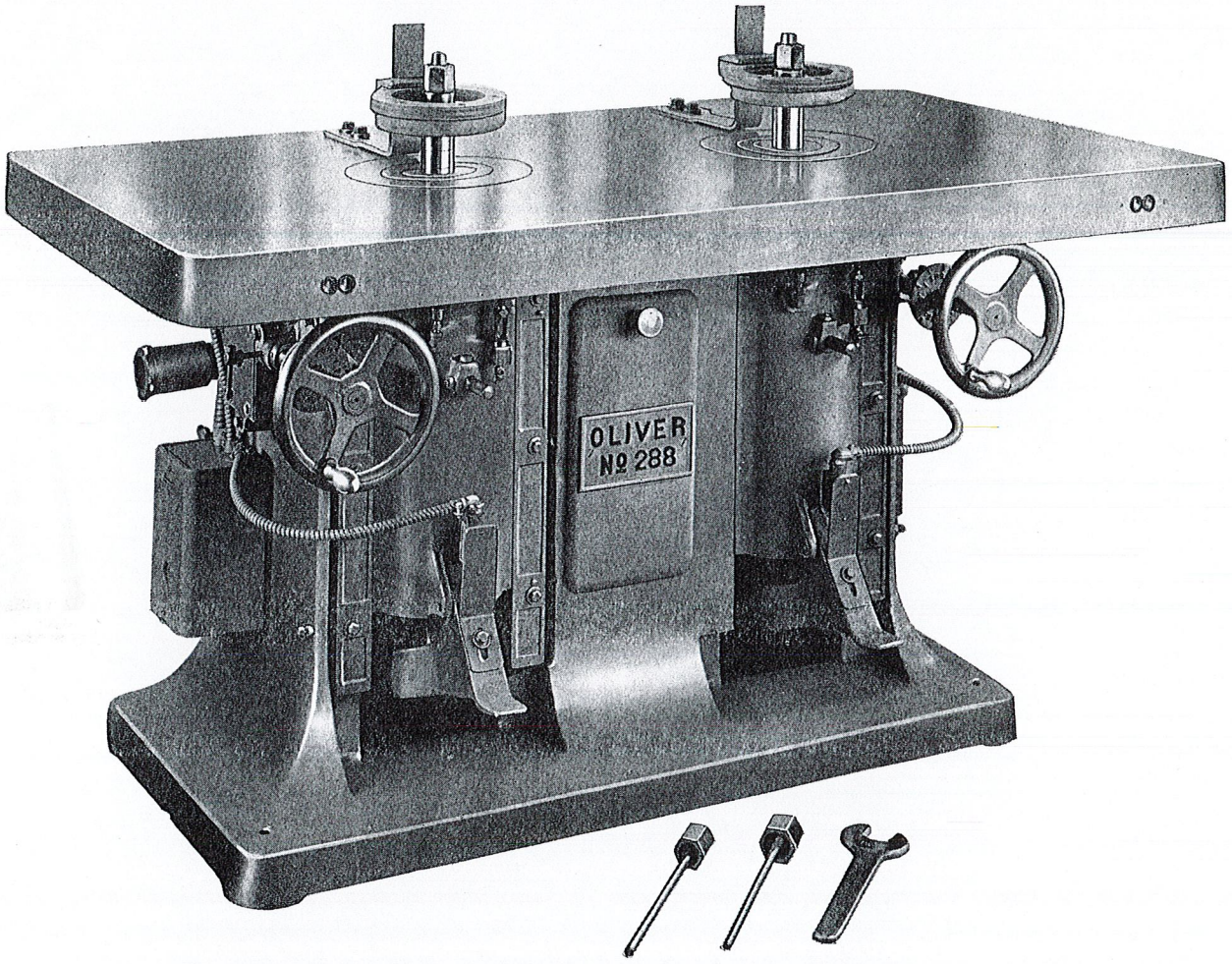
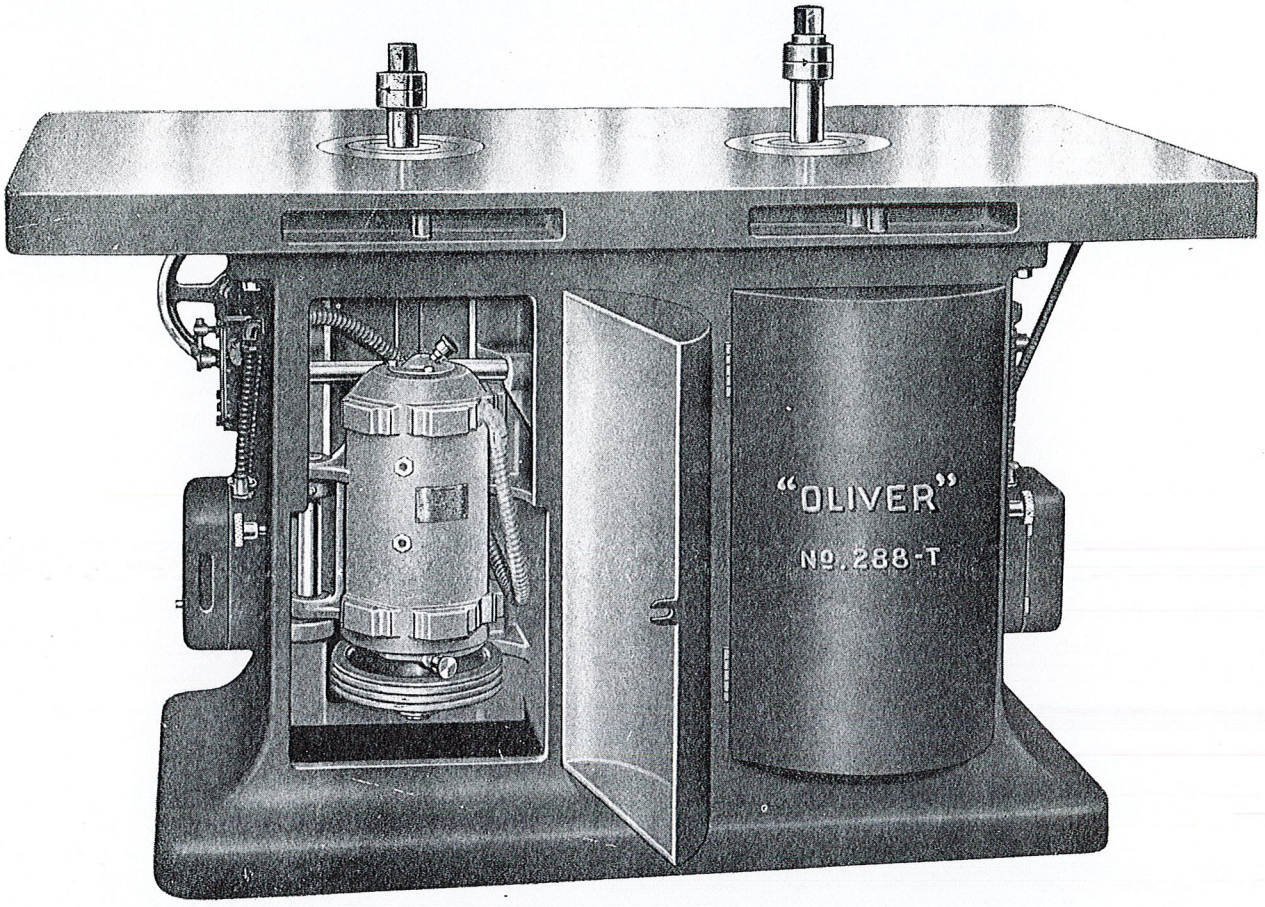
# OLIVER
## No. 288
# DOUBLE SPINDLE SHAPER




NO. 288-D MOTOR-ON-ARBOR HIGH SPEED DOUBLE SPINDLE SHAPER.

OLIVER MACHINERY COMPANY, GRAND RAPIDS 2, MICHIGAN, U.S.A.




REAR VIEW NO. 288-T MOTOR DRIVEN DOUBLE SPINDLE SHAPER; WITH SELF-CONTAINED V-BELT DRIVE.

## INTRODUCTION

The No. 288 High Speed Ball Bearing Double Spindle Shaper has many improvements and exclusive features. After extensive research of new ideas, suggestions and designs, our engineering department has produced a super Shaper capable of producing the finest kind of rabbetting, grooving, fluting, routing or shaping of every description. It is used most extensively by the leading manufacturers of furniture, automobile bodies, sash and door, cabinets, etc., in fact, many woodworking factories consider this machine indispensable and absolutely necessary to modern and progressive production methods.

## FRAME

Cast of semi-steel, box shaped, and heavily reinforced with ribs. The two motor compartments have gibbed ways with adjustments and hand lever locks. The spindle and motor units, sliding on these ways, can easily be drawn up through an 11-inch hole in the table. The flanged base is of ample proportion and is held to the floor by means of anchor bolts. Four heavy bolts are used to fasten the table rigidly to the frame. Individual magnetic switch boxes are securely bolted to each end of the frame. In the center of this frame, directly in front of the operator is a compartment with a hinged cast iron door having a cam lock. This is a most convenient place to keep extra collars, cutters, tools, etc.

## TABLE

Size 66 inches x 33 inches, 24 inches center to center; or 72 inches x 42 inches with 30 inches center to center. Holes in table are 11 inches in diameter, fitted with throat plate. Side of table 3¼ inches thick and strongly ribbed throughout. Table top and sides are first machined true and then ground to an accurate and smooth finish. Exhaust pockets are cast on the underside of the table back of each spindle to catch the under dust which escapes below the cutting line. Table is tapped for securing shaper guards.

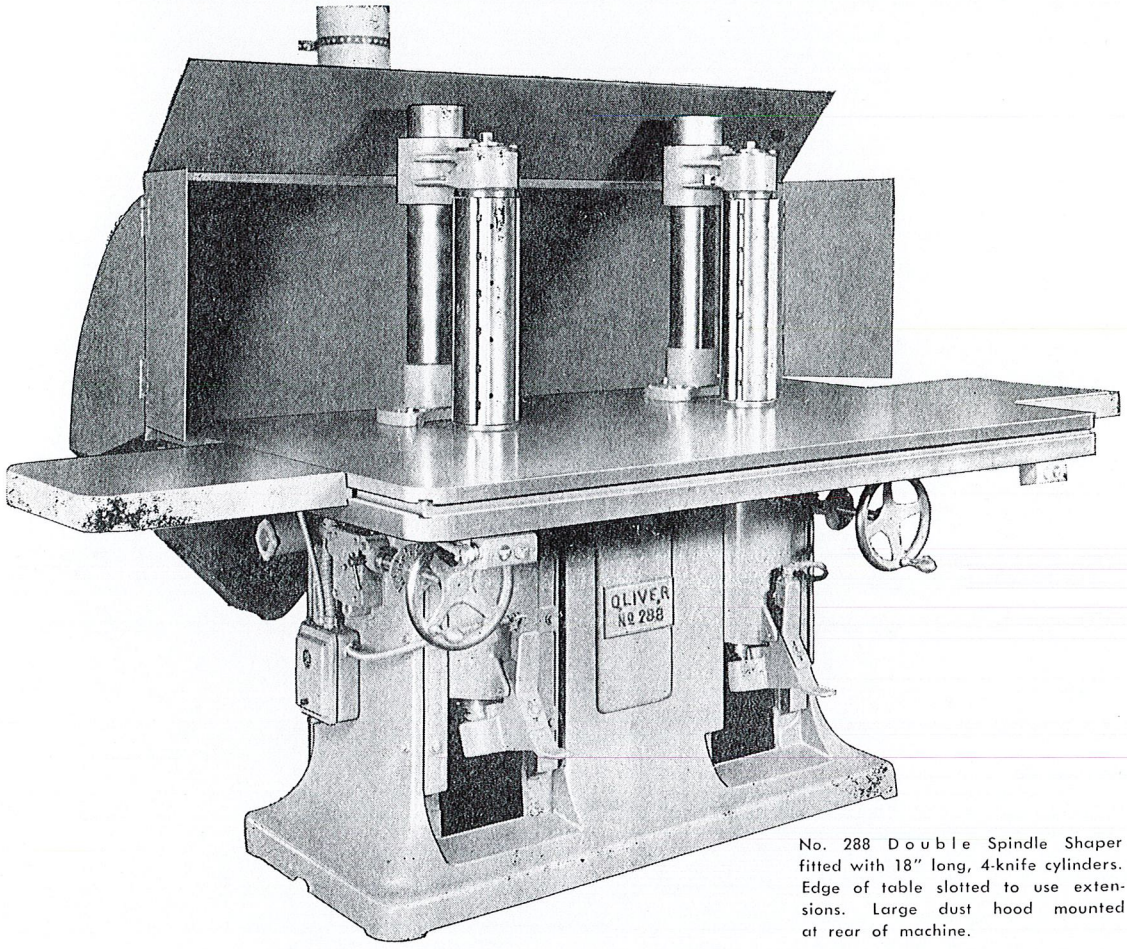
Two push button stations are attached to the back of the rim with large visible countersunk holes to reach the buttons.

**"OLIVER" SHAPERS are universally known for their quality, durability and smooth performance.**

**Their reputation is your best guarantee of satisfaction.**

## BEARINGS AND LUBRICATION

Precision ball bearings of ample size are mounted on the shaper spindles;




No. 288 Double Spindle Shaper fitted with 18" long, 4-knife cylinders. Edge of table slotted to use extensions. Large dust hood mounted at rear of machine.

by removing four cap screws from the retaining ring, both bearings with the spindle may be pulled out through the hole in the top of the table. Under each bearing there is a large oil reservoir filled by oil cups placed at the proper level. There is also an oil level indicator gauge for each bearing. On each side of the spindle near the bearing there is a wick which filters the oil, by capillary action, before it comes in contact with the running parts by means of which the oil is reduced to a MIST. This oil mist surrounds the bearings with a perfect film of oil and gives the most economical and efficient oiling system known for a high speed machine. It does away with the possibility of dust and other foreign matter getting into the ball races; as would be the case if the bearings were in direct contact with the oil chamber.

## METHODS OF MOTOR DRIVE

FIRST: Motor - on - Arbor (No. 288-D) with 7½ h.p. high frequency ball bearing motors mounted directly on the shaper spindles. This is the most efficient and simple type, but requires the use of a frequency changer to step up the frequency to 100, 120, or 140 cycles to obtain speeds of 6,000, 7,200, or 8,400 r.p.m. respectively. A speed of 7,200 r.p.m. is most commonly used. Frequency changers with capacity of one or more shapers may be furnished to suit customer's requirements.

SECOND: Belt type Motor Drive (No. 288-T) is very simple and economical of space. Back of each shaper spindle yoke there is suspended a five h.p., 3,600 r.p.m., totally enclosed fan cooled vertical ball bearing motor in a self-contained, adjustable arrangement, with woven flat belt type of drive for high speed operation (7,200 r.p.m. or higher); or with twin V-Belt type of drive for slow speed operation (6,000 r.p.m. or slower) reaching from lower end of this motor to the lower end of shaper spindle. Higher speeds or two speeds can be furnished if desired, in which case an endless woven flat belt or V-Belt drive is employed whichever meets the speed requirement. Standard speed unless otherwise specified is 7,200 r.p.m.

## YOKES

The yokes are made of heavy cored, one-piece semi-steel castings. Each yoke as a unit may be lifted out through the hole in the table very readily if desired. Vertical adjustment is six inches and is provided with a hand lever lock on the gib and one on the hand wheel shaft. The elevating mechanism consists of a hand wheel, shaft, and rack, together with spiral gears which rotates in dust-tight grease chambers.

## SPINDLES

A detachable spindle is regularly furnished. The top of the spindle is

tapered to receive the adapter spindle which is held in place by a cap screw extending through the adapter and screwing into the spindle. This new taper construction assures better spindle balance and perfect centerings. The standard spindle adapter is 1¼ inches in diameter, eight inches long where the knife collars fit; however, any practical size of detachable spindle can be furnished. The spindles, bearings and housing being unusually large, prevent springing when making unusually heavy cuts. The spindles are ground and balanced to eliminate all vibration and rotate perfectly true at any speed. Sturdy plugs securely hold the spindles when setting up.

## EQUIPMENT

The regular equipment includes two detachable spindles with locking and removing bars; one pair of knife collars, three inches in diameter, four filling-in collars ½, ¾, 1 and 2 inches, two quick adjusting shaper guards; two spindle locking plugs; two oil level sight gauges and necessary wrenches.

## CONTROL

With motor driven shapers, we furnish enclosed magnetic switch control units mounted on the base and conduit wired to motors, also to a foot operated stop switch and the regular start and stop push button station which is mounted back of the front edge of the table, with countersunk holes leading to the push button.

## BRAKE

By a slight pressure of the operator's foot on the brake pedal the electric power is instantly turned off and simultaneously the brake is applied on the brake wheel at the lower end of the spindle, quickly stopping it.

## GENERAL DIMENSIONS

SPINDLE

| | |
|---|---|
| Revolutions per minute | 7200 |
| Vertical adjustment | 6 inches |
| Length at collars | 8½ inches |
| Diameter at Collars | 1¼ inches |
| Belt drive pulley dia. and face | 2¾ x 8⅜ inches |
| Driving belt, width | 2½ inches |

COLLARS

| | |
|---|---|
| Large grooved collars | 3 inches |
| Small grooved collars optional | 2 inches |
| Filling-in-collars (4), one each | ½, ¾, 1 and 2-inch |

TABLE

| | |
|---|---|
| Size — Regular 24" centers | 66 x 36 inches |
| Size — Special, 24" centers | 66 x 48 inches |
| Size — Special, 30" centers | 72 x 42 inches |
| Size — Special, 30" centers | 84 x 54 inches |
| Front edge to spindle — Regular | 18 inches |
| Distance C. to C. of Spindles, Regular | 24 inches |
| Distance C. to C. of Spindles, Special | 30 inches |
| Height from floor | 36 inches |
| Holes in table, diam. | 11 inches |

FLOOR SPACE

| | |
|---|---|
| Machine alone | 52 x 26 inches |

HORSEPOWER

| | |
|---|---|
| Recommended h.p. per spindle at 60 cycles | 5 |

### CODE, WEIGHT, ETC.

| CODE | MACHINE DESCRIPTION | WEIGHT IN POUNDS CRATED | WEIGHT IN POUNDS BOXED | CUBIC FEET |
|---|---|---|---|---|
| Falic | No. 288-D — Motor on Head Double Spindle Shaper, with two 7½ h.p., 7200 r.p.m., 3 phase, 120 cycle, 220 or 440 Volt shaftless motors, taper mounted directly on spindles, automatic starters, push button control and quick stop brake | 2300 | 2800 | 92 |
| Falih | No. 288-T — close-coupled motor driven Double Spindle Shaper, with two 5 h.p., 3600 r.p.m., 2 or 3 phase, 60 cycle, 220 or 440 volt A.C. motor mounted on the spindle housings with push button magnetic switch and quick stop brake | 2600 | 3100 | 92 |

### EXTRAS

| | |
|---|---|
| Falir | Overhead Bearings with guide collars, including long spindle, in place of regular spindle. |
| Faliu | Detachable Spindles, including nut for diameters and lengths other than standard. |
| Fanas | 66-inch x 48-inch Table (12 inches added to front side). |
| Faliz | 30-inch centers instead of 24-inch with table 72 x 42 inches, or 84 x 54 inches. |
| Extra Knife | Collars (2 inches or 3 inches in diameter) |
| Extra Filling | Collars (½, ¾, 1, 2 inches long). |
| Faloxt | No. 287-1018Z Chuck and Collet to fit on lower spindle, with ½-inch collet. |
| Fanam | Adjustable Guide Fence, one side with micrometer adjustment.<br>Ball Bearing Roller Holdover.<br>Solid Milled to shape Shaper Cutters. |

OLIVER MACHINERY COMPANY
Grand Rapids 2, Michigan, U.S.A.

BRANCH SALES OFFICES
NEW YORK, ATLANTA, PITTSBURGH, COLUMBUS, O., CLEVELAND, DETROIT, CHICAGO, NEW ALBANY, IND., ST. LOUIS, MINNEAPOLIS, DENVER, SALT LAKE CITY, SEATTLE, PORTLAND, SAN FRANCISCO, LOS ANGELES



2½M 5007