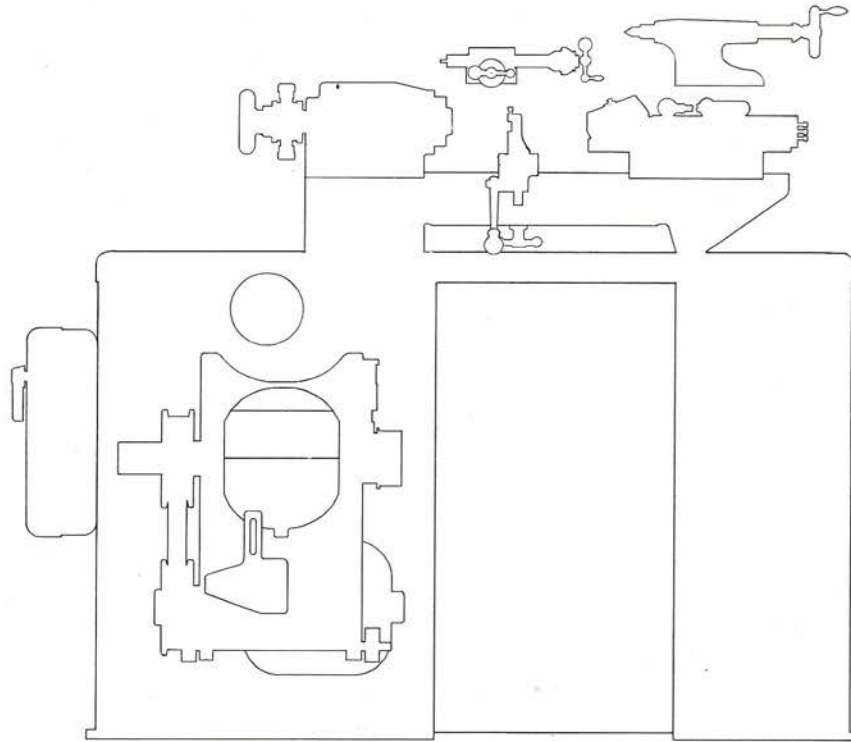


Wade

73

THE WADE TOOL CO. WALTHAM 54, MASS., U. S. A.

PAGE INDEX



SPECIFICATIONS

Collet Capacity	1"
Swing over Bed	7"
Distance between centers	15"
Length of Bed	34 1/2"
Swing over Cross Slide	4 1/4"
Swing over Compound Slide Rest	4 3/8"
Tailstock Travel	3 1/4"
Turret Travel	5"
Tailstock Taper	#2 Morse
Spindle Nose	American A2-3"
Spindle Speeds Forward	100 to 3500 RPM
Spindle Speeds Reverse	340 to 2400 RPM
Slide Rest Travel	4 1/4"
Tool Size	3/8" x 1/2"
Weight with Drive mounted on Cabinet	985#

Wade Lathes are designed and manufactured to achieve precision accuracy. They fill the need for sensitive and extremely accurate machines for both production operations and toolmaking. Because of the development of many tools and attachments for these lathes, a wide variety of work can be done in the manufacture of small parts, fine tool and instrument work.

Attachments are designed to permit handling different kinds of machining operations within close precision tolerances.

The Wade Model 73 should be considered where the requirement of a high speed production machine, easily set up within a minimum of time and sustained close tolerance work is required. It is specifically designed for secondary and repetitive operation work where ease of operation is a factor for consideration.

Wade manufactured Lathes are built by craftsmen to work within the most exacting tolerances and to give years of carefree performance.



The Wade Self-Centering Bed is an alloy cast mechanical, which is hardened and ground. The ways consist of two symmetrical beveled sides which are used for balanced precise alignment of all attachments for the Lathe.

This is the time tested principle that has produced the accurate work for which the precision Lathe is famous. The Self-Centering Bed has a three point contact with the Pedestal Cabinet to eliminate any tendency of distortion, with extra wide support at the head end. Pedestals are placed in from the ends to make an equal distribution of weight of the Bed, Headstock, Tailstock and Slide Rest or other attachments, such as the Double Cross Slide or Turret.

HEADSTOCK BEARING



The Spindle runs in precision, anti-friction, heavy duty SKF bearings. All bearings are under a slight preload. The double row cylindrical roller bearings supports the spindle as close to the nose as possible and takes the radial load. The thrust load is taken on a matched pair of angular contact bearings mounted at the rear of the spindle.

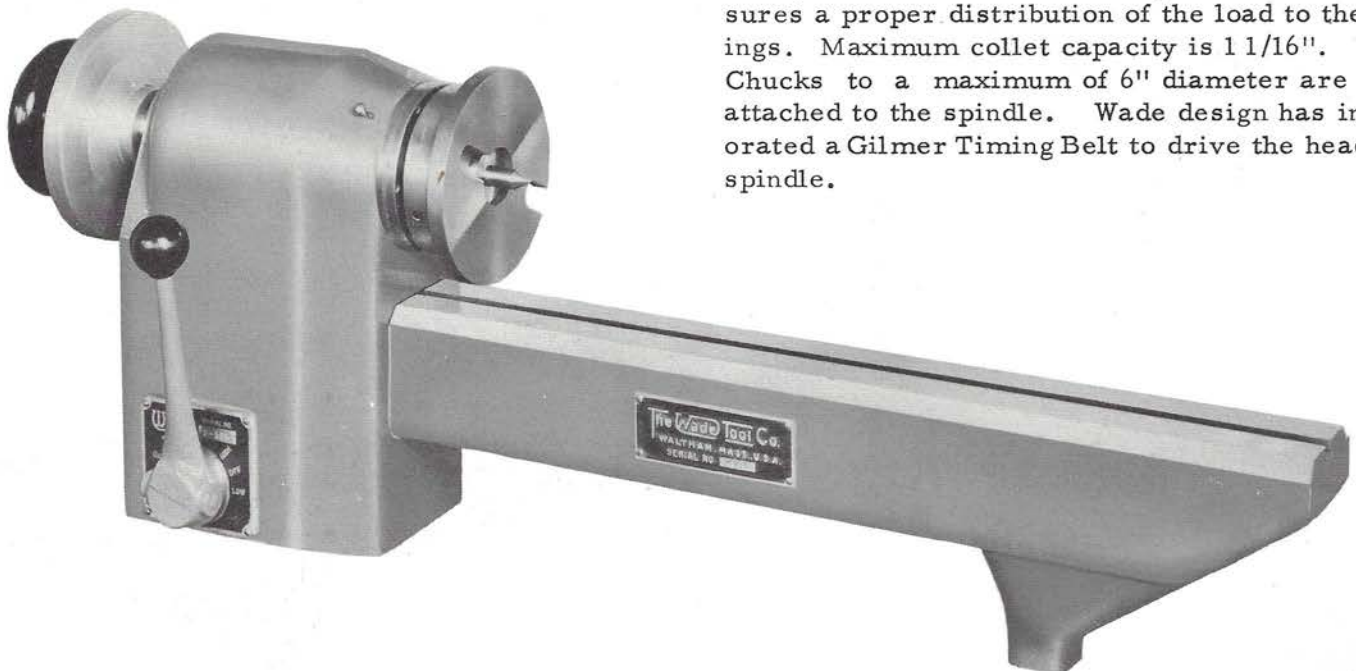
HEADSTOCK SPINDLE

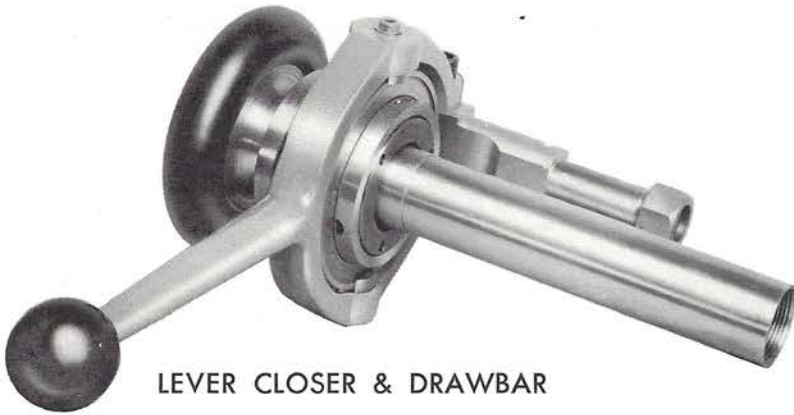


Material is SAE 52100 steel forging, the same type of steel as used in the manufacture of ball bearings. It is hardened to approximately 60 to 62 Rockwell C on all bearing surfaces. It is then ground and fitted to master gages. The nose is an American Standard 3" A2, with the exclusive Wade thread-lock feature. The design provides for the positive clamping and driving of face plates and jaw chucks. A clamping ring draws the plate or chuck on to a taper and against the flat on the face of the spindle, securely locking them to the bearing surfaces.

STANDARD HEADSTOCK

It is a solid casting that totally encloses the spindle and bearings. The drive pulley is mounted on the spindle between the bearings. This design assures a proper distribution of the load to the bearings. Maximum collet capacity is 1 1/16". Step Chucks to a maximum of 6" diameter are easily attached to the spindle. Wade design has incorporated a Gilmer Timing Belt to drive the headstock spindle.





LEVER CLOSER & DRAWBAR

Production operation requires instant opening and closing of collets or step chucks, regardless of whether the headstock spindle is running at speed or stopped. To that end the Ball Bearing Collet Closer actuates three fingers which open or closes the collet or step chuck instantly. The draw-bar handwheel may be adjusted to an infinite variety of collet adjustments and clamped securely to facilitate the opening of the collet upon release of the lever closer.

The Wade #8 Collet is the ultimate in draw in type collets. The collets are ground after hardening on all bearing surfaces. Even the thread is ground from the solid after hardening. The buttress thread presents a mating surface at right angles to the force, thus resisting the expanding tendency common to V thread collets. The 5C type Collet is available instead of the No. 8 type when the Lathe is originally ordered to be so equipped.

COLLET



SCREW MACH. HEADSTOCK



The Production type headstock is exactly the same bearing construction as the Standard Precision type described on page 4.

The handwheel has been replaced by the Lever Collet Closer and the Dog Face Plate by an oil guard.

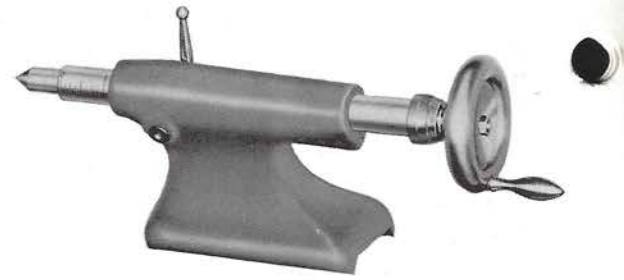
The Tailstocks are designed for rugged accurate work with the utmost sensitivity. Hand Scraped to exact alignment with the headstock the self-centering feature insures accurate line-up with the headstock regardless of clamping pressure. The offset type provides maximum clearance.

The Spindles are hardened, ground and honed to fit the tailstock body and designed in such a way as to provide a full length bearing regardless of how far it is extended.

The Screw Feed Tailstock has a large Acme thread in a long bronze nut. A knockout plug automatically ejects center from the ground taper hole when the spindle is drawn back to the limit. The thrust is taken on a ball thrust bearing thus insuring sensitivity at all load conditions. The spindle is graduated in sixteenth of an inch and the screw feed is provided with adjustable micrometer dial graduated in thousandths of an inch.

The Lever Tailstock is useful on short run production jobs. The standard screw tailstock can be readily converted to the lever type or back to the screw type in a few moments.

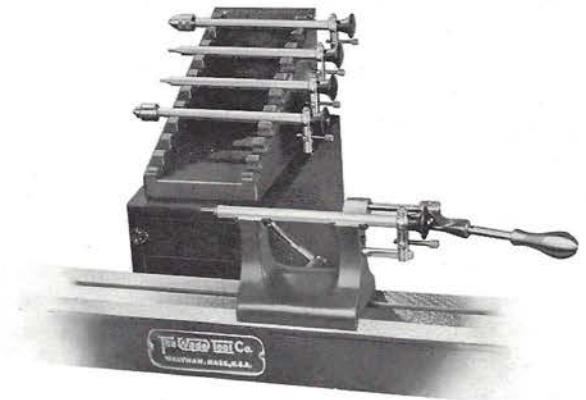
The Half-open Tailstock is made to receive rapidly one or more tool spindles with tool all set for certain operations. Resting on hardened steel, ground and lapped bearings this makes a simple method of obtaining absolute accuracy in light manufacturing.



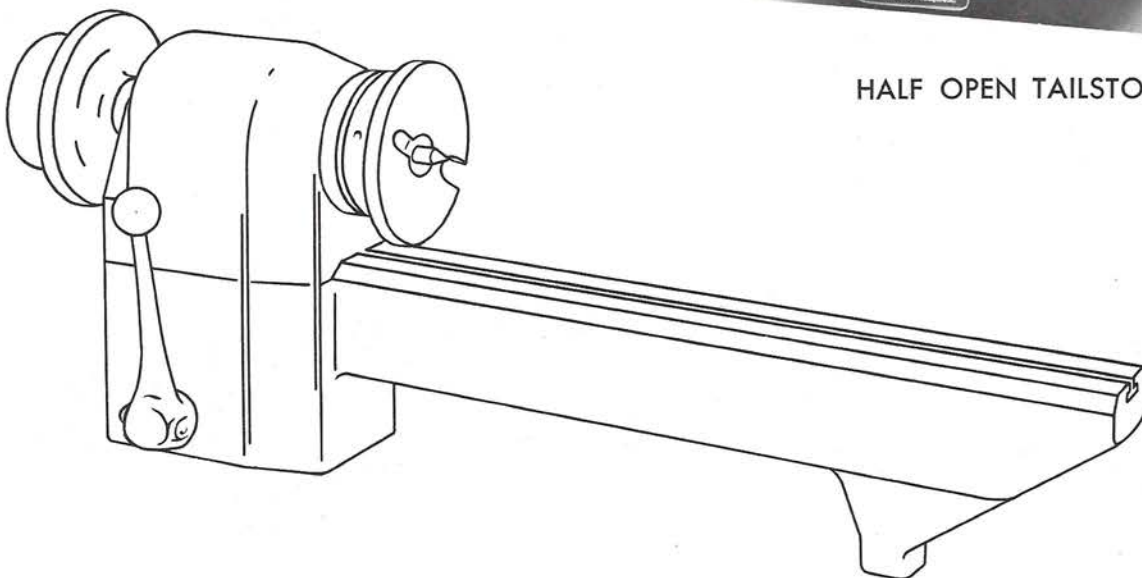
TAILSTOCK



LEVER TAILSTOCK



HALF OPEN TAILSTOCK



The Wade Open Side Tool Post provides the flexibility of the standard arch type with the rigidity of the conventional open type. The Tool is positioned on a rocker and clamped in place by a single screw for tool work or clamped by auxiliary screws for production work.

The great advantage of the Open Side Tool Post is that it makes it possible to bring the tool up to the closest possible point to the Spindle Nose or chuck holding the work without interference. Due to its construction it also has greater holding power than the arch type of Tool Post.

OPEN SIDE TOOL POST



COMPOUND SLIDE REST

The attachment of most universal importance is the Compound Slide Rest. The advantage, in the use of these slide rests, is in the ease with which they can be put on or taken off the Lathe. Each feed screw is equipped with a large micrometer dial graduated in thousandths of an inch, which may be instantly revolved to any desired starting point.

The feed screws are made from hardened alloy steel and the large diameter acme threads are ground after hardening. Both screws are supported in and the thrust is taken by ball bearing, thus insuring ease of operation and sensitivity of control.

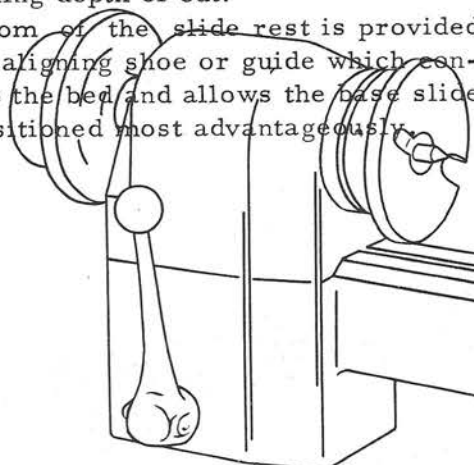
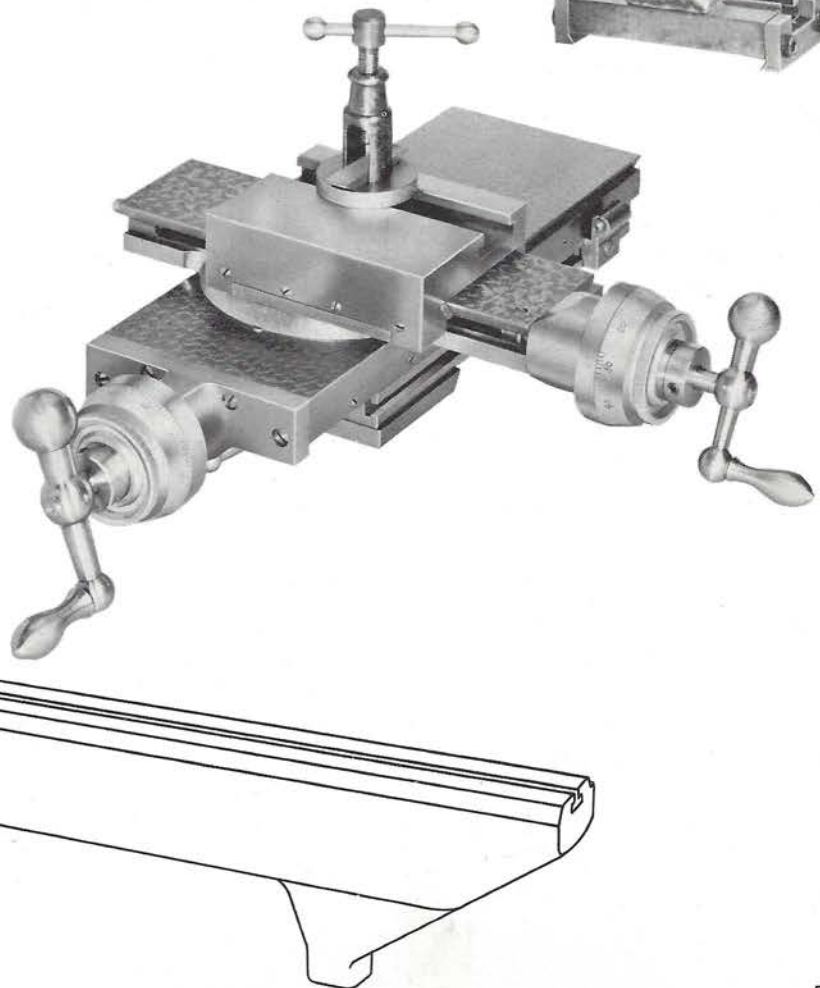
The long full bearing top slide is mounted on a swivel graduated in degrees, which permits the cutting tool to be fed at any angle, such as in turning or boring tapers. The top slide has an extra bearing surface under the projecting tool.

On the base slide, usually set across the lathe, an adjustable stop is provided for maintaining depth of cut.

The bottom of the slide rest is provided with an aligning shoe or guide which conforms to the bed and allows the base slide to be positioned most advantageously.

REAR TOOL STATION

The Wade Rear Tool Station adapter and tool block can be easily installed or removed. In many cases it is possible to leave a cut-off tool in position continually thus saving tool changing.





TURRET TOOL POST

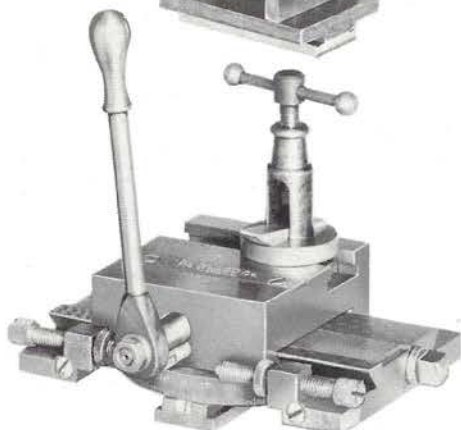
The Turret Tool Post mounts in place of the standard tool holder. Tool bits 5/16" are used.

Counterclockwise rotation of the handle unlocks the turret and indexes it to the next position. To complete the cycle, the turret handle is drawn toward the operator until securely clamped in position. Because the accuracy of the turret is not dependent upon sliding bolts or pins, it will repeat to within .0002".

MULTIPLE TOOL BLOCK



Used on the swivel slide to replace the front tool holder. Its open ends allow up to 4 standard tool bits to be positioned to perform such operations as forming, facing, turning multiple diameters, in many cases eliminating the necessity of using expensive form tools.



SWIVEL SLIDE

The Swivel Slide is usually mounted on the front of the Double Cross Slide for straight or taper turning. It can also be mounted on the rear of the Cross Slide by the use of a standard adapter plate.

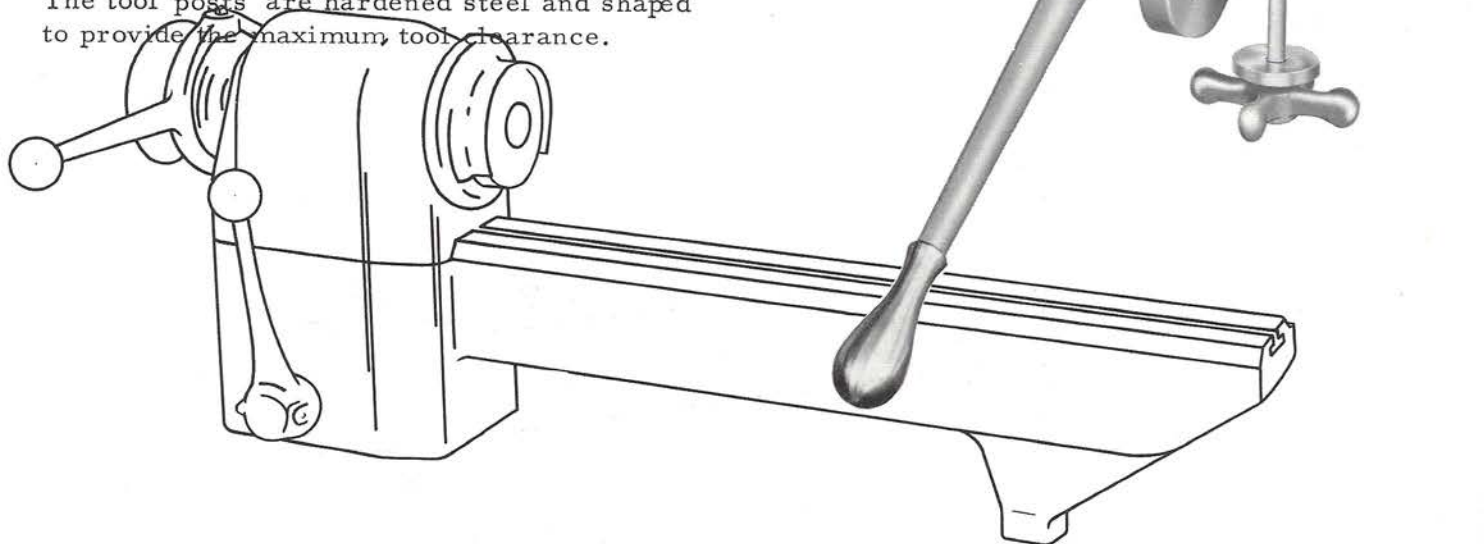
The Slide has a movement of 2 1/2" and is equipped with adjustable stops.

DOUBLE CROSS SLIDE

The Double Cross Slide is actuated by a rack and pinion, carefully guarded to keep out chips.

The operating lever is adjustable radially to the most convenient operating position. Adjustable stops are provided for accurate control of the cut.

The tool posts are hardened steel and shaped to provide the maximum tool clearance.

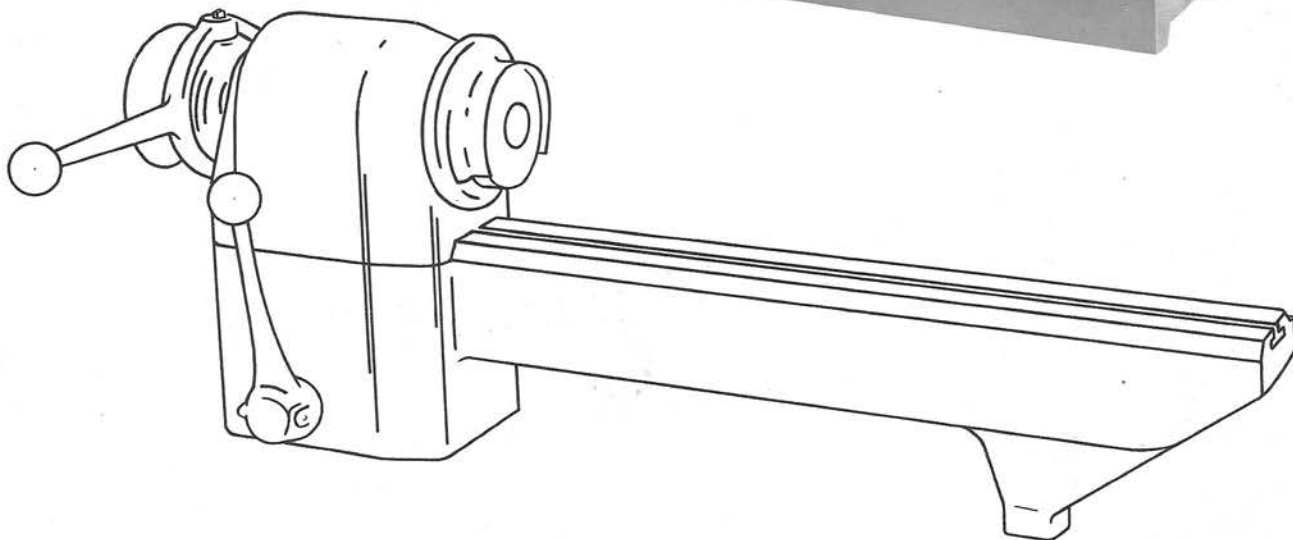
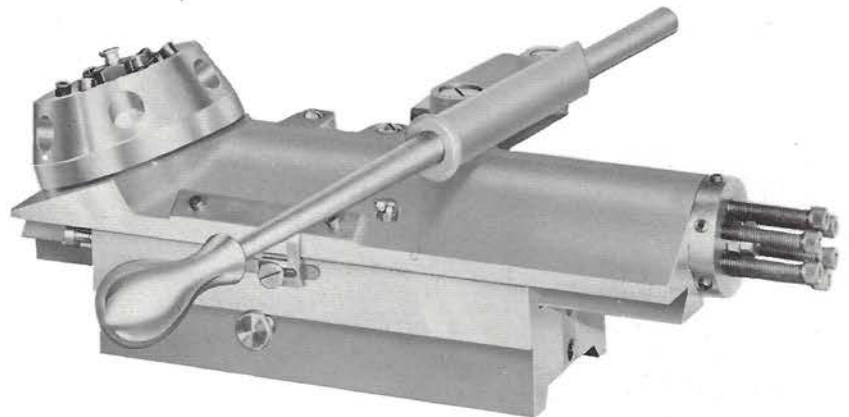
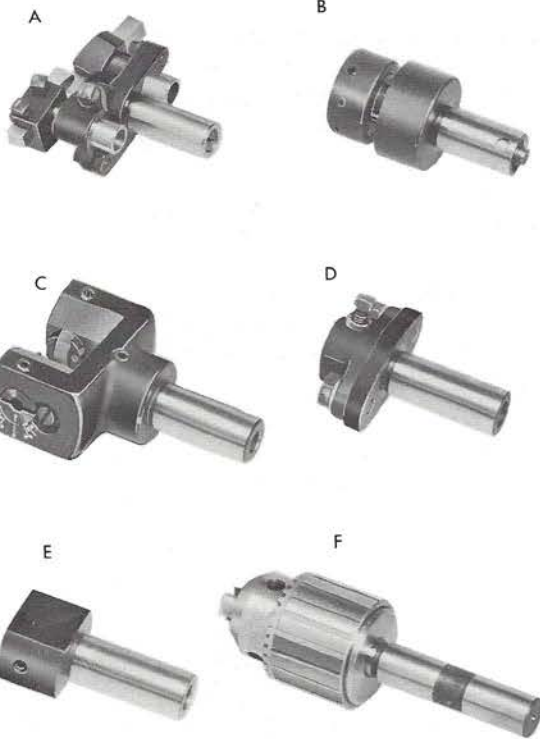


- A Box Turning Tool
- B Releasing Tap Holder
- C Knurl Holder
- D Floating Holder
- E Drill Holder
- F Drill Chuck

TURRET ATTACHMENT

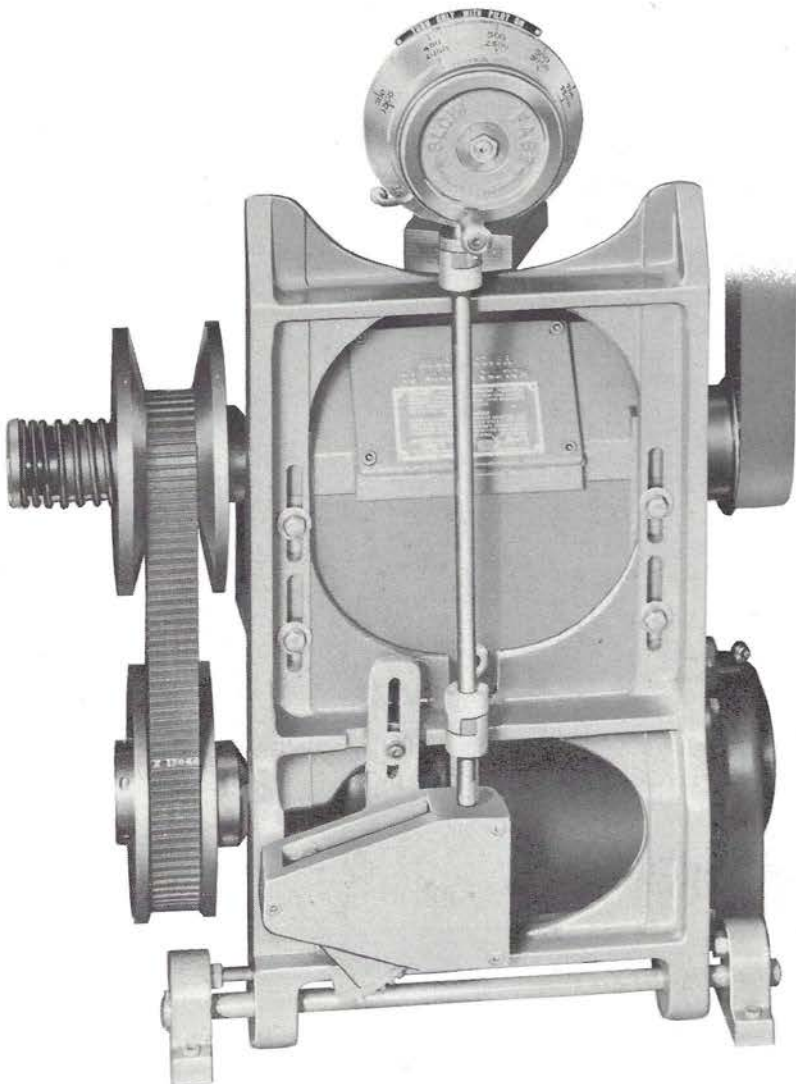
The six station turret has a tilted head in order to clear tools as they are indexed. The holes in the turret head are either 3/4" or 5/8" in diameter and 1 1/2" deep. The six independently adjustable stops index automatic with the turret head. Operation of the Hand Lever automatically unlocks the turret head, indexes it to the next station, and clamps it. When the ram is flush with the front of the turret base, the turret head may be revolved freely -- in either direction -- to any desired tool position. The length of the hand lever is adjustable to suit the convenience of the operator.

The ram has a working travel of 4 1/4", the indexing travel is 1" -- making a total movement of 5 1/4". The dovetail bearing surfaces of the slide are scraped-in for enduring accuracy. To enable the maintenance of correct alignment, each side of the slide dovetail has a long, adjustable taper gib.



MULTI RANGE VARIABLE SPEED DRIVE

The Wade designed and engineered Variable Speed Drive offers a complete range of spindle speeds from 100 to 3500 RPM in the forward direction and from 350 to 3500 RPM in reverse. It is powered by a 1 HP single speed motor which drives two variable pitch pulleys. The Variable Speed is obtained by changing the pitch diameter of these two pulleys. They are coupled to a box that totally encloses three countershafts on which are mounted heat treated and shaved helical gears, one double clutch for high-low spindle speeds and a single clutch providing a mechanical reverse. High-low spindle speeds are in ratio of 5 to 1, and the single lever mounted on the lathe bed not only controls these speeds but also actuates the mechanical reverse. The single lever has two neutral positions at which point the operator pulls the lever toward him actuating linkage which brakes the headstock spindle. At no time is it necessary to stop and start the motor in order to stop and start the headstock spindle. The drive is completely anti-friction, totally enclosed and running in oil.



Selective variable speeds for the Headstock Spindle are controlled by a graduated dial handwheel mounted on the front of the Pedestal Cabinet. Graduations indicate high and low spindle speeds and reverse. Approximately 9 turns of the handwheel covers the entire range of speeds.

The Headstock Spindle is driven by a Gilmer Timing Belt. It is a cogged tooth belt which provides a positive drive and a smooth running spindle entirely free of vibration and slippage.

The motor control is completely enclosed and mounted on the side of the Pedestal Cabinet and protects the motor against any overload. For an additional charge either full magnetic or J. I. C. electrical components can be supplied.

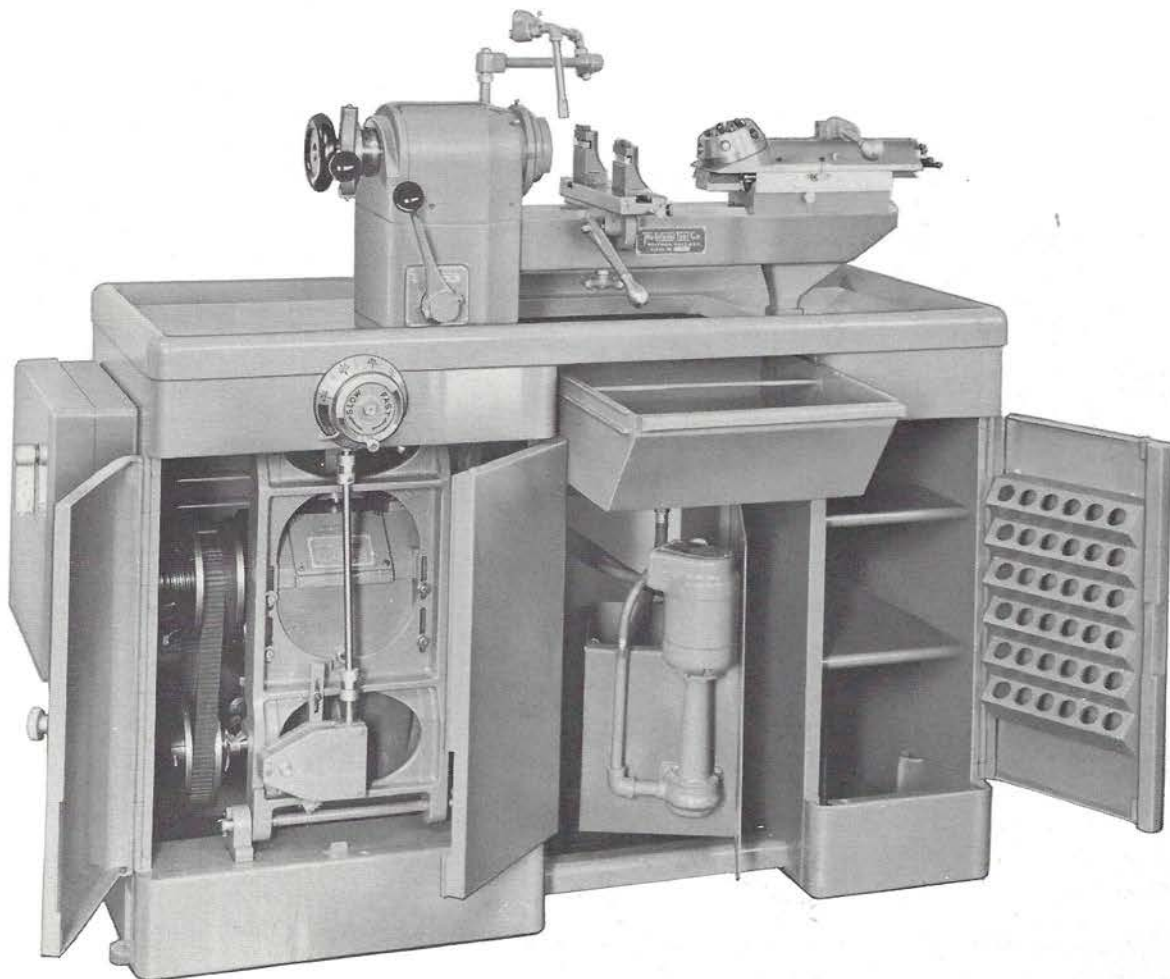
CABINET

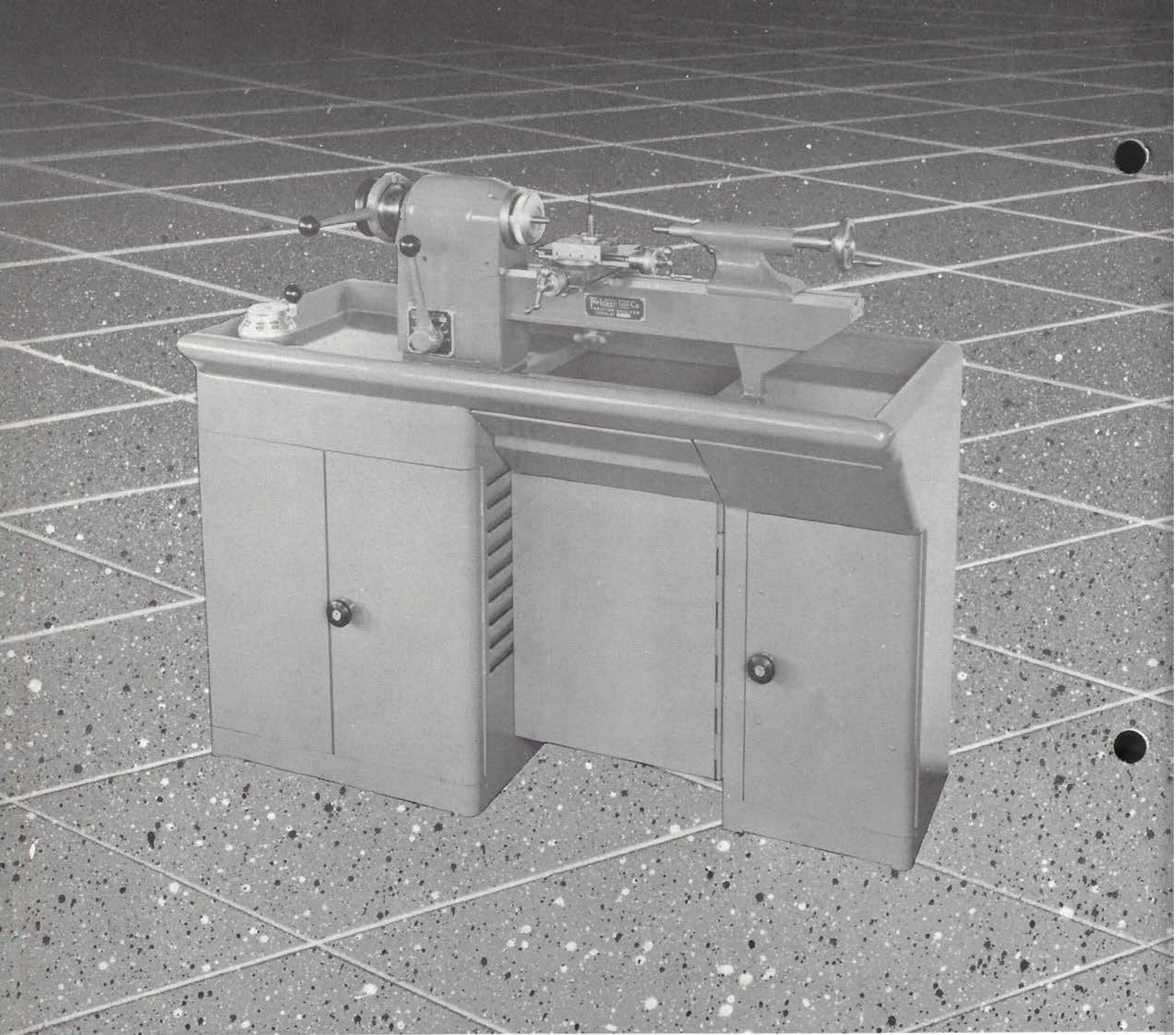
The Pedestal Cabinet is made of a heavy gage sheet metal properly re-enforced and welded to assure complete rigidity. It is so designed that all components such as the Drive, Pump, Coolant Tank and storage compartments are readily accessible from the front of the machine.

The right hand side of the Pedestal Cabinet is for storage of parts and attachments. Mounted on the door is an aluminum rack for collet storage. The knee hole type Cabinet provides ample knee and foot space for the operator. The motor compartment is adequately ventilated with louvered panels.

The Coolant Pump and Tank is mounted on a hinged panel. When opened the components are readily accessible for inspection, changing the coolant or cleaning the tank. The Coolant is pumped to the work through a system of pipes and special joints.

Flexibility of the design permits directing the coolant to the work from any direction. The motor driven centrifugal pump is designed to circulate the coolant regardless of chips and grit. The Coolant drains through a chip draw equipped with a strainer. The chip draw is mounted on ball bearings and is removable for quick disposal of chips.





Wade