Patent Foot and Hand Power

Wood Working Machinery

Manufactured by

The "Barnes"

Catalogue No. 82

August 15, 1919

TELEGRAPHIC ADDRESS
"BARNES" ROCKFORD

CODE USED
LIEBER'S AND OUR OWN

Catalogue No. 82

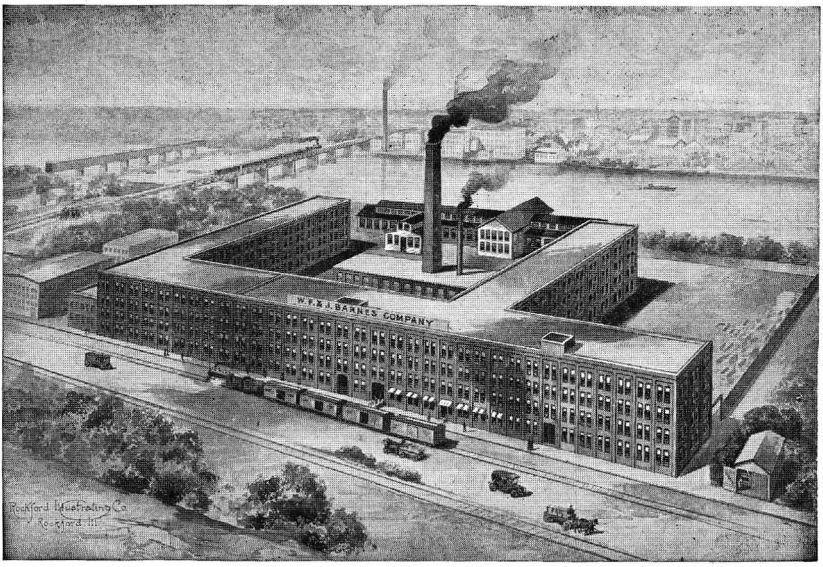
August 15, 1919

IN addition to the machines described in this catalogue, we make a large line of metal working tools, including Lathes, (both foot and steam power) Upright Drills, and shall be pleased to mail catalogue describing same upon application.

BARNES'

PATENT FOOT AND HAND POWER

Wood Working Machinery



ESTABLISHED 1872

PRICE LIST AND DESCRIPTIVE CATALOGUE

W. F. & JOHN BARNES CO.

SOLE MANUFACTURERS

ROCKFORD, ILLINOIS
U. S. A.

MEMORANDUM OF DIMENSIONS AND APPROXIMATE WEIGHTS OF MACHINES PACKED FOR EXPORT

Wood Working Machines

No. 7 Scroll Saw; one box.
36 x 22 x 7 inches. Gross weight 95 pounds.

Combined Circular and Scroll Saw; two boxes.
One 40 x 32½ x 10 inches. Gross Weight 250 pounds.
One 26 x 26 x 4 inches. Gross weight 100 pounds.

No. 4 Circular Saw; three boxes.
One 35 x 31 x 8 inches. Gross weight 185 pounds.
One 36 x 27 x 10 inches. Gross weight 170 pounds.
One 34 x 30½ x 6 inches. Gross weight 195 pounds.

Mortising Machine; one box.
44 x 17½ x 10 inches. Gross weight 185 pounds.

Hand Tenoning Machine; one box.
35 x 23 x 9 inches. Gross weight 140 pounds.

Hand Circular Rip Saw; one box.
27 x 23 x 14 inches. Gross weight 290 pounds.

Foot Power Former or Molding Machine; one box.
35 x 21 x 8 inches. Gross weight 115 pounds.

No. 2 Velocipede Scroll Saw; one box.
39 x 24 x 10½ inches. Gross weight 130 pounds.

No. 3 Wood Turning Lathe; two boxes.
One 41 x 25½ x 12 inches. Gross weight 220 pounds.
One 57 x 10½ x 15 inches. Gross weight 100 pounds.

BARNES' PATENT

FOOT AND HAND POWER

Wood Working Machinery

Complete Outfits of Foot Power Machinery for Practical Use in Workshop Business

THE application of foot power is not new. It has been used in different ways for centuries. The application of foot power as a motive force in the operation of workshop machines, however, is recent. We have justifiable pride in saying that the introduction of our inventions in this line was the beginning of this new departure.

The old and ordinary treadle-power is useless for anything like actual business requirements, because by reason of friction, dead centers, and other inherent faults, a large portion of the power expended is wasted and consumed before it gets to the work.

It seems hardly necessary to say that in the use of foot power machinery, all the power there is comes from the operator. Yet we frequently find in our correspondence, parties who seem to think that by the use of heavy balance wheels and complicated devices, there will be generated in some mysterious way more power than resides in the operator himself. This is impossible; all that can be done is to use in the most direct and effective manner the power that exists.

Our inventions have solved the problem by entirely overcoming dead centers; reducing friction to a minimum, and in other ways getting rid of the faults and shortcomings of the old powers.

Every good thing is imitated and counterfeited. It is not strange therefore, that there are different machines in the market claimed to be equal to ours. This cannot be, because they still retain the radical faults of the old foot power. Our invention and improvements in foot power are fully covered by patents, and cannot be used by any one but ourselves.

There are two classes of foot power machinery, one embracing those designed for amusement and recreation, and the other those for use in the workshop. The machines of our manufacture form substantially the latter class. Purchasers should be careful to discriminate between the two kinds and not to be led by cheap prices and specious representation into buying machines which are inadequate for workshop use.

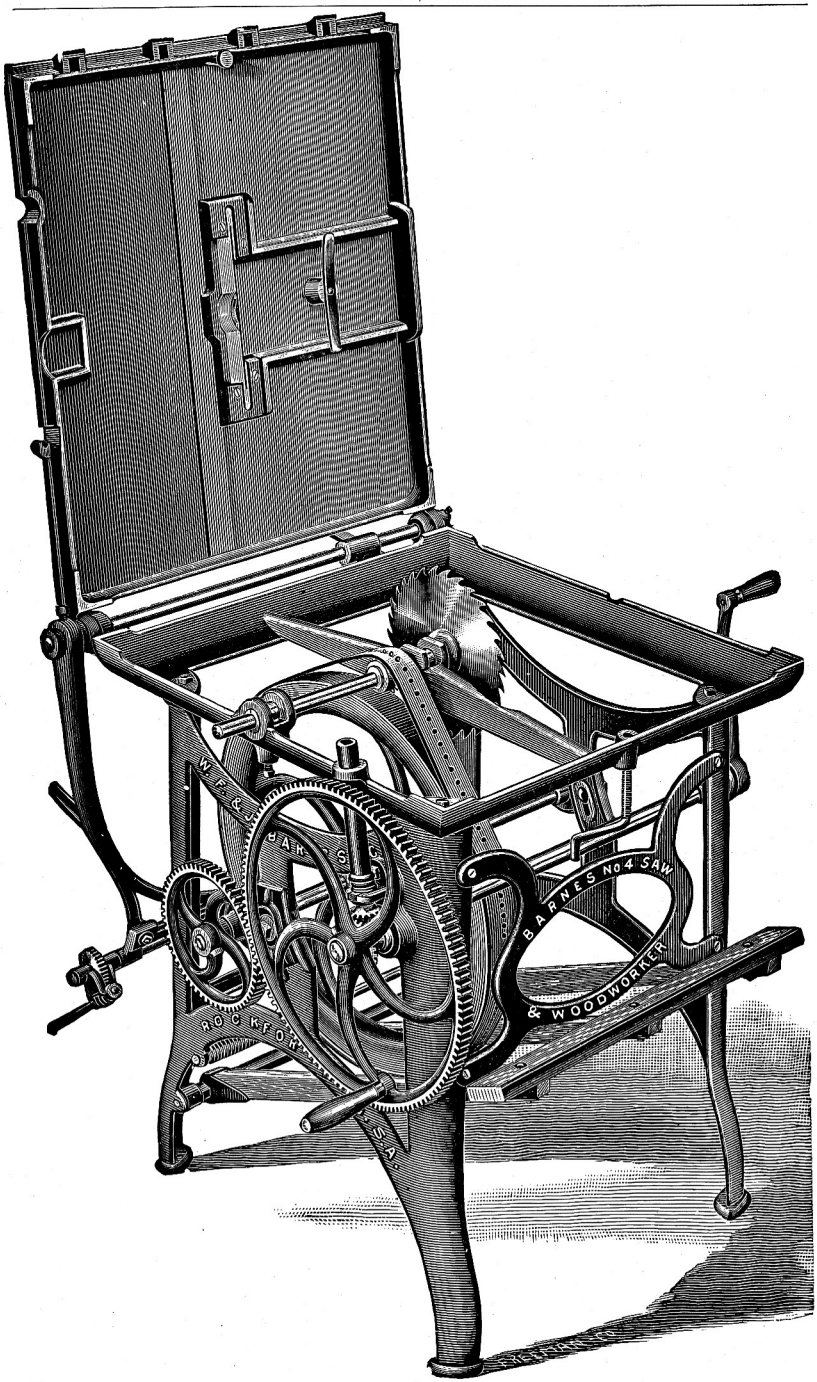
In these days of sharp competition, the man who is best equipped for his work is the one who wins, and it is no longer a question of **advantage** merely, but one of **absolute necessity** that a carpenter in order to meet the competition, not only of mill work, but of his fellow contractors as well, shall be equipped so that he stands on even terms with all comers.

The best possible equipment for a carpenter, a cabinet maker or a general wood-worker, is an outfit of our machines. They are not experiment; that stage we passed long ago. They have stood the test for twenty years and are today the only complete line of such machines made.

In buying them, you are taking no risk on new or untried machines. The honesty and durability of their construction is shown by the fact that we are today filling orders for saw blades or other extras for machines which have been in continuous use for the past twenty years or more.

We would ask customers when ordering repairs, to be particular to describe clearly the part required, and also give the number of the machine, which is stamped on the table, or in case of the No. 3 Lathe, on the bed, and on the wood cross bar of the Hand Rip Saw. It is also well to state, if possible, the year in which the machine was bought, for changes have been made at different times, and if the information we have indicated is given, it will enable us to send just what is wanted and will save our custoners the delay of correspondence.

☞**We do not furnish parts of our machines except as repairs for machines in use.**



No. 4 Circular Saw Fig. 1.
Description Page 8.

No. 4 Circular Saw

Description Page 8.

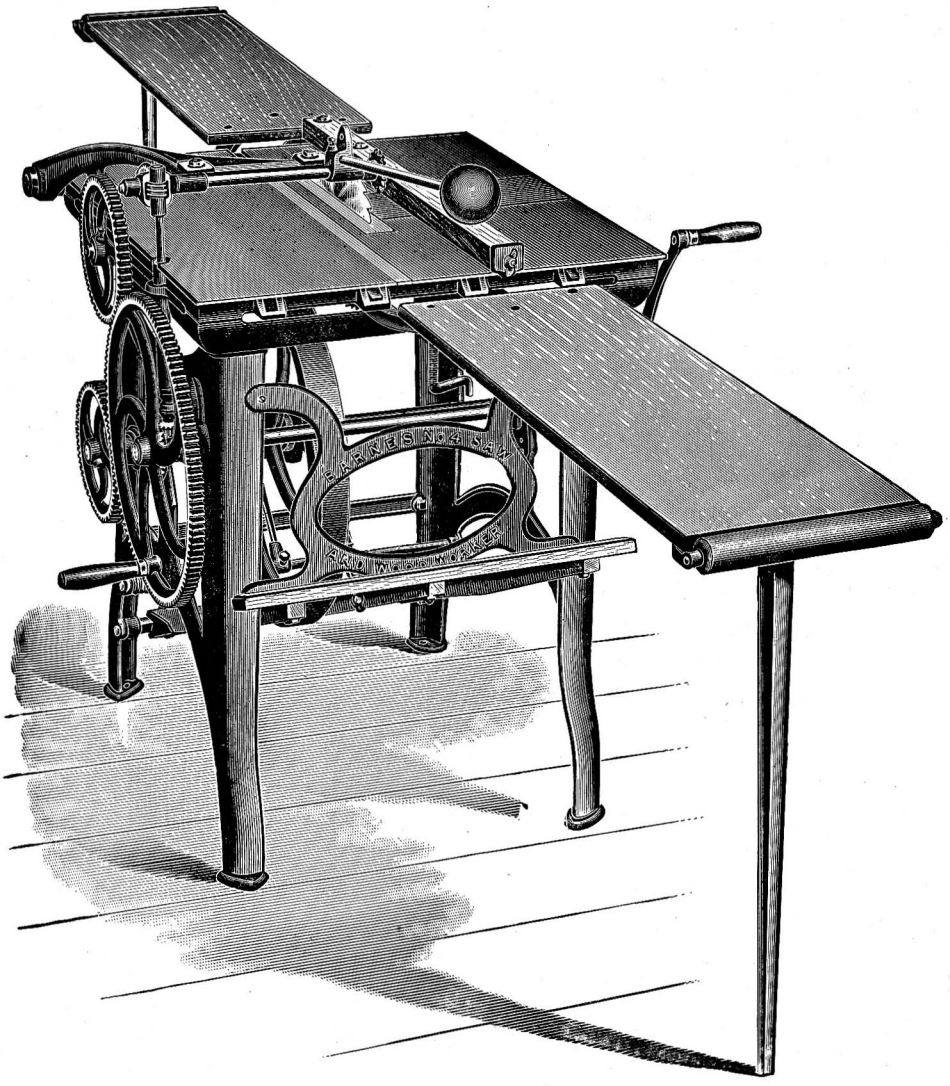


Fig. 2.

No. 4 Circular Saw

Description Page 8.

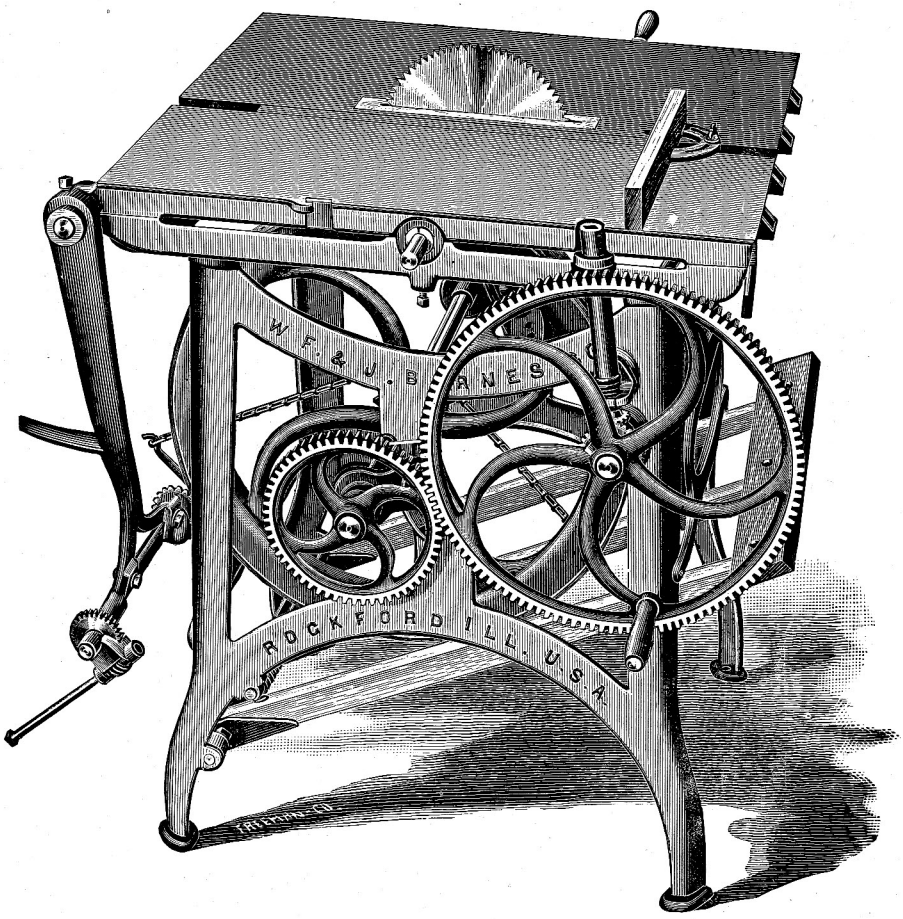


Fig. 3.

No. 4 Circular Saw

THIS machine is to meet the demand for a foot and hand power circular saw, stronger and covering a wider range of work than either our Hand Circular Rip Saw or our Combined machine. The new machine is not intended to supplant either of the old machines, but is designed to cover a field of its own, and we offer it to carpenters and builders, cabinet makers, picture frame makers and wood-workers in general, believing we are presenting the strongest, most powerful and eminently practical foot and hand power circular saw that has ever been built.

The machine is very strong and rigid, and the workmanship throughout, first-class. **The table is of iron, planed perfectly true.** Size of table, 28 x 30 inches. The large range of work which the machine will do is indicated by the following enumeration of its various arrangements and combinations.

First: It can be used as a hand and foot power circular rip saw with self feed, and this feed can be regulated properly for hard or soft, or thick or thin lumber, and is self-adjusting for lumber of different or uneven thickness. With a 10-inch saw, lumber up to 3½ inches thick can be ripped, or with a 12-inch saw up to 4½ inches.

Second: It can be used as a cross-cut saw. The self-feed mechanism can be instantly thrown back to the rear of the machine, as also the rip gauge, leaving the table perfectly clear for cut-off work. The self-feed mechanism can be put in position for use or thrown back out of the way, without requiring the use of a wrench or the removal of any bolts or nuts. The cut-off gauge can be set at any required angle. The speed of the saw can be readily changed so as to give a high speed for cross-cut work or a slower speed for ripping.

Third: The machine can be used for rabbeting and grooving, and the high speed at which the cutter heads can be run insures smooth and clean cut work. The self-feed can be used for grooving and rabbeting as well as when the machine is used for ripping. Cutter heads are also used for gaining and dadoing, and with knives of suitable width, for joining. The table can be adjusted up and down so as to regulate the depth of grooves and rabbet.

Fourth: The machine is provided with **Boring Attachment,** which is the same as used on the combined machine. See page 11 for cut and description.

While the machine is designed particularly to be used by hand and foot power, it can be driven equally well by steam or other suitable motive power, and we are therefore prepared to furnish the machine arranged with countershaft and belt pulley when so desired.

We show several cuts which indicate not only the general appearance end construction of the machine, but the wide range of work which it is calculated to perform.

Figure 2 shows the machine arranged for ripping, with the self-feed mechanism in position.

Figure 3 shows the machine with the self-feed arrangement and rip gauge thrown back, with the table clear for cut-off work.

Figure 1 represents the machine with the table raised, showing the mandrel and construction under the table.

The use of our patent perforated belt running over a spur or pin pulley, is an important factor in giving the machine points of superiority over any other foot or hand power saw made. It enables us to use a short belt from the drive wheel to the saw mandrel, securing great speed without loss of power, as the spur or pin pulley prevents absolutely any slipping of the belt.

The motion is always strong and positive, and the machine runs at high speed with far less noise than any machine in which the power is transmitted by gearing.

The perforated belt allows us to use a smaller pulley on the mandrel than would otherwise be possible, and the pulley being entirely below the table, the full depth of the cut of the saw is obtained.

The weight of the machine is 400 pounds. Crated for shipment, approximately 500 pounds.

Price List

No. 4 Circular Saw, complete with self-feed, with two 10-inch Circular Saws (one each rip and cut-off)..... $100.00

Same as above, except arranged with Countershaft,* for Steam, instead of Foot Power..... 100.00

Boring Attachment..... 15.00

Countershaft* and Belt Pulley..... 15.00

Speed of Countershaft 200 R. P. M. (Pulleys 10-inch diameter, 2 inches wide.)

Lincoln, Neb.

Gentlemen:

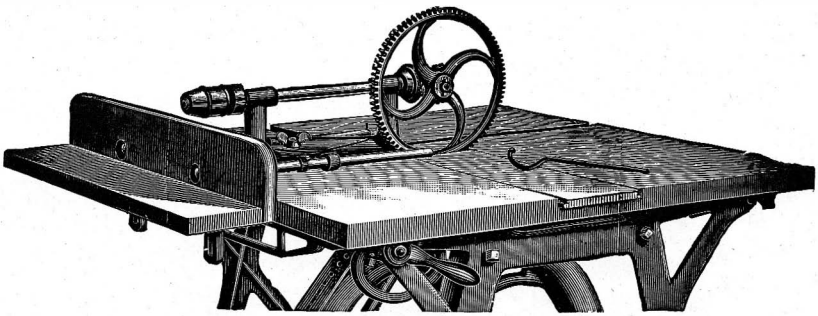
It has been some three months since we received the No. 4 Saw from you and we have now had ample time to test its capacity thoroughly. We believe that when a man gets value received he ought to say so, and hence we write you to express our entire satisfaction with this machine. When we received it we had on hand the inside finish, stairs, etc., for seven houses then under contract. We bought a car load of stock boards (yellow pine) and ripped and stuck the edges of all our finish on the machine. This, with the common run of shop work, window frames, etc., has kept the saw pretty busy. Our shop men have become acquainted with it and are enthusiastic in its praise. We consider that the machine has paid for itself some time ago, and that hereafter it will be a source of profit.

Yours truly,

"I have in use four of your hand and foot power machines, viz.: One Shaper, one No. 2 Scroll Saw, one Combination Cut-off and Rip Saw, and one foot power Mortiser. I can say that I am more than pleased with them. They are light running, rapid and durable, and cannot fail to please the practical wood worker. I therefore can recommend your machines, as I consider them a paying investment for cabinet shops and all light wood work."

"I have had one of your Hand Circular Rip-Saws for about three months, and am much pleased with it. Have done the ripping of fifteen houses in that time, which is over forty miles through inch boards. Have ripped as high as 3-inch plank."

Boring Attachment for Combined Machine and No. 4 Saw



This cut represents a very serviceable Boring Attachment for the Combined Machine and No. 4 Saw. It has a sliding table on which the work is placed; this moves on substantial ways, which carry the material uniformly to the auger or bit. It also has a stop to govern the depth of the hole. The table is adjustable up and down, and as the work can be run from side to side between stops, in the usual way, all the adjustments necessary for general use are provided for.

The spindle is fitted with a chuck which will hold drills or bits with from 1/8 to 3/8 inch shank, and by cutting off the square, the ordinary brace bits of any size can be used. The machine will drive as large as 3/4 inch in soft woods and will be found a valuable aid in most lines of wood work.

Cast Steel Auger Bits

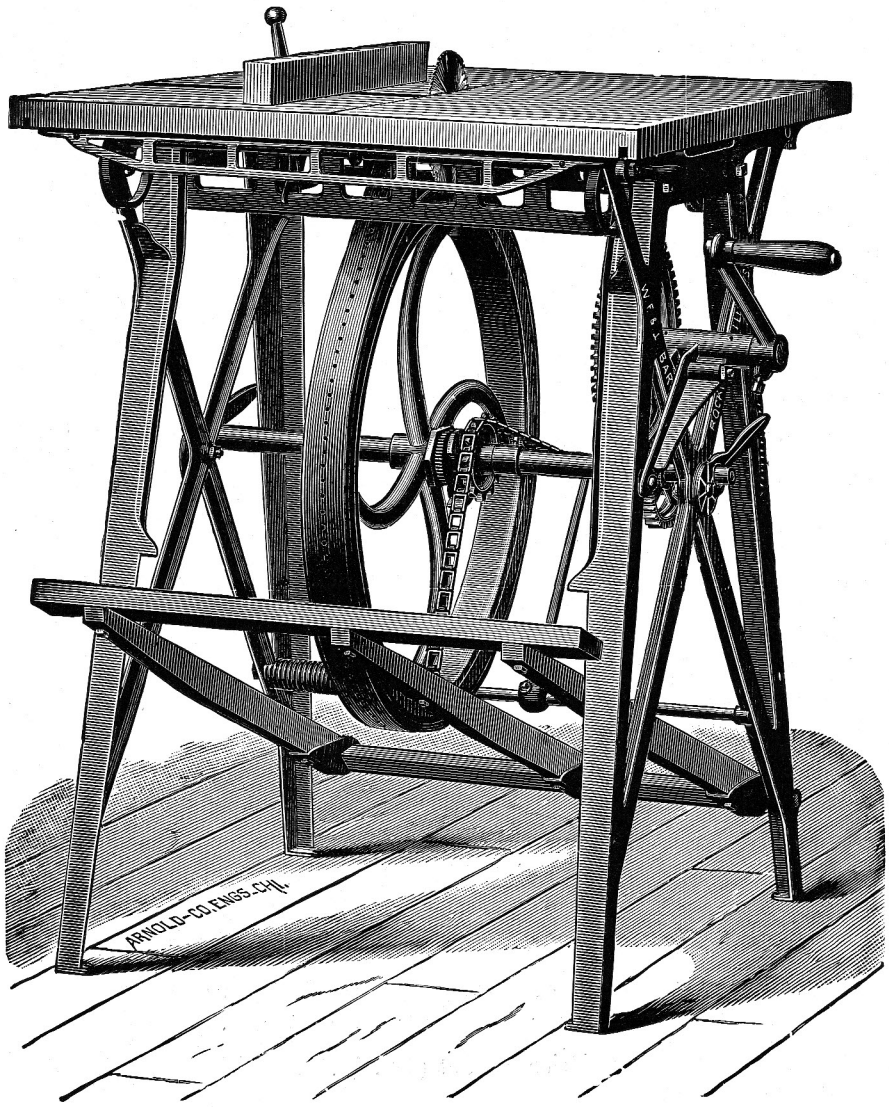
For Boring Attachment of Combined Machine or of No. 4 Circular Saw

Size,	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	inches
Price,	60c	60c	60c	60c	60c	60c	75c	75c	75c	75c	

Price per Set (10), $6.60.

The above are common auger bits with the square shanks cut off.

Combined Machine, Improved



Combined Machine, Improved

THIS machine combines a Circular and Scroll Saw, the Circular Saw being the machine proper, with the Scroll Saw as an attachment. We are therefore, prepared to furnish the machine with or without the Scroll Saw, as may be preferred. This combination is absolutely perfect, as neither the Circular nor the Scroll Saw interferes in the slightest degree with the successful operation of the other, and thus practically combining two machines in one, we are able to make the price considerably lower than would be possible were they distinct and separate machines.

The capacity of the Scroll Saw is the same as that of No. 7 Saw (see page 30), the warranty as to what that machine will do applying equally to this.

For light ripping, cutting to length, cut-off work, etc., the Circular Saw of the Combined Machine is invaluable. In short, for general use, no more profitable investment can be made by any carpenter or cabinet maker, or almost any wood worker, than this Combined machine with its different combinations and attachments.

The Circular Saw, while remaining on its mandrel, can be taken at once out of the way when the Scroll Saw is to be used. The machine is set in its bearing in such a manner as to enable the operator to take the whole (mandrel and saw) from the machine in an instant.

All varieties of joint-work can be done truly and rapidly. The table can be handily adjusted up or down by a cam, to allow any desired depth of cut being made by the saws or cutter tools. The Circular Saws are six inches in diameter, and each 1⅝ inches above the table. A seven or eight inch saw can be used if desired.

Emery wheels in size up to one inch face by six inches in diameter, can be used to good advantage on this machine.

The table of this machine is twenty-eight by thirty inches.

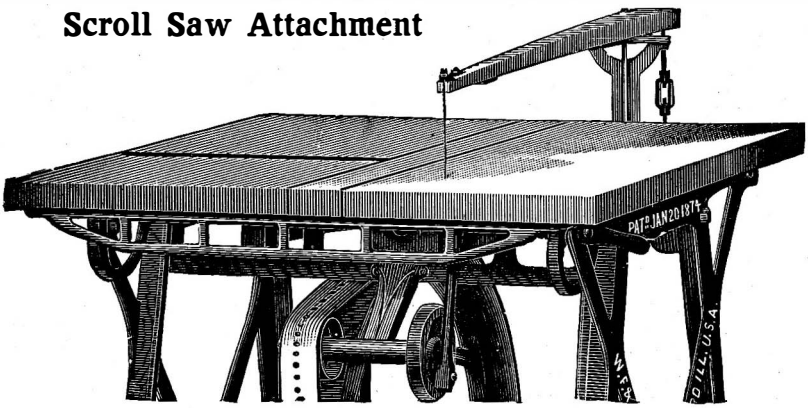
Boxed for shipment weighs 350 pounds.

Price List of Combined Machines

Combined Circular and Scroll Saw and Boring Attachment, including two circular saws, twelve assorted scroll saws, the Boring Attachment, with an "Old Reliable" self-centering drill chuck, all combined in one machine	$75.00
Combined Circular and Scroll Saw, including two circular saws and twelve assorted scroll saws	60.00
Circular Saws alone, including two circular saws, one rip and one cross cut	50.00
Where the machine has been ordered arranged as a circular saw only, the other attachments can be taken at any time.	
Scroll Saw Attachment, including twelve assorted scroll saws	10.00
Boring Attachment, including "Old Reliable" self-centering drill chuck	15.00
Countershaft for steam power (2 x 10 pulleys, speed 200 R. P. M.)	15.00

When Countershaft is taken in place of Foot Power price is same.

Scroll Saw Attachment



The cut of Combined Machine on page 12 shows the Circular Saw only. The above cut represents the machine arranged for scroll sawing.

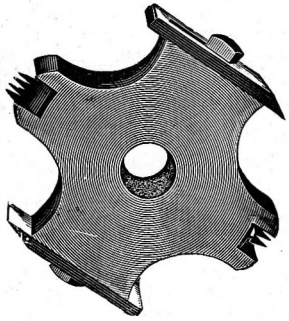
Cutter Heads

No. 1. Price $2.00 each.

No. 1 Cutter Head made in the following widths and sizes:
3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8 inches.

From the accompanying cuts it will be seen that we make two styles of cutter heads, which we designate as No. 1 and No. 3.

These are for use on the saw mandrel of the Combined Machine and of the No. 4 Circular Saw for cutting grooves, gains, dadoes, rabbets, joints for boxes, drawers, etc. Their cost is not great and they add greatly to the usefulness of the machines. They will cut either with or across the grain or across the end of stuff. The price of No. 1 Cutter Heads is $2.00 each.



No. 3. Price $4.00 each.

No. 3 Cutter Head is made in the following widths and sizes:
3/4, 7/8, 1, 1 1/4, 1 1/2, 1 3/4, 2 inches.

The No. 3 Heads are made in seven sizes, as noted above. They can be used to cut gains and dadoes, to rabbet, edge-up or joint stuff. They are used largely by builders to make window and door frames.

Price, $4.00 each.

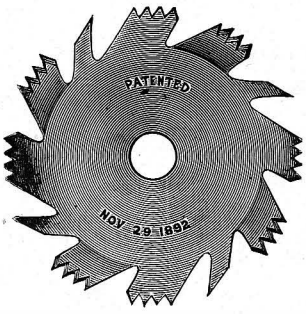
For use with the No. 3 Cutter Heads we can make special knives for bead work, hollows and rounds, sash moulding or almost any irregular shape that may be required.

Customers wishing such knives made will please send patterns showing the exact shapes and sizes wanted.

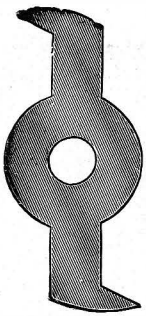
NOTE—Extra plain knives for No. 3 Cutter Head, 3/4 to 2 inch, at $1.25 a pair.

Nos. 1 and 3 Cutter Heads 4 1/2 in. dia.

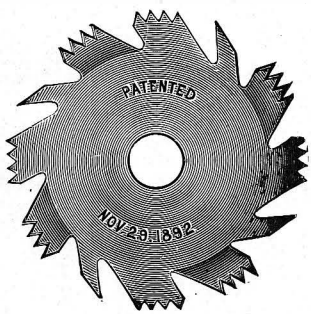
The Huther Groover and Dado Head



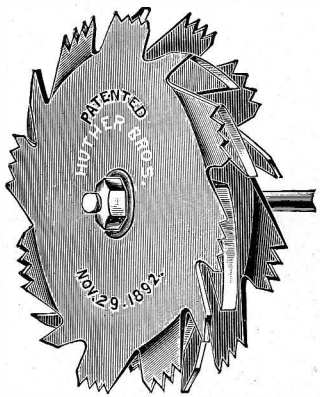
Outside Cutter

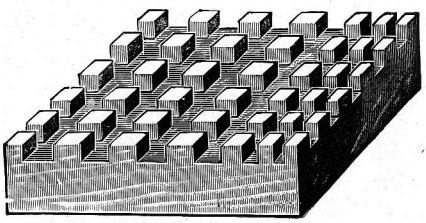


Inside Cutter



Outside Cutter





Will cut a perfect groove with or across the grain.

This is a very excellent Groover and Dado Head, and can be used to good advantage on either the No. 4 Circular Saw, or the Combined Machine.

This groover consists of two outside saws, each of which is a groover in itself, and as many inside cutters as required.

The inside cutters are made $\frac{1}{16}$, $\frac{1}{8}$, and $\frac{1}{4}$ inches thick, so that any width groove measurable in sixteenths may be cut.

The outside cutters are $\frac{1}{8}$ inch thick.

It will cut a perfect groove either with or across the grain, and if in proper condition will not leave a rough edge.

The outside cutters can be used singly, together or in combination with as many or as few inside cutters as required to cut the necessary width of groove.

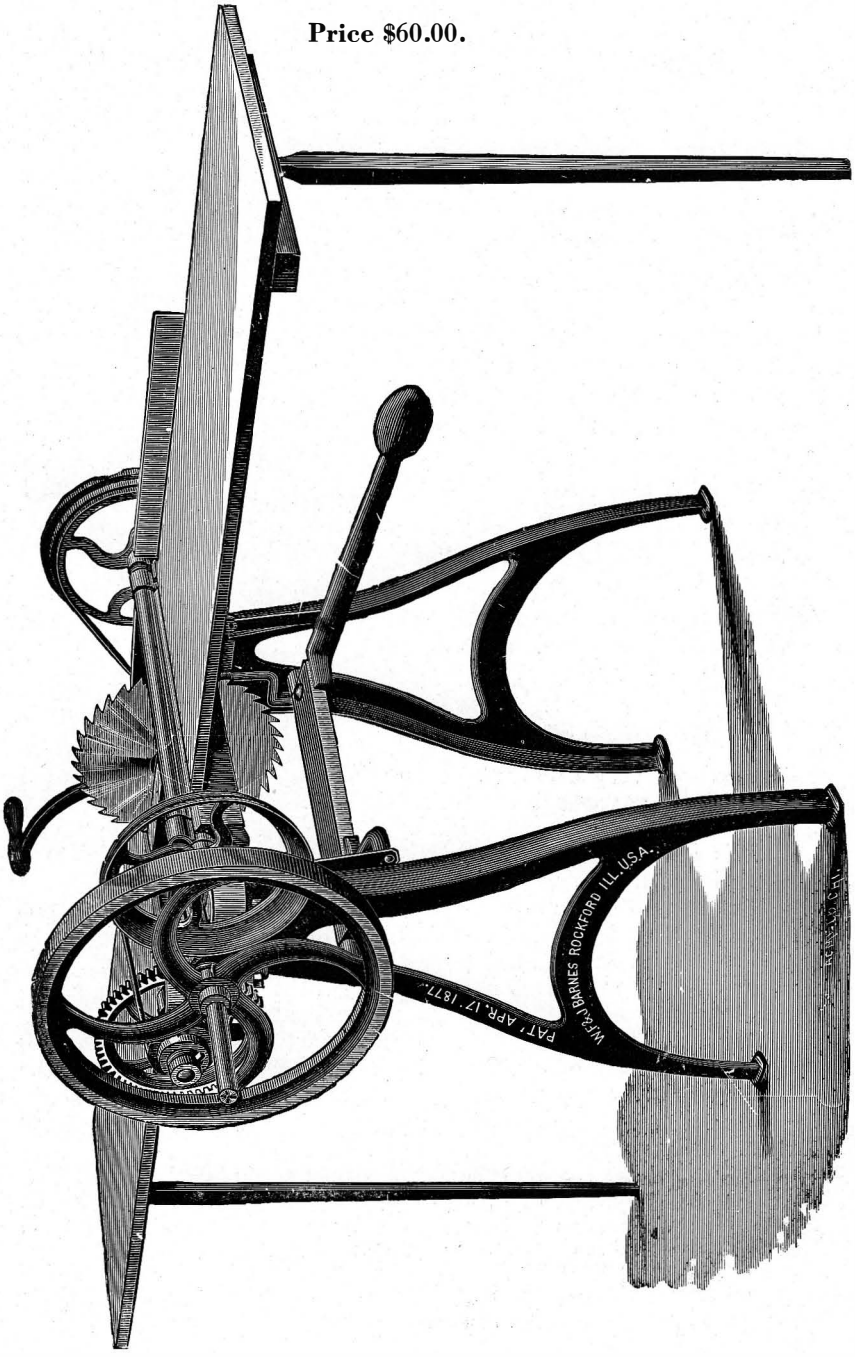
The Groovers are joined and filed ready for use, and we can furnish them arranged in sets as follows:

Set No. 1, cutting grooves $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, - - - - - - - - - - - - $8.00
Set No. 2, cutting grooves $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$ - - - - - - - - - - 9.00
Set No. 3, cutting grooves $\frac{1}{8}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{9}{16}$, $\frac{5}{8}$, $\frac{11}{16}$, $\frac{3}{4}$ - - 11.00
Extra inside cutters, $\frac{1}{16}$, $1.00; $\frac{1}{8}$, $1.25; $\frac{1}{4}$, $1.50 each.
Extra outside cutters, $3.50 each.

The Groovers are five inches in diameter.
Huther Dado Head, five inches in diameter.

Hand Circular Rip Saw

Price $60.00.



Hand Circular Rip Saw

Price $60.00.

THIS machine will rip boards or planks of either soft or hard wood of any thickness up to 3¾ inches, and of any width up to 19 inches. It is especially adapted to shops without steam or water power.

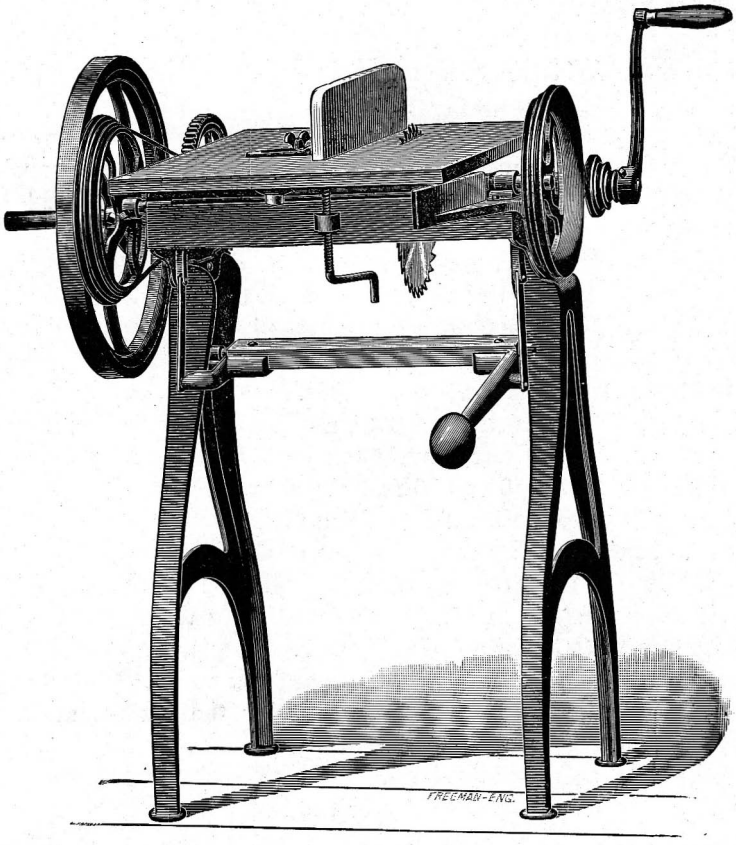
The lumber is placed between two feed rollers, which feed it to the saw. The feed can be made slow or fast, as the operator may desire, by the cone pulleys on the feed roll. These rollers are self-adjusting to thick, thin or uneven lumber. The saw can be instantly set to or from the gauge to any width desired. With this machine one man can do the work of three using the old hand saw. **Unskilled operators can do the work rapidly and truly.** Unlike the hand saw the work is as true and square as that done by steam or water power saws, and is as easily dressed with the plane. An operator with ordinary endurance can easily rip (line measure) 600 feet of one-inch pine per hour, or 6,000 feet in ten hours, and other woods and thicknesses at proportionate rates. By changing the speed to correspond with thickness or hardness of the lumber, hickory, maple, ash, oak, walnut or cherry can be sawed with ease, speed (line measure) varying from 150 to 600 feet per hour. These rates given are not those that a man can follow for a few moments only but actual day work rates that a man can follow up from day to day.

Builders find it one of the mose valuable machines they can put in their shops. Lumber dealers are using them in their yards to size lumber to fill orders of customers. They prove very profitable also in edging up lumber with wane or bark edges, also for taking out the heart of wide boards, thus raising the grade and market value of lumber otherwise sold for "culls".

The cut on page 18 shows the Hand Circular Rip Saw with the front table raised directly over the saw. The table is provided with an adjustable gauge, and by means of a hand screw placed at the rear end it can be readily raised or lowered to govern the depth of cut of the saw. Arranged in this way, rabbets, bevels, tenons, etc., can be cut to advantage, and by using two saws side by side, grooving for windows and door stops, etc., can be done. We furnish an extra saw for this purpose with each machine. The saws are ten inches in diameter. The machine complete weighs 190 pounds. Boxed for shipment, 290 pounds.

Hand Circular Rip Saw

Continued.



Foot Power Former, Improved

Price $35.00. Knives Extra.

Foot Power Former, Improved

The cut on the previous page represents a machine for moulding edges on brackets, scroll work, panel work, regular and irregular mouldings of all styles up to ⅞ inch. The speed of the knives is from twenty to twenty-five hundred per minute. By the aid of our

PATENT VELOCIPEDE FOOT POWER

the knives are, at the will of the operator, caused to rotate in either direction that the grain of the wood may require, thus avoiding all complicated devices for reversing motion usually employed on single Spindle Formers. The great speed of the knives insures rapid and smooth work. Articles that look very plain can be made elegant and costly in appearance by the rapid and perfect work of this machine. It supplies a want long felt by every mechanic.

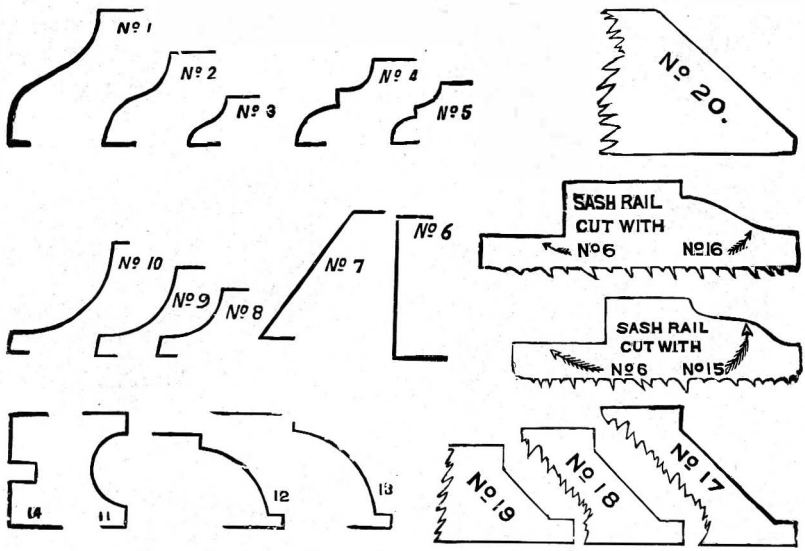
The spindle and its bearings are of steel, with adjustments to take up the wear. The parts to set the machine for the use of different knives and work are convenient, and all substantial and durable. The table can be lowered to give 2¼ inches between it and the lower cutting edge of the knife.

The price of this machine is **$35.00** without any knives.

The machine complete weighs 80 pounds.

Boxed for shipment, 110 pounds.

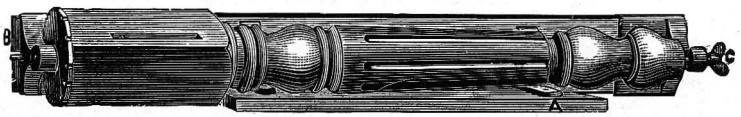
Former Knives



The above cuts show the different styles of edges which we have knives to make; by stating the number we will know which knife to send. The price of these knives is **$2.00** each. Persons ordering the Former can select such as will serve their purpose. They can be sent at any future time by mail, if not taken with the machine at first.

NOTE—We can furnish the reverse knife of Nos. 8, 9 and 10 at $2.00 each and they are known as Nos. 80, 90 and 100 knives.

Fluting Attachment



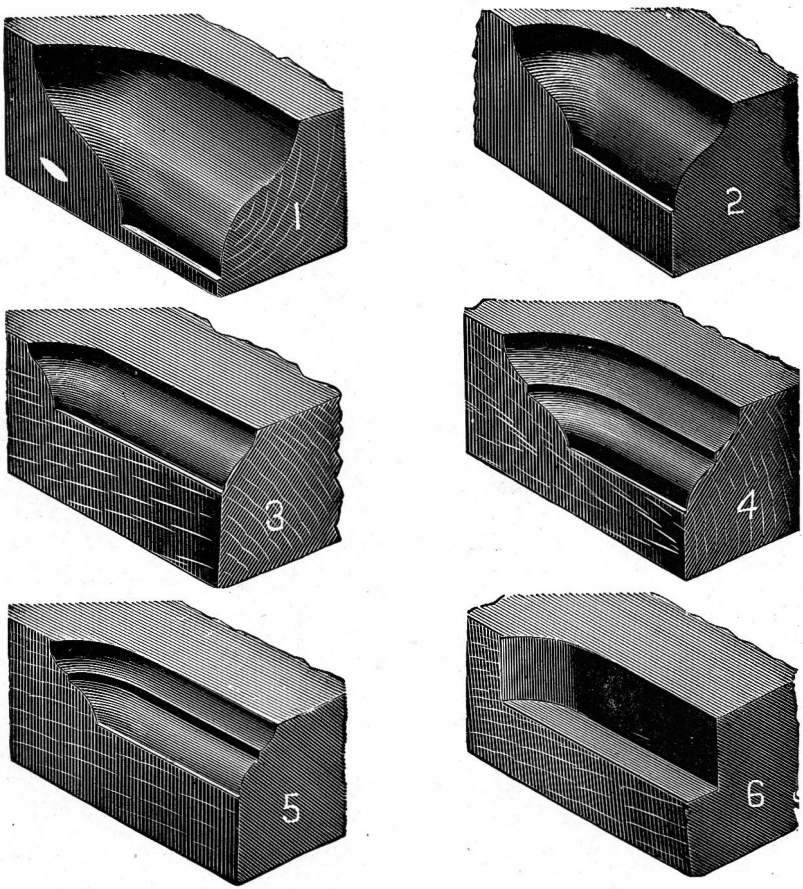
Price $5.00.

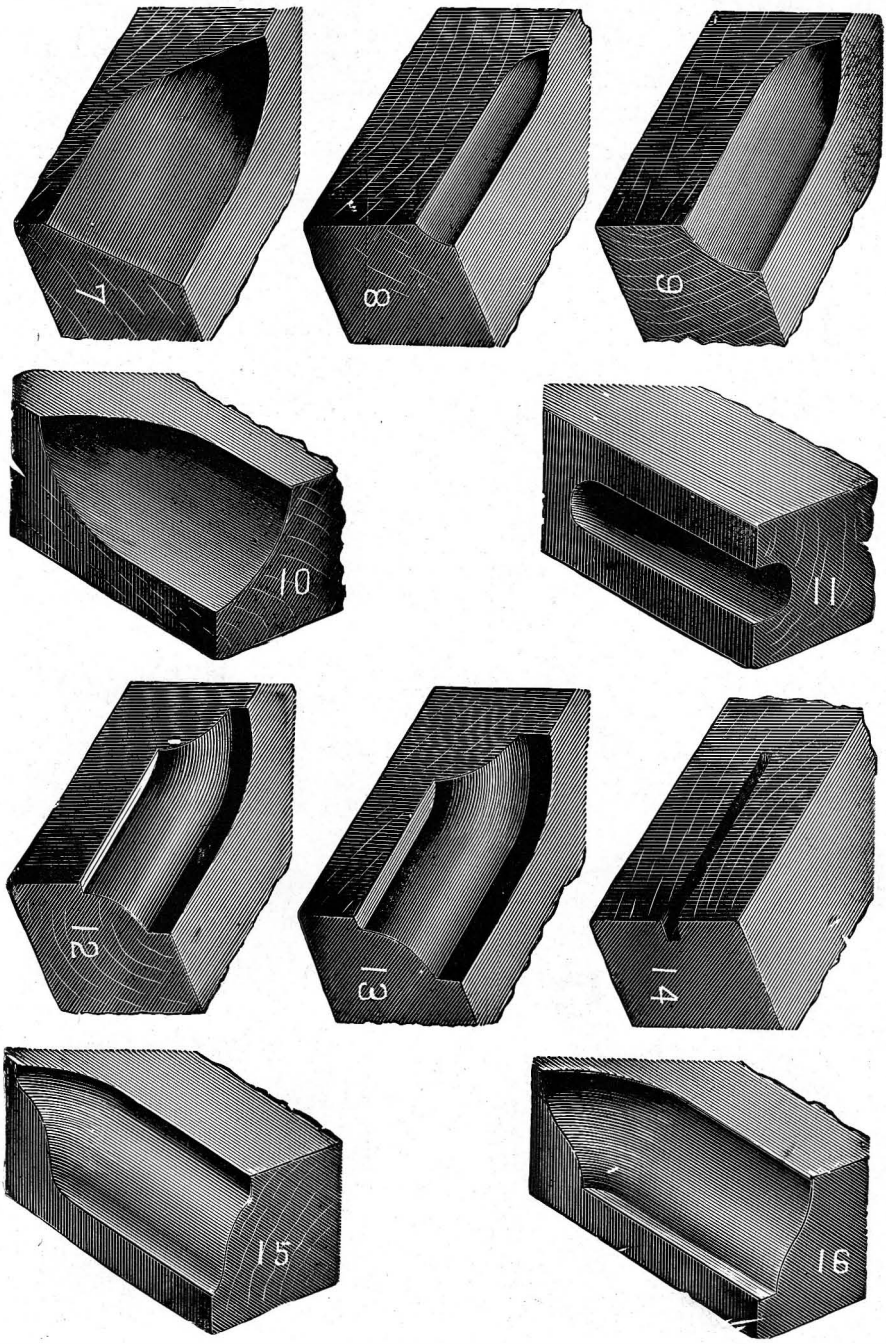
The above cut represents an attachment to be used on the Former for fluting table legs, etc., as the leg in the cut shows. "A" shows the edge of the pattern, the shape of which regulates the cut on the leg lengthwise.

The index plate is spaced to make several divisions of a circle, and is regulated by the snap-latch at "B". "C" is a screw center, with which the leg is fastened in place.

This attachment has all the adjustments necessary to work legs of usual length and up to three inches in diameter.

Sectional View Showing Cuts made by Former Knives Nos. 1 to 20.

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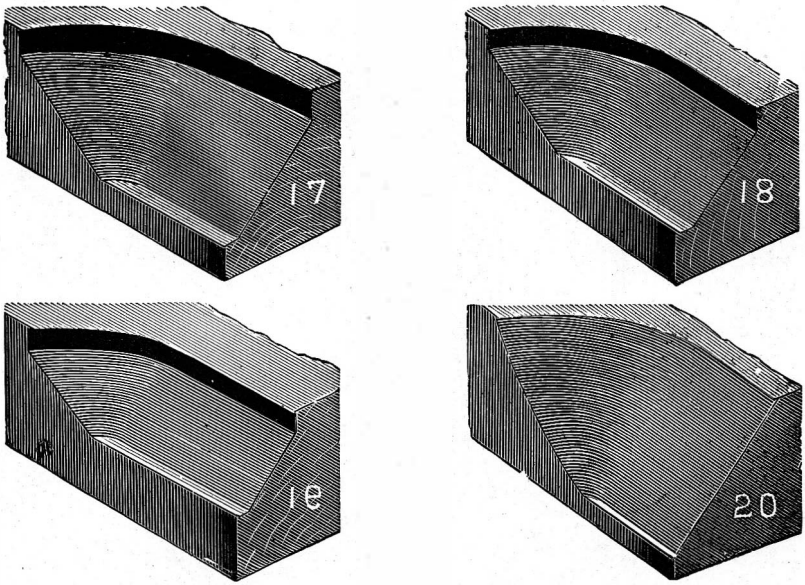
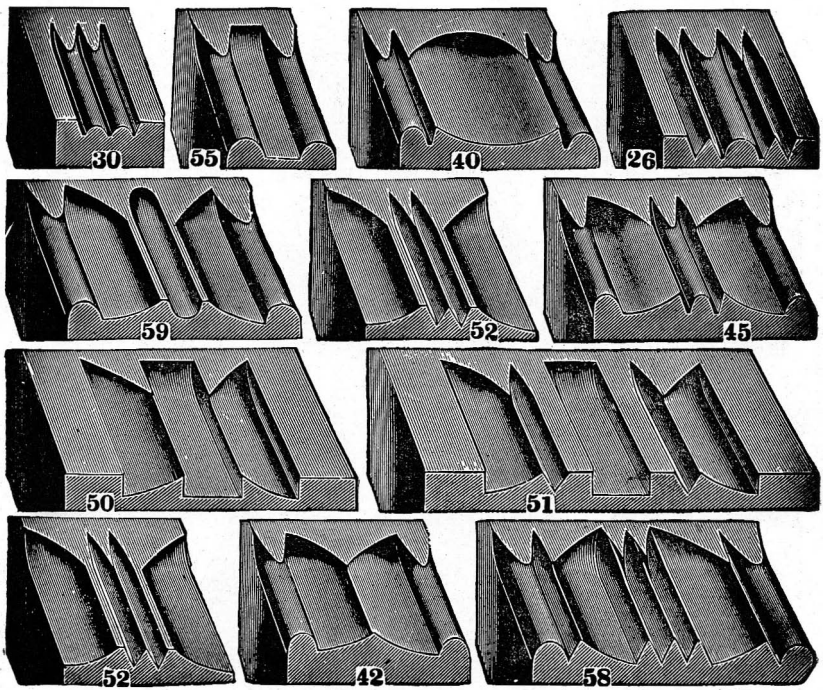
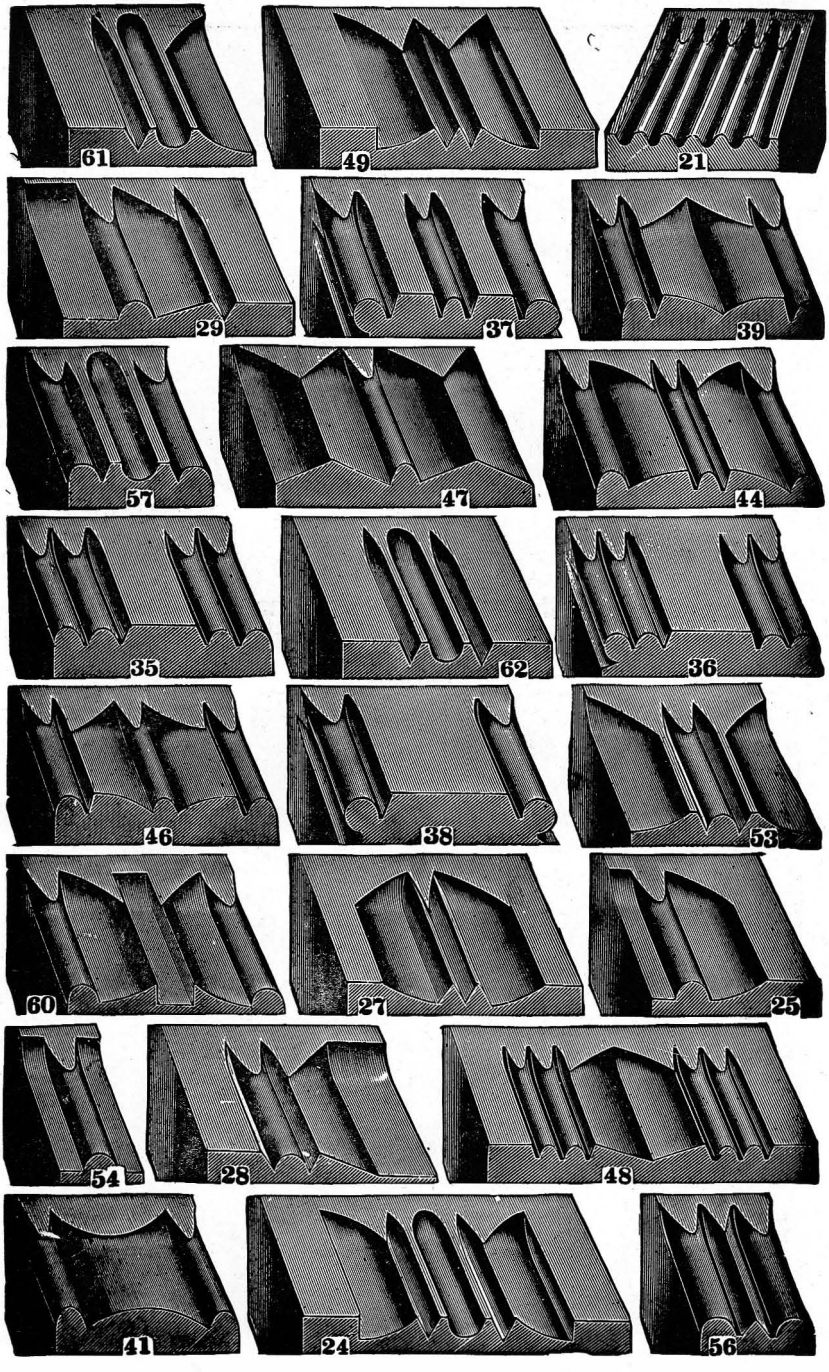


Sectional Views Showing a Few of the Cuts that can be Made with the New Former Knives, Described on Page 25

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New Former Knives

We show on pages 23 and 24 cuts of mouldings made by our new pattern knives, which we are now prepared to furnish.

These embrace forms not covered by our old set of knives, Nos. 1 to 20. The new knives are made on a different principle from the old ones, and can be used separately or in combination. The illustrations given do not by any means show the full extent of the work that can be done with these knives.

The possibilities of combination are almost endless, and valuable as the Former has been heretofore, its usefulness is immensely increased by this new set of knives which make the Former the most valuable single machine that a cabinet maker or wood worker can employ.

The above cut represents the elementary form of the knives, which as before stated, can be used singly or in combination as may be required.

All the different shapes are made in three sizes, viz: ⅛-inch, $\frac{3}{16}$-inch, ¼-inch, and it is designed that where knives are used in combination they shall all be of the same size. This, however, is not imperative, and users of the knives can combine different sizes according to their fancy.

In ordering these knives it will be well for customers to give the shape of the knives required, designating same by letters, as shown on cut, and also to state size whether ⅛, $\frac{3}{16}$, or ¼, as the case may be.

Where knives are wanted for making any of the forms shown on pages 23 or 24, it can be so stated in the order, and to facilitate the ordering of such knives, we give below knives required to make the different forms.

Form					Form				
No. 24,	page	24,	takes	Knives K-G-D-G-K	No. 46,	page	24,	takes	Knives B-H-A-H-B
No. 25,	"	24,	"	E-A-K	No. 47,	"	24,	"	L-L-A-L-L
No. 26,	"	23,	"	P-A-P	No. 48,	"	24,	"	B-L-L-B
No. 27,	"	24,	"	K-G-K	No. 49,	"	24,	"	K-G-G-K
No. 28,	"	24,	"	B-L-E	No. 50,	"	23,	"	K-E-K
No. 29,	"	24,	"	E-A-L-G	No. 51,	"	23,	"	K-G-E-G-K
No. 30,	"	23,	"	B-B	No. 52,	"	23,	"	K-G-G-K
No. 35,	"	24,	"	B A-A-B	No. 53,	"	24,	"	K-C-K
No. 36,	"	24,	"	B-B	No. 54,	"	24,	"	E-A-E
No. 37,	"	24,	"	B-C-B	No. 55,	"	23,	"	B-E-B
No. 38,	"	24,	"	B-B	No. 56,	"	23,	"	A-P-A
No. 39,	"	24,	"	B-H-H-B	No. 57,	"	24,	"	B-D-B
No. 40,	"	23,	"	B-K-K-B	No. 58,	"	23,	"	P-K-P-P
No. 41,	"	24,	"	B-H-H-B	No. 59,	"	23,	"	B-K-D-K-B
No. 42,	"	23,	"	B-K-K-B	No. 60,	"	24,	"	B-K-E-K-B
No. 44,	"	24,	"	B-H-C-H-B	No. 61,	"	24,	"	G-D-K
No. 45,	"	23,	"	B-K-C-K-B	No. 62,	"	24,	"	G-D-G

The price of the new knives is $1.00 each.

It will, of course, be understood that we continue to make the original series of knives, Nos. 1 to 20, the price of these being, as heretofore, $2.00 each.

Foot Power Mortising Machine

Price $35.00. Chisels Extra.

Foot Power Mortising Machine

This machine is strong, thoroughly practical and occupies but little shop room. With the exception of the supplementary table, it is made entirely from iron and steel, and the simplicity of construction makes it almost impossible to get out of order.

The table can be set at any desired angle, and all other necessary adjustments are provided for and can be made easily and quickly. The spring is of coiled steel wire and is made especially for the machine, and can be readily adjusted to give any required tension.

The weight of the machine is 135 pounds; boxed for shipment 170 pounds. Price (without chisel) **$35.00.** We make ten sizes of chisels, as given below, and customers can select such sizes as their work may require.

The price of the chisels is **$1.50** each.

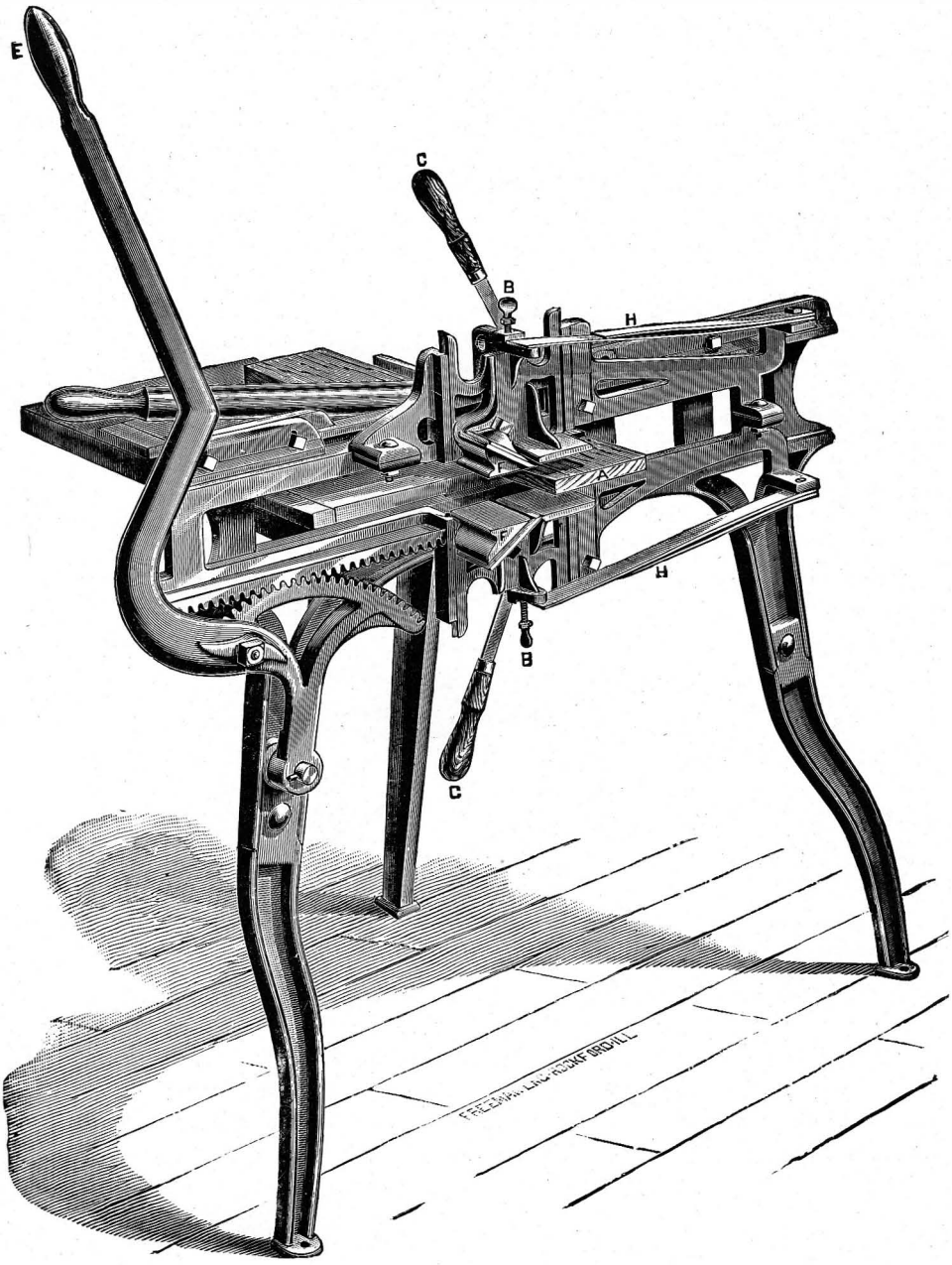
Self-Cleaning Mortising Machine Chisels

Sizes 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1 inch.

"The Mortiser is a complete success. I can take 100 screen doors and do all the mortising in seven hours. This equals three days' hard work for one man with the mallet and chisel, for which I have usually paid $2.50 per day. These rates are not for what a man can do in a few hours only, but are rates that can be followed from morning to night, and from day to day."

Hand Tenoning Machine

Price $40.00.



Hand Tenoning Machine

Price $40.00.

THE machine will cut tenons of any length up to three inches. By repeating the cut any desired length can be made. It will work on stuff of any size up to 2 x 12 inches, and can be adjusted to gauge the length, thickness and shoulder of a tenon. It will not cope a shoulder, but will cut one shoulder farther back than the other to accommodate stuff having rabbeted edge, and will cut one shoulder deeper than the other, or both alike as desired. Both sides of the tenon are cut at once, or one side only can be cut. Each thrust of the lever "E" cuts a shaving similar to that of a rabbet plane; the rapidity of the thrusts and set of knives (as with a plane), govern the speed of the work. The machine cuts true, smooth, square shoulders, and can be set to cut tenons of uniform thickness or distance between the shoulders. Every mechanic knows the importance of a perfect tenon, and will appreciate a hand machine with which as perfect tenons can be made as with steam power machinery. The price of the machine is $40.00. It weighs 100 pounds; boxed for shipment, 140 pounds.

A—Tenon being cut.
BB—Screws to set depth of shoulder.
CC—Handle to raise cutters from work.
D—Lever to hold work in place.
E—Lever to drive cutters forward and back.
FF—Cutter heads.
HH—Spring to press cutter heads against work.

No. 7 Scroll Saw Improved

Price $25.00.

Scroll Saw No. 7

Price $25.00.

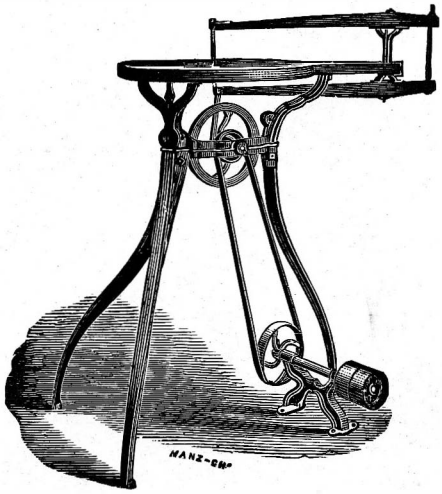
This machine is designed for practical service in the workshops of carpenters and builders, cabinet makers and other wood workers.

Warranty.

We warrant it to be well made, of good material and workmanship, and with reasonable practice to saw at the following rates: Pine, 2 inches thick, 1 foot per minute; 1 inch thick, 4 feet per minute; walnut, 3 inches thick, ½ foot per minute,; 1 inch thick 2 feet per minute, and other woods and thicknesses at proportionate rates.

The ordinary rate of speed when sawing is from 800 to 1200 strokes per minute. The saw leaves the work as smooth as is possible for any saw to do, and can be taken out and replaced in an instant for inside work.

The swing around the blade under the arm is 24 inches.
The length of the blade is 7 inches.
The table and arms are made of hard maple.
The frame is made of cast iron, strong, yet light.
The balance wheel runs on a steel arbor.
The machine weighs 60 pounds.
Boxed for shipment, 95 pounds.
We include one dozen blades with each machine.



The above cut shows our No. 7 Scroll Saw arranged with a countershaft. The price of countershaft, including the connecting band wheel on the machine, is $15.00. The price of No. 7 Scroll Saw, arranged with countershaft only (no foot power), is $35.00. Note:—No belting furnished with Steam Saw.

Speed of countershaft, 500 R. P. M.
Tight and loose pulleys 4 in. diameter x 2 in. face.

Velocipede Scroll Saw No. 2

Price, with Boring Attachment, $30.00.
Without Boring Attachment, $25.00.

Velocipede Scroll Saw No. 2

Price:

With Boring Attachment, $30.00.
Without Boring Attachment, $25.00.

THIS machine has about the same capacity as Scroll Saw No. 7, warranty as to what that machine will do applying equally to it, but this is preferred by many on account of the velocipede foot power, and because of its having a Boring Attachment to open for inside work.

The swing around the blade under the arm is 24 inches.

The length of the blade is 7 inches.

The table and arms are of hard maple.

The frame is of cast iron.

The balance and drive wheels run on steel arbors.

The machine weighs 90 pounds.

Boxed for shipment, 130 pounds.

We include one dozen blades with each machine.

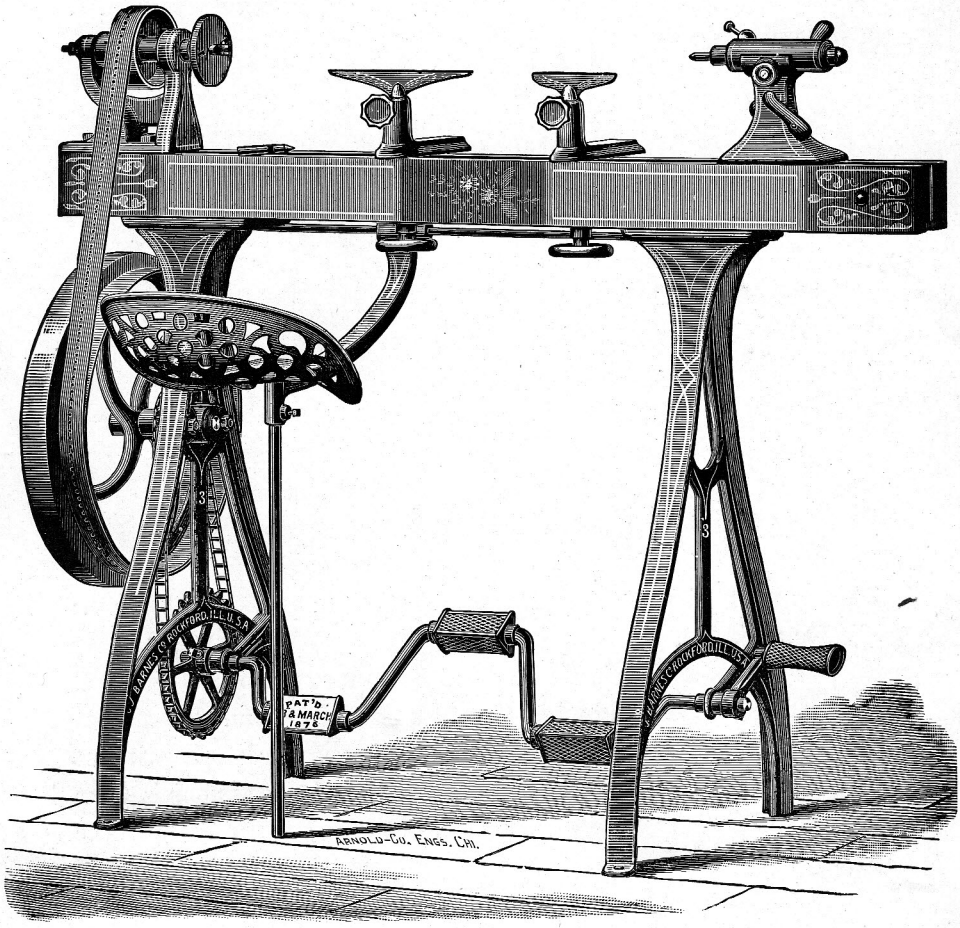
The Boring Attachment can be furnished at any future time, if not desired when machine is ordered.

One $\frac{3}{16}$ bit is included with the boring attachment. We can furnish extra bits at the following prices each: $\frac{1}{16}$, 20c.; $\frac{1}{8}$, 20c.; $\frac{3}{16}$, 30c.; $\frac{1}{4}$, 40c.

"The No. 2 Velocipede Saw and Former came to hand in good order. They do all, and more, than you claim for them. No cabinet maker or builder doing any business at all can afford to be without your machines. Before I tried them I thought testimonials from parties using them were exaggerated, but it is not so. Besides the No. 2 Saw and Former, I have seen others of your machines and can recommend them highly."

No. 3 Lathe

Price $55.00



No. 3 Lathe

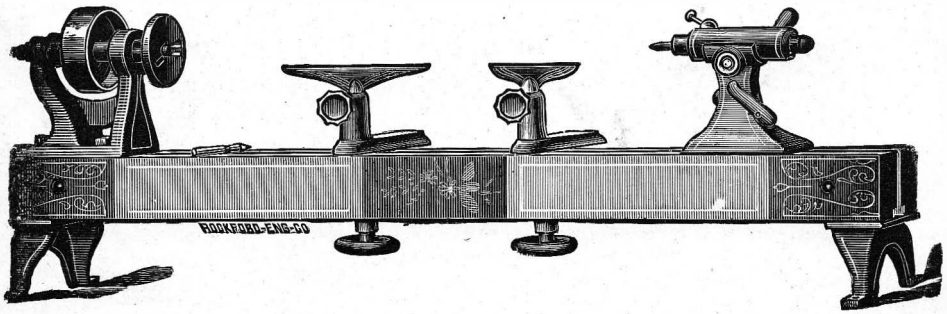
THIS Lathe is designed for wood turning. It will take in stuff 12 inches in diameter and 3 feet long. Having our patent velocipede foot power and improved seat, the operator sits comfortably in the best possible position for the management of his work, and can work steadily without fatigue. The speed can be varied from 1,000 to 2,000 revolutions per minute, and the motion can be started, stopped or reversed instantly, at the will of the operator. Greater power can be applied on the work than with any old-style foot power, and with greater ease. The seat can be readily moved along to any part of the bed that the work requires. This lathe is made entirely of iron and steel, except the bed which is of wood. The spindle is of steel, fitted up in the best manner All the bearings are of steel, making them strong, durable and light running. The centers are accurately fitted to taper holes. No wrench is required to adjust tail stock or tool rests and sockets, hand wheels being used instead.

The price of the lathe is **$55.00.** This includes three centers (one a spur), two tool rests and sockets, and one turned face plate.

It weighs 230 pounds. Boxed for shipment, 320 pounds.

If wanted we can furnish the Lathe with extra length bed to take four feet between centers—price of lathe with extra length bed, **$60.00.**

No. 3 Lathe with Bench Legs



We will furnish, when desired, the upper portion of No. 3 Lathe with short bench legs, as shown in the above cut. Price **$40.00.**

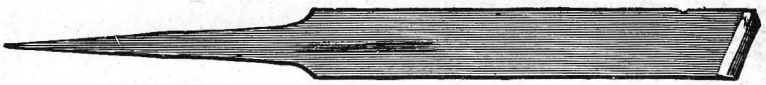
Price of countershaft, **$15.00.**

Speed of countershaft, 500 R. P. M.

Tight and loose pulleys, 6 inch diameter by 2 inch face.

Cast Steel Turning Chisels

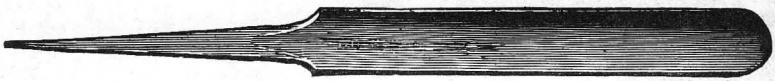
Warranted



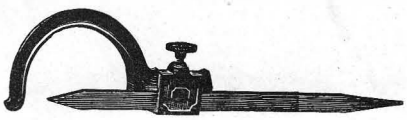
Size, inches	1/8	3/16	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2
Price, each	.35	.35	.35	.35	.50	.50	.50	.75	.75	.75	.80	$1.00	$1.25

Cast Steel Turning Gouges

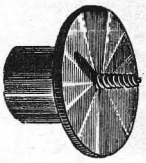
Warranted.



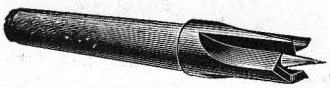
Size, inches	1/8	3/16	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	1 3/4	2
Price, each	.45	.45	.45	.45	.70	.70	.70	.75	.75	.95	$1.25	$1.50	$1.75



Turner's Sizer.
Price $1.25



Screw Chuck for No. 3 Lathe.
Price $2.00



Spur Center for No. 3 Lathe.
Price $1.50

Cup Center for No. 3 Lathe.
Price $1.50

Scroll Saw Blades—Our Own Make

[redacted]

		Price per dozen	Price each
7 inches	$\frac{1}{16}$ to $\frac{1}{4}$ inch	75c	7c

Imported Fret Blades

7 Inches Long

10 [redacted]

8 [redacted]

35 cents per dozen.

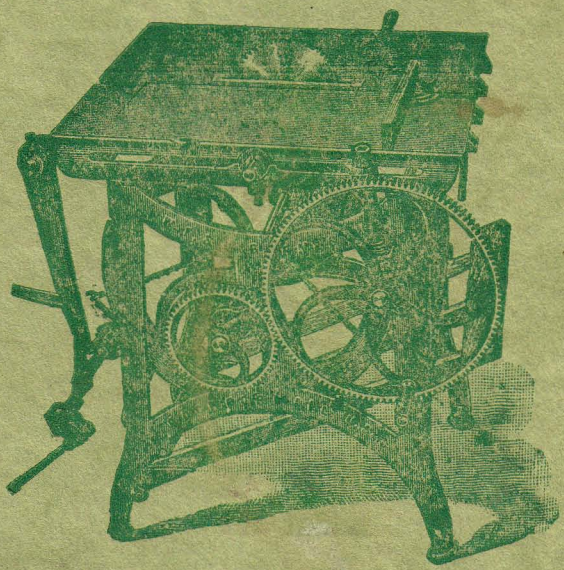
Circular Saws

Patent Ground and Tempered Solid Teeth Circular Saws

Diameter	Thickness	Size of Hole	Price Each
1½ inch	24 gauge	$\frac{5}{16}$ inch	$1 00
2 "	23 "	$\frac{5}{16}$ "	$1 00
2½ "	22 "	$\frac{5}{16}$ "	1 00
3 "	21 "	$\frac{5}{16}$ "	1 00
3½ "	20 "	$\frac{5}{16}$ "	1 00
4 "	19 "	$\frac{3}{4}$ "	1 20
5 "	19 "	$\frac{3}{4}$ "	1 50
6 "	19 "	$\frac{3}{4}$ "	1 80
7 "	18 "	$\frac{3}{4}$ "	2 10
8 "	18 "	$\frac{3}{4}$ "	2 40
10 "	16 "	$\frac{3}{4}$ "	3 30
12 "	15 "	$\frac{3}{4}$ "	4 40

Setting and filing saws, 10 cents extra per inch.

Always state whether cross-cut or rip-saw is wanted.



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W.F.
J.G.
MARK