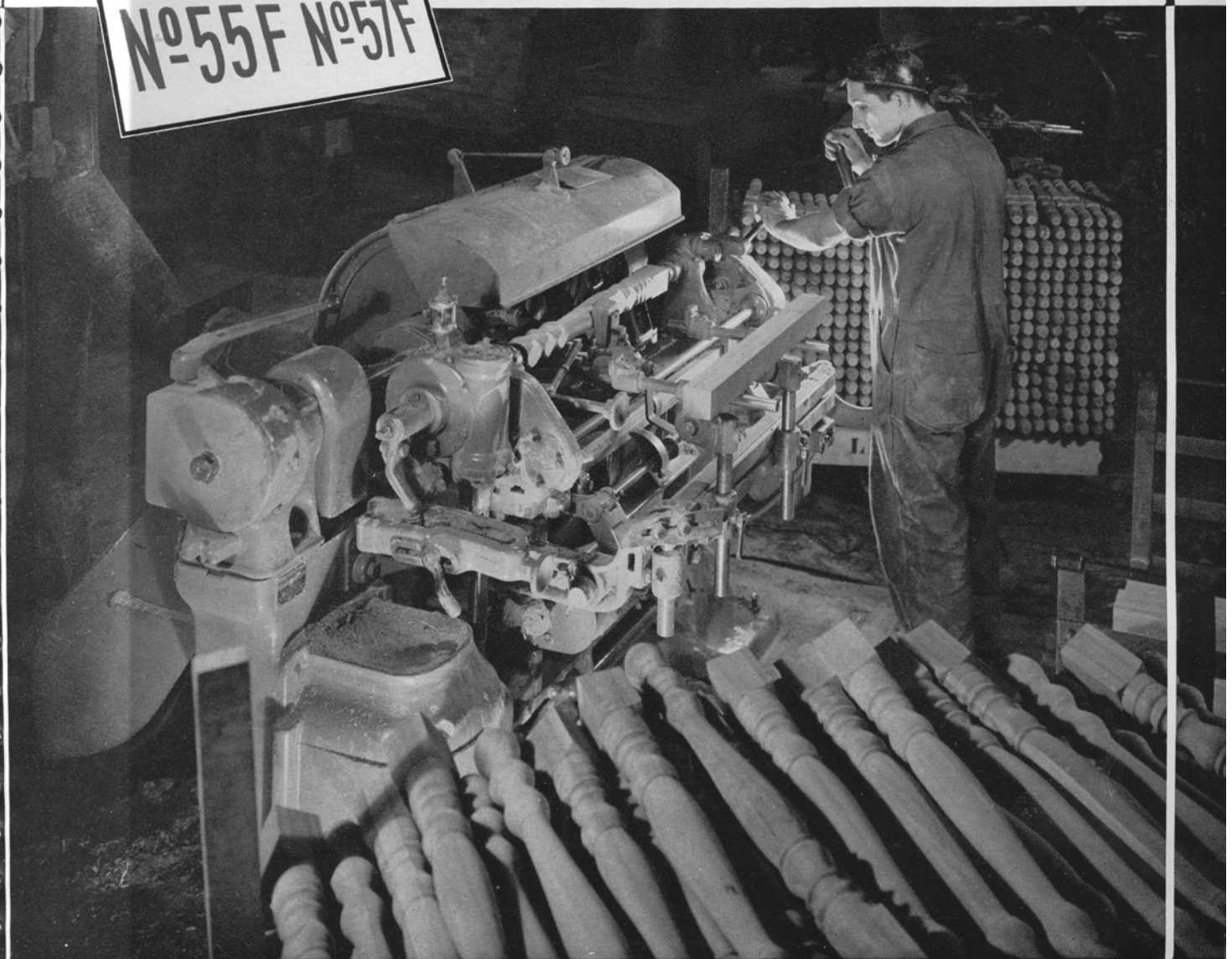
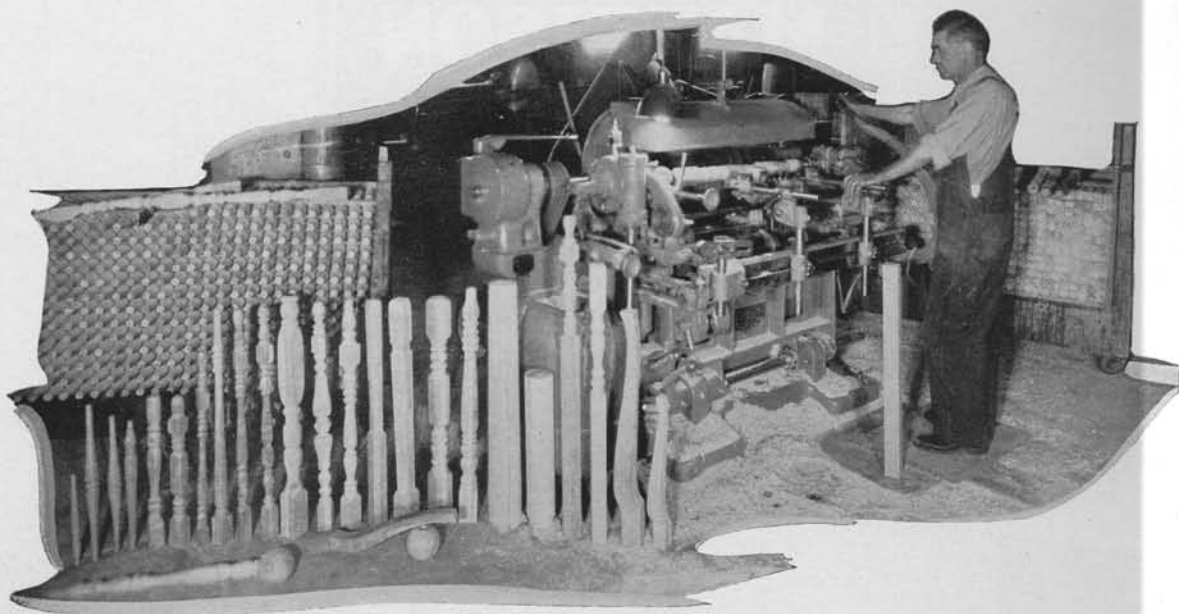


MATTISON
AUTOMATIC
SHAPING LATHE

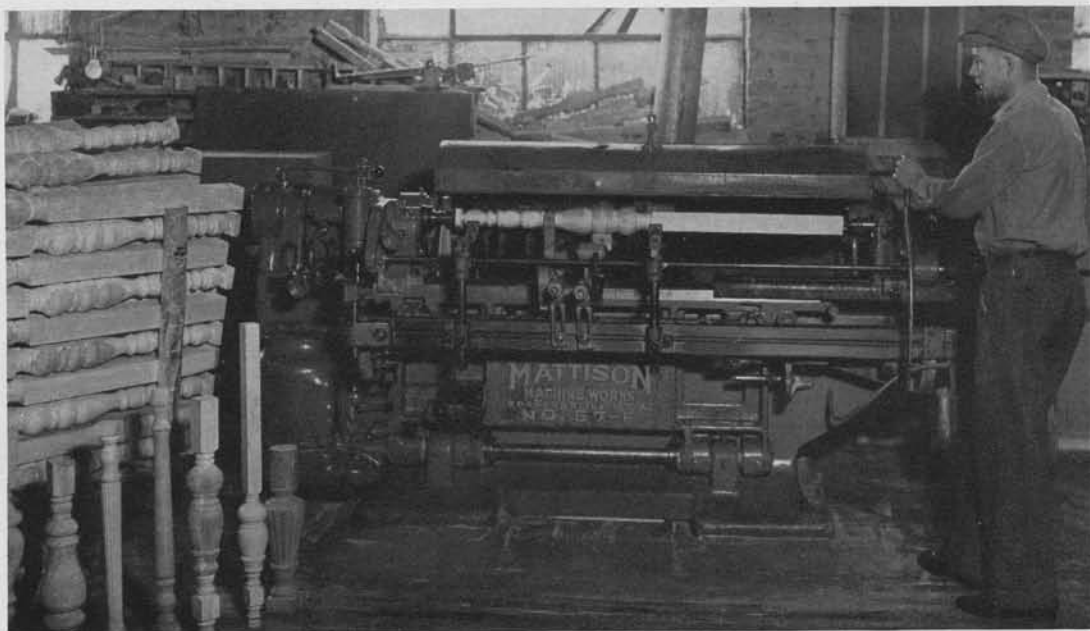
Nº-55F Nº-57F



MATTISON MACHINE WORKS, ROCKFORD, ILLINOIS, U. S. A.

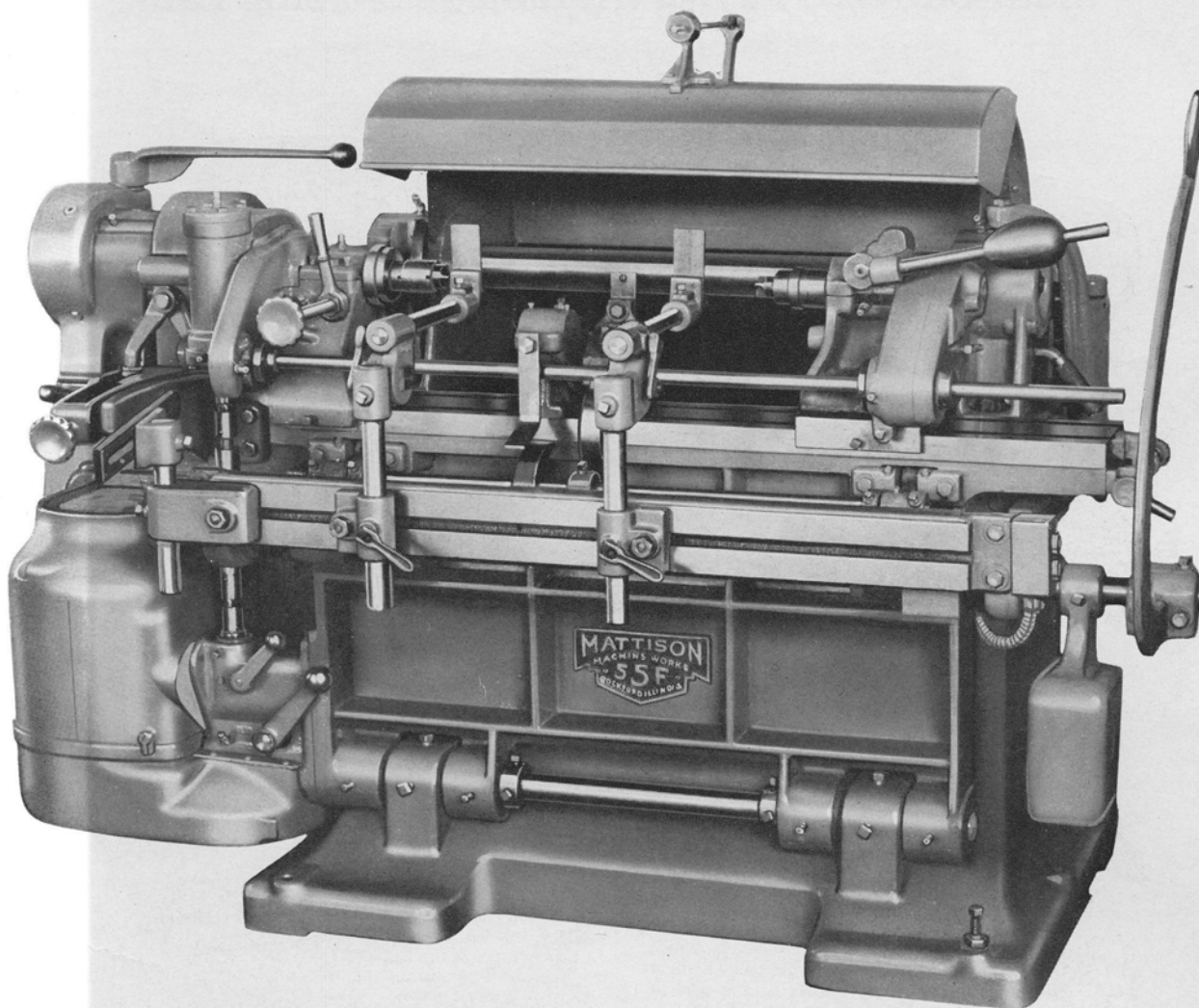


Mattison No. 55-F Automatic Shaping Lathe showing variety of turnings produced by one manufacturer.



Mattison No. 57-F, 54" Automatic Shaping Lathe showing long bed posts being turned in one operation.

Mattison No. 55-F, 30" Automatic Shaping Lathe



MORE than forty years ago, Mr. C. Mattison conceived the idea of a machine method for ornamental wood turning to replace the slow, expensive hand-chisel method of the expert woodturner.

He realized that the handturner's method of applying his chisel first on one side of a member, then on the other, cutting from high point to low point with a shear cut, was the only way a knife of any kind would shape a turning smoothly without chipping out the small members.

But instead of presenting one knife at a time to the wood, he developed a rotary cutterhead containing a multiplicity of knives which would cut the entire length of the turning at once, still retaining the handturner's principle of the shear cut.

Through all these years the Mattison Lathe has been continuously developed. The engineering

talent responsible for the original lathe invented workholding devices for supporting out-of-the-ordinary shapes, perfected the application of polygonal dies for producing ornamental squares and octagons, and also improved the cutterhead system to make it easily handled. But through these transitions and refinements, the main idea, correct to begin with, was not changed one iota.

Constant study revealed important refinements which could be applied to still further increase the operating and production advantages of the machine. So in the present modern Mattison Lathe, the very latest ideas in mechanical construction have been combined. These include smooth-running, precision ball-bearing cutterhead arbor; the three-point support plan, which assures perfect operation of the ball bearings; double-end drive for stock being turned; removable, swinging end bearing; gear-reduction feed motor, etc.

Mattison No. 57-F, 42" Automatic Shaping Lathe



THE Mattison No. 55-F, 30", the No. 57-F, 42", and the No. 57-F, 54" Automatic Shaping Lathes all follow practically the same mechanical construction. The same efficient cutterheads are used; the same type of easy operating carriage with toggle-link feeding motion is embodied; the same die arrangement for producing polygonal shaped turnings and similar vertical and horizontal steady rests are employed. The difference is in the size and weight and range of stock handled.

The No. 55-F, 30" shown on page one has a 14" swing and between centers will support stock not longer than 32". Arbor space permits making a cut up to 30" long in one operation. The 55-F is of particular value in those plants which have a large production of the shorter turnings, and

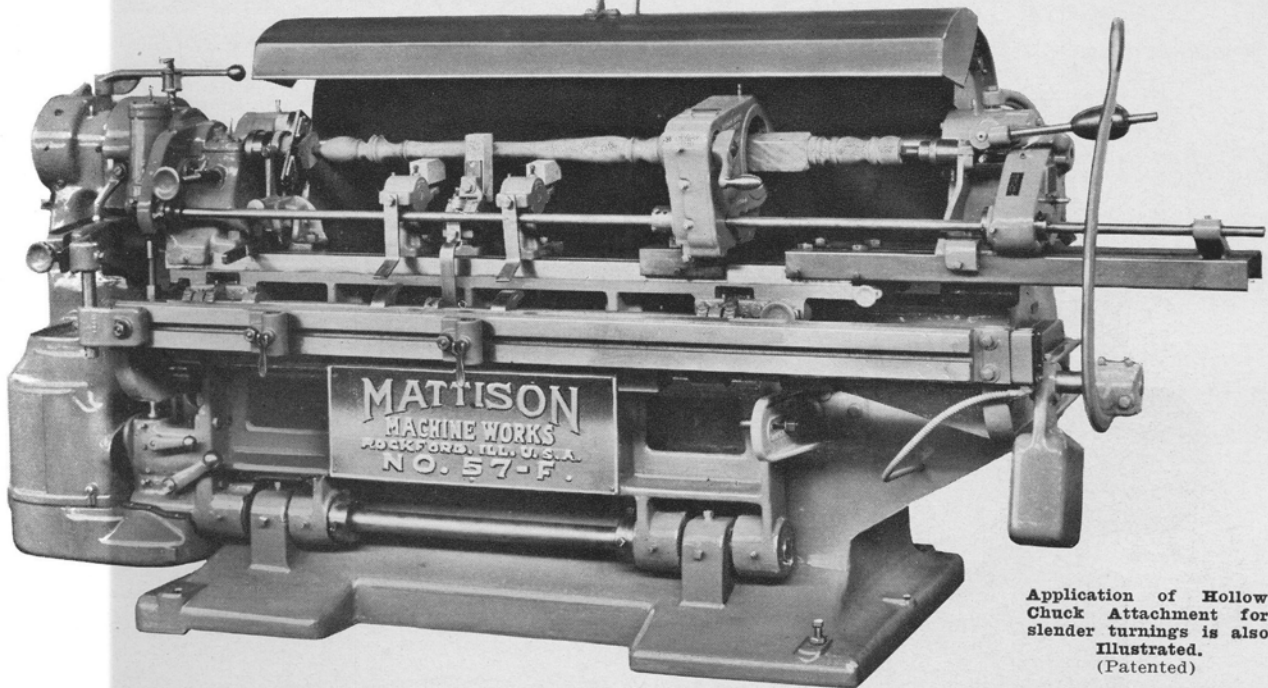
where the larger 57-F Mattison Lathes are busy taking care of the lengthy turnings.

The No. 57-F, 42" Lathe has an 18" swing and will support stock as long as 44". Arbor space permits making a cut up to 42" long in one operation.

The No. 57-F, 54" Lathe has an 18" swing and space permits making a cut up to 54" in one operation. This lathe is primarily for use in turning long bed posts which can be shaped in one operation on this machine where two would be required on the regular 57-F Lathe. See page 3 for complete description of this machine.

By using an extension plate and other special attachments (see page 8) turnings of longer length than is standard can be efficiently handled on the 55-F, 30" and the 57-F, 42" Lathes.

Mattison No. 57-F, 54" Automatic Shaping Lathe Turns Bed Posts in One Operation



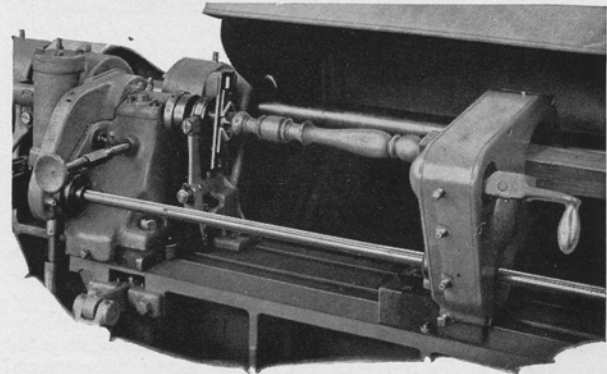
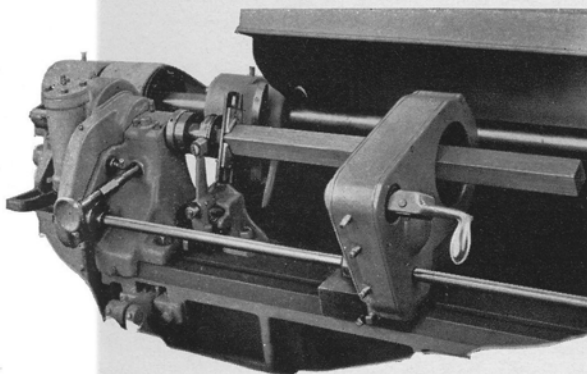
Application of Hollow
Chuck Attachment for
slender turnings is also
illustrated.
(Patented)

TO ENABLE manufacturers of four-poster beds to speed up production and at the same time reduce labor costs, this Mattison 54" Automatic Shaping Lathe has been developed. Long bed-post turnings are shaped in one operation instead of the two required when using the regular size lathe. By eliminating the time required for changing cutterheads and for handling the stock through the machine twice, capacity can be increased 75 to 100%. This machine has a cutterhead capacity capable of handling turnings up to 54" long in one cut.

The above view illustrates the improved hollow chuck attachment which can also be used on the 42" Mattison Lathe for supporting long or slender turnings. This chuck has been simplified to make it easier to handle and faster to operate. Chuck is made with V-shaped jaws having a long bearing surface. The jaws grip the stock close up to the cut and hold it firmly without end pressure. The chuck mechanism is entirely enclosed in an aluminum case and all gears are steel or bronze, working on ball and roller bearings. Chuck is mounted on an extension plate attached to the carriage bed plate. Tail stock may be placed at

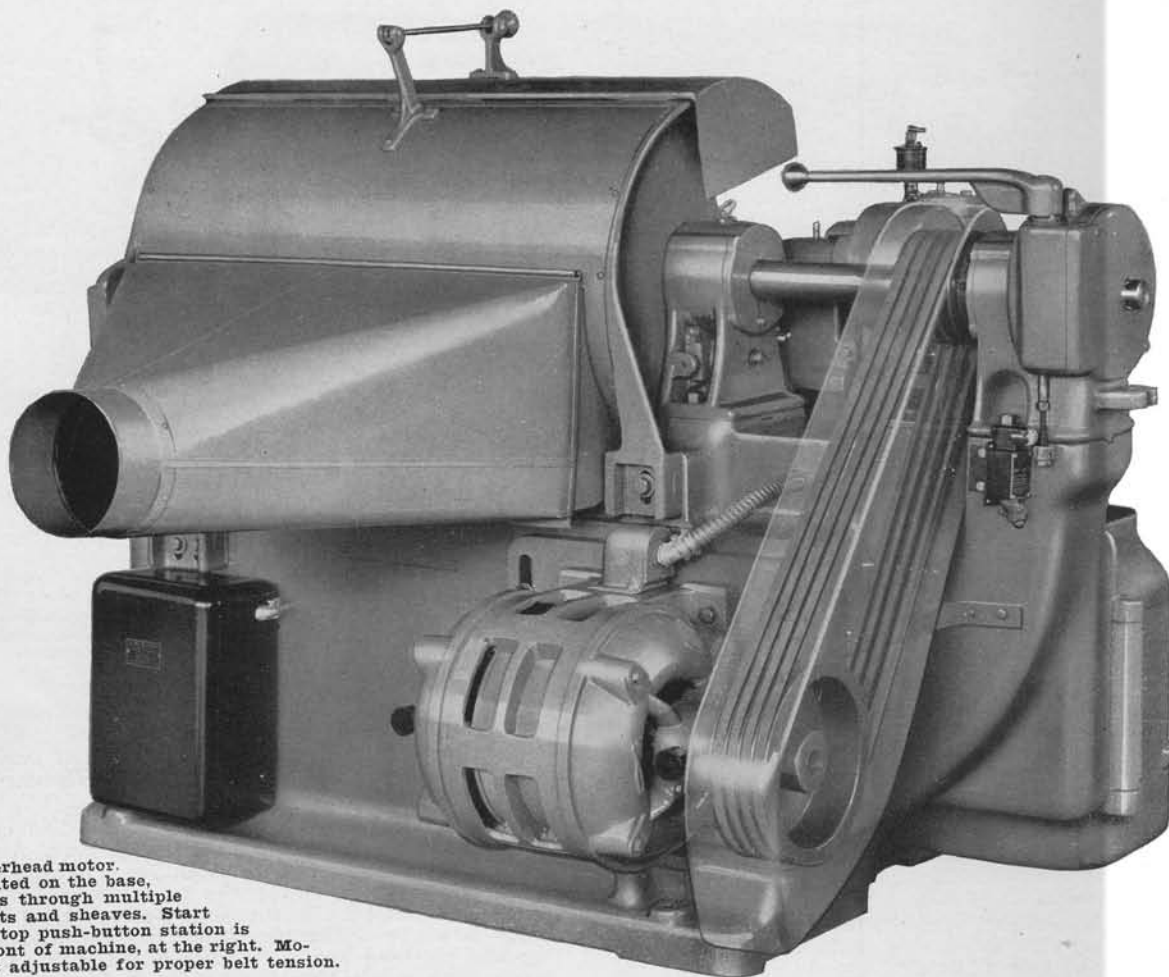
end of extension plate and used for chucking the blank stock onto the head-stock center. Turnings up to 62" long may be thus supported on any of the three sizes of machines with the length of the cut dependent on the cutter-head capacity of the machine.

The chuck is extremely simple to operate. The quick-acting crank readily opens and closes the jaws. A positive locking mechanism on the chuck jaw allows the stock to be revolved with, or opposite to, the knives, without danger of loosening. The automatic stock-centering device shown in the two illustrations below, saves time in inserting and centering blanks. When carriage is drawn out, this jaw, which is adjustable for different sizes of squares, stands out to receive the end of the blank, centering it at the headstock end in relation to the chuck jaws. As carriage is pushed forward, the centering jaw automatically drops back out of the way of the knives. With this patented centering device, it is not necessary to leave an extra inch of stock on left end, as the head center holds the turning and the cut can be carried out over the end of the work.



Illustrating Action of Stock-Centering Device

Purpose, Range and Capacity



Cutterhead motor, mounted on the base, drives through multiple V-belts and sheaves. Start and stop push-button station is on front of machine, at the right. Motor is adjustable for proper belt tension.

Purpose and Range

THE Mattison Automatic Shaping Lathe will handle practically anything in the way of plain or fancy turnings, producing round, square, octagonal, hexagonal, or most any other polygonal shape. Among the more common uses are the shaping of table legs and pedestals, piano pillars and back handles, lamp standards, standards and posts for bureaus, chiffoniers, table and toilet stands; bed posts and reaches, chair legs, casket corners, coffin handles, ten pins, indian clubs, dumb-bells, ball bats, lawn-mower handles and rollers, automobile tire pump handles; in fact, most any style or shape of turning of a size coming within its range.

In addition to so-called regular turned work, there are a large number of wood parts which can be shaped to better advantage on the Mattison Lathe than by bandsaw, shaper or jointer methods. Our engineers are continually developing special workholding devices for speeding up the production of odd-shaped work which previously was not considered a turning-machine application. Before deciding that the Mattison Lathe cannot be adapted to those special

odd-shaped jobs you have to do, send a sample or sketch to us and let our engineering department determine whether a practical workholding device can be made. They possibly have already solved a similar shaping problem for someone else.

Capacity

OUTPUT varies according to the style and size of work being turned, and also as to the kind of wood being cut, running anywhere from 100 to 6000 pieces per day. Round turnings are produced on an average of three to ten times faster than by hand lathe, while square and many-sided patterns are run in one-sixth to one-twentieth the time required by bandsawing. On square and octagonal turnings, the advantage gained is not only in the speed at which the pieces are shaped, but much less time is required to sand them. Band sawed work is left rough and requires a great deal of filing and sanding, while the work leaving the Mattison Lathe is perfectly smooth and needs but very little finishing. Also with the lathe, every corner is mitered perfectly, and all pieces come out absolutely true and uniform in size and shape.

Mechanical and Operating Advantages

Double-End Drive (Patented)

A MOST effective double-end drive for the stock has been incorporated in the design of the Mattison Automatic High-Speed Shaping Lathes. Both head and tail stock centers are driven simultaneously. Only enough pressure is given the stock by the tail-center weight to keep it firmly engaged by the two centers. Since both centers are power driven and operate in perfect unison, all twisting action is overcome. With a perfectly uniform motion on both ends of the stock, it is possible to turn exceptionally delicate work with no danger of the stock breaking.

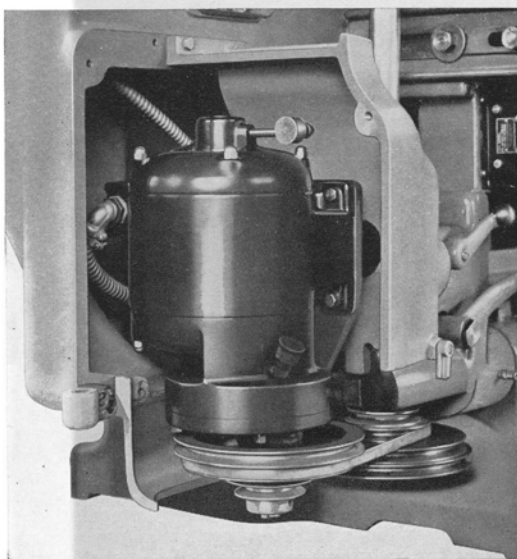
This double-end drive not only adds to the capacity of this type machine, but aids materially in the production of perfect quality. It is not necessary to nurse the blank stock into the knives, as is the case when running delicate work on machines having only the head stock driven. With the Mattison Lathes there is no twisting or chattering to spoil the smoothness of the work. Sanding time is thus materially reduced, and in some cases, can be omitted entirely.

Head-Stock Drive

H EAD stock spindle is driven by worm gear through positive tooth clutch. Clutch is automatically operated when carriage is moved in and out. Worm is in constant mesh with worm gear at all times, eliminating any chance for wear of these parts. All parts run in oil.

Gear-Reduction Feed Motor

A TWO-SPEED, reversing motor with gear-reducing unit built in, eliminates need of bevel gears. An electrical control at right end of base controls speed setting and reversing of motor. Feed motor is fully enclosed for protection against dust and shavings. Its housing is hinged to swing back for shifting the V-belt on the sheaves. Motor shifting and locking levers are conveniently located.



Feed motor which supplies power for revolving the stock. Four-step V-belt sheaves with reversible two speed motor give eight rates of feed (2 to 30 r.p.m.) in either direction. When lathe is installed for belt drive, the conventional gearbox, with four rates of speed to headstock is used.

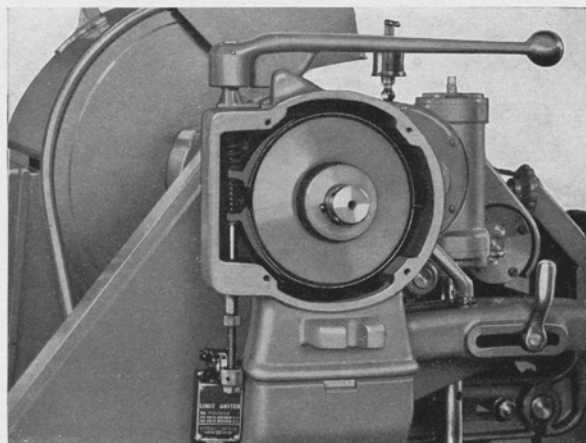
Cutterhead Arbor

T HE arbor which carries the cutterheads is made from the best spindle steel. It runs in three precision ball bearings. Maintenance of perfect alignment of these bearings is assured through correct design and special manufacturing processes. By using the three-point support plan, the machine and bearings are kept perfectly level, regardless of an uneven floor, hence there is no deflection of bearing alignment to cause twisting, cramping or vibration. No shims or wedges are necessary. The cylinder pulley is carried between two closely connected ball bearings, preventing any chance for distortion, regardless of the angle of the drive. After mounting, all spindles are tested by delicate instruments and must run true, throughout their entire length.

Cutterhead Brake

T HE powerful, although simple, mechanical brake consists of a large drum and fabric-lined brake band. Pulling lever forward shuts off the motors and brings band and disc drum together with gradual pressure.

The cutterhead comes to a stop easily and smoothly — no jerking and no danger of damage. When brake handle is fully set, cutterhead is locked and cannot turn. Limit switch prevents starting motors until brake is released — an effective safety measure.



Mechanical brake for stopping cutterheads.

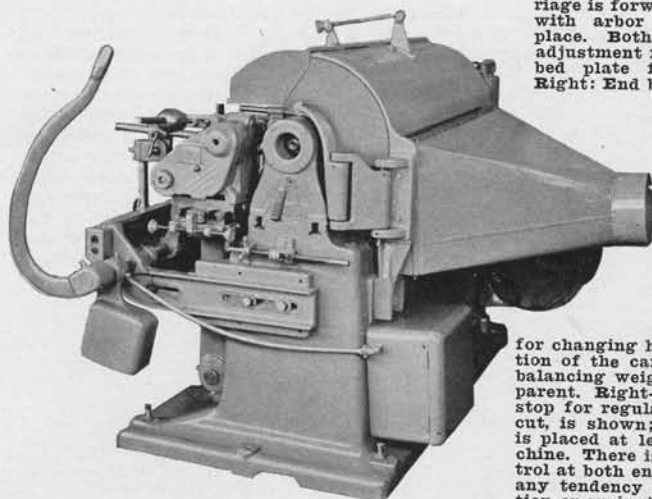
Polygonal Dies

S QUARES, octagons, ovals and all polygonal shapes are produced by means of a cam, or die, attached to the revolving work supports, which revolves against a shoe on the machine base, having a face concentric with the cutterhead. The action of the die revolving against the shoe, guides the carriage in and out according to the shape of the die; and it is apparent that the work being cut upon by the knives, will come out the same shape. The Mattison Lathes are equipped with an improved die aligning device, which is fully automatic.

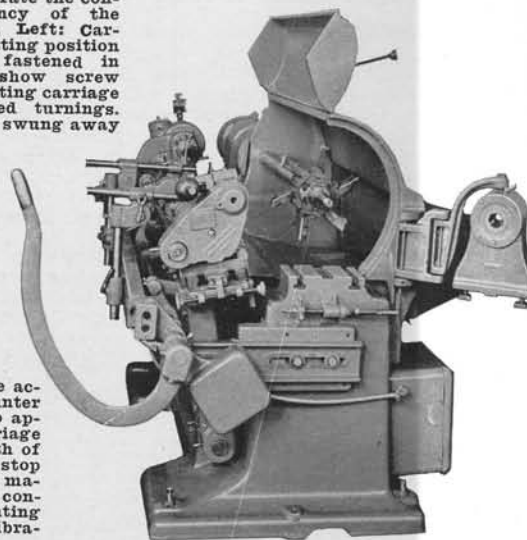
The Removable Swinging End Bearing

(PATENTED)

These two views illustrate the convenience and efficiency of the swinging end bearing. Left: Carriage is forward in cutting position with arbor bearing fastened in place. Both views show screw adjustment for off-setting carriage bed plate for tapered turnings. Right: End bearing is swung away



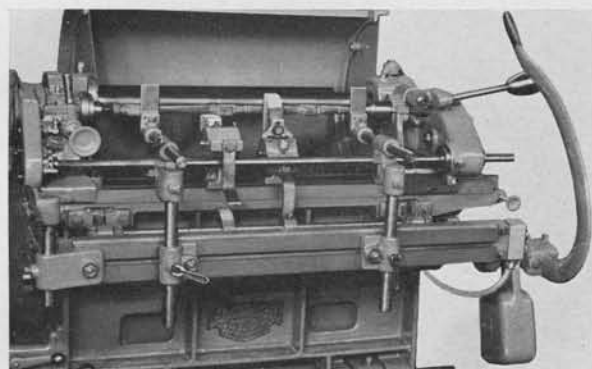
for changing heads. The action of the carriage counter balancing weight is also apparent. Right-hand carriage stop for regulating depth of cut, is shown; another stop is placed at left end of machine. There is positive control at both ends, preventing any tendency toward vibration or springing.



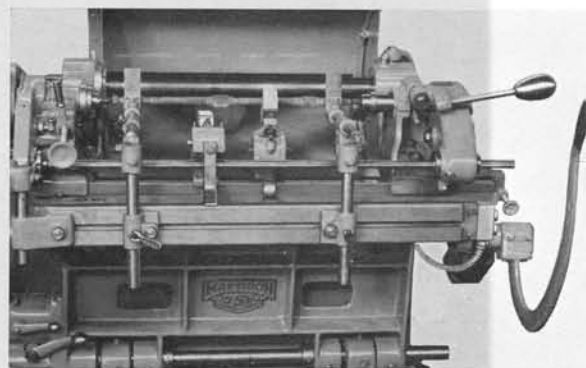
THE swinging end bearing on the Mattison Lathes is a decided advantage for the operator. When changing cutterheads, it is only necessary to remove the spindle nut, loosen the two bolts on the bearing box and swing the bearing around on its hinge, out of the way. There is ample clearance for easily handling cutterheads of the

largest diameters, on and off the arbor. Every lathe operator and set-up man will certainly appreciate this added convenience on the present model Mattison Lathes. It not only relieves him of lifting the weight of the out-board bearing, but it also greatly quickens and simplifies the changing of cutterheads.

Steady Rests Operate Automatically



Vertical and horizontal steady rests are supporting a slender turning with carriage forward in cutting position.



When the carriage is drawn back, both vertical and horizontal rests automatically recede from the turning.

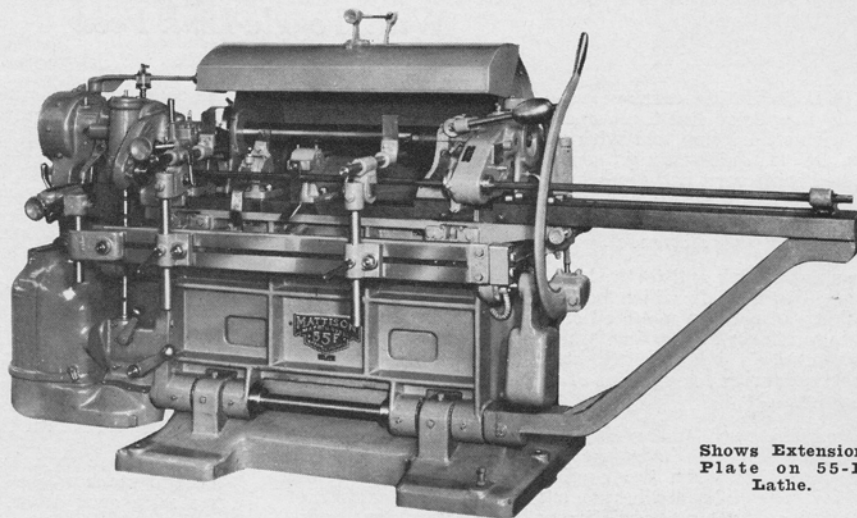
EFFICIENT steady rests are very essential when running stock less than three inches in diameter. Two types of rest are used on the Mattison Lathe. One has a horizontal arm and bears up from underneath the turning; the other has a vertical arm and bears against the side of the turning opposite to where the knives are cutting. When one or more of each type of rest is used, the best results are obtained, as the two types working together, form a clamp on the turning which prevents trembling up and down, as well as in and out.

The rests are automatic in operation. Moving the carriage

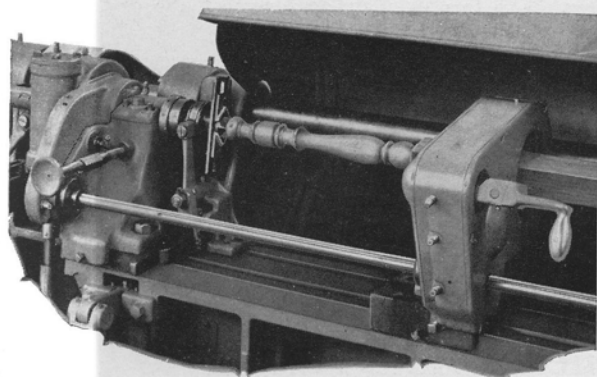
forward up to the cutters, brings the arms into place, and coil springs permit them to conform to a square, as well as a round shape. When carriage is pulled back, cams on the carriage-operating link-shaft automatically draw the rests away from the turning, to permit removing and inserting stock without interference. A screw adjustment is provided for varying the tension of the rest arm. The rests are mounted separately and may be moved sideways, independently of each other, and applied to that point on the turning where they will be most effective. A safety stop prevents rests from getting into the knives.

No. 55-F Mattison Lathe with Extension Plate

IMPORTANT refinements of the Mattison Lathe which simplify the handling of longer turnings are the extension plate, hollow chuck and stock-centering devices. For longer turnings than the regular capacity, the extension plate and hollow chuck attachments are used. The extension plate is attached rigidly to the right end of the machine and the tail stock center is mounted on it, according to the length of the stock.



Shows Extension Plate on 55-F Lathe.

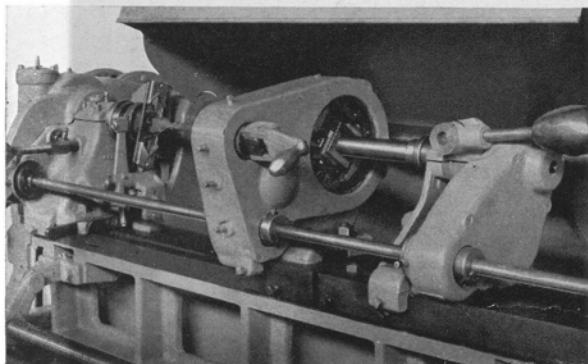


Hollow Chuck and Automatic Stock Centering Device

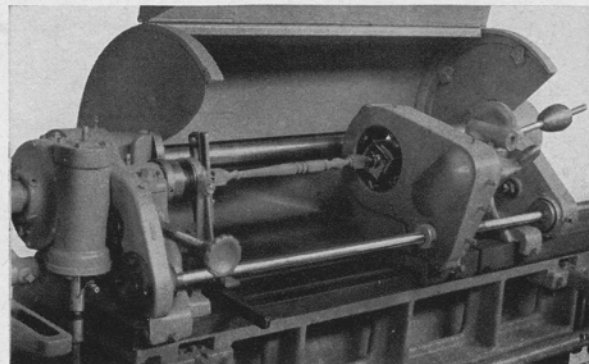
THE hollow chuck is so positioned that its jaws grasp the turning close to the cut, giving firm support and assuring smooth, perfectly shaped turnings.

The automatic stock-centering device saves time in inserting blank. When carriage is out the jaw receives the stock and centers it, and when the carriage is pushed forward, the jaw drops back automatically. Thus the cut can be made clear to the end of the piece. There is no wasted stock.

Tail-Stock Extension Spindle with Spur Center



THOSE manufacturers whose large variety of work ordinarily requires a great deal of changing back and forth from centers to chuck, will find our tail-stock extension spindle with spur center, which revolves in a ball bearing, of considerable advantage. Both the chuck and tail stock are mounted on the carriage bed plate,



with the stock spindle extending through an iron block clamped in the chuck jaws. Chuck jaws are not loosened when changing stock between centers, so it is unnecessary to remove the chuck for center turnings, yet it is in place ready for use on such work as requires the chuck support.

The Frictionless Oscillating Carriage

With Toggle-Link Feed

THE oscillating carriage used on the Mattison Lathes is simplicity itself. It operates freely and positively without friction and with no binding tendency whatever. It is quick-acting, sensitively controlled, and is handled with very little effort. These features are accomplished by supporting the carriage on a single rocker shaft at the bottom of the machine base, giving it absolute rigidity and alignment.

It oscillates back and forth through two heavy toggle links attached to a shaft which passes through two supporting brackets adjustably mounted on machine base near top of carriage. These supporting brackets are adjustable to permit the toggle links to straighten out when carriage is up to cutting position regardless of the diameter of the turning being made.

The advantage of the simple toggle-link system for an oscillating carriage over the complicated lever and link system is that when the carriage is forward in cutting position, the links straighten out, making the control of the carriage much more positive and sensitive at that point, as well as adding enormously to the leverage of the operating handle. There is no back lash or lost motion in the carriage of the Mattison Lathes. Another advantage of highest importance:—as these toggle links straighten out when the carriage approaches the cutting position, they act almost as a lock, taking the thrust of the cut, and the operator does not have to "fight" the feed lever to keep

the carriage up to the knives against the outward thrusting action of the cutterhead.

To further assist the operator in handling the Mattison Lathes, this carriage is counterbalanced by a weight. This weight is neutral when carriage is in central position, but when past center in either direction, it comes into play on opposite side, keeping the carriage balanced in any position and easy to move.

The rigidity of the carriage eliminates vibration and provides the necessary stability to withstand the strain of heavy cutting.

The work holding devices are all mounted on one swivel plate maintaining constant alignment with each other at all times. Screw adjustment is provided to swivel this unit to align work with the cutterhead or for taper turnings.

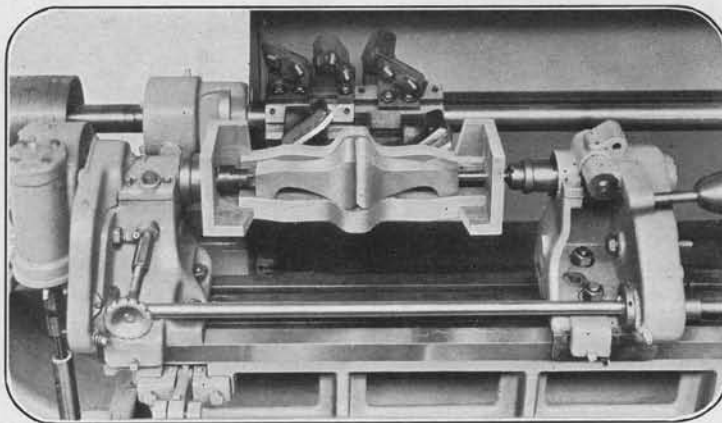
This is much superior to the old arrangement where only the tail stock was adjustable to throw the centers out of line with each other. Where the centers are thrown out of line, the stock has a tendency to roll over the driving center. With this bed-plate arrangement, the centers are always kept in perfect line with each other, and guarantee a uniform and positive drive.

Since the upright feed shaft is constructed with the universal joints, carriage bed plate may be shifted without disturbing the permanent mesh of the head stock gears.

Method of Shaping Queen Anne Feet

IN THE manufacture of upholstered pieces which use the Queen Anne, or Cabriole foot, production costs can be considerably reduced by using the Mattison Lathe for the shaping. This method is faster and more accurate than the band saw and shaper. By running these feet in multiples of two or more, and sawing them apart afterwards, stock handling is lessened and of course, output is greatly increased.

The feet are shaped in three operations, usually the two front sides are shaped first. Second operation makes the two back sides of the



viding the proper cutterhead holding devices.

foot (see illustration), and the toe part is rounded up last. The work-holding devices are arranged for quick and accurate centering. They support the blanks securely and absorb all vibration, regardless of how deep these cuts may be. Each piece comes from the machine so smoothly cut that scarcely any sanding is required, and all of them are exactly alike in size and shape. Many variations in the design of these Queen Anne feet can be secured by proper equipment and work-

Turning Perfect Squares on the Mattison Lathe

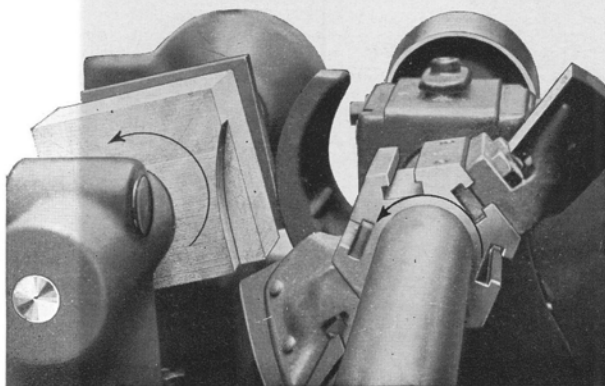
ON THE Mattison Lathe the delicate and sharp members of square turned work are prevented from chipping out on the last corner, through the action of the polygonal die working in conjunction with the oscillating carriage. The die is attached to the revolving head stock, and works up against a shoe, which is placed on the machine base, concentric with the cutterhead. As the die revolves against this shoe, it guides the carriage in and out, according to the shape of the die. If this die is square, it is apparent the turning will be cut the same shape.

The practical feature of this die arrangement comes about when the operator feeds in the carriage. Instead of allowing the cut to start on the corner of a square piece, he is

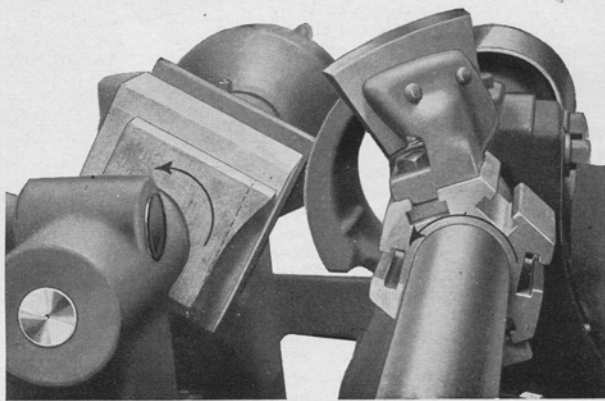
able to so accurately manipulate the feeding of the carriage, that the cut is started in the center of a flat side. When the work has made a complete revolution the cutting is finished in the center of that same flat side, instead of on an unprotected last corner.

The work is produced with absolute accuracy, and the turnings come out perfect in size and shape.

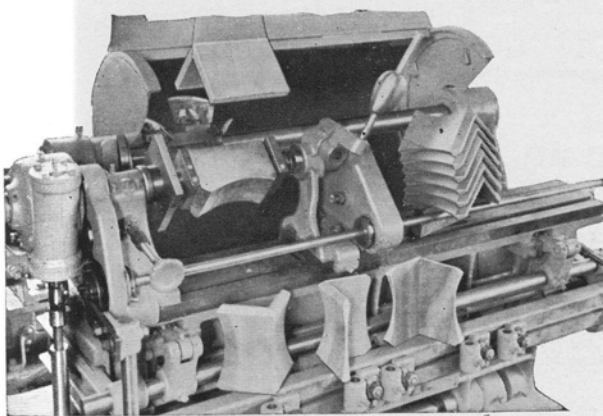
This die arrangement is not limited to square work only — ovals, hexagonals, octagonals; in fact, any shape may be turned, by providing a die to suit. These dies can be made by any operator from instructions which we furnish.



Starting the cut in the middle of a flat side.

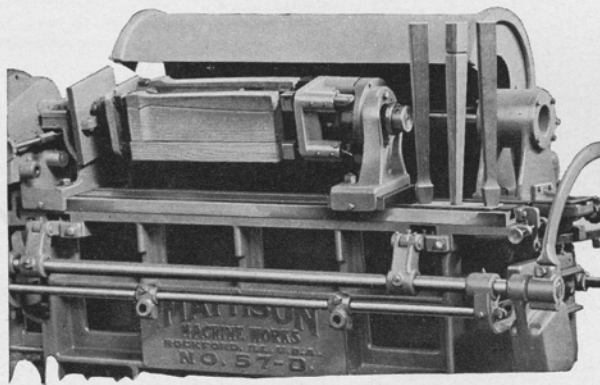


Finishing the cut at the same point.



Special Fixture for shaping Casket corners.

THESE irregular-shaped casket parts are handled by the Mattison Lathe much more rapidly and accurately than would be possible by any other method. The glued-up blank is placed on the form and gripped by the automatic chucking device. Carriage is fed up to the knives and the piece is shaped while the form makes one revolution. Many other out-of-the-ordinary shapes can be handled nicely with the Lathe at a considerable saving of time and labor over other methods.



Turning Square Legs with Multiple Center Device.

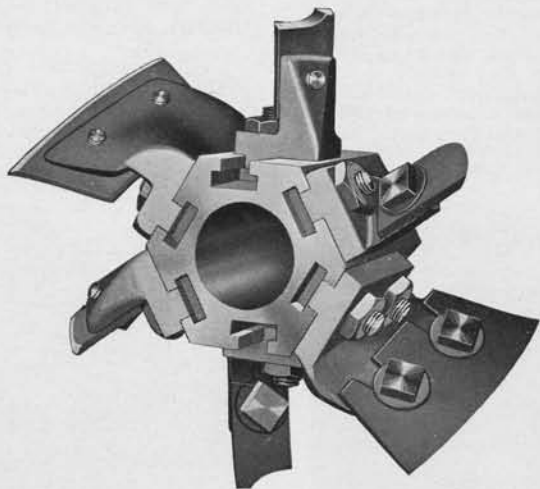
THIS continuous feeding attachment for shaping square tapered legs, half-French and Colonial chair legs, etc., carries four sets of centers which are automatic in action. Operator places blanks on form between centers as drum passes center-releasing cam. Drum revolves as a unit, bringing stock into contact with knives. Die, working in conjunction with oscillating carriage, controls the shape of the two sides being cut, and also brings the corners perfectly mitered. This device replaces band-saw, shaper and jointer methods, producing smoother work at greater speed.

T-Slot Type Radial Cutterheads

WORKING PRINCIPLE — The cutting action of this head is identical with the principle of hand turning. In forming a bead or other ornamental member, the knives always start at the highest point and shear downward, toward the right and toward the left. In this way the cut is just as much with the grain as across it, resulting in an easy cut and a smooth one. Owing to there being six knife seats around the cylinder, and the cylinder being made up in short sections, it is possible to divide or stagger the knives around the circle of the head to the extent that very rarely are more than one or two knives cutting at the same time. Thus the cutting strain on the stock is reduced to a minimum. The cutterhead is made up of three parts: the cylinder, the knife holders and the knives.

CYLINDER is accurately machined from solid steel in the form of a sleeve which fits over the machine arbor, and is provided with six slots for attaching the knife holders. This makes room for sufficient knives so that each one is confined to cutting a single member of the pattern — thus the knives are easier to make and much more readily interchanged from one pattern to another. Cylinder parts are made up in short sections to be easy to handle and for interchanging a complete section of cutterhead from one pattern to another. This part is standard and the same for all turnings.

KNIFE HOLDERS — knife holders also come in standard styles and sizes and as many may be placed on the cylinder



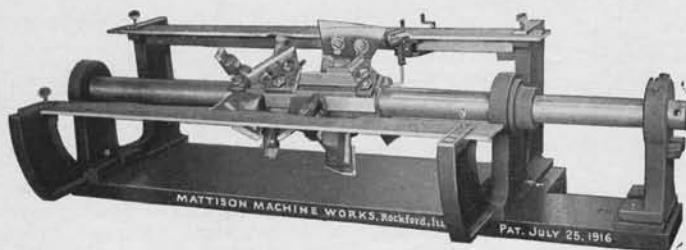
as the number of knives for the pattern in hand may require. We use a one-piece knife holder, made of steel. Its fastening on the cylinder is simply a case of clamping two machined flat surfaces rigidly together. A large planer bolt and nut are used for clamping, and there is no chance for the holder to rock or slip on its seat. A tongue is provided on the base of the holder which accurately fits into the upper part of the cylinder slot and eliminates any possibility of twisting and also relieves the bolt from any undue strain. Each holder can be adjusted or removed from the cylinder without in any way interfering with other holders. As many holders, in any combination, can be assembled on the cylinder as the pattern in hand requires.

KNIVES are all made of plain tool steel and anyone who is capable of making knives for a sticker or shaper will have no trouble making them for this head to suit any pattern. The knife holders are so fashioned as to hold the knife at the proper angle to give it the correct shear cut. It will be noticed that the knife comes back of the center line of the head, giving it a certain amount of forward cut. There are dozens of ways to handle the cutterhead proposition to meet varying conditions. Our more than forty years' experience in cutterhead building, together with our large assortment of knife carriers of all sizes, lengths and angles, enables us to devise combinations to suit most any conceivable condition to make the use of the Mattison Lathe profitable.

Knife-Marking Machine and Setting-up Box

BELOW is Knife-Marking Machine and Setting-up Box combined. Duplicate pattern boards of the profile of the turning to be made are clamped in the machine as shown in the illustration. Knife blanks are placed in the holders and coated with whiting. Operator places guide pin against shaped edge of upper pattern board and moves the marking device along the board, at the same time

turning the arbor to bring the face of the blank in contact with the marking pointer, as illustrated in the small picture. The blank is then ground to this line, which brings its shape to a perfect fit with the setting-up pattern board in front of the arbor. This device permits the inexperienced knife maker to form lathe knives as perfectly as the expert.



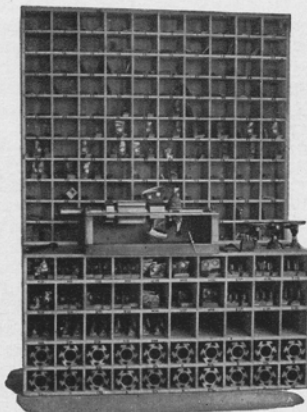
Accessories which Further Simplify the Mattison Turning Method

WE not only study to make efficient Shaping Lathes, but we also study the features that will help to make these machines into a complete and thoroughly efficient system. The attachments and accessories shown on

this page, aid in making the Mattison Method exceedingly simple. And the simplicity with which a system is operated is what makes it most successful.

Triple-Bearing Setting-Up Box

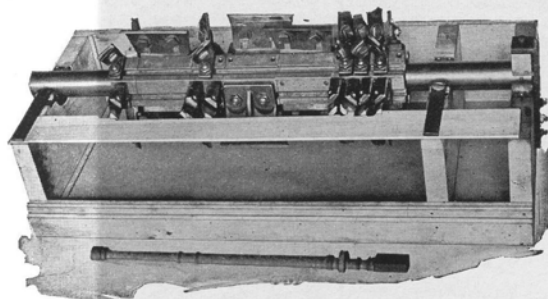
THE practical setting-up box below can be easily constructed of wood. The arbor is supported by three blocks or bearings, one of which is left free to move in and out. With such a box, your knife marker can handle the cutterheads much easier and faster than where only two stationary end-bearings are used. Metal fittings together with blue print giving sizes, are furnished with regular equipment on new machines.



Storage Cabinet for Cutterhead Supplies

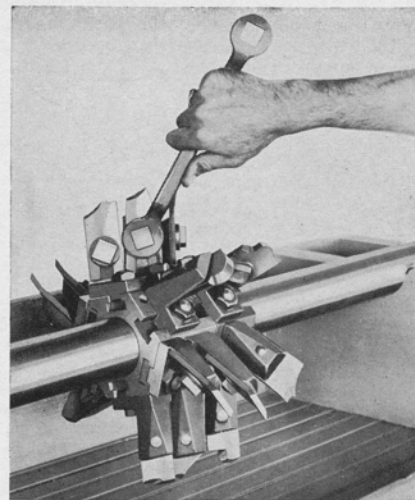
THIS illustrates a convenient labor-saving method of storing cutterhead parts. Each space in the wooden cabinet is large enough to hold several knives, also knife-holders with knives attached. The indexing of each section of the cabinet, in connection with numbered knives and the graphic pattern boards, enable the operator to make his set-up quickly and without confusion.

Spaces below the shelf may be used for storing knife holders, segments, and different lengths of cylinder. We furnish blueprint with instructions for building this cabinet as well as suggestions for keeping accurate records of cutterhead parts.



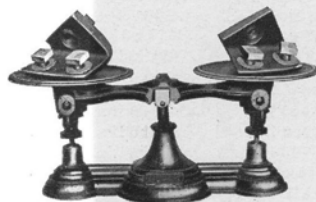
Closed-End Safety Wrench

These pictures illustrate the utility and convenience of this closed-end safety wrench. The opening fits over the bolt head so there is no danger of its slipping off when fastening the knife to the carrier. It is shaped just right for easy handling and powerful leverage.



All Cutterheads should be Accurately Balanced

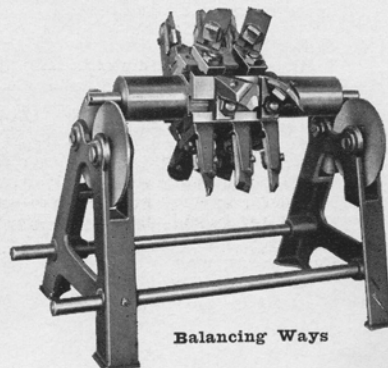
These tools are indispensable for good cutterhead building



Even-Balance Scales

The even-balance scales shown at the left assure a uniform balance of knives and carriers in pairs before assembling to cylinder. This eliminates using excessive amount of washers to balance heads after knives and carriers are assembled to cylinders.

Shown to the right are balancing ways for balancing assembled cutterheads. Balancing ways have hardened ground discs which run on ball bearings making it possible to get accurate static balance of assembled head. The tool is always level no matter how placed.



Balancing Ways

Details of Construction

BASE—The base of the Mattison Automatic Shaping Lathe is heavy and massive. It is cast as a single unit, making it absolutely rigid and free from vibration. The three-point suspension principle guarantees a perfectly level setting regardless of the unevenness of the floor.

CUTTERHEAD ARBOR—The arbor which carries the cutterhead is made from the best spindle steel. It runs in three precision ball bearings. Maintenance of perfect alignment of these bearings is assured through correct design and special manufacturing processes. By using the three-point support plan, the machine and bearings are kept perfectly level, hence there is no deflection of bearing alignment to cause twisting, cramping or vibration. No shims or wedges are necessary.

POLYGONAL DIES—Squares, octagons, ovals and all polygonal shaped turnings are produced by means of a cam, or die, attached to the revolving work supports, and working against a shoe on the machine base, having a face concentric with the cutterhead.

GEAR-REDUCTION FEED MOTOR—Four-step, V-belt sheaves with reversible two-speed motor give eight rates of feed (2 to 30 r.p.m.) in either direction. When lathe is installed for belt drive, the conventional gear-box, with four rates of speed to headstock is used.

SHAVING HOOD—The shaving hood covers the full length of the arbor where the cutterheads go. It is provided with a hinged apron which drops down over the top of the heads, preventing shavings from flying out. Hood tapers

at rear into an eleven-inch diameter pipe for connection to blower system.

REGULAR EQUIPMENT—The equipment regularly furnished with all Mattison 55-F, 30", 57-F, 42", and 54" Automatic Shaping Lathes includes the power driven head and tail stocks with centers, two polygonal dies, stock-receiving and centering attachment, automatic die-aligning device, one horizontal and one vertical steady rest, setting-up arbor, metal fittings for setting-up box, wrenches and shaving hood.

SPECIAL ATTACHMENTS—On special order we can furnish the Hollow Chuck Attachment for long or slender turnings; adjustable face plates and self-centering scroll jaw face plates for holding hollow pedestals; single-center work-holding device for supporting Cabriole legs of the half-French type; multiple-center, continuous-feed chair-leg attachment for square, tapered legs and for half-French and Colonial chair legs; work-holding devices for producing Queen Anne feet; attachment for supporting irregular-shaped casket corner blocks; various types of cutterheads for work presenting cutting problems out of the ordinary; balancing ways; even-balance scales; knife-marking machines; sharpening stones. Our engineers are constantly developing work-holding devices for use with the Mattison Lathe to enable it to economically produce odd-shaped cuttings that must otherwise be done with two or more operations on band saws, jointers or shapers. Submit your problems to us. Possibly we have already solved them for someone else.

Specifications

| | 55-F, 30" | 57-F, 42" | 57-F, 54" |
|--|-------------------------------------|-------------------------------------|-------------------------------------|
| Maximum length of cut in one operation..... | 30" | 42" | 54" |
| Maximum length of stock handled between centers..... | 32" | 44" | 62" |
| Maximum length of stock with stock ejector..... | 29" | 38" | |
| Maximum length of stock handled between centers with extension plate, but without stock ejector..... | 62" | 62" | |
| *Largest diameter stock swing over carriage..... | 14 1/4" | 17 1/4" | 17 1/4" |
| Diameter of main arbor..... | 2 5/8" | 2 5/8" | 2 5/8" |
| Main Drive Motor..... | 10 H. P. | 15 H. P. | 15 H. P. |
| Feed Motor..... | 1 1/2 H. P. 2 speed reversing | 1 1/2 H. P. 2 speed reversing | 1 1/2 H. P. 2 speed reversing |
| Speed of head stock spindle—motor drive machines..... | 2—3—4—6—10—15—20—30 R. P. M. | 3 1/2—7—14—21 R. P. M. | |
| Speed of head stock spindle—belt drive machines..... | | | |
| Speed of main arbor..... | 2700 R. P. M. | 2700 R. P. M. | 2700 R. P. M. |
| If Belt Drive— | | | |
| Tight and loose pulleys..... | 10"x 6" | 10"x 6 1/2" | 10"x 6 1/2" |
| Speed of tight and loose pulleys..... | 930 R. P. M. | 950 R. P. M. | 950 R. P. M. |
| Main arbor pulley..... | 6"x 6 3/8" | 7"x 6 1/2" | 7"x 6 1/2" |
| Driver on countershaft..... | 20"x 6" | 20"x 6 1/2" | 20"x 6 1/2" |
| Domestic shipping weight motor drive, average..... | 4100 lbs. | 6000 lbs. | 6700 lbs. |
| Domestic shipping weight belt drive, average..... | 3600 lbs. | 5500 lbs. | 6150 lbs. |
| Boxed for export—motor drive—average..... | 4600 lbs. | 7000 lbs. | 7800 lbs. |
| Boxed for export—belt drive—average..... | 4300 lbs. | 6700 lbs. | 7500 lbs. |
| Measurement..... | 175 cu. ft. | 205 cu. ft. | 250 cu. ft. |
| Code words, machines complete with motors..... | ABICE | ABIJO | ABINI |

Examples of Turnings Regularly
Produced by Mattison Lathes



Facts!

ASSURING FASTER AND SMOOTHER TURNINGS FROM MATTISON LATHES

Double End Drive

On the Mattison Lathe, both head and tail stocks are driven simultaneously. This prevents any twisting tendency on small or delicate turnings and also permits crowding the cut on all turnings, therefore greater capacity is assured.

Counterbalanced Oscillating Carriage

With Toggle Link Feed. It operates freely and positively without friction and with no binding tendency whatever. Gives operator positive and sensitive control of cutting.

Swinging End Bearing

When changing cutterheads, it is only necessary to remove the spindle nut, loosen two bolts on the bearing box and swing the bearing around on its hinge, out of the way. This relieves the operator of lifting the weight of the outboard bearing, and quickens and simplifies the changing of cutterheads.

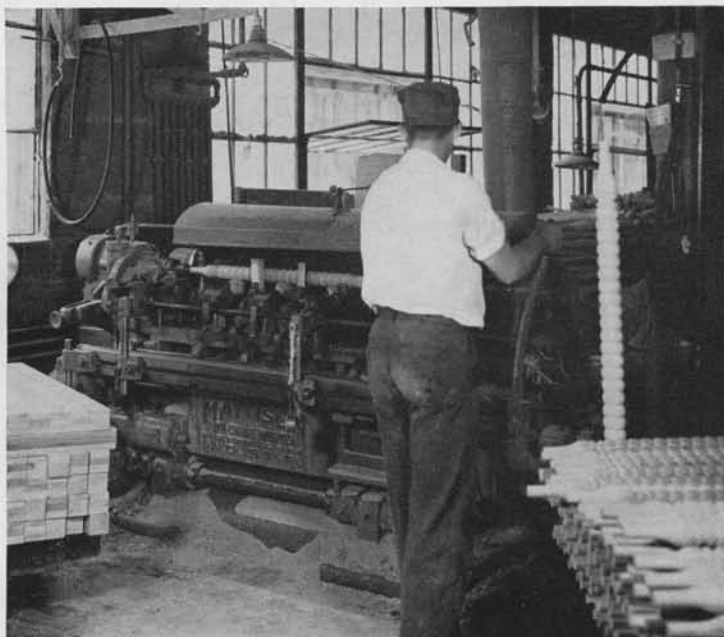
Cutterhead Brake

The powerful, although simple, mechanical brake consists of a large drum and fabric-lined brake band. Pulling lever forward shuts off the motors and brings band and disc drum together with gradual pressure.

The cutterhead comes to a stop easily and smoothly — no jerking and no danger of damage. When brake handle is fully set, cutterhead is locked and cannot turn.

Ball-Bearing Cutterhead Arbor

The arbor, which carries the cutterheads, is made from the best spindle steel. It runs in three precision ball bearings, which maintain a perfect alignment at all times. This makes for smoother turnings, requiring less sanding.



DON'T wait to replace your slow, old-style turning machines; install a Modern Mattison Automatic Shaping Lathe now. In a short time the profit from your investment will be sufficient to offset the cost of the machine.

MATTISON
MACHINE WORKS
Rockford, Illinois, U. S. A.