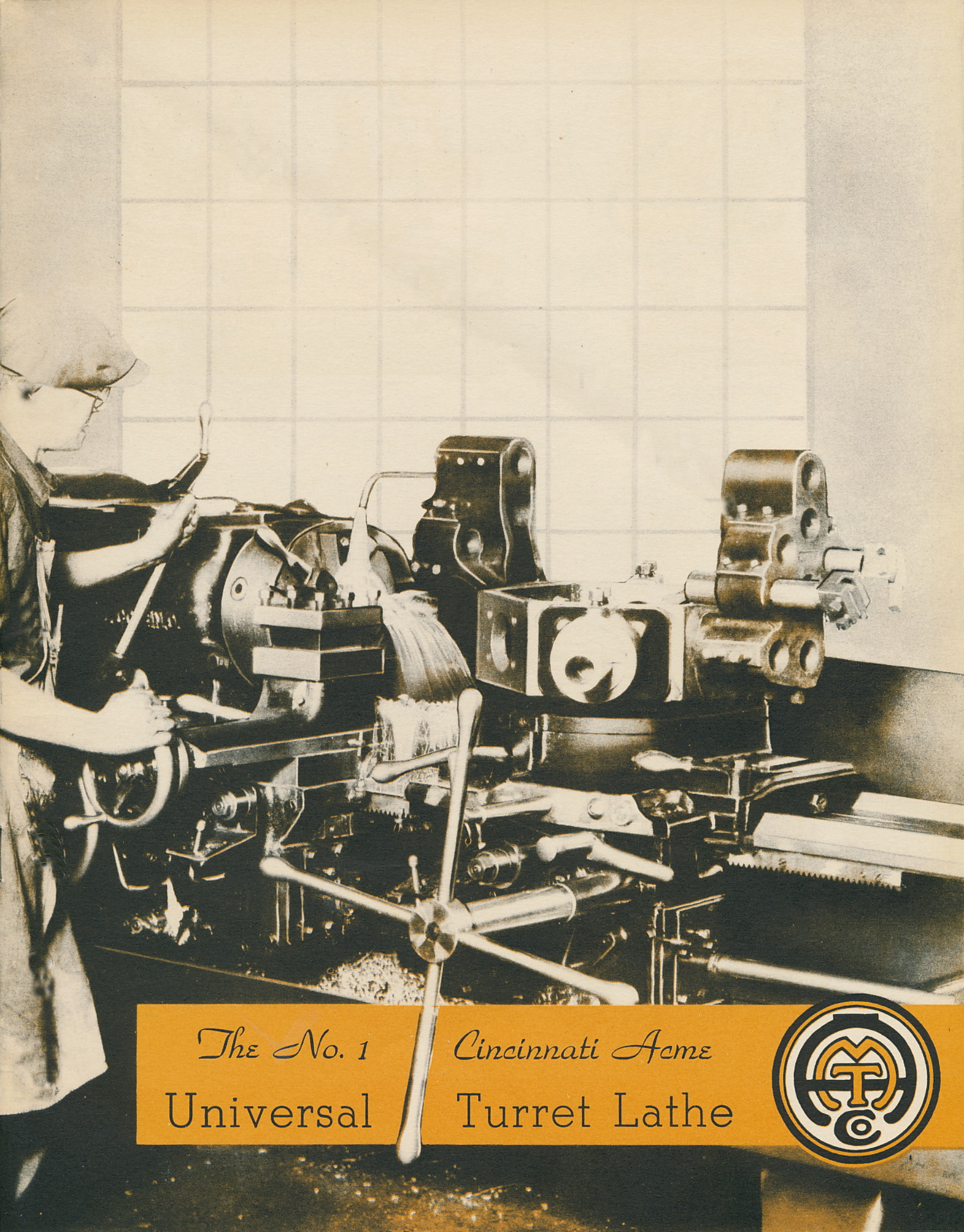


The No. 1 Universal Cincinnati Acme Turret Lathe

Specifications

No. 1 Cincinnati ACME Heavy Duty Turret Lathe

Swing:

Over bed	20½"
Over carriage wings	19"
Over cross slide	14"

Bar Capacity:

Round	2½"
Square	1¾"
Hexagon	2"

Spindle:

Flanged nose B1-1935	8"
Hole through spindle	3"
Spindle speeds	12
Speed range, R.P.M.: Forward and Reverse	15 to 500

Carriage:

Width of square turret	6"
Size of tool for square turret	¾"x1¼"
Cross travel	10"
Longitudinal travel	41"
Number of feeds—longitudinal or cross	12
Feed range, longitudinal	.004 to .130
Feed range, cross	.002 to .065

Turret:

Width of turret (across flats)	16½"
Cross travel (cross sliding turret)	8"
Longitudinal travel	41"
Number of feeds	12
Feed range, longitudinal	.004 to .130
Feed range, cross	.002 to .065
Maximum distance turret face to spindle nose	53"
Swing over turret slide	10"
Hole in turret	3¾"
Size of bolt holes	$\frac{25}{32}$"

Motor:

Ordinary duty	7½ H.P., 1200 R.P.M.
Heavy Duty	10 H.P., 1200 R.P.M.

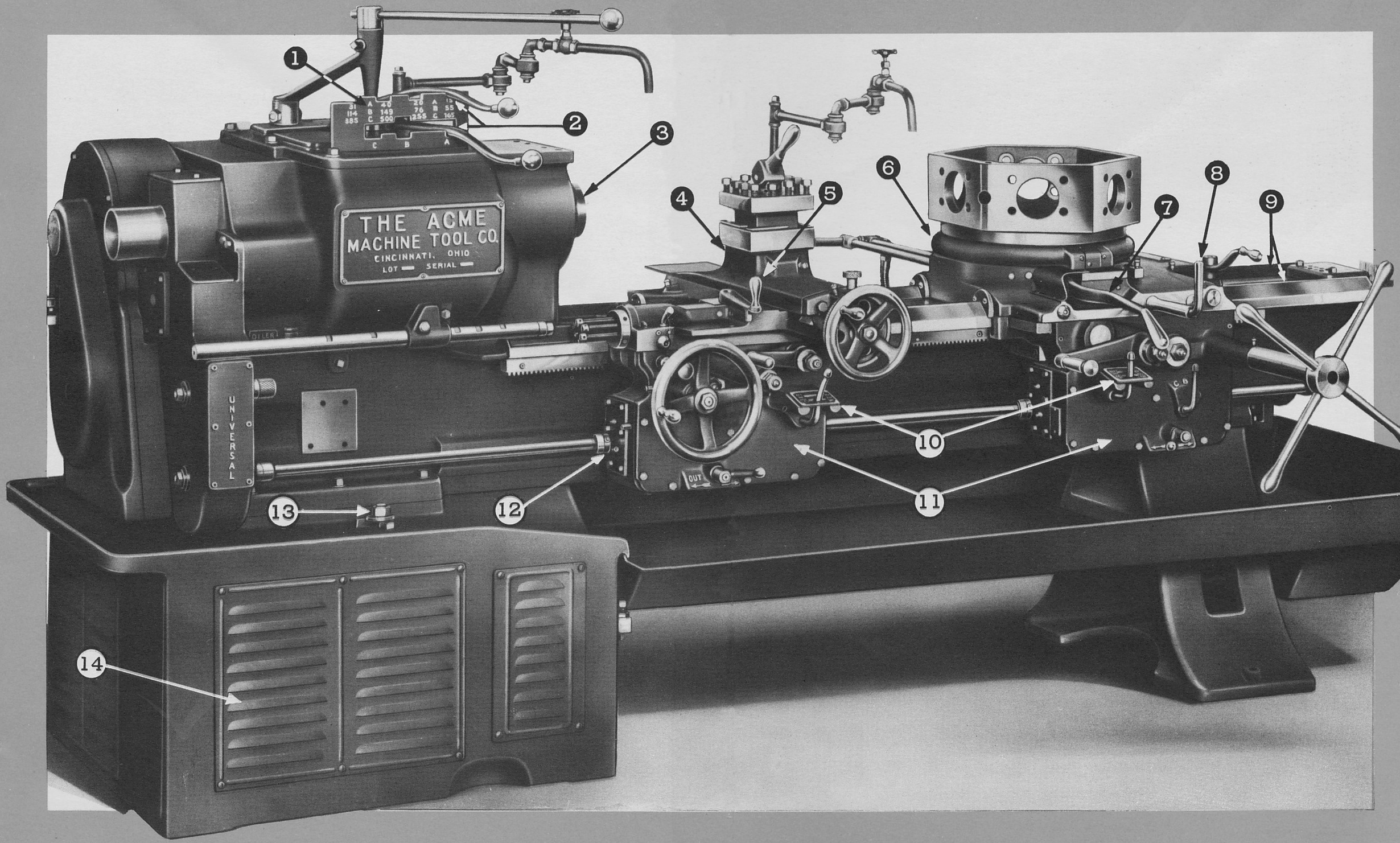
Weights and Measurements:

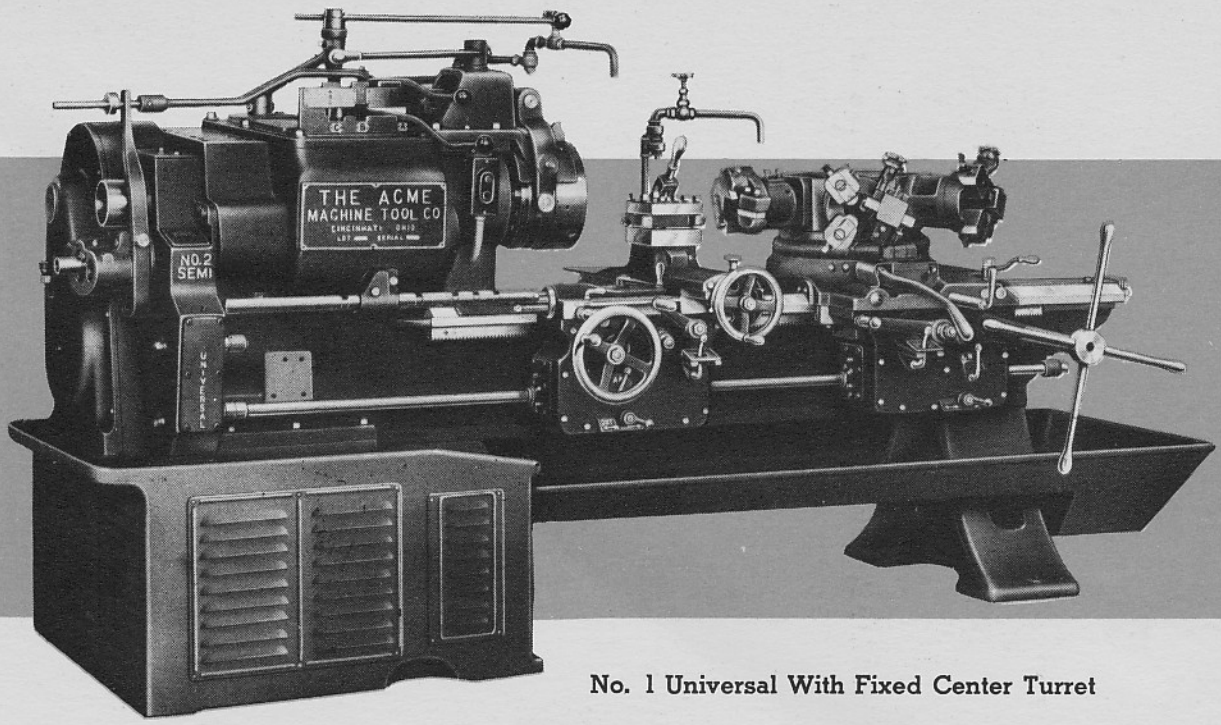
Floor space	4'-6"x11'
Floor space with power bar feed	4'-6"x20'
Weight: Plain Machine	6750 Lbs.
Crated	7250 Lbs
Boxed	8000 Lbs.
Weight: Standard bar equipment	1400 Lbs.
Standard chucking equipment	900 Lbs.
Cubic Measurement	300 Ft.

Note: Equipment furnished with bare machine consists of four flanged tool holders; chip pan, coolant pump and piping; splash guards; sheaves and belts for motor drive; tool stand and complete set of wrenches. No electrical equipment included.

THE ACME MACHINE TOOL COMPANY
CINCINNATI, OHIO, U. S. A.

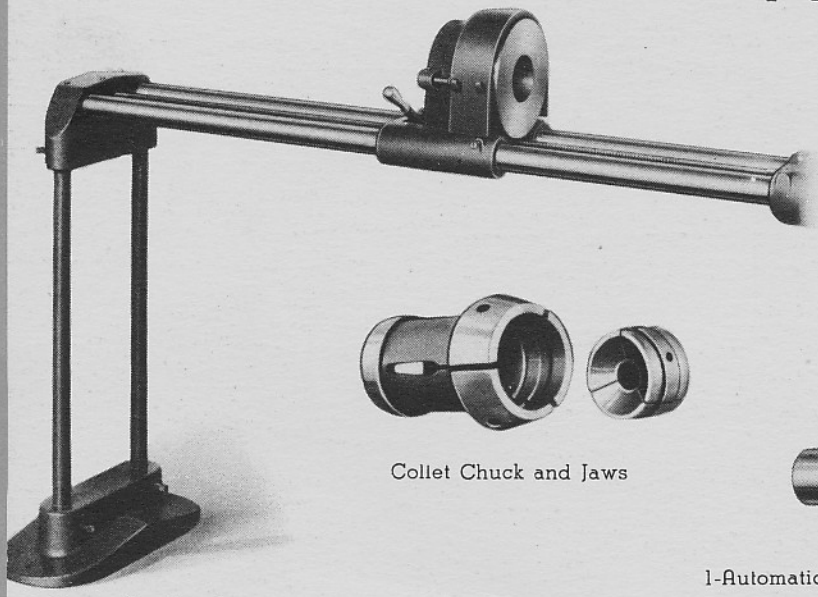
1. Direct Reading Speed Plate
2. Gravity Lock Gear Shift
3. Triple Roller Bearing Spindle
4. Bridge Type Side Carriage
5. Longitudinal and Cross Feed Binder
6. Steel Double Tapered Circumference Binder
7. Turret Binder Lever
8. Rapid Power Traverse Lever
9. Hardened Steel Vees
10. Direct Reading Feed Plates
11. Complete Feed Range in each Apron
12. Side Carriage Gibbed between Apron and Bed
13. Motor Adjustment
14. Motor in Cabinet Leg



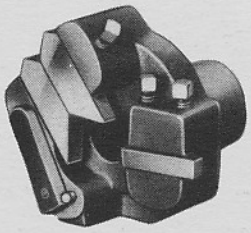


No. 1 Universal With Fixed Center Turret

Standard Bar Equipment



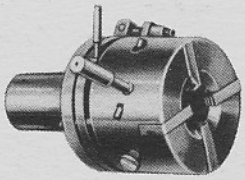
Power Bar Feed



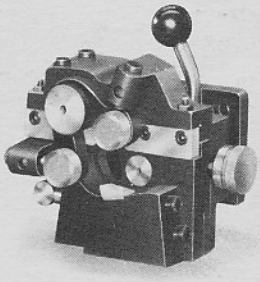
Pointing Tool

Flanged Tool Holder

Collet Chuck and Jaws



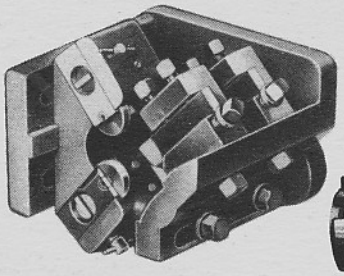
1-Automatic Opening Die Head



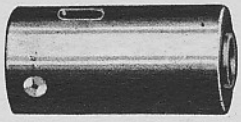
2-Roller Rest Turners

Note: Four flanged tool holders furnished with machine

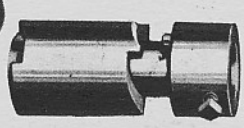
(Extra) Supplementary Bar Equipment



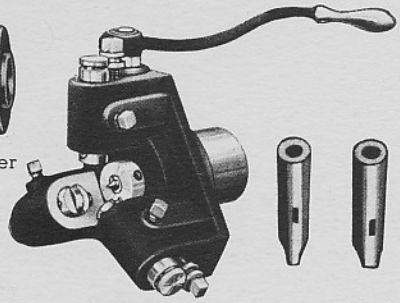
Multiple Cutter
Roller Rest Turner



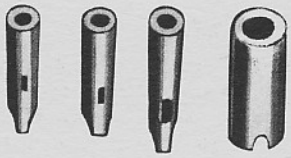
Floating Reamer Holder



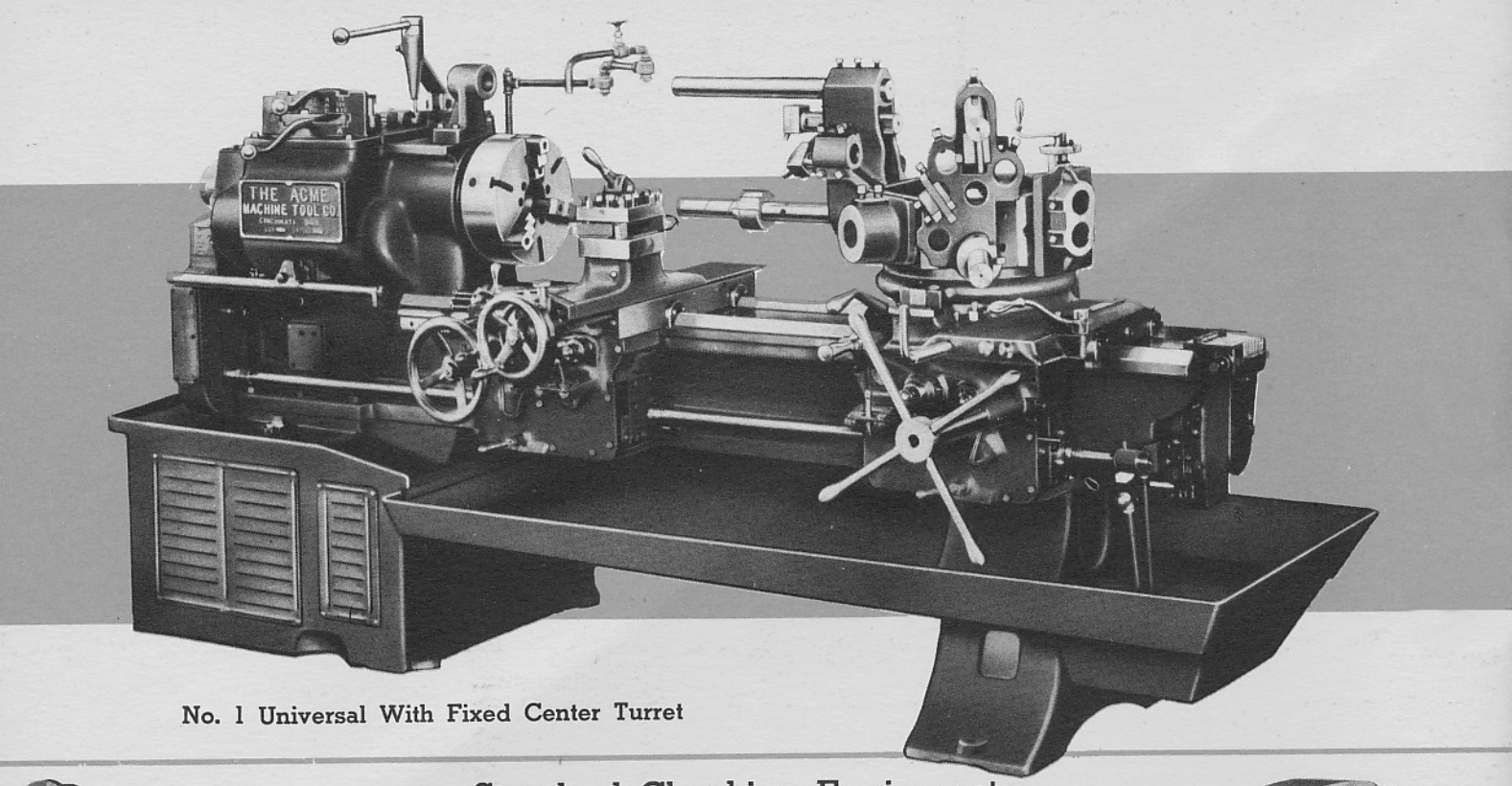
Clutch, Tap and
Die Holder



Centering Tool
with Roller Rests
and Lever Feed

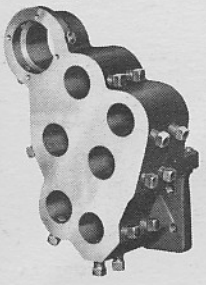


Drill Sockets
and
Master Socket

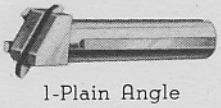


No. 1 Universal With Fixed Center Turret

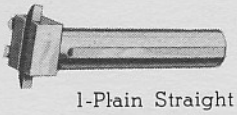
Standard Chucking Equipment



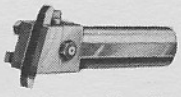
2-Multiple Turning Heads



1-Plain Angle Cutter Holder



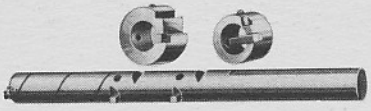
1-Plain Straight Cutter Holder



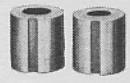
2-Adjustable Angle Cutter Holders

Flanged Tool Holder

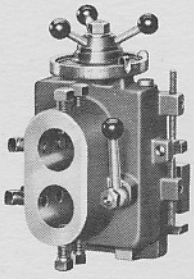
1-Spindle Bushing



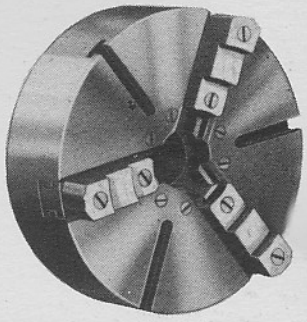
2-Piloted Boring Bars With 2-3" and 2-4" Cutter Heads



2-Sleeves for Boring Bars



Vertical Slide Tool



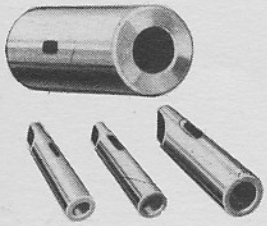
1-12" 3-Jaw Universal Chuck

1-1½" Stub Boring Bar

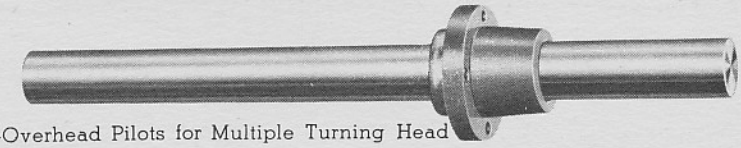
1-2" Stub Boring Bar

Note: Four flanged tool holders furnished with machine

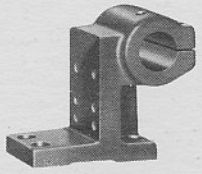
Supplementary Chucking Equipment



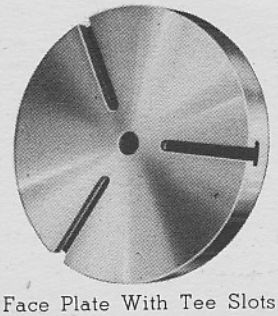
Master Drill Socket and Sleeves



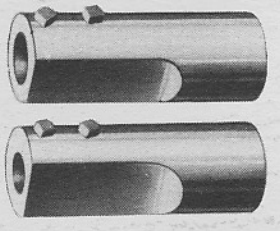
2-Overhead Pilots for Multiple Turning Head



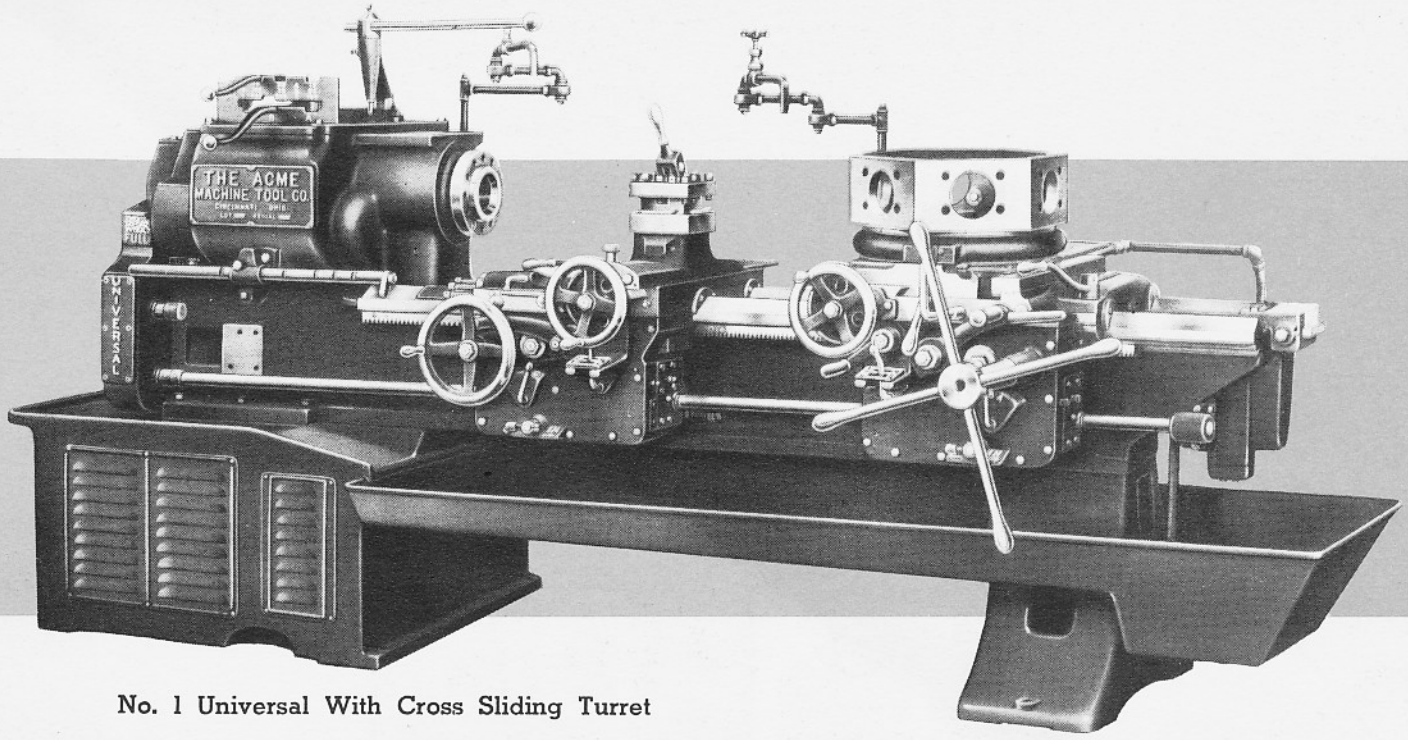
Overhead Bracket for Headstock



Face Plate With Tee Slots

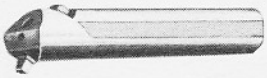


Sleeves for Boring Bars (Extension Type)



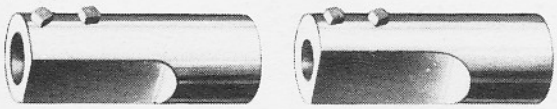
No. 1 Universal With Cross Sliding Turret

Standard Chucking Equipment For Cross Sliding Turret

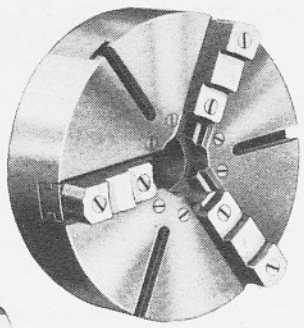


2-Large Boring Bars

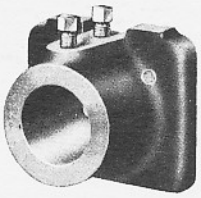
2-Small Boring Bars



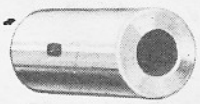
4-Sleeves for Boring Bars (Extension Type)



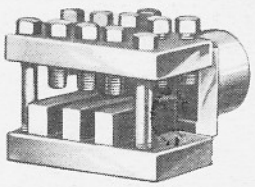
1-12" 3-Jaw Universal Chuck



Flanged Tool Holder



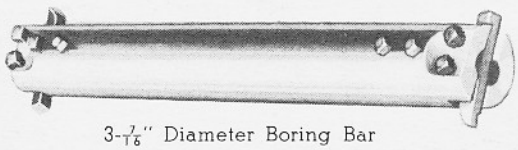
2-Master Drill Sockets



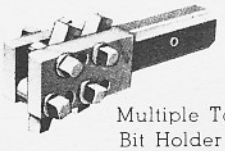
2-Tool Posts for Hexagon Turret

Note—Four flanged tool holders furnished with machine

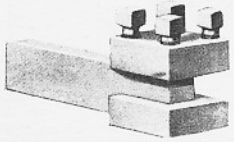
Supplementary Chucking Equipment



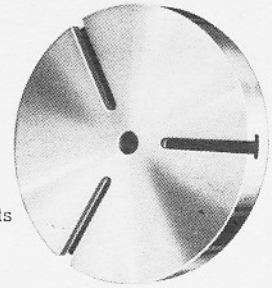
3-$\frac{7}{16}$" Diameter Boring Bar



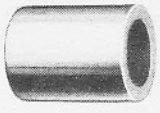
Multiple Tool Bit Holder



Plain Tool Bit Holder

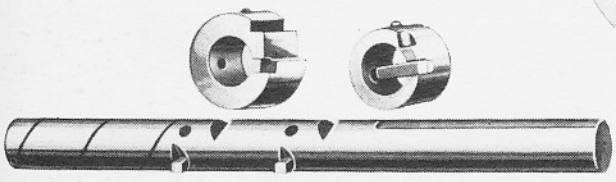


Face Plate With Tee Slots

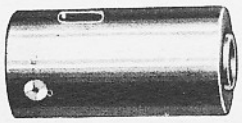


1-Spindle Bushing

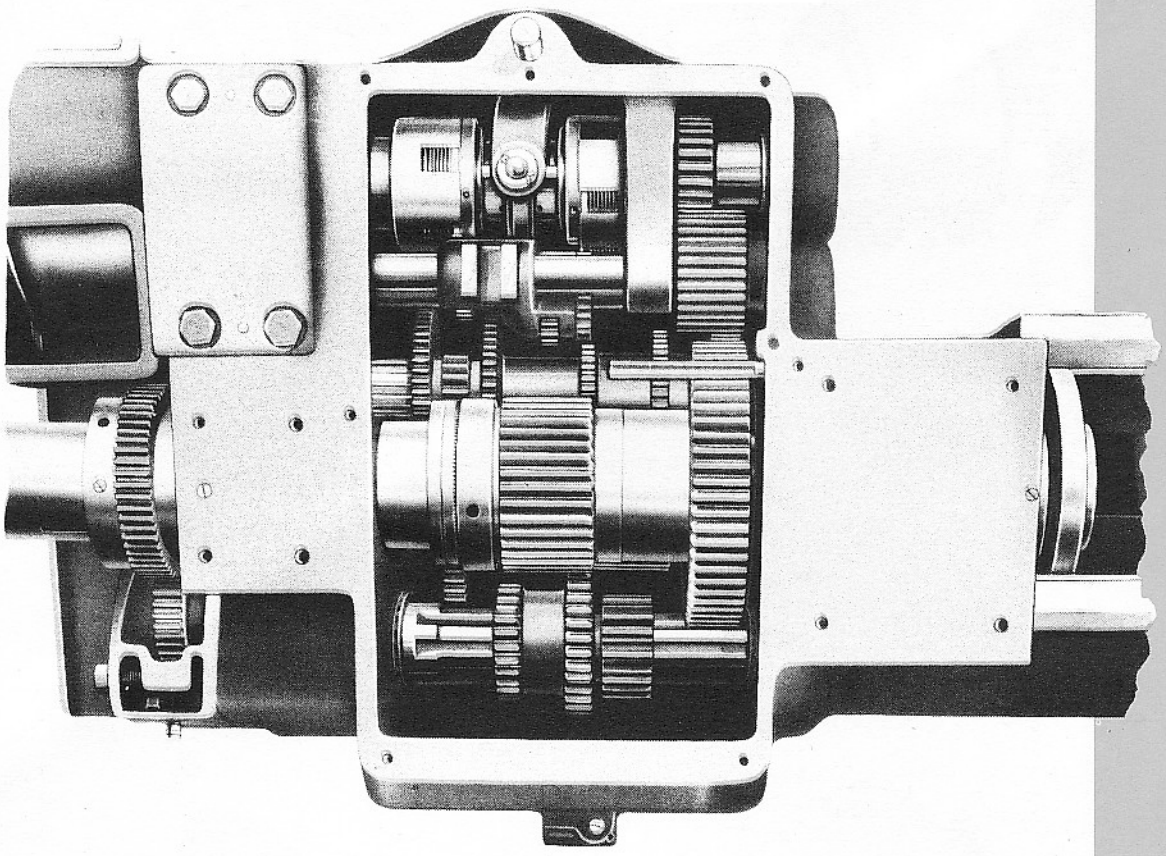
Taper Drill Sleeves



Piloted Boring Bar With Cutter Heads



Floating Reamer Holder



Head and Bed

Head and Bed are combined into one rigid, well-braced casting. It is cross-ribbed the entire length, and so designed that the greatest loads are carried without vibration. It is further provided with two hardened and ground steel vees of extreme hardness which are tongued, grooved and rigidly bolted from underneath. New positive type metal wiper and felt oilers keep these vees clean and well oiled.

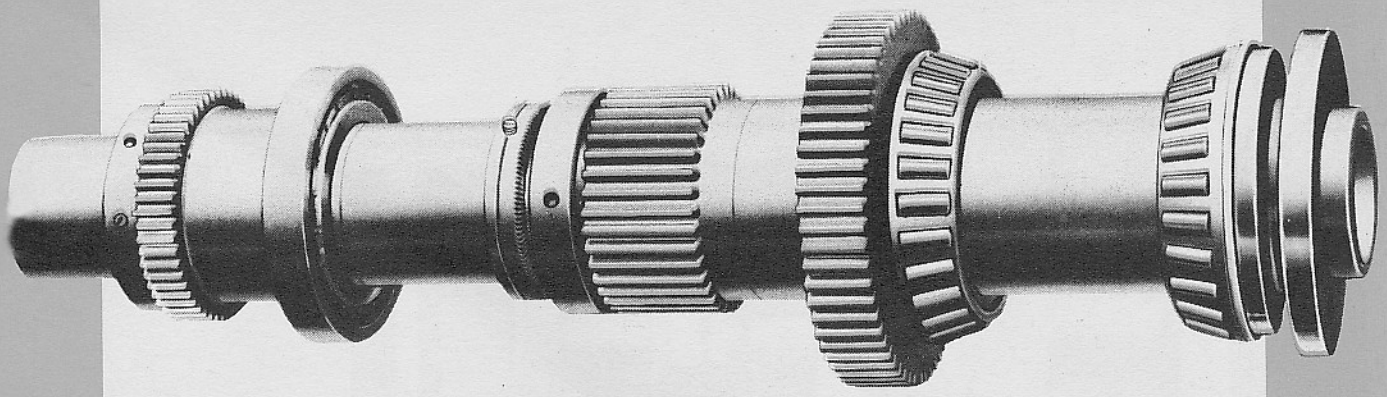
Quiet High Speed

Quiet High Speed Transmission consists of alloy steel solid cluster gears hardened and lapped. This construction eliminates keys, pins and screws which are objectionable in a rugged drive. The sliding gears are mounted on multiple splined hardened ground shafts. These rotate on anti-friction bearings which are fitted in holes jig bored into solid walls of the bed casting.

Twelve reversible spindle speeds are available. These are obtained by means of a two-lever selector system extremely simple and quick in operation. Each lever position indicates the speed at which spindle is turning. Levers are automatically locked in position by virtue of their own weight. No springs or plungers are used.

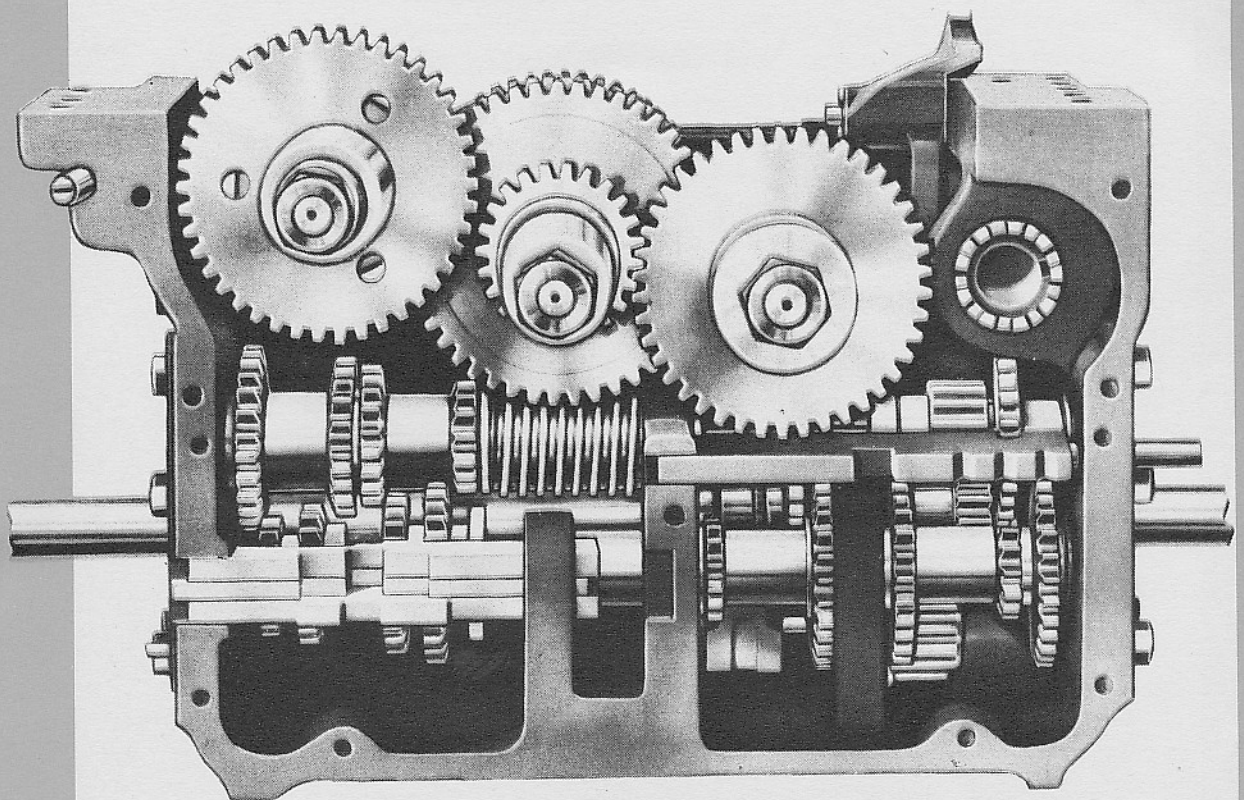
Lubrication is by splash and pump system . . . very positive in action. A visible oil gauge indicates oil level at all times.

The spindle is started, stopped and reversed by a directional control lever, which, when in the neutral or stopping position, brings the spindle to a smooth, quick stop.



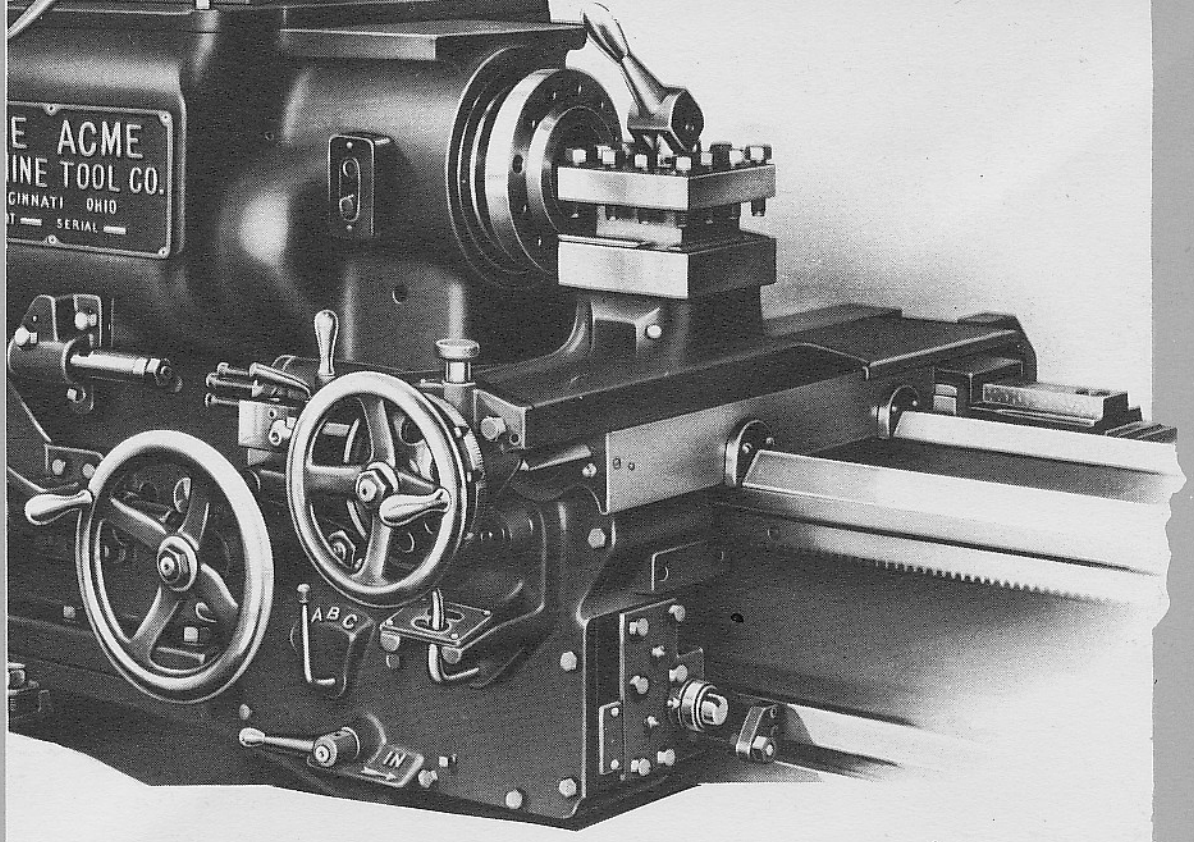
Spindle

Spindle is mounted on precision roller bearings so designed that all end play is accounted for in the front set of bearings. The rear bearing (straight roller type) is arranged to compensate for spindle elongation because of expansion through heat, thereby providing a spindle free of end play . . . essential for accurate facing cuts. The roller bearings receive a copious supply of filtered oil at all speeds. All spindle gears are keyed to and revolve with the spindle, eliminating the troublesome feature of oiling loosely revolving parts. The material is of high carbon forging accurately ground. Spindle nose is of standard flanged type. Air or electrically operated chucks can be applied at extra cost.



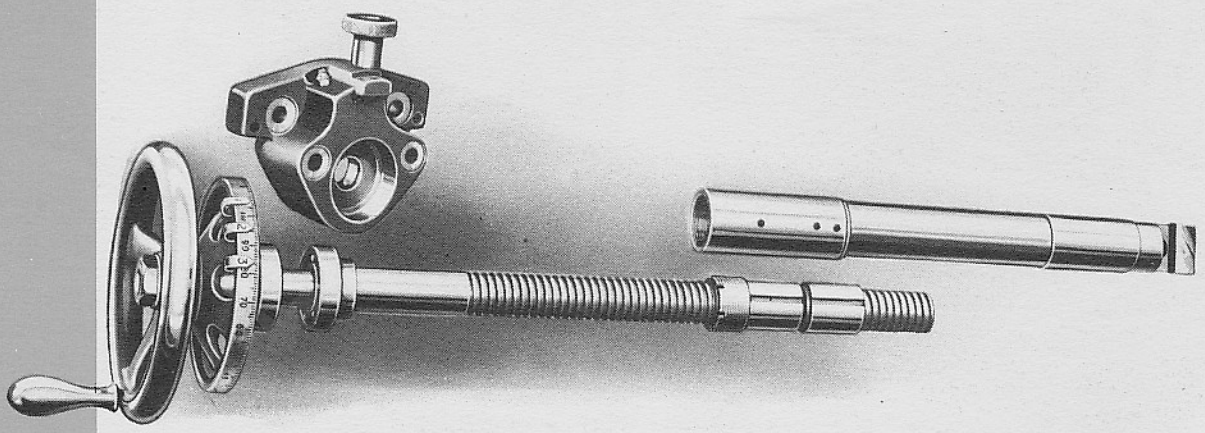
Feed Transmission

Aprons are fully enclosed, with removable front plate. Twelve independent reversible feeds are provided in both carriage and main turret aprons, eliminating necessity of operator leaving his operating position for the selection of feed. The feed selector levers are provided with direct reading feed plates which show the rate of feed. Sliding gears are of hardened steel mounted on multi-sided shafts which are mounted on anti-friction bearings. The shafts are further supported in the center, adding great strength under heavy cuts. Rack pinion is of special alloy steel, hardened, and supported by roller bearing. Bearings are lubricated by grease under pressure.



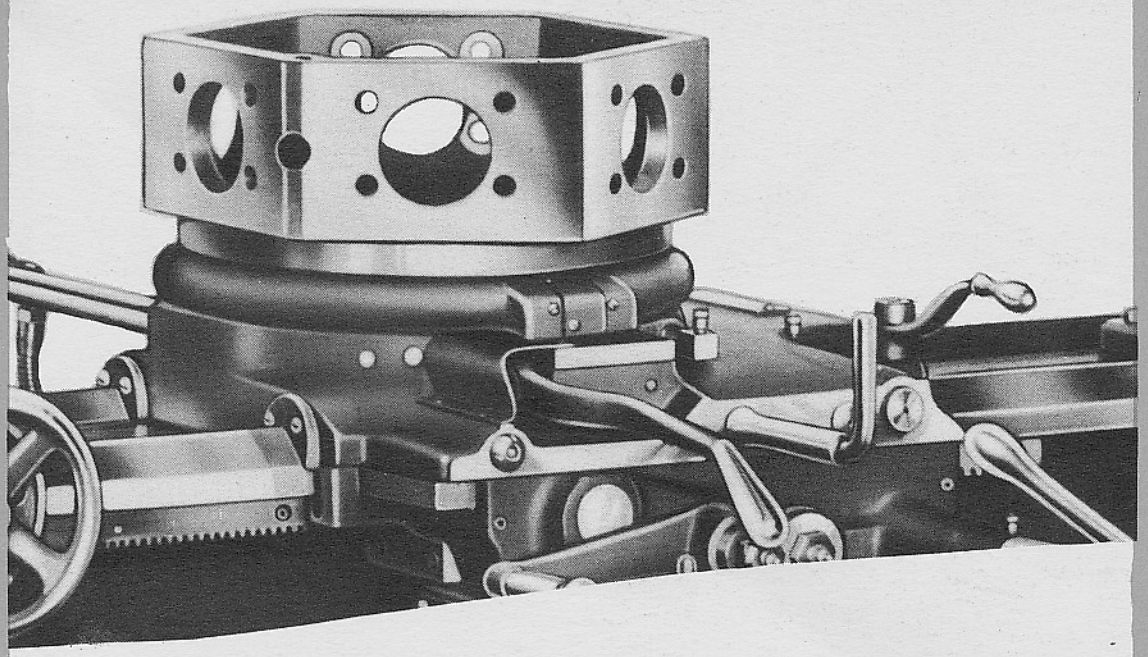
Square Turret Carriage

Square Turret Carriage is unusually rigid. The saddle bears on and is gibbed to both vees. A third taper gib is provided at the front of bed. This construction entirely eliminates vibration regardless of position or severity of cuts. The cross slide is held to saddle by inverted dovetail, gibbed for adjustment. The longitudinal movement and cross movement have independent binders. The steel square turret has an accurate quick indexing arrangement in either direction. The operating lever is moved in a vertical plane. This permits working close to main turret without interference. The turret is not lifted off its bearing seat while indexing. Six adjustable longitudinal stops are contained in a spool conveniently located at the top of saddle. An adjustable cross slide stop can be furnished. Steel vee guards are provided on spindle side of carriage for protection against chips and dirt, and to guard against accidents while chucking. Carriage will clear 14" diameter, and may be parked close to headstock for work requiring main turret only.



Cross Feed Screw

Cross Feed Screw is mounted on anti-friction bearings and provided with large graduated dial having adjustable number indicators. Adjustable twin cross screw nuts compensate for wear and eliminate all back lash.

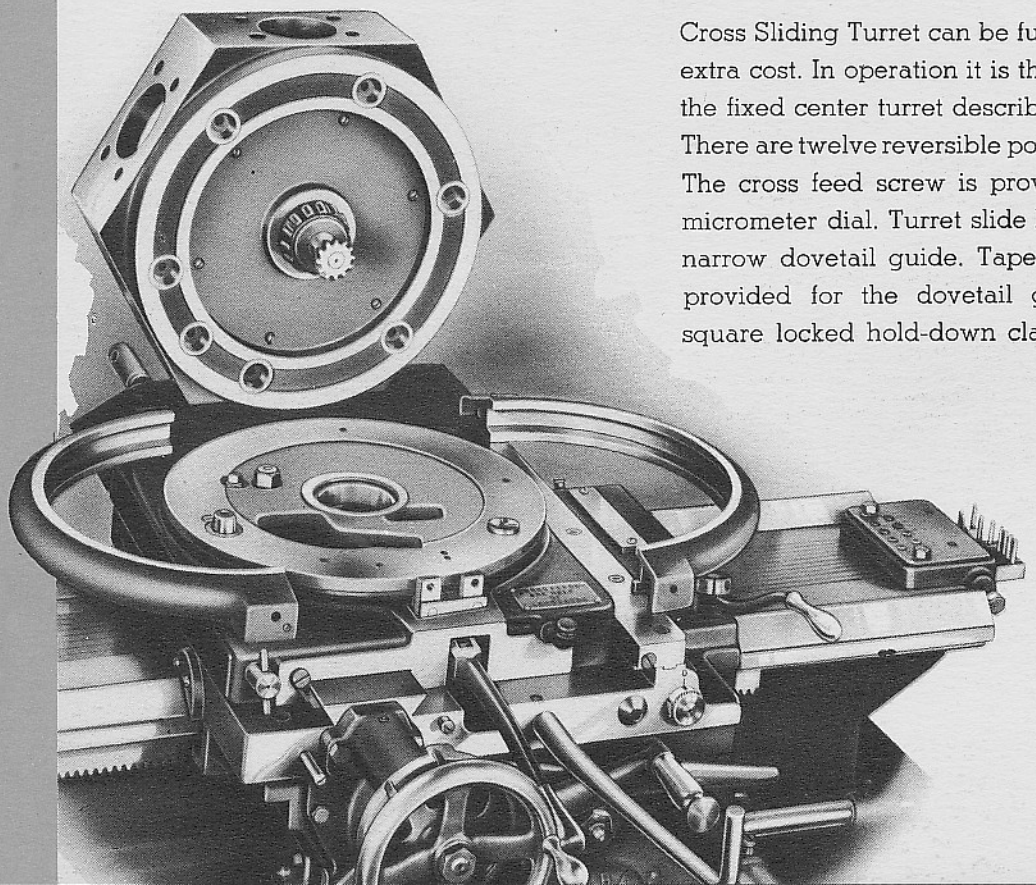


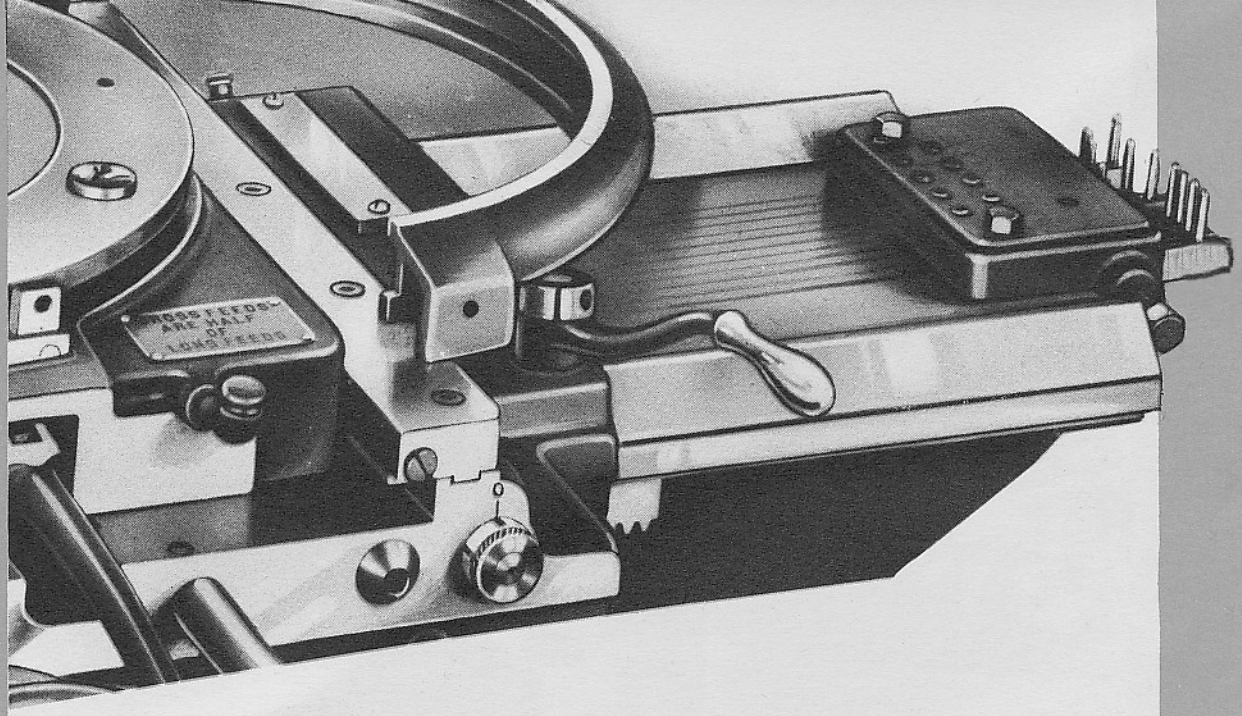
Main Turret

Main Turret is of the hollow hexagon type with heavy, accurately machined side walls. The turret rests on a large flat bearing surface on the saddle. The turret and saddle each have a beveled flange, surrounded by a steel clamping ring which is opened and closed by a powerful self-locking toggle mechanism operated by the lever at front of turret. This clamping action withstands the cutting strains without the aid of the lock bolt. The lock bolt and bushing are made of special steel, hardened, ground and lapped. One handle unlocks the clamps and withdraws the lock bolt. The turret can then be indexed in either direction. The center stud is provided with taper roller bearing for which adjustment is provided to compensate for wear.

Cross Sliding Turret

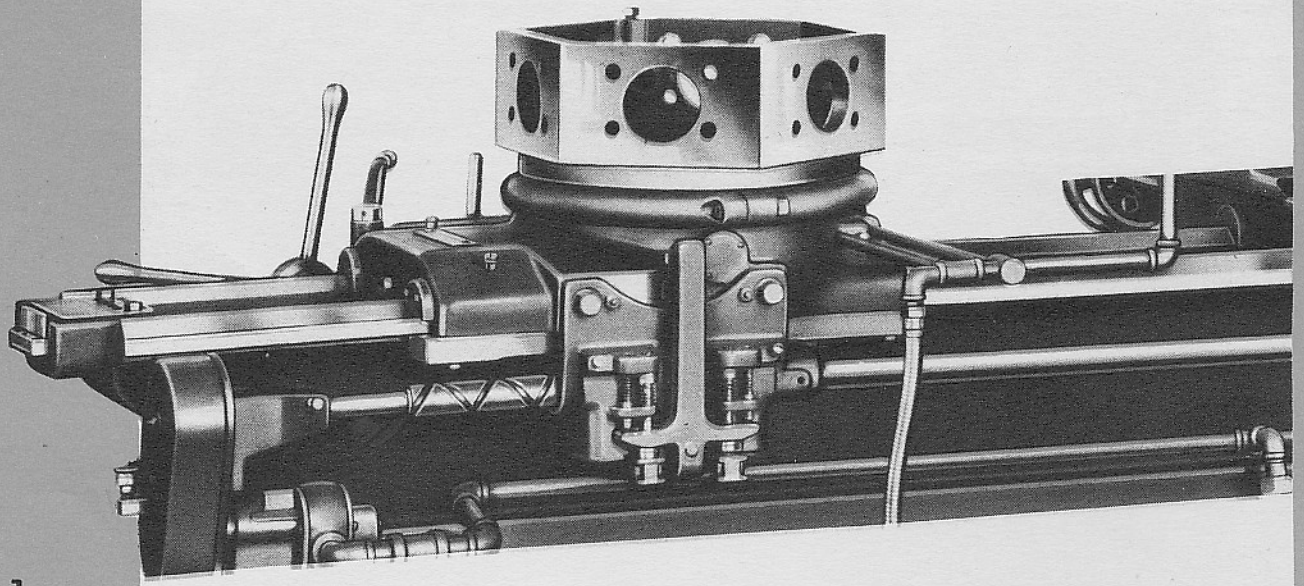
Cross Sliding Turret can be furnished at extra cost. In operation it is the same as the fixed center turret described above. There are twelve reversible power feeds. The cross feed screw is provided with micrometer dial. Turret slide has a long narrow dovetail guide. Taper gibs are provided for the dovetail guide and square locked hold-down clamp.





Feed Stops

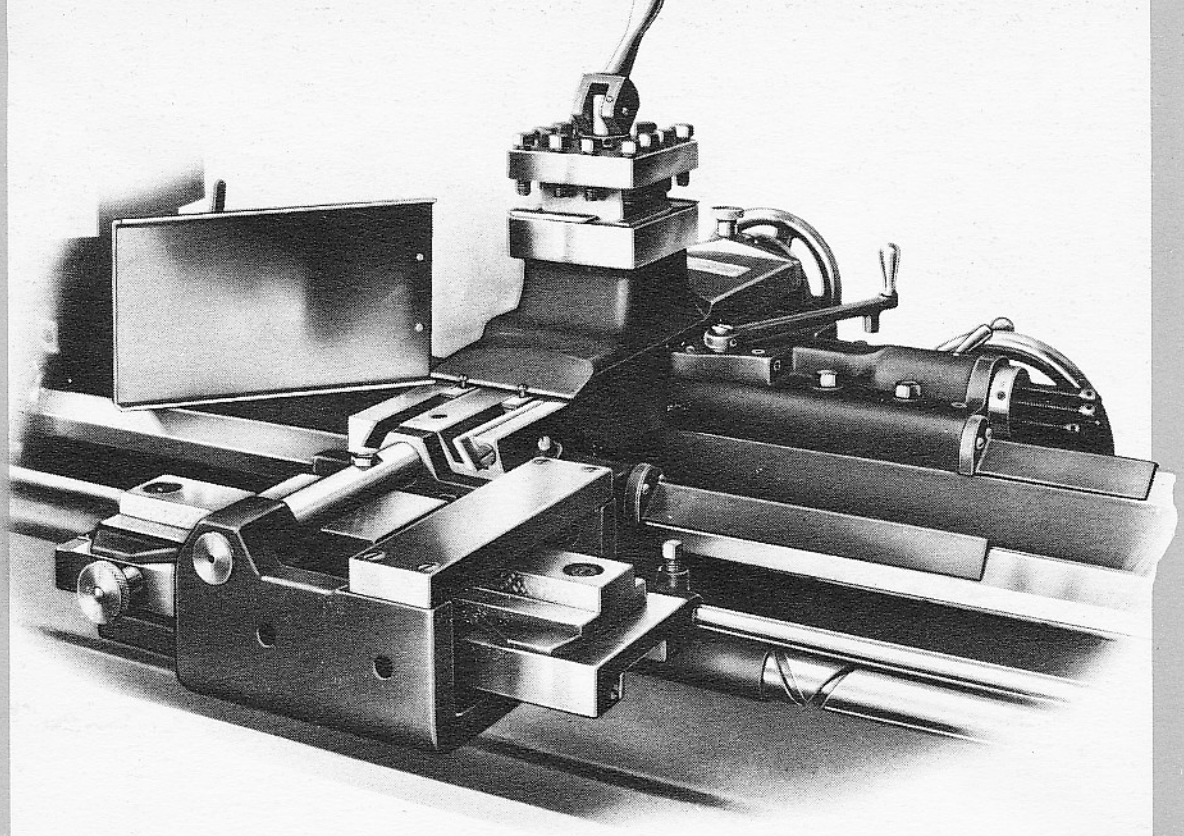
Ten long feed stops are provided for the main turret. Stop numbers 1 to 6 are synchronized with the six turret stations and operate automatically with indexing of turret. Stops 7 to 10 are auxiliary stops used only when more than one stop for any turret face is desired. The auxiliary stops become operative by turning the knurled dial at the front of carriage. The original set-up of stops 1 to 6 is not altered when using auxiliary stops. This feature saves set-up time where a cut-in on a run of work is desired. All stops are quickly and easily set. The corresponding trip underneath the turret contacts the bar in bed which, when free, will traverse with turret until stopping point is reached. At this point one screw is tightened and stop is set.



Rapid Traverse

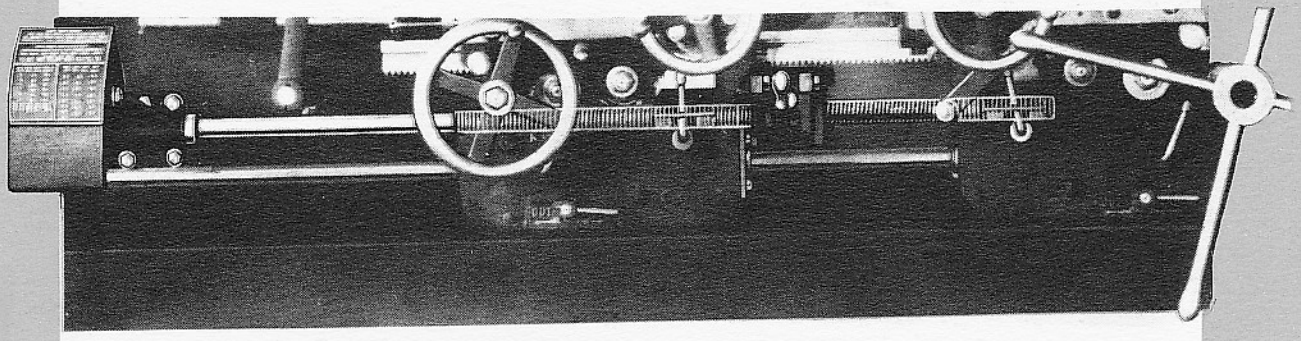
Rapid power traverse to main turret is provided in either direction (longitudinally). The drive is by frictions which are controlled by the lever projecting vertically at front of carriage. Moving this lever to right or left moves the turret quickly in the desired direction. The operating lever also automatically disengages feed and turnstile, rendering both inoperative while rapid traverse is in motion. A steel tube protects the driveshaft against dirt and chips.

The above cut also shows pump system for coolant. This consists of a geared pump of large volume . . . chain driven from rapid traverse shaft. A disengaging clutch is provided when coolant is not required.



Taper Attachment

Taper Attachment (furnished at extra price) can be attached at any time. The bearing surfaces are all square locked and slide with a minimum of resistance. The main bracket is "U" shaped and tied at the top. This eliminates all overhang. The standard attachment has a range of 3" taper per foot, 12" turning length. Special tapers can be furnished. (Prices on application.)

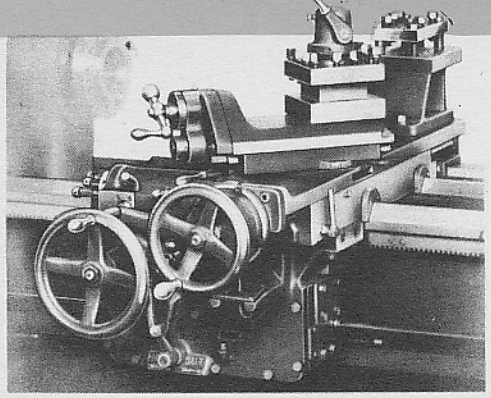


Chasing Attachments

Chasing Attachment (furnished at extra cost) is of the four-pitch lead-screw design. The screw is held in a bracket bolted to the head of the bed and rotated by a train of change gears taking their power from the feed box. Various pitches are obtained by additional change gears. Left hand threads are cut by the addition of an idler gear in the gear train. The hinged cover and guard provides easy access to the change gear train.

The bracket, which carries the handle, half nut and threading dial, is interchangeable on either of the aprons. This makes it possible to use either of the turret units for internal or external chasing or for leading taps and dies. The lead screw is of such length as to cover the entire operating range of the machine.

Gears for 4, 8 and 16 . . . either right or left hand threads . . . are part of the attachment. Gears for additional threads can be furnished extra as follows: 1 gear for both 5 and 10 pitch; 1 gear for both 6 and 12 pitch; 1 gear for both 7 and 14 pitch; 1 gear for both 9 and 18 pitch, and for each of the following sizes, 11, 11½, 13, 15 and 20 pitch, an additional gear is required. Special arrangement may be made for pitches not listed.



POWER COMPOUND SLIDE (Extra Cost)

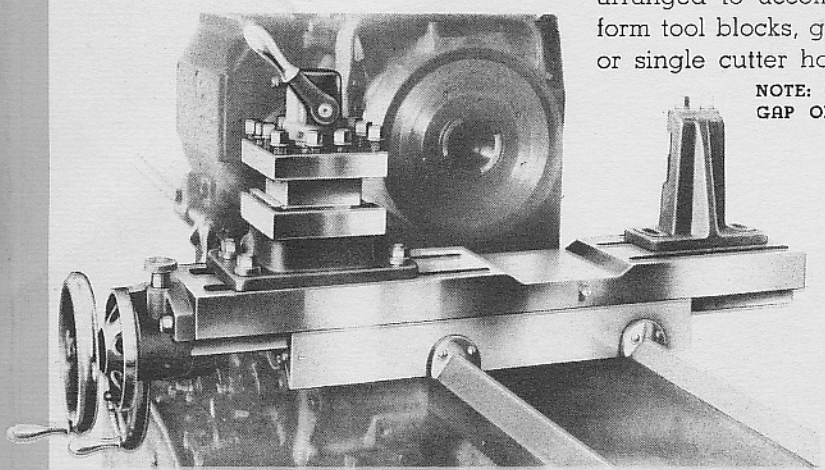
This compound slide is special and must be ordered with the machine. Power feed in any position through 360° is provided. The compound slide is of cast steel and is rigidly mounted on a dial graduated swivel base. The power feed to the compound slide is independent of the extended cross slide drive. The square turret is made from a solid steel block, can be quickly indexed in either direction. It is provided with rocker wedge cutter seats which are essential for quickly setting cutter on center. A varied position cutter plate is provided for the rear of extended cross slide.

When provided with extended slide and cutter plate (as shown) cost is slightly higher

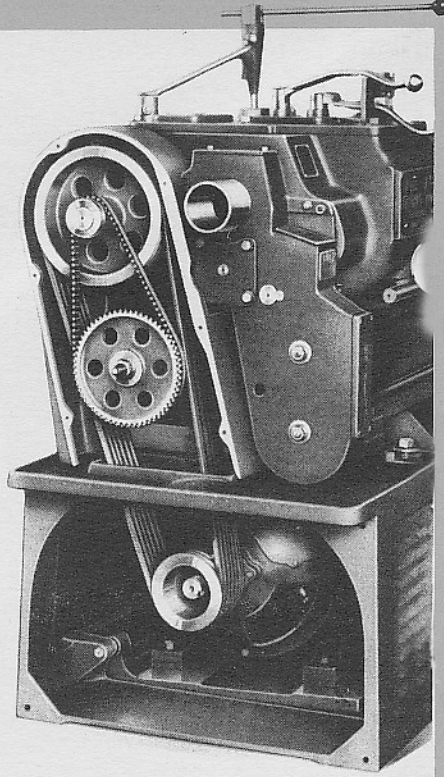
EXTENDED SQUARE TURRET CROSS SLIDE (Furnished at Extra Cost)

The extended square turret cross slide may be furnished for all Universal machines. The slide is of unusual length and provides ample clearance to avoid interference between the tools mounted on the rear base and those mounted on the hexagon turret.

An open side rear tool post is regularly furnished. The rear base is arranged to accommodate heavy form tool blocks, gang tool blocks or single cutter holders.



NOTE: 11⅛" SWING OVER GAP OF EXTENDED SLIDE



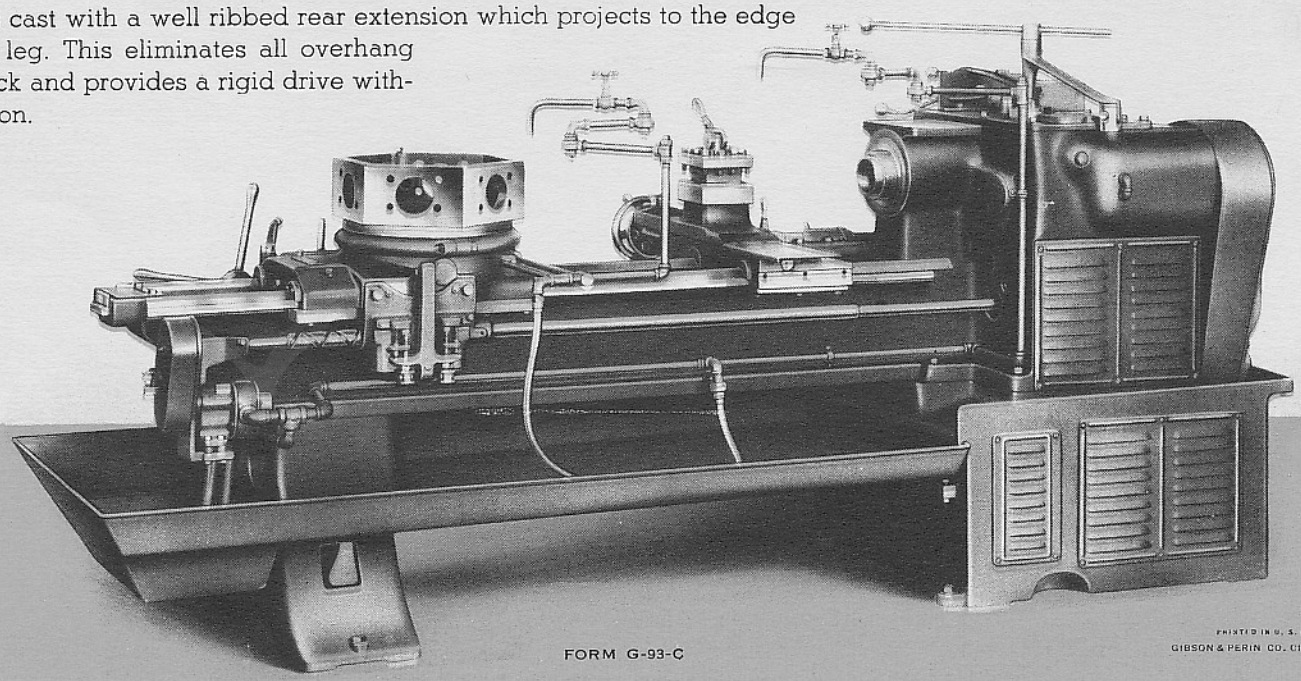
MOTOR DRIVE

Motors shall not exceed 19" height, 28" length, not including shaft dimensions. Speed 1200 R.P.M. Motors 1450 R.P.M. not exceeding 16½" can also be used. These motors will be mounted on a hinged base plate inside of cabinet leg, driven by multiple vee belt. Arrangement for adjusting belt tension on outside of leg.

Motors recommended: Medium duty —7½ H.P., 1200 R.P.M. Heavy duty —10 H.P., 1200 R.P.M.

Countershaft drive optional.

Below is illustrated a change from the conventional design of headstock. The bed is cast with a well ribbed rear extension which projects to the edge of cabinet leg. This eliminates all overhang of headstock and provides a rigid drive without vibration.



FORM G-93-C

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