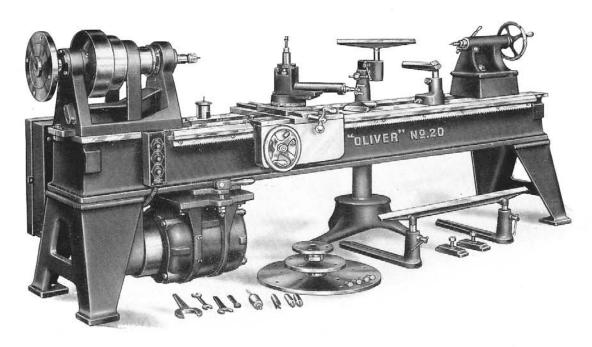


"Oliver" No. 20

Pattern Makers' Lathe

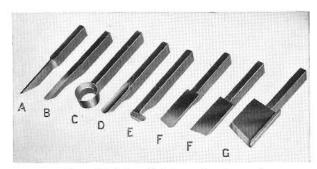
Belted Motor Drive for Wood and Light Metals



NO. 20 PATTERN MAKERS' WOOD TURNING LATHE

Made in four sizes to swing 16, 20, 24 and 30-inch. Particularly suitable for alternating current motors.

Lathe illustrated is 24-inch swing, 10-foot bed size, with hand feeding carriage.



Group C Tool Post Tools for use in tool post of carriage of wood lathes.

"Oliver" Pattern Makers' Lathes Are Famous the World Around!

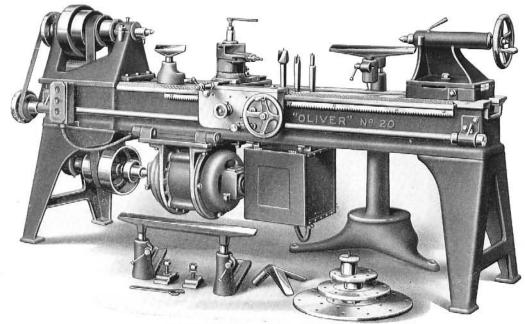
Manufactured by

Oliver Machinery Company

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

BRANCH SALES OFFICES:

New York, Atlanta, Pittsburgh, Cleveland, Detroit, Chicago, Indianapolis, St. Louis, Minneapolis, Denver, Salt Lake City, Scattle, Portland, San Francisco, Los Angeles. "OLIVER" PATTERN MAKERS WOOD TURNING LATHE



NO. 20 PATTERN MAKERS' WOOD LATHE Front View of No. 20-B 20-inch Swing Lathe with 8-foot Bed Fitted with Power Feeding Carriage. Oth Motor and Controller are now arranged as shown on first page of this circular. Other sizes are similar in design.

Introduction

To successfully meet the demand for a self-contained lathe that can be driven by an A.C. motor, we have furnished the machine as shown and described herewith. We recommend it as capable of proving absolutely satisfactory.

Metal Turning and Spinning

The No. 20 Lathe can be used for turning light non - ferrous metals and can be furnished in a modified design for metal spinning work.

Motor Drive

Usually an alternating current two speeds, 600, 1200 r.p.m. motor is used, giving eight speeds to spindle. Single speed or multi-speed motors may be used and we invite special correspondence giving kind of work expected. Motor is supported under the lathe bed and fitted with a four-step cone pulley accurately balanced. A ver-

ticle adjustment serves to keep the belt taut. Direct current motor may be used if desired. Motor cone pulley is carefully balanced and is mounted directly on motor shaft.

Head Stock

Made from a cored casting of proper strength and rigidity and well proportioned. May be swiveled for taper turning, about 5 degrees each way from center. Base is widened to permit passing driving belt through it down to the cone on motor shaft.

Head Spindle

Of special high carbon steel, large in diameter, threaded at front end to receive face plates and at rear end has a large flange shrunk on the spindle and finished all over to receive the large face plates which are held securely by four stud bolts. This method of holding rear end face plates is used on "Oliver" Lathes only; it saves time and avoids face plates getting "stuck." Spindle has hole through it to assist in removing centers, is

accurately ground and absolutely true in the journals.

Spindle Bearings and Cones

All head stocks are provided with Taper roller bearings, adjustable to wear, and are fitted wih chambers for self-lubrication. Spindle cone made of cast iron, has four steps, machined all over and adjusted to a running balance.

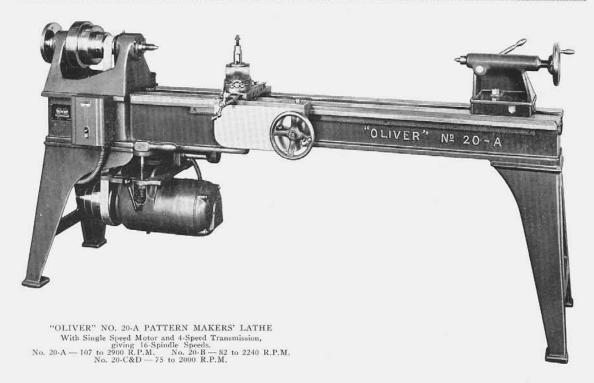
End Thrust

Is taken care of by means of a thrust nut threaded to the spindle, taking up any play that may develop in the taper roller bearings.

Tail Stock

Constructed in the open side design. Cutting tools may be brought close to centers. Has set-over device for turning taper work and an eccentric lever for locking it in any desired position. Tail spindle is of correct diameter bored to Morse tapers. Is held in position by means of

NO. 20 "OLIVER" PATTERN MAKERS WOOD TURNING LATHE



a strong clamp. The tail center may be removed by simply back ing the screw.

The Bed

It is of iron of proportionate dimensions to suit the size of the lathe fitted to it. It can be supplied in any length, calculating by advances of two feet, but 8 and 10-foot beds are standard. It has a broad top, made flat so that operator's tools will not work off. When furnished to receive a tool carriage the ways for same are cast to the side. The part under the head stock is widened to permit the belt to pass through.

Power Feeding Carriage

All sizes of lathes may be provided with a power feeding car-riage, when so ordered. The carriage receives its power through a belt from a two-step cone on the lathe spindle to a cone on a feed shaft

the length of the bed, giving two speeds to the feed shaft. When using the lathe at the overhanging end for the face turning on large diameters the cone pulley may be instantly removed.

Carriage Graduations

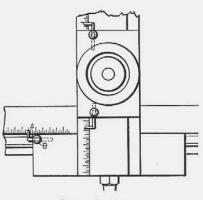
Are placed on the machine to enable an operator to turn a definite length or depth without having to "fit and try." They are located on the top of the bed at the front and on the ways for the carriage cross slide. "A" is a finger adjustably set in the carriage slide and clamped by means of a screw, "B."

Special Hand Rest Socket

This device provides an effective hand tool rest mounted on the cross slide of the carriage. It consists of a rest socket machined to fit the slide and held firmly.

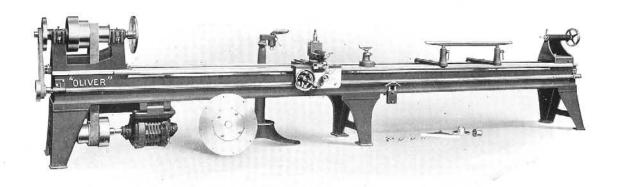
Hand Feeding Carriage

It is furnished with any size of machine. Is correctly proportioned and constructed with a compound swivel rest. The apron has a wide support on the front side of bed. A hand wheel engages steel cut rack and pinion and operates freely in either direction.



Carriage Graduations

NO. 20 "OLIVER" PATTERN MAKERS WOOD TURNING LATHE



NO. 20-C 24-INCH "OLIVER" PATTERN MAKERS' WOOD LATHE WITH 20-FOOT BED Note the Power Feeding Carri ge, Spring Support for Feed Rod and the Extra Leg.

GENERAL DIMENSIONS

HEAD STOCK			BED
Swing in Inches	24"	30	Swing in Inches
Diameter of Spindle Nose 11/4" 17/8	" 17/8"	17/9"	Standard Length in Feet 8' 8' 10' 10'
Diameter of Front Spindle			Width Inside of the Carriage
Bearing Seat 11/2" 21/8	" 11/8"	21/8"	Way
Diameter of Rear Spindle			Depth
Bearing Seat	" 21/4"	21/4"	Height from Floor 34" 32" 30" 30"
Size of Morse Taper by No 2 4	4	4	
31/2" 41/2	" 5"	5"	CARRIAGE
Steps of Cone— 5" 634	" 73/8"	73/8"	Swing in Inches 16" 20" 24" 30"
Diameter 75%" 9""	95/8"	95%"	Traverse of Cross Feed
9" 111/4	" 12"	12"	Traverse of Compound Feed 5" 6" 7" 7"
Steps of Cone - Width 21/4" 27/8	" 31/4"	31/4"	Travel of Carriage on the
Width of Belt Used 134" 21/2		3"	Standard Length of Bed 5' 3" 4' 7" 6' 3" 6'
Fight Fight	Eight	Eight	Length of Way Bearing 17" 17" 20" 20"
Approximate Spindle Speeds Speeds			Length of Slot in Tool Post 2" 2" 2" 2"
Speeds, assuming the Speeds Speeds	o peeds	opecus	Width of Slot in Tool Post 34" 34" 34" 34"
use of a two-speed 233 180	160	160	Wittin of 300t in 100t 1 08t 94 94 94 94
motor, 600 and 1200 to to	to	to	EQUIPMENT
r.p.m. 3086 2700	2520	2520	- 1981 50 50 1981 1981 1981 - 1982 1983 1983 1983 1983 1983 1983 1983 1983
Approximate Spindle (2320	2,520	Swing in Inches 16" 20" 24" 30"
Speed belt drive count- 2650 2650	1988	1515	Single Shank Rests, Length6&18" 6&18" 6&18" 6&18"
ershaft running at 750 to to	to	to	Double Shank Rests, Length 30" 30" 48" 48"
and 135 r.p.m. 112 78	72	83	Rest Holders, Quantity two two two two
and too liping	, _	00	Head (Spurs) Centers,
TAIL STOCK			Sizes 3/4&11/4" 3/4&11/4" 11/4&2" 11/4&2"
Swing in Inches 16" 20"	24"	30"	Tail (Cup) Centers, Sizes 34" 34" 34" 34"
Diameter of Spindle 1½" 1½"	" 17/8"	3"	Conical Centerspair pair pair pair
Traverse of Spindle	6"	8"	Front Face Plates, Diam8&12" 8&12" 8&12" 8&12"
Length of Spindle Bearings 101/4" 12"	12"	14"	Rear Face Flates, Diameter 20" 20" 24" 24"
Size of Morse Taper by No 2 4	4	4	Screw (Rosette) Chuck,
Adjusting Screw — No.			Diameters
Threads to Inch 8 6	6	4	Right Angle Rest, Size 6" 6" 6" 6"
HORSE POWER			Floor Stand with Off-set
	2111	204	Rest Holder one one one one
Swing in Inches	24"	30"	Hand Tool Rest Socket for
H. P. Recommended11/2-2 2-3	3-5	3-5	use on Carriage one one one one

CODE, CAPACITY, WEIGHT, ETC.

		SW	ING OVER	SWING AT REAR	LGTH. STAND		WEIGHT	IN LBS.	CU.
CODE	DESCRIPTION OF LATHE	BED	CARRIAGE	END	BED	CENTERS	CRATED	BOXED	FT.
Duke	No. 20-A with Hand Feeding Carriage	16"	13"	84"	8'	61"	1900	2500	110
Dumb	No. 20-B with Hand Feeding Carriage	20"	17"	84"	8'	56"	2500	3150	127
Dumpy	No. 20-C with Hand Feeding Carriage	24"	20"	84"	10'	73"	3600	4000	160
Dunker	No. 20-D with Hand Feeding Carriage	30"	26"	84"	10'	73"	4000	4600	170

NOTE — Power Feeding Carriage may be furnished instead of the regular hand feeding carriage when so ordered. Bed lengths may be increased or diminished from the standard by 2' lengths.

