

Superior La. & Milwaukee Wis.



W. F. & John
Barnes
 COMPANY.

Rockford,
 Illinois, U.S.A.

Wood-Working Machinery.

P. J. Fassett



1720
PRICE LIST

... AND ...

DESCRIPTIVE CATALOGUE

BARNES'

WOOD

PATENT FOOT

and

HAND POWER

WORKING

MACHINERY.



W. F. & JOHN BARNES Co.

SOLE MANUFACTURERS,
ROCKFORD, ILLINOIS, U. S. A.



In addition to the machines described in this Catalogue, we make a large line of metal working tools, including Lathes (both foot and hand power), Upright Drills, Emery Tool Grinders, etc.

We have heretofore embraced all of our goods in a single catalogue, but it has seemed advisable to make a division, and our Iron Working Machines are accordingly described in another catalogue, which we shall be pleased to mail to any address on application.



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 or ordinary treadle-power is useless for anything like actual business requirements, because by reason of friction, dead centres, and other inherent faults, a large portion of the power expended is wasted or 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 centres, reducing friction to a minimum, and in other ways getting rid of the faults and shortcomings of the old powers.

The first application of our new foot motion was in case of a Scroll Saw, which we now call the No. 7 Saw. We followed this with other machines, until we had, as at present, a line of machines for nearly all branches of both wood and metal work. We are the only manufacturers in the world who are able to furnish outfits of foot and hand power machines for mechanics and artisans.

The past ten years have been wonderfully fertile in the production of motors for driving light machinery. Steam, water, gas, kerosene and electricity have all been utilized. In the face of this, there has been a large and constantly increasing demand for our foot-power machinery. This fact in itself is one of the strongest arguments we could use to show that our machines possess the advantages we claim for them.

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 inventions and improvements in foot-power are fully covered by patents, and cannot be used by anyone 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 be led by cheap prices and specious representations 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 experiments; that stage we passed long ago.

They have stood the test of twenty years, and are to-day 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 to-day 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 customers the delay of correspondence.

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



No. 4 Circular Saw,

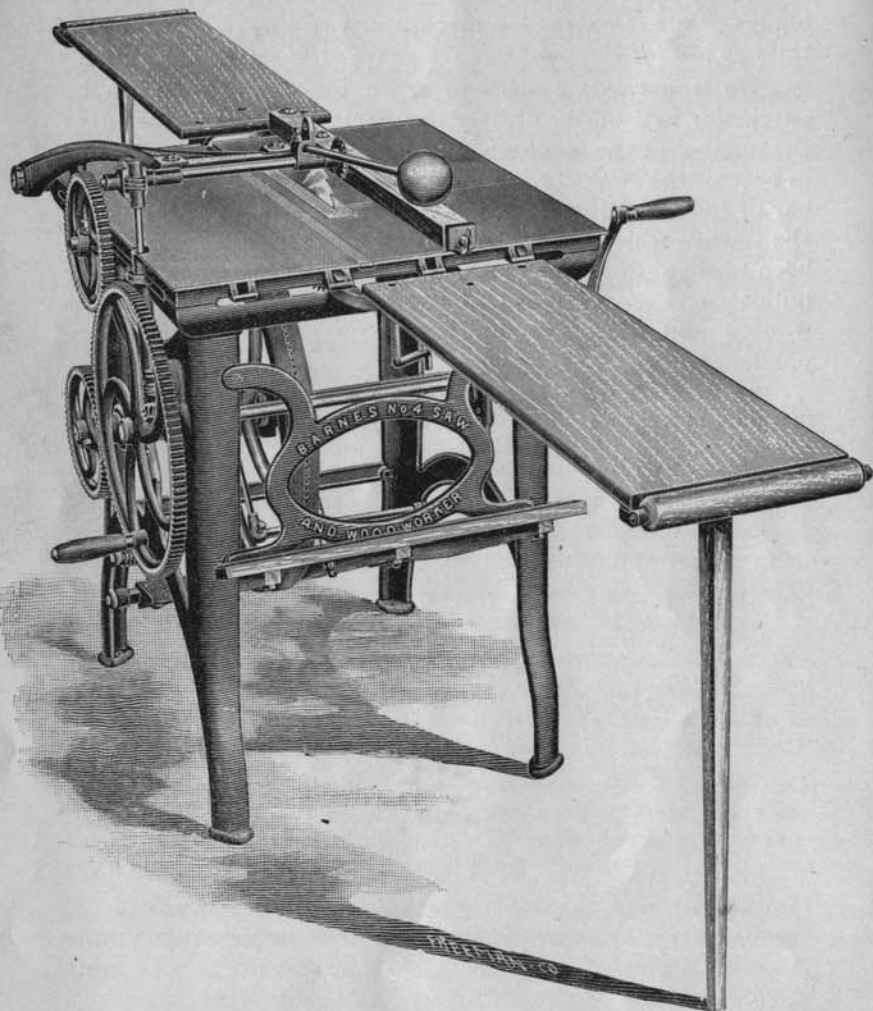


Figure 1.

No. 4 Circular Saw,

This new machine we are placing on the market 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. 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 $3\frac{1}{2}$ inches thick can be ripped, or with a 12 inch saw up to $4\frac{1}{4}$ 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 and a slower speed for ripping.

Third. The machine can be used for rabbetting 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 rabbetting 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 jointing. The table can be adjusted up and down so as to regulate the depth of grooves or rabbets.

Fourth. The machine is provided with boring attachment, which is the same as used on the combined machine. See page 15 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 shall therefore be 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 and construction of the machine, but the wide range of work which it is calculated to perform.

Figure No. 1 shows the machine arranged for ripping, with the self feed mechanism in position.

Figure 2 shows the machine with the self feed arrangement and rip gauge thrown back, with the table clear for cut off work.

Figure No. 3 represents the machine with the table raised showing the mandrel and construction under the table.

The use of our patented perforated belt running over a spur or pin pulley, is an important factor in giving the machine points of superiority over any 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.

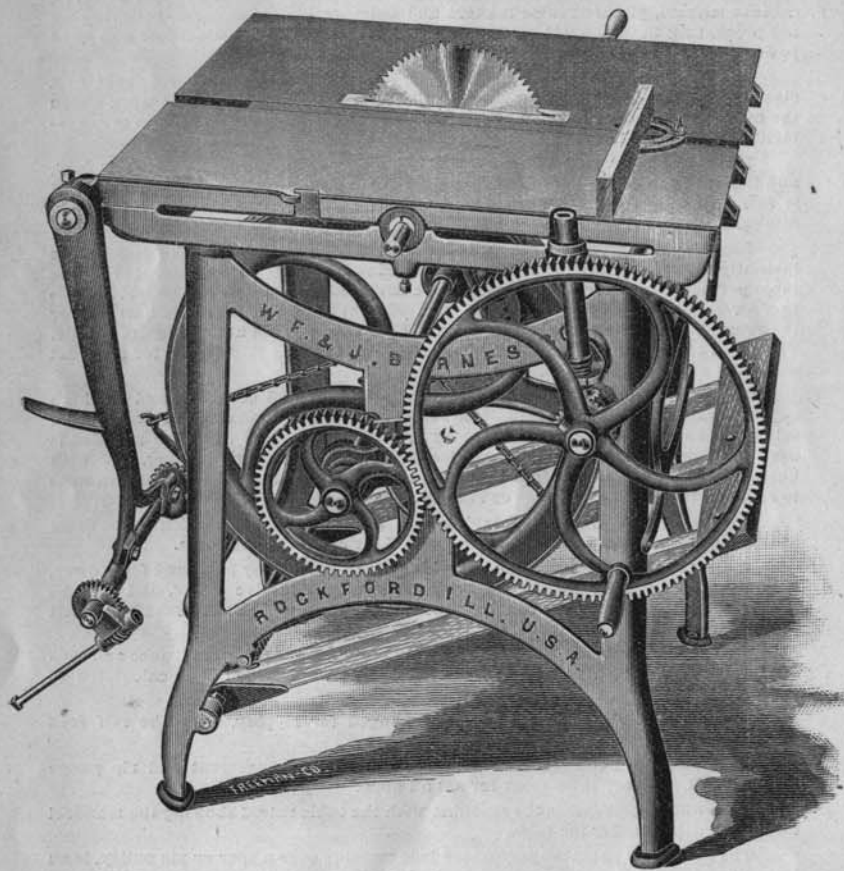
The motion is always strong and positive, and the machine runs at high speed with far less noise than any machine in which the power is transmitted by gearing.

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 cut of the saw is obtained.

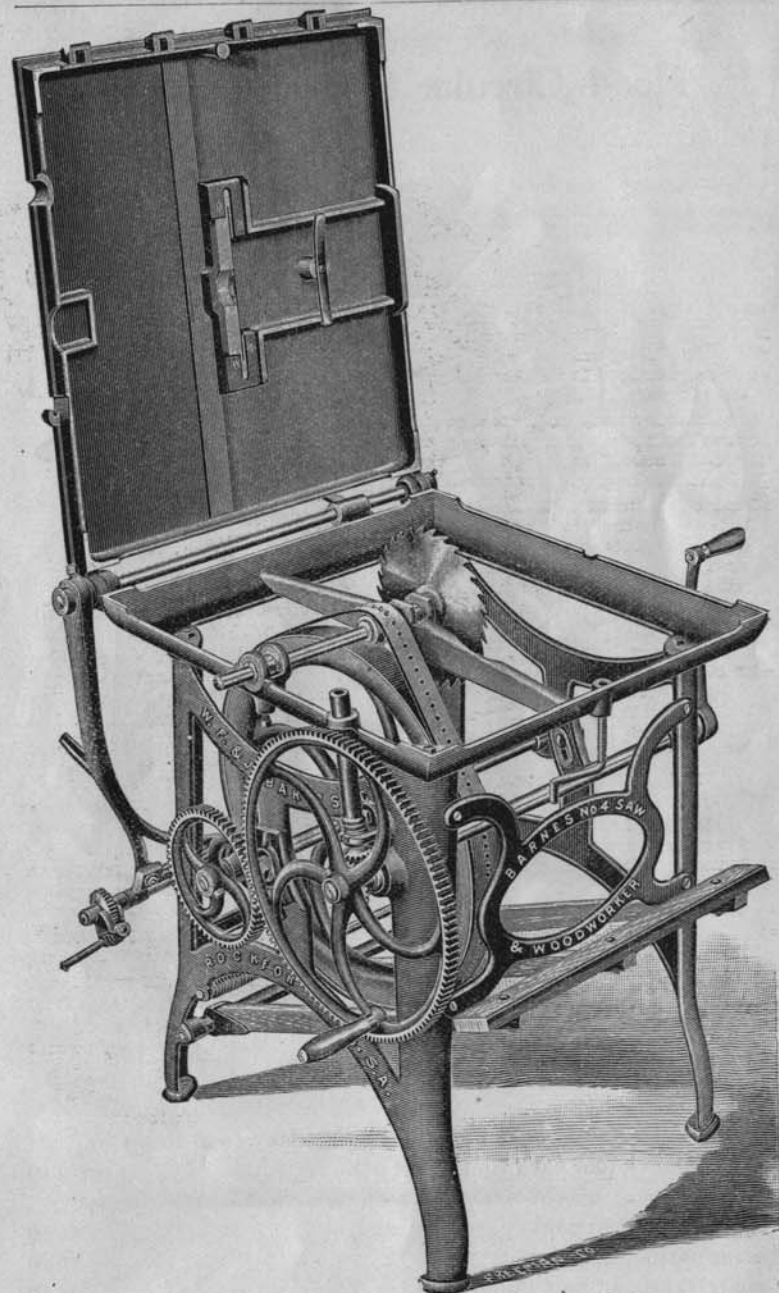
Figure No. 4 shows the machine with a special universal gauge which adapts the machine particularly for the use of picture frame makers and for any other work where a perfectly accurate joint is required.

For cutting picture frame mouldings this gauge will be found invaluable. The joint can be made by cutting both ends at the same time, and those who are familiar with this class of work will readily understand that a more perfect joint is thus made than can possibly be obtained by any other method. The gauge is provided with clamping screws to hold the work in position, and if desired the moulding can be bradded before it is taken from the gauge.

The weight of the machine is 400 pounds.

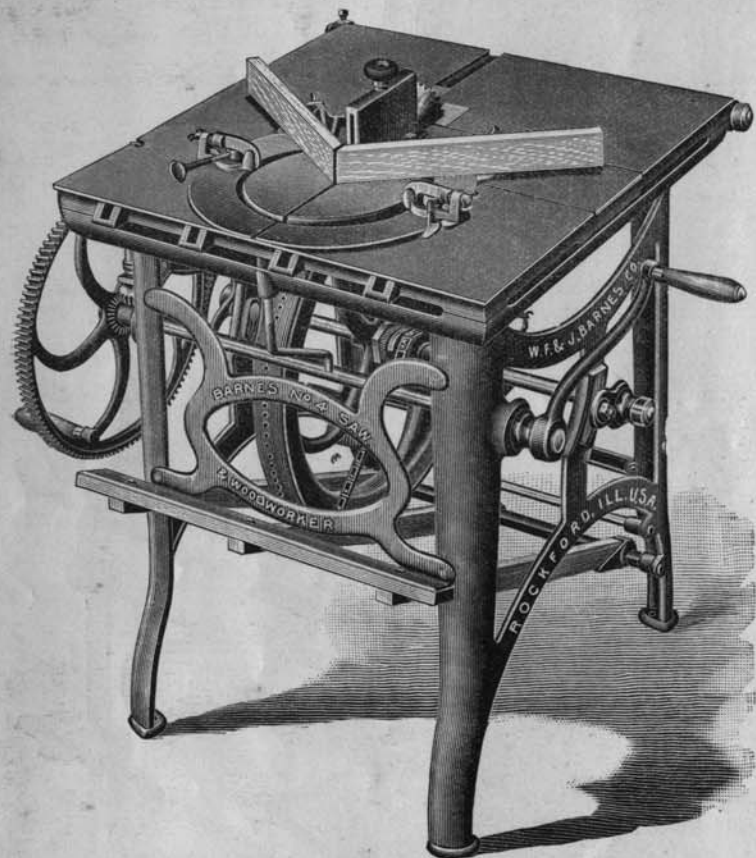


No 4. Circular Saw. Figure 2.



No. 4 Circular Saw. Figure 3.

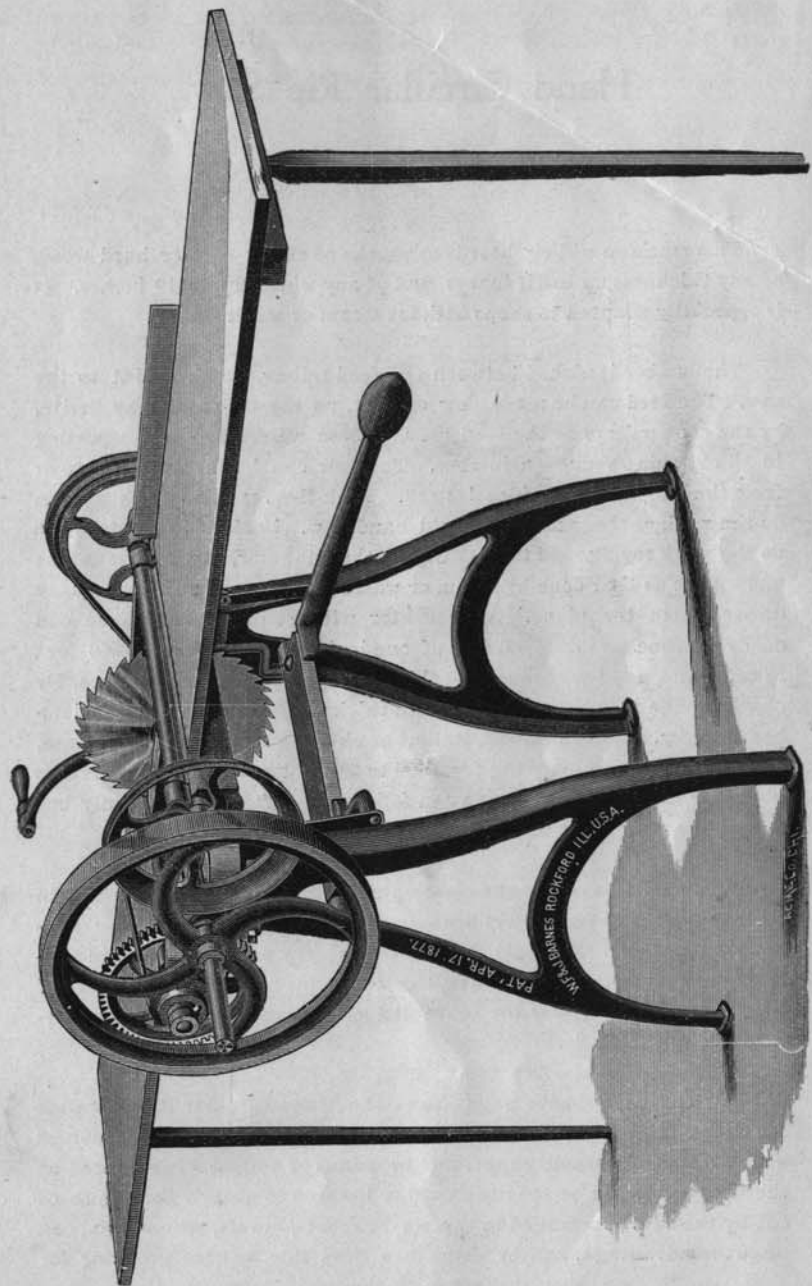
No. 4. Circular Saw, Figure 4.



PRICE LIST.

| | |
|---|---------|
| No. 4 Circular Saw, complete with self feed, with two 10 inch Circular Saws, (one each rip and cut off) | \$60 00 |
| Same as above except arranged with countershaft for steam instead of foot power..... | 65 00 |
| Boring Attachment | 10 00 |
| Countershaft and Belt Pulley | 10 00 |
| Universal Mitre Gauge..... | 10 00 |

Hand Circular Rip Saw. Price \$50.00.



Hand Circular Rip Saw.

Price \$50.00.

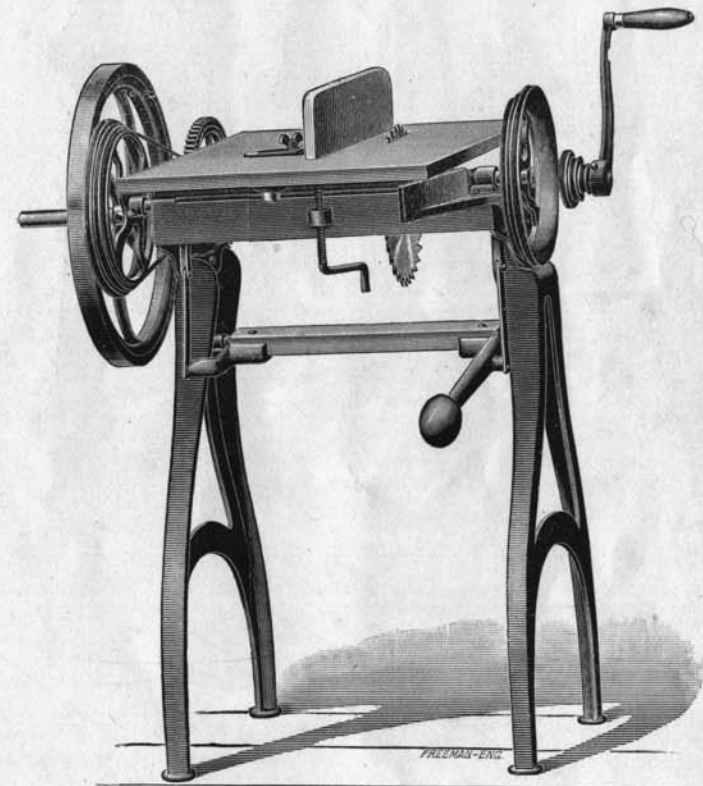
This machine will rip boards or planks of either soft or hard wood, of any thickness up to $3\frac{1}{4}$ inches, and of any width up to 19 inches. It is especially adapted to shops without steam or water power.

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 rolls. 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 6000 feet in ten hours, and other wood and thicknesses at proportionate rates. By changing the feed 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.

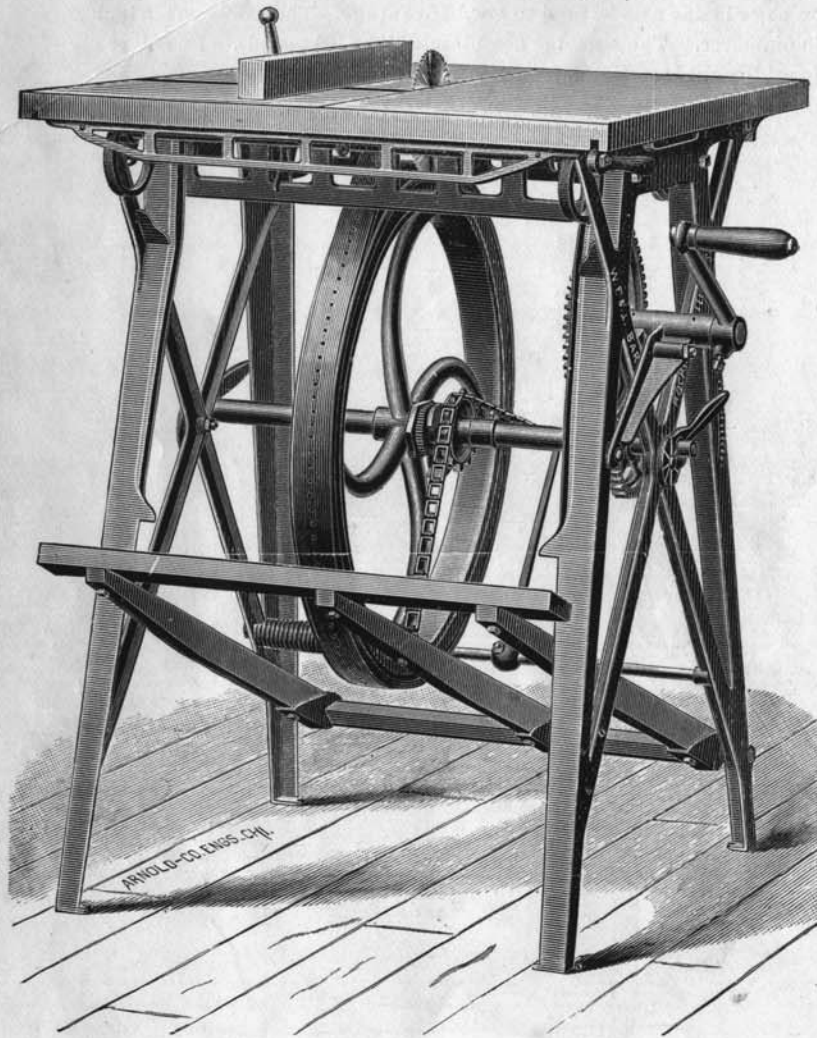
Builders find it one of the most valuable machines they can put in their shops. Lumber dealers are using them in their yards to size lumber to fill orders of customers. They prove very profitable, also, in edging up lumber with wane or bark edges; also for taking out the heart of wide boards, thus raising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

The cut on opposite page shows the Hand Circular Rip Saw with the front table placed directly over the saw. The table is provided with 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 by 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 Groover and Dado Head described on page 18 can also be used to good advantage. The saws are ten inches in diameter. The machine complete weighs 190 pounds. Boxed ready for shipment it weighs 275 pounds.



Combined Machine, Improved,



For prices see page 16.

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.

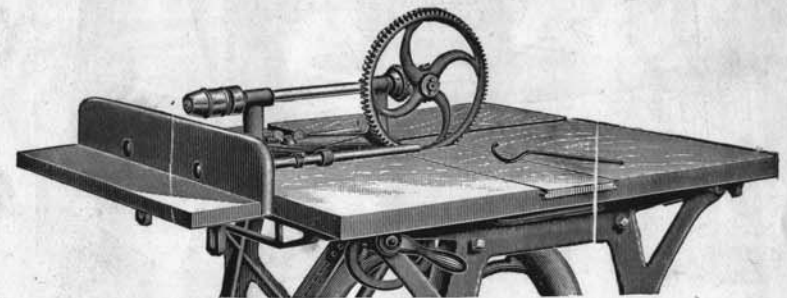
For light ripping, cutting to length, cut-off work, etc., the Circular Saw of the Combined Machine is invaluable. In short, for general use, no more profitable investment can be made by any carpenter or cabinet-maker, or almost any wood-worker, than this Combined Machine, with its different combinations 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 mandrel 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 reach $1\frac{1}{2}$ 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.

Boring Attachment for Combined Machine.



This cut represents a very serviceable Boring Attachment for the Combined Machine. 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 $\frac{1}{4}$ to $\frac{3}{8}$ 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 $\frac{3}{4}$ inch in soft woods, and will be found a valuable aid in most lines of woodwork.

Scroll Saw Attachment.



The cut of Combined Machine on page 14 shows the Circular Saw only. The above cut represents the machine arranged for scroll sawing.

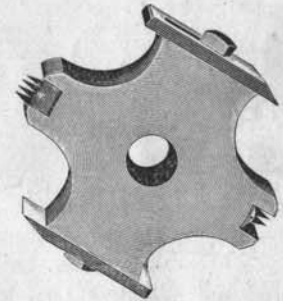
PRICE LIST OF COMBINED MACHINES.

| | |
|---|---------|
| Combined Circular and Scroll Saw and Boring Attachment, including 2 circular saws, 12 assorted scroll saws, the Boring Attachment with an "Old Reliable" self-centering drill-chuck, all combined in one machine..... | \$50 00 |
| Combined Circular and Scroll Saw, including 2 circular saws and 12 assorted scroll saws..... | 40 00 |
| Circular saw alone, including 2 circular saws, 1 rip and cross-cut..... | 35 00 |
| Where the machine has been ordered, arranged as a circular saw only, the other attachments can be taken at any future time. | |
| Scroll Saw Attachment, including 12 assorted scroll saws..... | 5 00 |
| Boring Attachment, including "Old Reliable" self-centering drill-chuck..... | 10 00 |
| Counter Shaft for steam power..... | 10 00 |

Cutter Heads.



No. 1.



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 largely to the usefulness of the machine.

From the accompanying cuts it will be seen that we make two styles of these Cutter Heads, which we designate as No. 1 and No. 3. Of the No. 1 heads we make the following widths: 3-16, $\frac{1}{4}$, 5-16, $\frac{3}{8}$, 7-16, $\frac{1}{2}$, $\frac{5}{8}$ inches.

They will cut either with or across the grain or across the end of stuff. The price of them is \$1.50 each, or \$10.00 for the set of seven. No extra charge for postage if sent by mail.

The No. 3 heads are also made in seven sizes or widths: $\frac{3}{8}$, $\frac{1}{2}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$ and 2 inches. 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, \$3.50 each; Postage on $\frac{3}{8}$, $\frac{1}{2}$ and 1 inch heads, 30 cents each; on $1\frac{1}{4}$ and $1\frac{1}{2}$ inches, 40 cents each; $1\frac{3}{4}$ and 2 inches, 55 cents 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.

Cast Steel Auger Bits.

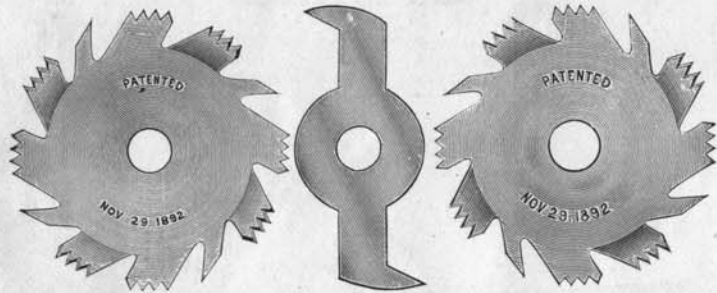
For Boring Attachment of Combined Machine, or of No. 4 Circular Saw.



| | | | | | | | | | | | |
|------------|------|---------------|------|---------------|------|---------------|------|---------------|-------|---------------|---------|
| Size..... | 3-16 | $\frac{1}{4}$ | 5-16 | $\frac{3}{8}$ | 7-16 | $\frac{1}{2}$ | 9-16 | $\frac{5}{8}$ | 11-16 | $\frac{3}{4}$ | inches. |
| Price..... | 30c. | 25c. | 25c. | 30c. | 30c. | 30c. | 35c. | 40c. | 45c. | 50c. | |

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

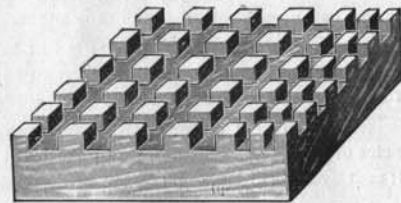
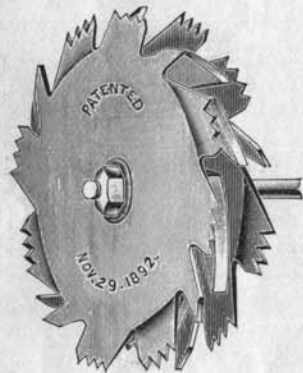
The Huther Patent Groover and Dado Head.



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, Hand Rip 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 1-16, 1/8 and 1/4 inches thick, so that any width groove measurable in sixteenths may be cut.

The outside cutters are 3/8 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 connection with as many or as few inside cutters as required to cut the necessary width groove.

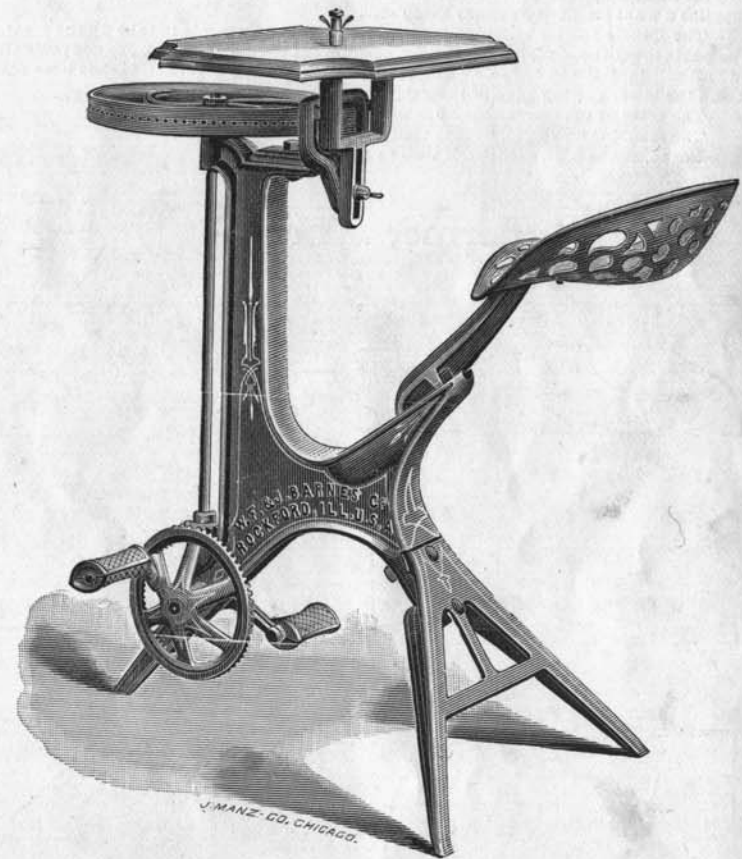
The Groovers are joined and filed ready for use, and we can furnish them arranged in sets as follows:

| | |
|---|--------|
| Set No. 1, Cutting Grooves 1/8, 1/4, 3/8..... | \$5 00 |
| Set No. 2, Cutting Grooves 1/8, 1/4, 3/8, 1/2, 3/4..... | 6 50 |
| Set No. 3, Cutting Grooves 1/8, 1/4, 5-16, 3/8, 7-16, 1/2, 9-16, 5/8, 11-16, 3/4..... | 8 00 |
| Extra inside cutters, 1-16, 60c., 1/8, 90c., 1/4, \$1.20 each. | |

The Groovers are five inches in diameter.

Foot Power Former, Improved.

Price \$20.00. Knives Extra.



J. MANZ-GO, CHICAGO.

Foot Power Former, Improved.

The cut on previous page represents a machine for moulding edges of brackets, scroll work, panel work, regular and irregular mouldings of all styles up to $\frac{3}{8}$ inch. The speed of the knives is from twenty to twenty-five hundred per minute. By the aid of our

PATENT VELOCIPEDA 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.

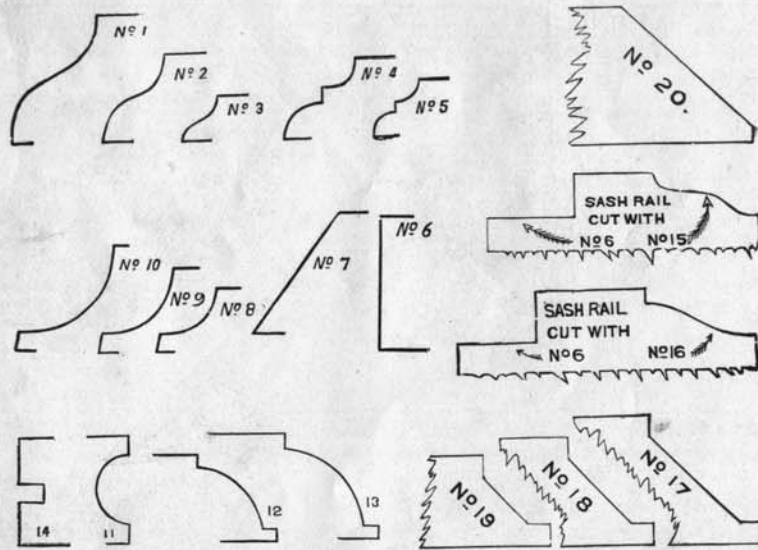
The spindle and its bearings are of steel, with adjustments to take up the wear. The parts to set the machine for the use of different knives and work are convenient, and all substantial and durable. The table can be lowered to give $2\frac{1}{4}$ inches between it and the lower cutting edge of the knife.

The price of the machine is \$30.00 without any knives.

The machine complete, weighs eighty pounds.

Boxed, ready for shipment, it weighs 110 pounds.

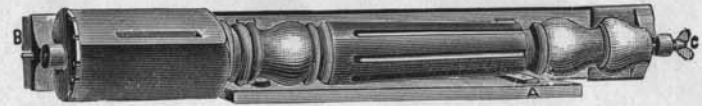
Former Knives.



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 \$1.00 each. Parties 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.

Fluting Attachment.



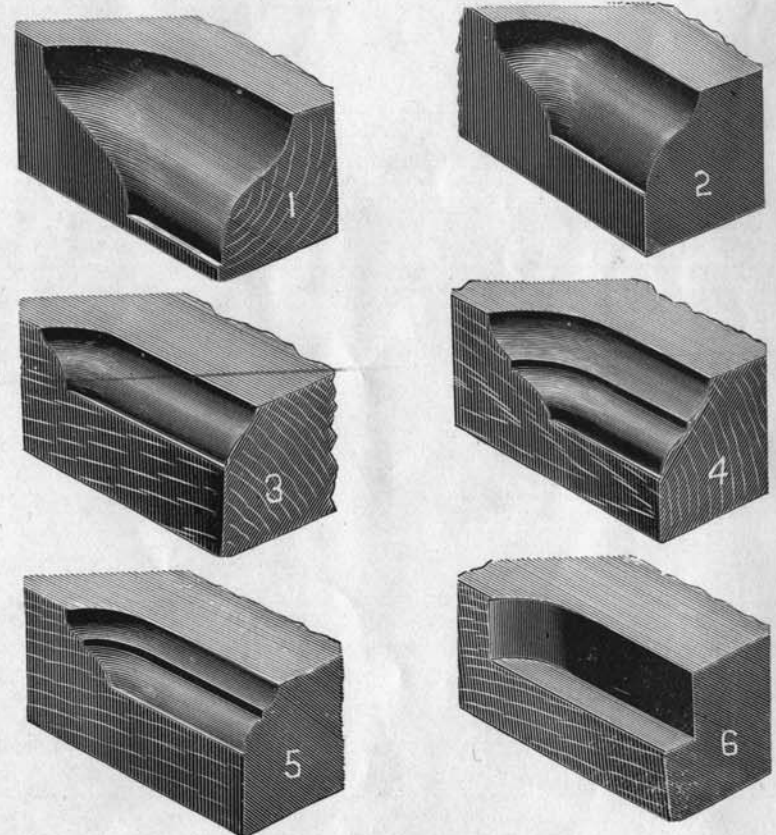
Price, \$3.00.

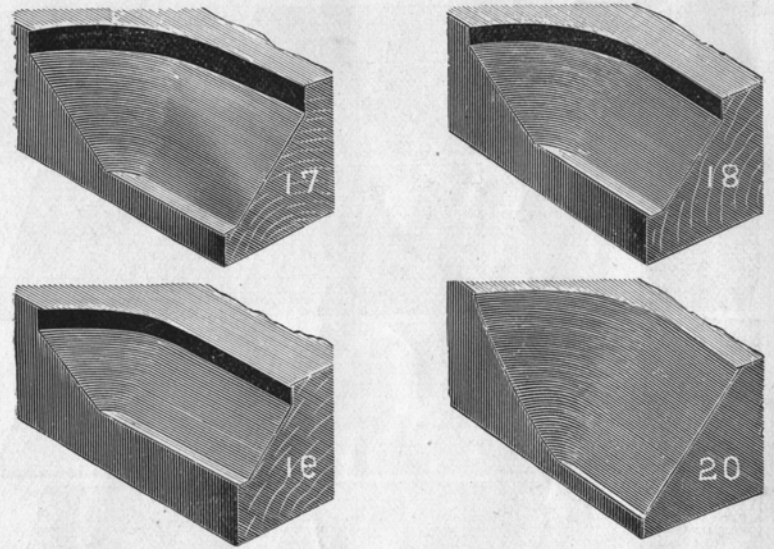
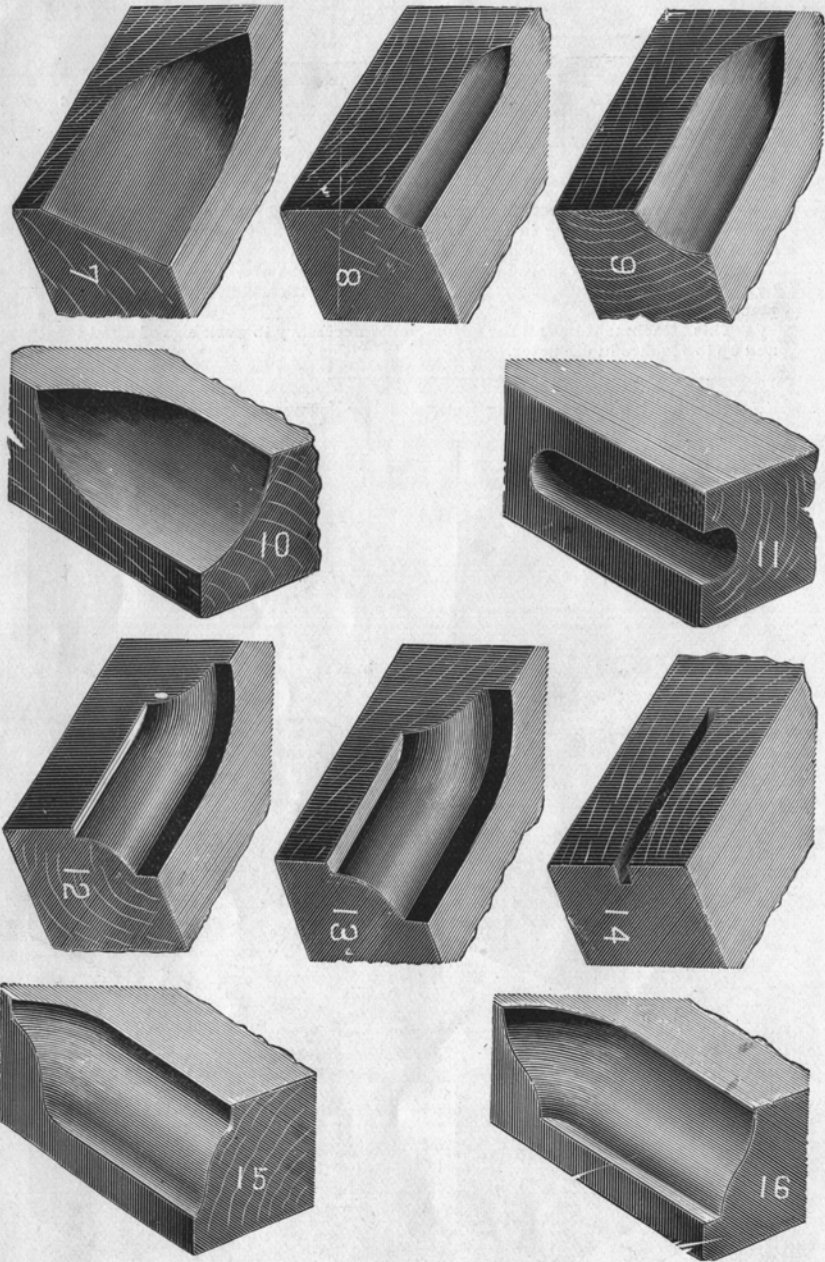
The above cut represents an attachment to be used on the Former, for fluting table legs, etc., as the leg in the cut shows. "A" shows the edge of the pattern, the shape of which regulates the cut on the leg lengthwise.

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.

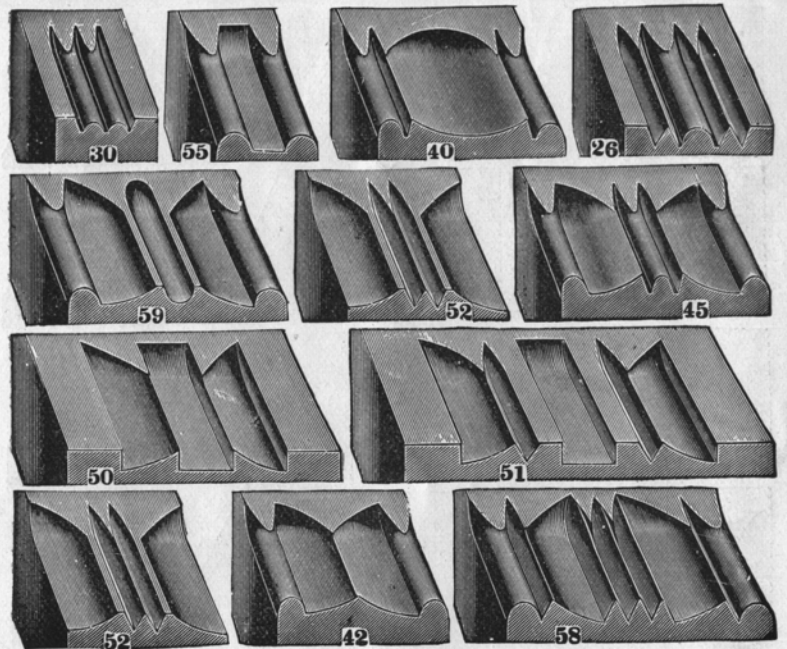
This attachment has all the adjustments necessary to work legs of usual length and up to 3 inches in diameter.

Sectional Views Showing Cuts Made by Former Knives Nos. 1 to 20.





Sectional Views Showing a Few of the Cuts That Can be Made with the New Former Knives, Described on Page 25.



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 woodworker 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.: $\frac{1}{8}$ inch, 3-16 inch, $\frac{1}{4}$ 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 knives required, designating same by letters as shown on cut, and also state size, whether $\frac{1}{8}$, 3-16, or $\frac{1}{4}$, as the case may be.

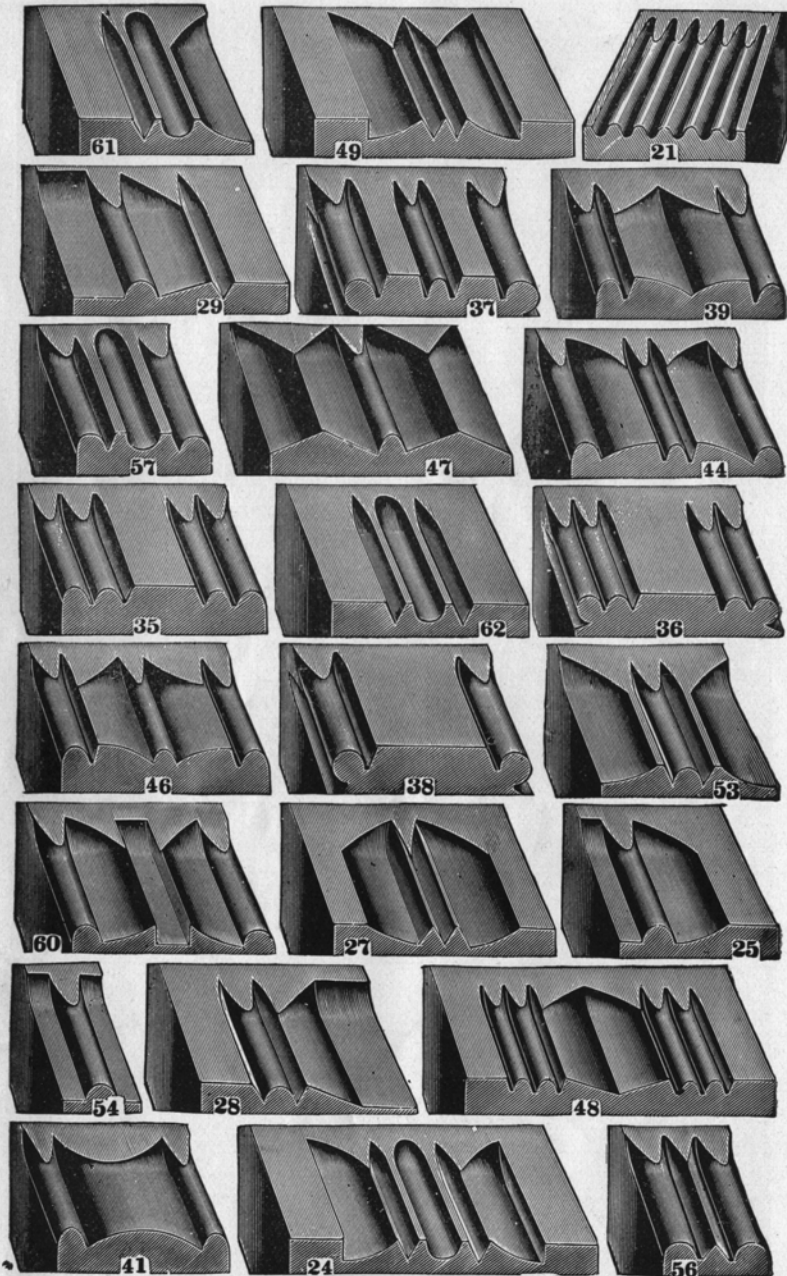
Where knives are wanted for making any of the forms shown on pages 23 or 24, it can be so stated in the order, and to facilitate the ordering of such knives, we give below knives required to make the different forms:

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

These new knives supersede the old style Beading Knives, to which they are greatly superior in many ways. They require no head for holding them, as was the case with the old knives; they are reversible, whereas the old beading knives could be run in one direction only, and they have the great advantage of being used singly for centre bead work or in combination for any number of beads that may be desired.

The price of the new knives is 50 cents each.

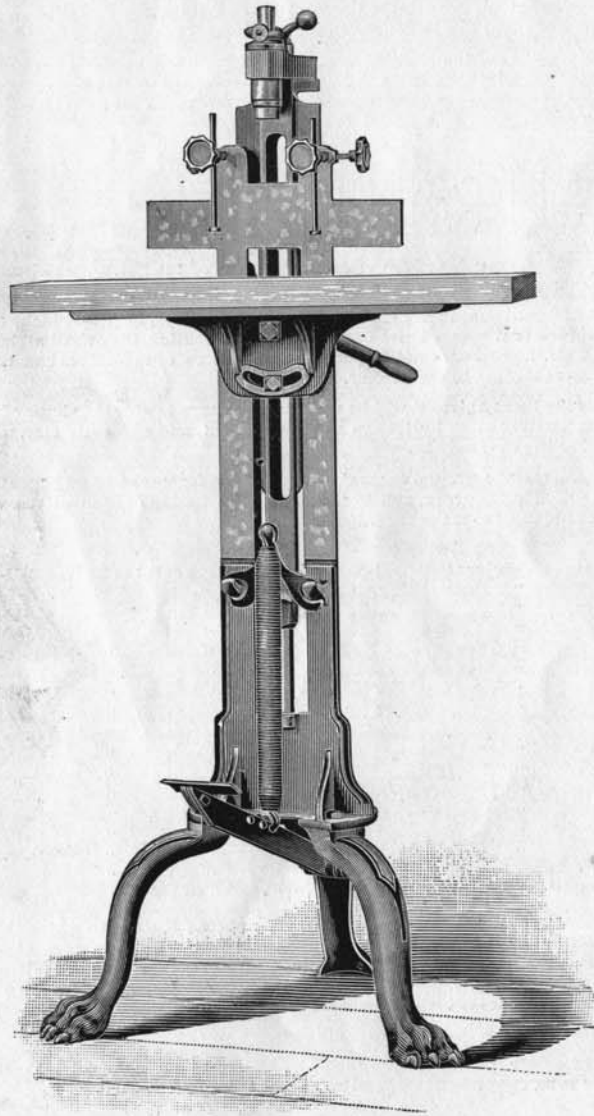
It will, of course, be understood that we continue to make the original series of knives, Nos. 1 to 20, the price of these being, as heretofore, \$1.00 each.



Foot Power Mortising Machine.

Price, \$20.00. Chisels Extra.

FOR DESCRIPTION, SEE PAGE 28.

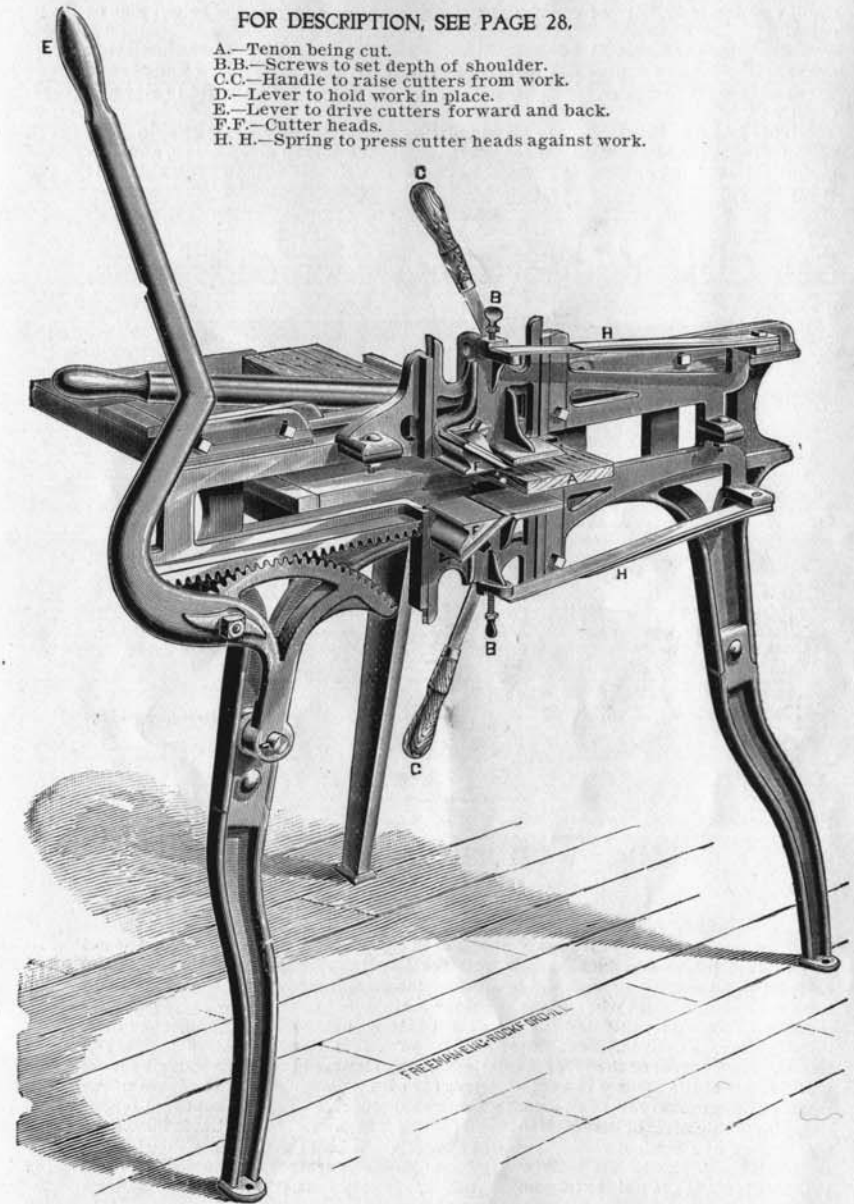


Hand Tenoning Machine.

Price \$25.00.

FOR DESCRIPTION, SEE PAGE 28.

- A.—Tenon being cut.
- B.B.—Screws to set depth of shoulder.
- C.C.—Handle to raise cutters from work.
- D.—Lever to hold work in place.
- E.—Lever to drive cutters forward and back.
- F.F.—Cutter heads.
- H. H.—Spring to press cutter heads against work.



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 specially 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. The price (without chisels) is \$20.00. 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 \$1.00 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.

Blind Slat Chisel.

With Three Set Bits, \$5.00.



Hand Tenoning Machine.

Price, \$25.00.

The machine will cut tenons of any length up to 3 inches. By repeating the cut any desired length can be made. It will work on stuff of any size up to 2x12 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 rabbetted 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 \$25.00. It weighs 100 pounds; boxed, for shipment, it weight 140 pounds.

New Grinding and Polishing Machine.



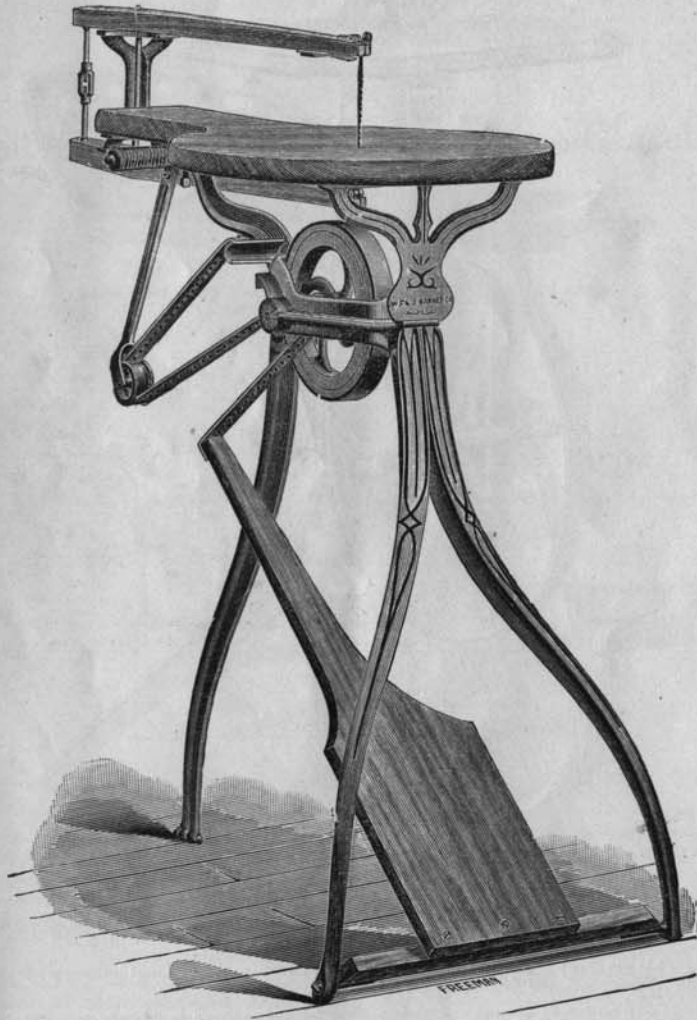
This machine is designed for light work, carrying emery and buffing wheels up to six inches diameter by one inch face.

It will be found a most useful machine by carpenters and other woodworkers for grinding plane irons, chisels and other tools, and with emery wheel of proper shape for gumming their saws.

Weight of machine 85 pounds; boxed for shipment, 115 pounds. Price \$18.00.

No. 7 Scroll Saw, Improved.

Price \$15.00.



Scroll Saw No. 7.

Price, \$15.00.

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, 3 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 1,200 strokes per minute. The saw leaves the work as smooth as it 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 seven 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 55 pounds.

Boxed, for shipment, it weighs 80 pounds.

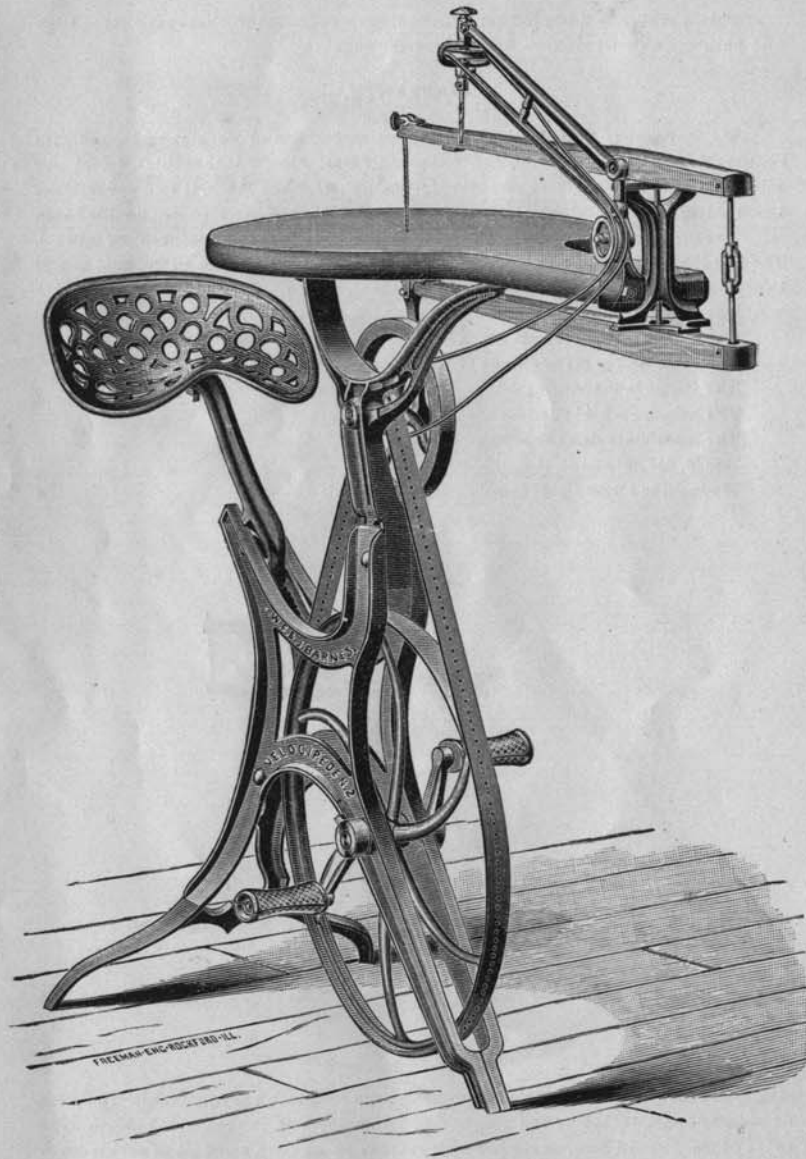
We include 1 dozen blades with each machine.



The above cut shows our No. 7 Scroll Saw arranged with a counter shaft. The price of counter shaft, including the connecting band-wheel on the machine is \$10.00. The price of No. 7 Scroll Saw, arranged with counter shaft only (no foot power) is \$20.00.

Velocipede Scroll Saw, No. 2.

Price, With Boring Attachment, \$20.00; Without Boring Attachment, \$18.00.



Velocipede Scroll Saw, No. 2.

PRICE.

With Boring Attachment, \$20.00.

Without Boring Attachment, \$18.00.

This machine has about the same capacity as Scroll Saw No. 7, the 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 arm 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 it weighs 130 pounds.

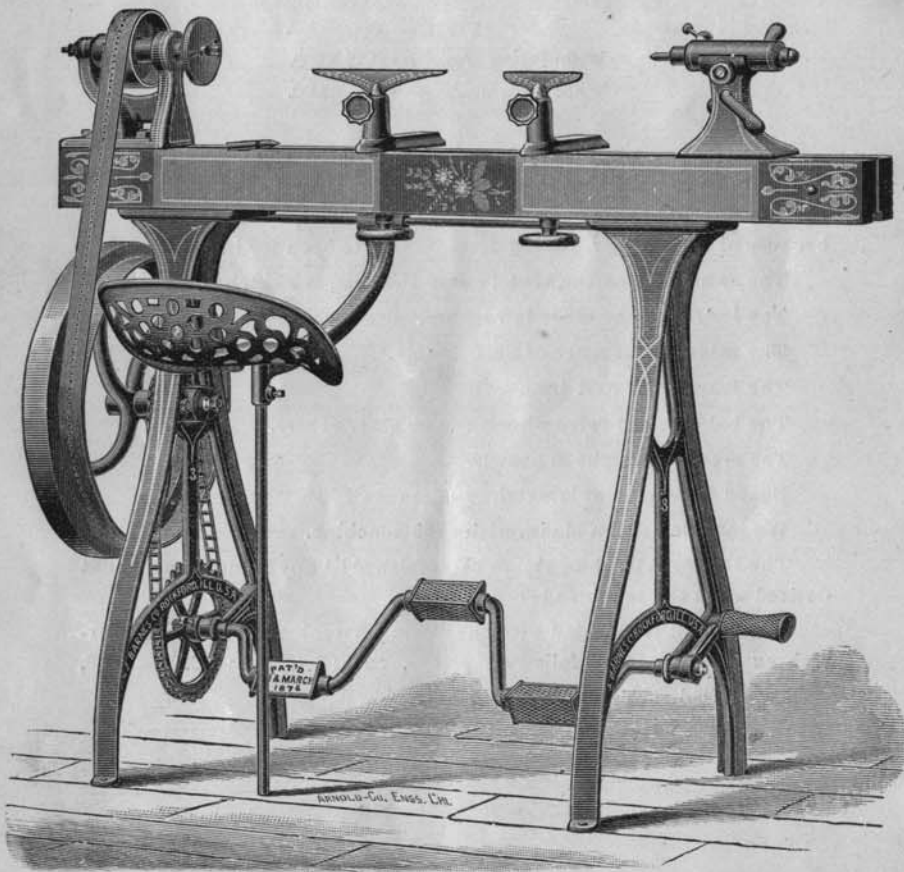
We include 1 dozen blades with each machine.

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

One 3-16 bit is included with the Boring Attachment. We can furnish extra bits at the following prices, each: 1-16, 15c.; 3-32, 15c.; 1-8, 20c.; 5-32, 20c.; 3-16, 25c.; 7-32, 30c.; 1-4, 35c.

No. 3 Lathe.

Price, \$35.00.



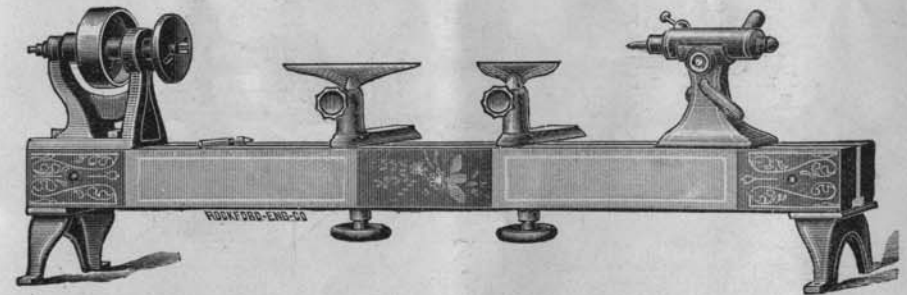
No. 3 Lathe.

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 \$35.00; this includes three centers (one a spur) two tool rests and sockets, and one turned face-plate.

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

No. 3 Lathe with Bench Legs.

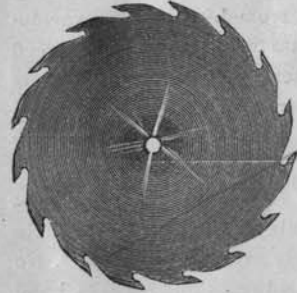


We will furnish, when desired, the upper portion of No. 3 Lathe, with short bench legs, as shown in the above cut. Price, \$20.00.

Price of Countershaft, \$10.00.

Circular Saws.

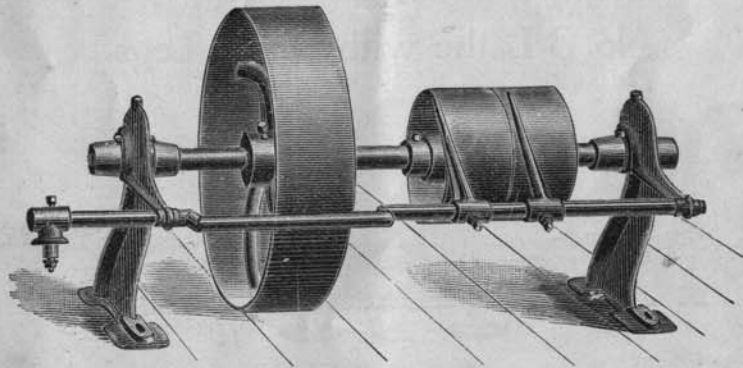
Patent Ground and Tempered Solid Teeth Circular Saw.



| Diameter. | Thickness. | Size of Hole. | Price Each. |
|--------------|---------------|---------------|-------------|
| 1½ inch..... | 24 guage..... | ¾ inch..... | \$ 55 |
| 2 "..... | 23 "..... | ¾ "..... | 60 |
| 2½ "..... | 22 "..... | ¾ "..... | 65 |
| 3 "..... | 21 "..... | ½ "..... | 70 |
| 3½ "..... | 20 "..... | ½ "..... | 80 |
| 4 "..... | 19 "..... | ¾ "..... | 1 00 |
| 5 "..... | 19 "..... | ¾ "..... | 1 10 |
| 6 "..... | 18 "..... | ¾ "..... | 1 40 |
| 7 "..... | 18 "..... | ¾ "..... | 1 70 |
| 8 "..... | 18 "..... | ¾ "..... | 2 00 |
| 9 "..... | 17 "..... | ¾ "..... | 2 50 |
| 10 "..... | 16 "..... | 1 "..... | 3 00 |
| 12 "..... | 15 "..... | 1 "..... | 3 75 |
| 14 "..... | 15 "..... | 1½ "..... | 4 50 |
| 16 "..... | 14 "..... | 1½ "..... | 5 50 |
| 18 "..... | 13 "..... | 1½ "..... | 7 00 |
| 20 "..... | 13 "..... | 1 5-16 "..... | 8 50 |
| 22 "..... | 12 "..... | 1 5-16 "..... | 10 00 |
| 24 "..... | 11 "..... | 1½ "..... | 12 00 |
| 26 "..... | 11 "..... | 1½ "..... | 14 50 |
| 28 "..... | 10 "..... | 1½ "..... | 16 00 |
| 30 "..... | 10 "..... | 1½ "..... | 18 00 |

Counter-Shaft.

Price, \$20.00.



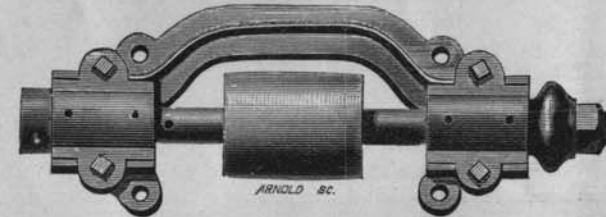
This Counter Shaft is designed for general use. It has self-adjusting bearings and a convenient shipper. The pulleys are turned true, and all parts are well made. The small pulleys, (tight and loose) are 8 inches in diameter, and the large pulley 18 inches in diameter.

It can be used overhead or on the floor as desired. This Counter Shaft is well adapted for driving the Saw Arbors shown in cuts on the following page.

Saw Arbors.

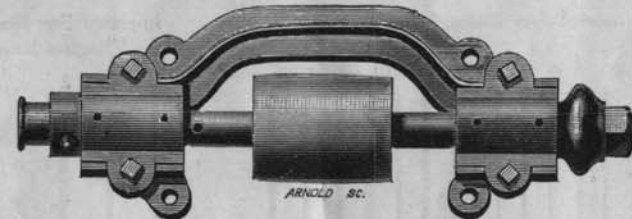
The following cuts represent two styles of Saw Arbors, one with the pulley between, the other with the pulley outside the journals. The journals are connected by a solid casting, thus insuring them in perfect line. These arbors are made from the best steel, and are fitted up in the most thorough manner.

Cut of Nos. 1, 2, 3.



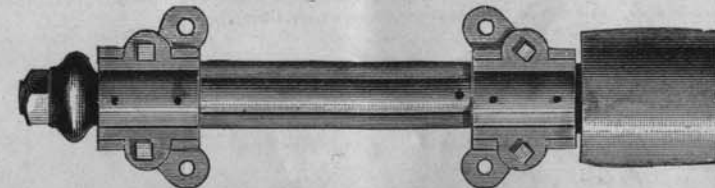
| No. | Size of hole in Saw. | Size of Pulley. | | Size of Saw. | Length out to out boxes. | Price. |
|-----|----------------------|-----------------|------------|---------------|--------------------------|---------|
| | | Face. | Diameter. | | | |
| 1 | ¾ inch. | 3 inches. | 2½ inches. | 6 to 10 inch. | 14 inches. | \$10 00 |
| 2 | ¾ " " | 4 " " | 3 " " | 10 to 12 " " | 16 " " | 12 00 |
| 3 | 1 " " | 4½ " " | 3½ " " | 12 to 18 " " | 18 " " | 14 00 |

Saw Arbor with Bit Collet Attached.




The above cut shows a Bit Collet which we can furnish for \$2.50. We can furnish a Drill Chuck, fitted to use in place of the Bit Collet, for \$3.50, if ordered with the Saw Arbor. The price, if ordered afterwards, is \$4.00. It is often desired to use an Auger Bit on the Saw Arbor, thus combining a Saw and Boring Machine on one table.

Cut of Nos. 4, 5, 6.



| No. | Size of hole in Saw. | Size of Pulley. | | Size of Saw. | Length out to out boxes. | Price. |
|-----|----------------------|-----------------|-----------|---------------|--------------------------|---------|
| | | Face. | Diameter. | | | |
| 4 | ¾ inch. | 2½ inches. | 3 inches. | 6 to 10 inch. | 14 inches. | \$10 00 |
| 5 | ¾ " " | 3½ " " | 3½ " " | 10 to 15 " " | 16 " " | 12 00 |
| 6 | 1 " " | 4 " " | 4 " " | 15 to 20 " " | 20 " " | 14 00 |

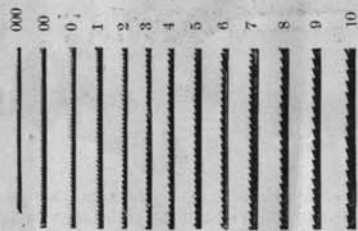
Scroll Saw Blades.—Our Own Make.



| | | | |
|----------|-------------------|--------|--------|
| 5 inches | 1-16 to 3-16 inch | \$.60 | \$.06 |
| 7 " | 1-16 to 1-4 " | .75 | .08 |
| 10 " | 1-8 to 1-4 " | 1.50 | 15 |
| 12 " | 1-8 to 5-16 " | 1.00 | 15 |
| 14 " | 3-16 to 5-16 " | 1.80 | 20 |
| 16 " | 3-16 to 3-8 " | 1.95 | 20 |
| 18 " | 1-4 to 1-2 " | 2.35 | 25 |
| 20 " | 1-4 to 5-8 " | 2.60 | 30 |
| 22 " | 1-4 to 5-8 " | 2.75 | 30 |
| 24 " | 1-4 to 3-4 " | 2.95 | 30 |
| 26 " | 1-4 to 3-4 " | 3.30 | 35 |
| 28 " | 1-4 to 7-8 " | 3.60 | 35 |
| 30 " | 1-4 to 1- " | 3.90 | 40 |
| 32 " | 1-4 to 1- " | 4.40 | 45 |
| 34 " | 1-4 to 1- " | 4.75 | 45 |
| 36 " | 1-4 to 1- " | 5.00 | 50 |

Imported Fret Blades.

Imported Fret Blades, 5 inches long.



Nos. 000 to 5, 10 cts. per doz. \$1.00 per gross.

Nos. 6, 7 and 8, 15 cts. per doz. \$1.25 per gross.

Nos. 9 and 10, 20 cts. per doz. \$1.50 per gross.

For use on our No. 7 Scroll Saw, No. 2 Velocipede Saw or Combined Saw, order 7-inch blades. For use on the Amateur Saws, order 5-inch blades.

Imported Fret Blades, 7 inches long.



25 cts. per dozen.

\$2.50 per gross.

Griffin Patent Saw Blades.

Five Inches Long.



All sizes from 0 to 6, per dozen.....\$ 10

All sizes from 7 to 10, per dozen..... 15

Per gross, assorted..... 1.10

Per gross, all one size, 0 to 4..... 90

Per gross, all one size, 5 to 7..... 1.00

Per gross, all one size, 8 to 10..... 1.25

Of these and the Imported Fret Blades, we do not sell less than a dozen of one size.

W. Butcher's Cast Steel Turning Chisels,

Warranted.



Size, $\frac{1}{8}$ $\frac{3}{16}$ $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ 1 1 $\frac{1}{4}$ 1 $\frac{1}{2}$ 1 $\frac{3}{4}$ 2 inch.
Price, .25 .25 .25 .27 .30 .33 .37 .41 .48 .60 .77 .93 \$1.10 each.

W. Butcher's Cast Steel Turning Gouges,

Warranted.





Size, $\frac{1}{8}$ $\frac{3}{16}$ $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ 1 1 $\frac{1}{4}$ 1 $\frac{1}{2}$ 1 $\frac{3}{4}$ 2 inch.
Price, .32 .32 .32 .36 .40 .43 .51 .58 .65 .85 \$1.11 \$1.31 \$1.60 each.

Turner's Sizer.

Price \$1.25 each.

 Screw Chuck\$1.50 each.

 Spur Center.....\$1.50

 Cup Center.....\$1.50

Vise for Holding Scroll Saw Blades.

Price each..... 30 cents.
Postage 20 cents.

How to Order.

The best way is to send remittance with order and thereby secure the discount for cash. The best way of making remittances is by draft on New York or Chicago, post-office or express money order, or by registered letter. Do not send local checks.

Machines on Trial.

We will send machines on trial on the following terms: On receipt of *\$5.00 with order we will ship any machine described in this catalogue. For the balance due on machine we will send collection by express. The goods will be marked and consigned to ourselves, and the bill lading, which we will endorse, will be sent with collection, and when you pay same the express agent will give you bill lading, which will of course be an order on your freight agent for the machine. The express agent will be instructed to hold the money on deposit until you try the machine and are satisfied whether you do or do not want it. If the machine does not prove satisfactory you will reship it to us and the express agent will refund you the amount deposited with him. When the machine reaches us we will pay freight and will return to you out of the amount sent with order such balance as may be your way.

We would advise, however, that full amount be sent with order, as it will give you the benefit of cash discount and will save us the trouble and work of sending out and keeping track of the collection. Where order is made on the cash basis, full amount being sent, purchaser has the same privilege of returning the machine as though it were sent on trial, and in case machine is returned we will refund amount paid, deducting only amount to cover charges. Shipment will always be made by freight, unless purchaser positively instructs for shipment by express.

W. F. & JOHN BARNES CO.

*Where order is for more than one machine an advance will be required for each machine. Customers ordering from points where the freight both ways will be more than the amount above given, will be required to increase the advance payment correspondingly.

PRICE LIST OF EMERY WHEELS.

These are guaranteed to be the best Emery Wheels in the Market.

Thickness of Wheels in Inches.

| Diameter of Wheels in Inches. | Thickness of Wheels in Inches. | | | | | | | |
|-------------------------------|--------------------------------|---------------|---------------|---------------|---------------|--------|----------------|---|
| | | $\frac{1}{4}$ | $\frac{3}{8}$ | $\frac{1}{2}$ | $\frac{3}{4}$ | 1 | $1\frac{1}{2}$ | 2 |
| 3 | \$ 50 | \$ 65 | \$ 80 | \$ 95 | \$1 10 | \$1 40 | \$ 1 70 | |
| 4 | 75 | 95 | 1 10 | 1 35 | 1 65 | 2 10 | 2 60 | |
| 5 | 1 00 | 1 20 | 1 40 | 1 80 | 2 20 | 3 00 | 3 80 | |
| 6 | 1 40 | 1 60 | 1 75 | 2 40 | 3 05 | 4 35 | 5 65 | |
| 8 | 2 60 | 2 60 | 2 60 | 3 60 | 4 60 | 6 60 | 8 60 | |
| 10 | 3 65 | 3 65 | 3 65 | 5 00 | 6 35 | 9 05 | 11 75 | |
| 12 | 4 60 | 4 60 | 4 60 | 6 35 | 8 10 | 11 60 | 15 10 | |
| 14 | 6 25 | 6 25 | 6 25 | 8 45 | 10 65 | 15 05 | 19 45 | |
| 16 | 8 00 | 8 00 | 8 00 | 10 85 | 13 70 | 19 40 | 25 10 | |

Price of larger wheels quoted on application.