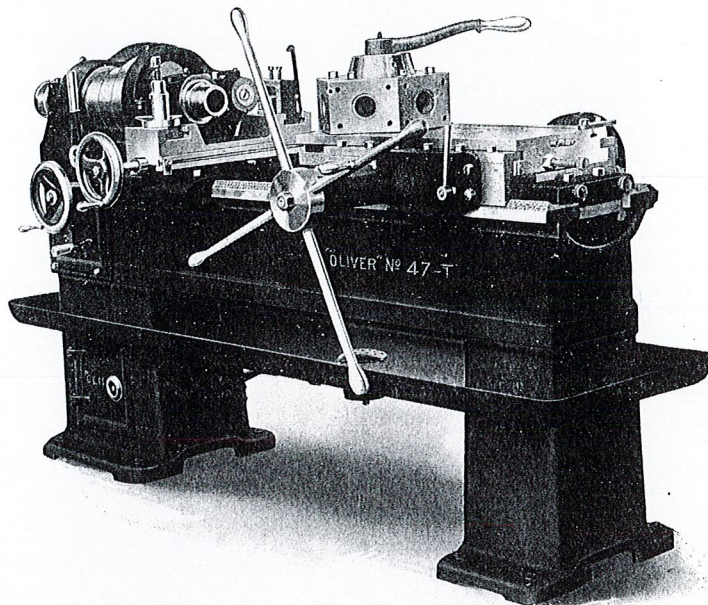


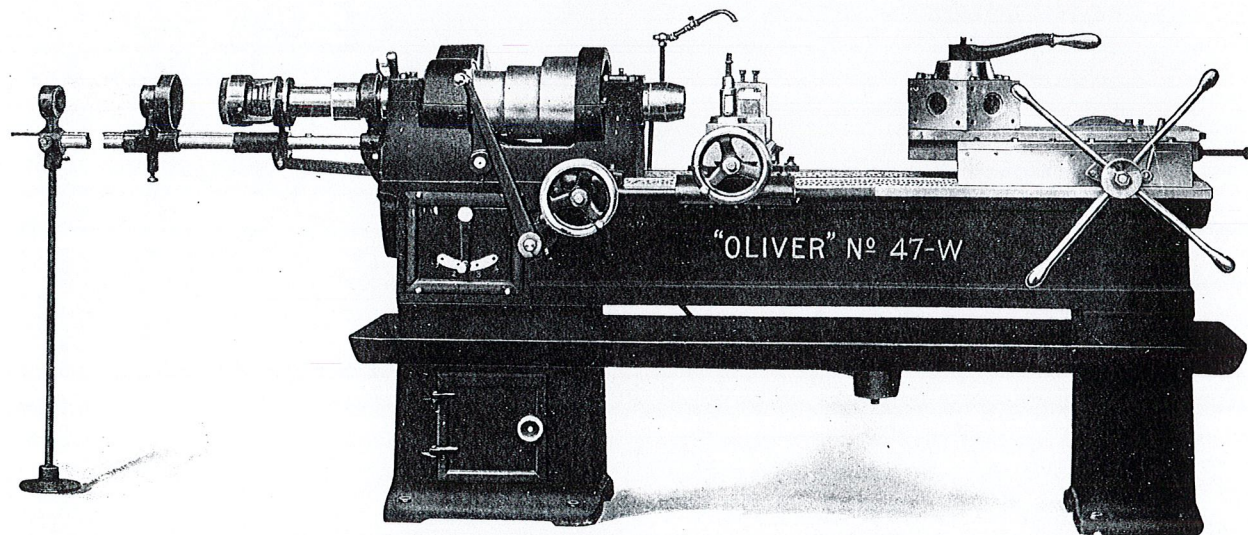


“Oliver”

16 Inch Heavy Duty Turret Lathe
and
2 $\frac{1}{4}$ Inch Heavy Duty Screw Machine



“Oliver” 16 Inch Heavy Duty Turret Lathe



“Oliver” 2 $\frac{1}{4}$ Inch Heavy Duty Screw Machine

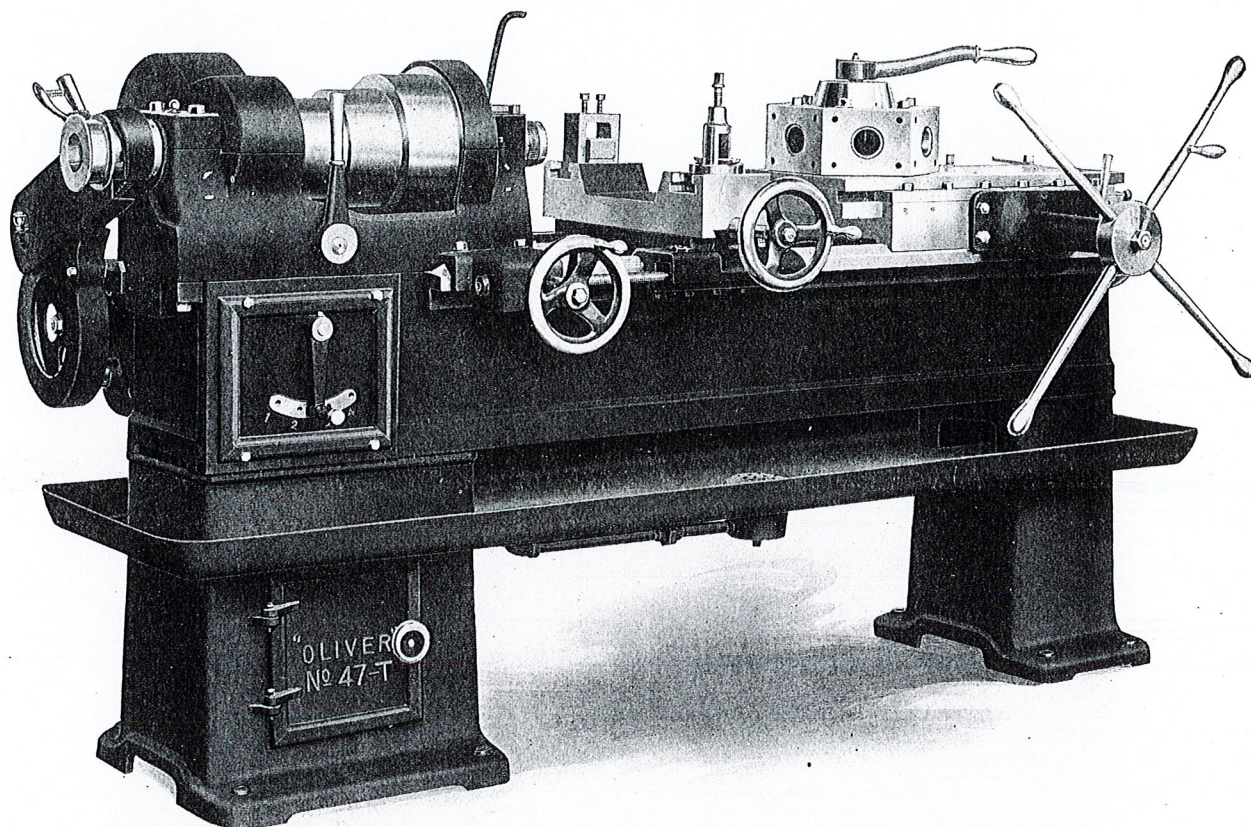
*Heavy
Duty*

Oliver Machinery Co.

Grand Rapids, Mich., U. S. A.

BRANCH OFFICES:

New York Chicago St. Louis Los Angeles San Francisco
Seattle Salt Lake City Denver Phoenix Manchester, Eng.



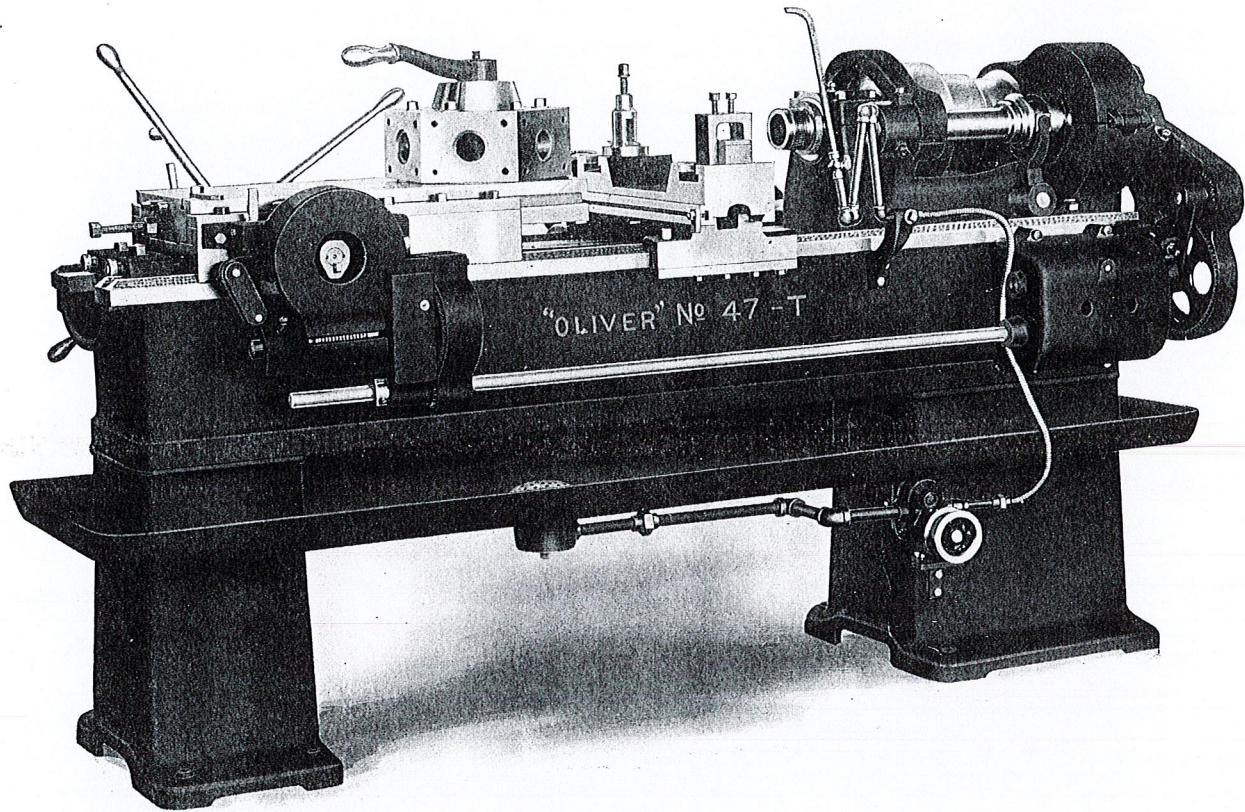
“Oliver” 16 Inch Heavy Duty Turret Lathe and “Oliver”
2¼ Inch Heavy Duty Screw Machine

Advantages “Oliver” 16-Inch Heavy Duty Turret Lathe is built with the same care and precision characteristic of all Oliver Tools. It has ample power and is rigid enough for heavy and fast cuts. All parts of the machine are jig machined, insuring interchangeability of parts as well as accuracy. The material and workmanship are the best obtainable. The Spindle Bearings are genuine bab-bitt, well peined and hammered. Each piece undergoes rigid inspection and the completed machine is given a long running test.

Lathe is of massive, heavy duty, double back geared type with three step cone using 3¾” drive belt. The headstock column is provided with a door and corner brackets for shelving inside. All gears are guarded and where necessary for oiling or purposes of inspection, the guards are hinged to permit of quick access. Extra heavy heat treated cap screws secure the main spindle caps in place and throughout the machine wherever desirable case hardened studs and nuts are employed.

Head Stock Three step, cone and double back geared. The spindle is large in diameter with long bearings lubricated by means of felt wipers feeding from large pockets. Spindle is of special high carbon steel accurately ground. The cone pulley is so designed as to carry a large oil reservoir which provides lubricant for long periods. The drive pinions for the back gears are one solid forging made of special high carbon steel and pressed into the cone pulley, keyed on and re-inforced by three flister head screws. A replaceable bronze bushing gives the proper bearing for the spindle in these gears. Thrust is taken against the front end of the rear bearing housing on a hardened and ground steel collar.

Bed The Bed is unusually deep and strong, being re-inforced by boxed sections. The supporting columns are so placed as to allow no overhang at the end of the bed and they are made wide so as to shorten the span of the bed between columns. The standard bed is 7' 2" long by 13" deep by 15" wide.



Turret

The heavy hexagonal Turret measures 12" diameter across the flat. The bore for the tools is $2\frac{1}{8}$ ", counterbored $2\frac{5}{8}$ " for centering box tools, and on each face four holes are tapped to secure tool holders or other special equipment as desired. The Turret slides in a heavy base secured to the bed. The hexagonal shape gives a better result for box tools. The Turret stud is so shaped as to permit the bar work to pass entirely thru the turret in case of threading long screws or taking cuts beyond the rated capacity.

**Turret
Mechanism**

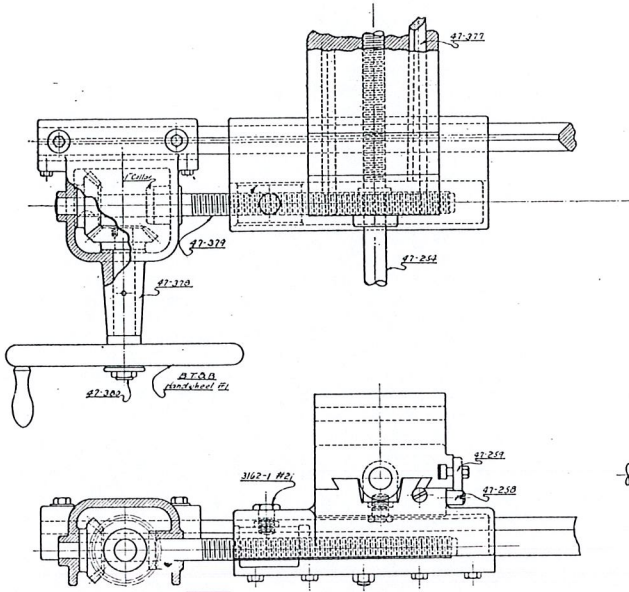
The turret head revolves on a very large stud fitting it exactly so that it is not necessary to use the clamping lever at each operation unless heavy cuts are being taken. By forcing the turret slide back by means of the hand wheel the locking plunger is automatically released and the head revolved to the next station. The turret is self indexing, the locking plunger being tool steel kept in line with taper gibs and seating itself in hardened steel ring underneath the turret. Six adjustable multiple stops for the turret slide acting for each turret face is regularly furnished. With the No. 47-T Turret Lathe a reducing gear mechanism is furnished to the turret slide, by which the hand feed of power turret is increased in the ratio of one to four making extra heavy cuts on large forgings, etc., an easy matter. This reducing gear mechanism is not required on No. 47-W Lathes with wire feed attachments, hence it is not furnished.

**Turret
Operation**

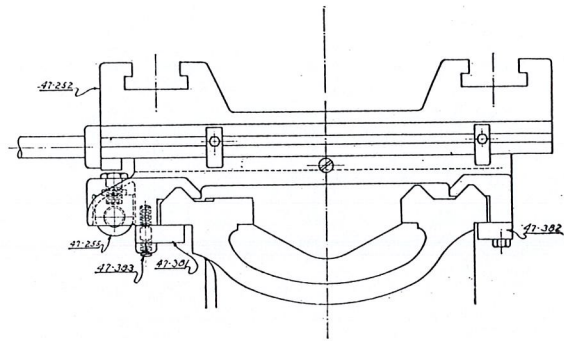
The turret slide is connected to the spindle by means of gearing and may be operated by positive power feed if desired. To change to hand feed it is simply necessary to trip the power feed lever dropping the worm out of mesh with the worm wheel. The feed shaft is keywayed for 30" from the end permitting the whole turret mechanism to be moved up closer to the headstock if it is found desirable to machine short work. Gears supplied with machine allow four feeds. One lever throws the turret into or out of gear for power feed, as desired.

**Gear
Mechanism**

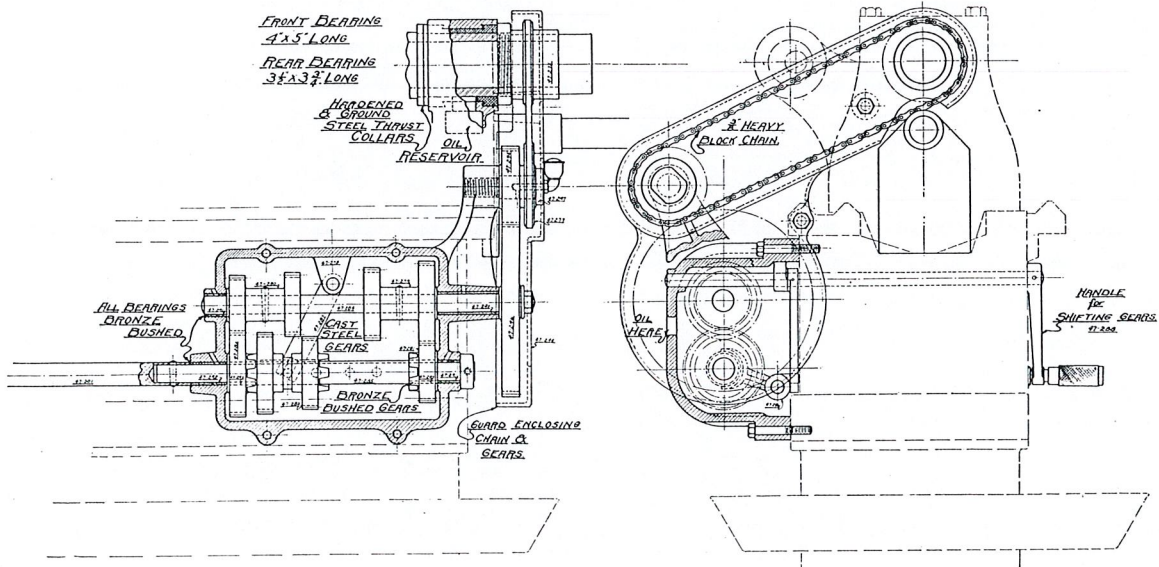
The feeds are positive driven direct to box by heavy chain from spindle. A shearing pin on main feed shaft protects gearing from breakage due to overloading too much beyond capacity. The feed gear box of unique design is located on bed in rear and controlled from front of machine. This eliminates the changing of gears.



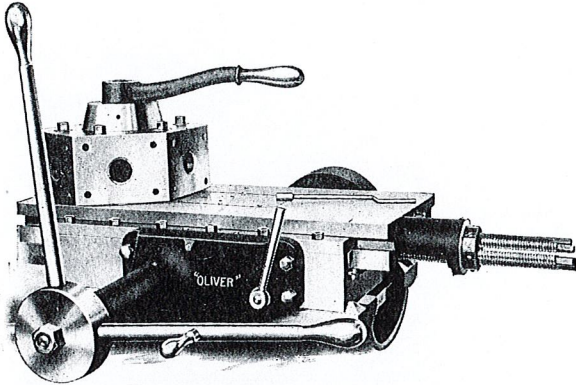
“Oliver” Machines
are
Very Dependable



Etching Showing the Longitudinal and Cross Movements of the Double Tool Post Slide Regularly Furnished



Etching Showing Cross Section of Change Gear Box and Arrangement of Power Transmission From Spindle to Feed Rod of Turret Slide



Six Individual Stops of Turret
Note the Four to One Reducing Gear Arrangement

The accompanying illustration shows (1) the six individual stops, one for each face of the turret, all conveniently located and very easily set; (2) the four to one reducing gear mechanism furnished with turret lathes to enable the operator to readily feed the turret by hand against the heaviest of cuts, especially desirable when heavy forgings and similar work are faced; (3) the massive size of the turret head with its long clamping lever and large faces with four tapped holes in each to hold any kind of tool fixture desired.

Cross Slide

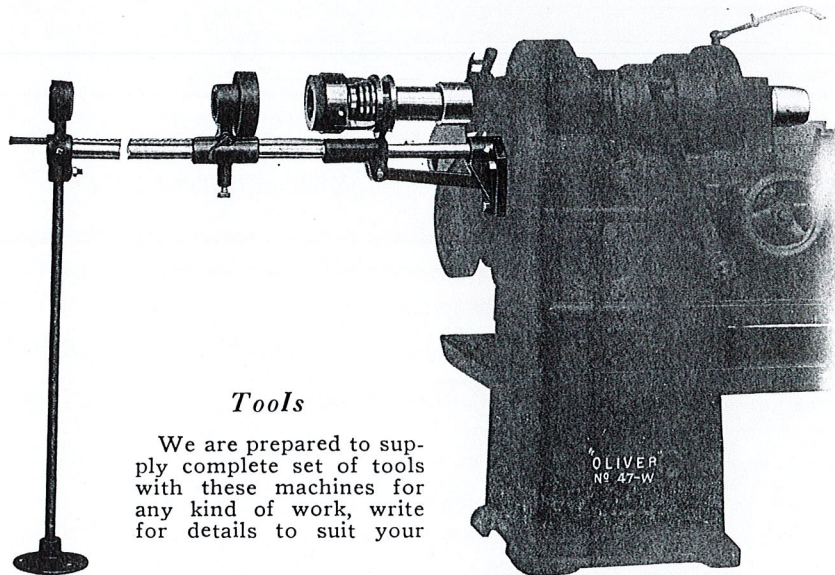
Has 12" longitudinal travel. The large handwheel graduated to read 1/1000 inch permits easy and accurate manipulation. Cross slide is 6" wide, and is adjustable for wear by means of taper gib. Cross slide base reaches over outside V ways of bed and is locked by means of clamps on both shears. The Tool Post has capacity for large tools and forming tool holder is equipped with hardened steel corrugated raising blocks. A large hand wheel and coarse cross feed screw permit rapid and powerful cross feed. The T slots are alike and the tool post and forming tool holder are interchangeable. Adjustable hardened steel stops sliding in a T slot provide positive stops both forward and back.

Oil Pan and Pump

A pressed steel pan is a part of the regular equipment of this lathe and is arranged to drain to a cast iron pot which is connected with a rotary pump. A copper screen prevents chips from being drawn into the oil or cutting lubricant and thus clogging up the pump. The pump being driven from the countershaft, an ample flow of lubricant is assured.

Wire Feed Attachment

Auto chuck and tool steel spring collets, as illustrated, are used to handle bar stock up to 2 1/4" rounds. Length of cut 12". Wire feed attachment is easily attached to any "Oliver" turret lathe. Any one size collet is regularly furnished as a part of this attachment; other collets, either round, square, or hexagon, furnished as extras.



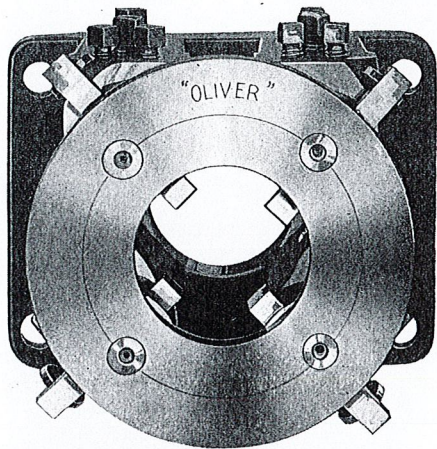
Tools

We are prepared to supply complete set of tools with these machines for any kind of work, write for details to suit your

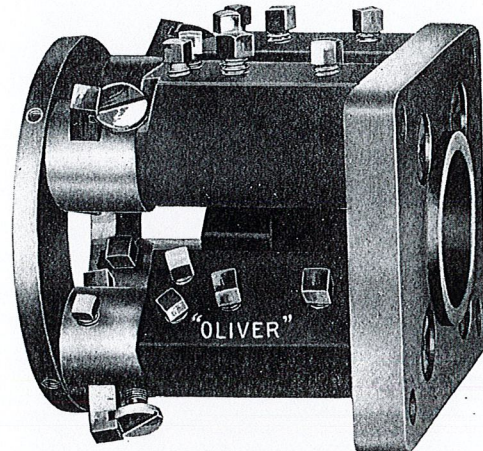
Regular Equipment

Consists of double friction countershaft, cross slide with tool post and forming tool holder, pump, piping, flexible hose, steel chip pan and necessary wrenches.

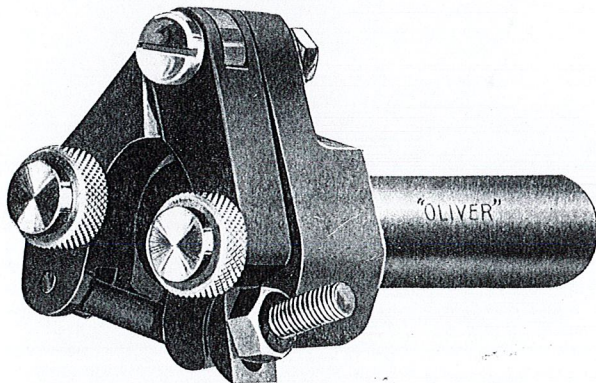
**Tools and Attachments for "Oliver" Turret Lathes
and Screw Machines**



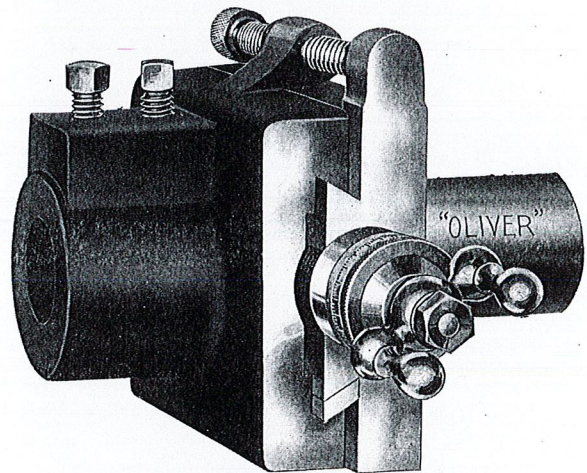
FOUR TOOL ROUGHING BOX TOOL
Front View



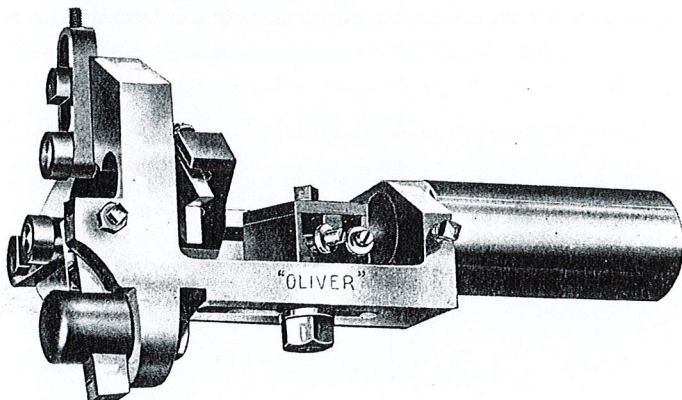
FOUR TOOL ROUGHING BOX TOOL
Rear Side View



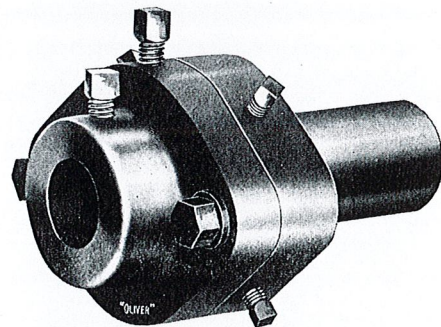
KNURLING TOOL
Front Side View



RECESSING TOOL OR FACING TOOL



FINISHING BOX TOOL
Front Side View



**FLOATING OR ADJUSTABLE REAMER OR
TOOL HOLDER**

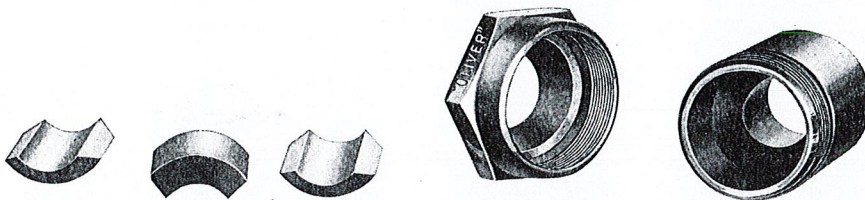
Tools and Attachments for "Oliver" Turret Lathes and Screw Machines



ADAPTER BUSHINGS—ANY SIZE DESIRED



ADJUSTABLE
STOP



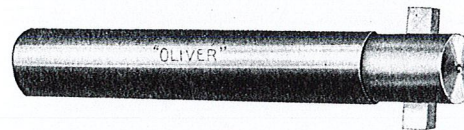
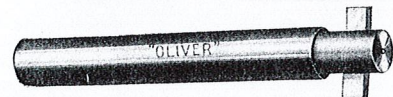
DRILL OR REAMER HOLDER—SHOWING PARTS



DRILL OR
REAMER HOLDER



DRILL OR BAR HOLDER



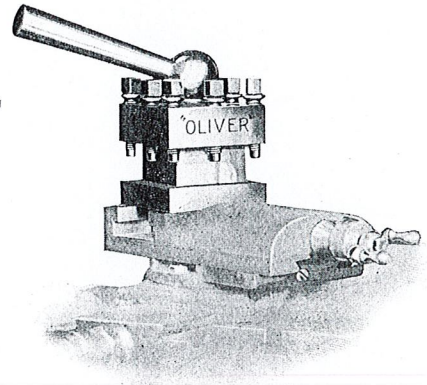
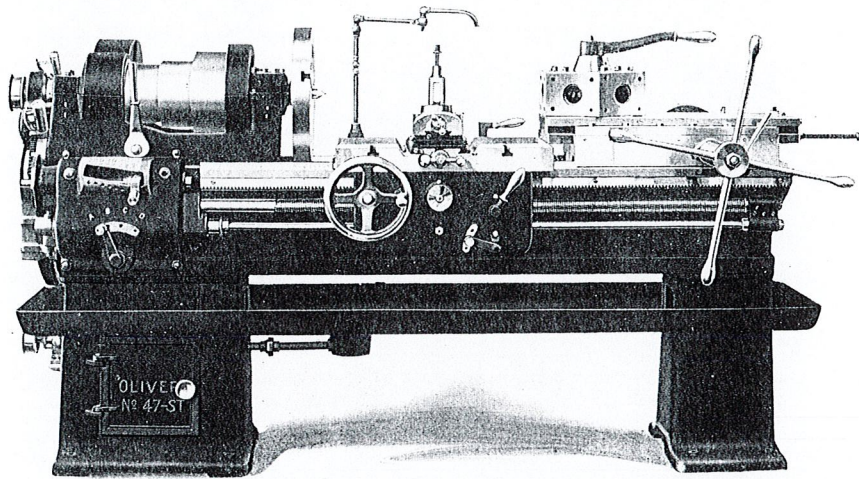
BORING TOOLS



TAPER SHANK DRILL HOLDER
AND REDUCER

PARTIAL LIST OF USERS OF "OLIVER" TURRET LATHES AND SCREW MACHINES

Baldwin, Tuthill & Bolton, Grand Rapids, Mich.
 Frank S. Betz, Hammond, Ind.
 Dominion Machinery Co., Toronto, Ont., Canada.
 Alfred Herbert Co., Milan, Italy.
 Huntington Alloy Co., Huntington, W. Va.
 A. Moulin, Paris, France.
 North American Motors Co., Pottstown, Pa.
 Oliver Machinery Co., Ltd., Manchester, England.
 Wm. J. Oliver Mfg. Co., Knoxville, Tenn.
 H. W. Petrie, Sarnia, Ont., Canada.
 H. W. Petrie, Toronto, Ont., Canada.
 Reliance Motor Truck Co., Appleton, Wis.
 Russell & Erwin, New Britain, Conn.
 A. R. Williams Machinery Co., St. Johns, N. B. Canada.



SQUARE TOOL POST
(Furnished to Order)

"Oliver" 16 Inch Engine Lathe With Turret Attachment

SPECIFICATIONS OF "OLIVER" 16-INCH HEAVY DUTY TURRET LATHE AND
2 1/4-INCH SCREW MACHINE

- Capacity** Swing over Shears, 17 1/2"; over Tool Post, 8"; between Turret and Spindle, 34 1/2".
Wire Feed capacity for bar work, 2 1/4" rounds.
Number of Spindle Speeds, 18; range 14-335 R. P. M.
Back Gear Ratio, first 2.9 to 1; second 6.07 to 1.
- Feed** Number of Feeds 4; Feed Range .010", .013", .016", .020".
Automatic Feed, length 12"; Feed Rod diameter 1 1/4".
- Spindle** Spindle Bearing front 4" diameter, 5" long; rear 3 1/2" diameter, 3 3/4" long.
Spindle nose, 3 1/2" diameter, 2 1/2" long; threads per inch 6.
Hole through Spindle, 2 5/8"; takes round stock up to 2 1/4" diameter.
Driving Cone diameters, 7", 8 1/8", 10 1/4"; 3 3/4" belt.
- Turret** Hexagonal; diameter across flats, 12"; Bore of Turret, 2 1/8"; Height of Turret, 5 1/4"; Height, top of slide to center line of holes, 2 5/8"; Turret Slide, 15 1/4" wide, 30" long; Turret Bed Slide, 15 1/4" wide, 24" long.
- Tool Posts** Forming Tools, 2 1/2" by 1 1/4"; regular tool post, 7/8" x 1 7/8".
- Bed** Length 7' 2"; other lengths to order; height 13"; width, 15 1/4".
- Pump and Pan** Pump, reversible rotary type, takes piping 1/2"; Pan, pressed steel, 8' x 24" x 3".
- Countershaft** Pulleys 12" diameter, 4" face; speeds 180-220 R. P. M.

CODE, WEIGHT, ETC.

Code	Description	Weight in Pounds		Measure Cu. Ft.
		Crated	Boxed	
Turnip	16-Inch Turret Lathe, Heavy Duty.....	4400	5000	136
Turrop	2 1/4-Inch Screw Machine, Heavy Duty.....	4800	5500	140

NOTE—Tools, Fixtures, etc., extra as per requirements submitted.

EXTRA TOOLS OF TURRET LATHE—CHUCKING WORK

- 1—13" Chuck, Independent and Universal, 3 jaw reversible.
- 1—13" Chuck, Independent and Universal, 4 jaw reversible.
- 1—13" Independent Lathe Chuck, 3 jaw reversible.
- 1—13" Independent Lathe Chuck, 4 jaw reversible.
- 1—Chuck Plate Fitted to Spindle of Turret Lathe.
- 1—Fitting Chuck to above Chuck Plate only.
- 2—No. 4 Morse Taper Bushings for Drills and Reamers.
- 2—No. 3 Morse Taper Reducing Sleeves.
- 1—Boring Bar, 1" to 1 1/2" diameter.
- 1—Large Boring Bar 1 3/8" to 2 1/2" diameter.
- 1—Extra Large Boring Bar and Holder 2 1/8" to 3 1/2".
- 1—Floating or Adjustable Reamer or Tool Holder, 1 1/2" Straight Hole.
- 1—3/4" x 1 1/4" Tool Holder (Armstrong).
- 1—Recessing Tool or Facing Tool.
- 1—Taper Tool (quoted as per requirements.)
- 1—Square Tool Post, plain, on Cross Slide.

NOTE—We can furnish any kind of tool or tool holder usable on "Oliver" Turret Lathes or Screw Machines. Write us.

EXTRA TOOLS FOR SCREW MACHINE—BAR WORK

- 1—Side Cutting-off Tool for use on cross slide.
- 1—Large Forming Tool Holder 4", for use on Cross Slide.
- 1—Set of eleven (11) round collets—one each 2 1/4", 2 3/8", 2", 1 7/8", 1 3/4", 1 5/8", 1 1/2", 1 3/8", 1 1/4", 1 1/8" and 1".
- 6—Sets of Chasers or Dies, one set each 5/8", 3/4", 7/8", 1", 1 1/8" and 1 1/4"—High Speed Steel, milled form.
- 1—1 1/4" "Geometric" Die Head, self-opening.
- 1—Set Square or Hexagon Collets any size.
- 1—Open Type Four Tool Roughing or Finishing Box Tool, 2 1/4" to 5/8" stock.
- 1—Shaving Tool, finishing.
- 1—Pointing or Rounding Tool.
- 2—Taper Bushings for Drills and Reamers, No. 4 Morse Taper.
- 2—Taper Reducing Sleeves, No. 3 Morse Taper.
- 1—Adjustable Stop.
- 1—Circular Forming Tool Holder.
- 1—Adjustable Knurling Tool.
- 1—Taper Tool (quoted as per requirement).