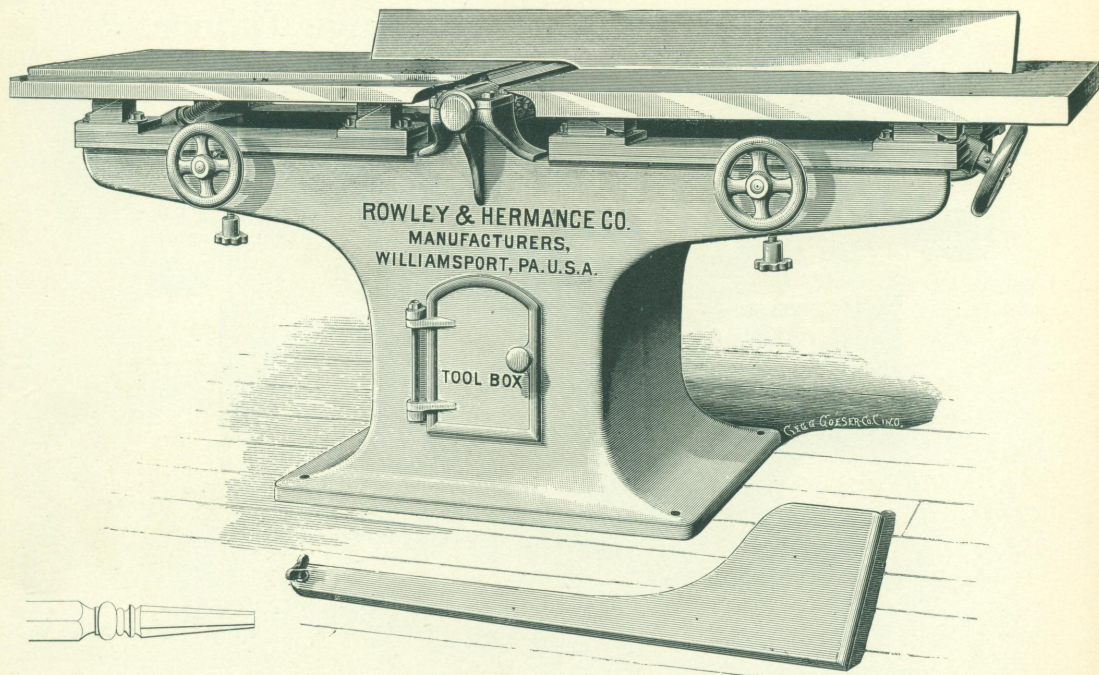


# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 71.

ROWLEY & HERMANCE CO.'S

## New Pattern Improved Hand Jointer or Buzz Planer.



THIS machine is capable of a great variety of work, such as planing out of wind, cornering, beveling, rabbeting, chamfering, squaring up, making glue joints, etc., making it indispensable in sash and door, agricultural implement, furniture, car works, pattern shops, and other wood-working establishments.

**The Frame** is cast in one piece, making it very strong and substantial.

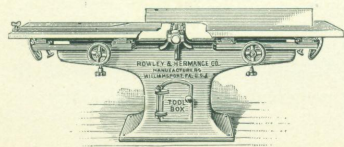
**The Tables** are 7 feet long. Each table has an independent vertical adjustment operated by the hand wheels shown at each end of the machine, also an independent lateral adjustment of 7 inches each, to and from the path of the cutters, operated by the hand wheels shown on the front or working side of the machine. This unusual space allows free access to the cylinder and will be appreciated by every mechanic.

**Our Improved Dovetailed Incline Adjustment** for raising and lowering the tables makes it almost impossible to get the tables out of position, and if once out, they can be re-adjusted in two minutes. This is a great improvement over any other machine of this kind on the market.

**The Cylinder** is made of solid forged steel, small in diameter so it can be run at a high speed, which is very essential for doing smooth work on brush or cross-grained lumber. It is provided with bolts on two sides for carrying straight knives, and slotted on the other two sides for carrying rabbeting and other odd knives.

It is provided with an adjustable gauge, which can be set square or at any desired bevel, also a wooden safety guard to prevent accidents to the fingers of the operators.

We furnish with each machine one counter-shaft, one set (2) straight knives for cylinder, and necessary wrenches.



**DIRECTIONS:**—Never screw or fasten the machine to the floor. The tables should be set level to do perfect work. Level the planer by putting thin wedges under the base of the machine. The belt on the cylinder should be endless, light and of even thickness, without any hook, rivets or lacers. The laps should be cemented, and it will last longer, cylinder will run better and do smoother work. Belts on the 8, 12 and 16-inch machines should be 3½ inches wide; on the 24 and 30-inch machines 4 inches wide.

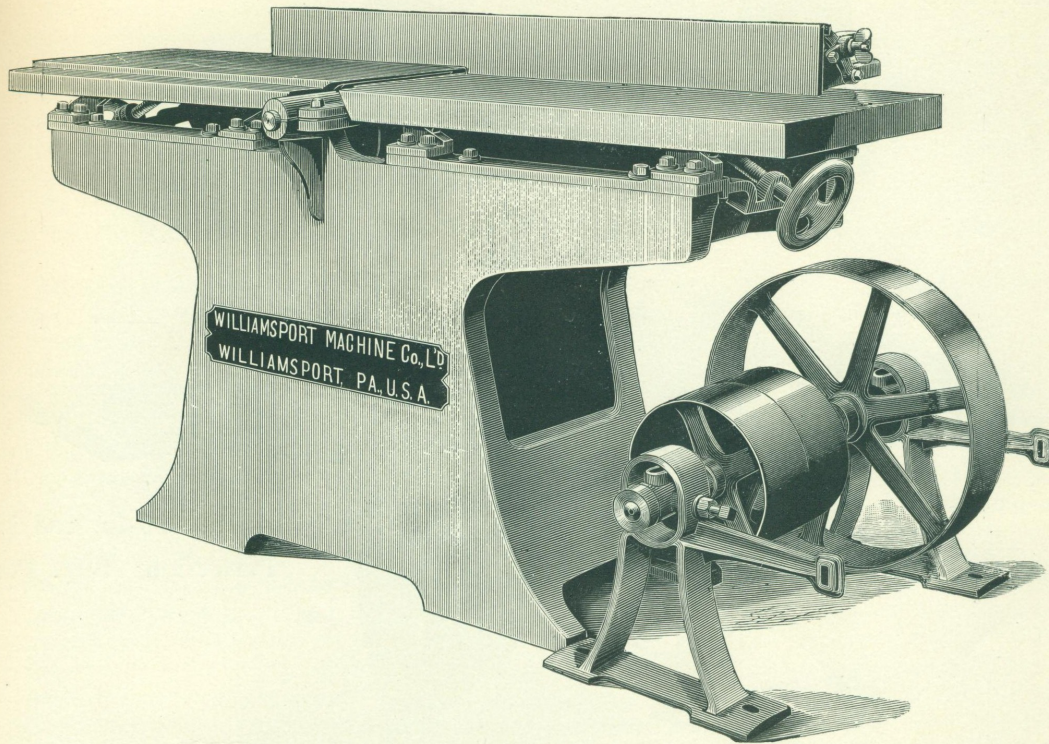
	T. and L. Pulleys.	Revs. per Minute.	Cubic Measure.	Weight.	Average H. P. Required.	Code Word.
Fig. 71 —To work 8 inches wide.....	8 x 4	780	35	1,050	1 to 2	Forebode.
Fig. 71 A—To work 12 inches wide.....	8 x 4	780	42	1,300	1 to 2	Forecast.
Fig. 71 B—To work 16 inches wide.....	8 x 4	780	49	1,550	2 to 3	Forego.
Fig. 71 C—To work 24 inches wide.....	8 x 4½	780	63	1,900	2 to 4	Forehead.

# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 72.

WILLIAMSPORT MACHINE CO.'S

## Hand Planer and Jointer, with Complete Adjustable Gauge.



**T**HIS Hand Planer and Jointer is a newly designed machine, and the success it is meeting with is a sure indication of its merits over all Planers of a similar kind in the market.

**The Hand Planer** is now used for a large variety of work, and has become one of the most necessary tools in wood-working shops, for labor saving, and accurate work in planing out of wind, squaring up, beveling, rabbeting, making glue joints, etc.

**The Tables** are very long, being over six feet in length, which is a very important point for smooth planing and making straight joints; each table can be adjusted vertically or laterally, working on inclines to or from the cylinder, and the throat is always small. Both the tables can be moved to give opening enough to sharpen or set the knives; this is done by simply loosening the hand wheel at side of machine, which will allow the table to move back without changing the height of same. At the will of operator the depth of cut can be changed from one-sixteenth to one-half inch without stopping the machine.

**The Frame** is cast in one piece, making it very solid and compact; is extra well braced inside, giving a rigid bearing for boxes, which are cast solid on the frame of machine, allowing the cylinder to run at a high rate of speed without jar or tremble.

**The Cylinder** is made from the best refined cast-steel, slotted on two sides, the long knives being on the plain sides, so that any kind of knives such as are used for grooving, reeding moulding, etc., can be used on the slotted side.

Each machine is thoroughly tested before leaving our works, and guaranteed to give satisfaction. All sizes are made for rabbeting.

**A WORD TO WOOD-WORKERS.**—If you want a Planer that will save you hard labor in cabinet, furniture, chair, coffin and frame factories, you cannot afford to be without one of our improved Hand Planers and Jointers.

**Pulley** on cylinder is  $3\frac{1}{2}$  in. diameter, 4 in. face, and should make 4,500 to 5000 revolutions per minute.

**Tight and Loose Pulleys** on counter-shaft are 10 x 4, and should make 900 revolutions per minute.

**Floor Space** required, 72 in. by 34 in.

	Weight.	Code Word.
Fig. 72 —To work 8 inches wide.....	800	<b>Forelay.</b>
Fig. 72 A—To work 12 inches wide.....	1,000	<b>Forelock.</b>
Fig. 72 B—To work 16 inches wide.....	1,200	<b>Foremost.</b>
Fig. 72 C—To work 24 inches wide.....	1,400	<b>Forensic.</b>

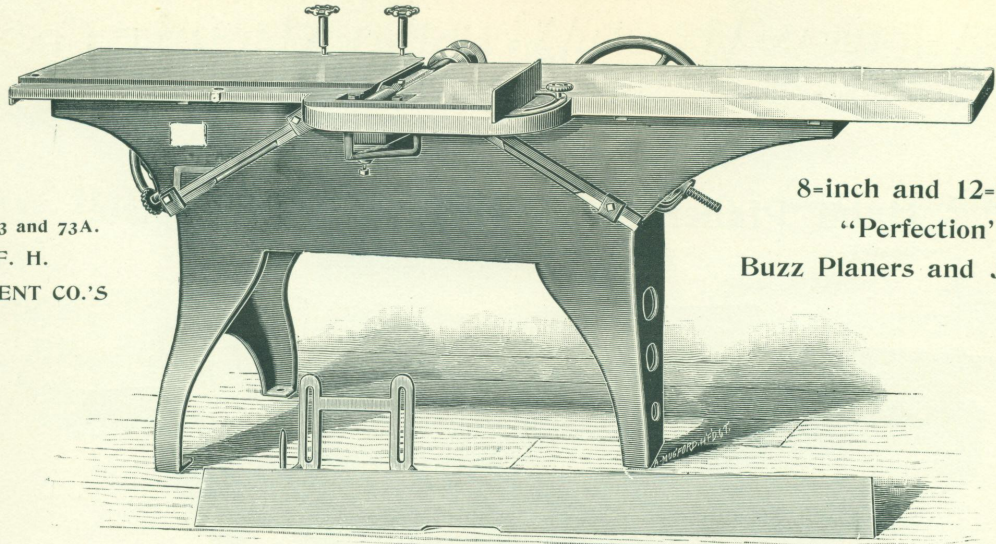


Fig. 73 and 73A.  
F. H.  
CLEMMENT CO.'S

8-inch and 12-inch  
"Perfection"  
Buzz Planers and Jointers.

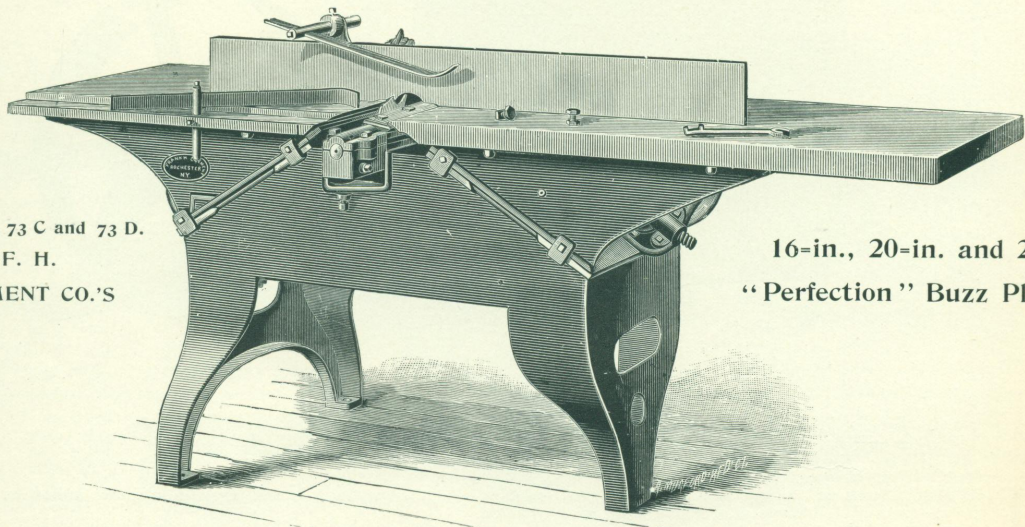


Fig. 73 B, 73 C and 73 D.  
F. H.  
CLEMMENT CO.'S

16-in., 20-in. and 24-in.  
"Perfection" Buzz Planers.

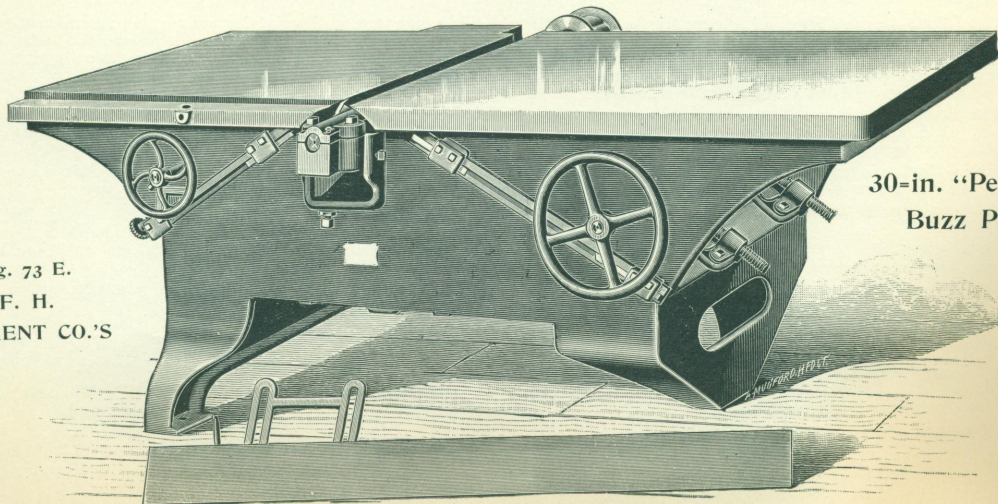


Fig. 73 E.  
F. H.  
CLEMMENT CO.'S

30-in. "Perfection"  
Buzz Planer.

# AMERICAN WOOD-WORKING MACHINE CO.

F. H. CLEMENT CO.'S

## Patent "Perfection" Buzz Planers and Jointers.

THESE Justly Celebrated Machines are, in the opinion of hundreds of experts who are using them, as near perfect in design and construction as any tool can be.

The **Frame** is cast in one piece; is very heavy and strong, and has three points of bearing on the floor. The table carriages move on continuous inclined ways, and are deeply ribbed in both directions. The cutter-head is a solid steel forging, with main bearing five diameters in length and self-oiling boxes. The rear table has a rabbeting groove  $\frac{5}{8}$  of an inch deep, and an adjustment for making hollow glue joints.

An **Adjustable Bevel Gauge** is provided, secured to the rear or short table, so as not to interfere with the movement of the working table. By a special system and tools the frame and tables are planed absolutely exact, so that no further fitting, adjusting or lining up is required.

All **Tables** are 7 feet long, and are especially heavy and well ribbed. We take particular pains with the alignment in every direction, so that an absolutely straight joint can be made at any point on the cutter-head. A plain rabbeting bracket, without gauge, is furnished with each machine.

The **Cam Cross-Bar** under the short table can be adjusted on the inclined ways by slacking the clamp screws. The rear table will then drop down sufficiently to make a hollow or "spring" glue joint.

Both **Tables** can be drawn away from the cutter-head on a level independently of the inclined ways, so as to leave an opening about 7 inches wide; and dovetailed slots are planed in the cutter-head into which special bolts with nuts are fitted. This arrangement admits of moulding, tonguing and grooving, and other special cutters being attached without removing the straight knives. Thus surfacing and beading, surfacing and moulding, surfacing and grooving, etc., may be done at one operation.

No **Other Buzz Planer** has the adjustments, solidity of construction, and advantages of this one, nor can others do the wide range of work of which this is capable; such as squaring, smoothing, taking out of wind, glue-jointing, beveling, chamfering, rabbeting, moulding, tonguing and grooving, beading, cornering, cross-gaining, tenoning, etc. It will also stick curved mouldings, such as casing-heads, special inside finish mouldings, etc., which have heretofore been done by hand.

**Note the Advantages.** There are no links, wedges, pin-joints, cams or eccentrics under the table to get out of adjustment or wear slack; by putting the frame on three legs it is impossible to strain or twist it by bolting down or by the settling of the floor, and there is no projecting flange for the operator to tread upon. By means of the large hand-wheel at the right, the working table can be moved instantly either way, without requiring the operator to change his position in the least. The design and method of fitting up is such that the tables must be true and remain so, and they cannot twist, rock, strain or be displaced, no matter how uneven the foundations on which they are placed.

### Attachments and Extras.

We Can Furnish steel lips on tables of all sizes, at a small advance on regular prices.

**Spring Attachments** for running mouldings and similar work can be applied at any time to any size.

The **Rabbeting Table** and gauge, shown in the first engraving, is a special attachment which is furnished only on order and can be applied at any time. A plain rabbeting support is furnished with every machine.

**Counter-Shafts**, with our "Perfect" self-oiling loose pulley, are included unless otherwise ordered.

	T. and L. Pulleys.	Speed.	Weight.	H. P. Required.	Code Word.
Fig. 73 —To work 8 inches wide .....	8 x 3½	900	950	¾	<b>Forfeit.</b>
Fig. 73 A— " " 12 " " .....	8 x 3¾	900	1,300	1	<b>Forfend.</b>
Fig. 73 B— " " 16 " " .....	8 x 4¼	950	1,500	1½	<b>Forge.</b>
Fig. 73 C— " " 20 " " .....	9 x 5¼	950	1,800	2	<b>Forked.</b>
Fig. 73 D— " " 24 " " .....	10 x 5¼	950	2,000	3	<b>Forlorn.</b>
Fig. 73 E— " " 30 " " .....	10 x 5½	950	2,600	4	<b>Formation.</b>

### EXTRAS.

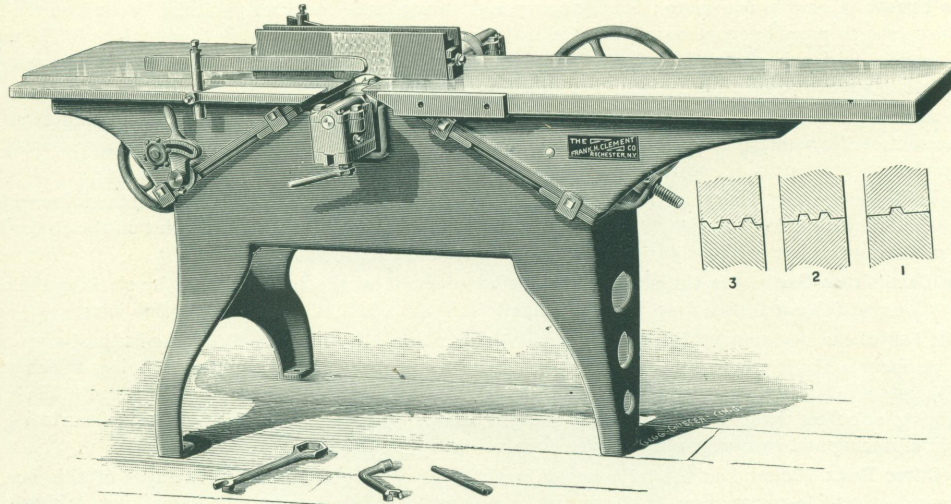
Steel Lips.....	<b>Formedon.</b>
Rabbeting Table and Gauge .....	<b>Formless.</b>
Spring Attachment, including 4 Dovetail Bolts.....	<b>Forsooth.</b>

# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 74.

F. H. CLEMENT CO.'S

## New Universal V Glue Jointer.



**H**ERETOFORE it has not been practical to make a tongue and groove glue joint on a Buzz Planer, on account of the stock being often crooked so that the tongue and groove were not parallel with the face of the board, and thereby losing the thickness when finished.

By means of special attachments we are enabled to offer this machine as a substitute, in many cases, for the heavy and expensive clamp carriage machines now in use.

**The Tables, Slides and Frame** are substantially the same as our well known "Perfection" Buzz Planer and Jointer and are very carefully fitted in every detail. The tables are adjustable on the inclined ways for depth of cut, and also horizontally to give access to the cutter head, and have suitable stops to prevent accidents to the knives.

**The Main Arbor** is of hard steel and has three self-oiling bearings, one of which is readily removable by means of a clamp screw for the purpose of changing the cutters or adjusting them to different positions.

**The Cutter Heads** are independent and each can be removed without disturbing the adjustment of the knives; by means of collars the distance between them can be varied for different thicknesses of stock. The knives are of solid steel, milled to the required form, so that they remain accurate to shape until used up, and they are arranged to cut very smoothly.

**The Special Gauge** or guide on the table is made to expand laterally for different thicknesses of work, so that  $\frac{5}{8}$  in. to  $1\frac{1}{4}$  in. stuff may be jointed, and by one change of collars between the cutter heads the range can be from  $\frac{5}{8}$  to 2 in. thick. The gauge accommodates itself to crooked stock and there is thus no loss in thickness after planing. Both faces of the gauge are alike, so that a piece is finished at one handling.

**A Hollow or "Spring" Joint** is obtained by means of the cam on the rear table, and this can be used in connection with the V cutters as well as for plain jointing. Springs are provided to retain the stock against the gauge on both sides.

**When Ordered** a plain cutter-head and knives are furnished at a slight extra charge. In this case the machine becomes a Universal Jointer, making plain, single V or combination joints, either straight or hollowing in both cases.

**The Counter-Shaft** has  $8 \times 3\frac{3}{4}$  in. self-oiling loose pulley and should run about 900 per minute.

**The Workmanship** is specially fine in every detail, and we guarantee satisfaction on fair trial.

**Three Forms** of joint are shown in the engraving, but we can make other forms as required. No. 1 is recommended for general use.

Code Word.

Fig. 74 —V Jointer complete, one pair heads, special gauge and counter-shaft..... **Fortify.**

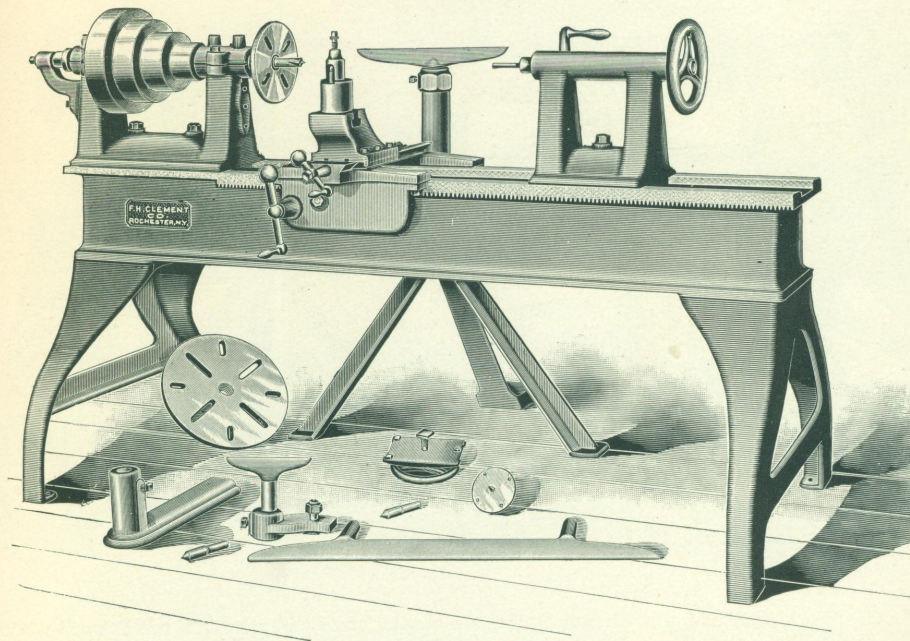
Fig. 74 A—Plain Jointer Head and Gauge, additional..... **Fortune.**

# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 75.

F. H. CLEMENT CO.'S

## Pattern Makers' Lathe, with Slide Rest.



FOR a great deal of Pattern Turning a fixed tool and accurate lines of feed are essential, especially on such as require exactness of outline. To meet the demand for such tools we have just brought out two sizes, as represented in above engraving.

**The Carriage** has a long bearing on the bed which is carefully fitted by scraping. The cross feed screw has a square thread and there is a nicely fitted gib on the tool slide to take up wear, and a take-up gib on the back of the carriage on the bed.

**The Apron Gearing** is cut, and the pinions are steel. The tool post or poppet head is of steel, with hardened set screw, and receives tools  $\frac{5}{8}$  inch thick.

**The Head and Tail Spindles**, screws, and all centers, are of steel; the tail screw has square threads, and the hand wheel is turned and polished.

**The Main Bearing Caps** are planed into ledges on the head-stock and lined with genuine babbitt, which is carefully scraped and the journals nicely fitted, so as not to heat when started. All surfaces resting on the bed are planed true and carefully fitted down.

**The Head Stock Cone** is of iron, specially strengthened inside but quite light, and it can be reversed, when ordered, to bring the large lift next the head center. The counter-shaft has kiln-dried wood cone, glued up in layers with grain crossed, and finished in shellac, and it is fastened at both ends to the shaft.

**The Main Arbor** extends at both ends with reversed threads as usual, and there is a detachable yoke to take the end thrust, provided with a bronze step and a hardened steel center pin. A large face plate for the overhanging end of the arbor, and a heavy floor rest stand are furnished.

**A Compound Rest** will be furnished when ordered, in place of the rigid cross-slide, at a reasonable extra charge.

**The Parts** usually furnished are Head and Tail Stocks, one pair Wood Centers, one pair Conical Centers, Rosette Chuck, two Face Plates, two Rest Sockets, three T rests, Counter-shaft and Hangers, and Floor Rest Stand. We furnish 20 and 24-inch Swing Lathes on these beds, which may be 8, 10 or 12 feet long as required.

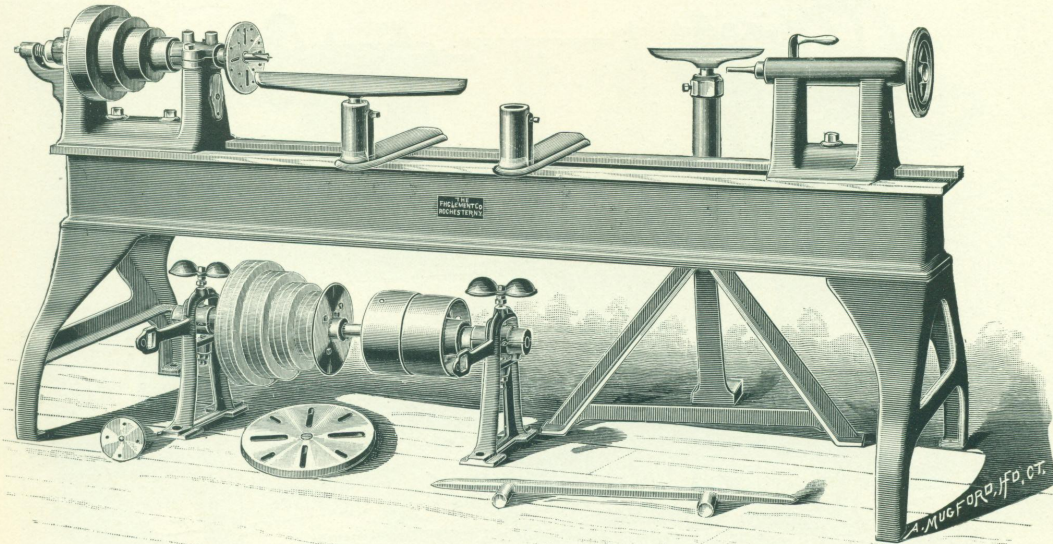
	Swing.	T. and L. Pulleys.	Speed.	Length of Bed.	Weight.	Code Word.
Fig. 75 .....	20 in.	9 x 4 $\frac{1}{2}$ in.	600	8 feet.	1,300	<b>Fossil.</b>
Fig. 75 A. ....	24 in.	10 x 4 $\frac{1}{2}$ in.	550	8 feet.	1,500	<b>Foster.</b>
Extra for Compound Rest in place of plain Cross Slide.....						<b>Fought.</b>

# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 76.

F. H. CLEMENT CO.'S

## Improved Iron-Bed Pattern Makers' Lathe.



WOOD Working Machines with iron frames are coming more and more into use as wood-workers recognize their good points. To meet this demand we make either Hand or Pattern Makers' Lathes on heavy iron beds with iron legs. These are planed true and the Head and Tail Stocks are carefully fitted to them and suitably secured by clamping bolts.

**The Head and Tail Spindles**, screws, and all centers are of steel; the tail screw has square threads, and the hand wheel is turned and polished.

**The Main Bearing Caps** are planed into ledges on the head-stock and lined with fine babbitt, which is carefully scraped and the journals nicely fitted, so as not to heat when started. All surfaces resting on the bed are planed true and carefully fitted down.

**The Head Stock Cone** is of iron, specially strengthened inside but quite light, and it can be reversed, when ordered, to bring the large lift next the head center. The counter-shaft has kiln-dried wood cone, glued up in layers, with grain crossed, and finished in shellac, and it is fastened at both ends to the shaft.

**The Main Arbor** extends at both ends with reversed threads as usual, and there is a detachable yoke to take the end thrust, provided with a bronze step and a hardened steel center pin. A large face plate for the overhanging end of the arbor, and, a heavy floor rest stand are furnished.

**The Parts** usually furnished are Head and Tail Stocks, one pair Wood Centers, one pair of Conical Centers, Rosette Chuck, two Face Plates, two Rest Sockets, three T Rests, Counter-Shaft and Hangers, and Floor Rest Stand. We furnish 20 and 24 inch Swing Lathes on these beds, which may be 8, 10 or 12 feet long, as required.

**A Geared Carriage** with rack and suitable hand-cranks, cross feed screw, tool post and rest socket, are furnished with this machine at an extra price when wanted. These parts are all nicely fitted and are true and square.

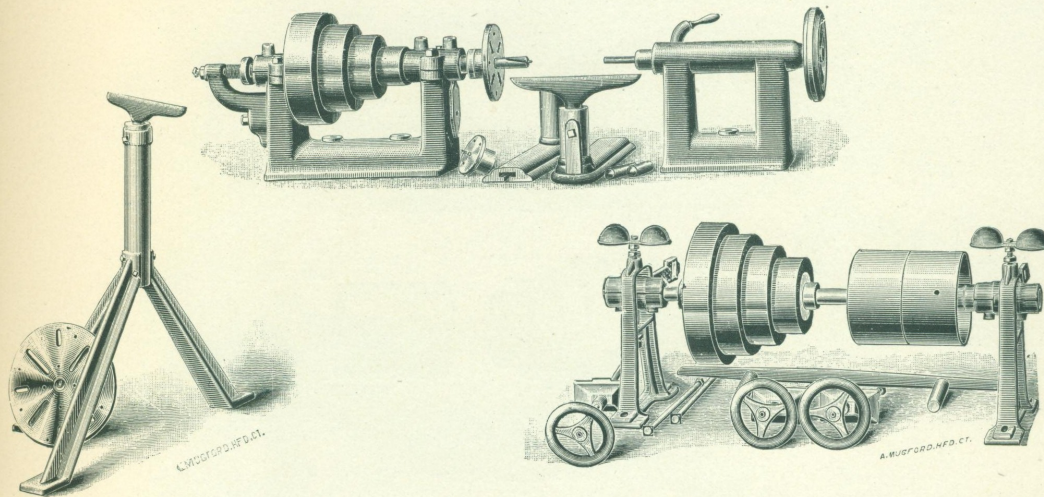
	Swing.	T. and L. Pulleys.	Length of Bed.	Speed.	Weight.	Code Word.
Fig. 76 .....	20 in.	9 x 4½ in.	8 ft.	600 to 650	1,250	Foundry.
Fig. 76 A .....	24 in.	10 x 4½ in.	8 ft.	600	1,400	Fountain.

# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 77.

F. H. CLEMENT CO.'S

## Improved Pattern Makers' Lathes.



**THESE TOOLS** are manufactured from new designs, embodying many advantages not usually found in such lathes. The head and foot stocks are cored hollow and made heavy and rigid so as to resist vibration or "chatter." The head and tail spindles and all centers are of steel; the tail screw has square threads, and the hand wheel is turned and polished.

The **Main Bearing Caps** are planed into ledges on the head-stock and lined with fine babbitt, which is carefully scraped and the journals nicely ground and fitted, so as not to heat when started. All surfaces resting on the bed are planed true and do not require fitting down if the bed is true.

The **Head Stock Cone** is of iron, specially strengthened inside but quite light, and it can be reversed, when ordered, to bring the large lift next the head center. The counter-shaft has kiln-dried cherry cone, glued up in layers with grain crossed, and it is fastened at both ends to the shaft.

The **Main Arbor** extends at both ends with reversed threads, as usual, and there is a detachable yoke to take the end thrust, provided with a bronze step and a hardened steel center pin. A large face plate for the overhanging end of the arbor and a heavy floor rest stand, shown in separate engraving, are furnished.

The **Parts** usually furnished are Head and Tail Stocks, one pair Wood Centers, one pair of Conical Centers, Rosette Chuck, 2 Face Plates, 2 Rest Sockets, 3 Rests, Counter-shaft and Hangers, Floor Rest Stand, and Clamp Bolts with Hand Wheels for bed 10 to 12 inches deep.

	Swing.	Diam. Head Spindle.	Length Journal.	Width Cone Belt.	T. & L. Pulleys.	Speed of Counter Shaft.	Shipping Weight (No Bed.)	Code Word.
Fig. 77	—16 inches.	1½ inch.	5½ inches.	2 inches.	8 x 3¾ ins.	600 to 700	550	<b>Fowling.</b>
Fig. 77 A	—20 inches.	1¾ inch.	6 inches.	2½ inches.	9 x 4¼ ins.	600 to 700	720	<b>Fowler.</b>
Fig. 77 B	—24 inches.	2 inch.	7 inches.	3 inches.	10 x 4½ ins.	600 to 700	850	<b>Foxery.</b>

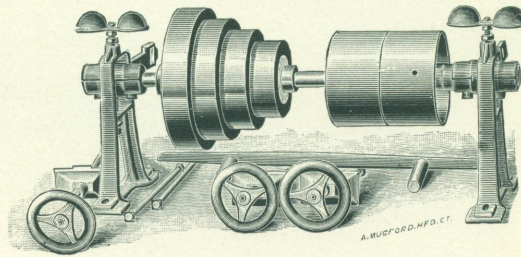
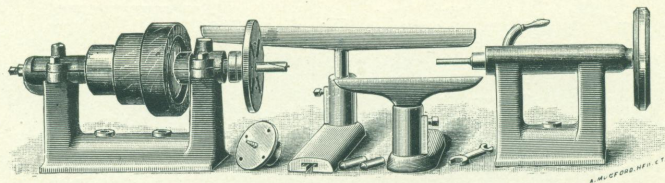


# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 78.

F. H. CLEMENT CO.'S

## Improved Hand Lathes.



**THESE TOOLS** are manufactured from new designs, embodying all the advantages that are usually found in first-class hand lathes. The head and foot stocks are cored hollow and made heavy and rigid so as to resist vibration or "chatter." The head and tail spindles and all centers are of steel; the tail screw has square threads, and the hand-wheel is turned and polished.

**The Main Bearing Caps** are planed into ledges on the head-stock and lined with fine babbitt, which is carefully scraped and the journals nicely fitted, so as not to heat when started. All surfaces resting on the bed are planed true and do not require fitting down if the bed is true.

**The Head-Stock Cone** is of iron, specially strengthened inside but quite light, and it can be reversed to bring the small lift next the head center. The counter-shaft has a kiln-dried cherry cone glued up in layers with grain crossed, and it is fastened at both ends to the shaft.

**The Parts** usually furnished are Head and Tail Stocks, one pair Wood Centers, Rosette Chuck, Face Plate, two Rest Sockets, three T Rests, Counter-shaft and Hangers, and Clamp Bolts with hand-wheels for bed 10 to 12 inches deep.

**Wood or Iron Beds** furnished when required at an extra price.

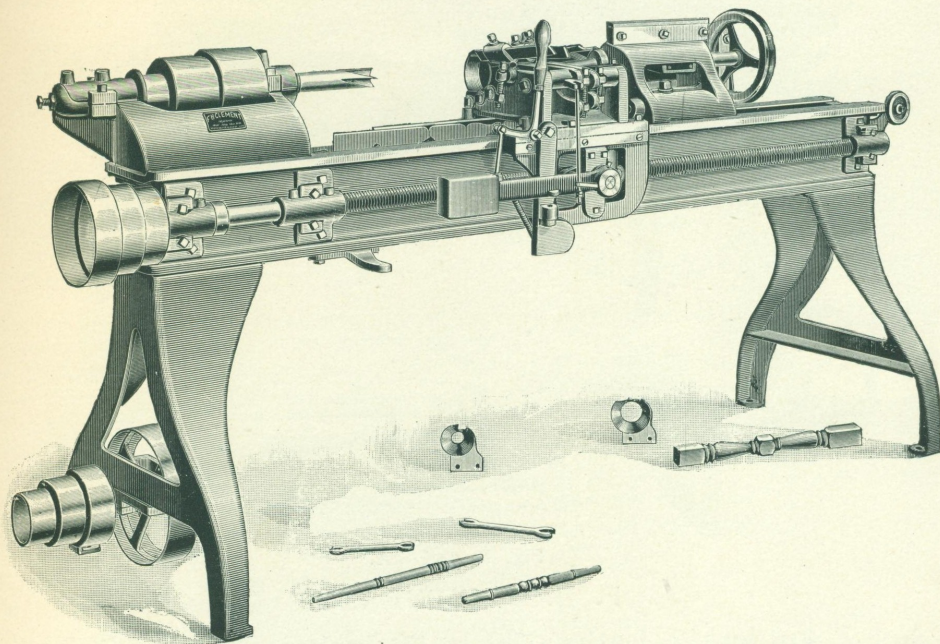
	Swing.	Diameter Head Spindle.	Length Journal.	Width Cone Belt.	T. and L. Pulleys.	Speed of Counter-Shaft.	Ship'g Weight. (No Bed.)	Code Word.
Fig. 78	—12 inch.	1¼ inch.	4 inch.	1¾ inch.	7 x 3½ inch.	600 to 700	280	<b>Foxhole.</b>
Fig. 78 A	—16 inch.	1½ inch.	5 inch.	2 inch.	8 x 3½ inch.	600 to 700	420	<b>Foxtail.</b>
Fig. 78 B	—20 inch.	1¾ inch.	6 inch.	2½ inch.	9 x 4¼ inch.	600 to 700	550	<b>Foxtrap.</b>

# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 79.

F. H. CLEMENT CO.'S

## Patent Automatic Gauge Lathes.



THESE are identical with the machines shown on page 84, with the exception that the pattern knife gate and slides are omitted.

**The Main Arbors and Centers**, tail center, feed and tail screws, are of steel, and all the babbitt bearings are extra long, and carefully scraped. The patent self-center is gibbed directly to the bed of the lathe, and is strong and accurate and will not tremble or chatter. It may or may not be used, according to the work in hand.

**The Three Turning Chisels** are arranged with adjusting screws, so that they can be set absolutely accurate as to diameter of stick without stopping either the feed or the lathe; the V, or forming chisel, is automatically lifted from the form on the return of the carriage so that the wear of the form is almost entirely avoided.

**The Feed Screw and Nut** and the automatic attachments for throwing off the feed, are extremely simple and sure in their action, and suitable arrangements are made for taking up the wear. The feed-nut is of the best quality of babbitt and may be easily replaced in the shop. There are three bearings on the feed screw.

**The Tail Center** revolves in double tapering babbitted bearings arranged to take up wear, the end pressure being taken on a phosphor bronze step.

**Three Sizes** of these lathes are made:—No. 1, which takes stock to  $2\frac{1}{4}$  inches diameter and 27 or 36 inches long, three turning chisels. No. 2, taking stock to 3 inches diameter and 40 or 50 inches long, three turning chisels. No. 3, taking 5 inches diameter and 40 or 50 inches long, 4 turning chisels.

**One Set of Turning Chisels**, three dies and two spur centers are furnished with each lathe, and extras will be furnished at reasonable prices.

**Counter-Shafts** with tight and self-oiling loose pulleys and suitable cone pulley are included. All fitting is first-class, and all parts are designed with special regard to strength, convenience and utility.

	Length.	T. and L. Pulleys.	Speed.	Weight.	Code Word.
Fig. 79 .....	27 inches.	10 x $5\frac{1}{4}$ in.	1,000	1,250	Fraction.
Fig. 79 A .....	36 inches.	10 x $5\frac{1}{4}$ in.	1,000	1,450	Fragile.
Fig. 79 B .....	40 inches.	10 x $6\frac{1}{4}$ in.	1,000	1,700	Frailty.
Fig. 79 C .....	50 inches.	10 x $6\frac{1}{4}$ in.	700 to 1,000	1,900	Framable.
Fig. 79 D .....	40 inches.	12 x $7\frac{1}{4}$ in.	850	2,000	Francatu.
Fig. 79 E .....	50 inches.	12 x $7\frac{1}{4}$ in.	600 to 850	2,200	Franchise.

Fig. 80 and 80A.

F. H. CLEMENT CO.'S

No. 1 Automatic Lathe. 30 to 36 Inches Between Centers.

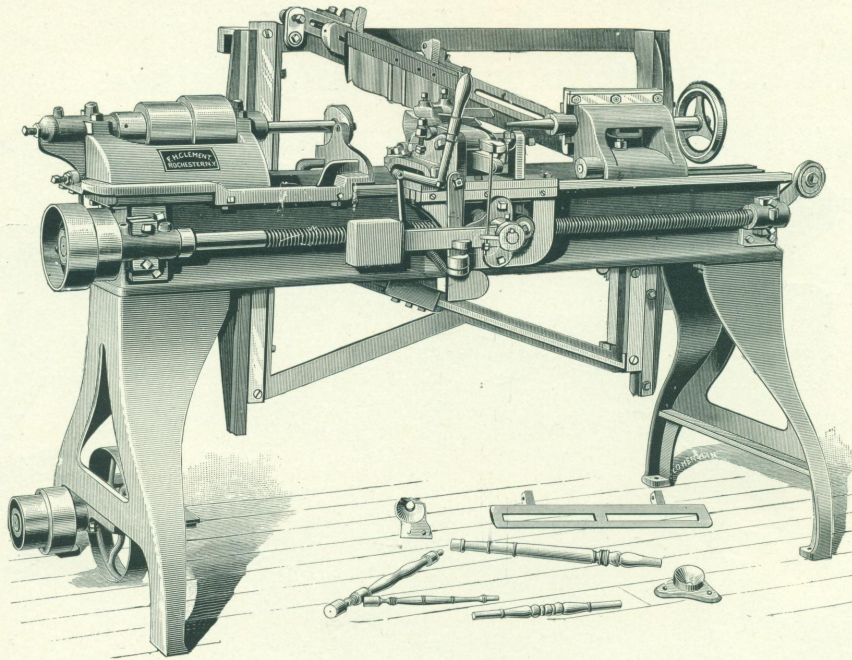
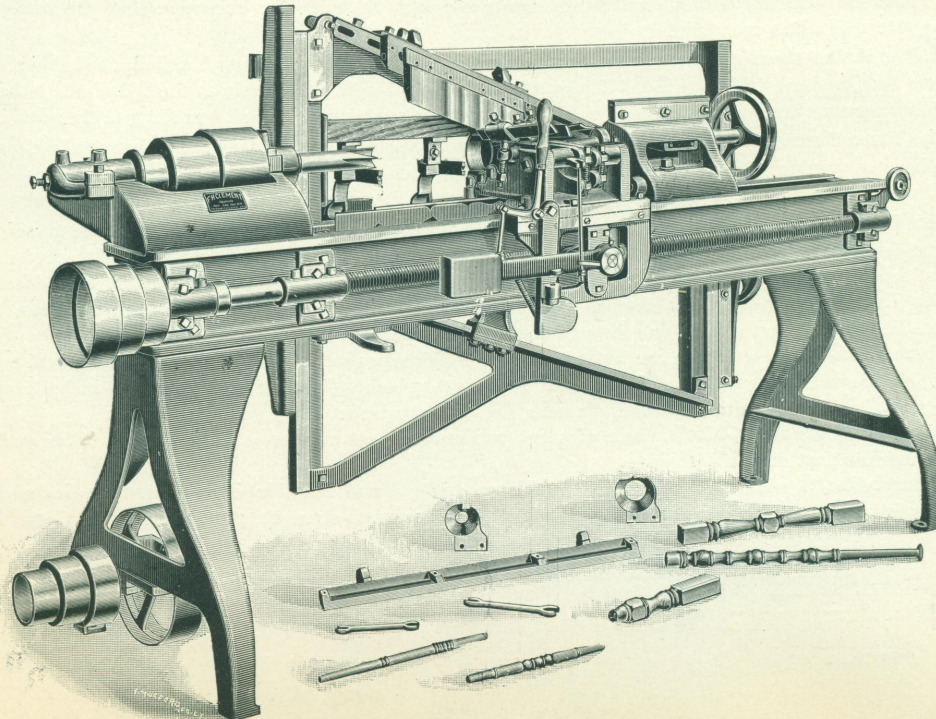


Fig. 81 and 81A.

F. H. CLEMENT CO.'S

No. 2 Automatic Lathe. 40 to 50 Inches Between Centers.



# AMERICAN WOOD-WORKING MACHINE CO.

F. H. CLEMENT CO.'S

## Patent Automatic Back-Knife Lathes.

THESE Well-Known Machines have been a specialty with us for nearly 20 years, and we have spared no expense for improvements, new patterns, special tools and facilities for manufacturing them in the best manner. We are, so far as we can ascertain, the largest manufacturers of this style of lathe in the country, and we have the widest range of sizes and lengths. We hold also a number of valuable patents on improvements which are quite essential to the success of such lathes in practice. We have gauges, templets and jigs for every part, and manufacture them in lots and by systematic and careful methods.

### General Description.

Three sizes of these lathes are manufactured, and they are all made in two different lengths. They are all first-class gauge lathes, as well as back-knife lathes, and can be used on a great variety of work without the knife gate, the smoothing or gauge chisel finishing the plain swells or tapers nicely.

The Beds are strong and well tied transversely, and the legs and all attached parts extra heavy and firmly secured.

The Main Boxes are long and lined with the best quality of babbitt metal carefully scraped to the journal, and the caps are planed into ledges to prevent side motion.

The Turning Chisels all have our patent adjustable screw tool-stocks, by which they may be adjusted in the cut while the lathe is in motion.

The Main Arbor, Centers and Tail Spindle are of cast steel, the first and last named being hardened at the ends, and end pressure taken on hard steel washers against a bronze step. The journals are ground (not filed).

The Feed Screw is of steel, with a heavy thread, cut so as to resist wear, and the Patent Oscillating Feed Nut is nearly five times the diameter of the screw in length and closes squarely into the thread. This improvement is a very important one, and greatly reduces the wear at this vital point.

The Tail Center has double tapering, ground bearings, and is very long and rigid, the wear being taken up by an end adjustment screw.

The Back Gate moves in carefully scraped ways, firmly secured to the bed and tied to each other at top and bottom. It is counter-balanced at both ends.

The Patent Intermediate Knife Bed, to which the pattern knives are attached, is used exclusively in these lathes, and saves a great deal of time in "setting up" for a change of work, and also avoids shifting knives for sharpening and re-adjusting afterwards. This device often saves a large item of expense for pattern knives, in connection with a gauge or smoothing chisel, working on a separate form.

A Self-Centering Attachment is furnished, consisting of arms swinging through the back gate and supporting the stock on brackets until caught on the centers. This arrangement is shown in cut of No. 2 Lathe.

Cut-off Attachments are furnished when ordered in the usual form. All pattern knives are extra.

### Specifications for No. 1 Lathe.

Turns from  $\frac{1}{4}$  inch to  $2\frac{1}{4}$  inches diameter, and 3 inches to 30 or 36 inches long, and will leave squares  $1\frac{3}{4} \times 1\frac{3}{4}$  inches at any point. Has one set (2) of turning chisels (or 3 if required); three (3) dies or steady collars, two (2) spur centers, three (3) knife beds, four (4) balancing sheaves, four (4) counter weights, counter-shaft with  $10 \times 5\frac{1}{2}$  inch T. and L. (self-oiling) pulleys.

This size will take all ordinary chair work, furniture spindles, duster and brush handles, etc. From 1,200 to 3,000 pieces per day can be turned.

### Specifications for No. 2 Lathe.

Turns from 4 inches to 40 or 50 inches long, and  $\frac{1}{4}$  to 3 inches diameter, and will leave squares  $2\frac{1}{4} \times 2\frac{1}{4}$  inches. Has one set (3) of turning chisels, three (3) dies or steady collars, two (2) spur centers, three (3) knife beds, four (4) balancing sheaves, four (4) counter weights, complete counter-shaft with  $10 \times 6\frac{1}{4}$  inch T. and L. (self-oiling) pulleys.

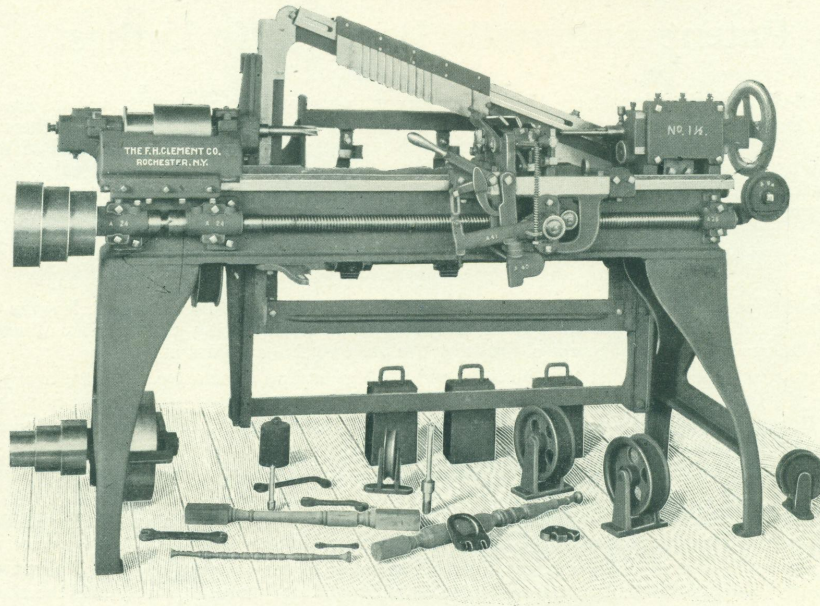
This size is used for all kinds of chair stock, stand legs, small table legs, balusters, handles, spindles, etc. This is the favorite size for general work, and there are a large number of them in operation in the best shops in the country. From 1,000 to 2,500 pieces per day can be turned with this lathe.

	Length.	Weight.	T. and L. Pulleys.	Speed.	Code Word.
Fig. 80 —No. 1.....	30 in.	1,750 lbs.	$10 \times 5\frac{1}{4}$ in.	1,000	<b>Freckled.</b>
Fig. 80A.—No. 1.....	36 in.	1,900 lbs.	$10 \times 5\frac{1}{4}$ in.	1,000	<b>Freebody.</b>
Fig. 81 —No. 2.....	40 in.	2,300 lbs.	$10 \times 6\frac{1}{4}$ in.	1,000	<b>Freeborn.</b>
Fig. 81A.—No. 2.....	50 in.	2,600 lbs.	$10 \times 6\frac{1}{4}$ in.	700 to 1,000	<b>Freedom.</b>

Fig. 82.

F. H. CLEMENT CO.'S

No. 1½ Patent Automatic Lathe.



WITH OR WITHOUT SLIDING HEAD STOCK.

**T**HIS is an entirely new design, embodying all the latest improvements and practical suggestions of both users and manufacturers, and we recommend it as exactly adapted to all kinds of chair turning and for furniture work up to 2¾ inches in diameter.

**The Bed** is deep and strong and well tied transversely. **The Head Stock** slides on the ways with suitable gibs, which are adjustable in both directions, and it is connected to the tail wheel by a steel bar and a strong clamping device.

**The Head Spindle** is made of hammered crucible steel 1½ inches diameter, and the bearings are extra long and finished by grinding and buffing; the boxes are self-oiling and are lined with genuine babbitt and carefully scraped to the journals.

**The Tail Stock** has a very large hand wheel and a quick screw by which the head stock and driving center are forced forward quickly, driving the spurs into the work with one pull of the wheel.

**The Tail Center** revolves in tapering bronze bearings with means of taking up the wear, and it is divided so that the outer section which supports the work can be changed quickly to different diameters. The tail bearing and center are adjustable vertically, and the head stock and center are adjustable horizontally and they may thus be always kept in line.

**The Carriage** has a bearing on a V way or track 20 inches long and is provided with gibs to take up wear both in front and at the rear. There are usually two turning chisels provided, one to rough out the stuff to fit the die or steady collar, and one forming or V chisel to shape the piece to the pattern. When required, a third chisel stock is added for turning tapers and swells without the use of a back knife.

**The Turning Chisels** have our patent adjustable screw tool stocks by which they may be adjusted in the cut while the lathe is in motion.

**The Dies or Steady Collars** are of steel and are self-centering and clamped by two steel studs with nuts; the dies can thus be changed instantly by slacking the nuts, and they come to the center accurately.

**The Back Knife Slide** is directly attached to the carriage by an adjustable hanger from the upper bar; by this means there is no springing of the parts between the carriage and the back knife, making much smoother work and saving time.

**Centering Arms** swing from a shaft at the rear of the bed, upon which the stock is laid while the previous piece is being turned, and which bring it accurately to the center. They may be adjusted to any diameter and length of stick, and are considered indispensable in doing quick and good work.

**The Feed Nut Device** is arranged to be thrown in or out by the same lever, and is very easy and sure in operation, the half nuts closing squarely into the feed screw; the nuts are lined with genuine babbitt and will run for years with ordinary care without re-babbiting.

**A Cutting Off** chisel is supplied at the head end of the lathe when so ordered.

**Capacity:** Four lengths of this pattern are made, receiving stock 27 inches, 36 inches, 44 inches and 52 inches long between the centers, and they all turn from ⅝ to 2¾ inches diameter, and will leave squares 2 x 2 inches at any point; from 600 to 3000 pieces per day can be turned, dependent on the length, diameter and condition of the stock.

**The Counter-Shaft** is turned steel and has our improved self-oiling loose pulley with detachable babbitted bush. T. & L. pulleys are 10 x 6¼ inches, and they should run from 750 to 1000, according to length and diameter of stock.

**Parts Furnished** with each lathe are: Complete counter-shaft with hangers and belt shifter; six steel dies or steady collars, various sizes; one set of turning chisels; two spur or driving centers; two tail center tips; complete set of four sheave hangers and weights for counter balancing the knife slide and carriage.

**The Workmanship** is excellent in every detail, and we manufacture them systematically with jigs, gauges and templates to accurate dimensions.

**These Lathes** are first-class gauge lathes without the use of the back knife slide, and when ordered we can furnish them that way, but fitted and drilled to receive the attachment at any time. When so ordered the oscillating centering arms are included.

	Length.	Weight.	Code Word.
Fig. 82 .....	27 inches.	1800	<b>Freeman.</b>
Fig. 82 A.....	36 inches.	2000	<b>Freeness.</b>
Fig. 82 B.....	44 inches.	2200	<b>Freestone.</b>
Fig. 82 C.....	52 inches.	2600	<b>Freewill.</b>

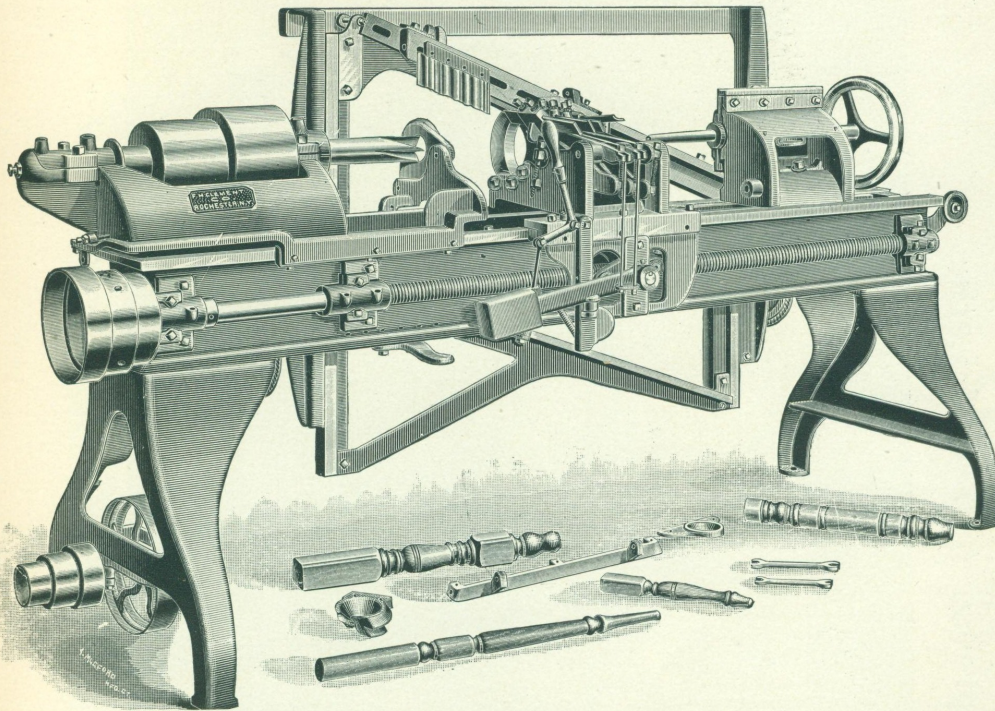
# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 83.

F. H. CLEMENT CO.'S

## No. 3 Automatic Back-Knife Lathe.

40 TO 50 INCHES BETWEEN CENTERS.



**T**HIS is the most successful machine for turning table and furniture legs of all kinds with squares, crib and bed posts, neck-yokes, and similar heavy work, there is now in the market. It is very heavy and substantial in all its parts, and has all the attachments and improvements suggested by long experience in manufacturing and operating this class of machines. There are four turning chisels, all with patent screw-adjusting stocks, and work from  $\frac{3}{4}$  inch at smallest diameter up to 5 inches can be turned, and squares left on 4 x 4 stock. The same care has been taken in its design and construction as in the other sizes previously described, and the details are similar except where otherwise stated.

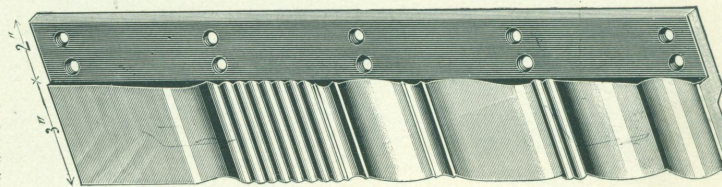
**Specifications.**—Turns from 6 inches to 40 or 50 inches long. Has one set (4) of turning chisels, three (3) dies or steady collars, two (2) spur centers, three (3) knife beds, four (4) balancing sheaves, complete counter-shaft with 12 inch x  $7\frac{1}{4}$  inch T. & L. Pulleys. Speed about 850. Shipping weight, 3,200 to 3,600 lbs. From 600 to 1,500 pieces per day can be turned on this lathe.

It is used in many large works for extension table legs, of which 600 to 1,000 per day can be turned.

Fig. 83 B.

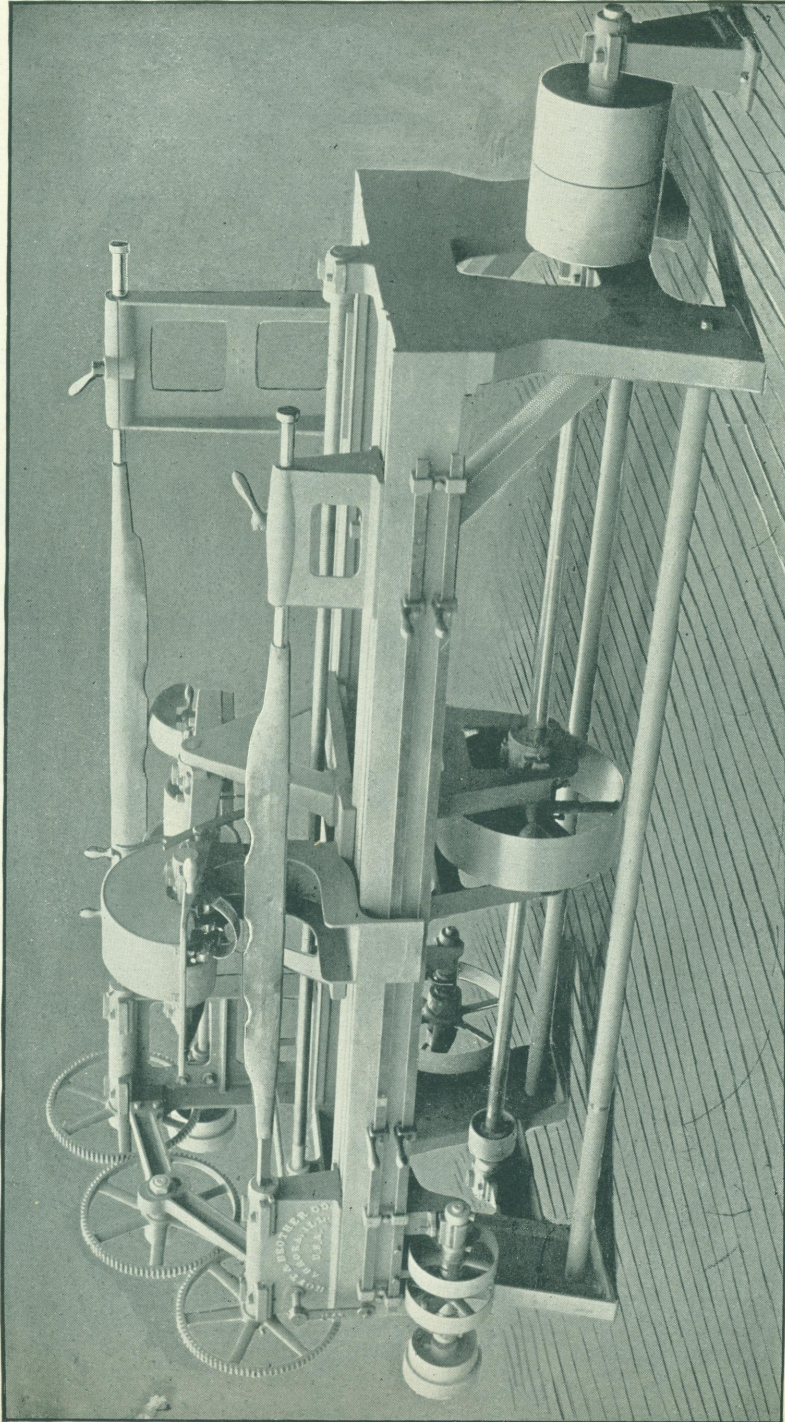
### F. H. CLEMENT CO.'S Pattern or Back-Knives.

**W**E make Shear or Pattern Knives to order for all Automatic Lathes, and take great pains with the finish, workmanship and temper. We use only the best double refined edge-tool steel, and guarantee satisfaction. The stock is rolled specially for us, and is the heaviest per inch of length used by any maker. Gouges, V-chisels and finishers or smoothers furnished for all of our gauge and Back-Knife Lathes.



- |  |                  |
|--|------------------|
| Fig. 83 —No. 3, 40 inch Lathe complete.....  | Code Word.       |
| Fig. 83 A—No. 3, 50 inch Lathe complete..... | <b>Frenzy.</b>   |
| Fig. 83 B—Pattern or Back Knives.....        | <b>Fresco.</b>   |
|  | <b>Freshman.</b> |

Fig. 84.  
HOYT & BROTHER CO.'S  
New Improved Axle-Tree Lathe.



**T**HERE probably never was a more successful machine built than our **Old Axle-Tree Lathe**, as its use in ninety-five per cent, of the wagon factories (many of them having two, three and even four) ought to verify; its only objection being its lightness.

In this new one we have retained all the good features of the old one, and added some others. This one is very much larger and has longer Bearings.

**All Shafts** are much larger and have longer Bearings.

**All Pulleys** are larger and wider, allowing greater speed, and less strain of belts.

**We use a Travelling Pulley** to drive the **Cutter Head Sub-Shaft**, and furnish a **Floor Stand** for the lathe.

**Heads** that carry the shafts are much stronger. **Gearing** is much heavier.

In fact, we can say, we believe it to be as well built as any machine ever constructed.

T. and L. Pulleys.  
12 x 7

Fig. 84., .....

Rev. per Minute.  
475 to 525

Weight.  
3,900

Code Word.  
**Freshen.**

It works from either end, and the cutter head travels in either direction.

Will turn from thirty to fifty pairs of axles per day.

It will turn a square corner; will cut a round groove; in fact, will follow most any pattern except one having a square gain, or shoulder.

It is of more practical value in a wagon factory than any other one tool, as it can be used to turn

Will trim 6 feet, 6 inches long, and any required size, from same pattern.

We furnish with each machine two sets of Knives and two pairs of Centers, (one for your ordinary work, the other for small work), Wrenches, and the Endless Belt to drive Cutter Head.

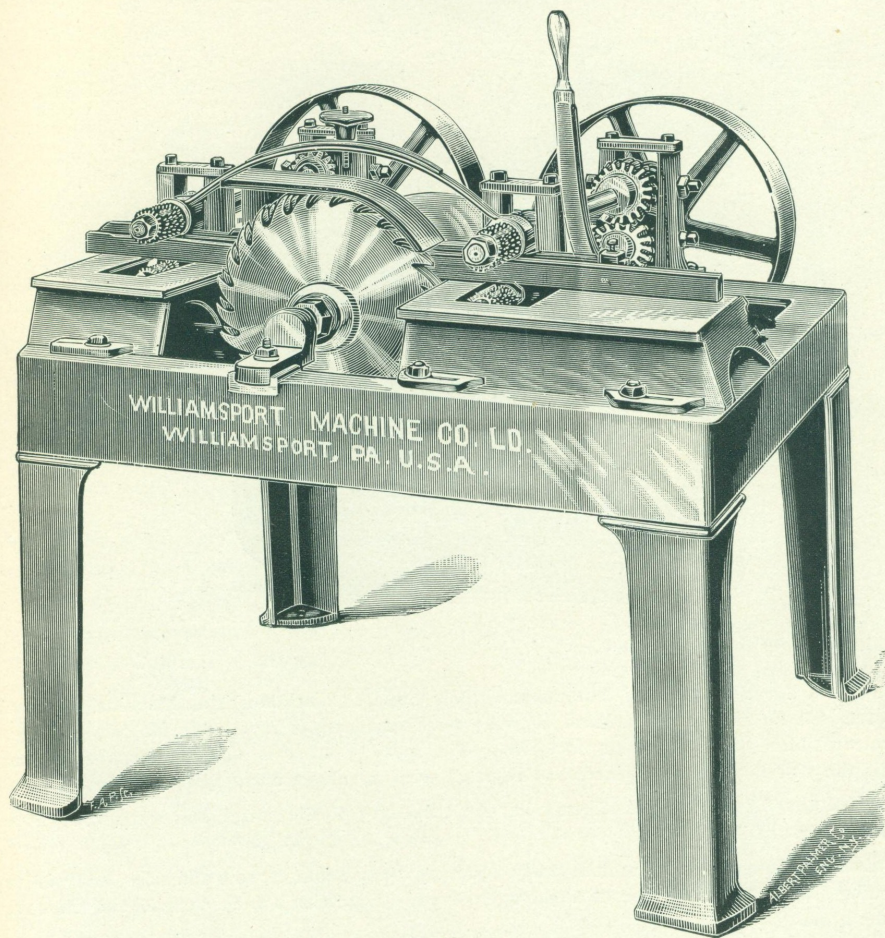
Belting required: 3/4 feet of 2 inch; 7 feet, 11 inches of 3-inch; 10 feet, 7 inches of 6 inch.

# AMERICAN WOOD-WORKING MACHINE CO.

Fig. 85.

WILLIAMSPORT MACHINE CO.'S

## Improved Lath Mill.



THE cut represents our New Gang Lath Plank Mill. This machine is original in design and has many points of excellence in its various adjustments, strength and quality of material, and good construction. We claim that it cannot be excelled for the purpose intended.

**The Machine** is provided with adjustments for taking up lost motion.

**The Table** is so arranged that it can be set closer to the saws as they wear.

**The Lever** shown in cut is connected with the top feed rolls, by which the operator at any time can raise the upper rolls and withdraw the bolt, if desired, or even stop the feed.

**The Saws** used on this machine are 14 inches in diameter.

**The Arbor**, made of steel—very heavy—is provided with end box for taking up end motion; also to steady mandrel at the end where the saw goes on.

**The Feed Shafts** are four in number, all driven, and the feed rolls are made with sections of small steel spurs, which make a positive feed, and prevent stock or pieces from coming back, and carry out the stock after it leaves the saw. Lath being made on this improved machine, on account of their uniformity in thickness, bring a much better price, and can be manufactured at less cost than from the old style machines. A complete shield covers the saws. This machine is guaranteed to give entire satisfaction. Capacity from 30 to 35 thousand per day. Driving pulley, 8 inches diameter, 8 inches face, should run 2,500 revolutions per minute.

Code Word.  
Fretful.

Fig. 85—Improved Lath Mill, complete