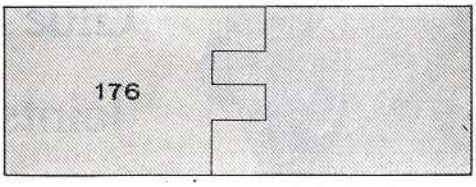


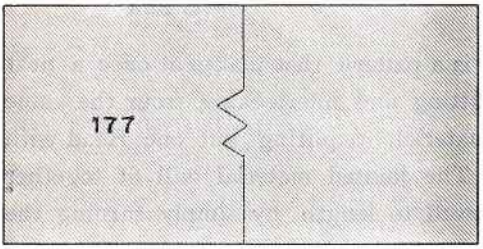


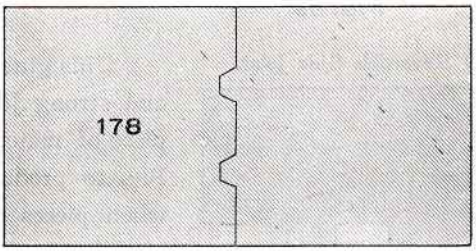


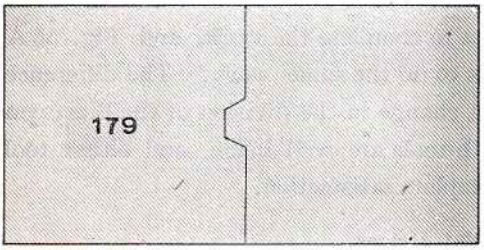


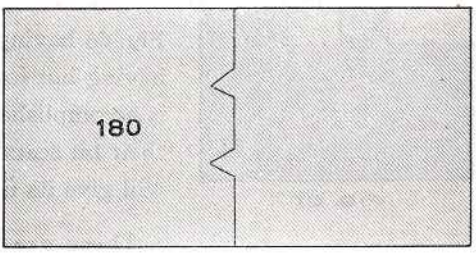


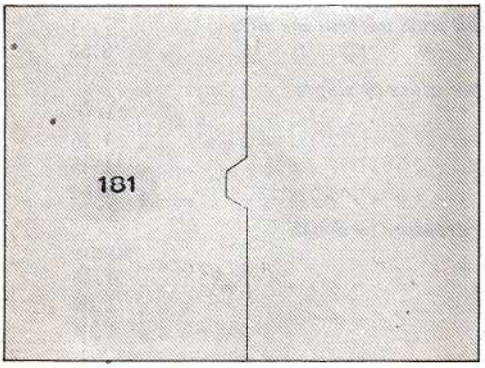


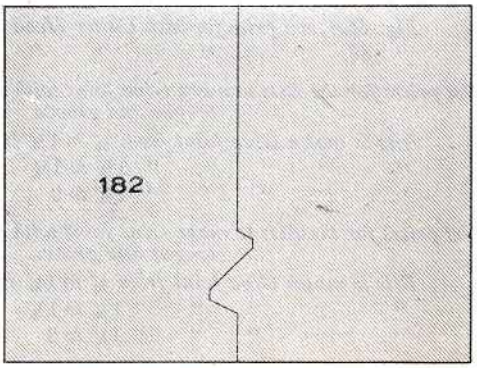


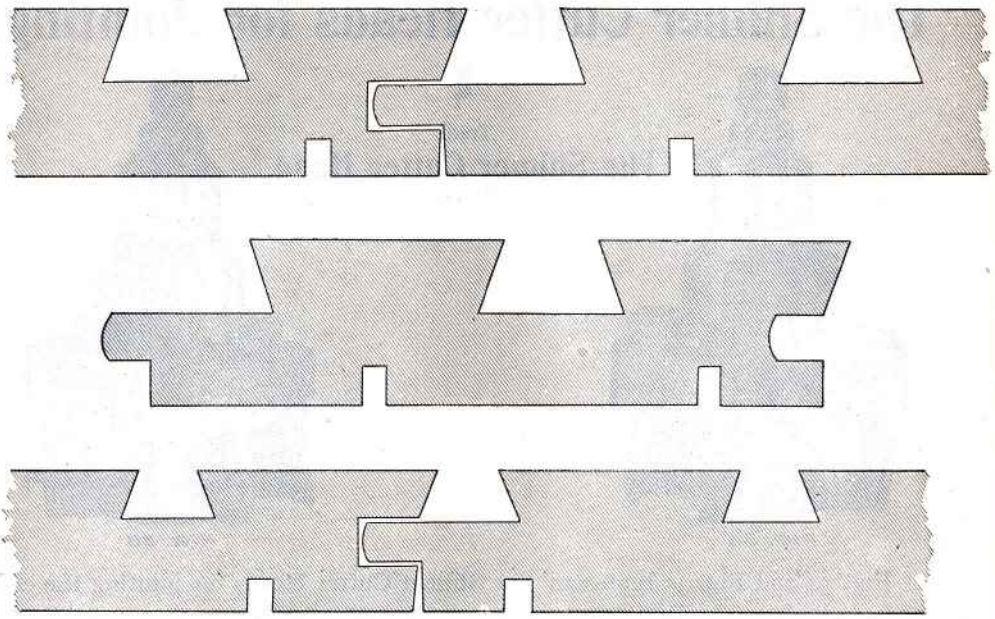












The Shimer Cutter Heads as applied to Byrkit's Sheathing Lath.

These Heads are practically the same as single tongue and groove Matcher Heads, Fig. 1 and Fig. 2, as regards their bit seat and bolt combinations. The Tongue Head requires special fitting about the bit chambers to admit the Bits of large diameter for the extra depth of cut.

In order to apply these Bits to the regular flooring head the Tongue Head should be sent us for special fitting of the Bits, as also for careful re-balencing.

The Bits when applied cut freely any cross-grained and knotty hemlock or spruce as well as other cheaper varieties of lumber from which sheathing lath stock is usually made.

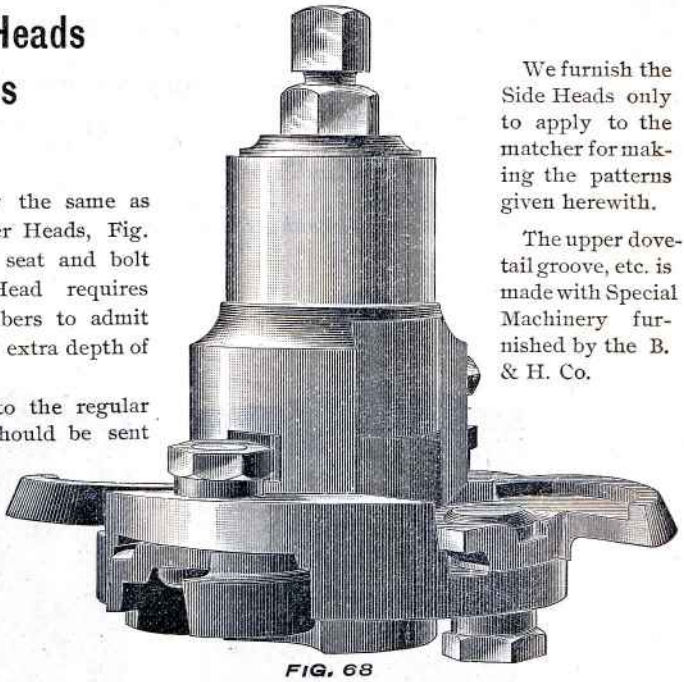


FIG. 68

We furnish the Side Heads only to apply to the matcher for making the patterns given herewith.

The upper dovetail groove, etc. is made with Special Machinery furnished by the B. & H. Co.

In ordering be particular to specify whether you run the stock with dovetail on top or bottom side of board as it passes through the machine and give all measurements the same in every way as for flooring matcher heads.

	THE SET.	EACH.
One set of Heads (bronze cast) complete without the Bits	$18.28	$9.14
" " " *(steel forged)* " " " "	18.28	9.14

One set of 8 Bits $9.96

The 4 Groove Bits	$4.40
The 2 lower Tongue Bits	2.20
The 2 upper Tongue Bits	3.36

The Shimer Cutter Heads for Jointing.

Trade
The Shimer Cutter Head.
Mark.

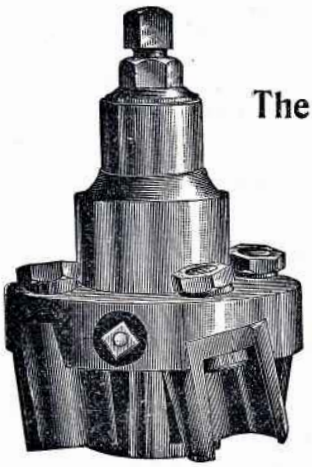


FIG. 54

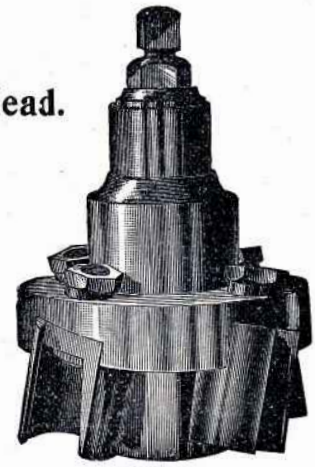


FIG. 55

Fig. 54 and Fig. 55 represent The Shimer Cutter Heads for jointing the edge of a board or plank. The Bits begin cutting at the top, after heavy shear cutting angles downwardly, leaving the upper corner of the plank full, with a clean cut finish across the edge. These Cutter Heads are made with Circular Bits to cut 2 inches thick and under.

These are Our Net Prices.

	EACH.	THE SET
The Shimer Cutter Heads, Solid Steel Forged, for Jointing with Circular Bits.		
Net price for each Cutter Head with 4 bit seats, without the Bits	$8.40	$16.80
One set (8) Bits to joint $\frac{5}{8}$ to 1¼ inches or less	1.05	8.40
" (8) " " 1½ *to* 2 " "	1.26	10.08
" (2) *Cutter Heads complete with 4 Bits to each Head to joint $\frac{5}{8}$ to 1¼* . . .		25.20
" (2) " " " " " " " " 1½ *to* 2 . . .		26.88

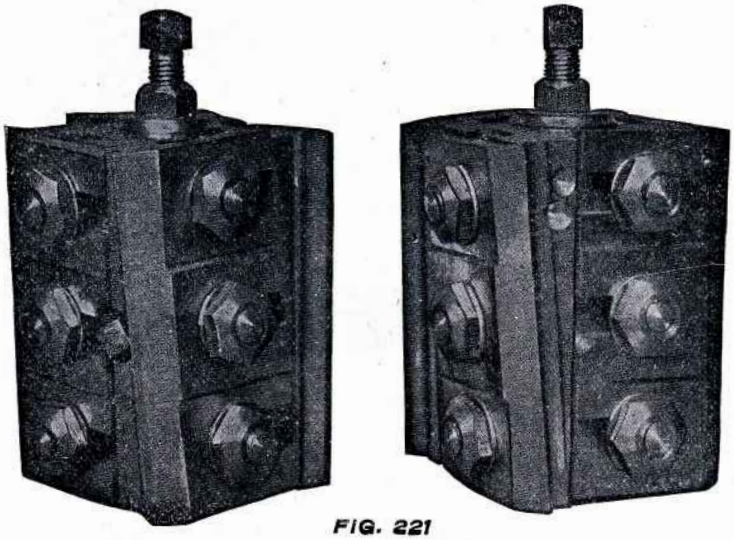


FIG. 221

Fig. 221 represents two shear cutting Jointer Heads that have four T slotted sides cut out of solid steel forgings of 60,000 lbs. tensile strength. The jointer knives are 6 inches long.

The Shimer Cutter Heads for Jointing.

TRADE

The Shimer Cutter Head.

MARK.

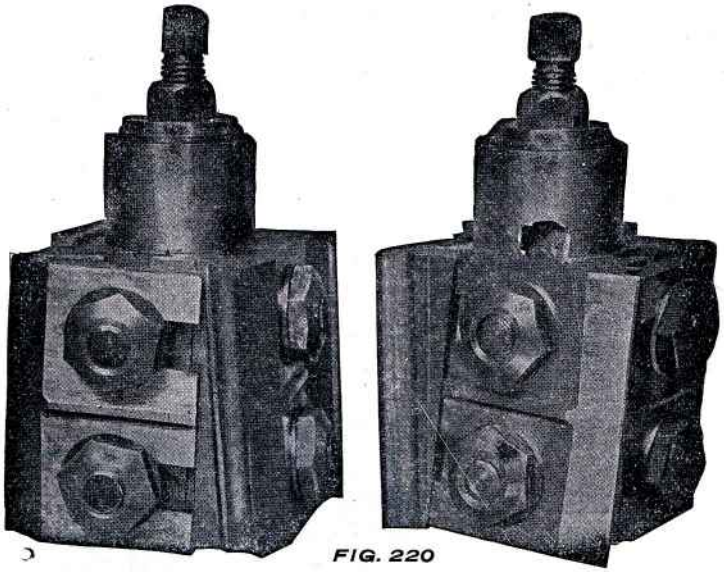


FIG. 220

Fig. 220 represents two shear cutting Jointer Heads with four T slotted sides, complete with planer head bolts. The smaller Cutter Heads are provided with tap bolts. The planer knives that apply to these Cutter Heads are straight on edge, 4 inches long, for jointing plank from 2 to 4 inches thick.

The head sides are convexed so that the planer knives straight on edge will make a shearing cut. The gauges that go with these Heads have each two faces—one agreeing with the convexity of the head side ; the other representing the surface cut diameter of the Cutter Head, being turned and finished on the head centers to make them all alike to a line mark, to which the edge of the planer knife is set, so that each cutting edge will have the same amount of work to do. These Heads are made after the plan of the Trapezoidal Cutter Head, (open at the top or closed with a bushing at the top) and provided with a top screw to carry the Head at a certain place on the side spindles.

These are Our Net Prices.

The Shear Cutting Side Heads with 4 sides slotted.

	4 in. long.	6 in. long
Net price for each Cutter Head complete with gauges and planer head bolts, without the planer knives	$10.50	$12.60

Any one Cutter Head will be made two sides straight and two sides shear cutting, 4 or 6 inches long, for the same price as above.

One set (4) Jointer Knives 4 inches long . . . . . *Each $ .91—the set $3.64*
" (4) " " 6 " " . . . . . " 1.27 " 5.08

The planer knives are beveled on the back to agree with the curvature of the head sides, so that the stress upon the planer head bolts is evenly divided. We charge nothing extra for the extra work to finish these planer knives.

One set (2) Cutter Heads with knives complete to joint 4 inch plank. $26.76
" (2) " " " " " " 6 " " 32.40



FIG. 107

These illustrations represent right and left Cutter Heads with gauge, for the perfect adjustment of the Bits, which are moulded and provided with clamps that make up the Head portion with bore to fit the right and left spindle of any Double Head Shaper.

These Cutter Heads will work either single or in pairs, but are not reversible.

Price per set of 2 Heads with Bits 1 in. to 1½ ins. wide, net $21.00
" *new Bits per set (4) 1 to 1¼ inches wide, net* 8.40

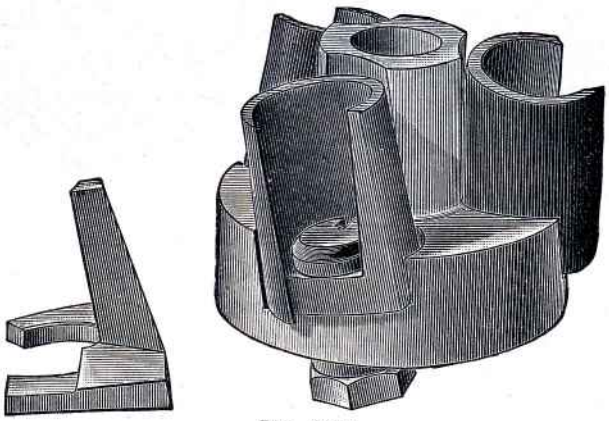


FIG. 108

This cut represents a small-size Jointer Head for use on a Shaping Machine, and differs only from our larger Heads for this purpose in the number of Cutters used. The larger Heads are made with four Bits in line of work, whereas, these have but three Bits in line of work. The excellent cutting qualities of this Head has made it a particular favorite.

The Bits are arranged to produce a draw cut—so difficult to maintain in any other style of Head. They are filed to suit the gauge, and will, therefore, produce a square joint in any lumber.

Positively the easiest running Jointer Head in the market.

Price each Head, to joint 2 inches wide, complete with Bits 2 inches wide and gauge, net . . . $11.97
" " " *complete without the Bits, net* 7.56
" *new Bits per set (3) 2 inches wide, net* . . . . . 4.41 *Each* $1.47
" " " " *(3) 1 to 1¼ inches wide, net* . . . . . 3.78 " 1.26

The Shimer Heads for Sucker Rods and Hoops.

TRADE MARK.

The Shimer Cutter Head.

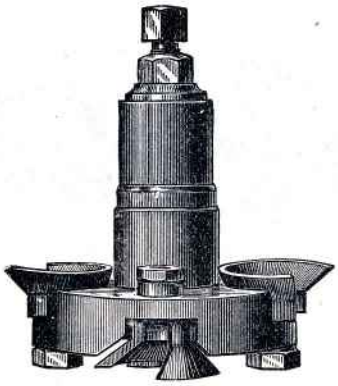


FIG. 56

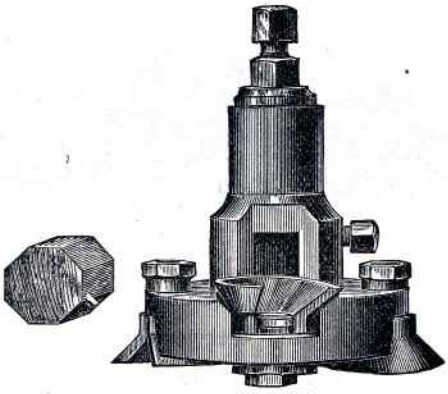


FIG. 57

Fig. 56 and Fig. 57 represent The Shimer Cutter Heads with special Bits to make Octagon Sucker Rods for pumps. The Bits upon each Cutter Head work three sides of the rod. The top and bottom sides are worked by the machine (usually a Sticker) fitted up for the purpose.

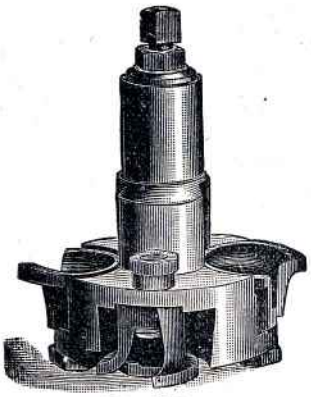


FIG. 59.

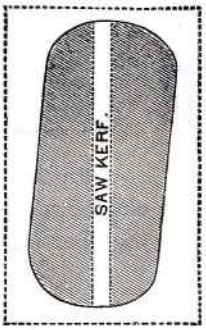


FIG. 58.



FIG. 60.

Keg and Barrel Hoops are also made with The Shimer Cutter Heads by cutting the splint to a shape like Fig. 58, which is afterwards resawed to make two beveled hoops from 1¼ to 1¾ wide. Special machinery is made for this purpose to which The Shimer Cutter Heads herewith illustrated are applied.

These are Our Net Prices.

For Cutter Heads Figs. 56, 57, 59 and 60.	EACH.	THE SET
Net price for each Cutter Head without the Bits	$8.40	$16.80
One set (8) Bits to make Sucker Rods from 1¼ to 2 inches, octagon	1.89	15.12
" (8) " " *Keg Hoops*	1.68	13.44
" (2) *Cutter Heads complete to make Sucker Rods*		31.92
" (2) " " " " *Keg Hoops*		30.24

Box Board Matcher Heads.

TRADE

The Shimer Cutter Head.

MARK.

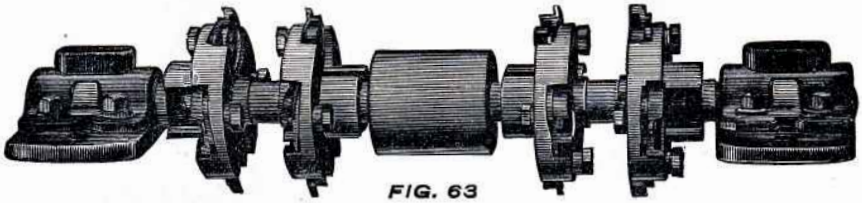


FIG. 63

This illustration represents two set of The Shimer Cutter Heads upon one mandrel with drive pulley between them. They are provided with Bits to match Box Board material, work that must hold together by the neat fitting of tongue in groove. The Shimer Cutter Heads will make a uniform cut and a close fit in every instance, as well after years of use as when the Bits are new. There is no friction upon the Bits, therefore no loss of power, no waste of material.

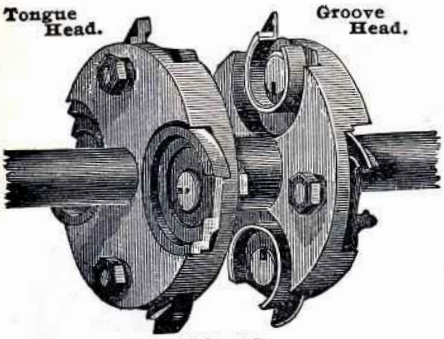


FIG. 62

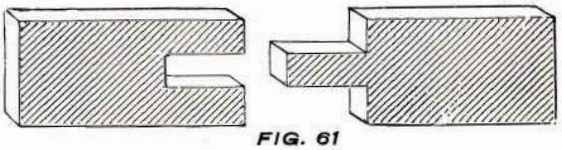


FIG. 61

Fig. 61 represents a tongue and groove with clean cut edges for a drive fit to hold the pieces together for handling.

Fig. 62 represents two of The Shimer Cutter Heads as arranged side by side in a machine. Fig. 135, page 106 represents our Box Board Machine.

These are Our Net Prices.

	EACH.	THE SET
For Cutter Heads in Solid Section :		
Net price for each Cutter Head with 4 bit seats complete, without the Bits . . .	$7.80	$15.60
" " " " " " " " 6 " " " " " . . .	8.84	17.68
One set (8) Bits to match ⅜ to ½ inch	1.00	8.00
" (8) " " ⅝ to ¾ "	1.00	8.00
" (8) " " ⅞ to 1 "	1.10	8.80
" (2) *Cutter Heads with 4 Bits each to match ⅜ to ½ inch*		23.60
" (2) " " " " " " ⅝ to ¾ "		23.60
" (2) " " " " " " ⅞ to 1 "		24.40
Extra per set of 2 Cutter Heads with The Shimer Cutter Head Expansion		4.20
" *for Mandrel with drive pulley and two journal bearings, for 1 set of Heads.*		10.50
" " " " " " " " " " 2 " "		12.60

HOW TO ORDER BOX BOARD MATCHER HEADS.

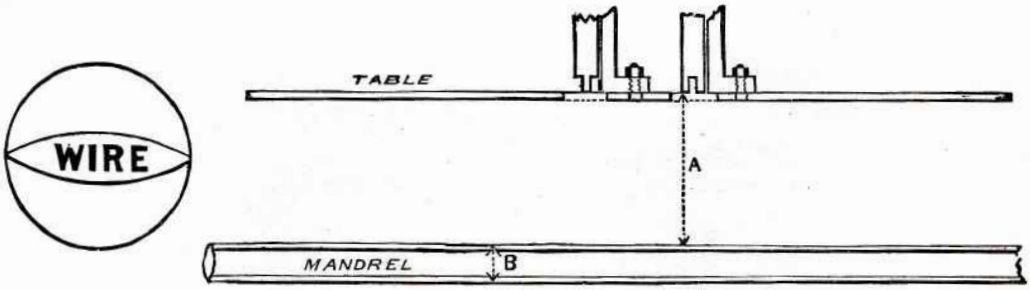


FIG. 64

That you may fully understand how we take the measurements, see diagram above representing a mandrel in a machine, as commonly used. In measuring, give the following information, viz:—

Distance from mandrel to top surface of the table, line A .....inches.
File a wire the length of which will give the exact diameter of the spindle or mandrel, B "
When you stand feeding, is groove made on right or left of guide? See Fig. 64 and Fig. 62.

We make the Cutter Head flanges 1⅛ inches thick and locate the center of the tongue and the center of the groove on the center line of the head flange, that is $\frac{9}{16}$ from the inside face of each Cutter Head.

How many inches do you want the head flanges apart? .....Compare with Fig. 63 and 64.
" " " " " " center line of tongue and groove apart? " " "
" " " of the mandrel do you want to cover with each Cutter Head? " "
" " " of the mandrel can we cover with each hub of the Cutter Head to the right and to the left of each Cutter Head flange (the place for the set screw)?..... See Fig. 63.

Has the table two guides or only one? Make a pen or pencil drawing when you order, locating said guides and the relative position for the Head upon the mandrel as seen from the operator's end of the machine where he stands to feed.

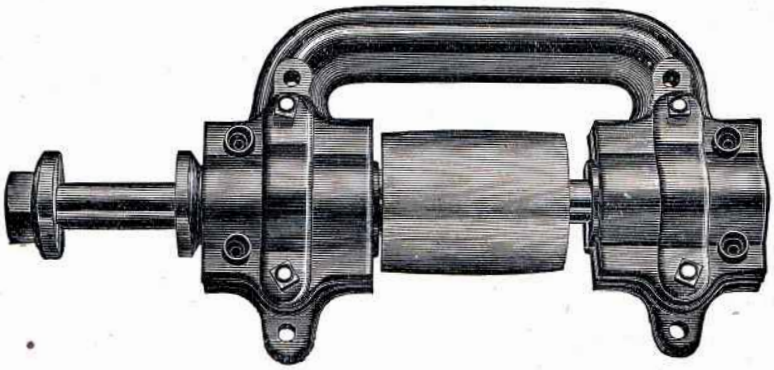


FIG. 472.

We illustrate above our Yoke Mandrel with self oiling boxes. The spindle is made of steel, 14 inches long by 1¼ inches in diameter. Boxes are 4 inches long, and lined with the best Babbet metal. The pulley is 4 inches in diameter by 4 inch face.

Price, boxed, f. o. b. cars, ... $8.92

OUR BOX BOARD MATCHER

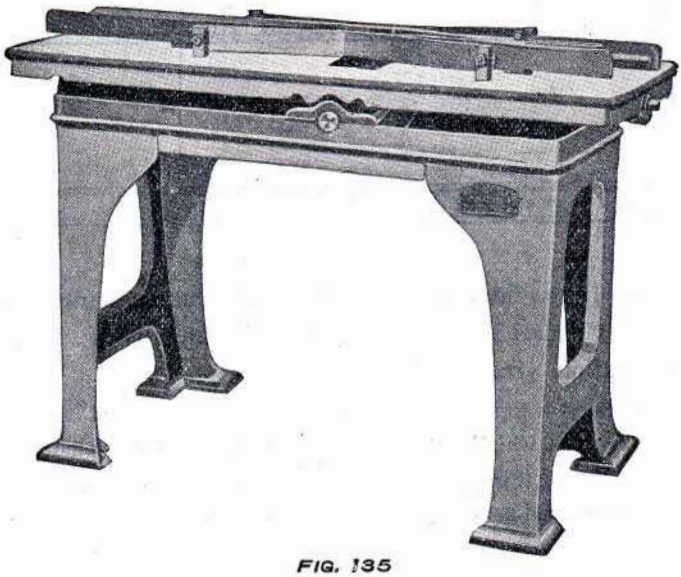


FIG. 135

Fig. 135 and Fig. 136 illustrate our Box Board Matcher, a very useful machine for piecing together narrow strips, for tops, bottoms and sides of boxes—saved out of the offal that accumulates in and about the planing mills.

The box material that you can save if you wish, will very soon pay for the machine.

This machine is provided with parallel guides, simultaneously adjustable, and has an end screw adjustment within the table to regulate the depth of the cut. The tension spring posts are stationary.

It is a complete Hand Matcher. The Shaft is made of steel and runs in self oiling boxes. The Springs are adjustable for light and heavy tension. Pulley is 4 inches in diameter, with 4 inch face, and should make 3,500 revolutions per minute.

DIMENSIONS—Floor space, 3 feet 6 inches long, 1 foot 9 inches wide. Height, 2 feet 4 inches. Table 14 inches wide, 42 inches long.

The price crated F. O. B. cars, Milton Pa., (without the Heads)..... $47.25
" " *for one set (2) Shimer Cutter Heads, see page 104.*

OUR BOX BOARD MATCHER



FIG. 136.

Fig. 136 represents an open view of the machine. The table is raised for sharpening the Cutters.

The machine is complete in every particular, and is convenient and durable.

The Shimerzoidal Cutter Head for Hard Maple Flooring and Fast Feeding Machines.

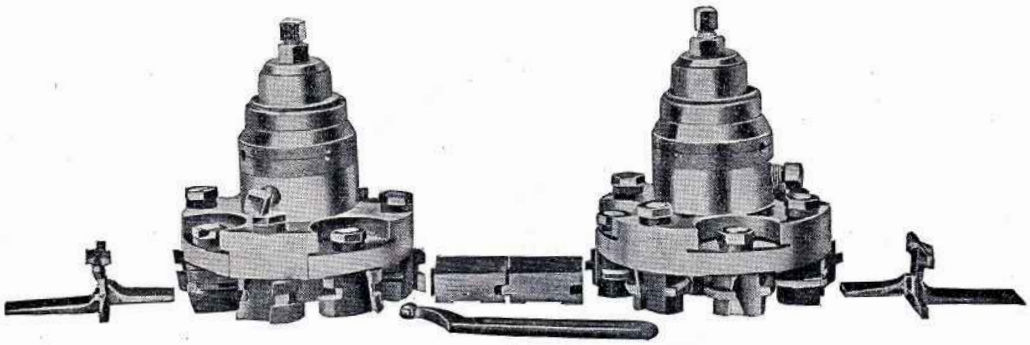


FIG. 501 FIG. 502

Much attention has lately been given to the matching of Hard Maple Flooring. Because of its close fibrous grain it is especially difficult to produce satisfactorily under rapid feeds with the usual tools. Matcher Heads to accomplish this work should have many cutters to take part in the work, and thus distribute the cut as finely and evenly as possible between all the cutters around the Head.

This Head is made of steel forgings in two sections, consisting of an upper and lower section, the upper section fitting over the central hub of the lower section and arranged with our Expansion feature as fully explained upon pages 11 to 15. The head represents the strongest features we have yet brought out with reference to the interlocking of the two head sections.

This Head is made to carry eight cutters, and represents a development of The Shimer Cutter Head for especial service applicable to the heavy matchers. The large number of cutting edges serves to a good purpose in this tool as shown above, having the cutters arranged upon the lower side of the head flange secured firmly upon concaved seats diverging alternately from a radial line to effect a clearance cut by all the leading points. By thus arranging the Bits they work with perfect freedom, shearing the cut both upwardly and downwardly. They represent two series upon the head flange, the one series cutting the upper half of the tongue whereas the next cuts the lower half of the tongue, and both series of cutters engage in finishing the edge above and below the tongue and groove and work alternately. The Bit portions cutting the tongue and groove are arranged with a special overlapping of the parts which will permit of a slight adjustment to make tight or loose fitting of the tongue and groove, but are not intended to expand beyond this amount because the style of Bit will not permit of it.

The Bits being formed and set especially to allow cutting of the full tongue and groove pattern, represent double the amount of active knife edge as is found in our standard tools, wherein the cutters are divided, and hence will work at a greater rate of feed.

The Bits, being circular, carry the maximum of tool cutting edge, all of which is available for service. They are tempered hard to grind, or of a medium temper to file slowly, and in ordering attention should be given to the temper desired. The hard Bits may be readily sharpened with The Shimer Cutter Head Grinder shown on page 43, which will set to suit the gauge slants to which the Bits must be ground and satisfactory work will always result.

These are Our Net Prices. (8 Bits each Head.)

One set of Shimerzoidal Cutter Heads with Expansion,	
Two Heads complete with Bits to match ⅜ to ½ inch	$42.84
" " " " " " ⅝ to ¾ "	42.84
" " " " " " $\frac{13}{16}$ to 1½ "	44.60
" " " " " " 1½ to 2 "	47.32

Cutter Heads 6¼ inches surface cutting diameter and larger will take 8 bit seats.

One set of 16 Bits to match ⅜ to ½ inch	$16.80	*Each* $1.05
" 16 " " ⅝ to ¾ "	16.80	" 1.05
" 16 " " $\frac{13}{16}$ to 1½ "	18.56	" 1.16
" 16 " " 1½ to 2 "	21.28	" 1.33

Any one set of the above Bits will work interchangeably on these Cutter Heads.
Prices subject to change without notice.

☞Our B. D. Brand of bits, as described on page 41 will apply to good advantage in that they keep the machine steadily at work for a full day and often longer, depending upon the nature of the lumber. To sharpen them use the Shimer Cutter Grinder No. 1 or No. 2 described on pages 43 and 112 respectively.

These are net prices for B. D. Brand of Bits.

Ceiling Bits each, net	2.10
Flooring " " "	2.63

THE SHIMER END MATCHER HEADS.



FIG. 503

To match tongue and groove on ends of hard maple, beech and oak flooring, is a test on tools of ordinary style but The Shimer Cutter Heads designed purposely for this work as shown above, having six or more Bits to each Head, meet the requirements in a way which at once calls out favorable criticism. The Heads are made of steel forgings and the Bits of good tool steel, tempered to file or to grind as may be desired by the purchaser. The cutters for the Grooving Head cut only the groove portion, the square end being finished with the cross-cut saw in the process of cutting the flooring strips to length.

The Tongue Head, in addition to the Bits to cut the square upper and lower offsets are provided with "saw spurs" to assist in the work.

The Heads apply to any end matching machine. In taking measurements be guided by our general directions.

These are Our Net Prices.

Price, Head with 6 bit seats, each	$8.93
" *New Bits, each.*	.95
" " " " *(B. D. Brand.)*	1.89

The Shimer "Intermediate" Cutter Head
FOR HIGH SPEED MATCHERS.

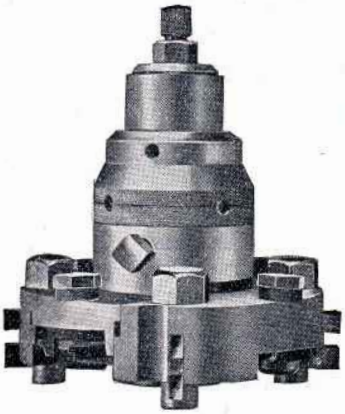


FIG. 510

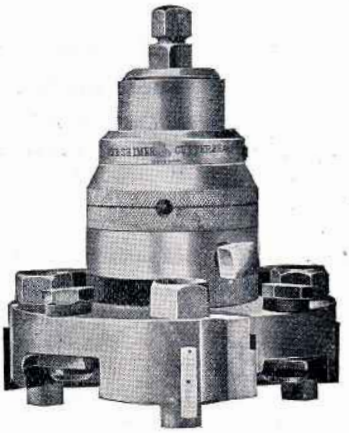


FIG. 511

To meet a demand for matcher heads in which can be used the Famous Self-Hardening steel (in straight strips) we have designed this special Expansion Matcher Head after our own patents. This we call our Intermediate Matcher, Jointer and Ship Lap Head. It is made in two sections in order that a perfect expansion for tongue and groove proportions may be effected so long as the range of expansion is within the capacity of the bits.

The first section is made of a solid steel forging bored and turned to true cylindrical form. The lower portion of the flange is grooved radially at equal distances around the head flange in order to receive the straight pieces of steel or bits. These bits are held firmly into position by means of our mortised bolt and nut which passes through the flange within the slot for the knife. This forms a neat and most secure bit holding device. These straight knives are intended to cut down the square edge of the groove side and the square shoulders of the tongue side of the board. The profile of the straight knives for working the tongue side is cut away where the tongue proper is formed and takes no part in the carving of it, but all other portions of these straight knife edges serve to carve down the shoulder above and beneath the tongue, either square or for the usual under clearance as may be desired.

Intermediate the straight knives and diametrically opposite each other we arrange two small circular bits seated down into the flange of the first section so as to follow each other in the cutting of the lower portion of the tongue or groove. Between the other quarters of the straight knives we cut away the solid portion of the first section in order to arrange for the position of the second section which slips over the solid central hub and fits slidingly thereon. Upon the projections or lugs of the second section and within the lower faces of the same we seat two small circular bits, and when the two sections are thus assembled and set to their proper vertial functions by means of the Shimer Cutter Head Expansion (fully explained on pages 11 to 24) the head is complete and ready for use.

The operation of the cutters is as follows: The straight knives will cut away the edge surface and square it. The small circular cutters form the groove and tongue

(FOR PRICE SEE PAGE 112.)

profile. The tongue and groove may be thickened for heavier matching by simply turning the expansion ring.

All knives and bits may be made of Self Hardening Steel thus guaranteeing a sharp cutting edge for a full day of use after each sharpening of the cutters.

How to sharpen the knives so as to have each edge of exact shape to provide the same clearance at bottom of board, without measurements or gauges, see directions pages 112 and 113.



FIG. 512

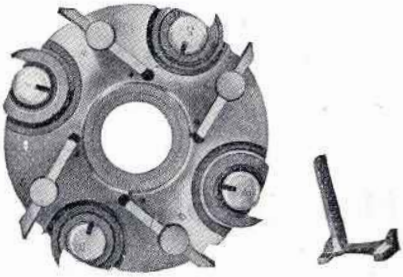


Fig. 512—Bottom View.

These cuts represent a modification of the Intermediate Matcher Heads as designed to suit matcher spindles fitted with taper collars or sleeves with which to centre the Head. They are without the usual top adjusting screw, as all vertical adjustments are provided for in the construction of the matcher spindles and brackets so as to raise or lower the Heads while in motion. These engravings will represent the fact that we design the heads to meet the requirements of the most fastidious machine maker.



FIG. 513



Fig. 513—Top View.

Made in two sections of steel forgings carefully fitted together, in combination with The Shimer Cutter Head Expansion fully explained on pages 11 to 24. This feature regulates the adjustment for tight or loose fitting of the tongue or groove in an instant of time and holds the sections in perfect vertical position. The strongest Expansion—the strongest Section Interlock—the strongest Head.

☞ How to keep this Head in order, and how to sharpen the Bits is fully explained on pages 112 and 113.

(FOR PRICE SEE PAGE 112.)

These are Our Net Prices.

The Shimer Intermediate Cutter Head with bits and The Shimer Cutter Head Expansion.

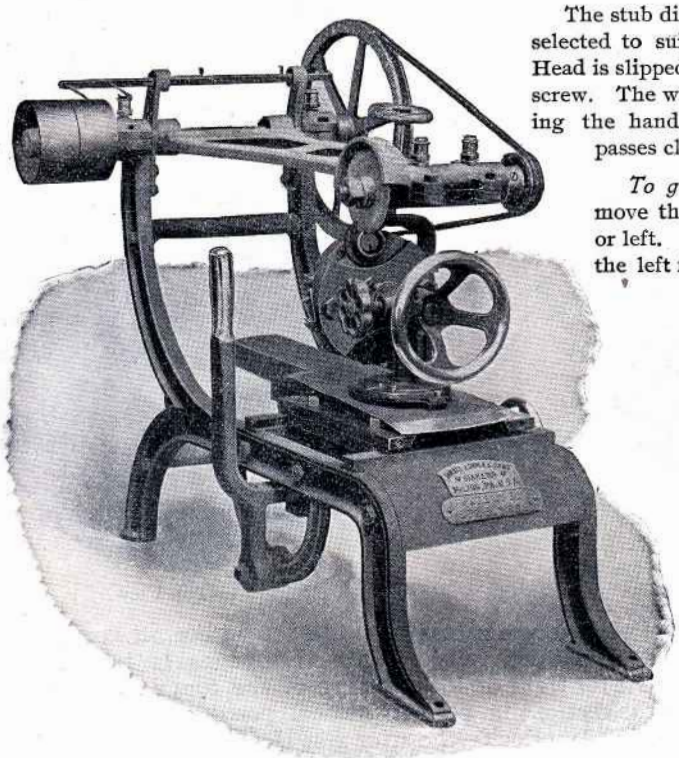
Two Heads complete with Bits to match	⅜ *to* ½ *inch thick material*		$41.48
" " " " " " "	⅝ *to* ¾ " " "		41.48
" " " " " " "	$\frac{15}{16}$ *to* 1½ " " "		42.36

Cutter Heads 6¼ inches surface cut diameter and over will make up into this style of head. Smaller heads may be designed in special manner to suit requirements, concerning which please write us.

One set of 8 Shimer Bits to match	⅜ *to* ½ *inch thick material* . . .	$10.08 *each*	$1.26
" " " 8 " " " "	⅝ *to* ¾ " " " . . .	10.08 "	1.26
" " " 8 " " " "	$\frac{15}{16}$ *to* 1½ " " " . . .	10.96 "	1.37
" " " 8 *straight bits fitted and tempered*	⅜ *to* ½	3.36 "	.42
" " " 8 " " " " "	⅝ *to* ¾	3.36 "	.42
" " " 8 " " " " "	$\frac{15}{16}$ *to* 1½	3.76 "	.47

How to Sharpen the Circular Bits of the Shimer Intermediate Head.

Here is our Improved Grinder, No. 2, which will be found illustrated and described elsewhere in this book (page 44.) We show it here by way of representing its usefulness in keeping cutters of the Intermediate Head in order.



IMPROVED CUTTER HEAD GRINDER, No. 2.

The stub directly under the emery wheel is selected to suit the bore in the Head. The Head is slipped on and fastened with the set screw. The wheel is raised or loweaed by turning the hand wheel until the emery wheel passes clear of touching the head flange.

To get the proper Hook for the Bit, move the carriage laterally to the right or left. To the right for one Head, to the left for the other.

To get the Angle of Shear swing the Head around to suit and fasten set screw. Raise or lower the emery wheel so as not to grind the flange of the Head. Now push the lever at left of machine and slowly and carefully at first to the wheel so as to bring the Bit face against the wheel, a mere touch being sufficient to sharpen. Repeat the operation for all the Bits of the same series. Then re-set the Head and carriage to suit the slnt required for the other series.

This machine is intended only for the small Circular Bits. The Straight Bits are removed from the Head and ground on our machine, Fig. 515, as illustrated on the next page.

Price, Machine net f. o. b. cars, ... $36.75

How to Sharpen the Straight Bits of the Intermediate Head.

Remove the Bits from the Head, set and fasten one upon the sliding carriage of this machine to suit the slanted edge necessary to give you the desired outline for clearance at bottom of board, fasten the knife by means of the clamps and bolts provided and grind by moving the hand lever so that the knife edge passes before the wheel.

This operation is repeated for each knife, and as it is ground back or shortened the entire carriage is fed in closer to the wheel by turning the hand wheel in front of the machine.

Price, net, f. o. b. cars, - $26.25

Price, counter shaft with tight and loose pulley, net 15.75

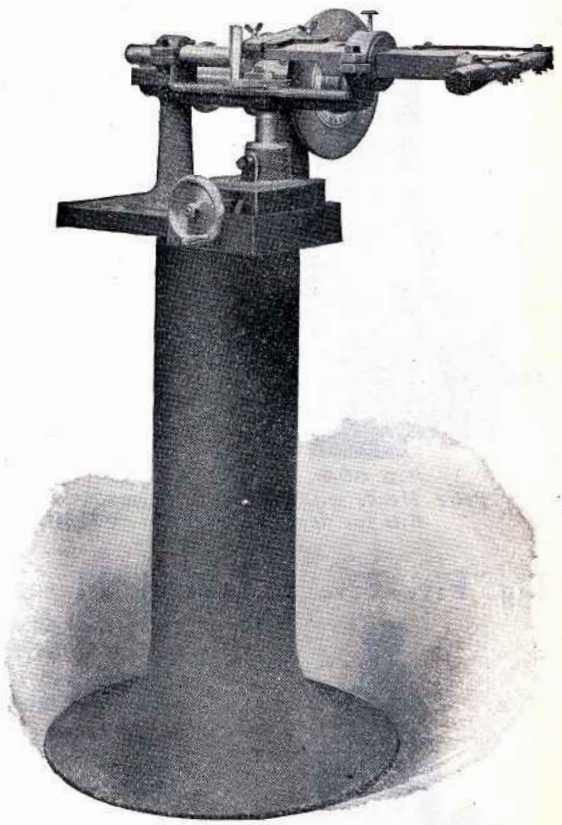
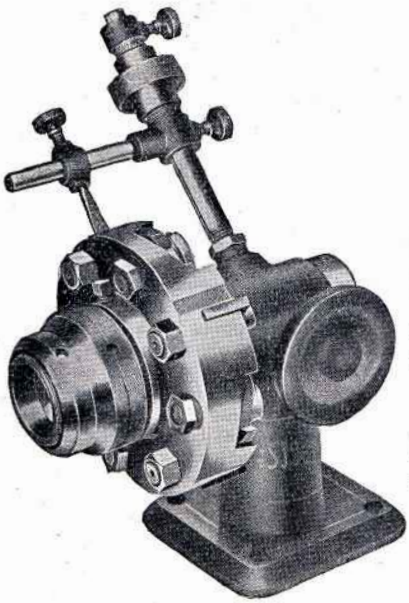


FIG. 515



OUR FILING STAND AND TRACKER

(FIG. 31 A)

As it applies to the setting of the Straight Bits in The Shimer Intermediate Cutter Head.

This Improved Filing Stand and Tracking Attachment will quickly set the straight bits in one common cutting line. It can also be used to good advantage in setting the Circular Bits if desirable.

It is an inexpensive little instrument for this work and is worthy a place in every filing room.

Price, with one stub, net, f. o. b. cars, $9.20

Price, extra stubs, each, - - - - .80

Fig. 504, ADJUSTABLE HEAD.

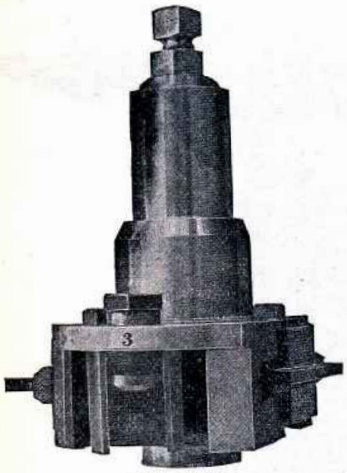
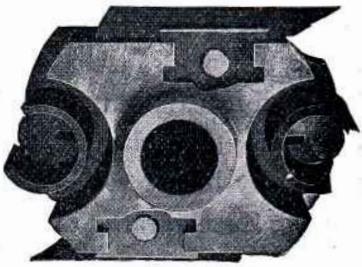


FIG. 504



Bottom View of Fig. 504.

The construction of this Head is of steel forgings of great tensile stregth and guaranteed superior to steel castings, bronze or cast iron. The Heads are specially designed to receive two circular cutters to joint above and below the tongue and groove proper along edge of board. The straight milled Bits are properly formed to carve out the exact shape of tongue or groove outlines. The Heads will work flooring or ceiling either tongue or groove to guide. They receive Bits for Ship Lap, Rustic, Double Ceiling and various other patterns. Bits are adjustable for various thicknesses of material. All changes of Bits quickly made without separate attachments.

Price, Heads with clamps, bolts, gauges and wrench, each $7.88
" *Bits for flooring (2 circular* @ $1.16; *2 milled* @ $1.00) 4.32

Fig. "Five-Five" Adjustable Matcher, Ship Lap and Rustic Head.

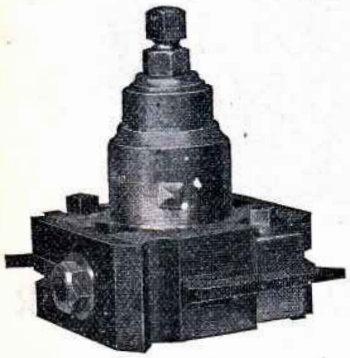
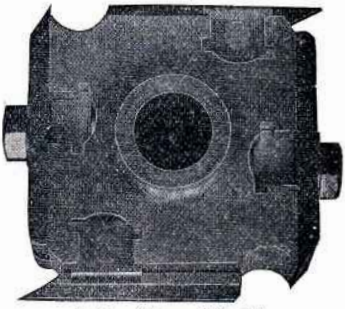


FIG. 505



Bottom View of Fig. 505.

This head differs from our Fig. 504 Adjustable Matcher, Ship Lap and Rustic Head next above illustrated only in application of the straight jointer knives in lieu of the circular. Built of steel forgings they form one of the strongest of tools. Matcher Bits are INTERCHANGEABLE. The straight knives are easily ground and the straight milled Bits form tongue and groove outline, and maintain uniform shape. The one milled Bit cuts out the upper curve of groove, whereas the other cuts out the lower. They work with perfect clearance and are desireable as a Cutter Head for variety work.

Price, Heads each, net $7.88. *Bits (2 straight jointer* @ 53c; *2 straight milled* @ $1.00) $3.06

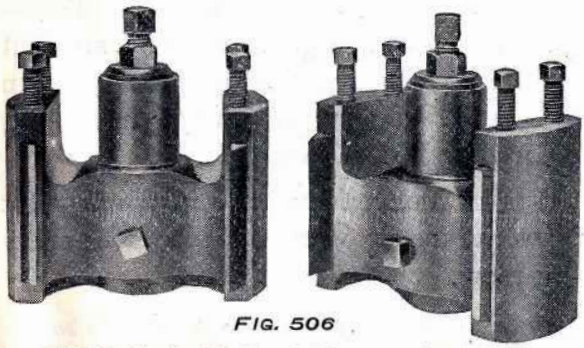


FIG. 506

Steel Forged Mortised Head.

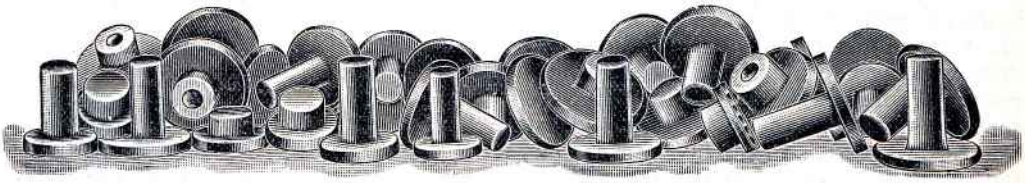
These cuts will remind you of old times. Mortised heads have been in use 40 years and for some purposes (odd and irregular work) they are likely to hold a place for some time to come. Cast Iron and Steel Castings as a metal for these heads has shown its weakness and therefore these Steel Forged Cutter Heads, cut out of the solid forgings—strong—neat—complete.

Price, net, each Head with bolts and wrench $8.93
Knives, extra, 2" wide ..... .50
" " 3" " ..... .60
" " 4" " ..... .72

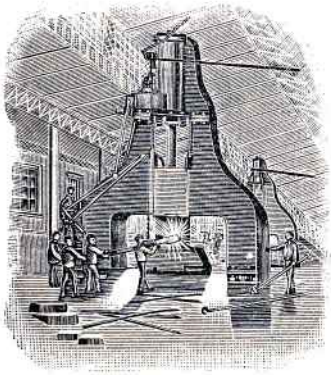
☞ We also furnish them in three and four wing forged heads, special to measurements and various uses. Ask for prices.

STEEL FORGINGS

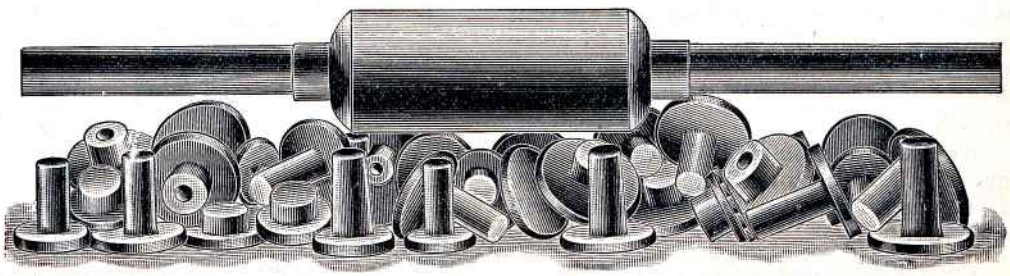
For The Shimer Cutter Heads.



THE BEST METAL in addition to the best workmanship must come to the front in such a tool as The Shimer Cutter Head, and for this reason we adopted the Solid Steel Forging of 60,000 pounds tensile strength. It represents one of the points upon which we base our guarantee for strength and the maintenance of bit seat alignments. Revolving cutter heads must bear a two-fold strain—that of cutting hard and knotty lumber plus the stress exerted by centrifugal force. The Forged Steel is compressed, solidified and united in its entire structure.



It differs in fracture greatly from the porous and open grain of that which is cast into moulds. If you could examine the broken fracture of the two metals and compare—that which is cast with that which is hammered and forged—we would need no argument in words to convince you of the superiority of forged steel over that of the cast for revolving cutter heads, and the cost is no greater.



HOW TO MAKE A QUICK VERTICAL ADJUSTMENT

Without Changing the Top Adjusting Screw.
THE CUPPED WASHER.

(PATENT PENDING.)

If you use thin Ceiling Bits on your Heads the vertical adjustment of the Heads will be down lower upon the spindles than when working flooring of the heavier thicknesses. Therefore when Ceiling Bits are properly seated upon the Heads, adjust them to the spindles in the machine as Diagram A, with lower end of the top adjusting screw bearing upon the top of the spindle, the end of this top adjusting screw being previously flattened so as to prevent it from, in any way, entering into the centre of the spindle. When the vertical position is properly located fasten the jam nut at top.

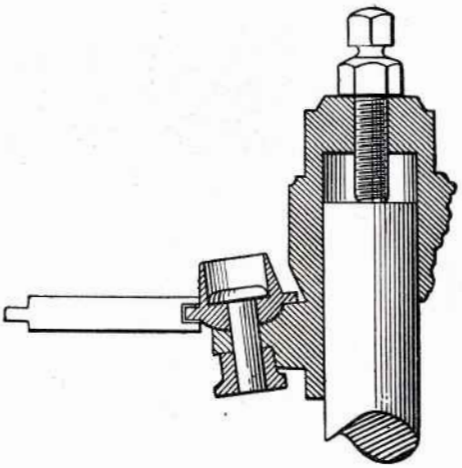


DIAGRAM A.

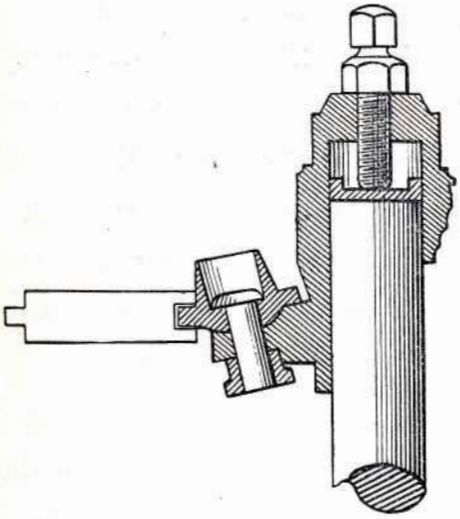


DIAGRAM B.

The cupped washer shown in diagram B is made of exact thickness to suit the difference existing between say ⅜ material and the 13-16 (or ⅞ as the case may be) and is placed upon the top of the spindle as shown with cup turned upwardly. The Bits to make Diagram B are changed to flooring sizes, but the top screw requires no change in the adjustment because the difference in the vertical position of the Head is made up by the thicknesses of this washer.

To work another and thicker board expanding the Bits for heavier tongue and groove and to raise them still higher on the spindle turn the washer cup side down as Diagram C.

The various thicknesses should be given us in the order, or if exact samples are sent we will calculate the thicknesses to make washer in order that these various adjustments can be made without altering the top adjusting screw.

By using this simple little washer much time of the operator will be saved as also of the machine, and a uniform product will be maintained.

Price, Washers each, net, ... $0.63

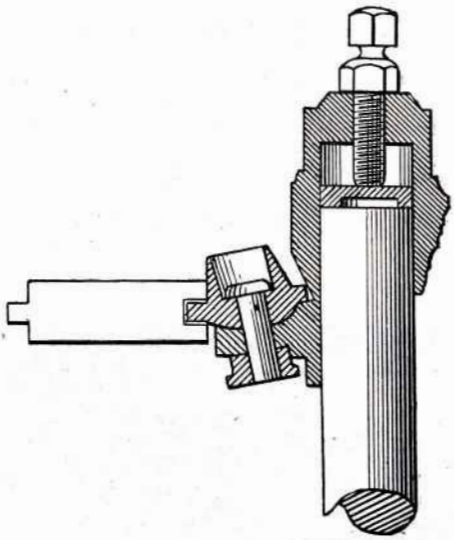
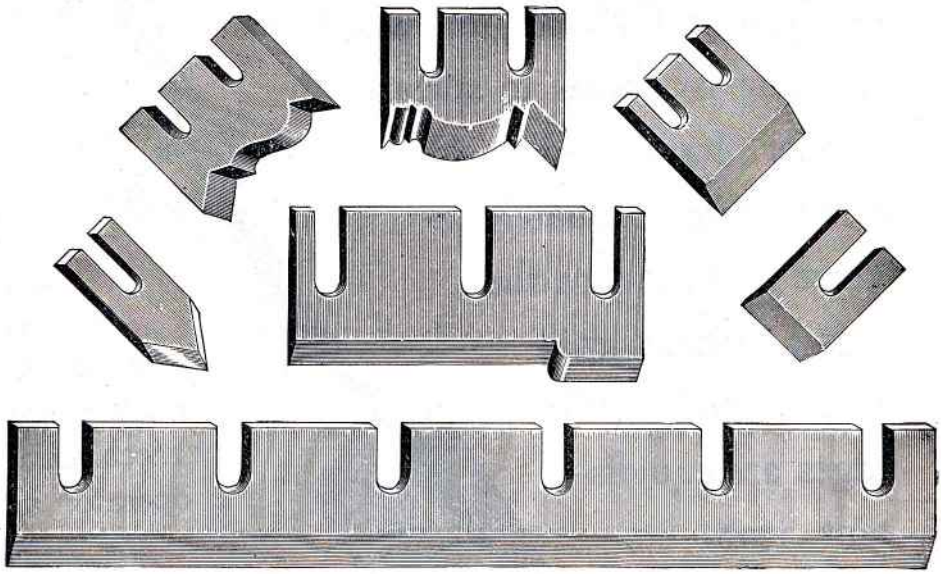


DIAGRAM C.

PLANING MACHINE KNIVES

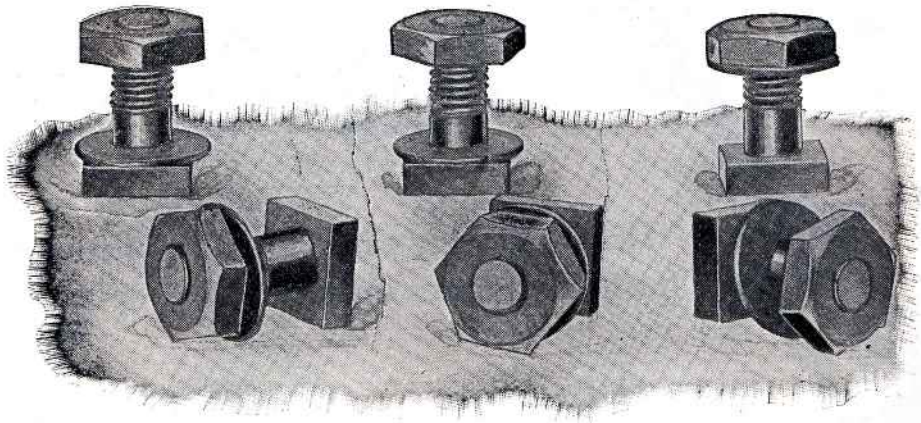
FOR SURFACERS AND MATCHERS.

Moulding Machine Knives and Blanks are furnished promptly to pattern at lowest prices consistent with highest grade of material and workmanship. We guarantee all work put out to be free from defects.



We wish to call attention to these knives which are rated well up in grade as estimated by the many patrons who have adopted them and come to us for supply. You cannot judge their quality by an examination of our engravings neither can you come to a direct conclusion as to value by a mere statement of price. In order to learn of their usefulness give them a trial and specify whether you use high temper to grind, medium temper to file slowly or low temper to file easily.

☞ These knives do their best work when applied to The Shimer Trapezodial Head although they are made to pattern suitable for any two, three or four sided cylinders.



These planer head bolts are of the toughest and most fibrous material we know of. They hold well in all manner of hard service and are superior to most planer bolts offered the trade. The nuts are bright, being machined all round, true to size, uniform in thickness and weight.

Price, Bolt, Nut and Washer, net, 32c. Price, Planer Head Wrenches each, net, 63c.

THE TRAPEZOIDAL HEAD

A Head or Cylinder for wood-working machines to surface lumber, having four sides arranged to alternately diverge to and from the axis; whose chip breaks and knife edges are equidistant from its center, though not parallel one with another.



This feature is brought about in a manner entirely mechanical, as the operator needs only to see that the knife edges are ground straight and that the knives are set upon the head side by means of the setting gauge.

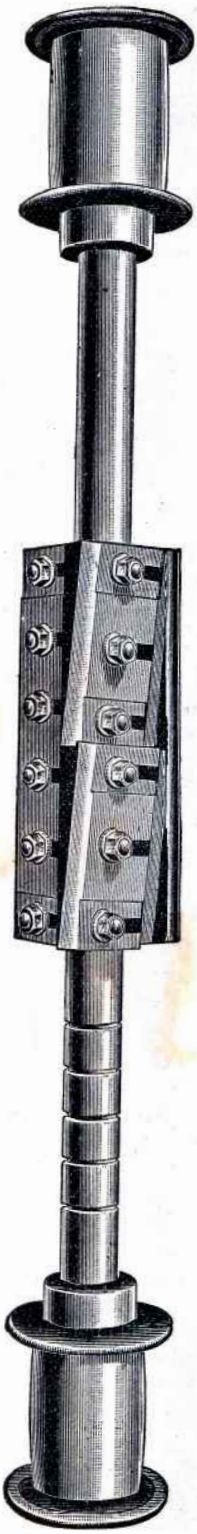
Saves POWER, MATERIAL and LABOR.

Read following pages for description setting forth the features under which it operates.

HEADS SENT ON TRIAL.

How to Measure, see page 127

Samuel J. Shimer & Sons, Milton, Penna.



The Shimer Trapezoidal Cutter Head

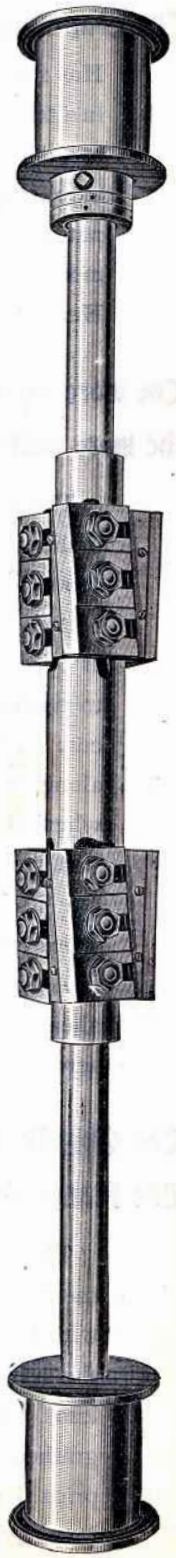
is intended particularly for surfacing the top and bottom sides of flooring or surfaced material in general. Designed for the saving of power by curving the knife edges, distributing the work more evenly around the cylinder of revolution. The knife edge advances by diagonal process, whereby one end of the knife leads that of the other. The knife is therefore not in full cut at any time. This is accomplished by use of

The Common Planer Knife

which when bolted to this cylinder is slightly convexed the long way. When it is released it is STRAIGHT and is sharpened the same as any ordinary planer knife. *The make-ready to find the curvature for the knife edge is with the Shear Cutting Cylinder a fixture*, and consists in convexing the knife seat the long way of the knife by as much as is necessary to curve the knife edge to agree with the surface cut diameter common to the contour of the Cylinder, after the angle of the shearing cut.

To Surface a Board

On any planing machine with a rotary Cutter Head, each planer knife must make as many incuts per minute upon the face of a board as the head revolves about its own centre, and if the Cylinder is square it is evident that the incuts are made full across the face of the board at every revolution, and the surface is made up of innumerable incuts or waves, noticeable in proportion to the feed measurement allotted to each knife upon the Cylinder.



The Trapezoidal Cutter Head

Has four planer knives arranged about a common centre in alternate diagonal positions (so as to cause the knife edge of each alternate planer knife, as it passes underneath the axial line of revolution, to make a shearing cut in alternately opposite dirctions across the face of a board) to modify the incuts on the surface made by a rotary Cutter Head, with a draw cut in alternate opposite direction.

The more varied the direction of the cut, the more nearly uniform will be the surface.

The Shear Cutting Cylinder has four knife seats that incline in alternately opposite directions, to which the common planer knife is fastened by means of planer head bolts. Every alternate planer knife (being high and low at opposite ends) will cut from right to left and from left to right in alternate opposite directions, with a shearing cut. The low end of the knife starts the cut that shaves along the entire edge of the knife across to the high end, where it cuts out. The knife edge inclining backwards, "as it were," receding from the cut, as the Cutter Head (by its rotary motion) moves into the cut. Thus the shear cut is made from the one side across. The incut of the next planer knife that follows starts where the knife ahead of it cuts out, and shears in the opposite direction across the face of the board.

The Chip Breaks are Straight on Edge. The Planer Knives are Straight on Edge.

The shaving made with the common planer knife upon the Shear Cutting Cylinder being more continuous, carries with it a lessened tendency to chip up and the result is, the surface in the knot and in the cross-grain about the knot, takes a better finish. It does not take many cross-grained boards with a finish to grade the shipment to a price that will carry the little more profit necessary to pay for a Cylinder of this kind.

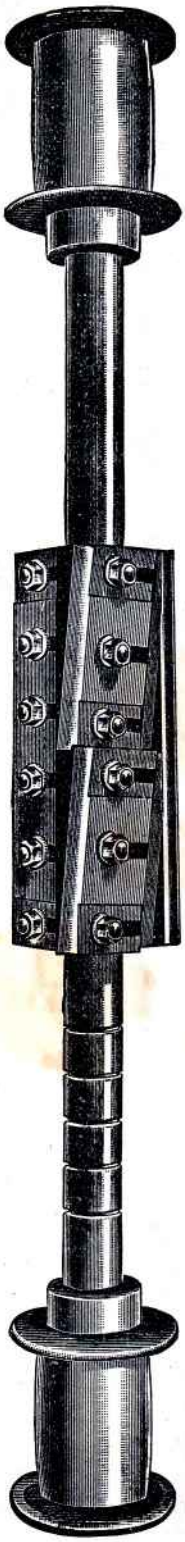


Fig. 3—Is provided with two planer knives the full length of each head side and upon the other two head sides the planer knives overlap centrally of the Cylinder, to make them work with the greatest possible shear.

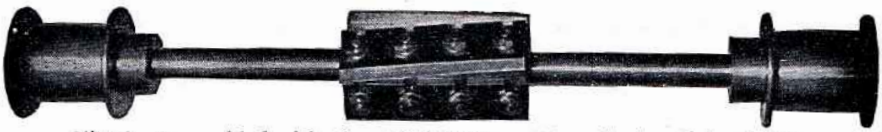
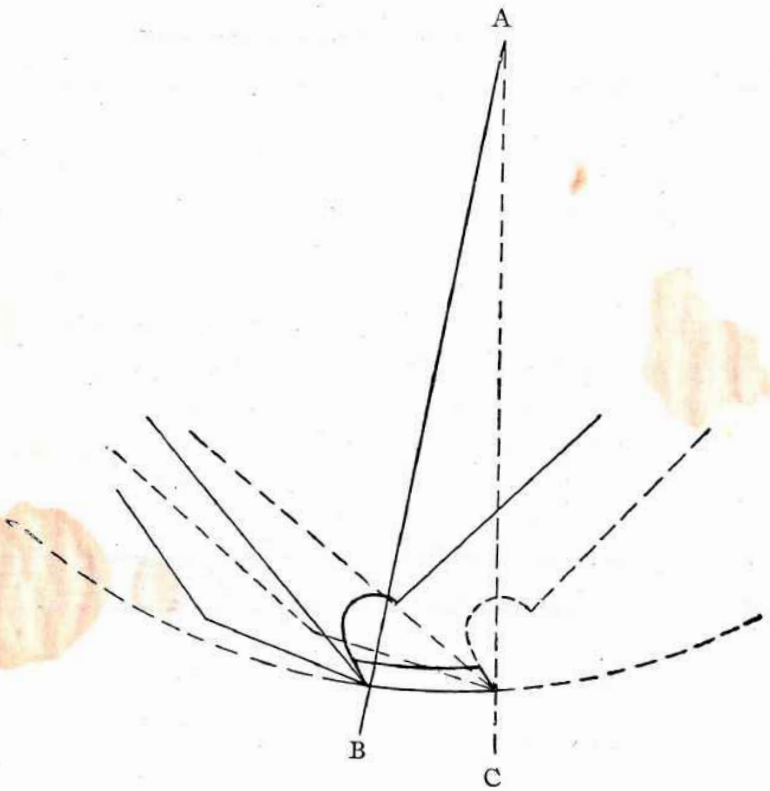


Fig. 1—Is provided with planer knives the full length of each head side.

To more clearly show the manner in which The Shimer Trapezoidal Head does its work in the saving of power let us illustrate by means of diagrams. In the first diagram A represents the centre of the Head; B the end of knife at one end of the Head, and C the opposite end of the same knife. The arc B C shows the curved edge. The end of knife at C will lead that of B as much as the distance between the lines B and C, or 10 degrees of the circle upon which the Head cuts. Instead of the edge advancing with one full cut into the work it leads off as shown, and the Head will



have carried the knife around the circle 10 degrees to complete the work that otherwise would be done by a single incut with a straight Head. Thus it is seen that the cut is distributed by as much as the one end of the knife leads the other. That the work thus distributed will require less power, is self-evident.

The next succeeding knife will lead from the opposite end of the Head, thus the shearing is alternately carried on from side to side as the Head revolves.

The direction of the cut varies from the usual straight course and assumes working position after the slant lines shown in diagram No. 2, next page. This shows how the knife of one series starts cutting at D and cuts out at E, shearing from

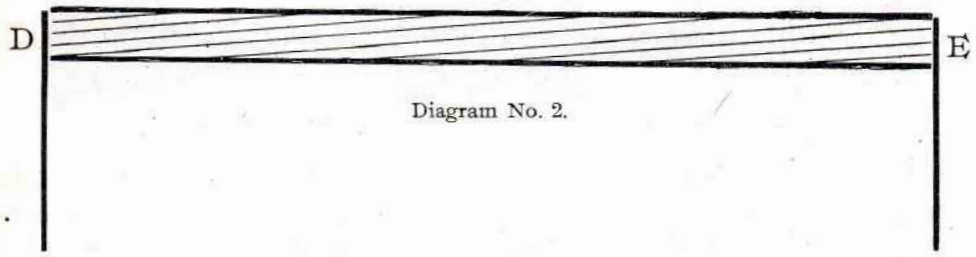


Diagram No. 2.

left to right. The diagram No. 3 shows how the next series of knives, arranged upon the opposite two head sides work, shearing from right to the left, thus alternately the knives cut, first one, then the next opposite with each half revolution. The two series

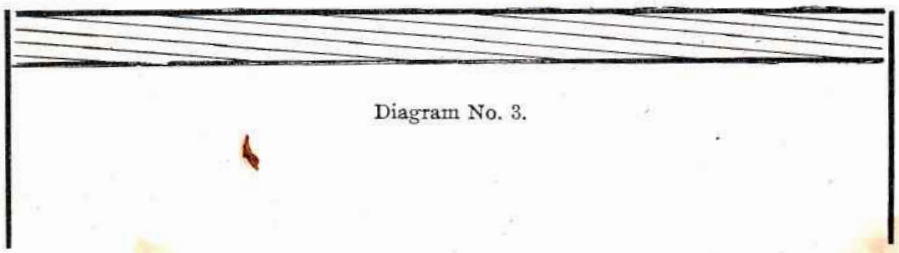


Diagram No. 3.

of knives in their alternate operation will appear working as diagram No. 4 where the diagonal lines cross each other. The cross-grain and the knot take better finish with this shear cutting action of the knives.

A saving of power is effected by reason of the drawing cut which is done by a gradual entrance into the work by the knives, saving jars on belts and machine.

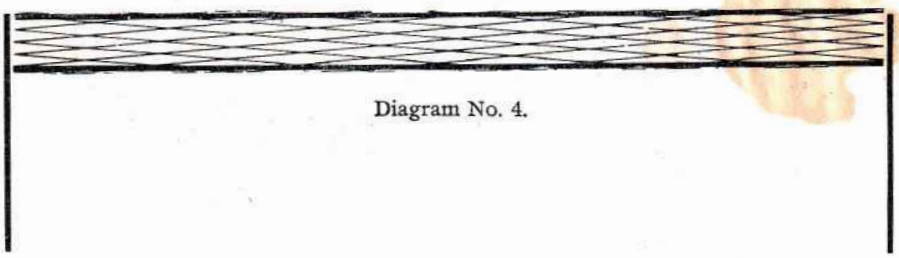
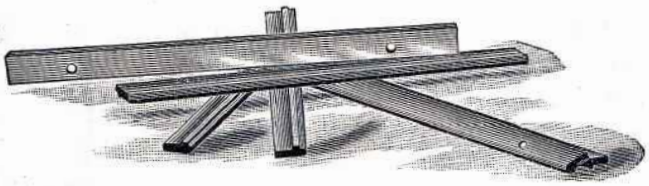


Diagram No. 4.

Distance to set out the Knives.

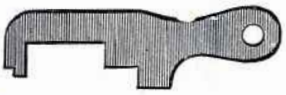
Planer knives are set out beyond the chip break at varying distances. On hard wood the knife edge is close up to the chip break, often as close as 1-16 of an inch. We set the knife edge ⅛ of an inch out from the chip break if not otherwise directed —⅛ of an inch is preferred by the greater number of users. Others again use the planer knives set out 3-16 of an inch on yellow pine and woods of that fiber. It might be well when you order, to say how far you wish the knife edge to stick out, so that we may finish the True-up to Surface Gauges to suit your work.

The True up-to-Surface Gauge

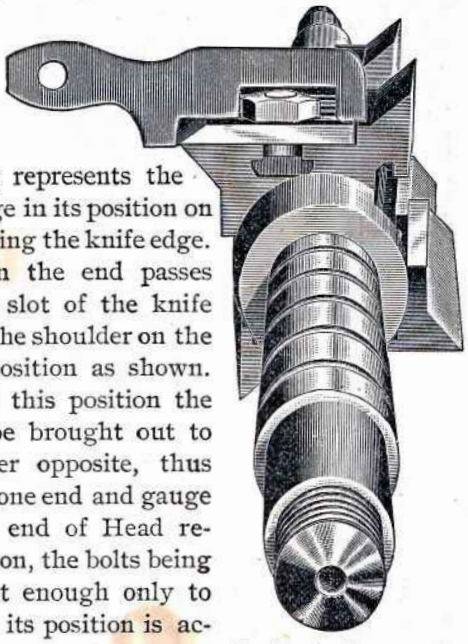


Sets the planer knife into the surface cut diameter of the Cylinder by a rule that admits of no guess work, and requires no measurements. The gauge contours agree with the surface cut of the Cylinder and with the convexity of the head sides. Each head side has its own gauge. You bolt the gauges into their places first, then you bolt the planer knives to each head side and take away the gauges, leaving the gauge screws bolted close into the Cylinder. Draw up the planer knife bolts and all is right.

The Quick Setting Gauge



Is also given along with every Cylinder—a small hand piece that gauges the set of the planer knife from the face of the step at the rear end of each planer knife. This step (or offset) is planed parallel to the edge of the chip break, and for a quick set or reset, of the planer knife this gauge answers very well.



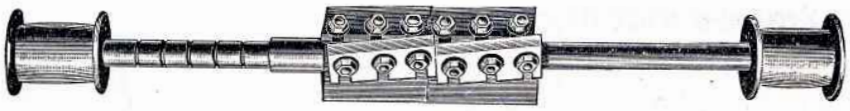
This engraving represents the quick setting gauge in its position on the head side locating the knife edge. The small lug on the end passes down through the slot of the knife and bears against the shoulder on the Head exactly in position as shown. When gauge is in this position the knife edge must be brought out to touch the shoulder opposite, thus the knife is set at one end and gauge moved to opposite end of Head repeating the operation, the bolts being at first drawn tight enough only to tap the knife until its position is accurately located, when full pressure of the bolt may be brought down upon the knife.

This style of gauge may be ussd in lieu of the "True-up-to-Surface Gauge" illustrated above because of its convenience.



A few specimens of Cylinders made from high grade spindle steel. Send us a drawing of what you want and ask for estimate. *See diagram on page 127.*





The Shimer Trapezoidal Cylinders are made of forgings of high grade spindle steel—very tough and stiff.



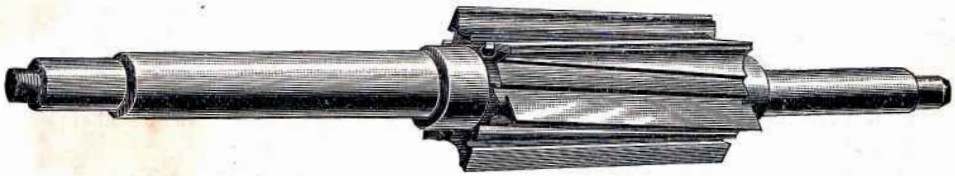
The journals are ground to a finish, true and round.



The entire Head is tested at high speed and given a RUNNING BALANCE.

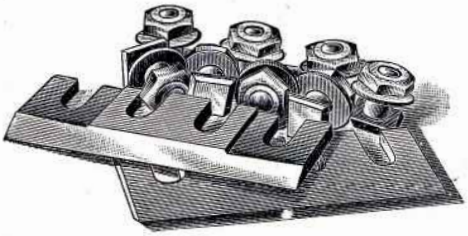


Satisfaction guaranteed. Send us your measurements and ask for prices.



We furnish Planer Head Bolts made of tough steel. They hold well under severest tests.

Send us your next order.



Planing Machine Knives with tool steel welded upon steel backs, for stiffness and strength.

Try us.



Matcher Head spindle and pulley.

Points to Remember when Ordering.

Order your planer heads as short as you can get along with. The shear cut for every planer knife is 10 degrees of the circle in which your surface cut diameter revolves. To get the full benefit of the shear cut you want to get all of it into the shortest planer knife and the shortest Cylinder you can use. Ten (10) degrees will give you nearly ¾ of an inch shear cut on a Cylinder 7 inches surface cut diameter. For example—if you should use a 16 inch Cylinder, you would have ¾ of an inch shear cut in the length of the knives (16 inches long) on this Cylinder. If you surface flooring strips with it and change (after running along one end until the knife edge is dull there) from the one end of the Cylinder to the other (to prevent the stop to sharpen) would it not be better to have your 16 inch Cylinder divided into two, (Cylinders) each 6 inches long or thereabouts, with a space between them? You would then have ¾ inch shear cut to every planer knife 6 inches long on the Cylinder.

These are Our Net Prices.

The Planer Knives are extra at knife maker's list. The Drive Pulleys are extra, $5.25 each Planer Head Bolts and Nuts 32 cents.

One double end Cylinder, each section 6 inches long by 7 inches surface cut diameter, with 2 to 4 inches space between, $5.25 extra, (above full list), viz: $68.25.

Surface Cut Diam.	LENGTH OF HEAD.										
	6	7	8	9	10	11	12	13	14	15	16
5 inch	39.90	41.48	43.05	44.63	46.20	47.78	49.35	50.93	52.50	54.08	55.65
5¼ "	41.48	43.05	44.63	46.20	47.78	49.35	50.93	52.50	54.08	55.65	57.22
5½ "	43.05	44.63	46.20	47.78	49.35	50.93	52.50	54.08	55.65	57.22	58.80
5¾ "	44.63	46.20	47.78	49.35	50.93	52.50	54.08	55.65	57.22	58.80	60 38
6 "	46.20	47.78	49.35	50.93	52.50	54.08	55.65	57.22	58.80	60.38	61.95
6¼ "	47.78	49.35	50.93	52.50	54.08	55 65	57.22	58.80	60.38	61.95	63.53
6½ "	49.35	50.93	52.50	54.08	55.65	57.22	58.80	60.38	61.95	63.53	65.10
6¾ "	50.93	52.50	54.60	56.18	58.28	59.33	60.90	62.48	64.05	65.63	67.20
7 "	52 50	54.60	56.70	58.28	59.85	61.43	63.00	64.58	66.15	67.73	69.30
7¼ "	54.60	56.70	58.80	60.38	62.48	63.53	65.10	66.68	68.25	69.83	71.40
7½ "	56.70	58.80	60 90	62.48	64.05	65.63	67.20	68.78	70.35	71.93	73.50
7¾ "	58.80	60.90	63.00	64.58	66.15	67.73	69.30	70.88	72.45	74.03	75.60
8 "	60.90	63.00	65.10	66.68	68.25	69.83	71 40	72.98	74.56	76.12	77.70

Trapezoidal Cylinders finished like Fig. 3 or Fig. 5 with planer head bolts and nuts, the True-up to Surface Gauges and the quick setting gauge, wrenches and washers at list. The drive pulleys and planer knives are extra.

Trapezoidal Cylinders finished four sides, each full length continuous from end to end like Fig. 1, deduct 10 per cent from list. Drive pulleys and planer knives are extra

Cylinders with two (2) sides straight (like a square Cylinder) and two sides shear cutting (Trapezoidal) *deduct* 15 per cent from above list. The drive pulleys and planer knives are extra.

Square Cylinders finished four (4) sides and each side continuous from end to end, *deduct* 25 per cent from above list. The drive pulleys and planer knives are extra.

The planer knives are sold at knife maker's list. We make no extra charge for the work of fitting the planer knives to the Cylinder.

Cylinders are always provided with drive pulleys and planer knives and are forwarded by freight complete unless otherwise directed.

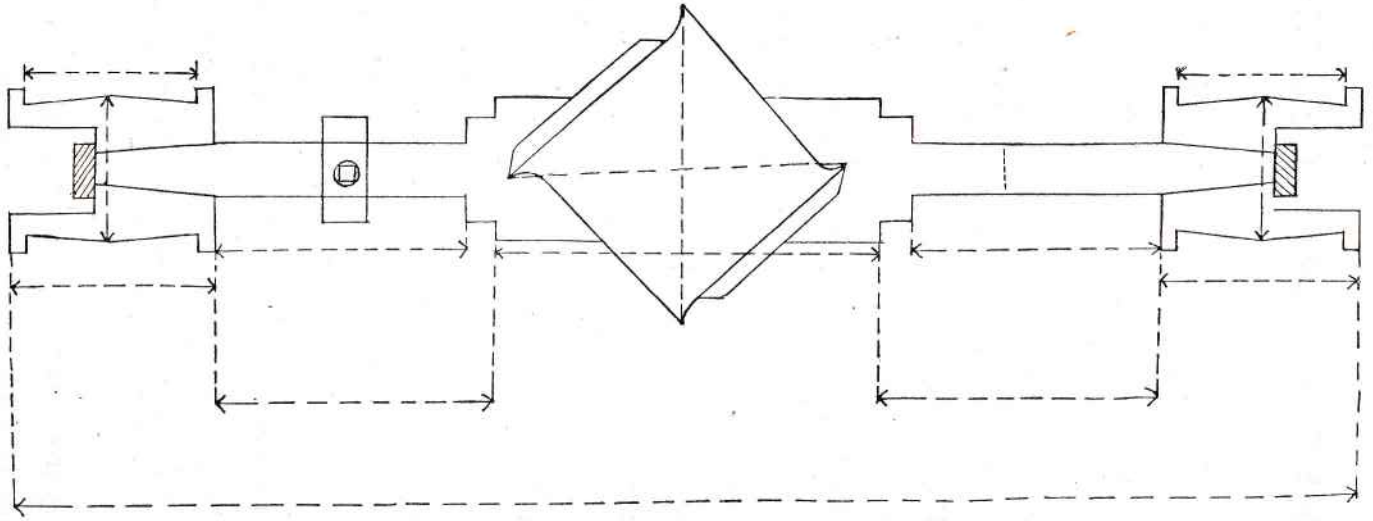


Fig. 5—Is provided with two planer knives of unequal length upon each head side, seated to overlap each other, and inversely arranged so that each overlap is followed with a planer knife of undivided edge.

MEASUREMENT BLANK.

☞ Cut out this page, paste it on cardboard, and fill in with measurements,

To guarantee a perfect fit of the Cylinder in your machine give measurements as called for by the *dotted* lines. Insert the measurements upon their respective lines in the diagram below. As you stand at the feeding-in end of the machine be particular to mark upon the diagram which end is to the right or left, as agreeing with the measurements.



Messrs. Samuel J. Shimer & Sons, Milton, Pa.

Gentlemen:—You may enter our order for one $\frac{\text{upper}}{\text{lower}}$ *Shear Cutting Cylinder according to the measurements given upon the diagram above, which forward via* _____ *as soon as possible.*

Yours truly,

_____

Address _____ *Date* _____

THE SHIMER BLADE'S CYLINDER.

This Cutter Head provides for the use of THIN BLADES OF BEDEE STEEL, which is especially adapted for two or more days of steady work with each grinding. The design of Heads in common service prohibit the use of Bedee steel because of the excessive weight and consequent expense. The thin blades in this Head are reinforced by their special knife Jigs to enable them to withstand the variable strains to which they are subjected during operation. Efficiency, durability and convenience are raised to a higher level, yet the expense for the thin blades does not exceed that of the ordinary machine knife.

The blades are kept in good working shape with less grinding, less trouble in setting and fastening to the Head. Likewise they are less liable to get out of balance, owing to their lighter weight, consequently cause less vibration, resulting in smoother work.

These thin cutting blades are held absolutely secure; they may be easily detached or quickly adjusted so as to present their cutting edges in precisely the proper plane with the strut bolt, clamping devices and gauges.

The knife holders are made of tool steel and in such a way as to form a chip break in close proximity to the knife edge, which when worn or injured may be replaced without discarding the Cutter Head or causing delay or inconvenience.

The Cylinder in your Planer wears gradually away at the lip or chip breaker, and eventually allows chips to form an impact between the

knife and the lip, causing irregular and poor work, as also imposing danger of accident, more or less trouble, delay and expense. The purchase of a new Head is invariably the relief, while in other respects this Head may have yet lasted for months or perhaps years.

The Chip Breaks used are integral with the Clamping Jigs and are renewed when necessary at very nearly the price you now pay for a set of bolts and nuts, thus at little expense the life and usefulness of the Head is perpetuated. These clamps are adjustable longitudinally in the head slots and securely fastened at any position desired.

Our Bedee Steel Blades have no slots to fit over holding bolts. They consist of thin plates of *high duty steel*, light in weight, strong, tough and highly effectual in edge holding properties, and consequently produce the smoothest and best work for the longest period of time.

They are slipped into the slots provided for them by the jigs thus imbedded in tool steel holding devices, front and back, when set in their proper cutting positions. The Strut Bolts in the jigs are turned so as to effect *compression* upon the knives, when these parts, so vital to a good head are most securely held in place.

The convenience of such an effectual combination as this is a special point to be considered when renewing your present cylinder or displacing it with one for longer and better service. To increase the period of time between sharpenings of the knives 100 to 200 per cent. or more, will increase vastly the earning capacity of any machine and figure much to your advantage during the course of a year.

Every woodworker should be ready to take advantage of the convenience offered by this tool, as well as its economy and effectiveness.

☞ **How to order, see page** 141

THE SHIMER BLADE'S CYLINDER

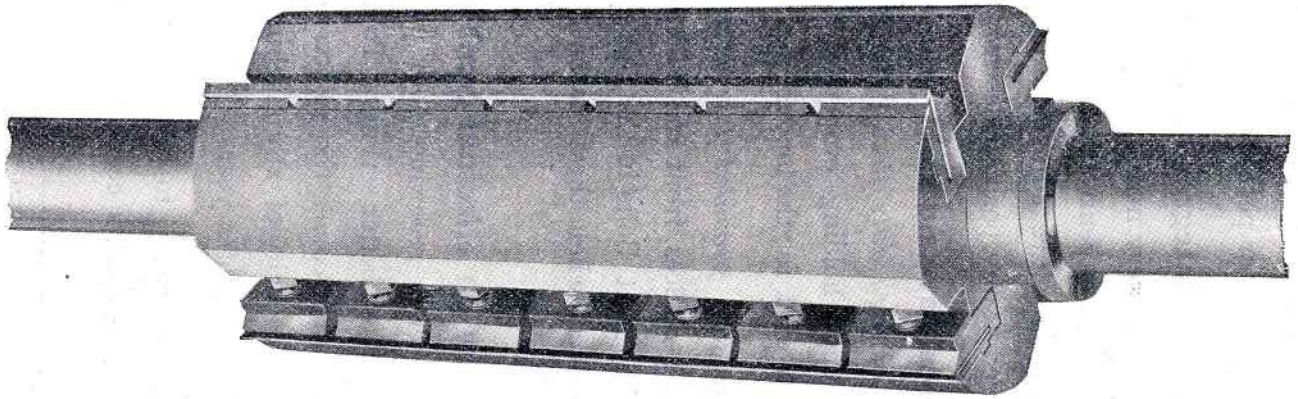


FIG. 600

This is an enlarged view with journal ends cut away, showing the detail of clamps, strut bolts and knives as ready for use.

The Head and Journal ends are in one piece of Steel Forging--Strong--Tough and Reliable.

The Blades are firmly held in place by means of Clamps and Compression Screws.

Blades set accurately by means of a Gauge specially designed for the purpose.

THE SHIMER BLADE'S CYLINDER

No Chip Breaks to wear out. No chips to wedge under knives. Wearing parts are interchangeable and life of Head is perpetuated.

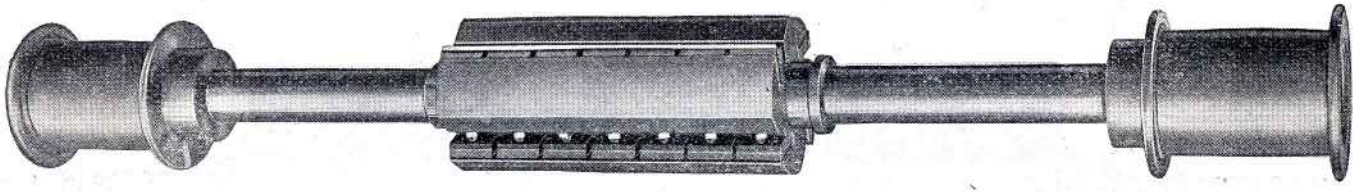


FIG. 601

View of the Shimer Blade's Cylinder complete with Pulleys.

Shimer Blades wear longer, are easier to set and keep in order, and require less grinding.

Not so liable to get out of balance. Do smoother and better work with less trouble and expense than others. There are many good reasons why you should use the Shimer Blade's Cylinder.

THE SHIMER BLADE'S CYLINDER

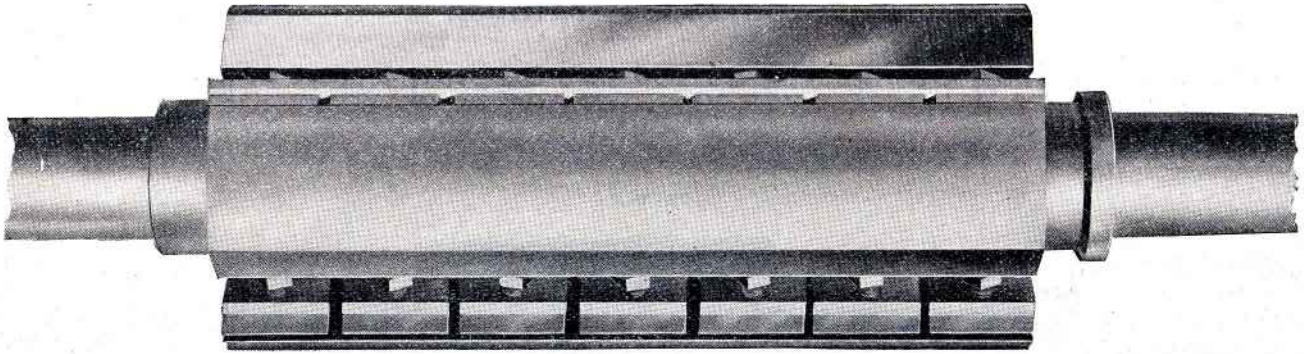


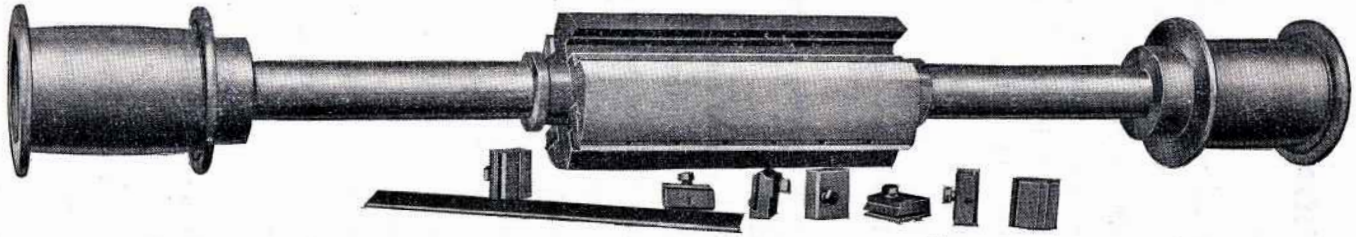
FIG. 602

Enlarged view, showing detail of removable clamps integral with chip breaks and strut bolts which hold most firmly to the strong and well anchored setting in the head groove.

THE STRUT BOLTS AND CLAMPING JIGS ARE INTERCHANGEABLE.

They have contact with the opposite sides of the groove or slot in the head and hold the blades by means of compression exerted by end pressure against the strut bolt.

THE SHIMER BLADE'S CYLINDER.



View showing how readily the Jigs and Blades may be removed from the head, as also the simplicity of the head construction, its symmetrical design and special mechanical features.

The space between the Clamps furnishes a convenient opening to get at Blades to take them out or to adjust them when setting by means of our Gauge which accompanies each Head.

SAMUEL J. SHIMER & SONS,

Sole Manufacturers. **MILTON, PENNSYLVANIA, U. S. A.**

DESCRIPTION.

These Cylinders are made to order to fit any Surfacing, Matching or Moulding machine, and to suit either the upper or lower side of the work, as may be desired.

High Grade Steel Billets furnish the basic material. They are forged under a powerful steam hammer, drawing out, solidifiying and refining the grain and texture of the metal and bringing it into the most natural state in size, form and finish for the machine processes—the engine lathe, the planer, the milling machine, the grinding and polishing machines, through which it must pass in its routine of manufacture. The material in the Head and journals is a good quality of steel, the nature of which is stiff, strong and tough, especially adapted to high rotary speed, and susceptible of heavy duty.

It is made to suit either the upper or lower side, as may be desired by the customer, and fitted with thin steel Blades or Knives.

Its parts consist of the Head portion and journal ends made in one piece, the ends of which are fitted with pulleys, or one pulley, as required for the machine. The Head is grooved longitudinally for the Blades and their corresponding clamping bars and strut bolts with suitable guide groove and shoulder with which to fasten and hold the same securely at any point along these slots wherein they fit.

The journals have a ground finish, insuring smooth running, offering the least resistance to friction or heat. The pulleys are of machinery cast iron of good quality, with tapering central bore to fit a corresponding taper turned upon the end of the journal. We fit them with or without belt flanges,

The Knives are of our Bedee Steel, which holds an edge from one to three days under ordinary conditions and under favorable conditions are known to hold edge for six days before a sharpening of the Blades may be necessary. The sharpening is as readily done as for any regular surfacing knives, and the edge is restored for another period of days as referred to elsewhere. The Knife Clamping Jigs are made of tool steel fitted closely to the grooved slots in the Head, and are securely fastened, but when necessary are easily removed. In these Clamping Jigs certain auxiliary knives can be located just before a surfacing knife, but in such a way as to project beyond the jointing or surfacing edge of the knives to cut its special configuration. The Knives or Blades are entirely without slots or other hindrances to consume time, or worry the operator, and fit into the knife seats between the head groove and the clamping Jigs, when the strut bolts may be drawn up, firmly holding all the parts intact. It is a strong combination, simplifying the regularly used two or four side

planer cylinder, susceptible of greater feeding capacity with a marked degree of increased endurance.

Its present state of manufacture is well developed, and the tool is offered to the trade as the best hard wood surfacing head on the market today.

It is produced in our own well equipped factory located in Central Pennsylvania, near the heart of the natural resources of this great State upon which it depends for its supply of high grade material—iron, steel billets, tool steel,—high grade fuels, etc., figuring no small item in the success of an enterprise such as this. The production is thus going on every hour of the day with a definite, finished output of Cylinders and parts to which especial care and attention is given at all times.

Each Cylinder is first carefully turned on an engine lathe, then tooled on a large iron planer, where the slots are formed, thence to milling machines, grinding machines and various other processes for balancing and fitting of interchangerable parts.

The necessity for a Head of the kind represented here is obvious from the fact that the usual square Head has its many objections, from which manufacturers and users alike have been endeavoring to escape, because of the inconvenience and accident often experienced with knives gapping and yielding to chips that wedge or pack. Such conditions are not liable to take place in these Cylinders because the knives are held by compression bolts—serving the purpose of a wedge in effect and design.

In case a Clamping Jig should wear to allow the first sign of gapping, it may be replaced instantly with a new one or a new set, as necessity may require, when the knives are held in perfect shape as with a new Head. There is comfort in using a Head that is at once safe, practical—with interchangeable parts, easily applied or renewed when worn. It becomes well nigh a luxury as compared with those in ordinary use. In point of quality, we could not make it better. It represents the skill of our best effort put up in the neatest and most workmanlike manner. It furnishes a complete tool to which beading and siding knives may readily be applied, (adding to its usefulness and convenience as a general utility Head) for those who desire to make such use of it.

The usual number of grooves thus provided in each Head is four, though Heads with more or less knives can be arranged according to the cutting diameter of the Head. The back wall of the groove is arranged with a channel to line up the knife holding clamps and guarantees permanency of location diametrically. The forward side of groove is recessed to receive the head of the strut bolts through which the compression is effected upon the knife clamps opposite the grooves or channels, being deepest where the knives are inserted.

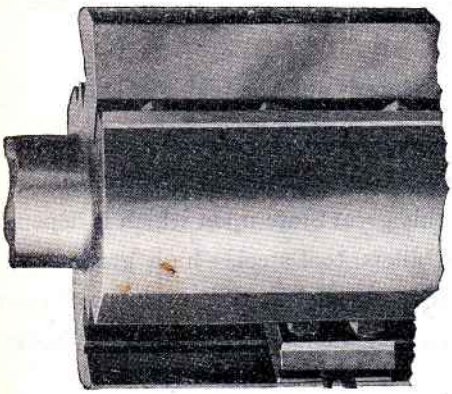


FIG. 604
Head showing a Beading Knife in place.

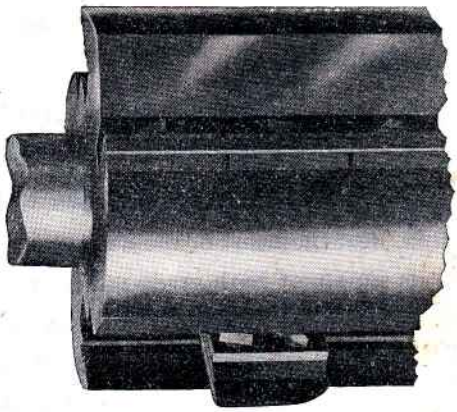


FIG. 605
Head showing a Siding Knife in place.

When the Knife Clamps or Jigs are inserted in the groove of a Head and the knife has been dropped into the slot provided, the strut bolt is turned as though unloosened until the head of bolt bears against the forward side of the groove and thus causes a pressure to be borne against the knife at the opposite side, forming a compress having a direct effect upon the knife and its holder.

The Knife Jigs are made of hard and tough carbon tool steel with tongue on back surface to fit channel in groove of Head. They are made in two parts in such way as to interlock when in position and to form a groove into which the knife fastens—thus providing for knives of any suitable thickness from 5–32″ to ¼.″ The forward part we provide with the chip break, in close proximity to the knife edge, which effectually serves to turn the chip and to reduce the tendency to eat into the woody fibres.

The deep groove for the knife in manner *divides the clamp into flexible parts* until the knife is inserted and the screw in forward portion is turned for the usual clamping action.

In Setting the Knives a gauge is provided which serves to locate the knife edges to keep the Head of a uniform cutting diameter, The knives are re-set by loosening all screws in the Jigs sufficient to permit slipping of the knife outwardly (with the use of our gauge provided for the purpose,) which takes its place in use between the clamps, and the edge is drawn up into the die of the gauge which fixes the edge with it permanent, set quick and accurate.

When the strut bolts are again drawn up the knife will be in perfect holding and ready for best service.

This Cylinder introduces the strut bolts to clamp the knives by end thrust or compression, and has been in successful operation for several years. Beware of imitations and infringements.

How to order, see page 141

Beading, Siding and other Special Knives

THAT ARE USED IN THE SHIMER BLADE'S CYLINDER.



FIG. 606
Showing a reduced view of a Surfacing Knife or Blade.



FIG. 607
Front view of Clamp.



FIG. 607
Rear view of Clamp.

These Clamps are so formed as to arrange a perfect groove to receive the Blade after insertion into the Head. They are made of tool steel and the thickened bevel edge serves as a chip break. These interchangeable Clamps are usually 2″ long and spaced about ⅛″ to 5-16″ apart in the groove,

Price, each, net. . . . . . .90 *cents.*

Clamps intended for holding Beading Knives, Siding Knives, etc., are shown herewith. (See also Figs. 604 and 605 on opposite page.) They are in every respect like the usual knife holding clamp shown above except in width of slot, which is 3-16″ and intended to carry a wider or thicker knife. The knife or beader projecting further from the edge of the holder or chip break must necessarily be stronger to overcome the greater strains.

Price, each, ...95 *cents.*



FIG. 607
Edge view of Clamps for Beading and Siding Knives.



FIG. 607
Edge view of Clamps for Surfacing Knife or Blade.



FIG. 608
Siding Knife.



FIG. 609
Beading Knife,

After the Knives or Blades are given the proper form for Siding, Beading or any special work, they are placed in the slot of the holder adapted to their use and the bolts are turned until their heads bear against the solid shoulder when the clamping effect begins and the knives, as also the holders, are rigidly held in place.



Price List of the Shimer Blade's Cylinder.

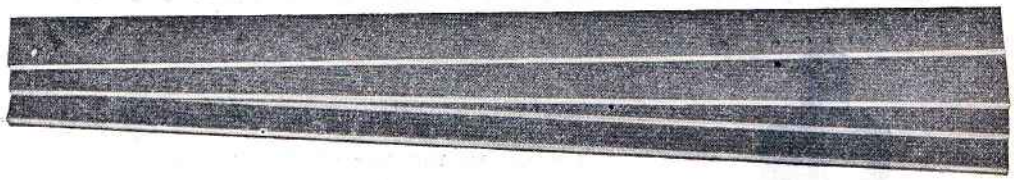
☞In ordering give detailed measurements according to instructions on page 141 and specify whether drive pulleys are to be included with the Cylinder. Drive Pulleys are extra, $5.25 each.

All Blades are furnished of Bedee Steel, to be ground for sharpening, unless otherwise specified.

Surface Cut Diam.	*These Prices are Net* — LENGTH OF HEAD. — *The Blades are Extra.*																							
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
5 in	56 10	57 75	59 40	61 05	62 70	64 35	66 00	67 35	69 30	70 95	72 60	74 25	75 90	77 55	79 20	80 85	82 50	84 15	85 80	87 45	89 10	90 75	92 40
5¼ "	57 75	59 40	61 05	62 70	64 35	66 00	67 35	69 30	70 95	72 60	74 25	75 90	77 55	79 20	80 85	82 50	84 15	85 80	87 45	89 10	90 75	92 40	94 05
5½ "	59 40	61 05	62 70	64 35	66 00	67 35	69 30	72 05	72 60	74 25	75 90	77 55	79 20	80 85	82 50	84 15	85 80	87 45	89 10	90 75	92 40	94 05	95 70
5¾ "	61 05	62 70	64 35	66 00	67 35	69 30	72 05	72 60	74 25	75 90	77 55	79 20	80 85	82 50	84 15	85 80	87 45	89 10	90 75	92 40	94 05	95 70	97 35
6 "	62 70	64 35	66 00	67 35	69 30	70 95	72 60	74 25	75 90	77 55	79 20	80 85	83 05	84 15	85 80	87 45	89 10	90 75	92 40	94 05	95 70	97 35	99 00
6¼ "	64 35	66 00	67 35	69 30	70 95	72 60	74 25	75 90	77 55	79 20	80 85	82 50	84 15	85 80	87 45	89 10	90 75	92 40	94 05	95 70	97 35	99 00	100 65
6½ "	66 00	67 35	69 30	70 95	72 60	74 25	75 90	77 55	79 20	80 85	82 50	84 15	85 80	87 45	89 10	90 75	92 95	94 05	95 70	97 35	99 00	100 65	102 30
6¾ "	68 20	69 85	71 50	73 15	74 80	76 45	78 10	79 75	81 40	83 05	84 70	86 35	88 00	89 65	91 30	92 95	94 60	96 25	97 90	99 55	101 20	102 85	104 50
7 "	70 40	72 05	73 70	75 35	77 00	78 65	80 30	81 95	83 60	85 25	86 90	88 55	90 20	91 85	93 50	95 15	96 80	98 45	100 10	101 75	103 40	105 05	106 15
7¼ "	72 60	74 25	75 90	77 55	79 20	80 85	82 50	84 15	85 80	87 45	89 10	90 75	92 40	94 05	95 70	97 35	99 00	100 65	102 30	103 95	105 60	107 25	108 90
7½ "	74 80	76 45	78 10	79 75	81 40	83 05	84 70	86 35	88 00	89 65	91 30	92 95	94 60	96 25	97 90	99 55	101 20	102 85	104 50	106 15	107 80	109 45	111 10
7¾ "	77 00	78 65	80 30	81 95	83 60	85 25	86 90	88 55	90 20	91 85	93 50	95 15	96 80	98 45	100 10	101 75	103 40	105 05	106 70	108 35	110 00	111 65	113 30

Net Price of Shimer Bedee Steel Blades.

Length.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Price.	1 10	1 21	1 32	1 45	1 58	1 71	1 84	1 98	2 11	2 24	2 37	2 50	2 64	2 77	2 90	3 03	3 16	3 30	3 43	3 56	3 69	3 82	3 96



Hints on the Use of Bedee Steel.

A natural inquiry of the reader will be, what is Bedee Steel? We answer that it is the finest and best high speed steel produced, and like all high speed steels, you must understand its nature in order to obtain from it the maximum of service.

A few hints with regard to its use will be in order. Do not attempt to file it as it is harder than any file. With a good oil stone the edge may be renewed temporarily, but for accurate setting of the knives they should be ground with same bevel and in uniform width.

The sharpening of Bedee Blades and Knives requires some patience on the part of those unfamiliar. They grind slowly, and on that account, some users in an endeavor to hasten the work, press harder against the emery wheel than usual, thus heating and causing uneven expansion of the hardened metal which tends towards ruining it. A little care in the grinding and sharpening process will not only pay, but will save trouble and vexation in many ways. To be forewarned is to be forearmed.

It should be remembered that High Speed Steel of any make is a very sensitive material to deal with, and for that reason we are particular in giving special instructions regarding its peculiar nature that should be observed in sharpening it.

In no instance should a piece of High Speed Steel be placed in cold water when heated in grinding. Good results will always be obtained by the intelligent use of our Bedee Steel, but its nature is so sensitive to the abrupt changes of heat and cold that we feel it a duty to mention the matter here.

BLADES' JOINTER HEADS

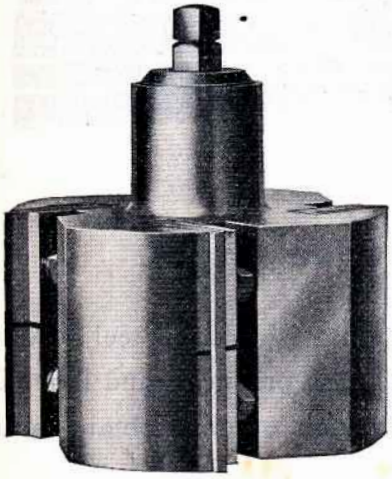


FIG. 611
4 inch Jointer Head.

For side spindles of Matcher or Moulder, as applied to the use of The Shimer Blades and clamps.

Their neat appearance will at once appeal to the practical man and the strength of the parts will signify the firm grip that is exercised over the Blades. Have a set?

NO FITTING of Knife slots to the bolts--we relegate that as a necessity of the past.



FIG. 612
6 inch Jointer Head.

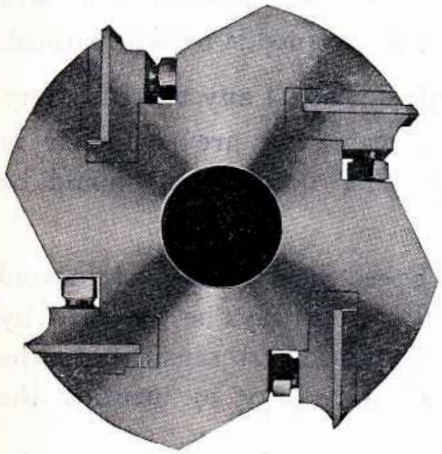


FIG. 613
Bottom View.

Net Price List.

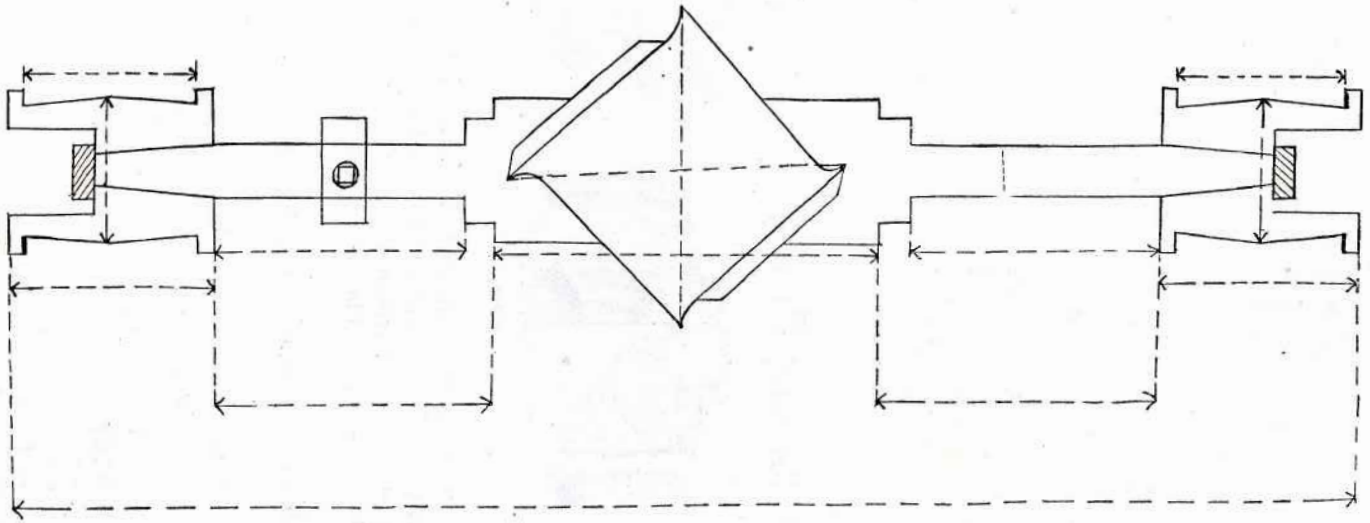
Blades' Jointer Head 4 sides slotted, with clamps and set screws, (no knives).

4 inches in length, each	$13.20
*6 " " " *	16.50
4 Blades 4 inches long, each	3.16
*4 " 6 " " " *	3.96

How to Order.

☞Cut out this page, and fill in with measurements.

To guarantee perfect fitting of the Cylinder in your machine give measurements as called for by the *dotted* lines. Insert the measurements upon their respective lines in the diagram below. As you stand at the feeding-in end of the machine be particular to mark upon the diagram which end is to the right or left, as agreeing with the measurements. Upper or lower Cylinder? (Cross one of these words out.)



Messrs. Samuel J. Shimer & Sous, Milton, Pa.

Gentlemen;—You may enter our order for one ~~*upper*~~ / ~~*lower*~~ *Shimer Blades Cylinder according to the measurements given upon the diagram above, which forward via*_____ *as soon as possible.*

Yours truly,

_____

*Address*_____ *Date*_____

The Shimer Beading Attachment.

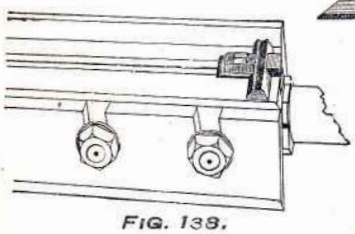


FIG. 138.

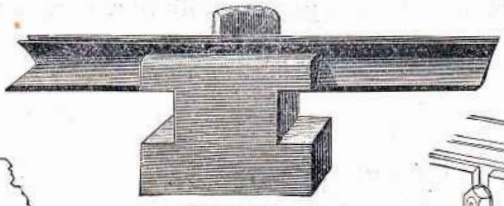


FIG. 137.

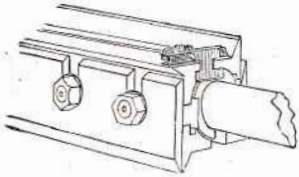


FIG. 139.

This Beading Attachment can be applied to any four-sided Planer Head. Two of the knives are removed, as represented in the accompanying cuts. The Beading Tools are made of steel and formed to fit in the slots and take their place on the Head on opposite sides.

One bolt fastens the Cutter rigidly to the Head, anywhere along the line of the slot. The Cutter is taken out and filed so as to leave a lip on the lower side below the cutting edge, which serves as a chip breaker.

It is quickly and easily applied and just the thing for every Planing Mill.

Price, per set (2), complete with Bits..... $4.20 *net*
" *New Bits, each*..... 1.05 "

Special Glue Jointing Heads.

Patent Pending.

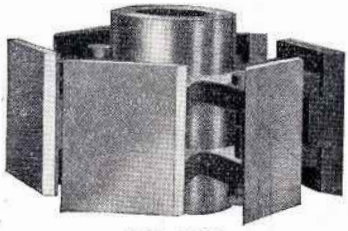
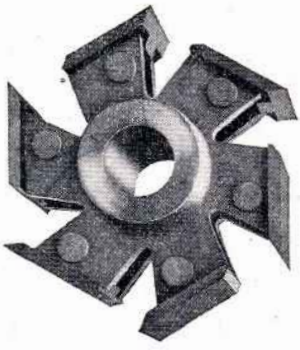


FIG. 620



These special heads are designed for making plain glue joints. Each wing is separated so as to form flexible jaws and a bolt extends through them by means of which the jaws may be adjusted for the purpose of clamping or releasing cutters that may be inserted between their free ends. The ends of the jaws being previously formed for the purpose.

This Head cuts freely in any lumber and applies readily to any automatic glue jointing machine.

These are Our Net Prices.

Price, each head 4 wings without bits	$ 9.00
" " " 6 " " "	10.00
Net prices for bits, each:	
Bits for plain glue joint ¾ to 1¼" wide,	1.26
" " " " " 1¼ *to* 1¾ "	1.45
" " " " " 1¾ *to* 2 "	1.62
" " " " " 2 *to* 2¼ "	1.82
" " " " " 2¼ *to* 2½ "	2.05

The Shimer Cutter Head

TO MAKE BLIND RODS.

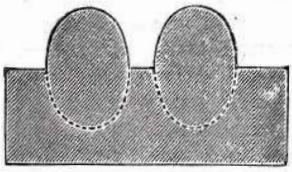


FIG. 75

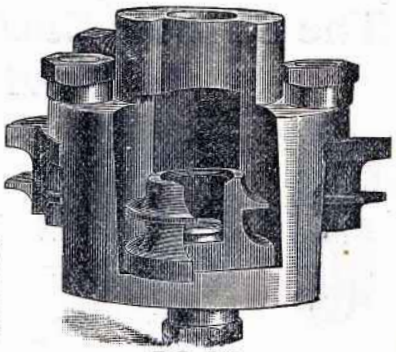


FIG. 76

Fig. 76 represents a Head for making two oval rods out of one piece 1¼ x ¾ or larger. Fig. 75 shows two rods finished one side—the other side in outline. The Bits hold to the special shape and work with a clearance cut, producing a rod of uniform size and shape until worn out.

These are Our Net Prices.

One Blind Rod Head, Fig. 76, without the Bits	$9.45
" *set (4) Bits (two inches wide or less)*	8.40
Blind Rod Head complete	17.85

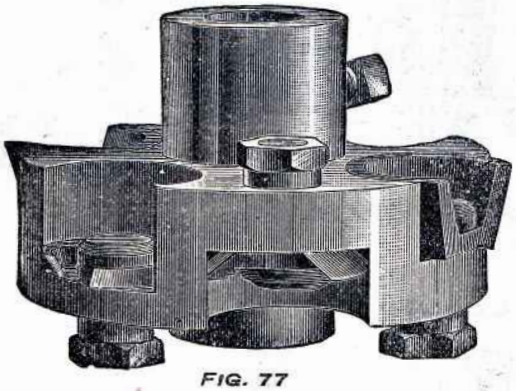


FIG. 77

The Shimer Cutter Head for Crozing.

Fig. 77 represents a Crozing Head for coopers' use, to prepare barrel and keg staves to hold the head. A cut made across the grain of the wood is difficult to make with the common knife. These Bits have a backward shear cut and will always cut your standard shape.

These are Our Net Prices.

One Crozing Head without the Bits		$10.50
" *set (4) Bits to cut the V.*	*Each $1.32*	5.28
" " *(2)* " *to bevel edge.*	" *1.84*	3.68
Crozing Head, Fig. 77 complete		19.46

The Shimer Cutter Head To make Flush Moulding.

Fig. 78 represents our Improved Flush Moulding Head with three Bits in line of cut. The Bits have perfect clearance back of their cutting edges.

We make the Bits to cut any pattern you may desire.

These are Our Net Prices.

Fig. 78 complete without the Bits	$8.40
One set (3) Bits	6.30
Total net price for Head complete	14.70

For patterns of Flush Door Mouldings see page 162

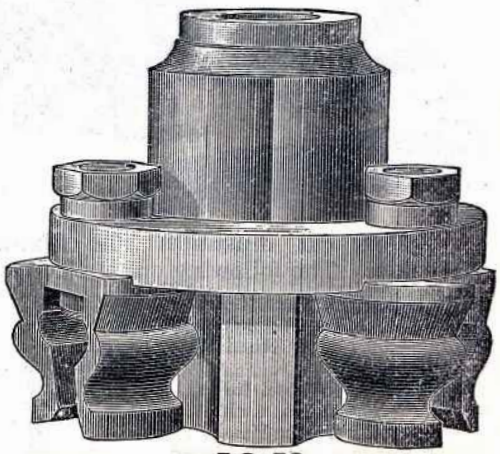


FIG. 78

The Shimer Cutter Heads with four Bits in line of cut
To Bead or round the edge on Slats.

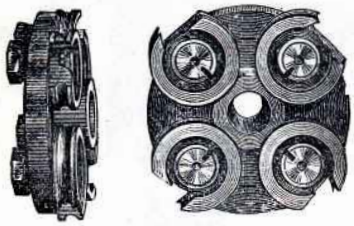


FIG. 65

These Heads are fitted for Short Mandrels with nut on end, such as are used on Beader Attachments. They are also made to suit any mandrel, *long or short*, with Bits to cut any bead of average width that can be properly classed under this head.

A study of the cut will show the fitness of the Circular Bit, and the advantages it has over all others for the work to which it is here applied.

THESE ARE OUR NET PRICES.

	EACH.	THE SET
One set (2) Beader Heads, with 4 bit seats, without the Bits	$5.25	$10.50
" (8) " *Bits*	1.31	10.48
" (2) " *Heads complete*	10.49	20.98

The Shimer Cutter Heads to make Blind Slats.

Fig. 70 represents a Head with Bits to cut Blind Slats, set for clearance. The shape of the Slat is turned into the outer surface of each Bit and the edge is formed at a shearing angle to cut in alternately opposite directions across the Slat, thus producing a shave cut.

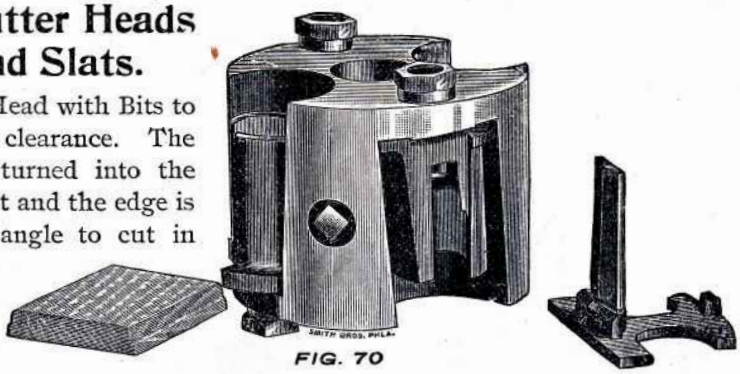
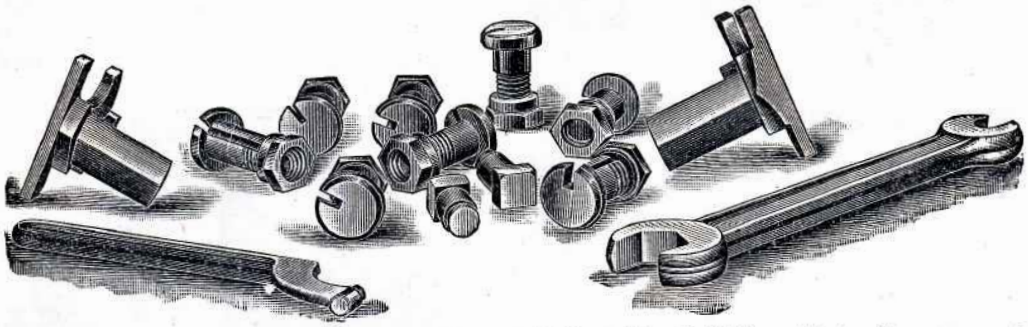


FIG. 70

THESE ARE OUR NET PRICES.

One Blind Slat Head, Fig. 70, without the Bits		$9.45
" *set (4) Bits for cutting Slat 1¼ wide*	*Each* $2.10	
" " (4) " " " " 2" "	" 2.52	
One Blind Slat Head complete to cut Slat 1¼ inch wide		17.85



This cut illustrates The Shimer Cutter Head Bolts, Nuts Gauges and Wrenches. The following are our net prices :

Three-eight inch Tee Wrench, malleable	$.26
One-half inch Tee Wrench malleable	.26
Double End Cutter Head Wrench, steel forged	.53
Spanner Wrench, steel forged	.26
Cutter Head Gauges, each	.78
Top Screw for Cutter Head	.11
Milled Nut, not Case Hardened	.06
Set Screw Case Hardened	$.06
Cutter Head Bolt, slotted	.11
Cutter Head Nut, Case Hardened	.07
One set of 8 Washers $\frac{1}{64}$ thick for under Bits (brass)	.26
One set of 8 Washers $\frac{1}{32}$ thick for under Bits (brass)	.26

The Shimer Cutter Head in the Sash and Door Department.

THERE is not a place in the planing mill in which more time can be lost than in the department set aside for the manufacture of Sashes and Doors, and yet there is no department in which better returns can be realized when under judicious and economical management.

In the handling of many small pieces, each having its proper place in the frame work, it is necessary that they shall be formed with precision, so that in the process of assembling, the frame will go together squarely and each piece will be a perfect fit.

The careful setting of the machinery forms no small part of the process, but by far the greatest concern is placed in the careful shaping of the Knives and Bits, so that the coping may always fit the sticking, no matter which end of the mullion may be up.

You may have a careful man upon whom you depend for the shaping of the knives, to which work he may give much of his time and attention. The time of this man is an object of consideration. The increased output of your machines is of greater consideration.

The time of fitting can be saved entirely when you use the Shimer Cutter Heads, as the process of sharpening is reduced to plain work. The fitting of the finished work takes care of itself. The man turns his attention to the more important management.

Shimer Cutter Heads carry in the contour of the Bits the exact shape to be given the work. They never change. They are filed to sharpen and are set accurately by means of a gauge. The coping fits the sticking continually.

Each Shimer Bit gives three to five inches of tool cutting edge for actual service.

A trial of the tools will demonstrate their economy. Let us serve you.

Address

SAMUEL J. SHIMER & SONS,

MILTON, PENNSYLVANIA.

The Shimer Cutter Head for Doors

WITH EXPANSION.

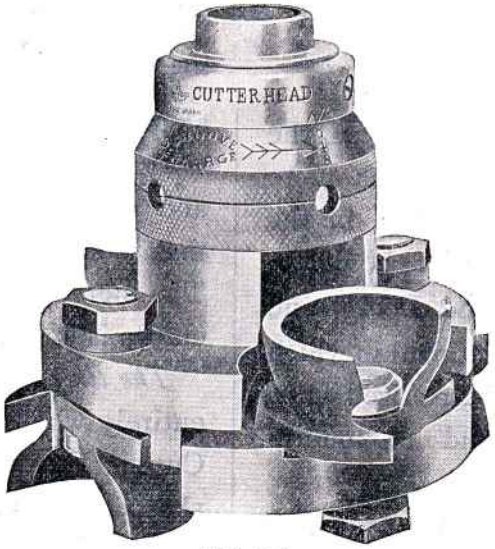


FIG. 84

Fig. 84 represents The Shimer Door Head made of steel forgings after our Patent interlocking of sections and latest expansion devices, with automatic stops and figures that register wide or narrow groove in sight.

These are Our Net Prices.

Expansion Door Head (Fig. 84) without Bits		$10.76
One set of 4 Bits to make 1 to 1¼ in. Doors	$5.88	*Each* 1.47
" " " 4 " " " *1⅜ to 1½ in.* "	6.72	" 1.68
" " " 4 " " " *1¾ to 2 in.* "	7.56	" 1.89

The Bit Seats are alternately inclined (to clear the Bit that cuts the groove) and outwardly inclined to give clearance to the overcut portion of the bits that make the mould. *This all around clearance cut* is part of the very important make ready that goes with The Shimer Cutter Heads exclusively, and guarantees a uniform wear on the Bits. The cutting edges are taken at shearing angles across each Bit and set into cutting position by the use of a gauge to make a shearing cut that will not chip the work at the fastest feed. Select your pattern by number from the pattern illustrations in this catalogue. If you want a special pattern of your own, send with your order a cross section (of your door pattern) one or two inches long for a model to copy after and we will mould the shape into the outer face of each Bit, guaranteeing a uniform pattern for your Doors as long as the Bits last. Moulded pieces of Doors and Coping left over at any time will always work in.

The Expansion changes the width of the groove only, and is usually limited to 3-16 of an inch. A set of Bits to make Doors, cutting the groove ¼ inch wide by ½ inch deep, can be expanded to cut a groove 7-16 wide by ½ inch deep. The mould

The Shimer Cutter Head for Doors

IN SOLID SECTION, AND CONICAL DUPLEX BIT SEATS.

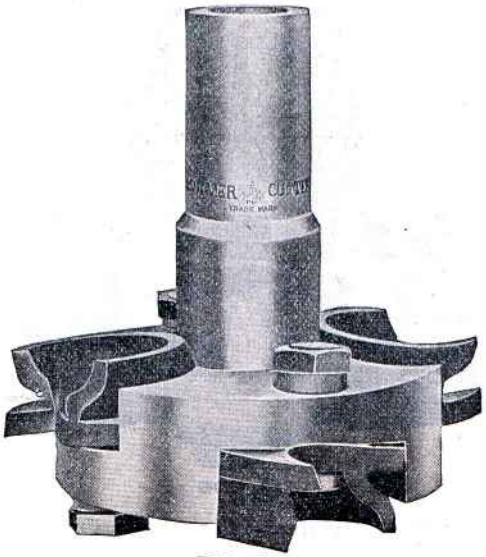


FIG. 82

Fig. 82 represents the Door Head in one solid section, to be used with washers under the Bits to widen the groove.

These are Our Net Prices.

Solid Flange Door Head (Fig. 82) without Bits, net		$8.66
One set of 4 Bits to make 1 to 1¼ in. Door	$5.88	*Each* 1.47
" " " 4 " " " 1⅜ *to* 1½ *in.* "	6.72	" 1.68
" " " 4 " " " 1¾ *to* 2 *in.* "	7.56	" 1.89

that goes with a set of Bits cutting the groove ¼ inch wide by ½ inch deep will have passed its limit of neatness when the Expansion of the groove materially exceeds 3-16 of an inch. Much depends, however, upon the style of the pattern selected.

When making Doors thicker than 1¼ inch, the pattern (usually selected) is heavier and deeper in the mould and the narrowest groove is ⅜ inch wide by ½ inch deep, and can be changed to cut ½ inch wide more or less by ½ inch deep. The pattern selected to make Doors is not limited in its usefulness by the expansion of the groove alone, but oftener by the limit of neatness for the shape of the mould. A set of Circular Bits will cover as great a range of sizes as any other class of Door Bits in use.

When you order give the measure of the smallest groove you want to make in width, and the largest width also, that we may know what the Head expansion limit is to be. If you prefer to cut 17-32 deep, make special mention of it.

If the tenon on your doors is thicker than the groove is wide, tell us *when you order Cope Heads.*

The Shimer Cutter Head for Sash.



FIG. 206

Fig. 206 represents The Shimer Cutter Head in two sections with automatic stops and figures that regulate and limit the expansion by turning the Spanner Nut.
You do not put washers under the Bits.

This Head has all of our latest improvements—the bolt locking device for holding the Bits between two fixed surfaces—the head seats concaved about their bolt centres to more truly center and secure the Bits—the special incline of the head seats to give greater protection to the edge of the Bit and a better shear cut—the Expansion, by which the head sections change the overlap of Bits to cut a wide or narrow face.

The choice of pattern and the design of the Bits limits the adjustment.

The plan of using washers under the Bits to widen the cut is faulty in that you raise the Bit from off its seat after the incline of the bolt, and you set the Bit from the bolt center to the incline face of the gauge, which registers the true position for the Bit only when the Bit rests upon its seat. You don't have to put washers under the Bits any more.

These are Our Net Prices.

One Sash Head (Fig. 206) with Expansion, without the Bits, net			$9.98
One set	(2) Moulded Bits to make 1 to 1¼ Sash	Each $1.73	5.78
"	(2) Rabbeting Bits to make 1 to 1¼ Sash	" 1.16	
"	(2) Moulded Bits to make 1⅜ to 1½ Sash	" 1.84	6.00
"	(2) Rabbeting Bits to make 1⅜ to 1½ Sash	" 1.16	
"	(2) Moulded Bits to make 1¾ to 2 inch Sash	" 1.94	6.20
"	(2) Rabbeting Bits to make 1¾ to 2 inch Sash	" 1.16	
"	(2) Sash Cope Bits to cope above sizes	" 1.16	2.32

The Shimer Cutter Head for Sash.



FIG. 86

Fig. 86 represents The Shimer Cutter Head in one solid section. Washers are used under the Bits to change for thicker Sash.

This is our Fig. 86 Sash Head made in solid section, the Bits of which are held upon seats that are concaved and incline after our latest improvement as fully described on page 7 Fig. 4. The tool is an exceptionally keen cutting one and will please the user because of its labor saving feature. It is made very accurate in all its parts and will be found to be

A MOST RELIABLE AND DURABLE TOOL.

The Bit contours are moulded to carry the shape of your pattern after a line crossing the Bit diagonally, so that the cut produced is a draw cut which makes the best finish and admits of a high rate of feed.

The "make ready" that goes with every one of these Heads is a guarantee that the work you may finish today will match with the work you may have done with the same Bits a year ago. Pieces left over will always work in.

Sash Bits admit of being expanded, by either the washer, or automatic stop adjustment, to a limit of about 3-16 of an inch or more if wanted. The Cope Head will cope for any change of thickness so long as the shape of the mould is the same.

These are Our Net Prices.

One Sash Head (Fig. 86) solid section, without the Bits, net			$7.78
One set (2) *Moulded Bits to make 1 to 1¼ Sash*	*Each*	$1.73	5.78
" (2) *Rabbeting Bits to make 1 to 1¼ Sash*	"	1.16	
" (2) *Moulded Bits to make 1⅜ to 1½ Sash*	"	1.84	6.00
" (2) *Rabbeting Bits to make 1⅜ to 1½ Sash*	"	1.16	
" (2) *Moulded Bits to make 1¾ to 2 inch Sash*	"	1.94	6.20
" (2) *Rabbeting Bits to make 1¾ to 2 inch Sash*	"	1.16	
" (2) *Sash Cope Bits to cope above sizes*	"	1.16	2.32

The Shimer Coping Head for Tenoners

TO COPE FOR DOOR AND SASH MULLIONS.

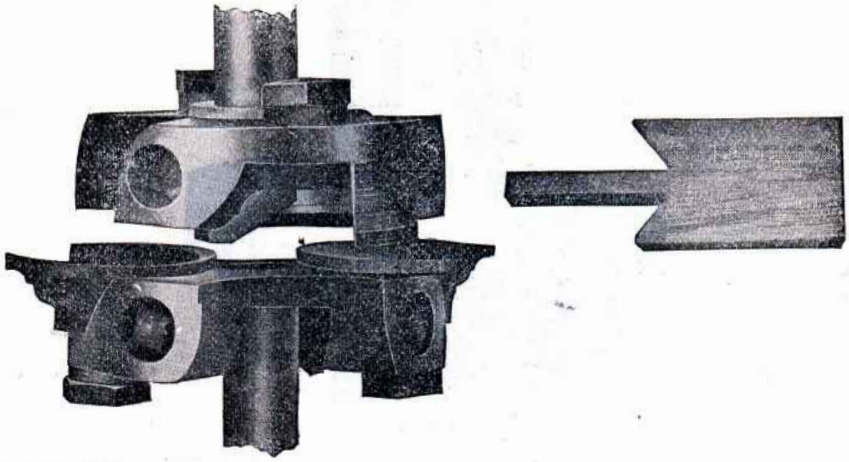


FIG. 83

Figure 83 represents a pair of Door Cope Heads as furnished with Bits—as they appear on the spindles in the Tenoner. The Heads are made to fasten with two set screws, and by loosening them the Head is readily lifted off, as in sharpening, without in any way interfering with the machine adjustments. The Bits carry exact pattern, therefore cut uniformly and by filing the Bits to gauge they are easily cared for. The lower Door Cope Head will also receive Bits for coping Sash.

These are Our Net Prices.

One set of 2 Door Cope Heads, Fig. 83, without Bits	$10.40	*Each* $5.20
One set of 4 Door Cope Bits to cope 1 to 1¼ Doors	4.64	" 1.16
" 4 " " " " *1⅜ to 1½* "	4.64	" 1.16
" 4 " " " " *1¾ to 2* "	5.04	" 1.26

Fig. 87 represents the Sash Cope Head complete.

Price, without Bits, each, net, . . . $5.20
" *2 Cope Bits @ $1.16.* 2.32



FIG. 87

Fig. 87 represents a Sash Cope Head as made to work upon a Sash Tenoner or the lower spindle of the Door Tenoner.

The Door Cope Head may be removed and this one arranged interchangeably on the spindle. The Tenoner, therefore, may be changed from Door to Sash work in a minimum of time.

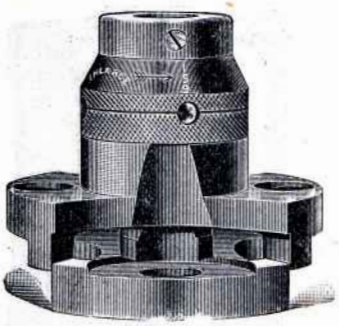


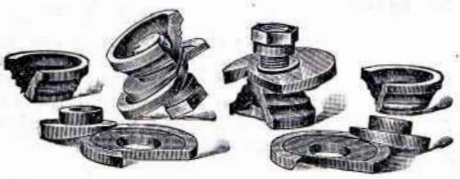
FIG. 450

Net Price, for this Head with Expasion, without Bits, $11.55.

Circular Cutter Head Combination

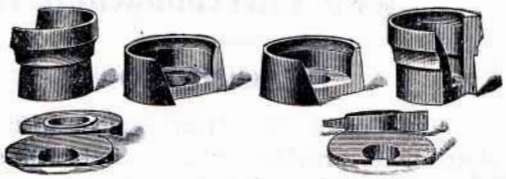
To make Doors or Sash with Interchangeable Circular Bits.

This tool (Fig. 450) represents a variety of the Shimer Cutter Heads which differs from the standard tool and is constructed after the plan of the "Boss on Washer" combination represented on page 48 of this catalogue. It is a combination of cutters that requires a little more care to keep up to exact pattern than the standard tool, and for those disposed to be irregular or careless we recommend the solid Bits as used on our regular tools as preferable. With a little care, however, you can set these cutters all right and they will do the best of work. For deep mouldings they are indispensable.



These are the Door Bits. One bevel washer goes between every Grooving and Moulding Bit to get the clearance cut for Doors.

Net price for this set of 4 Grooving Bits 84c. each—4 Moulding Bits, $1.47 ea.—4 bevel washers 53c. each and 4 bolts with nuts 21c. each—total $12.20.*



These are the Sash Bits. One bevel washer goes under each Bit to get the clearance cut for Sash.

Net price for this set of 2 Moulded Sash Bits $1.84 each—2 Rabbeting Bits $1.10 each—4 bevel washers 53c. each and 4 bolts with nuts 21c. each—total $8.74.

* Moulding Bits cutting wider than ¾ of an inch, and deeper than ½ inch, at special prices.



No. 78.



No. 77.

CHECK RAILS.

The accompanying pattern represents the top Check Rail for Sash. The cut is a plain one and is often done with the Shimer Sash Head fitted with special Bits.

Net price for Bits only (4) $4.64
The Head only (same as Fig. 86) 7.88

The bottom Check Rail is shown by cross section (pattern 77) representing the shape of mould to agree with the general form of work.

They apply to the Sash Head with groove Bits making overlap cut for clearance which, for a uniform and standard outline of pattern will please the most particular mechanic.

Price, 2 Moulded Bits, each $1.95
" *2 Jointing and Grooving Bits, each.* 1.37
" *Solid flange Sash Head, Fig. 86, net* 7.88

The Shimer Cutter Head Combination

To make Doors and Sash

with Interchangeable Milled Bits.

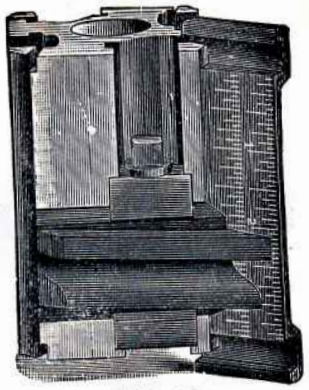


FIG. 89

Fig. 89 represents the Shimer Cutter Head with gauge in position having graduated scale to set the cutters by for any width of groove and the bit seating clamps to grip either Door Bits or Sash Bits.

DESCRIPTION.

The Combination Head is made with 4 sides slotted and provided with adjustable Bit seating clamps (see Fig. 95) to hold the Bits which are set by the scale gauge (Figs. 92 and 89) resting in guide ways in the end of the Cutter Head which sets the gauge a fixture at an angle agreeing with the inside bevel of the Bit. Against the face of this gauge the cutting edge of each Bit is carried along the Tee slot in the Cutter Head until the rule marks on the gauge indicates the place at which it is to be fastened to cut the pattern. The bolt in the clamp is then drawn up, and the Bit is seated to cut as wanted. The Bits are moulded at an angle to their clamping base illustrated by Fig. 90. This carries side clearance in the cut and guarantees a uni- from wear and permanent shape to the mould.



FIG. 90.

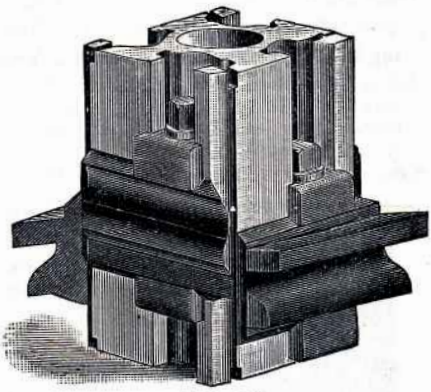


FIG. 91

Fig. 91 represents the Combination as a Door Head.

These Bits when at Work

Overlap, so that the Groove is made ⅜ of an inch wide, or any width that may be desired. That

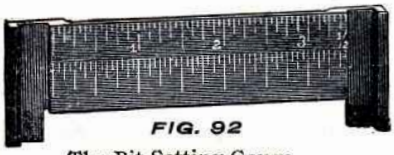


FIG. 92

The Bit Setting Gauge.



FIG. 88

Fig. 88 represents the Combination as a Sash Head.

Bottom View of Head.

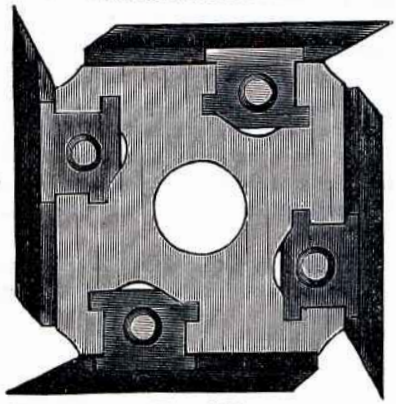


FIG. 93.

overlap is not necessarily central, but can be at any point and we therefore divide the cut upon the *clearance line*, giving the Bits a set for clearance and it is this feature that makes this Head with its combinations applicable to every class of work.

One Head will therefore, take Bits to make *Door, Sash*, and various other mouldings, and these BITS ARE QUICKLY and ACCURATELY changed and adjusted by the use of a gauge. **The Strength of the Head Admits of no Comparison.** It is positively, the strongest combination for a slotted Head ever brought out. The slot is along the edge of the side nearest the cut.

Fig. 93 illustrates the Combination Head in cross section showing how the clamps hold up the Bits and seat them securely to the Head. One turn of the bolt will loosen the clamp and the Bits can be taken out and replaced with another kind at short notice.

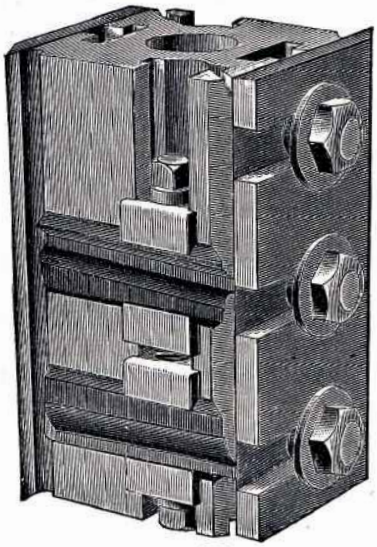


FIG. 98



FIG. 95

The Bit Seating Clamps.



FIG. 99

Fig. 98 illustrates a Special Cutter Head with two sides slotted for regular planer knives and the other two sides are slotted for the bit seating clamps suitable for the arrangement of sectional Moulding Bits, located as shown in Fig. 98, to finish a mould like that illustrated by Fig. 99. The Moulded Bits are sharpened from the under side and hold their shape until worn out.

These are Our Net Prices.

For Square Combination Heads { *For making Doors and Sash, using the Straight milled knife, interchangeably.*

One Combination Head, Fig. 91, without the Bits. $8.93
(With Bolts, Bit Clamps, Gauge and Wrench.)

The Bits for Making Doors.

One set	(4)	Door Bits to make	1 to 1¼	Doors	Each	$1.21	The set	$4.84
"	(4)	" " "	1⅜ to 1½	"	"	1.31	"	5.24
"	(4)	" " "	1¾ to 2	"	"	1.58	"	6.32

The Bits for Making Sash.

One set	(2)	Sash Moulded Bits to make 1 to 1¼	Sash . .	Each	$1.21	" $4.00
"	(2)	" Rabbeting Bits to make 1 to 1¼	Sash. .	"	.79	
"	(2)	" Moulded Bits to make 1⅜ to 1½	" .	"	1.37	" 4.52
"	(2)	" Rabbeting Bits to make 1⅜ to 1½	" .	"	.89	
"	(2)	" Moulding Bits to make 1¾ to 2″	" .	"	1.52	" 5.04
"	(2)	" Rabbeting Bits to make 1¾ to 2″	" .	"	1.00	

Any one set of the above Bits will work interchangeably upon these Combination Heads.

How to Order Door and Sash Heads.

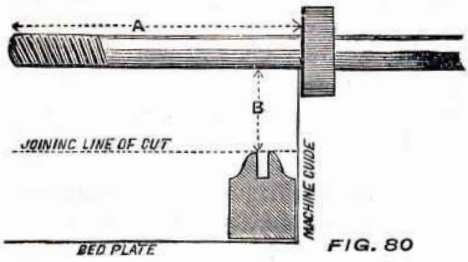


FIG. 80

Fig. 80 represents a diagram illustrating in cross section *the bed plate* and *the guide plate* or side of the machine to the right as you stand at the infeed end of the machine. In the corner is represented a piece of an O. G. Door in cross section. The first dotted line above it marks the surface cut of the Cutter Head and above this the mandrel or spindle that takes the Cutter Head.

To give an Order for any Cutter Head feed a strip into the machine. Stop, take the Cutter Head off and measure from the surface cut line to the under face of the mandrel, line B.....inches.

Measure the length of the mandrel, line A.....inches.

How long shall we make the Cutter Head you order?.....inches.

Is there a nut on the end of the mandrel.....or must the Cutter Head have a set screw?.....

File a wire as shown by circular diagram to fit the hole in the Cutter Head you are using (if a good fit).....inches. If not a good fit, caliper the spindle and file wire to fit.....inches.

We take twice the length of line B and add the length of the wire to find the surface cut diameter for the Cutter Head.....inches.

Select your pattern by number from the Door and Sash illustrations in this catalogue. What number have you selected? No.....

If they do not suit you, send us blue print or a pattern block of wood and we will shape the Bits to cut it.....☞Special.

Give the maker's name by which you know the machine .....

Do you want the Cutter Head cut out of the solid steel forgings?.....

Do you want the Cutter Head made of bronze castings?.....

Do you want the Cutter Head made with The Shimer Cutter Head Expansion, Fig. 84?.....

Do you want the Cutter Head made solid like Fig. 82?.....

Do you want the Shimer Cutter Head Combination to work either Door or Sash with Circular Bits like Fig. 450.

Do you want the Shimer Cutter Head Combination to work either Door or Sash with straight milled Bits like Fig. 91 and Fig. 88.

HOW TO ORDER COPE HEADS.

First. File a wire the length of which is the diameter of the Coping Spindles.....inches.

Second. How thick is the Cope Head in use?.....inches.

Third. What is the solid diameter of Cope Head?.....inches.



Fourth. What circle of cut should the points of the Bit make to work your coping?.....inches. Give us the extreme swing.

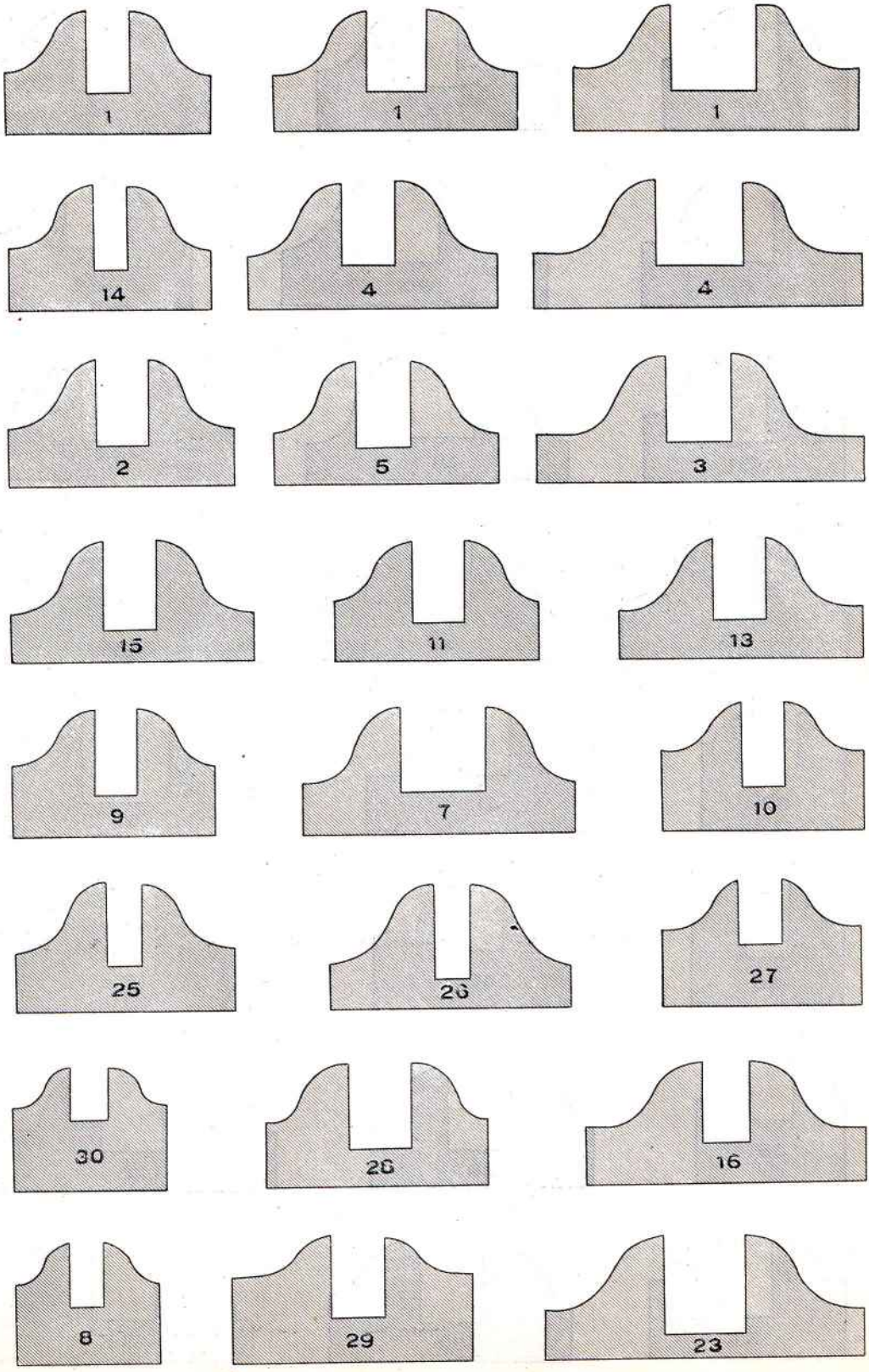
Fifth. What extreme swing can the Bits make without striking any part of your machine?..... This fifth question only comes in when Heads are under size and we must make larger Heads to cut the pattern.

Always give us the maker's name of the machine or any number or name by which the (coping) machine is known to you.

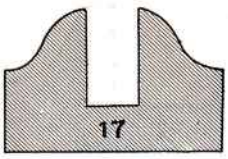
NOTICE.—When you order Cutter Heads give Catalogue number (this is No. 30) and describe the Cutter Head you want by Fig. number, also give the page of the Catalogue you find them on.

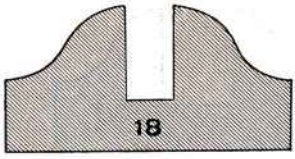
When you order NEW BITS (to replace those worn out or for a change of size) give us the Head (Record) number—you will find it stamped on every Cutter Head—and tell us what you want the Bits to do

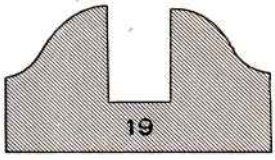
PATTERNS OF DOOR MOULDING

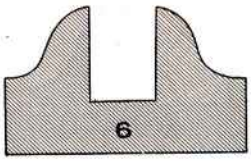


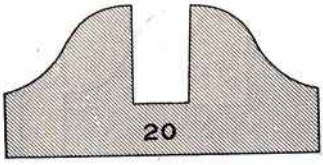
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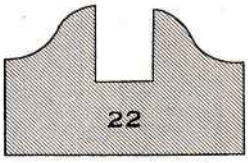


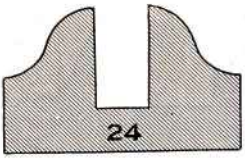


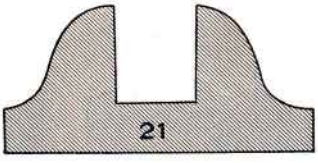


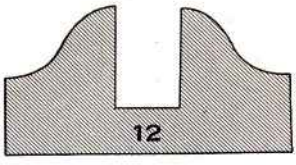


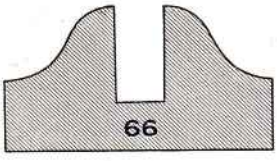


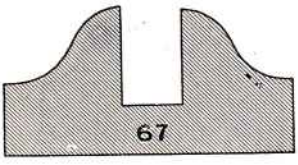


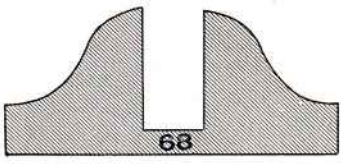


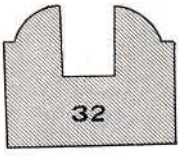


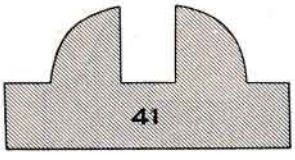


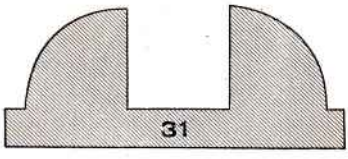


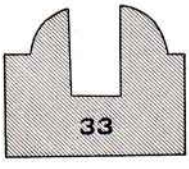




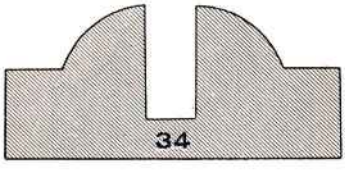




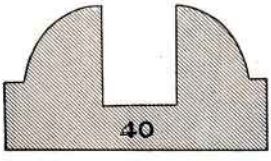


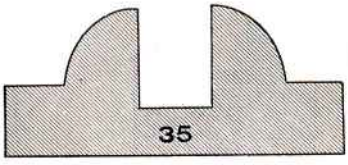


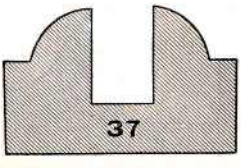


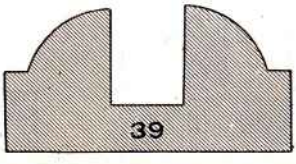


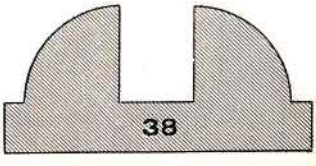




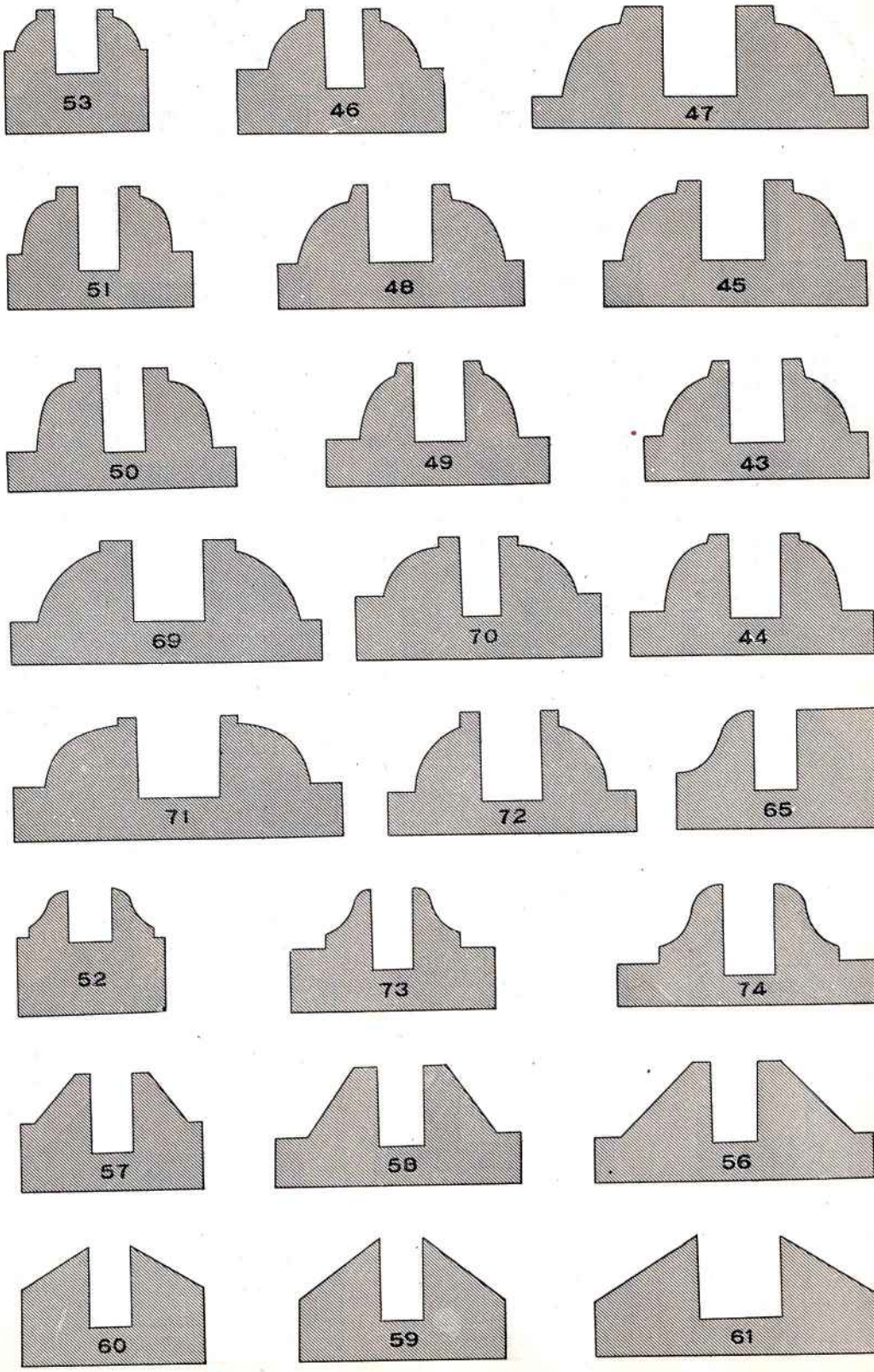




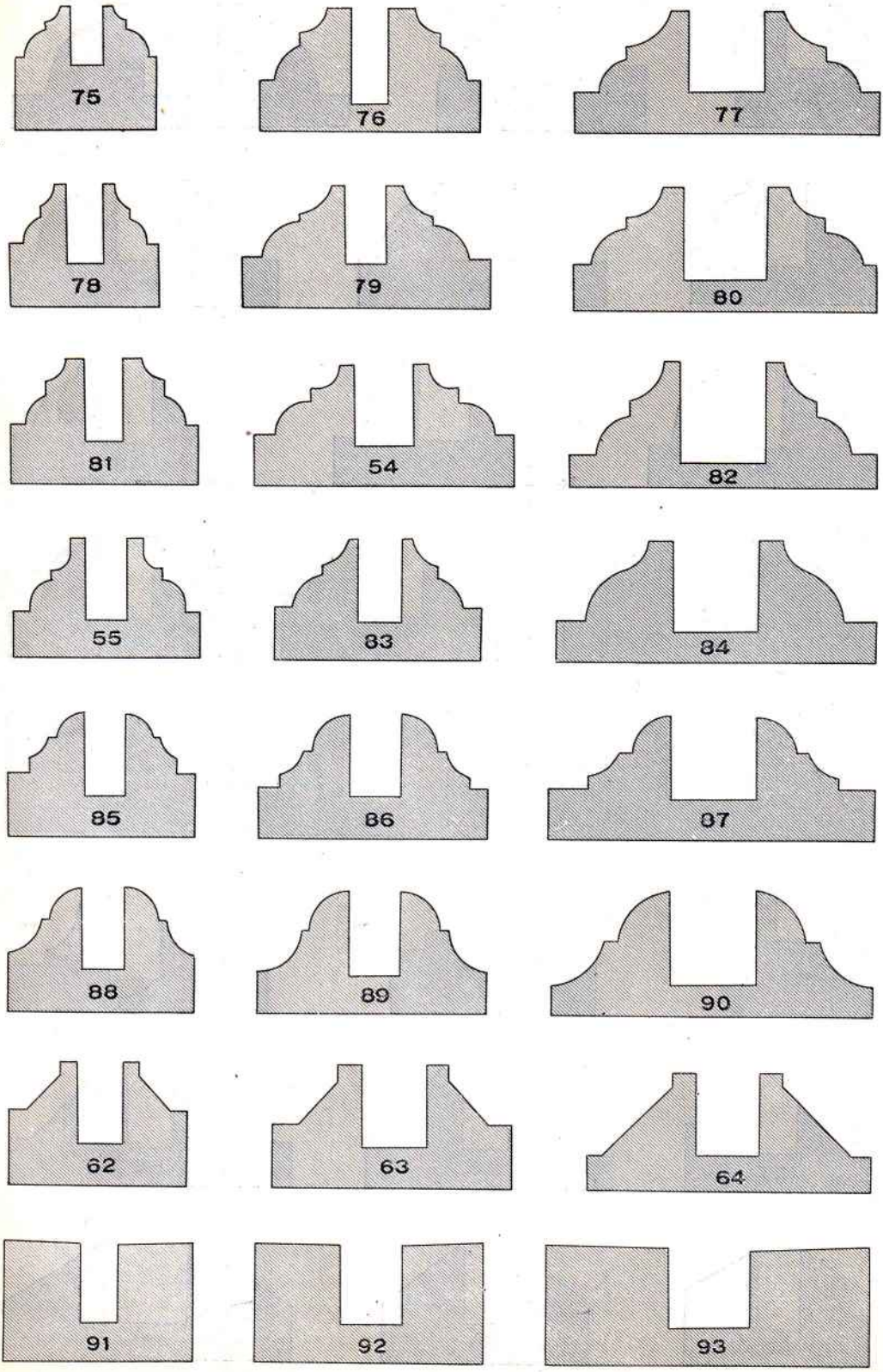




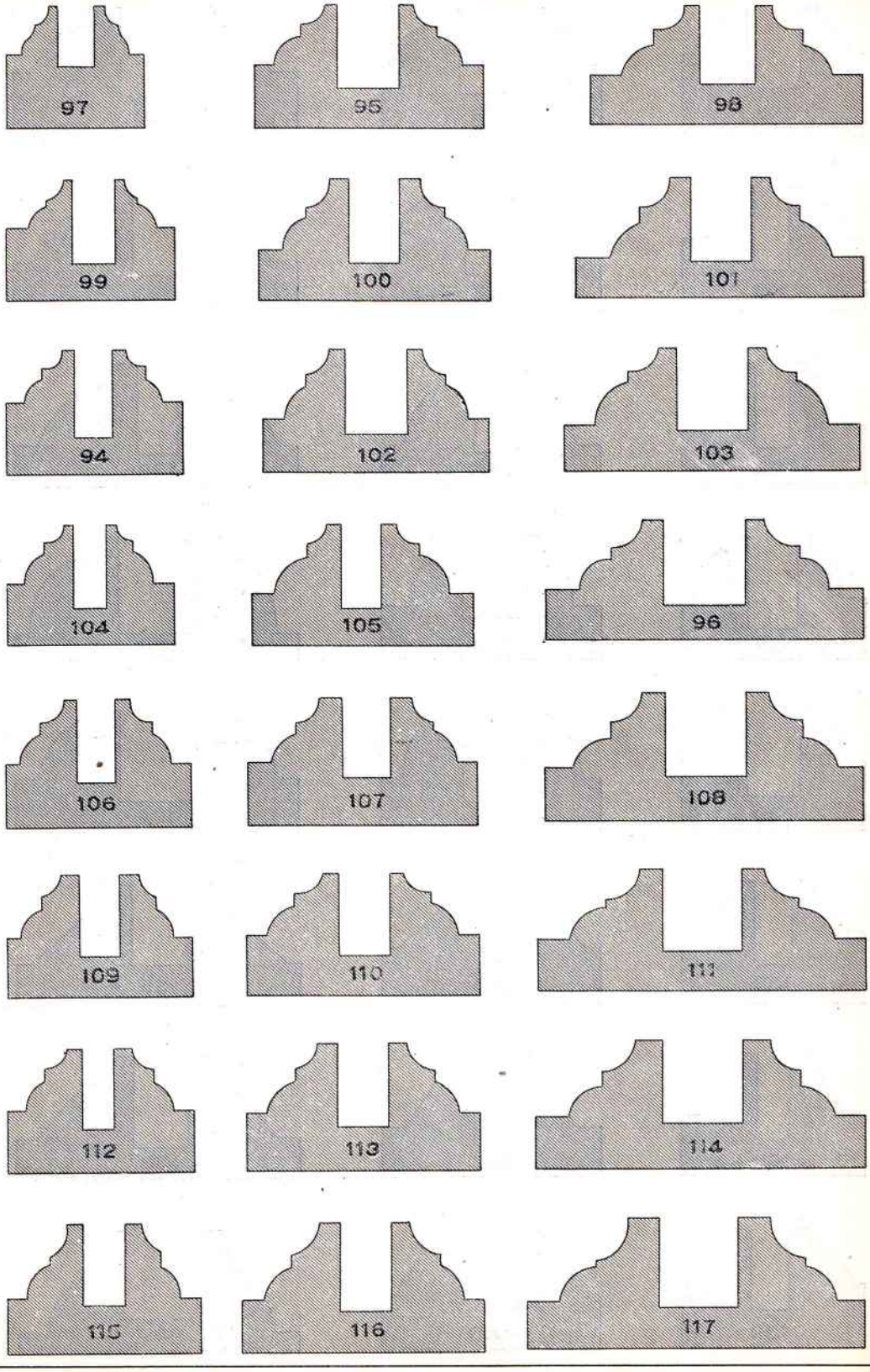
PATTERNS OF DOOR MOULDING



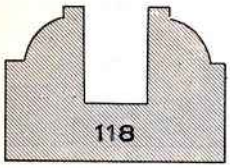
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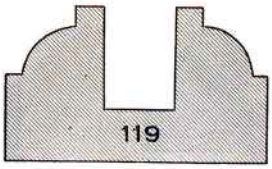


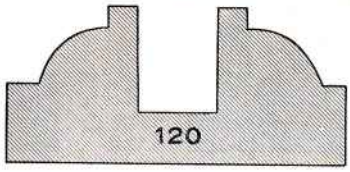
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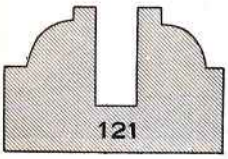


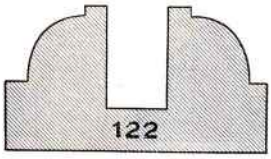
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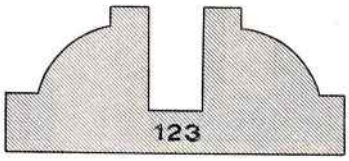


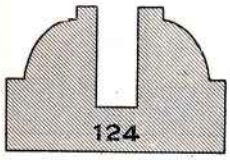


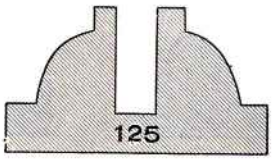


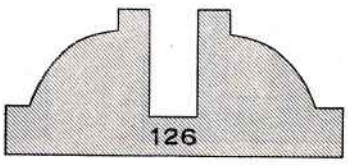


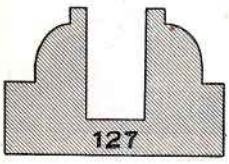


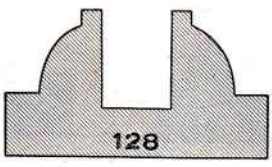


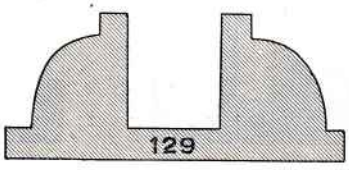


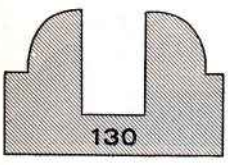


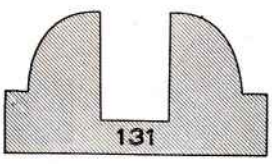


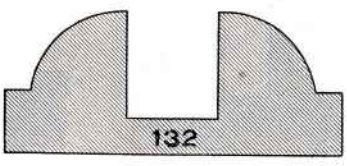


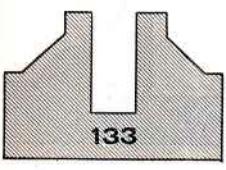


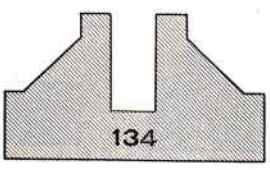


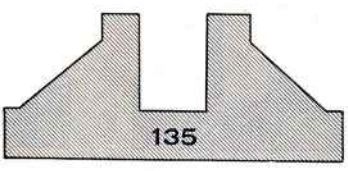


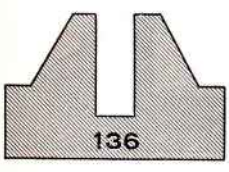


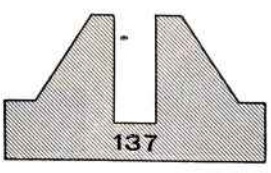


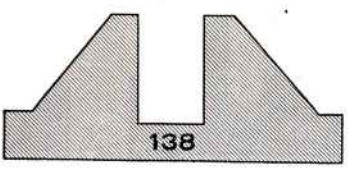


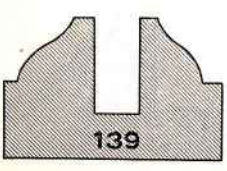


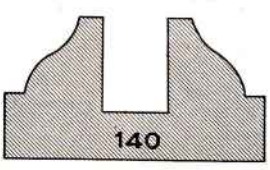


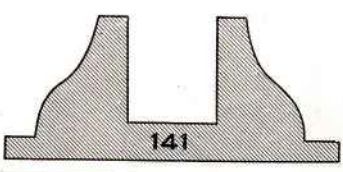




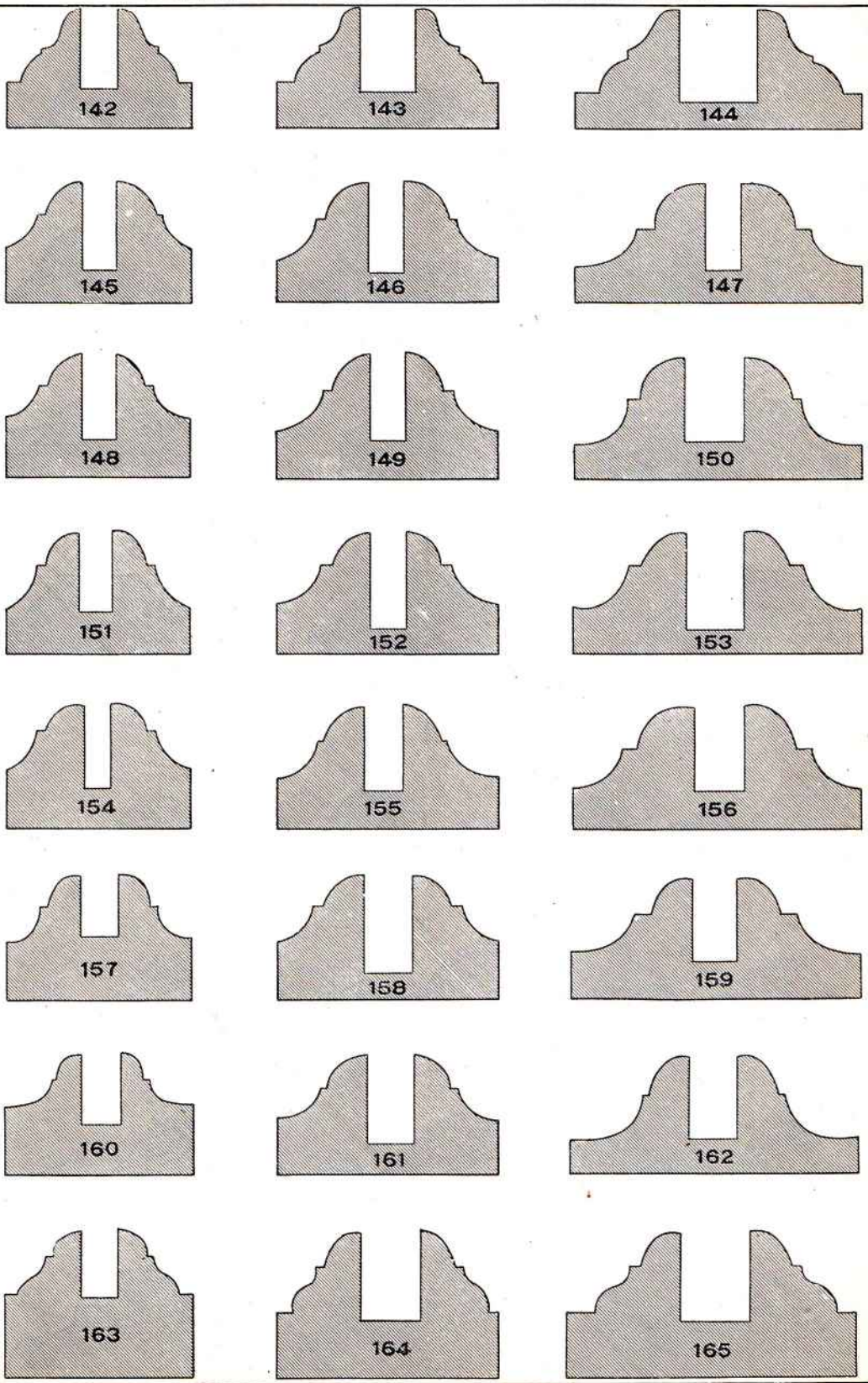


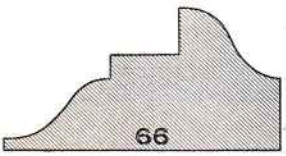


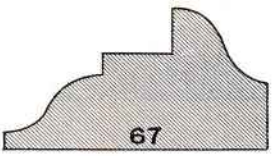


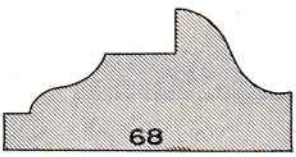


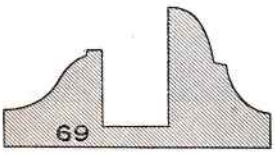
PATTERNS OF DOOR MOULDINGS

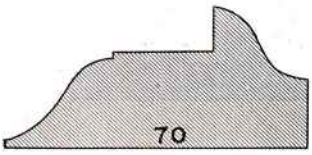


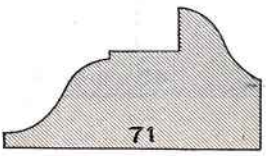


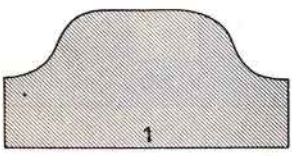


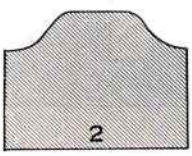


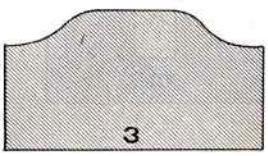


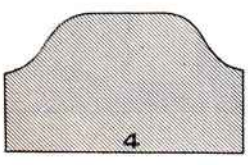


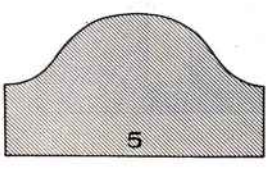


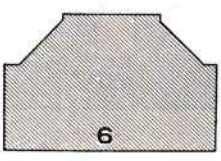


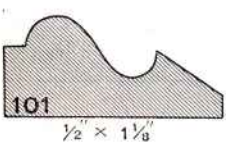




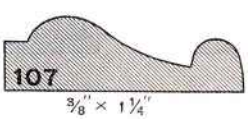




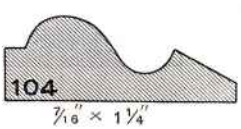




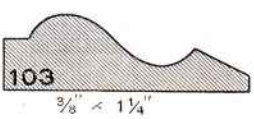
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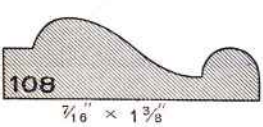
⅜" × 1¼"



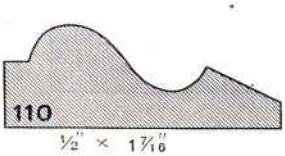
⅞" × 1¼"



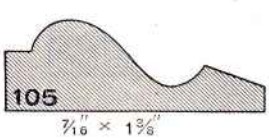
⅜" × 1¼"



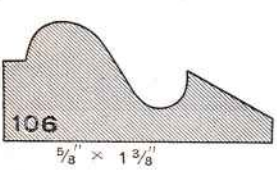
⅞" × 1⅜"



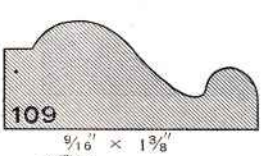
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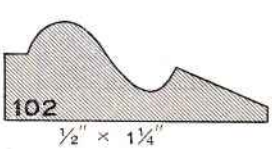
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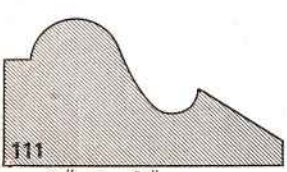
⅝" × 1⅜"



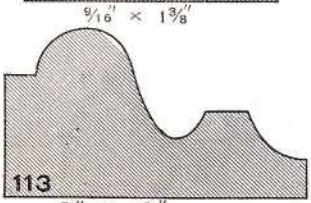
⅝" × 1⅜"



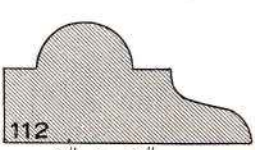
½" × 1¼"



¾" × 1⅞"

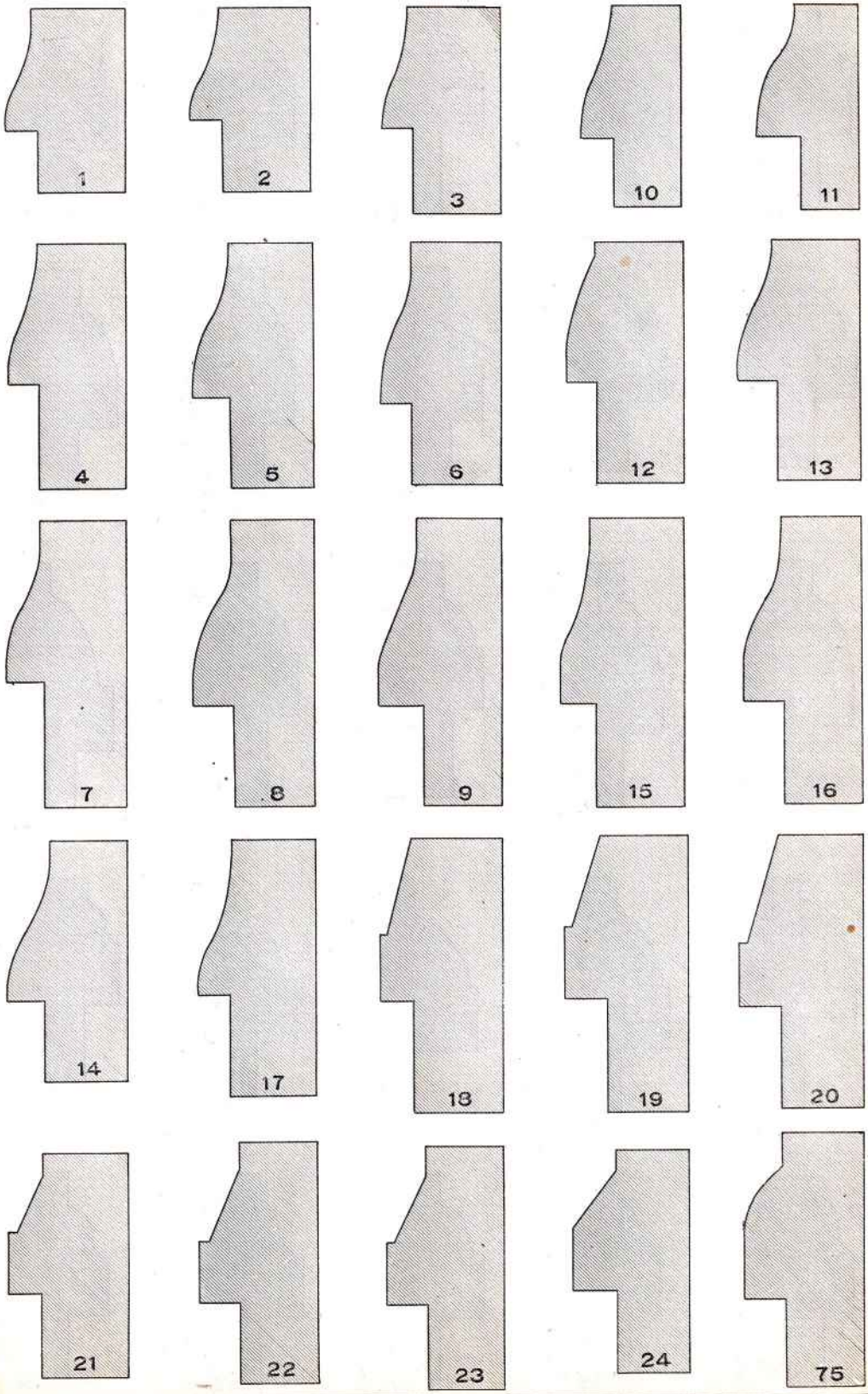


⅞" × 1⅝"

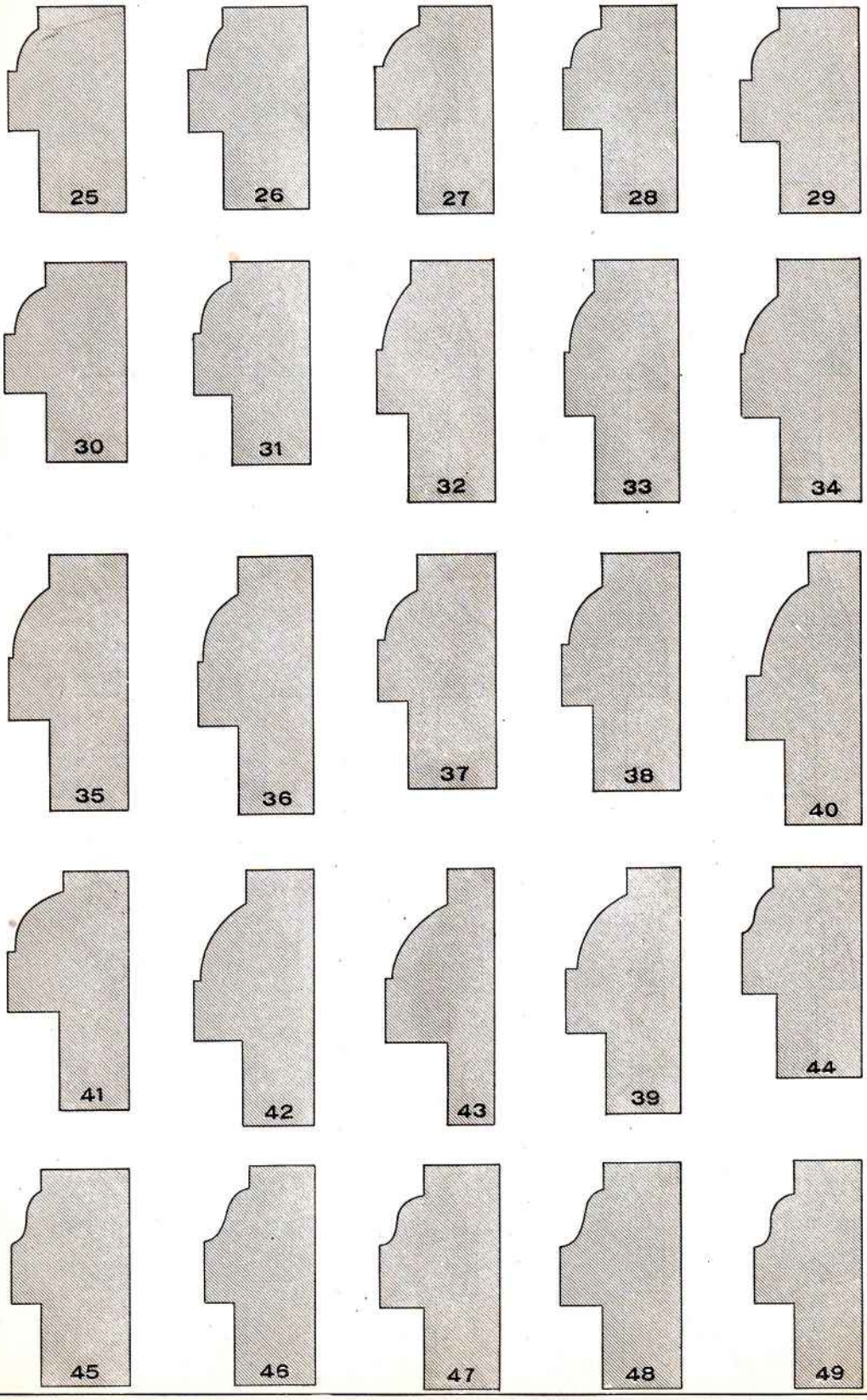


⅝" × 1¼"

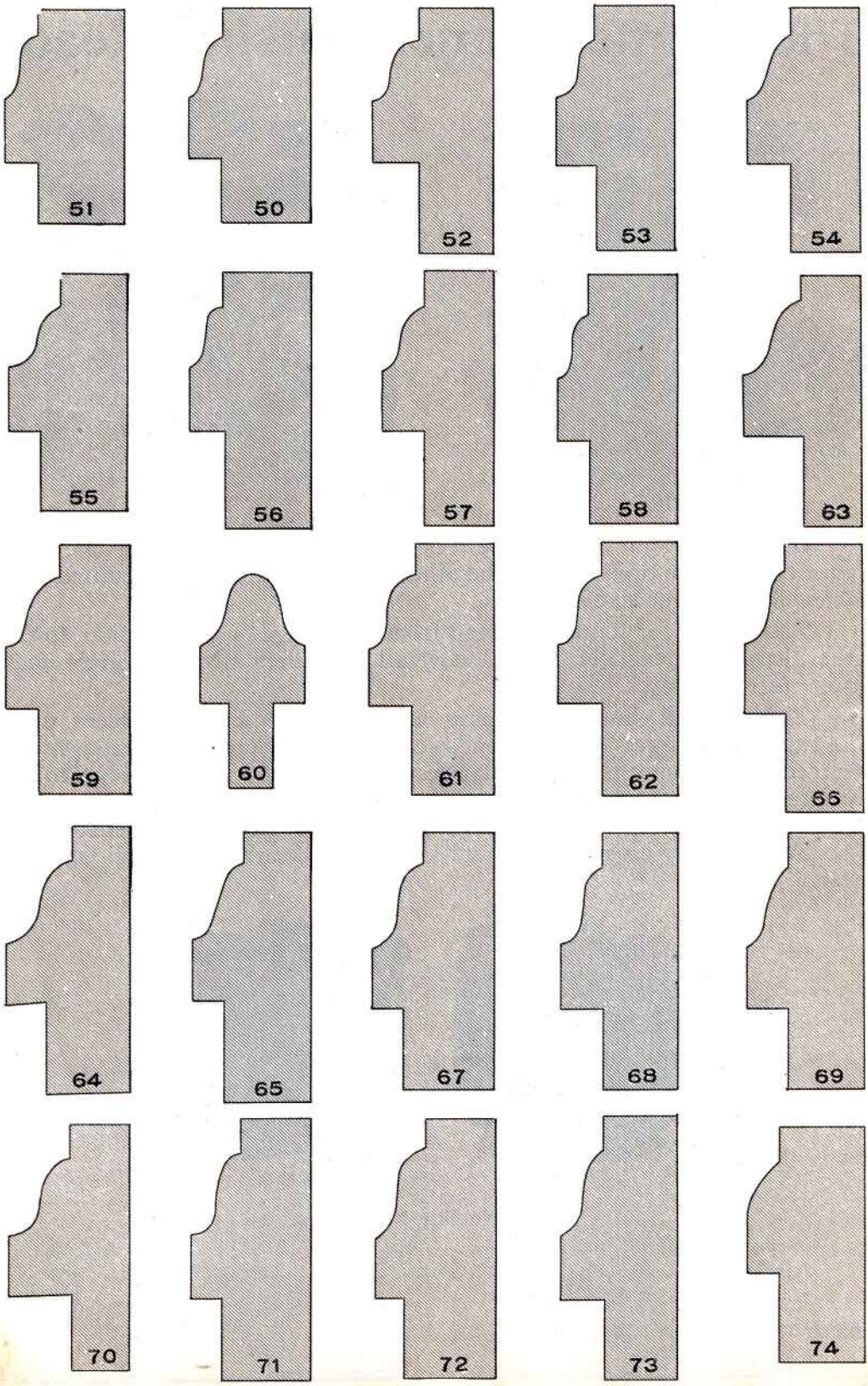
PATTERNS OF SASH MOULDING



PATTERNS OF SASH MOULDING



PATTERNS OF SASH MOULDING



The Shimer Panel Raising Head!

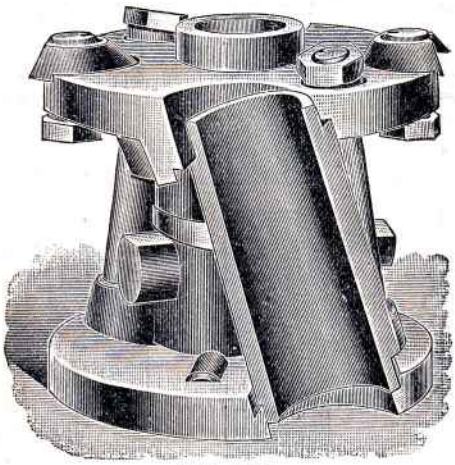


FIG. 160

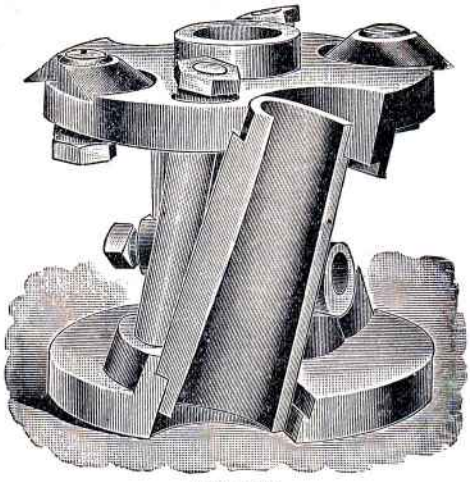


FIG. 161

Our Patent Panel Raiser Head is made in two sections, the one having a central hub, upon which the other section is slidingly mounted and fastened with a set screw.

The knives for Jointing extend from the flange of one section to the other, held by means of special dovetail shoulders which encircle each knife near its ends.

This dovetail shoulder matches with corresponding shoulders upon the two head flanges and the ends of the knives protrude through the semi-circular openings in the flanges bringing the cutting edge to the extreme length of the Head to unite with the line of cut of the small moulded cutters. The heavy shearing position of the knife is effective in that is cuts freely cross-grained and knotty lumber with unusual smoothness.

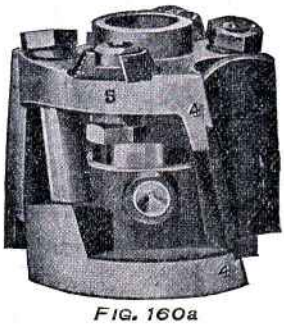


FIG. 160a



FIG. 161a

These are Our Net Prices.

Heads, each, without Bits	$8.93
Jointing Bits (2) @ $1.84	3.68
Moulded Bits (2) @ $1.05	2.10

☞ *How to order, see page 167*

How to take Measurements of a Panel Raiser for a Pair of New Heads.

The diagram below represents the right and left hand spindles as you stand to operate machine, with panel outline on bed plate fixed between.

By carefully giving measurements as called for we will guarantee to fit the machine, and send the tools on trial.

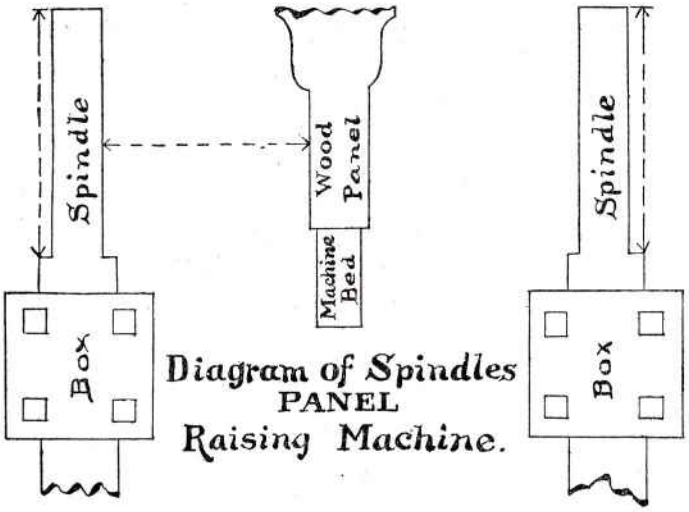


Diagram of Spindles
PANEL
Raising Machine.

For measure give

Diameter of Spindles (file a wire.) .....
Height of Spindles from top to shoulder. .....
Distance from Spindle to jointed Panel —see dotted line. .....
Are Spindles and Boxes moveable in and out—how much? .....

Send sample or drawing of Panel.

Send Heads to.....

.....

.....

This Crozing Head, for crozing hard wood staves, cuts readily the chamfer and the groove at same operation, producing the same outline of cut continually. The Bits are filed to suit a gauge, which gauge also serves to set them. Simple, complete, accurate.

☞ Give us particulars regarding your machine, send sample, and let us quote you.

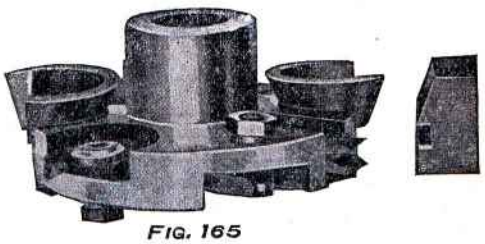


FIG. 165



FIG. 162

Head for Jointing.

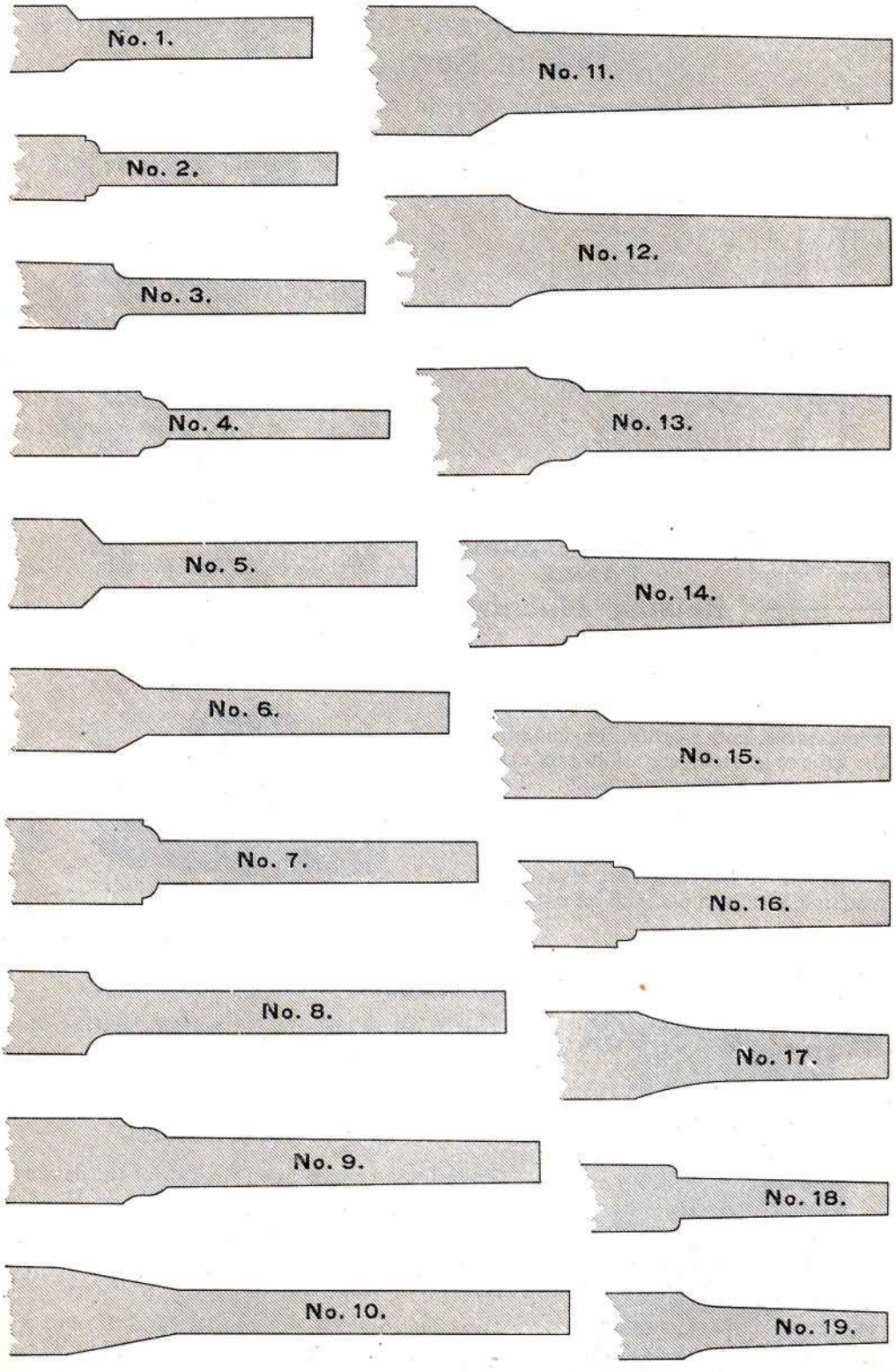
This Head as Fig. 162 is used for Jointing square surfaces on a Moulding Machine. Its special shearing cut will be appreciated for its easy and smooth cutting.

As a Tenoner Head.

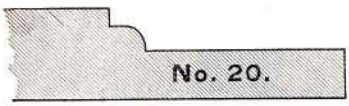
By fastening a saw upon the top of the flange this head also serves as an excellent Tenoner Head for cutting the tenons on the ends of door rails and munnions, as also every other class of tenoning done on machines of that kind.

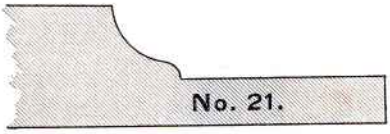
Give length and diameter of a head to suit your purpose and let us give you price for one of these special heads.

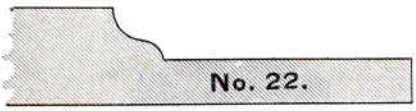
PATTERNS OF RAISED PANELS

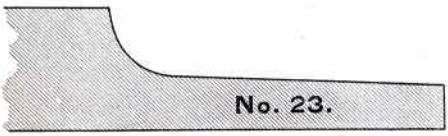


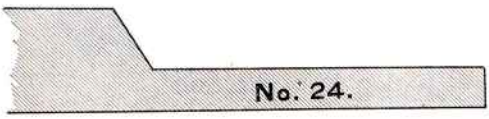
PATTERNS OF RAISED PANELS

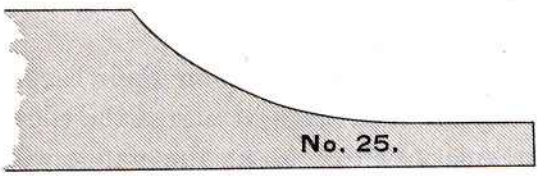


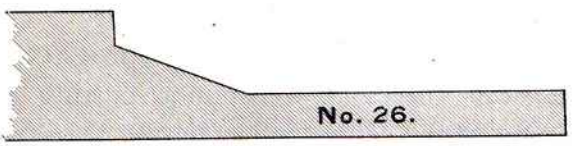


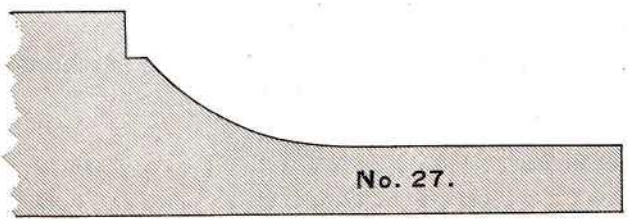


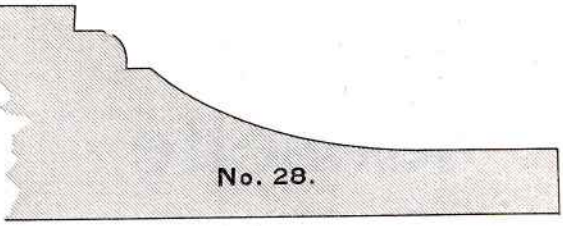


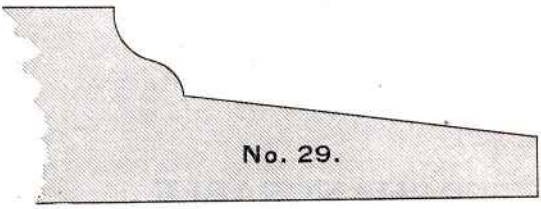


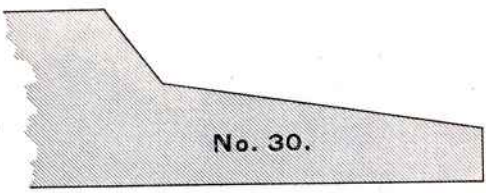


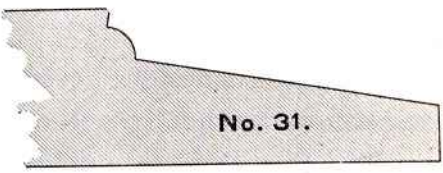


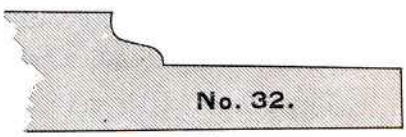


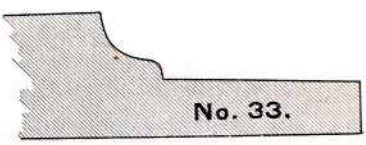


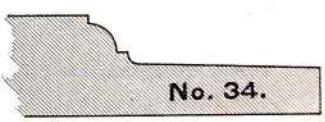












Patent Rosette Cutter Head

WITH INTERCHANGEABLE MILLED KNIVES.

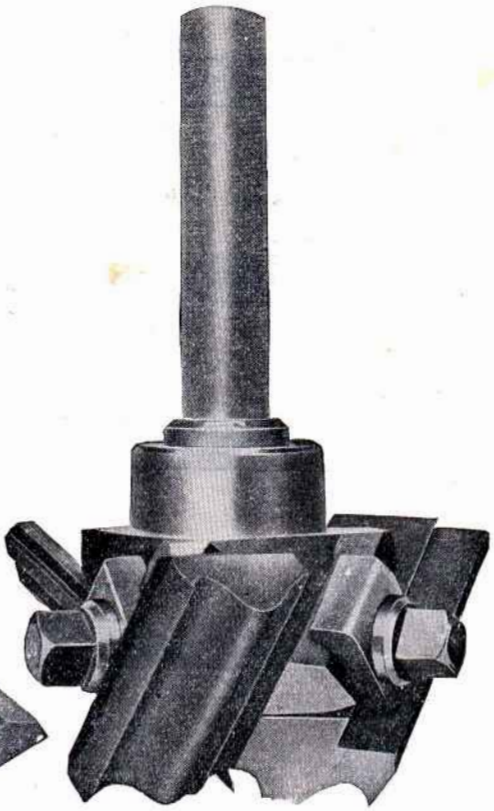
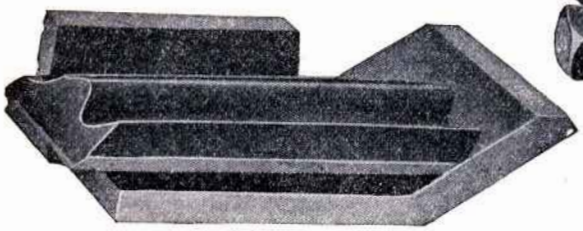


FIG. 500



GAUGE.

This tool is designed especially for cutting Rosettes out of the solid block and works equally well on sunken or raised designs.

The Bits, three in number, are carefully moulded on their backs to suit the exact shape of mould. They are filed straight across the edge in sharpening, or can be ground on emery wheel to fit the gauge which accompanies each Head, when uniform work is invariably maintained.

The Head will receive Bits for any desired shape of mould.

The Head is designed somewhat conical in shape with straight seats tooled in such manner as to bring the knives to a common cutting line each having the inner edge meeting at the centre and radiating therefrom.

The bolt and clamping device holds the knives very effectually to the base or seat prepared for them.

It is a well made tool and guaranteed to do good and satisfactory work in any DRY LUMBER.

Price, Head complete with one set of Bits $9.45

" *Bits per set of 3* 3.93

For Centering and Holding Rosette Blocks

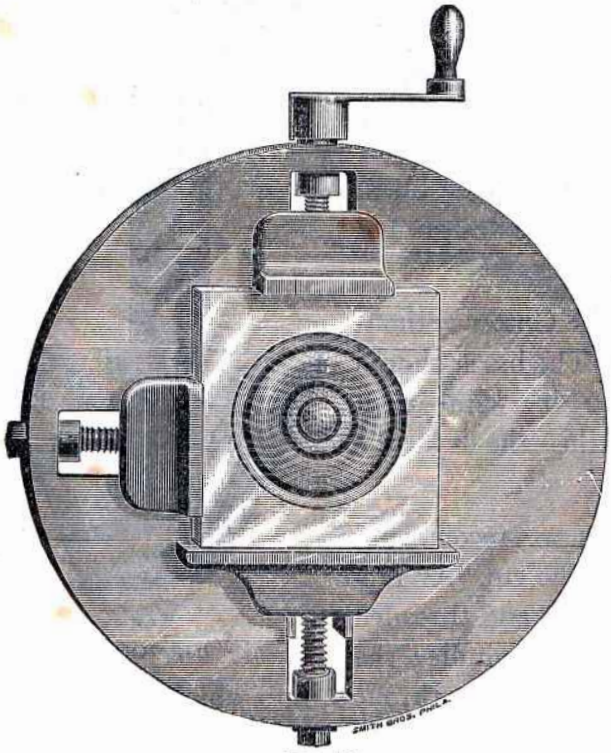


FIG. 111

We furnish a three-jaw Lathe Chuck with adjustable jaws accurately fitted into their ways, like illustration, Fig. 111, showing a Rosette Block in position with wrench for tightening the jaws. The chuck is provided with a hub which is bored out to fit over the spindle of the Tail Stock of your speed or turning lathe, and is movable towards and away from the Cutter by the hand wheel. Your wood turning lathe will become a very complete machine for the purpose, properly fitted up.

Price for the three-jaw Chuck, Fig. 111, ...$10.08 net.

With your order send us the diameter of the movable spindle in tail stock and a wood sample or drawing of the pattern you prefer.

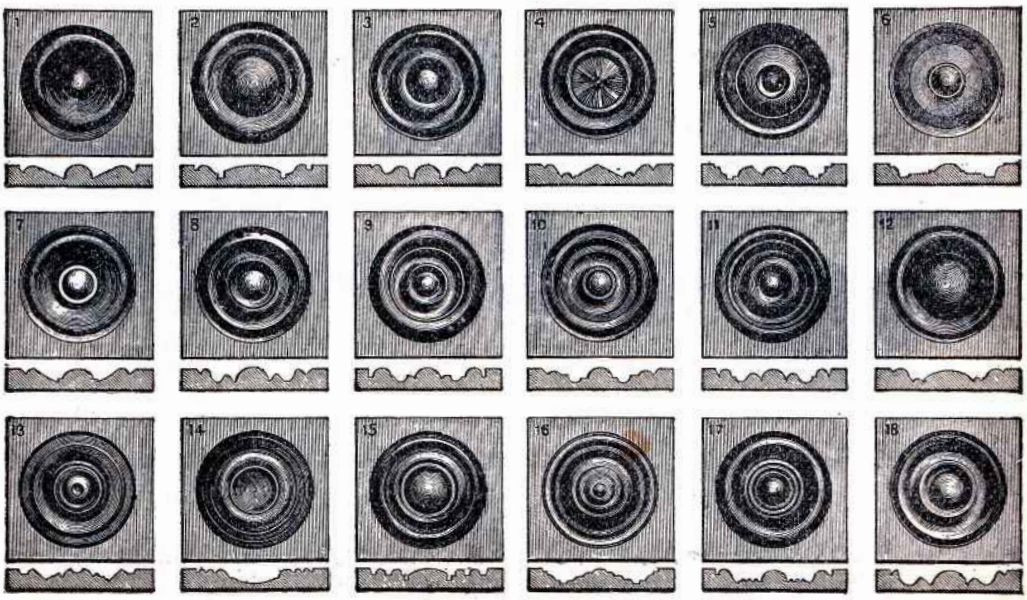


FIG. 112

ROSETTE CUTTERS.

Fig. 109 and Fig. 110, B, represent Cutters for moulding Rosettes like those illustrated by Figs. 111 and 112, or any other pattern of your own selection. With your order send us a block of wood or drawing representing the design and we will make the Cutter to match it.

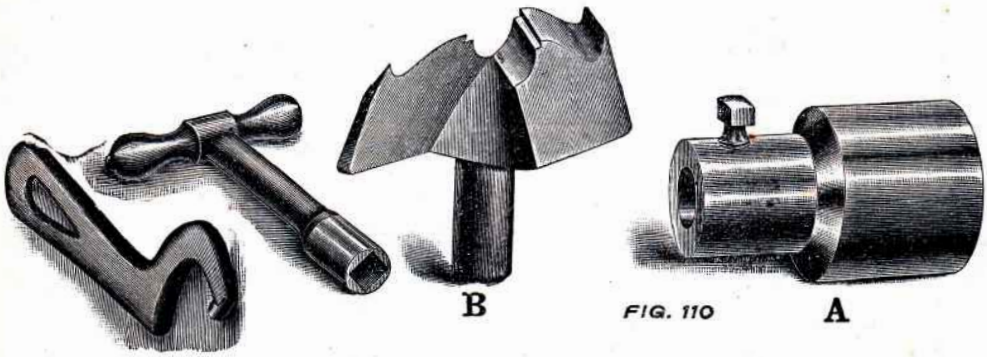


FIG. 109

The faster you can run the Cutter without tremble or end play the better. The block should be cut as it is taken from the dry kiln—even while it is yet warm from the kiln—the dryer the better.

For making large Rosettes we recommend the use of the turning lathe. The cut "A" represents a chuck which is bored out and threaded to fit over the threads of the lathe spindle; the other end of the chuck is bored straight through, into which the stem of the Cutter "B" is fastened with a set screw. This makes a strong and rigid holder for the Cutter, which must run free from all end vibratory motion.

Use dry lumber and you will always do good work.



B FIG. 110 A

PRICES

¾	*diam.*	$1.47	*net.*	1 5/8	*diam.*	$2.73	*net.*	2½	*diam.*	$4.20	*net.*
⅞	"	1.60	"	1¾	"	2.94	"	2⅝	"	4.41	"
1	"	1.68	"	1⅞	"	3.15	"	2¾	"	4.62	"
1⅛	"	1.89	"	2	"	3.36	"	2⅞	"	5.04	"
1¼	"	2.10	"	2⅛	"	3.57	"	3	"	5.46	"
1⅜	"	2.31	"	2¼	"	3.78	"	3⅛	"	5.88	"
1½	"	2.52	"	2⅜	"	3.99	"	3¼	"	6.30	"

3⅜	*diam.*	$6.72	*net.*				
3½	"	7.14	"				
3⅝	"	7.56	"				
3¾	"	7.98	"				
3⅞	"	8.40	"				
4	"	8.40	"				
Chuck		2.52	"				

Net Price List of Surface Moulding Cutters,

With Straight Shank.

Cutters having taper shank or stem, add 10 per cent to the list.

No.	Price	No.	Price
1	$1.89	40	$ .84
2	1.68	41	1.05
3	1.68	42	.84
4	1.26	43	1.05
5	2.10	44	1.05
6	2.52	45	1.26
7	2.10	46	1.47
8	2.52	47	1.89
9	4.20	48	2.10
10	1.26	49	2.31
11	.84	50	2.52
12	2.94	51	2.73
13	1.26	52	2.94
14	4.62	53	3.36
15	2.10	54	2.52
16	1.05	55	3.78
17	1.26	56	5.46
18	1.68	57	4.20
19	1.68	58	4.62
20	1.89	59	4.20
21	1.89	60	4.20
22	2.10	61	1.47
23	2.10	62	1.68
24	.84	63	2.10
25	1.05	64	2.52
26	1.34	65	3.78
27	.84	66	5.46
28	1.05	67	6.30
29	1.26	68	3.78
30	1.34	69	3.57
31	1.47	70	5.88
32	1.89	71	3.78
33	2.10	72	5.04
34	2.10	73	4.41
35	1.89	74	4.00
36	1.68	75	3.36
37	1.68	76	4.20
38	1.26	77	4.62
39	1.05	78	3.57

GUIDE COLLARS.

33 Collars, complete set for ⅝ spindle, $6.72
9 Collars, complete set for ⅜ spindle, 1.89
Single Collars, 21c each.

Rosette, Sunken Panel, Routing and Dove Tail



Cutters.

The column of figures at the left is a Net Price of Stem Cutters as outlined on pages 186 to 190. These Cutters are made to run one way only, or reversible, to suit the requirements of the machine they are intended for.

With your order give the length and diameter of stem, and state the diameter of Cutter preferred. Send a piece of wood carefully moulded, or a pencil drawing to show the outline of the work to be done.

We are prepared to furnish these Cutters with straight shank, at the most reasonable prices. (See the list.) Catalogue shapes or similar patterns to your special needs will be furnished at uniform prices. For Cutters having tapering shank add to the list price ten (10) per cent. In order to properly fit a taper socket, send with order an old Cutter. Address your communications regarding this class of work to

Samuel J. Shimer & Sons,

Milton, Pa., U. S. A.

The Reversible Cutter as a PANEL RAISING BIT

Applied to Variety Moulding Machines.

They are made to either work one way or for the reversible spindle according to the requirements of the machine. Fig. 113 and Fig. 115 show the reversible class. All cutters are accurately ground for clearance, the central portion of the blade being hollowed out so as to have only the immediate cutting edges to come into contact with the lumber. They cut free and easy, throwing shavings like a jack plane.

Cutters for the "one-way" machine carry also a splendid clearance and do rapidly and smoothly all work put up to them.



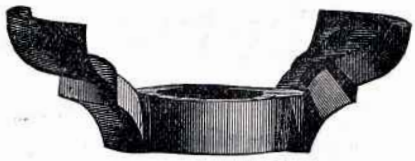
FIG. 113



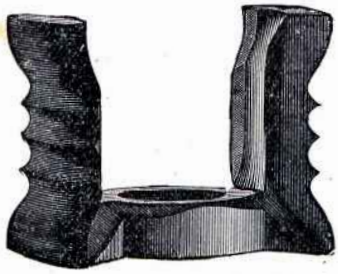
FIG. 115

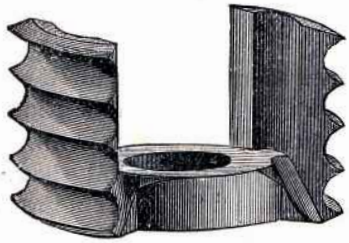
These Are Our Net Prices:

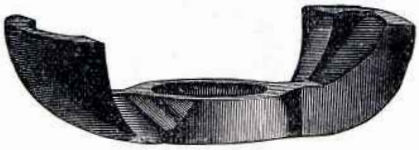
Price each Cutter to cut 1½ *deep*	$3.36
" " " " " 2 "	4.20
" " " " " 2½ "	5.04
" " " " " 3 "	5.88











The Shimer Reversible Cutters

These Reversible Cutters are made from the solid Tool Steel Forgings. They are designed especially for the free cutting of all fibrous woods, running in either direction. The cutting edges are filed from the inside only. The counter part of the mould is formed upon the contour of the cutting wings, which, in the process of manufacture, are arranged for clearance so that only the cutting edges come in contact with the lumber. Therefore the exact shape is held in reserve for use only as the cutting edges recede by use and repeated sharpening.

Owing to the great variety in sizes, shapes, spindle diameters etc., all cutters of this class are made per order.

Cutters for special and catalogue shapes are turned out promptly, as our facilities are unexcelled. In ordering special shapes send a wood sample, or an accurately made drawing.

One way Cutters.

By this term we mean Cutters that will work only in one direction as made for the Double Spindle Shaper. They are used in pairs, right and left, one Cutter of each shape for each spindle. They are made in the same manner as the Reversible Cutter except in the clearance.

Address the manufacturers,

Samuel J. Shimer & Sons,

Milton, Pennsylvania.

Reversible Cutters.

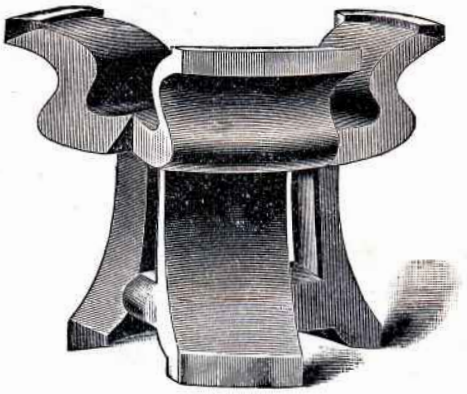


FIG. 117

These illustrations represent Reversible and One-way Cutters to which we give a permanent clearance ground into their contour in such a way as to agree with the pattern you send us or the pattern that you may select from the numbered list, illustrated on pages 191 to 211.

The cutters illustrated on this and the next page show design only, and have no possible meaning as to size and proportions, therefore when you order make selection from patterns by number and send us the diameter of your shaper spindle and shaper collar with which the Cutter must work. Also advise whether or not Cutters are to be made Reversible, (to cut both ways) or whether they are to work in pairs and be made to cut one way only. You sharpen these Cutters from the inside and bring them to a sharp cutting edge, thus holding the shape of the pattern until they are worn out.

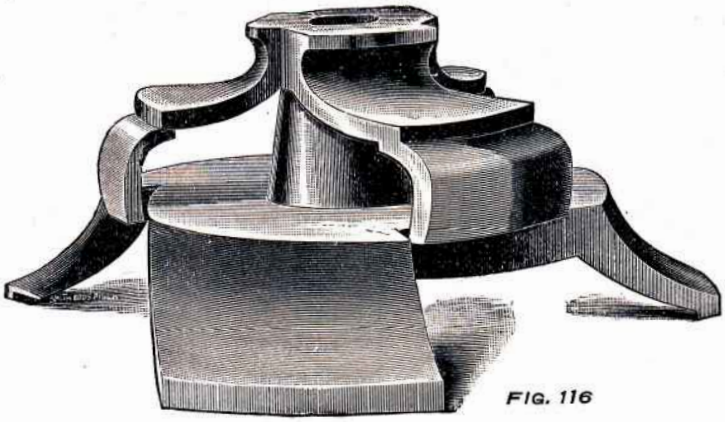


FIG. 116

Fig. 116 represents two Cutters with collar between them to build up for heavy mould. These are usually made to work one way only, cutting 4 and 5 inches of moulded surface from 3 to 5 inches deep. They are bored out on the inside so that a sharp cutting edge can be given them without disturbing the permanent shape—the edge line of cut being sharpened from the inside of the cutter.

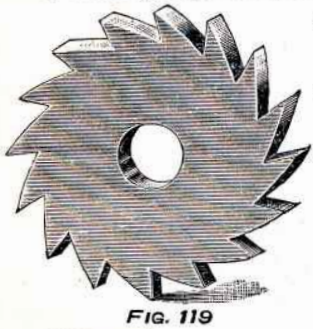


FIG. 119

Fig. 117 represents another two Cutters that work together to make a heavy mould.

Fig. 118 represents a Reversible Grooving Cutter clearance ground.

Fig. 119 represents a One-way Grooving Cutter that must be sharpened or set for clearance, same as a saw.

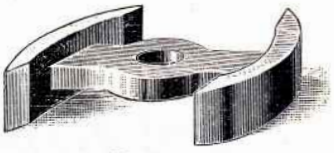


FIG. 118

Prices given on pages 216 and 217.

REVERSIBLE CUTTERS



☞ ***When you order, don't refer to the Cutters here shown, for they are not full size,*** but refer to PATTERNS of Mouldings shown on following pages, or send us drawings or sample blocks to work to, with size of spindle and collar, if particular size of collars are used.

Carving Tools are made to order as per design sent us.



FIG. 120.



FIG. 121.



FIG. 122.

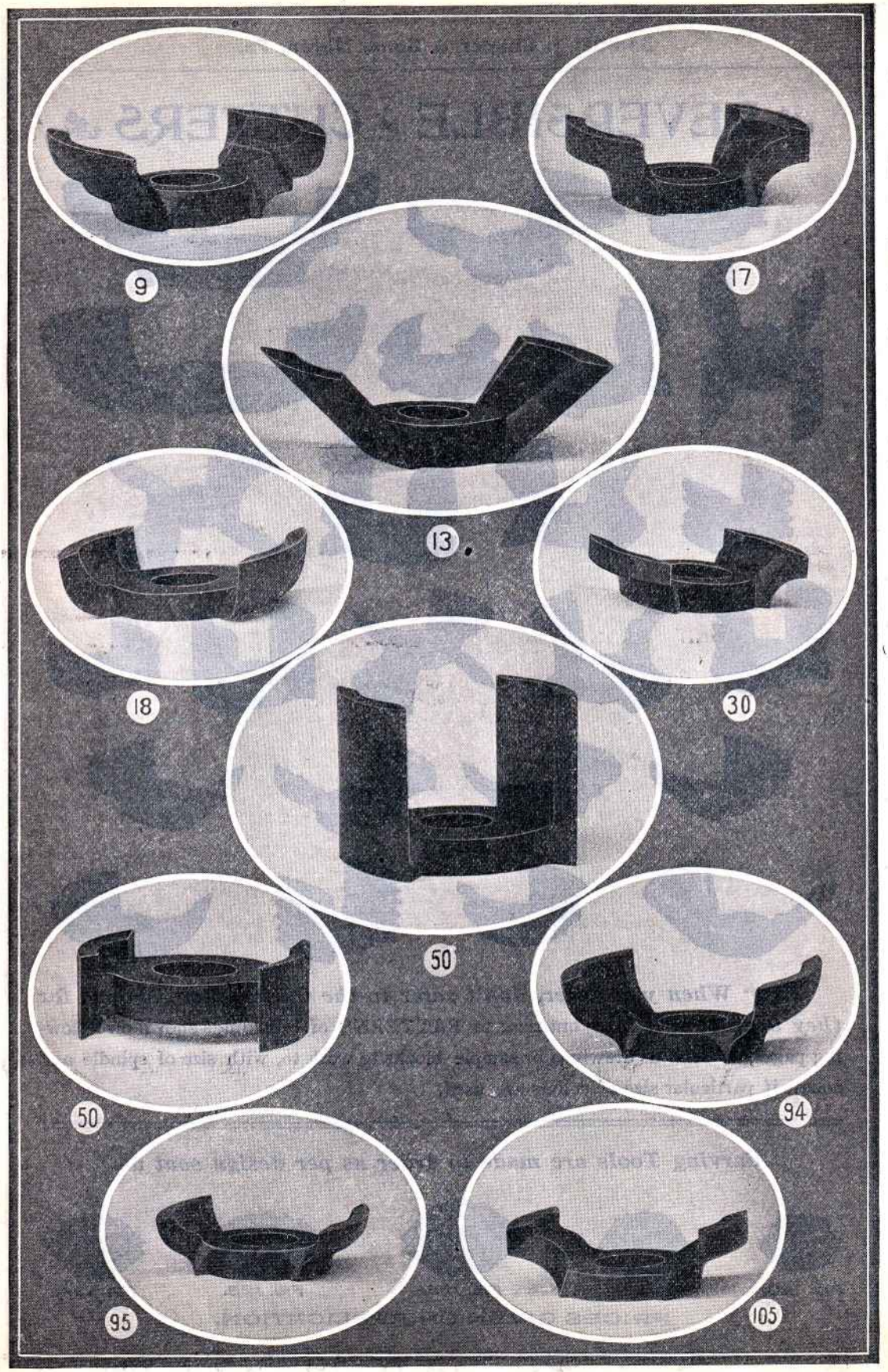


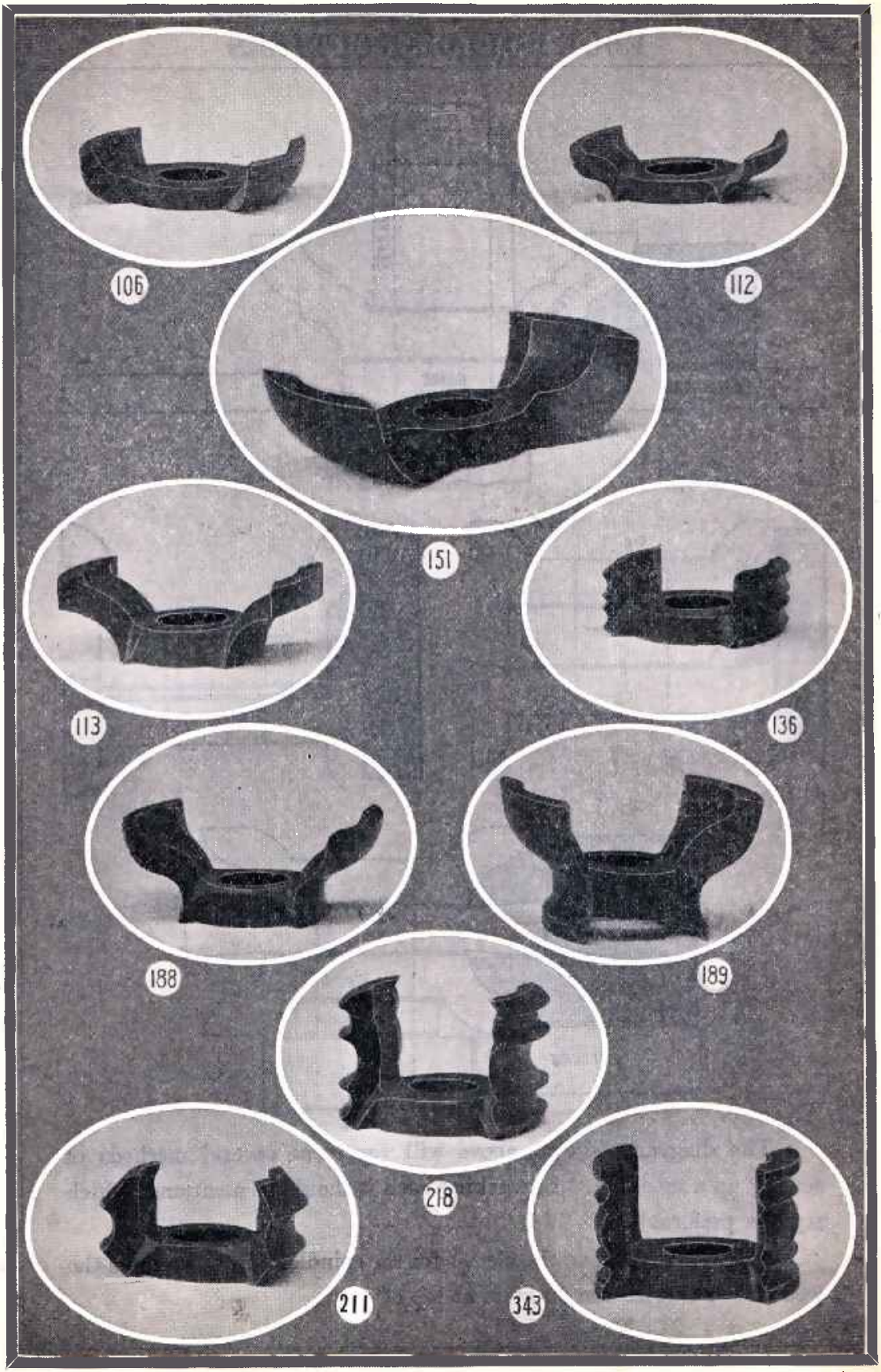
FIG. 123.



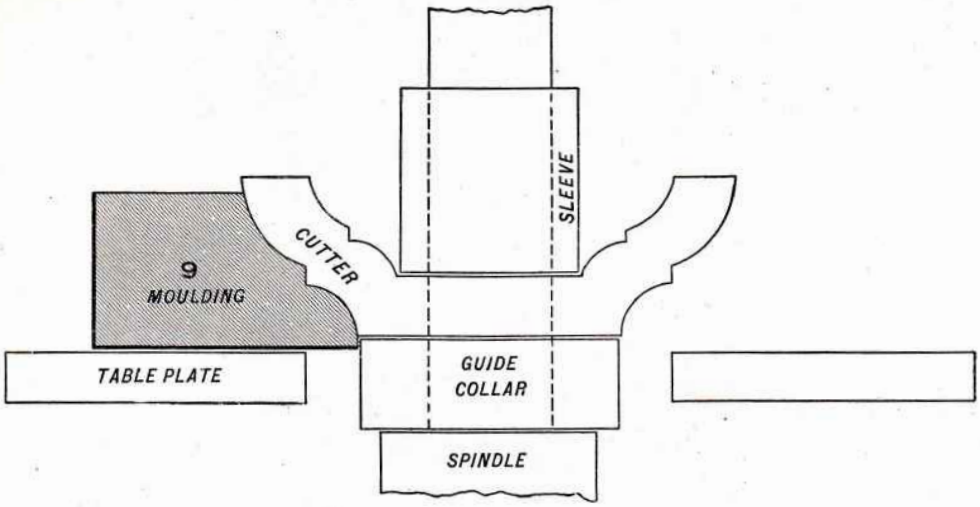
FIG. 124.

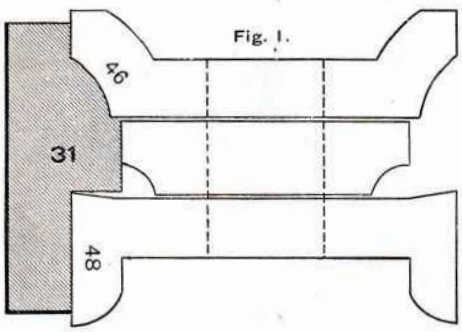
PRICES GIVEN ON APPLICATION.

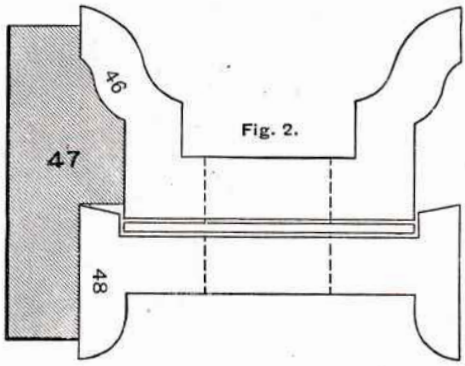

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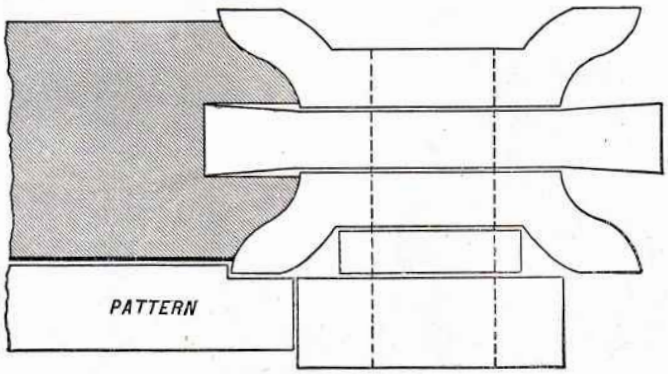

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EDGE MOULDING CUTTERS



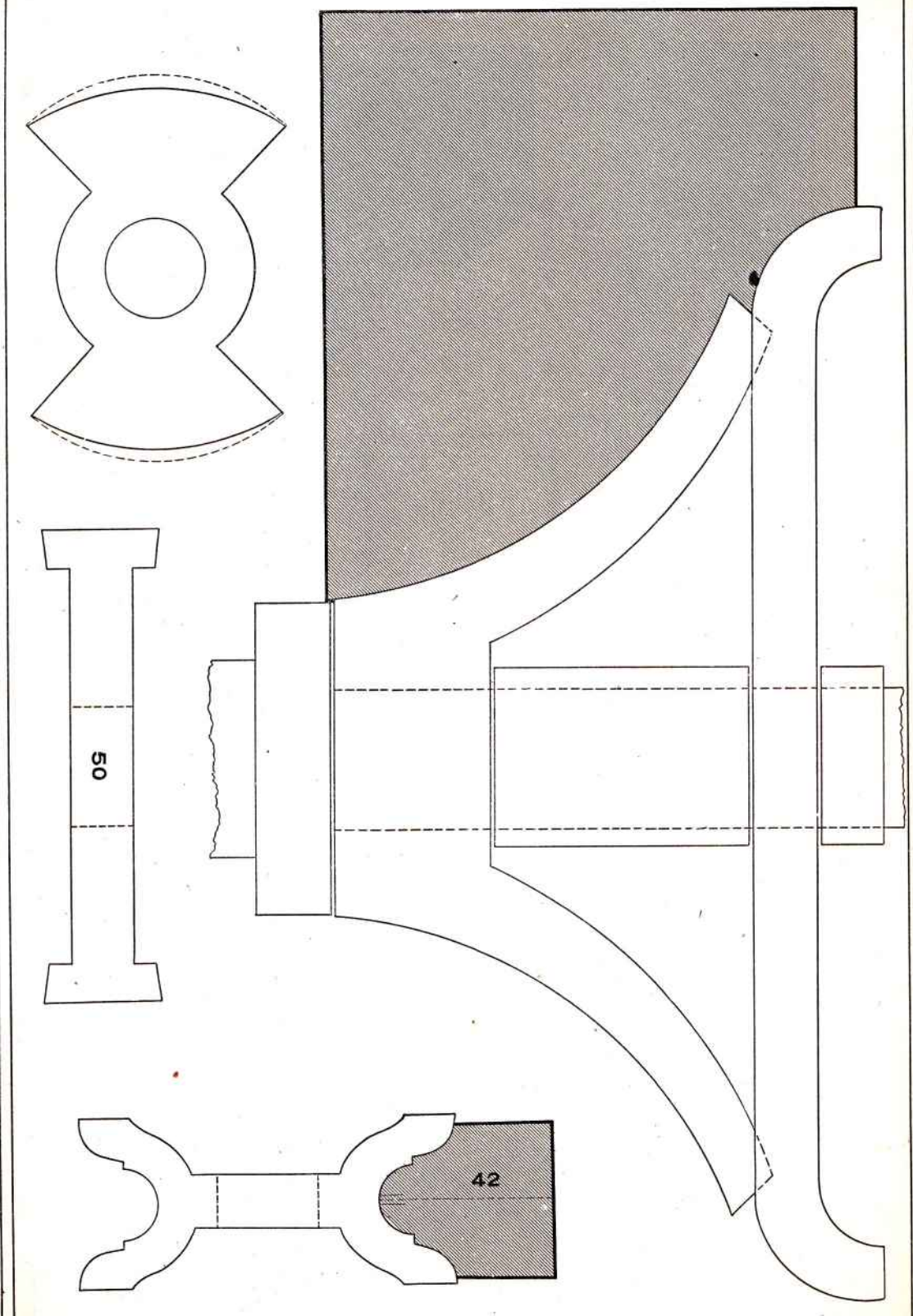




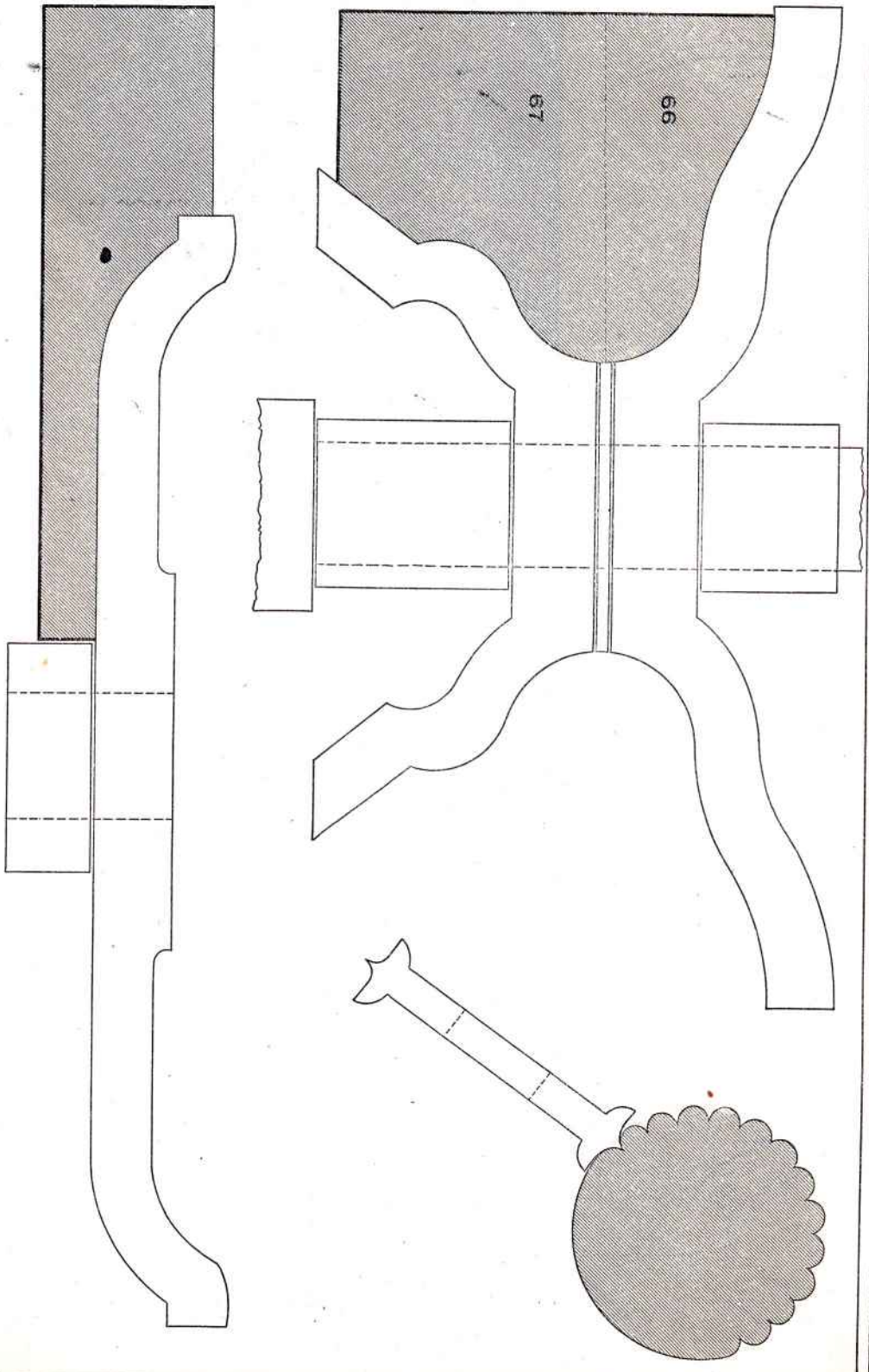


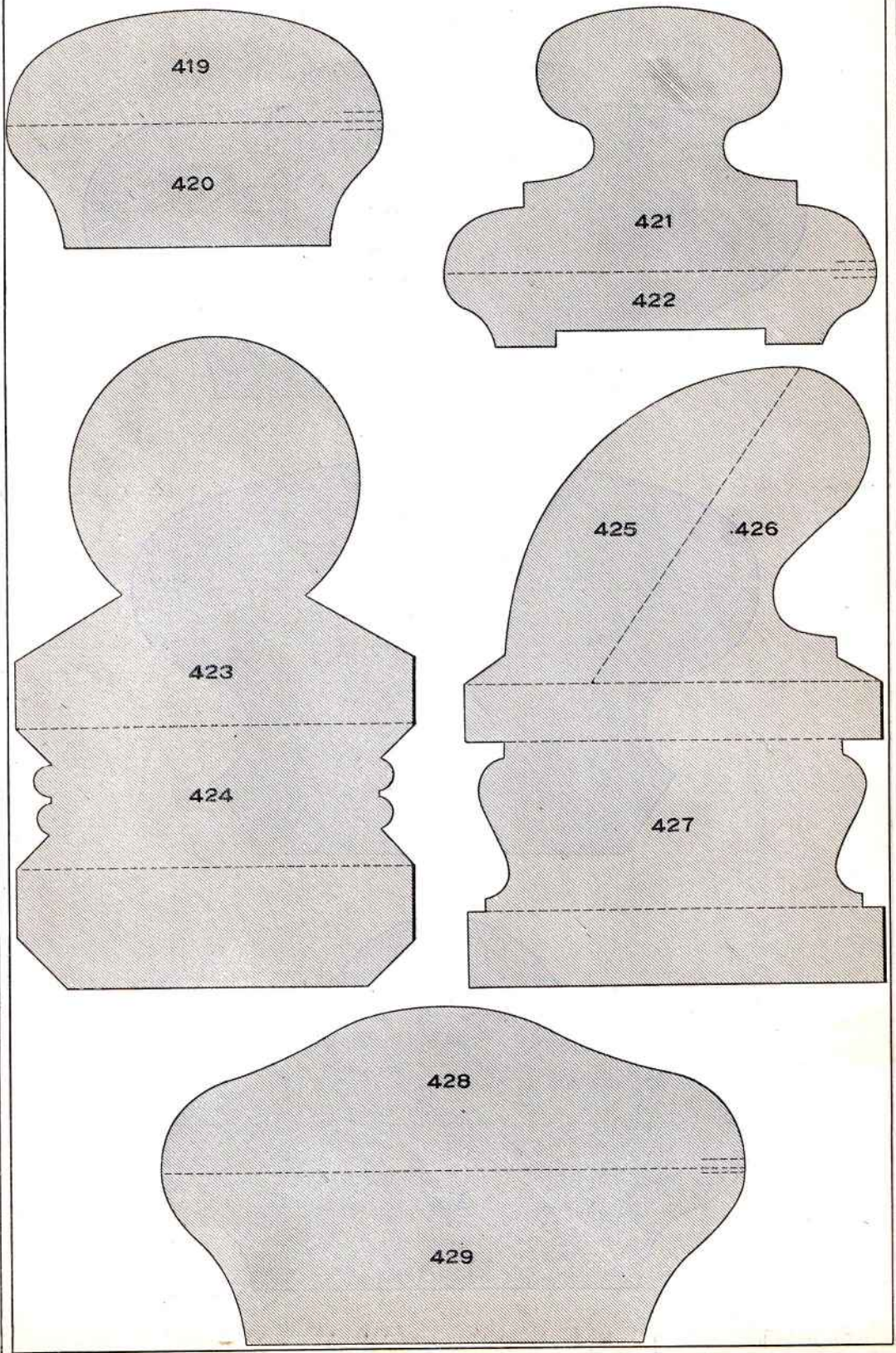
The diagrams shown above will represent several methods of setting up a machine. In working sash it should be mentioned which style is preferable.

☞ Always have the sleeve for the spindle to fit down upon the web of the cutter—see diagram at top of page.

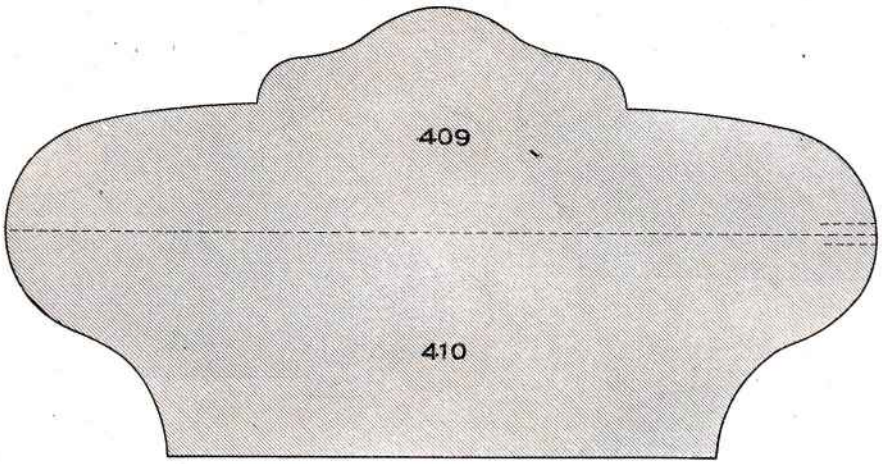

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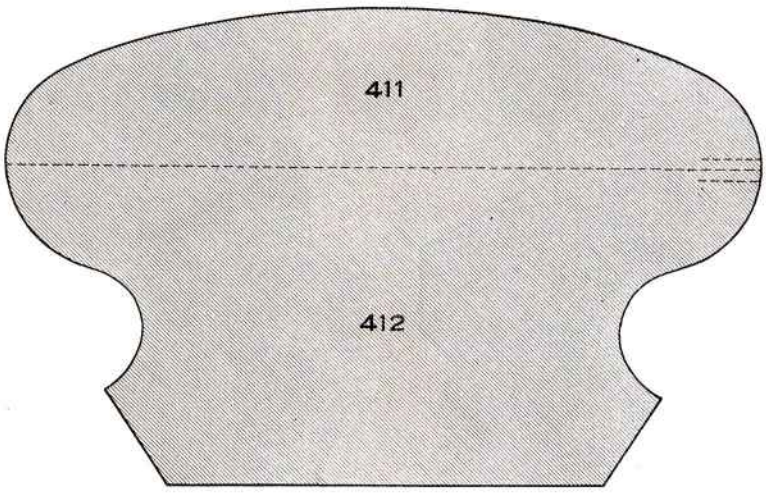
EDGE MOULDING CUTTERS

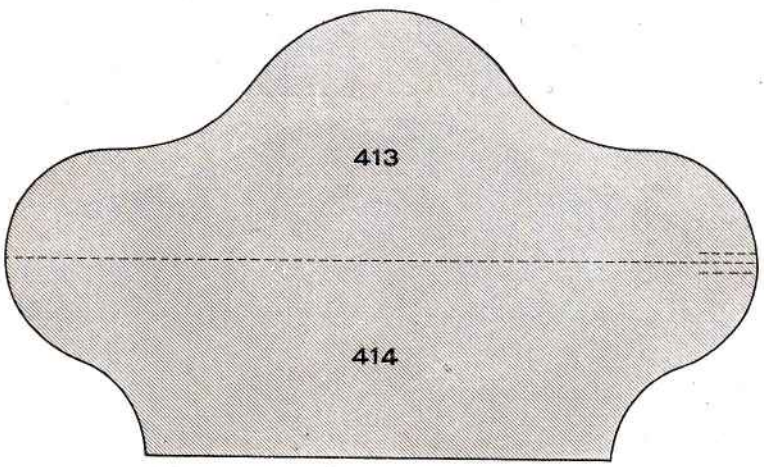


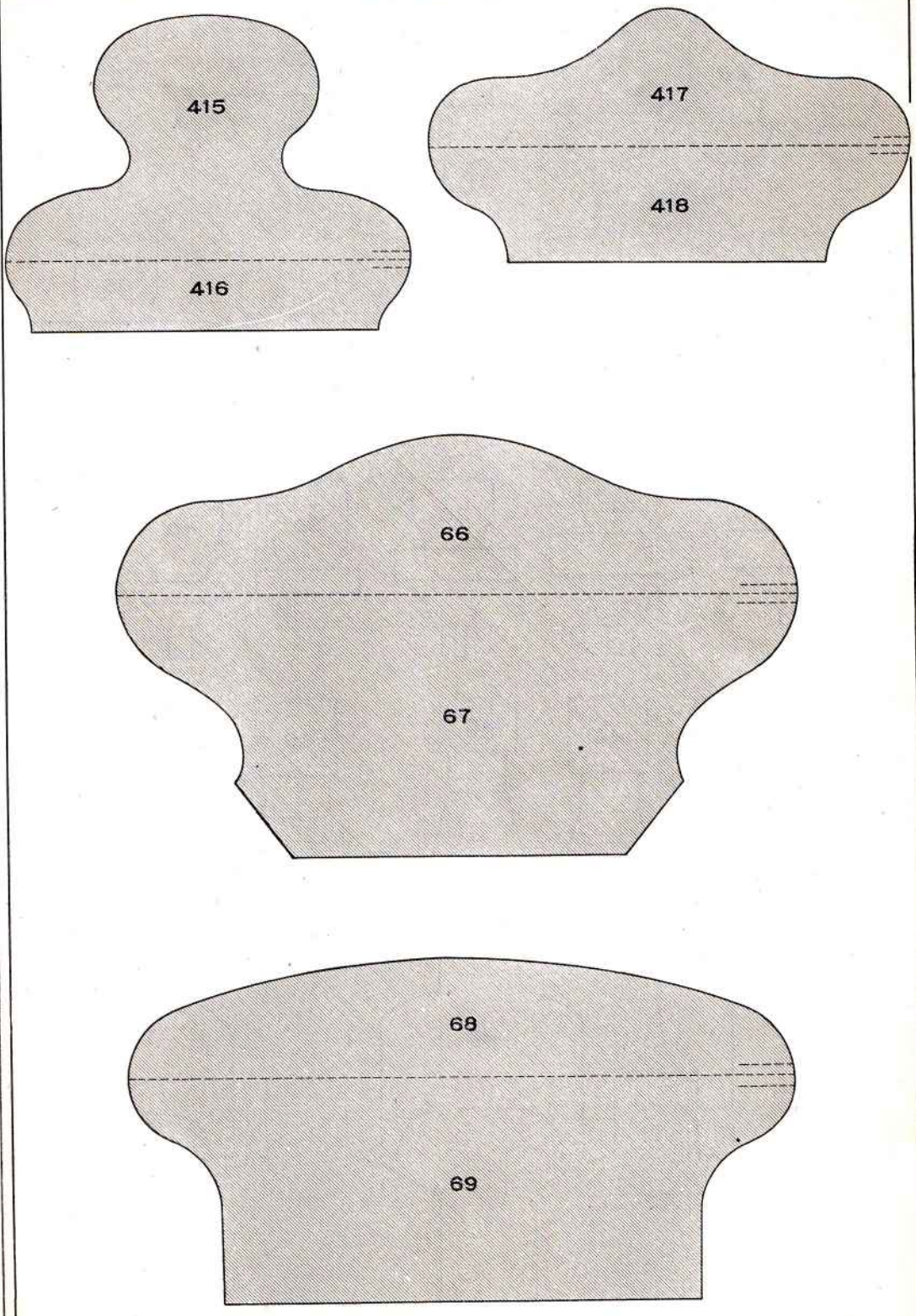

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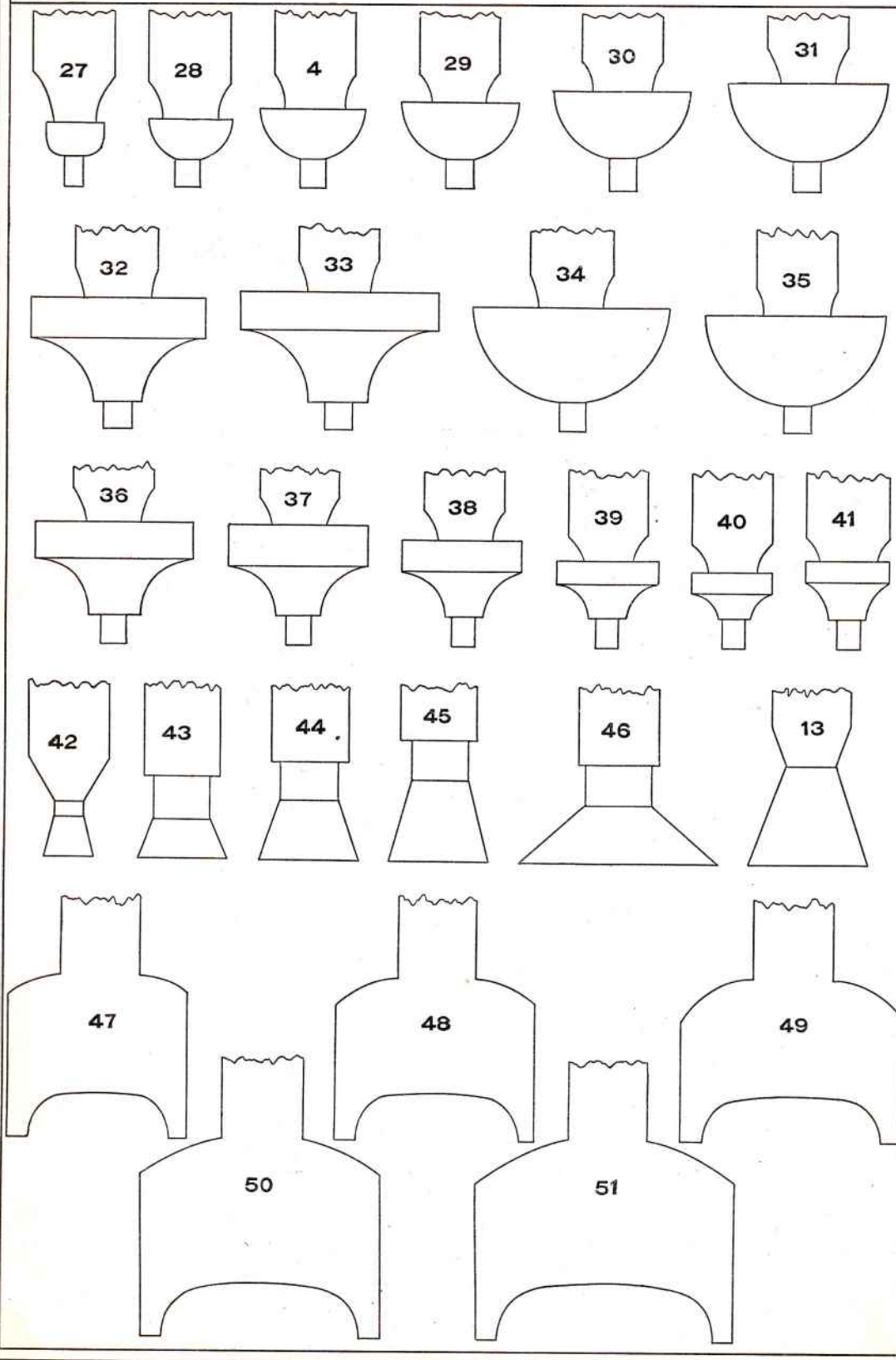
PATTERNS OF STAIR RAIL



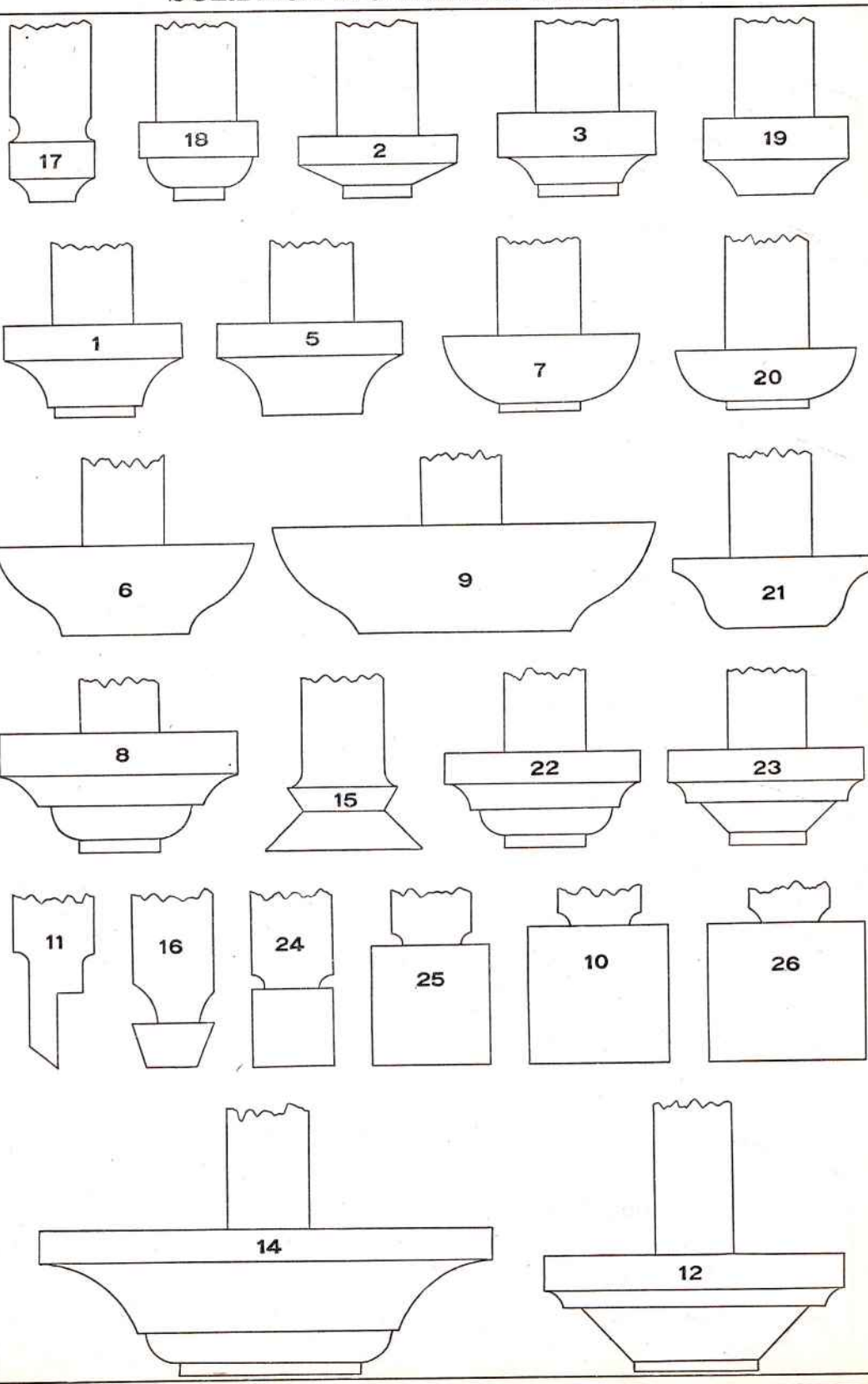




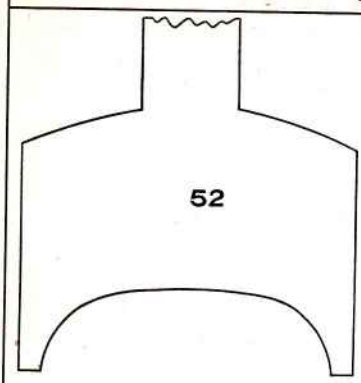

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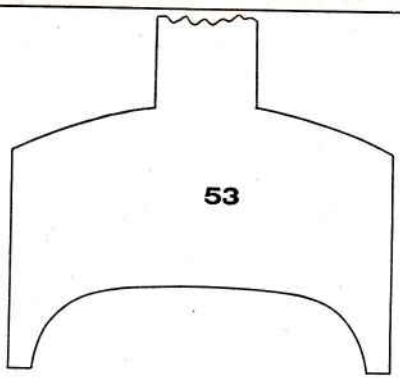

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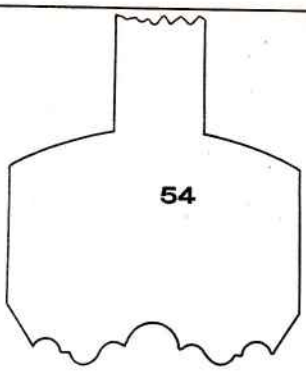
SURFACE MOULDING CUTTERS

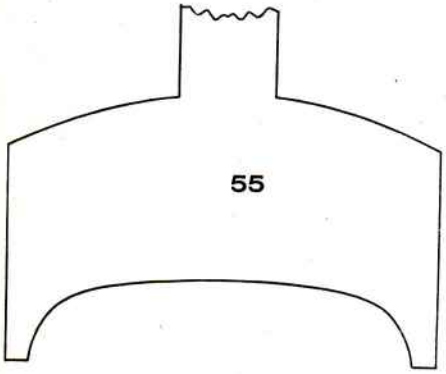


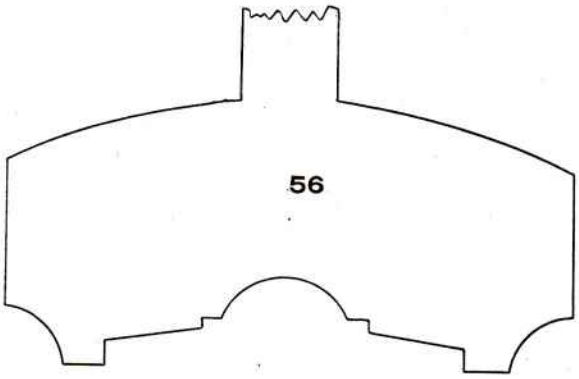
ROSETTE CUTTERS

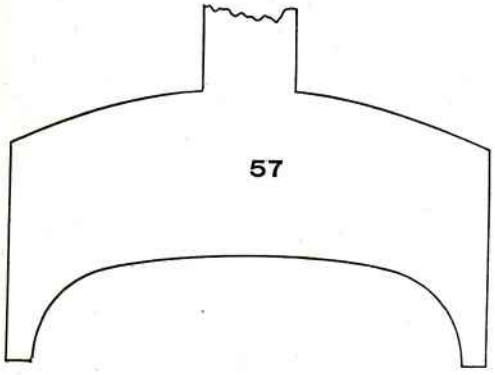


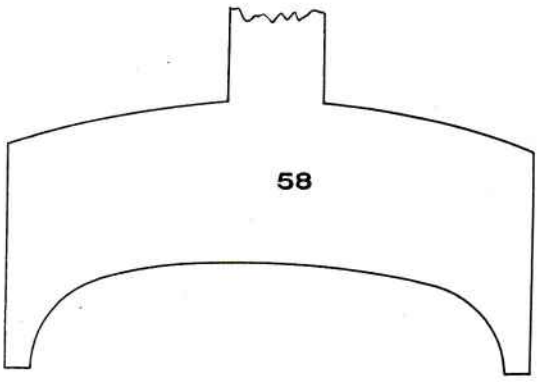


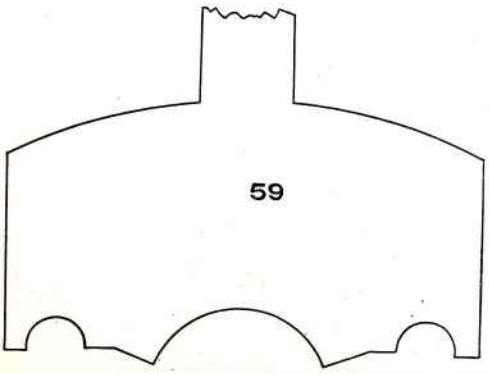


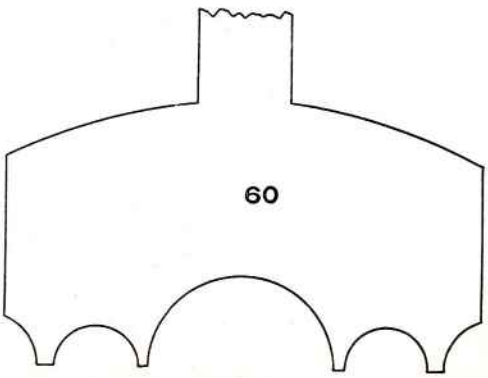


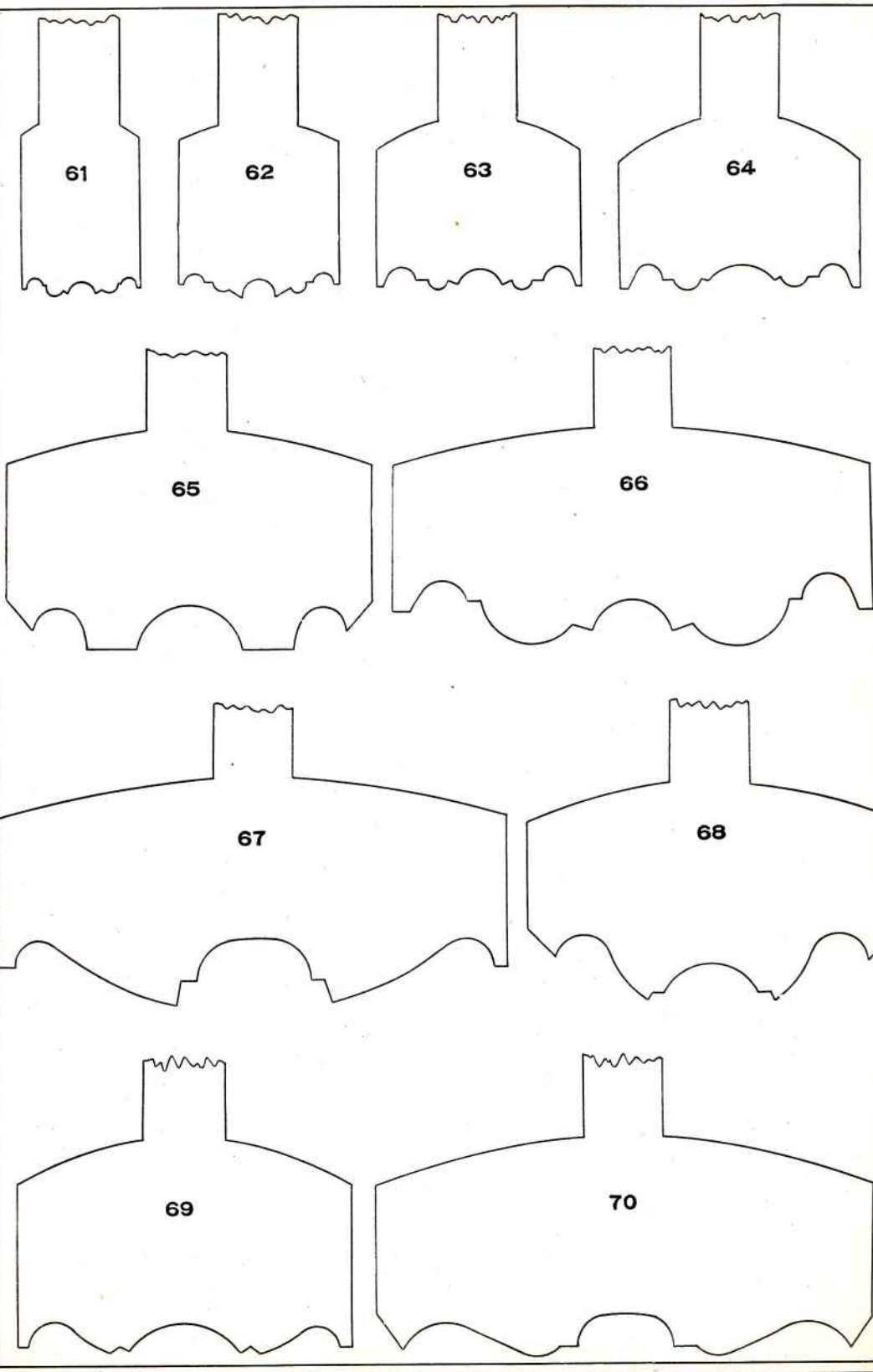




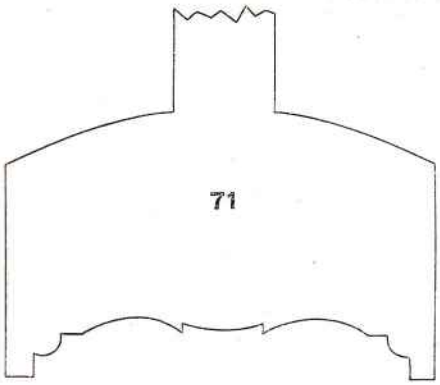


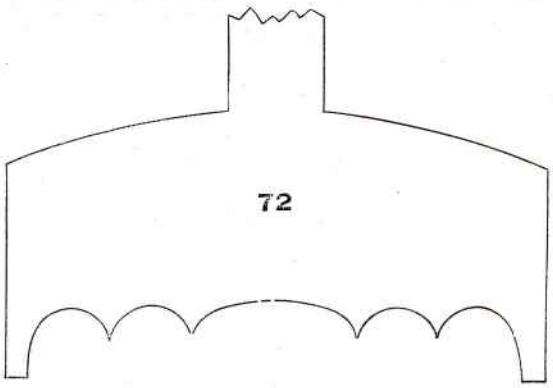


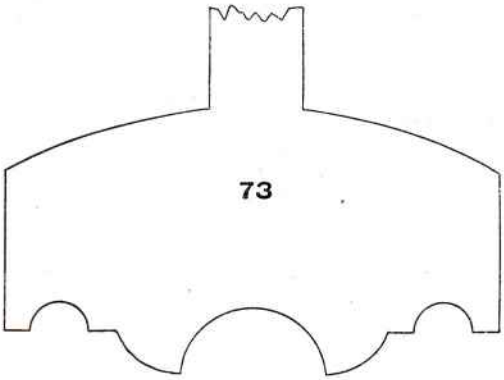


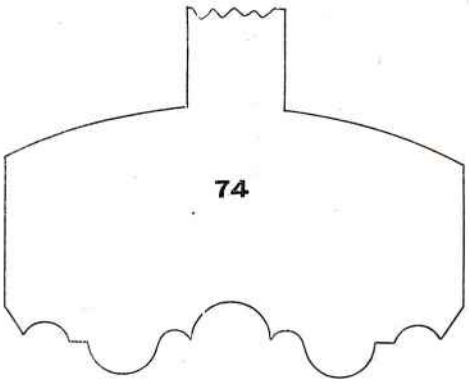

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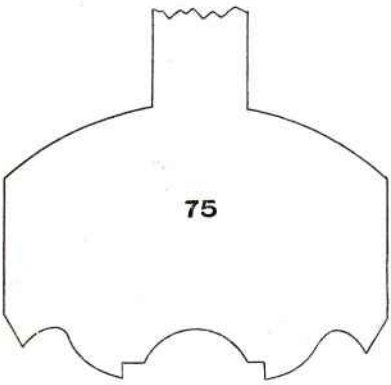
ROSETTE CUTTERS

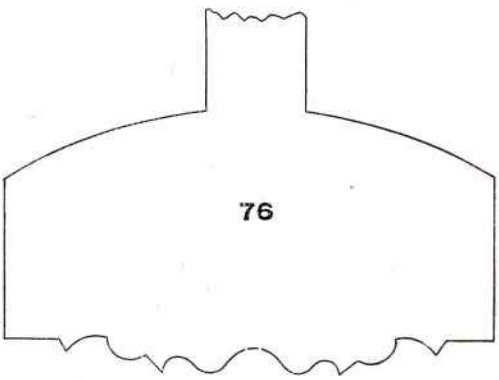


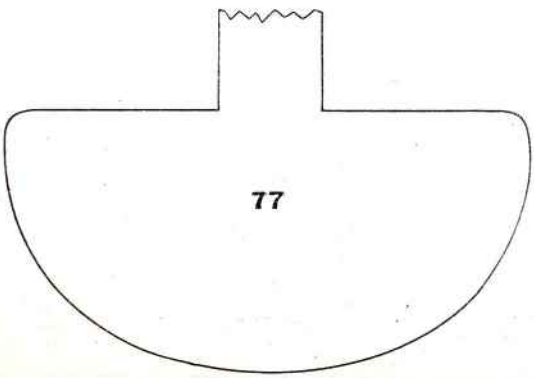


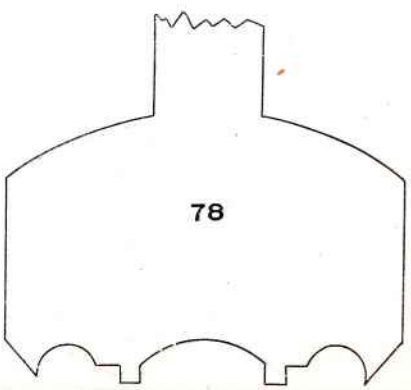


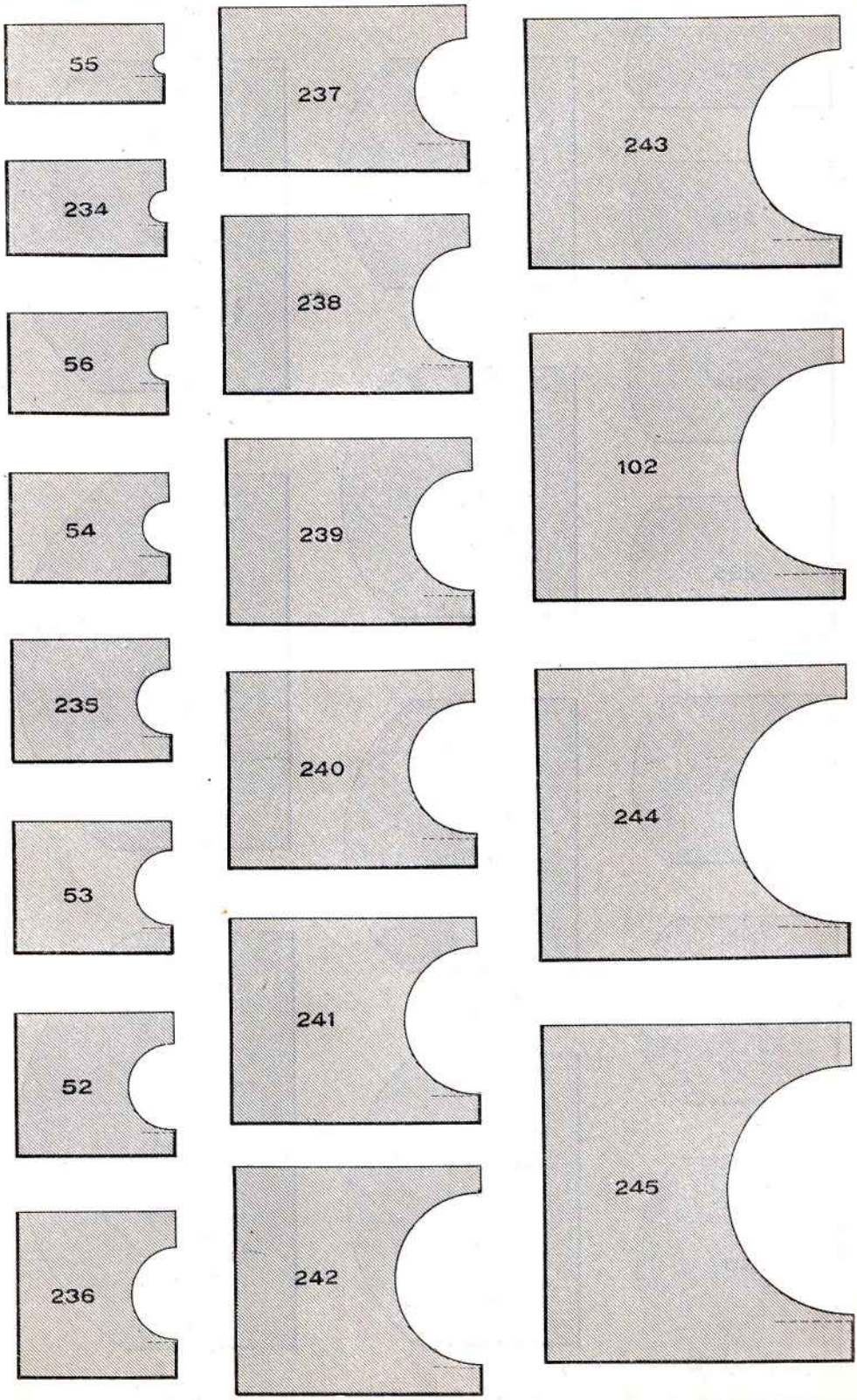




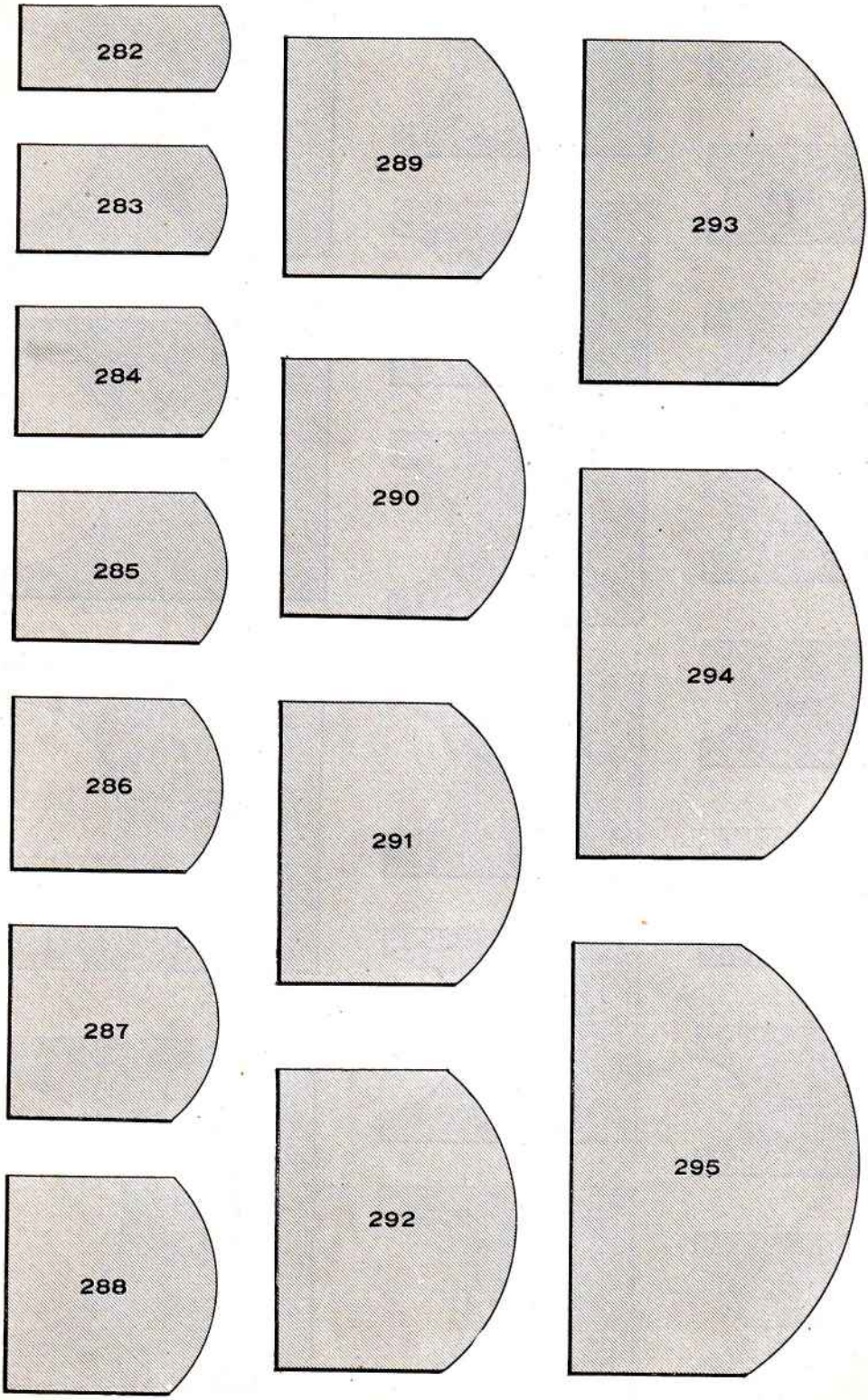


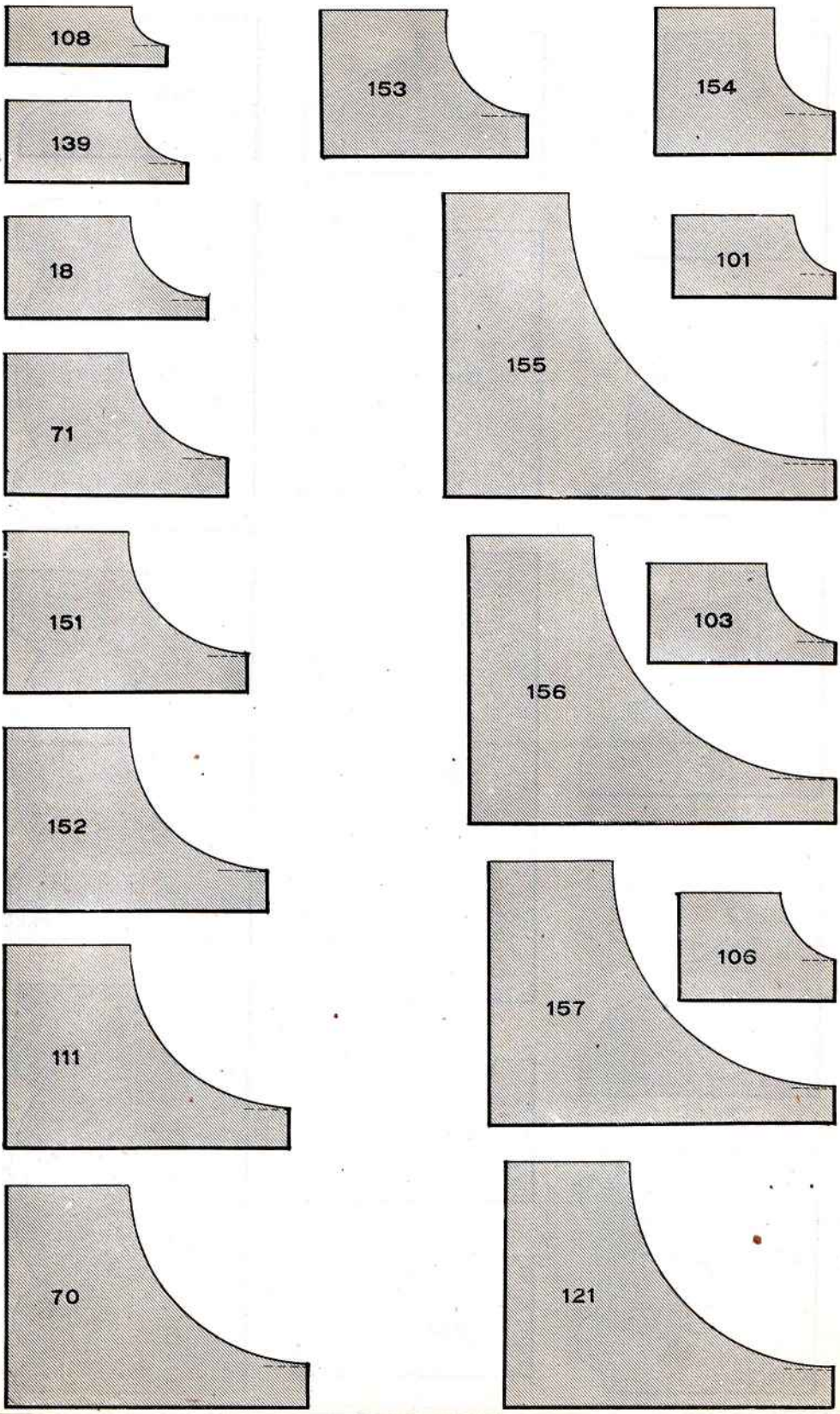




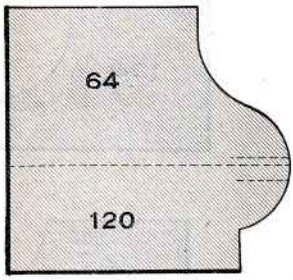

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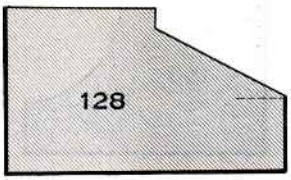
PATTERNS FOR EDGE MOULDING CUTTERS

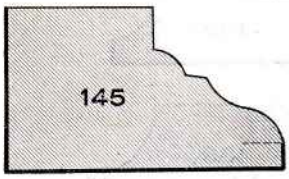


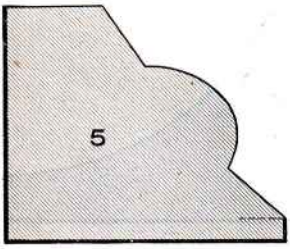

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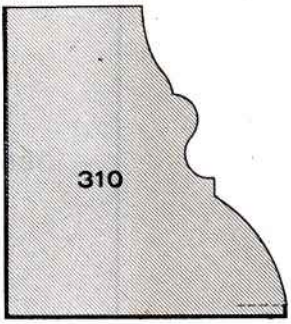
PATTERNS FOR EDGE MOULDING CUTTERS

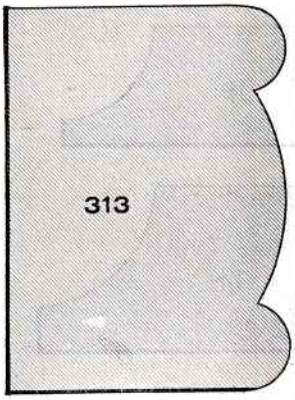


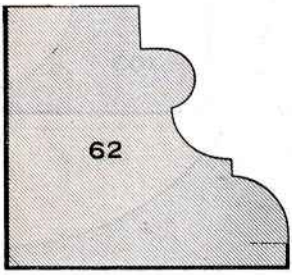


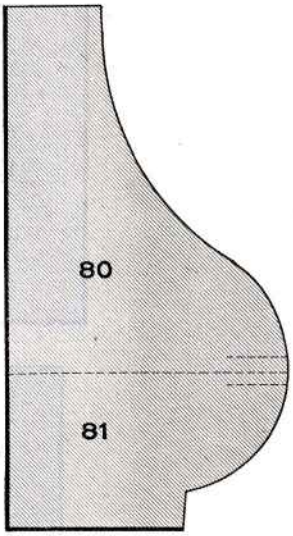


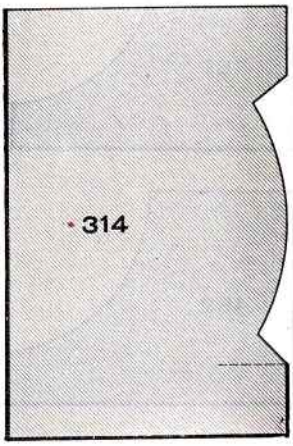


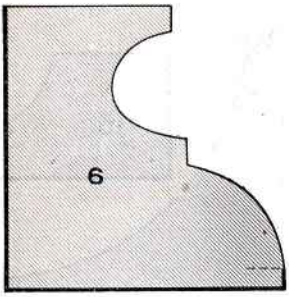


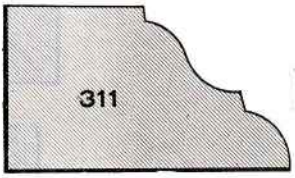


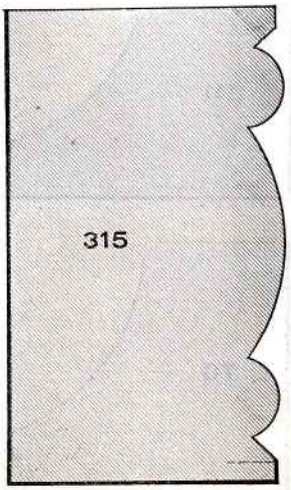


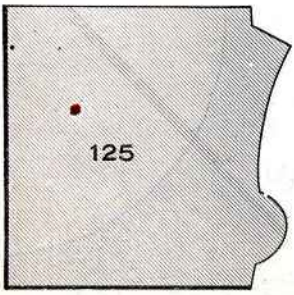


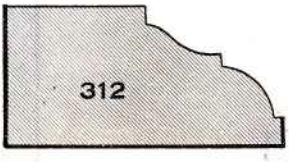


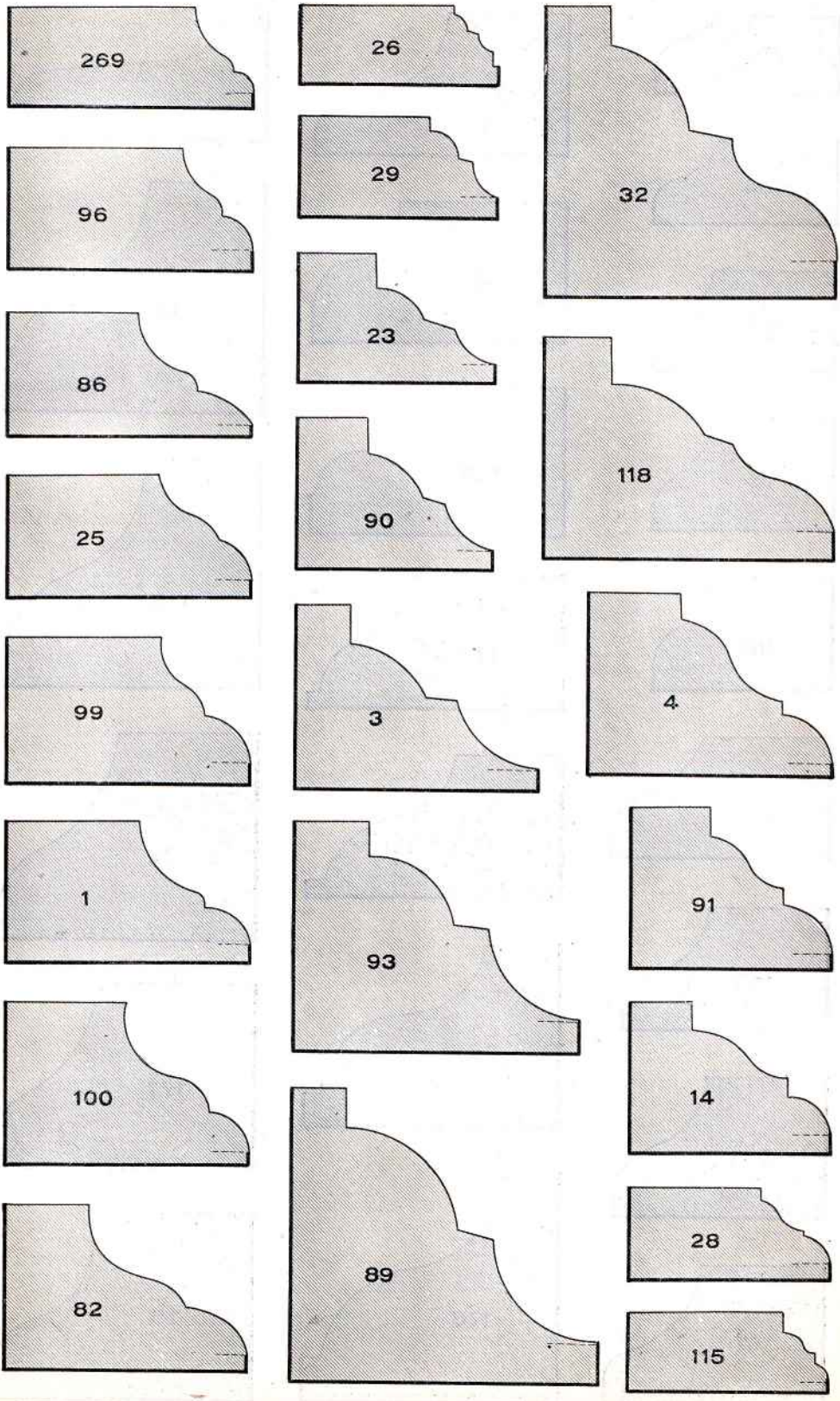




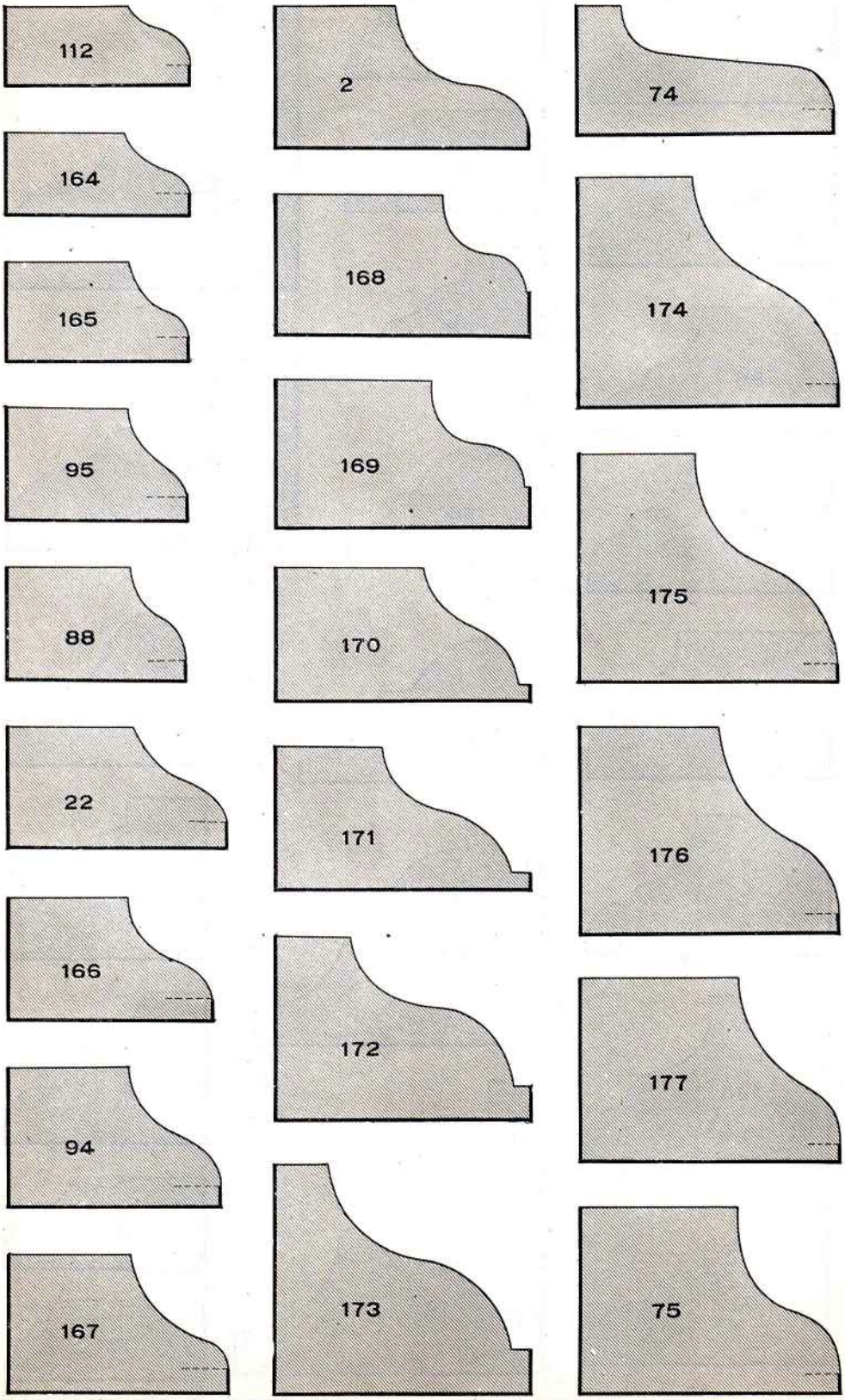


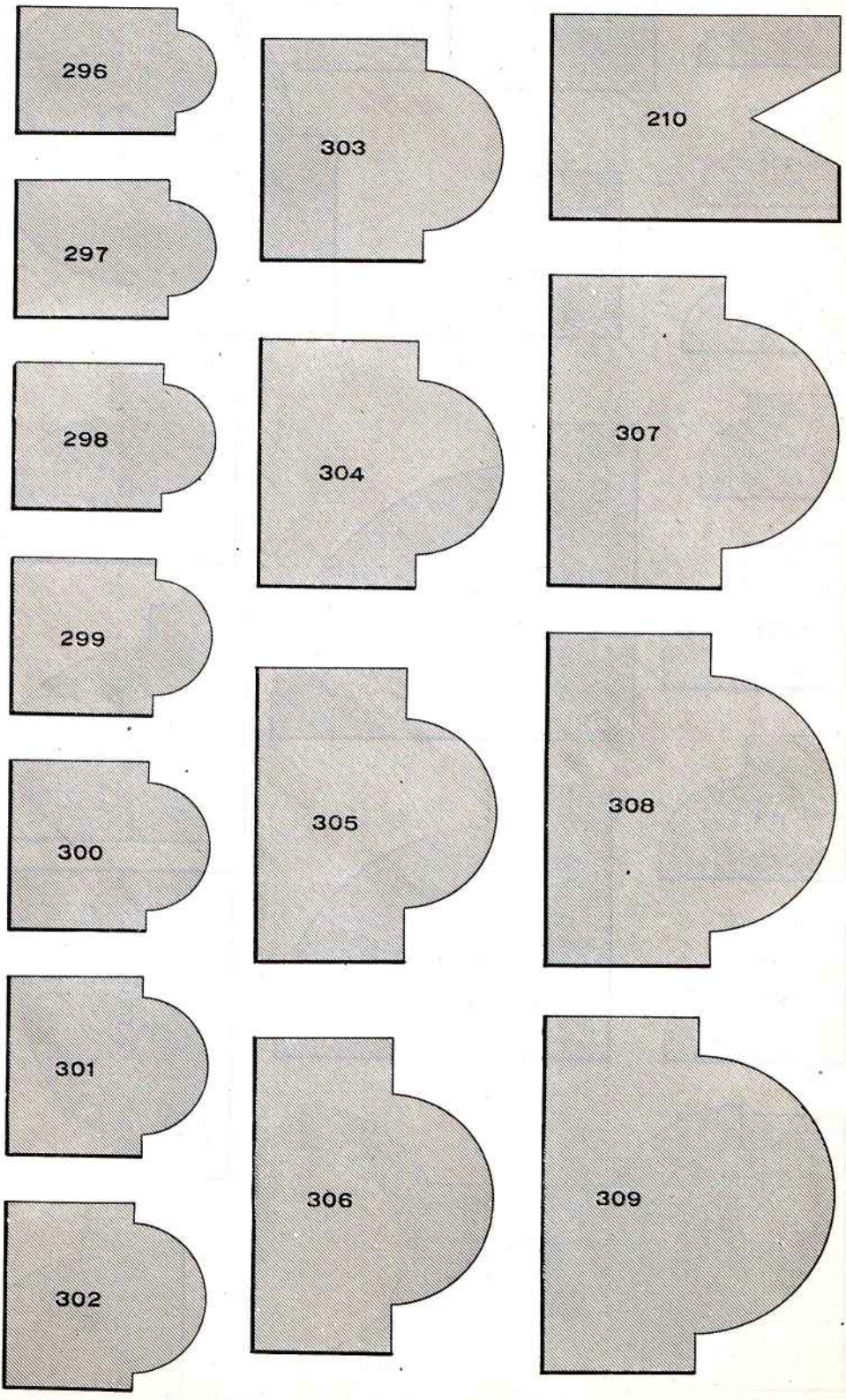




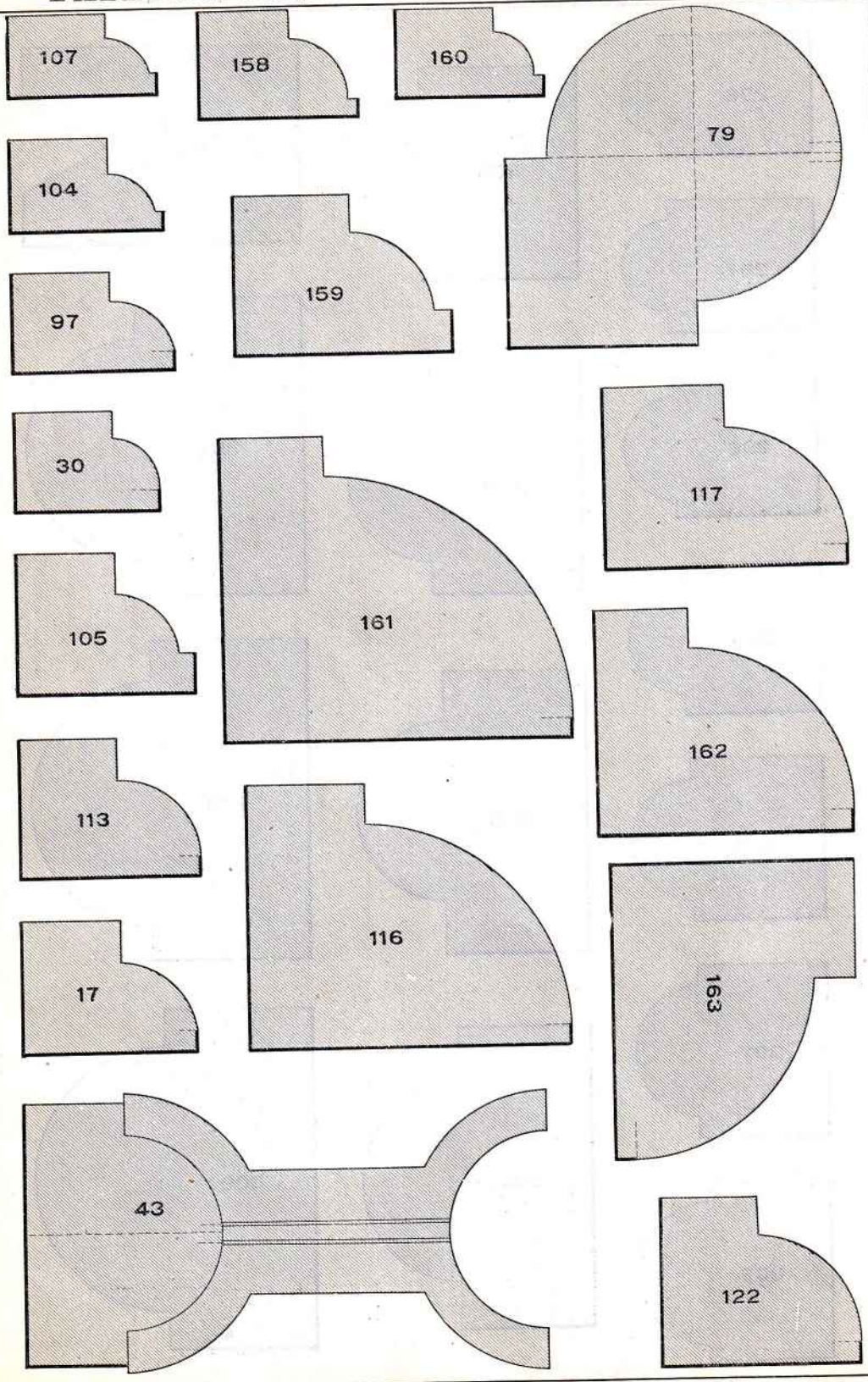

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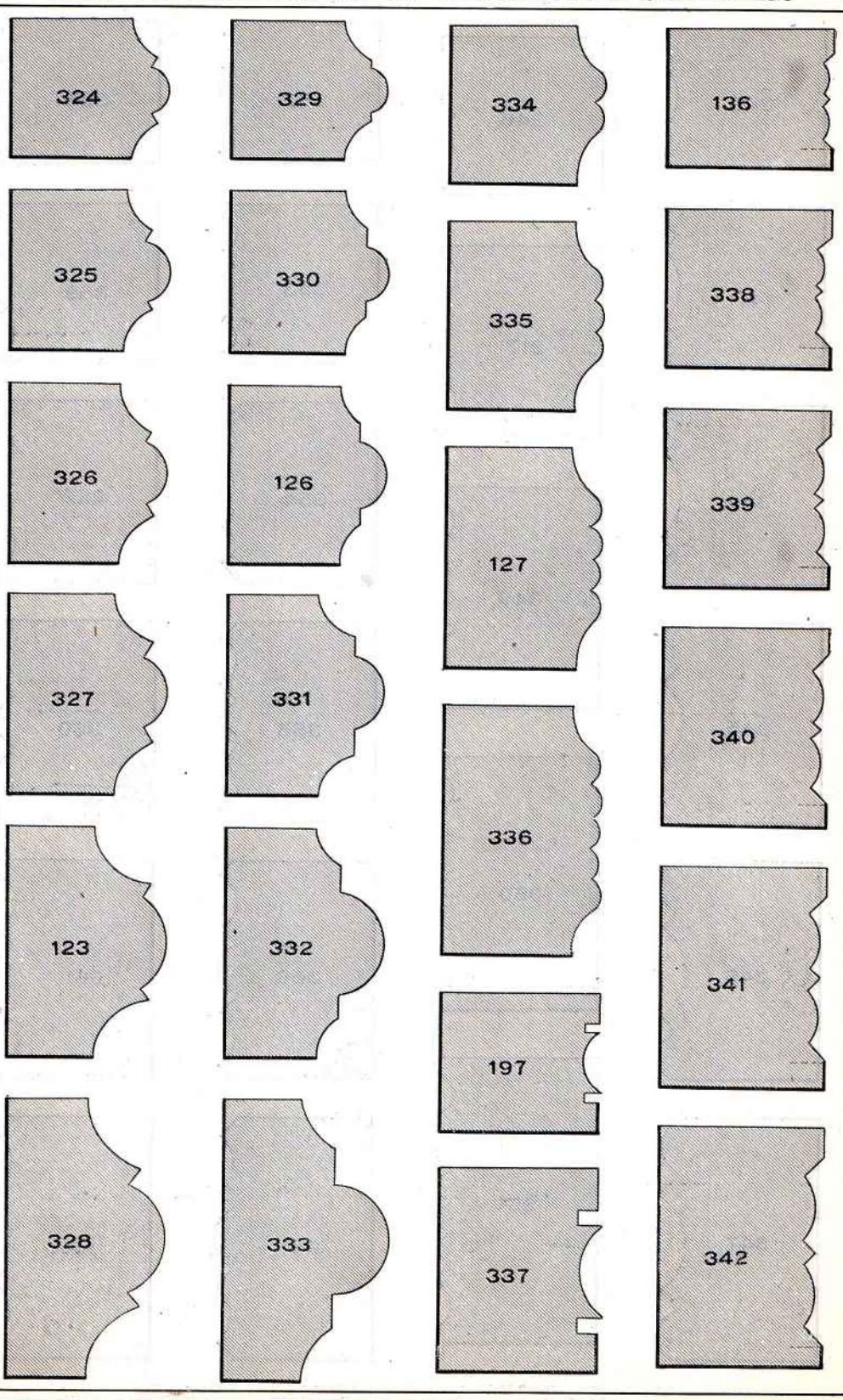
PATTERNS FOR EDGE MOULDING CUTTERS



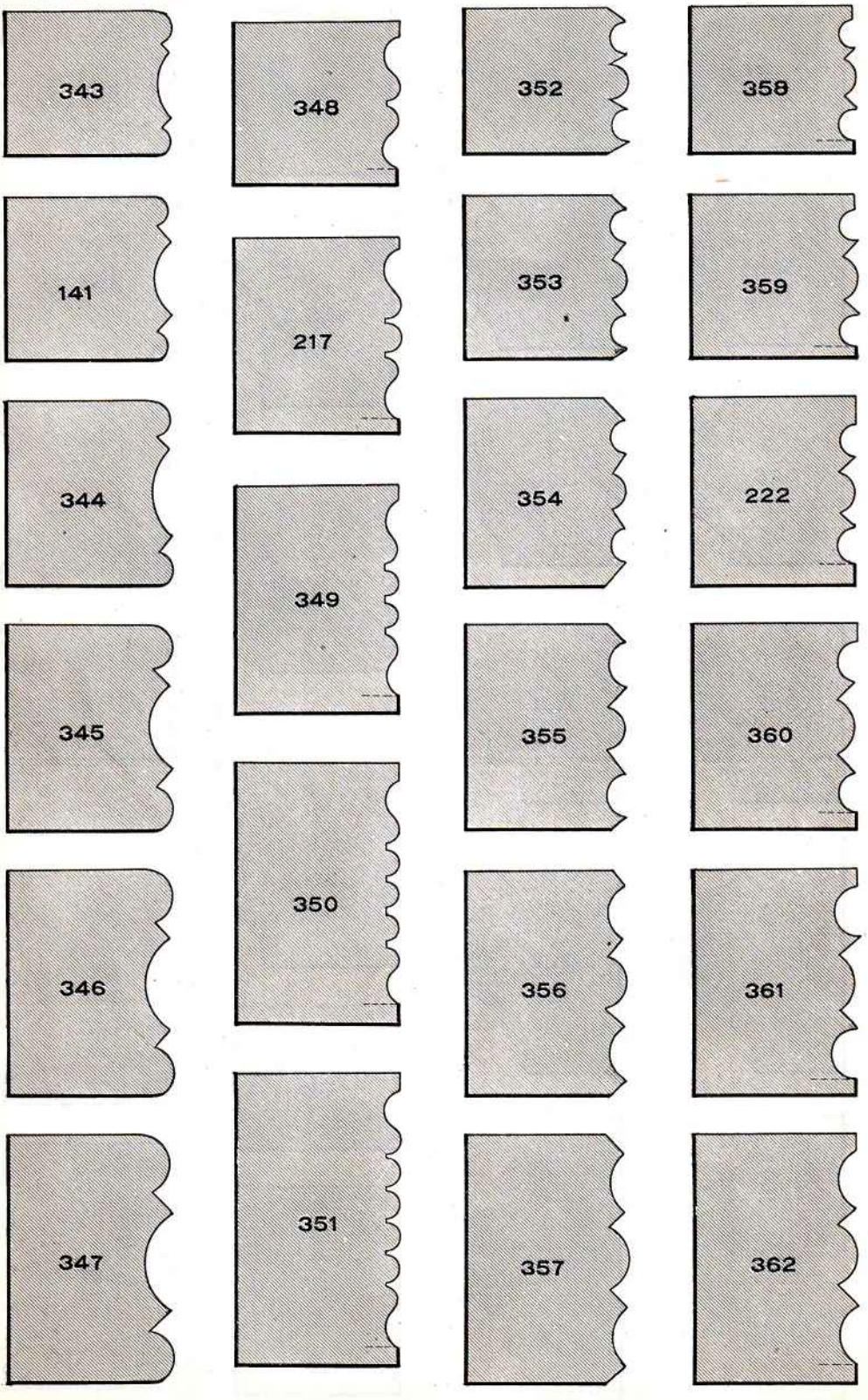

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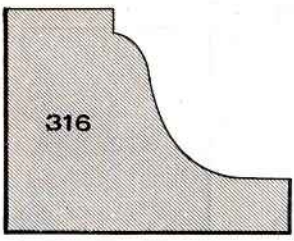
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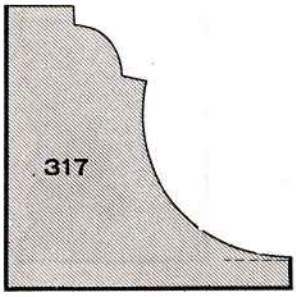


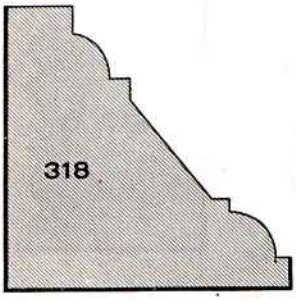

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PATTERNS FOR EDGE MOULDING CUTTERS

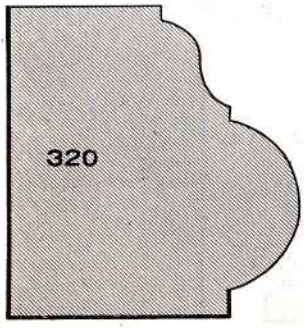


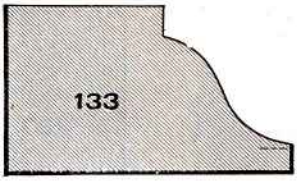

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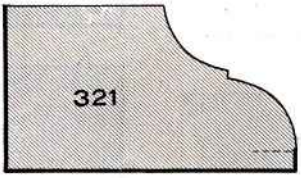

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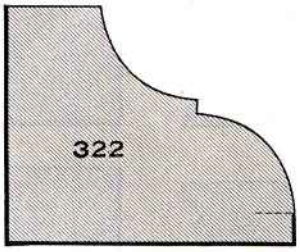

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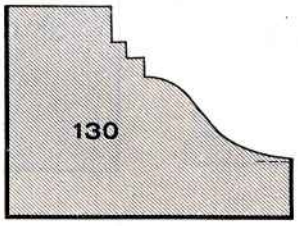

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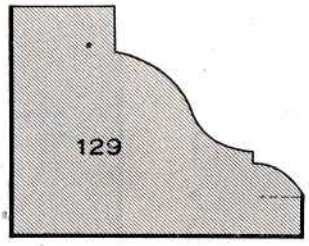

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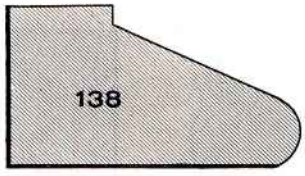

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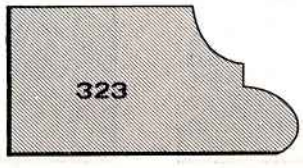

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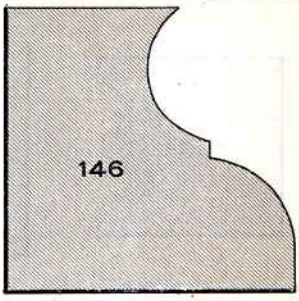

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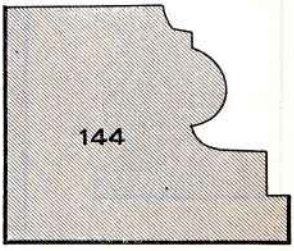

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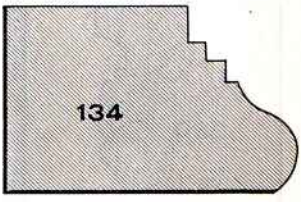

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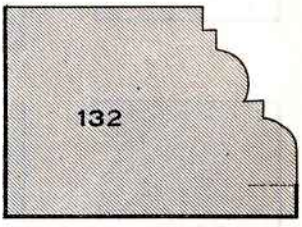

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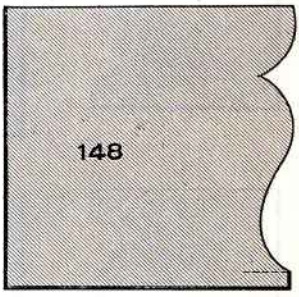

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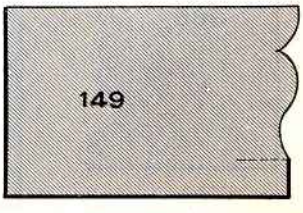

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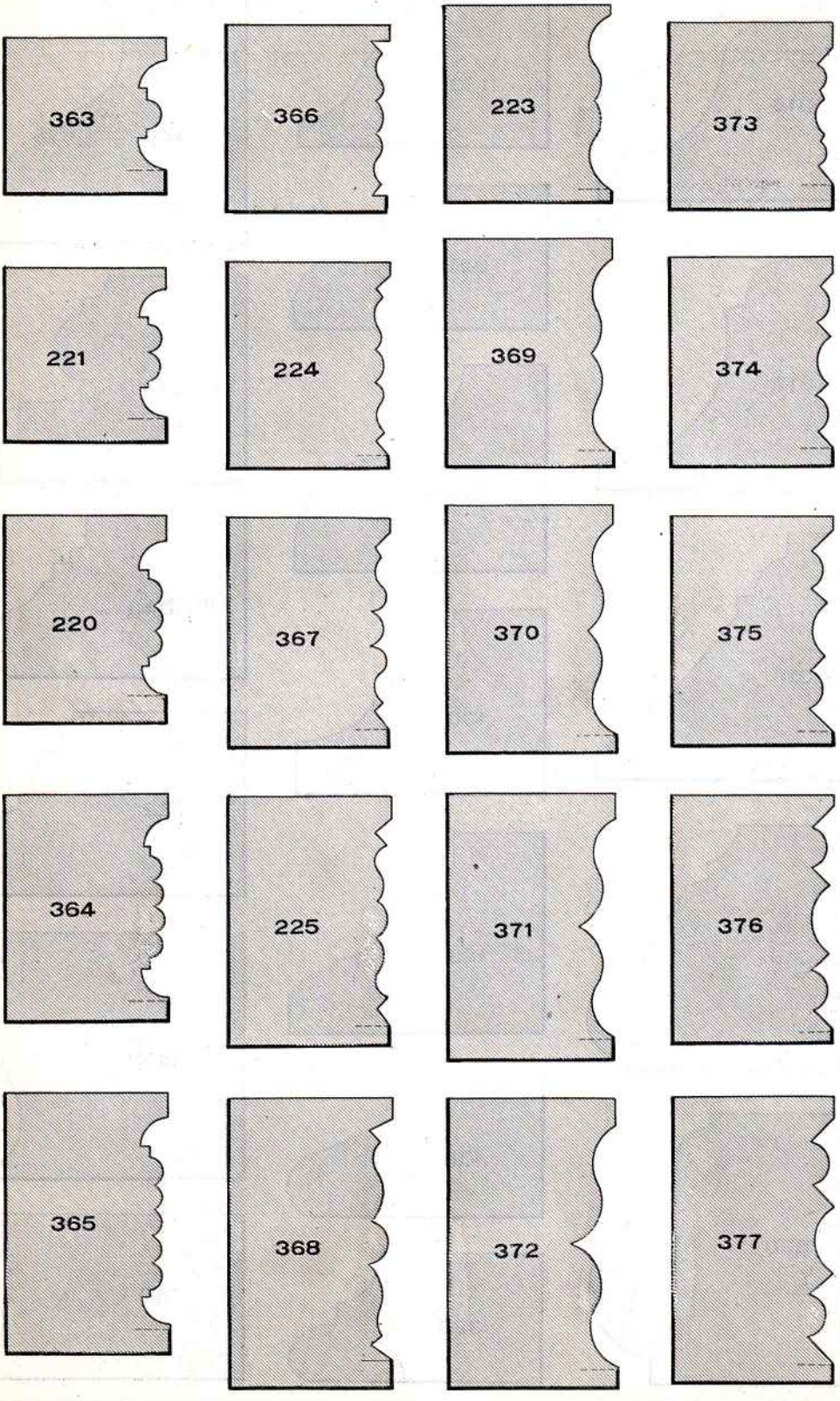

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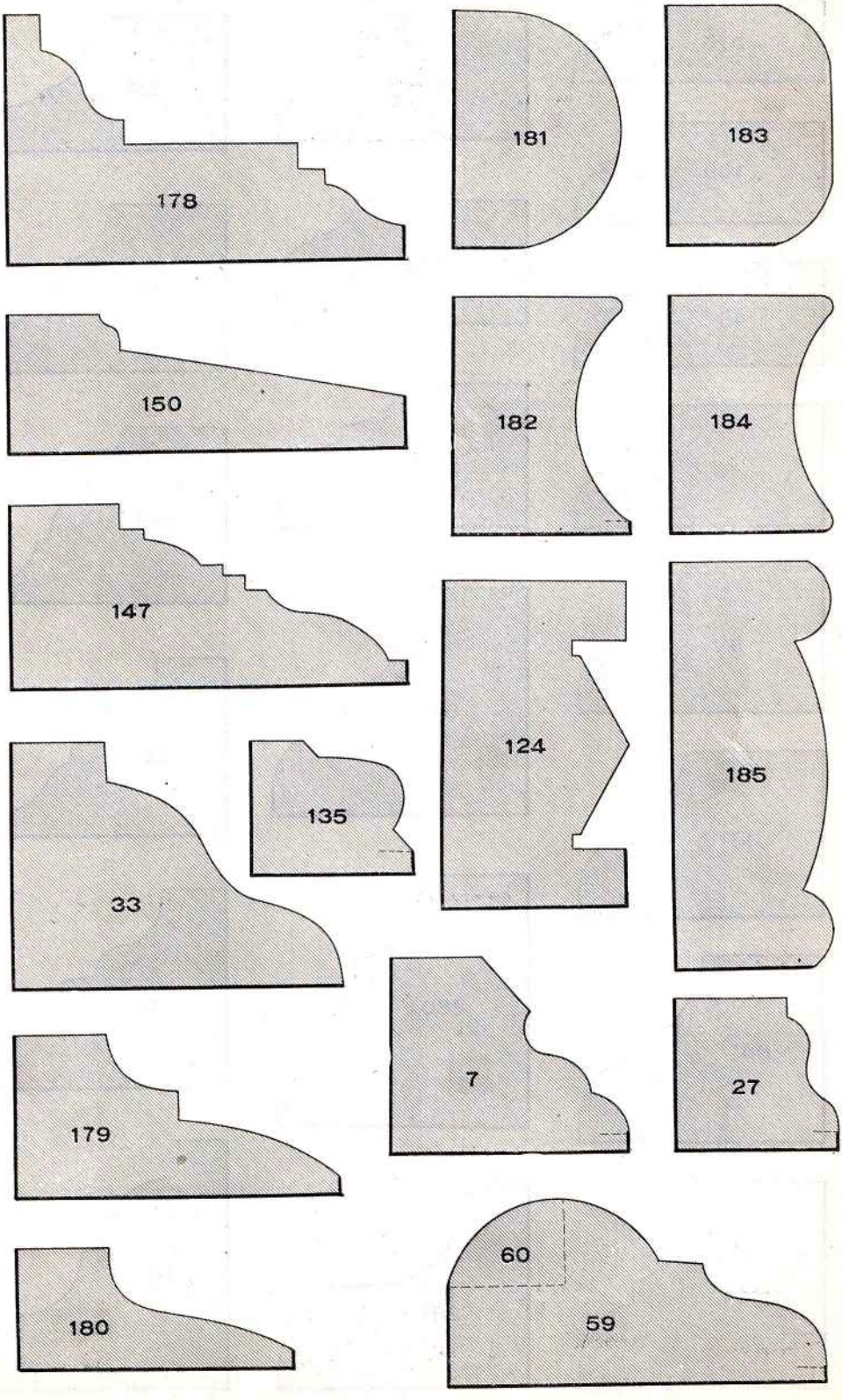

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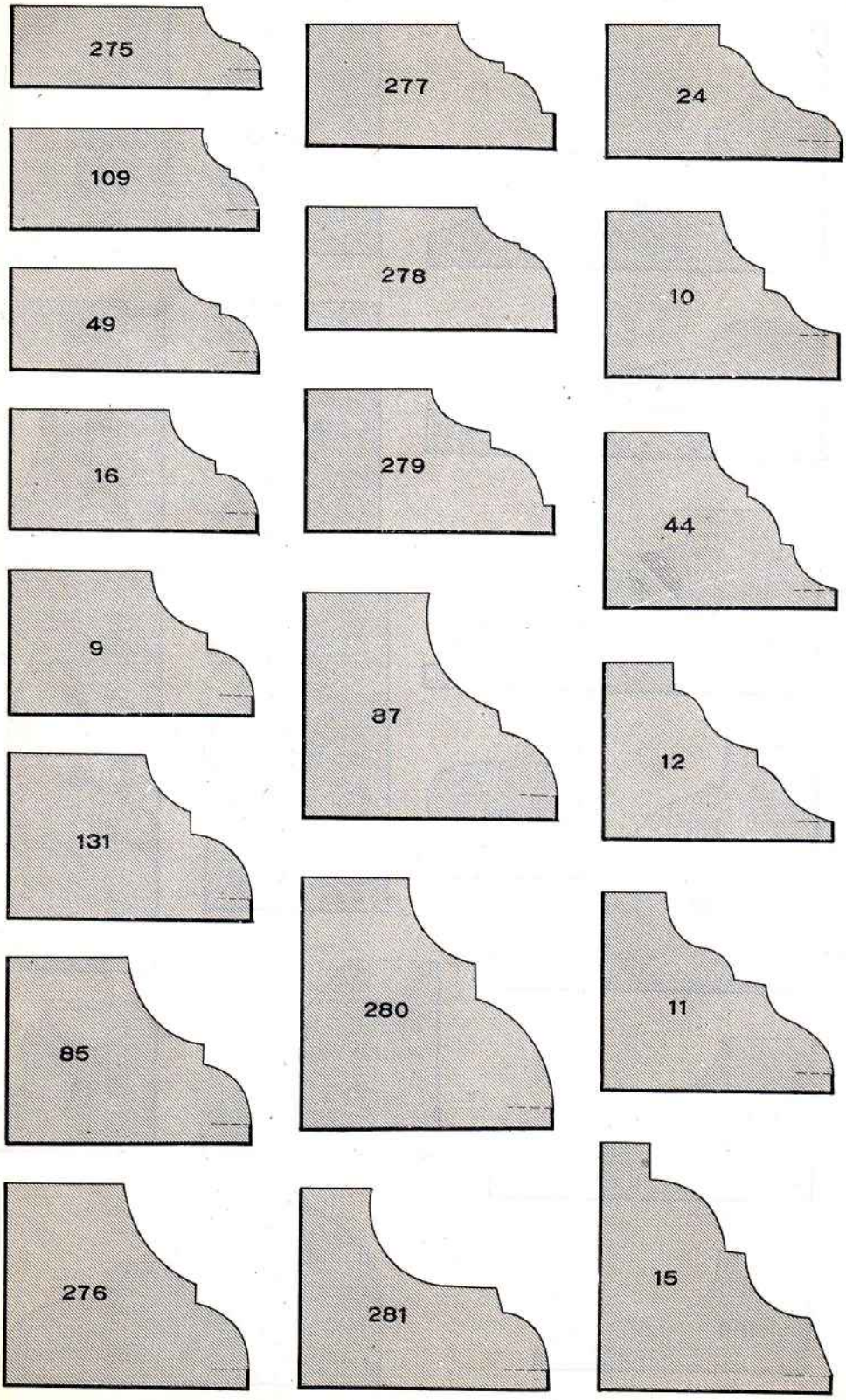

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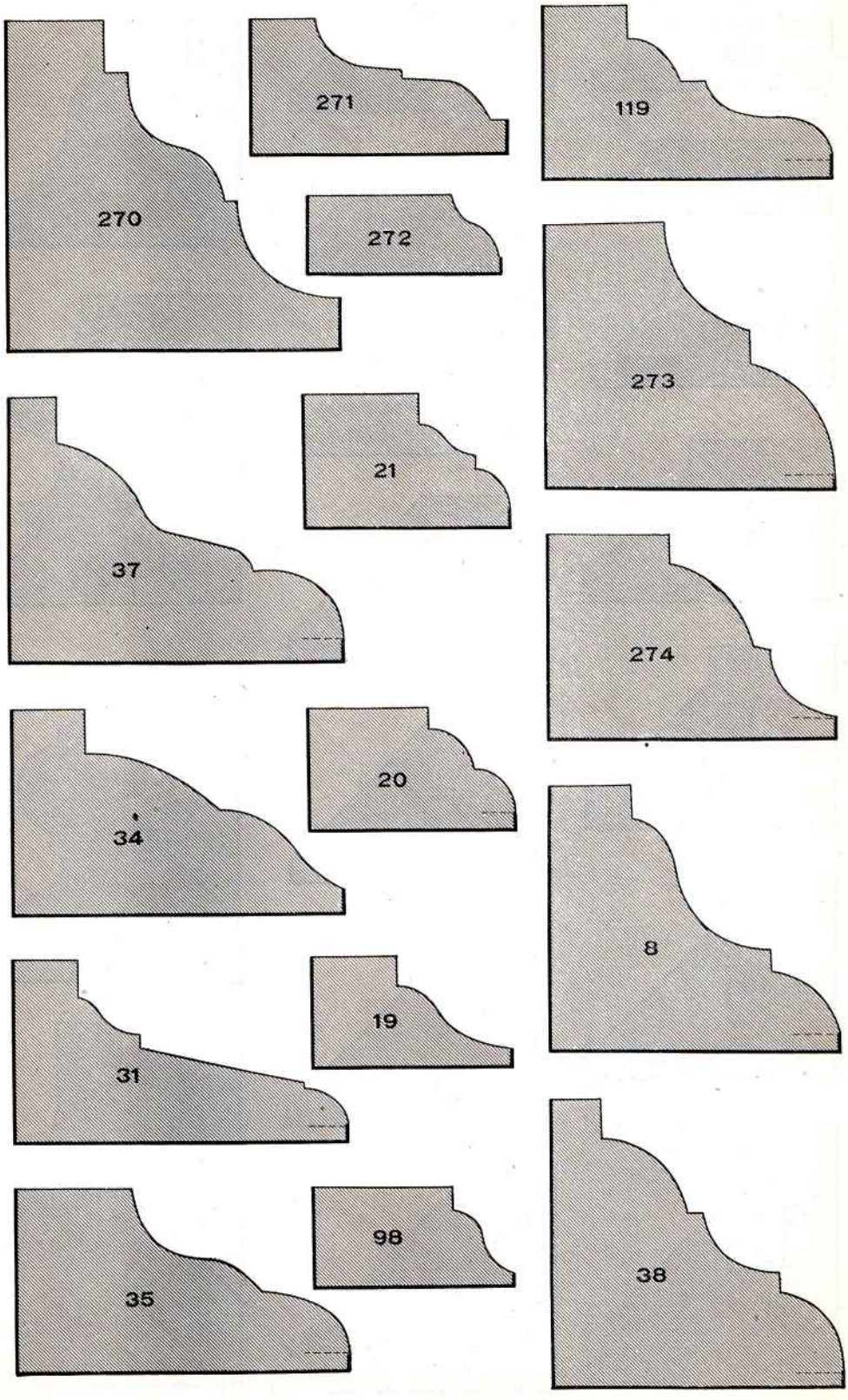
PATTERNS FOR EDGE MOULDING CUTTERS




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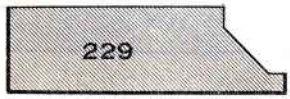
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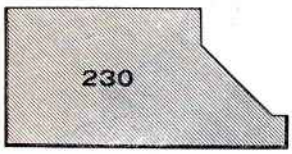


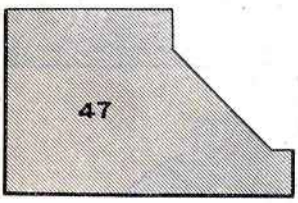

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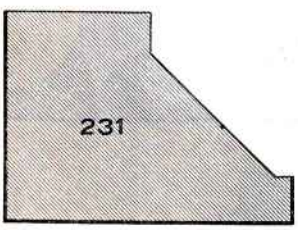
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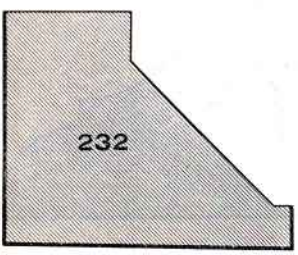


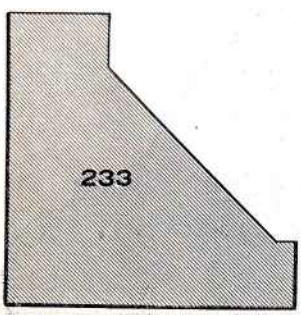


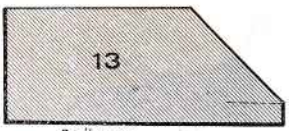




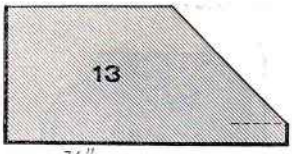




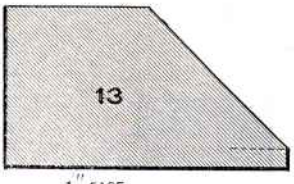




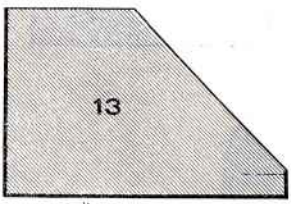
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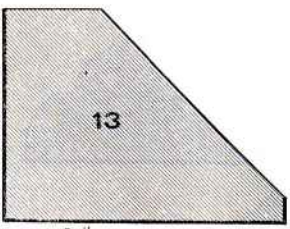
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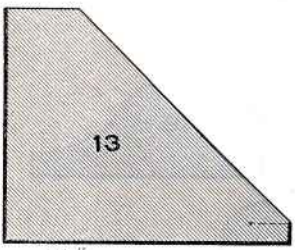
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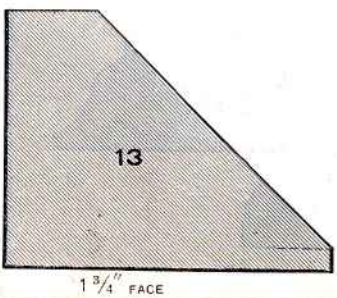
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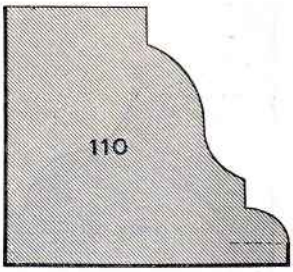
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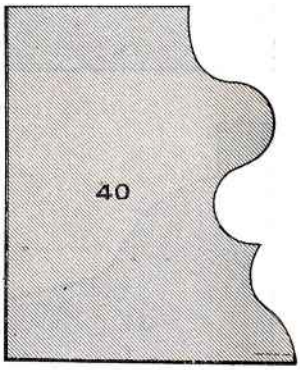


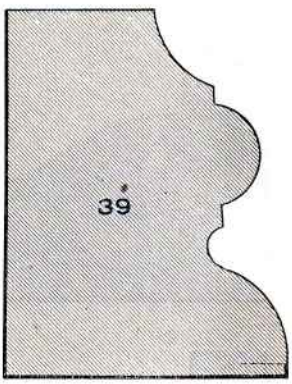
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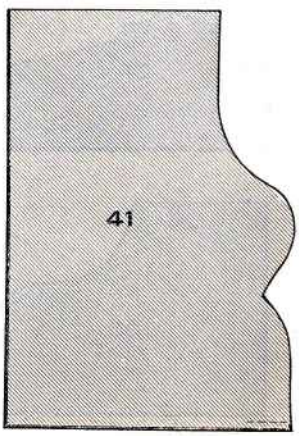


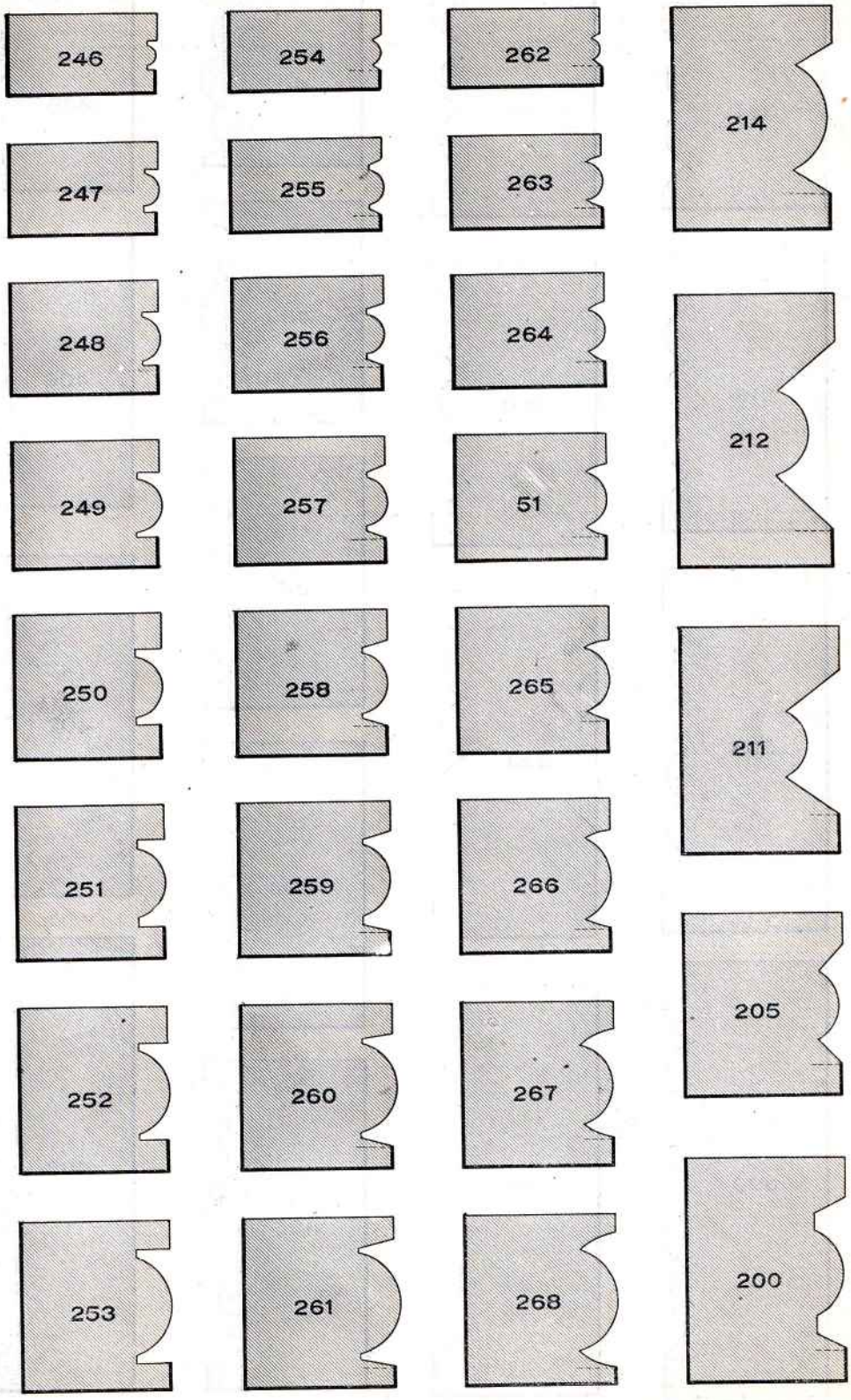
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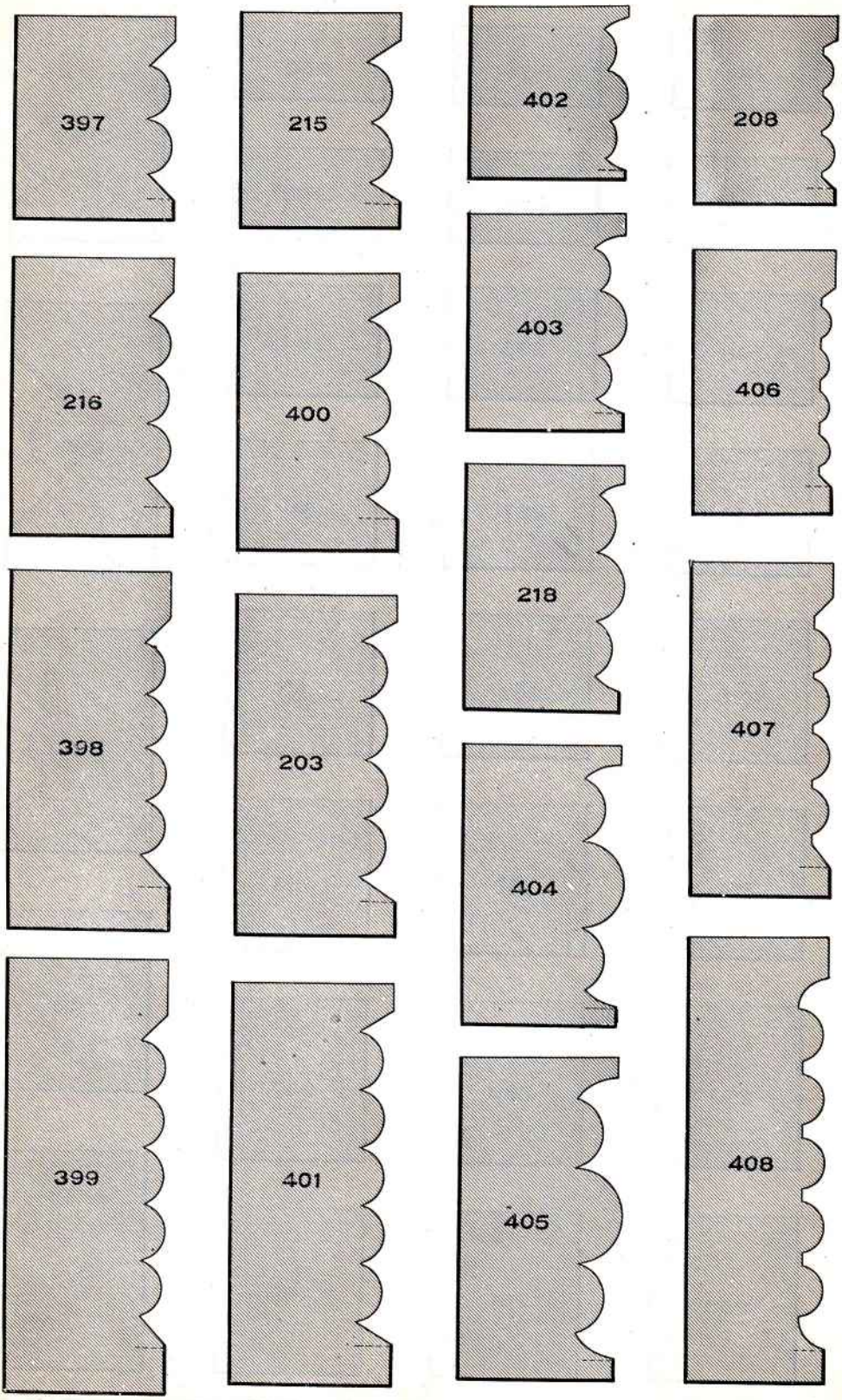


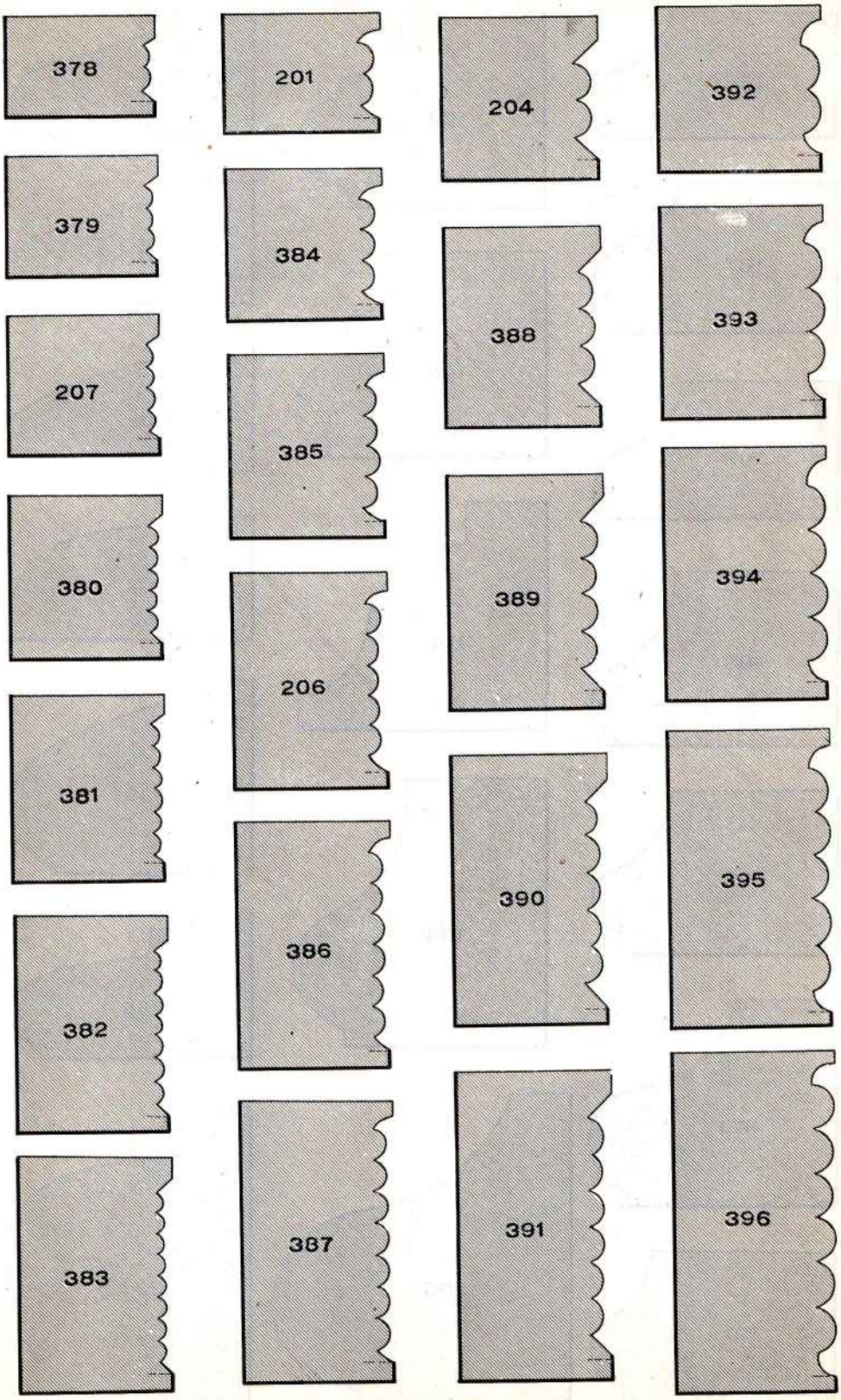




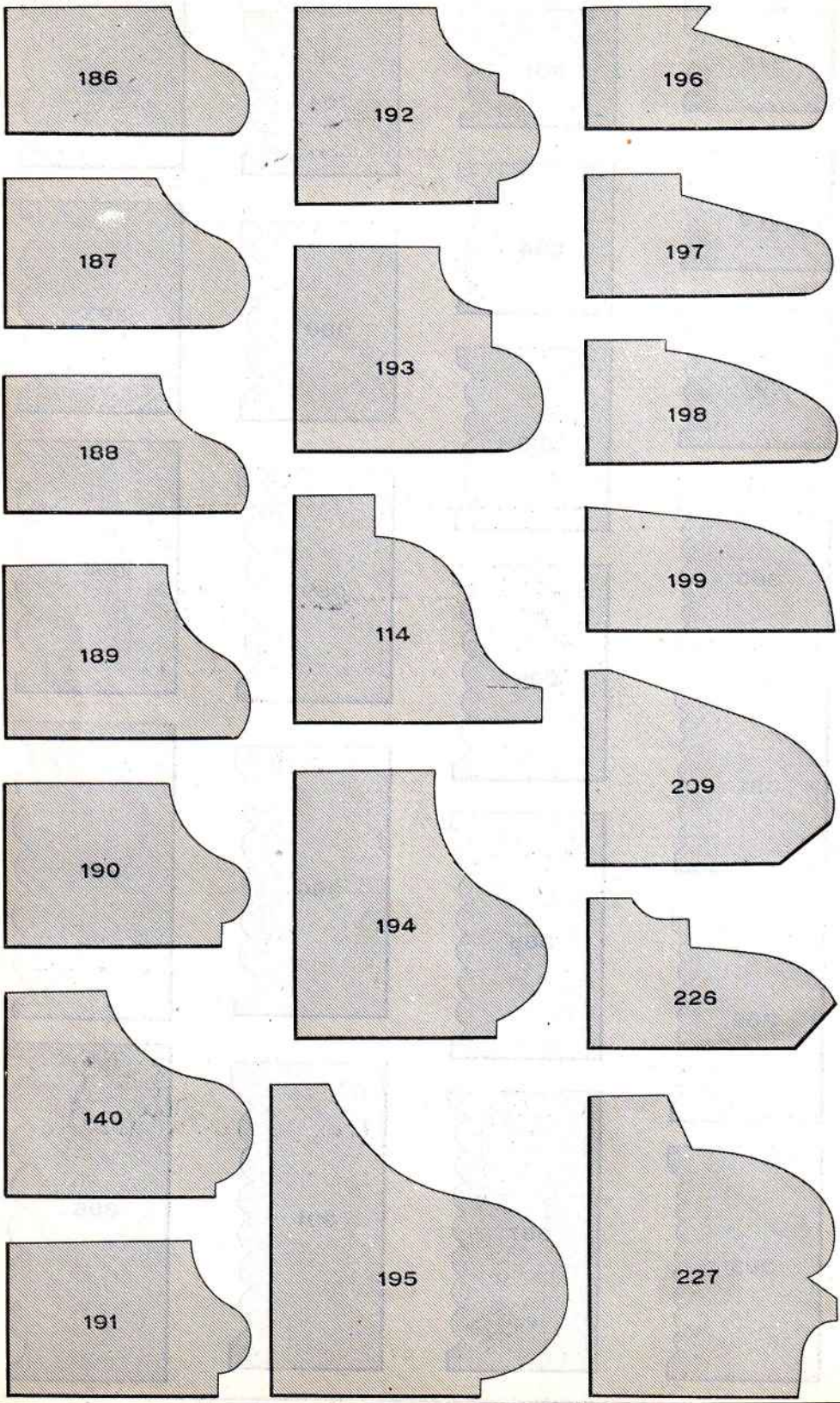

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PATTERNS FOR EDGE MOULDING CUTTERS

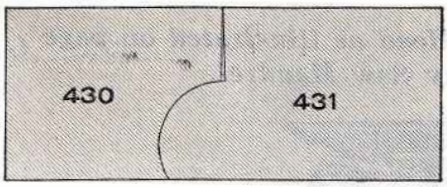


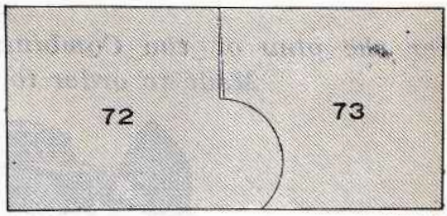

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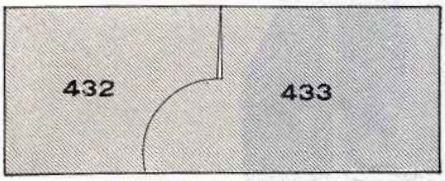
PATTERNS FOR EDGE MOULDING CUTTERS

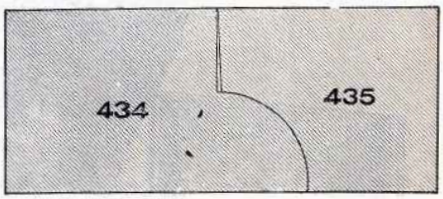


DROP LEAF TABLE JOINT.

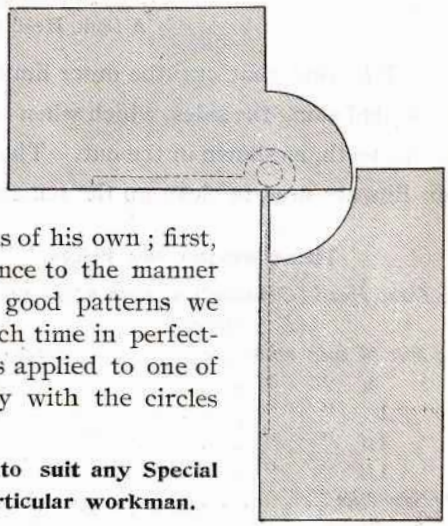








There are some peculiarities in making Cutters for working Table Joints.



Every practical table maker will have ideas of his own ; first, with reference to the shape ; next, with reference to the manner of hinging them. We show above several good patterns we know to be shaped correctly, having spent much time in perfecting them. We also represent how the hinge is applied to one of the patterns to work smoothly and in harmony with the circles of the joint.

We make Reversible and One-way Cutters to suit any Special Pattern, and to please the fancy of the most particular workman.

EXPANDING DADO HEAD.

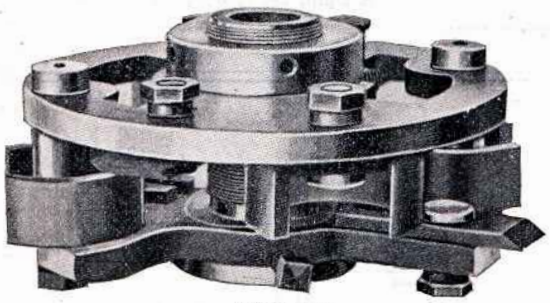


FIG. 471

This Head is arranged with side spurs or Saw Bits which cut down smoothly the square offset to form the groove, while the Circular Bits readily operate upon the central portion removing it and leaving a nicely finished groove, with or across the grain of the wood. The Bits will expand to nearly double the thickness of the narrowest groove they make, and with wider or thicker Circular Bits their range of expansion is readily increased up to 2″ or more.

Price, with 4 Bits and 4 Saws 8″ cutting diameter or less $17.32
" " " " " *over 8″ to 10″ diameter*. 21.65

HOW TO MEASURE, SEE NEXT PAGE.

The Shimer Cutter Head

After the plan of the Combination Head as illustrated on page 152
Made to order to fit any Saw Mandrel.

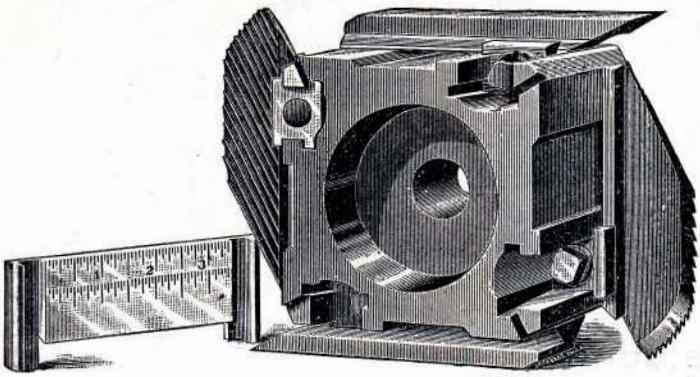


FIG. 103.
A Dado Head with Adjustable Bits.

The Bits that cut the outer limit of the Dado work have spurs as a part of the Bit, serated along the sides, which when brought to an edge, make very durable Cutters like saw teeth, as shown in the cut. These Bits are set to cut wide or narrow. Other plain Bits are used to clean up the remaining portion of the cut.

These are Our Net Prices.

One Dado Head (Combination) without the Bits.	$13.13
" " " (*Expansion*) " " "	15.23
The Bits ½ inch wide . . . . . *Each*	.84
" ¾ " " . . . . . "	1.05*
" 1 " " . . . . . "	1.31‡
" 1¼ " " . . . . . "	1.47
" 1½ " " . . . . . "	1.78
The Saw Bits . . . . . "	1.84*
" " *Spurs*. . . . . "	.79‡
*The Dado Head, Fig. 103, complete to cut 1¼ wide**	18.90
" " " *Fig. 104,* " " *1¼ wide*‡	21.00

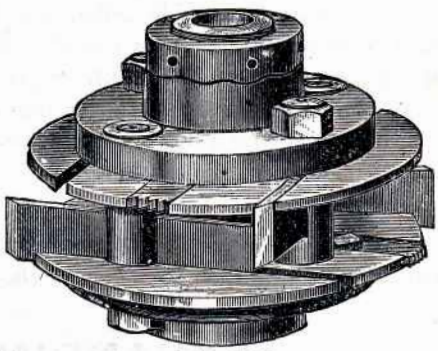


FIG. 104
A Dado Head with Expansion.

How to Order Dado Heads:

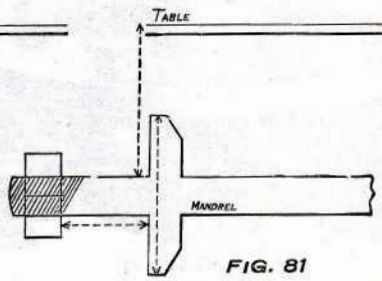


FIG. 81

1. File a wire the length of which will give the exact diameter of the mandrel .....
2. Give length of mandrel from collar to nut .....
3. Give diameter of collar....
4. Give diameter of nut.....
5. Give distance from mandrel to top of table when properly adjusted.....
6. How wide do you want to cut the groove.....
7. How narrow do you want to cut the groove.....

The Shimer Dado Head

For use on a Saw Bench, with Short Spindle.

How to Order, see bottom of page 212

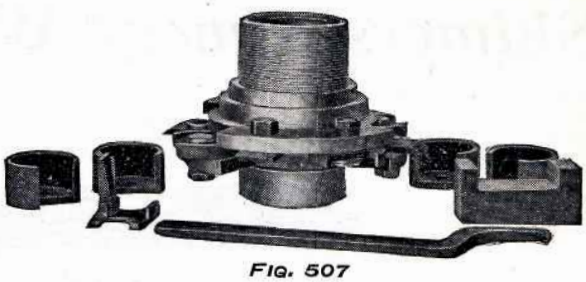
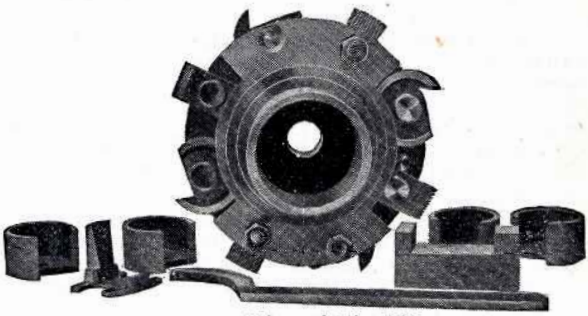


FIG. 507



Bottom View of Fig. 507.

This Dado Head is built especially for short spindles, such as used in the usual saw bench. It is held to the spindle between the usual collars, the nut passing into the recess of the hub.

The Head is made in two sections, one sliding over the other, and the flanges interlock in a substantial manner. The movement of the head sections is under control of the neatly devised expansion ring with automatic locking mechanism similar to that in use in The Shimer Expansion Matcher Head illustrated elsewhere.

The Head will expand from ¼" to 2" and will cut grooves any width for which suitable Bits are had. A set of Bits for cutting ¼" wide groove will expand to 7-16." A second set of grooving Bits will work from ½" to 15-16"; a third set will work from 1" to 1 15-16" or from 1 1-16" to 2" as may be preferred. The same Saw Bits will answer for all thicknesses, making it necessary only to change the Circular Bits in changing for different thicknesses.

The Head works with and across the grain, producing the best of work in all classes of lumber, and is particularly useful in working out material for window and other frames.

The Head maintains a uniform cutting diameter and on this account is most convenient.

These are Our Net Prices.

Head (made of bronze castings) 8" cutting diameter or less, with 4 Saw and 4 Circular Bits	$17.32
Extra Saw Bits, each	.79
" *Circular Bits, ¼" wide, each*	1.00
" " " ½" " "	1.16
" " " ¾" " "	1.31
" " " 1 " " "	1.47

Shimers' Emery Wheel Dresser.

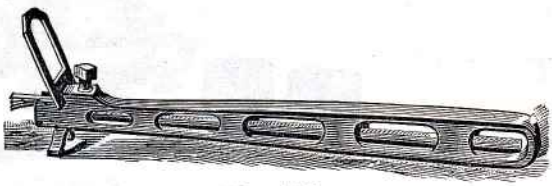


FIG. 142.

A Tool to true an Emery Wheel, or take off the glaze and leave the wheel sharp and free cutting. A DIAMOND, because of its hardness, will cut, grind and injure the grains of emery that enter into the composition of wheels, which accounts for their dullness when faced off with a Diamond. This Tool consists of a combination of a number of little spring steel picks, that vibrate when brought into contact with the wheel, and every vibration produces a stroke, thus loosening the Emery and turning up the wheel very rapidly, giving it a good cutting surface. The importance of keeping the Emery Wheel true should be understood by everyone—

First, because of *Safety*.

Emery Wheels are run at high speed, and if out of balance are subjected to a strain equal to the eccentric weight multiplied by the velocity, and the part already under the greater strain, by reason of its being out of round, must also do the heaviest cutting.

Secondly, because of *Economy*.

A wheel kept in good shape will last longer and do more work in a given time. And the neatness of the grinding is a mark of ability on the part of the workman. The Tool will save its cost in a week. With each Tool we furnish two extra sets of picks, and mica shield to protect the eyes, which shield is placed in a slot in the end, as per cut.

Price, by Mail, ... $1.31 *net.*	*Price, Extra Picks, per set*, ... $ .11
" " *Express*, ... 1.05	" 12 *sets of Picks*, ... 1.05

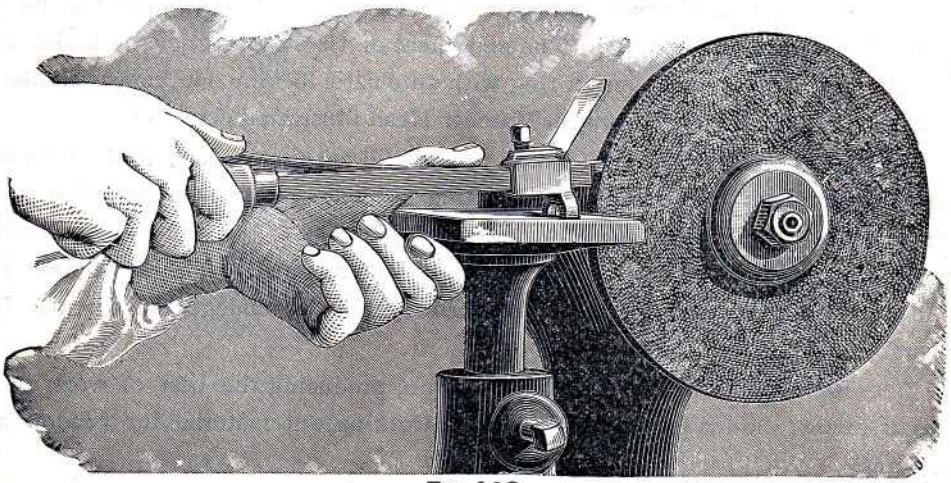


FIG. 143.

NOTICE THE DIRECTIONS:

The Tool consists of Spring Steel Points, that vibrate when brought in contact with the wheel, and therefore these spring points must PROJECT BEYOND THE END OF THE HOLDER from ¼ to ⅜ of an inch, in order to allow them to vibrate freely. It is held in position, as shown in the cut, FIRMLY UPON A SOLID REST, the steel points touching the wheel ABOVE THE CENTRAL LINE, in all respects as you would use a turning chisel. Its operation is like so many little picks, loosening the grains of Emery at every stroke. It does not cut or injure the Emery that enters into the composition of the wheel, but the grains are left sharp and the stone free cutting. With a little practice, and a study of the Tool, it will be preferred to any DIAMOND that can be offered for the purpose. This Tool is light, and calculated to meet the wants of the saw and planing mill. It will not sharpen heavy wheels used for grinding stove plates, etc., in foundries.

TELEGRAPHIC CODE

By special arrangement with Mr. B. F. Ulmer we are pleased to formulate the following Telegraphic Code which will assist those who wish to communicate by telegraph in few words. Use one of the introductory words to start each message—see example: Samuel J Shimer & Sons, Milton, Pa., Como Bab Aco Luf, or send me by express as soon as possible one set of Heads duplicates of 10,974—nineteen words communicated by means of four Code Words. Use Code only when duplicate parts are needed, as Heads or Bits. All other orders must be accompanied with measurements and particulars not transmissible by wire.

COMO—Send me (or us) by express as soon as possible one set of Heads duplicates of—

ACQUA—Send me (or us) by express as quick as possible Bits for heads numbered—

The following used to designate Head numbers. *Copyright 1902, by B. F. Ulmer.*

Lac, 1	Les, 32	Lop, 63	Lym, 94	Ahi, 2600	Ano, 5700	Awu, 8800
Lad, 2	Let, 33	Lor, 64	Lyn, 95	Aho, 2700	Anu, 5800	Awy, 8900
Lae, 3	Lew, 34	Los, 65	Lyo, 96	Ahu, 2800	Any, 5900	Axa, 9000
Laf, 4	Lex, 35	Lot, 66	Lyp, 97	Ahy, 2900	Apa, 6000	Axe, 9100
Lag, 5	Ley, 36	Low, 67	Lyr, 98	Aja, 3000	Ape, 6100	Axi, 9200
Lah, 6	Lic, 37	Lox, 68	Lyt, 99	Aje, 3100	Api, 6200	Axo, 9300
Lak, 7	Lid, 38	Loy, 69	Aba, 100	Aji, 3200	Apo, 6300	Axu, 9400
Lal, 8	Lie, 39	Lub, 70	Abe, 200	Ajo, 3300	Apu, 6400	Axy, 9500
Lam, 9	Lif, 40	Luc, 71	Abi, 300	Aju, 3400	Apy, 6500	Aya, 9600
Lan, 10	Lig, 41	Lud, 72	Abo, 400	Ajy, 3500	Ara, 6600	Aye, 9700
Lao, 11	Lik, 42	Lue, 73	Aby, 500	Aka, 3600	Are, 6700	Ayo, 9800
Lap, 12	Lil, 43	Luf, 74	Aca, 600	Ake, 3700	Ari, 6800	Ayu, 9900
Lar, 13	Lim, 44	Lug, 75	Ace, 700	Aki, 3800	Aro, 6900	Bab, 10,000
Las, 14	Lin, 45	Lui, 76	Aci, 800	Ako, 3900	Aru, 7000	Bac, 20,000
Lat, 15	Lio, 46	Luk, 77	Aco, 900	Aku, 4000	Ary, 7100	Bad, 30,000
Lau, 16	Lip, 47	Lul, 78	Acu, 1000	Aky, 4100	Asa, 7200	Baf, 40,000
Lax, 17	Lir, 48	Lum, 79	Acy, 1100	Ala, 4200	Ase, 7300	Bag, 50,000
Lay, 18	Lis, 49	Lun, 80	Ada, 1200	Ale, 4300	Asi, 7400	Bib, 60,000
Lec, 19	Lit, 50	Luo, 81	Ade, 1300	Ali, 4400	Aso, 7500	Bic, 70,000
Led, 20	Lix, 51	Lup, 82	Adi, 1400	Alo, 4500	Asu, 7600	Bid, 80,000
Lef, 21	Lob, 52	Lur, 83	Ado, 1500	Alu, 4600	Asy, 7700	Big, 90,000
Leg, 22	Loc, 53	Lus, 84	Adu, 1600	Aly, 4700	Ata, 7800	Bil, 100,000
Leh, 23	Lod, 54	Lut, 85	Ady, 1700	Ama, 4800	Ate, 7900	Bim, 110,000
Lek, 24	Lee, 55	Luv, 86	Aga, 1800	Ame, 4900	Ati, 8000	Bip, 120,000
Lel, 25	Lof, 56	Lux, 87	Age, 1900	Ami, 5000	Ato, 8100	Bis, 130,000
Lem, 26	Log, 57	Lyd, 88	Agi, 2000	Amo, 5100	Atu, 8200	Bit, 140,000
Len, 27	Lok, 58	Lye, 89	Ago, 2100	Amu, 5200	Aty, 8300	Biv, 150,000
Lee, 28	Lol, 59	Lyf, 90	Agu, 2200	Amy, 5300	Awa, 8400	Bub, 160,000
Leo, 29	Lom, 60	Lyg, 91	Agy, 2300	Ana, 5400	Awe, 8500	Buc, 170,000
Lep, 30	Lon, 61	Lyk, 92	Aha, 2400	Ane, 5500	Awi, 8600	Bud, 180,000
Ler, 31	Loo, 62	Lyi, 93	Ahe, 2500	Ani, 5600	Awo, 8700	Buf, 190,000

The following should be used to designate style of Head.

Fig. 1, Sab.	Fig. 48, Samson.	Fig. 84, Saving.	Fig. 206, Seen.
" 2, Sac.	" 49, San.	" 86, Savoy.	" 212, Seine.
" 1 & 2 Exp., Saby.	" 51, Sandal.	" 87, Saw.	" 213, Seized.
" 3, Sabo.	" 52, Sanded.	" 88, Sawing.	" 220, Selling.
" 4, Sacar.	" 53, Sandix.	" 89, Sax.	" 221, Senate.
" 6, Sacred.	" 54, Sandy.	" 90, Saxon.	" 222, Send.
" 7, Sad.	" 55, Sane.	" 91, Say.	" 400, Scale.
" 12, Safety.	" 56, Sang.	" 92, Saying.	" 401, Scallop.
" 13, Saffron.	" 57, Sank.	" 93, Scab.	" 402, Scalp.
" 14, Sag.	" 58, Saus.	" 95, Scald.	" 403, Scamp.
" 15, Saga.	" 59, Sap	" 98, Scrub.	" 404, Scan.
" 16, Sage.	" 60, Sapid.	" 99, Scud.	" 405, Scant.
" 19, Sail.	" 61, Sapar.	" 103, Scurf.	" 450, Scared.
" 20, Saint.	" 62, Sapped.	" 104, Scurvy.	" 460, Scoff.
" 21, Sal.	" 63, Sappy.	" 135, Scythe.	" 461, Scold.
" 22, Salad.	" 65, Sar.	" 136, Sea.	" 462, Scollop.
" 23, Salam.	" 66, Sarn.	" 144, Seam.	" 463, Sconce.
" 31, Salmon.	" 67, Sarse.	" 145, Search.	" 464, Scorch.
" 31A, Sara.	" 70, Satan.	" 146, Season.	" 465, Scope.
" 38, Salty.	" 72, Sated.	" 147, Secede.	" 466, Score.
" 39, Salute.	" 73, Satin.	" 148, Secess.	" 467, Scorn.
" 40, Salvage.	" 76, Satrap.	" 149, Seclude.	" 468, Scorse.
" 41, Salve.	" 77, Saturn.	" 150, Second.	" 469, Scott.
" 42, Salvo.	" 78, Satyr.	" 160, Sedan.	" 470, Scotch,
" 43, Sam.	" 79, Sauce.	" 162, Seeding.	" 471, Scotist.
" 45, Sambo.	" 81, Saucy.	" 164, Seeker.	" 472, Scour.
" 46, Sample.	" 82, Saunter.	" 202, Seemed.	" 475, Scow.
" 47, Sampan.	" 83, Save.	" 203, Seeming.	

Price List of Edge Moulding Cutters.

Two Wing—Reversible or One-Way.

These Prices are Net.

No.	Price.	No.	Price.	No.	Price.	No.	Price.	No.	Price.	No.	Price.	No.	Price.	No.	Price.
1	$2.94	56	$1.47	111	$4.20	166	$2.52	221	$2.31	276	$4.20	331	$3.78	386	$3.57
2	3.57	57		112	1.89	167	2.52	222	2.94	277	2.73	332	4.20	387	4.20
3	4.83	58		113	2.73	168	2.52	223	3.15	278	2.73	333	4.62	388	3.15
4	4.41	59	5.88	114	5.04	169	2.73	224	3.15	279	3.36	334	2.94	389	3.36
5	4.62	60	2.73	115	1.89	170	2.94	225	3.57	280	4.62	335	3.36	390	3.78
6	5.04	61		116	5.67	171	3.15	226	4.62	281	4.62	336	4.20	391	4.20
7	4.41	62	4.20	117	3.36	172	3.99	227	5.46	282	2.52	337	2.73	392	2.73
8	5.67	63		118	5.46	173	4.62	228	1.26	283	2.52	338	2.73	393	3.15
9	2.73	64	2.73	119	5.25	174	4.20	229	1.26	284	2.73	339	2.94	394	3.78
10	3.36	65		120	1.47	175	4.20	230	1.68	285	2.94	340	3.15	395	4.41
11	4.83	66	6.72	121	5.25	176	3.78	231	2.52	286	3.15	341	3.36	396	5.04
12	4.41	67	5.25	122	3.15	177	3.36	232	2.94	287	3.36	342	3.57	397	2.94
13	*	68	5.88	123	4.20	178	6.72	233	3.36	288	3.57	343	3.15	398	4.62
14	3.78	69	4.62	124	3.57	179	4.62	234	1.26	289	3.78	344	3.57	399	5.04
15	5.04	70	5.04	125	4.20	180	3.57	235	2.31	290	4.20	345	3.78	400	3.57
16	2.10	71	2.73	126	3.57	181	4.20	236	2.73	291	4.41	346	3.99	401	5.04
17	2.10	72	2.73	127	3.57	182	4.20	237	2.94	292	4.62	347	4.20	402	2.94
18	2.10	73	2.52	128	2.73	183	4.20	238	3.15	293	5.04	348	2.52	403	3.15
19	2.52	74	4.62	129	3.99	184	4.20	239	3.36	294	5.25	349	3.36	404	4.20
20	2.10	75	3.36	130	4.20	185	5.88	240	3.57	295	5.88	350	3.57	405	4.41
21	2.52	76		131	3.36	186	2.52	241	3.78	296	2.73	351	4.20	406	3.36
22	2.52	77		132	3.36	187	2.94	242	3.99	297	2.94	352	3.15	407	4.41
23	2.73	78		133	3.15	188	2.94	243	4.20	298	2.94	353	3.36	408	5.46
24	2.73	79	4.20	134	3.57	189	3.36	244	4.62	299	3.15	354	3.57	409	6.72
25	2.31	80	5.25	135	3.15	190	3.36	245	4.83	300	3.15	355	3.78	410	4.41
26	2.94	81	2.73	136	2.52	191	3.15	246	1.26	301	3.36	356	3.99	411	5.88
27	3.15	82	3.36	137	2.52	192	4.20	247	1.68	302	3.57	357	4.20	412	5.25
28	1.89	83		138	3.78	193	4.20	248	1.89	303	3.78	358	2.73	413	5.88
29	1.89	84		139	1.68	194	4.62	249	2.10	304	3.99	359	2.94	414	4.41
30	1.47	85	3.78	140	4.20	195	5.88	250	2.33	305	4.62	360	3.15	415	5.04
31	5.88	86	3.15	141	3.15	196	3.15	251	2.52	306	4.62	361	3.36	416	1.47
32	5.88	87	4.41	142		197	3.15	252	2.73	307	4.83	362	3.57	417	5.04
33	5.88	88	1.89	143		198	3.36	253	2.94	308	5.04	363	2.10	418	3.78
34	5.88	89	5.88	144	4.20	199	4.62	254	1.26	309	5.25	364	3.36	419	4.20
35	5.04	90	3.36	145	2.73	200	3.15	255	1.68	310	4.62	365	3.78	420	3.78
36		91	3.36	146	4.83	201	2.52	256	1.89	311	3.36	366	2.94	421	5.46
37	6.30	92		147	5.88	202		257	2.10	312	2.94	367	3.36	422	1.47
38	6.30	93	5.25	148	4.20	203	4.20	258	2.33	313	5.04	368	3.99	423	5.88
39	6.30	94	2.52	149	2.73	204	2.73	259	2.52	314	4.20	369	3.36	424	3.36
40	6.30	95	1.89	150	4.20	205	2.73	260	2.73	315	5.46	370	3.57	425	5.88
41	6.30	96	2.10	151	3.78	206	3.36	261	2.94	316	3.99	371	3.78	426	5.88
42	2.10	97	1.89	152	3.99	207	2.94	262	1.26	317	4.83	372	4.20	427	3.57
43	2.73	98	2.10	153	2.94	208	2.73	263	1.68	318	4.62	373	2.73	428	5.46
44	3.70	99	2.52	154	2.94	209	5.04	264	1.89	319	4.62	374	3.15	429	4.41
45		100	3.36	155	5.88	210	3.15	265	2.33	320	4.83	375	3.36	430	2.52
46	2.10	101	1.26	156	5.67	211	2.94	266	2.52	321	3.15	376	3.57	431	2.73
47	2.10	102	4.41	157	5.46	212	3.36	267	2.73	322	4.41	377	4.20	432	2.52
48	2.10	103	1.47	158	2.10	213		268	2.94	323	2.94	378	2.10	433	2.73
49	2.10	104	1.68	159	2.94	214	2.94	269	1.89	324	2.94	379	2.52	434	2.73
50	*	105	2.10	160	1.68	215	2.94	270	6.72	325	3.36	380	3.15	435	2.52
51	2.10	106	1.47	161	6.09	216	3.36	271	3.36	326	3.57	381	3.36		
52	2.52	107	1.26	162	4.20	217	3.15	272	1.68	327	3.78	382	3.57		
53	2.52	108	1.05	163	5.04	218	3.36	273	5.46	328	4.62	383	3.78		
54	2.10	109	1.68	164	1.89	219		274	5.04	329	2.94	384	2.73		
55	1.05	110	4.20	165	1.89	220	2.73	275	1.26	330	3.36	385	3.15		

*No. 13—2 Wing.

1	inch face,	$3 15
1¼	" "	3 57
1½	" "	4 20
1¾	" "	4 62
2	" "	5 04

*No. 50—2 Wing.

¼	inch face,	$2 10
½	" "	2 57
¾	" "	2 78
1	" "	3 15
1¼	" "	3 57
1½	inch face,	$4 20
1¾	" "	4 62
2	" "	5 04
2¼	" "	5 46
2½	" "	5 88
3	" "	6 30

Price List of Edge Moulding Cutters.

Three Wing—Reversible or One-Way.

These Prices are Net.

No.	Price.	No.	Price.	No.	Price.	No.	Price.	No.	Price.	No.	Price.	No.	Price.	No.	Price.
1	$3.68	56	$1.84	111	$5.25	166	$3.15	221	$2.89	276	$5.25	331	$4.73	386	$4.46
2	4.46	57		112	2.36	167	3.15	222	3.68	277	3.41	332	5.25	387	5.25
3	5.04	58		113	3.41	168	3.15	223	3.94	278	3.41	333	5.78	388	3.94
4	5.51	59	7.35	114	6.30	169	3.41	224	3.94	279	4.20	334	3.68	389	4.20
5	5.78	60	3.41	115	2.36	170	3.68	225	4.46	280	5.78	335	4.20	390	4.73
6	6.30	61		116	7.09	171	3.94	226	5.78	281	5.78	336	5.25	391	5.25
7	5.51	62	5.25	117	4.20	172	4.99	227	7.88	282	3.15	337	3.41	392	3.41
8	7.09	63		118	6.83	173	5.78	228	1.58	283	3.15	338	3.41	393	3.94
9	3.41	64	3.41	119	6.56	174	5.25	229	1.58	284	3.41	339	3.68	394	4.73
10	4.20	65		120	1.84	175	5.25	230	2.10	285	3.68	340	3.94	395	5.51
11	5.04	66	8.40	121	6.56	176	4.73	231	3.15	286	3.94	341	4.20	396	6.30
12	5.51	67	6.56	122	3.94	177	4.20	232	3.68	287	4.20	342	4.46	397	3.68
13	*	68	7.35	123	5.25	178	8.40	233	4.20	288	4.46	343	3.94	398	5.78
14	4.73	69	5.78	124	4.46	179	5.78	234	1.50	289	4.73	344	4.46	399	6.30
15	6.30	70	6.30	125	5.25	180	4.46	235	2.89	290	5.25	345	4.73	400	4.46
16	2.63	71	3.41	126	4.46	181	5.25	236	3.41	291	5.51	346	4.99	401	6.30
17	2.63	72	3.41	127	4.46	182	5.25	237	3.68	292	5.78	347	5.25	402	3.68
18	2.63	73	3.15	128	3.41	183	5.25	238	3.94	293	6.30	348	3.15	403	3.94
19	3.15	74	5.78	129	4.99	184	5.25	239	4.20	294	6.56	349	4.20	404	5.25
20	2.63	75	4.20	130	5.25	185	7.35	240	4.46	295	7.35	350	4.46	405	5.51
21	3.15	76		131	4.20	186	3.15	241	4.73	296	3.41	351	5.25	406	4.20
22	3.15	77		132	4.20	187	3.68	242	4.99	297	3.68	352	3.94	407	5.51
23	3.41	78		133	3.94	188	3.68	243	5.25	298	3.68	353	4.20	408	6.83
24	3.41	79	5.25	134	4.46	189	4.20	244	5.78	299	3.94	354	4.46	409	8.40
25	2.89	80	6.56	135	3.94	190	4.20	245	6.04	300	3.94	355	4.73	410	5.51
26	3.68	81	3.41	136	3.15	191	3.94	246	1.50	301	4.20	356	4.99	411	7.35
27	3.94	82	4.20	137	3.15	192	5.25	247	2.10	302	4.46	357	5.25	412	6.56
28	2.36	83		138	4.73	193	5.25	248	2.36	303	4.73	358	3.41	413	7.35
29	2.36	84		139	2.10	194	5.78	249	2.63	304	4.99	359	3.68	414	5.51
30	1.84	85	4.73	140	5.25	195	7.35	250	2.89	305	5.78	360	3.94	415	6.30
31	7.35	86	3.94	141	3.94	196	3.94	251	3.15	306	5.78	361	4.20	416	1.84
32	7.35	87	5.51	142		197	3.94	252	3.41	307	6.04	362	4.46	417	6.30
33	7.35	88	2.36	143		198	4.20	253	3.68	308	6.30	363	2.63	418	4.73
34	7.35	89	7.35	144	5.25	199	5.78	254	1.50	309	6.56	364	4.20	419	5.25
35	6.30	90	4.20	145	3.41	200	3.94	255	2.10	310	5.78	365	4.73	420	4.73
36		91	4.20	146	6.04	201	3.15	256	2.36	311	4.20	366	3.68	421	6.83
37	7.88	92		147	7.35	202		257	2.63	312	3.68	367	4.20	422	1.84
38	7.88	93	6.56	148	5.25	203	5.25	258	2.89	313	6.30	368	4.99	423	7.35
39	7.88	94	3.15	149	3.41	204	3.41	259	3.15	314	5.25	369	4.20	424	4.20
40	7.88	95	2.36	150	5.25	205	3.41	260	3.41	315	6.83	370	4.46	425	7.35
41	7.88	96	2.63	151	4.73	206	4.20	261	3.68	316	4.99	371	4.73	426	7.35
42	2.63	97	2.36	152	4.99	207	3.68	262	1.58	317	6.04	372	5.25	427	4.46
43	3.41	98	2.63	153	3.68	208	3.41	263	2.10	318	5.78	373	3.41	428	6.83
44	4.62	99	3.15	154	3.68	209	6.30	264	2.36	319	5.78	374	3.94	429	5.51
45		100	4.20	155	7.35	210	3.94	265	2.89	320	6.04	375	4.20	430	3.15
46	2.63	101	1.58	156	7.09	211	3.68	266	3.15	321	3.94	376	4.46	431	3.41
47	2.63	102	5.51	157	6.83	212	4.20	267	3.41	322	5.51	377	5.25	432	3.15
48	2.63	103	1.84	158	2.63	213		268	3.68	323	3.68	378	2.63	433	3.41
49	2.63	104	2.10	159	3.68	214	3.68	269	2.36	324	3.68	379	3.15	434	3.41
50	*	105	2.63	160	2.10	215	3.68	270	8.40	325	4.20	380	3.94	435	3.15
51	2.63	106	1.84	161	7.41	216	4.20	271	4.20	326	4.46	381	4.20		
52	3.15	107	1.58	162	5.25	217	3.94	272	2.10	327	4.73	382	4.46		
53	3.15	108	1.31	163	6.30	218	4.20	273	6.83	328	5.78	383	4.73		
54	2.63	109	2.10	164	2.36	219		274	6.30	329	3.68	384	3.41		
55	1.31	110	5.25	165	2.36	220	3.41	275	1.58	330	4.20	385	3.94		

*No. 13—3 Wing.

1	inch face,	$3 94
1¼	" "	4 46
1½	" "	5 25
1¾	" "	5 78
2	" "	6 30

*No. 50—3 Wing.

¼	inch face,	$2 63
½	" "	3 15
¾	" "	3 41
1	" "	3 94
1¼	" "	4 46
1½	inch face,	$5 25
1¾	" "	5 78
2	" "	6 30
2¼	" "	6 83
2½	" "	7 35
3	" "	7 88

Intermediate Jointer Heads

with Six Bits each.

Heads are of Steel Forgings. Bits of high speed steel. Good combination. Strong Tools. Light running. Let us name you price.

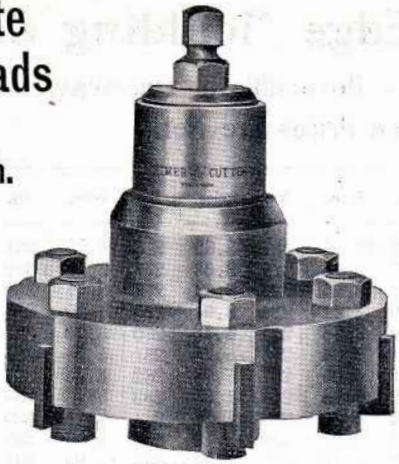


FIG. 517

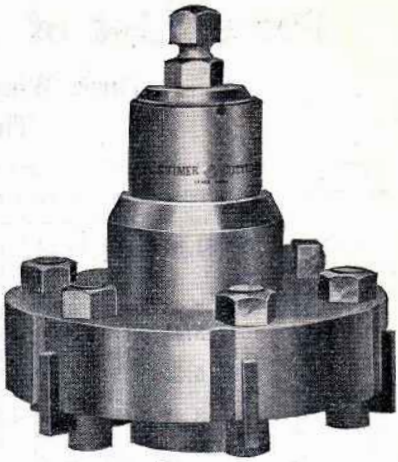


FIG. 518

Intermediate Matcher Heads

For High Speed Matchers.

Full description and price given on pages 110 to 112, Write us about your wants, it will pay you.

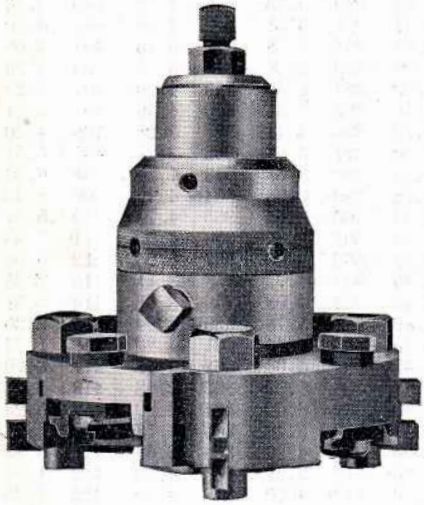


FIG. 510



FIG. 511

Shimerzoidal Matcher Head

Illustrated and described on pages 108 and 109 of this Catalogue.

These tools carry Eight Bits in line of work and do good smooth work at 110 lineal feet per minute,

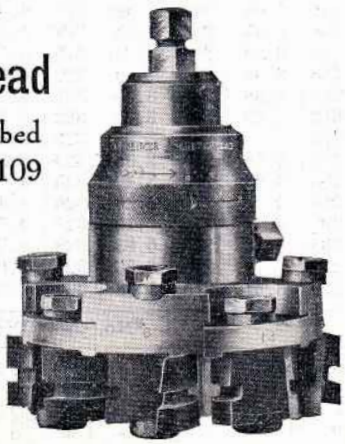


FIG. 501

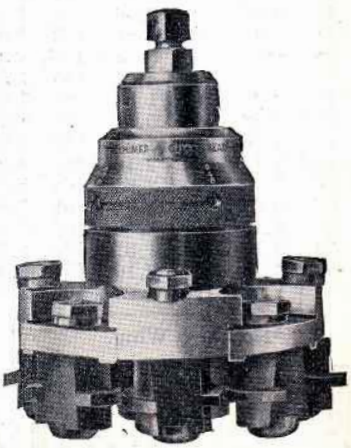


FIG. 502

DOUBLE CEILING HEADS

With 6 Bits each, for rapid feeding machines.

Price, complete with Bits, $41.88.

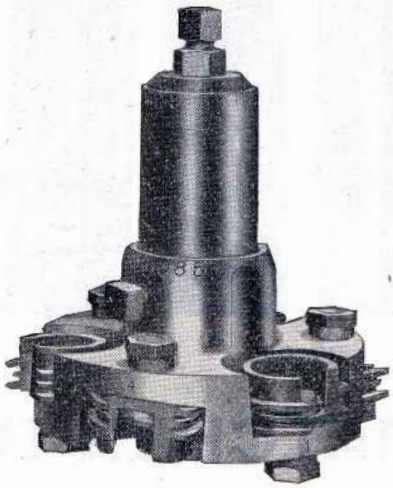


FIG. 519

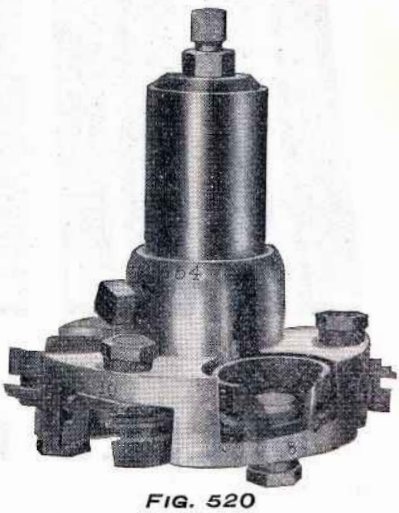


FIG. 520



FIG. 521



FIG. 522

SPECIAL SHIMER CUTTER HEADS

For Rabbeting in furniture and hard woods. Write for prices.

Special Shimer Heads with Curved Bits for making Slats.

Price named on receipt of specifications.

It will pay you to correspond with us when you want a special head for any purpose.

Address

Samuel J. Shimer & Sons

MILTON, PA.

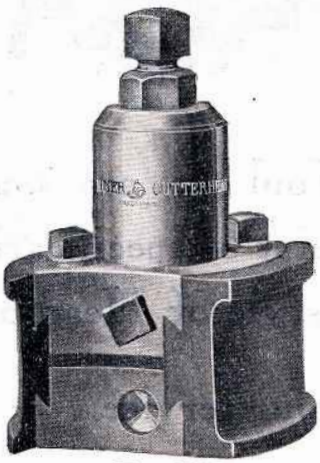


FIG. 523



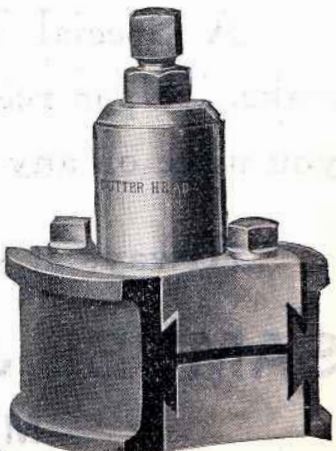


FIG. 524

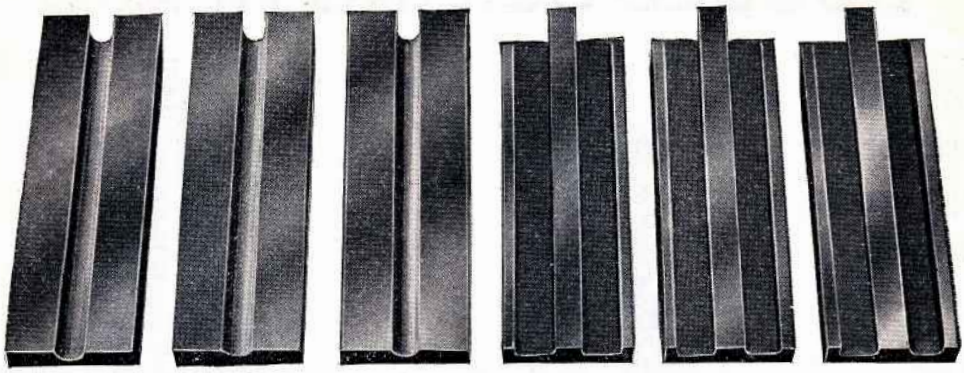


FIG. 525

MILLED MATCHER BITS

for mortised side heads are promptly made per order, of best carbon tool steel and guaranteed.



FIG. 526

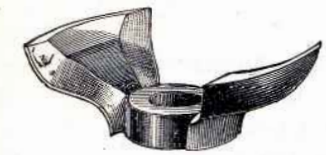
A Special Tool we are sometimes asked to make. Upon receipt of specifications we will give you price on any style of Head or Cutter.

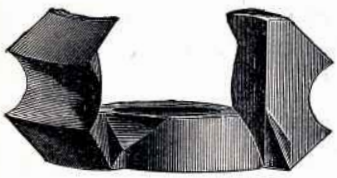
Always at your service.

SAMUEL J. SHIMER & SONS

MILTON, PENN'A.

Stop the Detail





In your Cutter Department
by using

SHIMER CUTTERS



A CUTTER THAT SAVES YOU DETAIL, SAVES YOU MONEY.

When you get down to the real root of any business proposition you must cut away the detail before you can make a brilliant success of your undertaking. To produce things in which detail figures largely without the need of your effort is gain to you. Here is where our service can assist you in the supply of cutters that embody the quirks, the coves, the squares and little offsets here and there ready for your use—and all with a working clearance built into the cutters that make them durable—free-cutting—down to-date.

And the cost you need not hesitate about for our equipment to handle your order is most complete in volume (as well as quality) enabling us to give our customers minimum prices. No order is too large and none too small. *Tell us the size of your Shaper Spindle,* the diameter of the guide collar, and send sample or drawing of the work stating whether the cutters shall be for a single spindle reversible machine, or a double spindle machine in which the cutters work in pairs.

BE CHOICE ABOUT YOUR CUTTERS.

IT PAYS.

Reversible Cutters

that are made from forgings of High Grade Steel tell of their value in use, better than any words here.

Made for more than 30 years and favorably received from the beginning. We want you to know about them ; we want you to test them ; we want you to send for one or more that you may need now and if you don't find them the best time and labor saving investment, for a little thing, hold them subject to our order.

Study the Advantages of Little Things

Take a short cut in the buying of Cutters for your Shaper. Select such as save you time and labor in the up-keep.

Shimer Cutters cost little more in the out-start but figure much to your advantage as the days come and go.

Having these Cutters your competitor often completes his job while you make ready, and the profit figures handsomely on the investment. Many thousands go out every year—why not some to you ?

It pays to be choice, to select cutters with care and judgment. They should be self-clearing—free cutting—durable and lasting edge-holders. Shimer Cutters being high grade throughout lead in these qualifications. Try them !

THE LARGEST CUTTER MANUFACTURERS IN THE WORLD,

Samuel J. Shimer & Sons, Milton, Pennsylvania, U. S. A.

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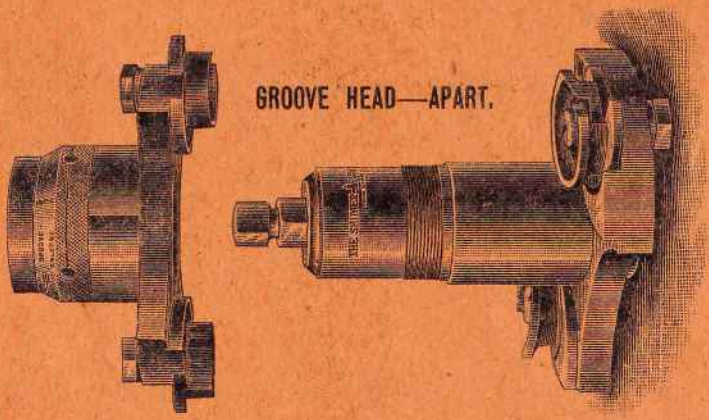
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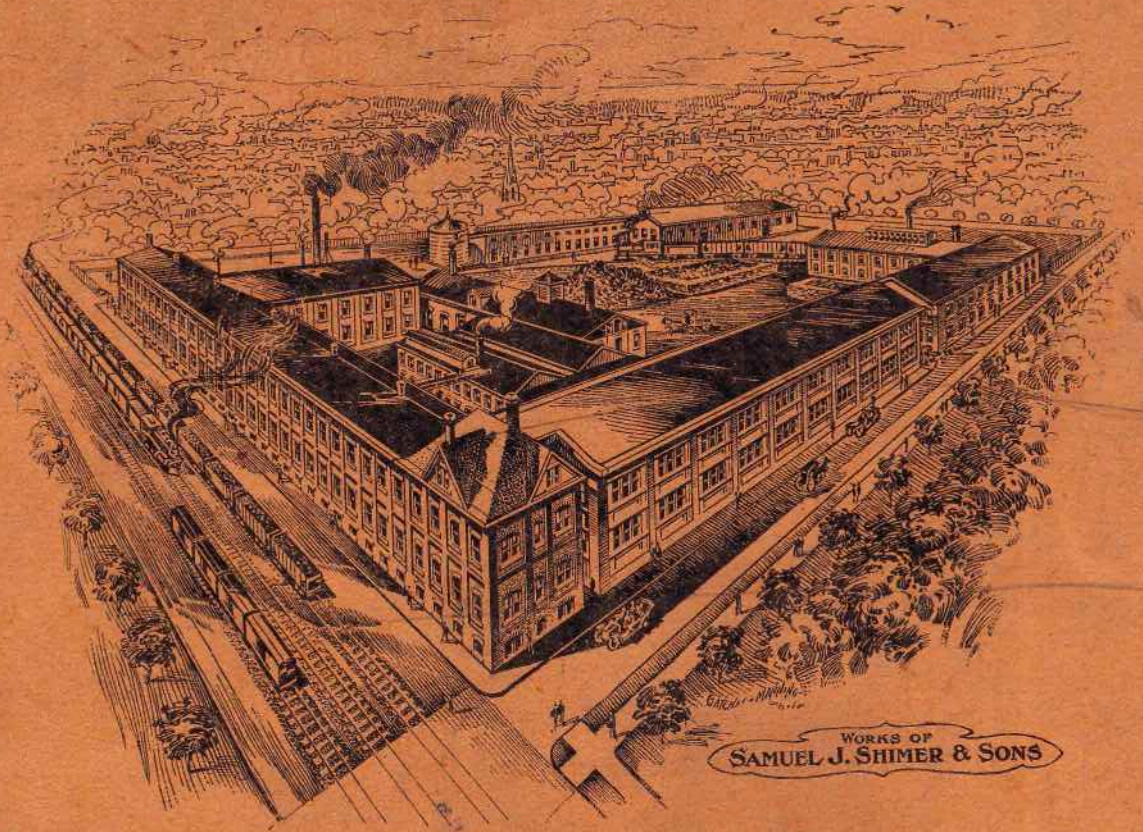
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