

# WALLACE ELECTRIC SHAPER

MODEL No. 18

DETAILS OF CONSTRUCTION AND OPERATION

Capacity: The line print on the reverse side of this sheet shows all details of construction of the #18 Wallace Shaper. You are invited to note the simple, husky construction of this powerful production tool.

Taking cutters from  $\frac{1}{4}$ " diameter up to  $3\frac{1}{4}$ " diameter, cutter changes and set-ups are quickly made which means economy on short runs.

Table: The table is a heavily ribbed iron casting, 16" in diameter. Table adjustment is effected by rotating capstan wheel (13). This capstan is secured to the table (14) by means of the split ring (15). The capstan is threaded and screws up or down on the threaded hub of the motor end flange (16).

When correct table position has been set it is locked by means of handwheel (17) against key (18) which rides in a slot (19) in end flange which keeps the table (14) from turning when it is adjusted.

Table insert (20) is a split ring that can be removed without breaking down any cutter set-up. This insert may be used as shown with rubbing collar (21) in service, or may be turned with the rubbing collar downward.

Motor: The Wallace #18 Shaper is powered with a high speed universal motor, conservatively rated at  $7/8$  H.P. but with a maximum output on intermittent work of more than  $1\frac{1}{2}$  H.P.

The Shaper motor is started with switch (22) which has 30 ampere carrying capacity and is fitted with a socket (23) for plugging in the adjustable electric light (24).

Cooling of motor is effected by the fan (25) which draws air from the bottom and expels it, thru holes (26) in the upper end flange. The air spaces in this motor are ample and this construction ensures a cool and efficient motor.

Spindle: The spindle (1) of the #18 Shaper is screwed onto the motor armature (2) at the end (3) which is turned with a shoulder and a pilot extension to ensure accurate alignment.

Spindle (1) is  $5/8$ " diameter at the point where cutters are mounted and is suitable for cutters from 2" diameter to  $3\frac{1}{4}$ " diameter. A pair of grooved collars (4) are provided for use with cutter bits, and 4 spacing collars (5) permit setting of cutters in any position on the spindle.

Small cutters down to  $1/4$ " diameter are used on the #18 Shaper by means of screw chuck (6) which is shown set up with a small cutter (7) in a screw collet (8).

Removing the spindle (1) for application of screw chuck (6) is accomplished by inserting locking pin (9) thru the motor end flange into the hole (10) in the armature shaft. Spanner wrench (11) is applied to spanner holes (12) and the spindle is screwed off. The screw chuck is applied by reversing these operations.

To set up cutters on the spindle (1) the spindle is held with the spanner wrench (11) and then nut (44) is drawn up with the wrench (45) furnished with the machine. The armature locking pin (9) is used only for removing the spindle from the motor shaft.

Bearings: The construction of the #18 machine permits the hanging of the armature and spindle from the upper bearing leaving the lower bearing to float in its housing. These bearings are ample in size to stand the heaviest load and are accurately fitted to prevent vibration and chatter of the spindle. Upper bearing (35) is lubricated by filling oil in oil holes (31) in the table insert (20) or in oil hole (32) in the well cover (33).

The oil soaks thru the felt in the well cover and down thru holes in the retaining washer (34) into the bearing (35).

The oil is filtered thru two felt rings, thus removing any foreign matter which might injure the bearing. Excess oil is thrown into the annular ring (37) by the oil slinger (36) and out of the motor thru overflow hole (38).

Lubrication of the lower bearing (27) is effected by filling a high grade, clean medium-body oil in filler cup (28).

Fill the chamber until the oil runs out of the cup. The nut (29) splashes the oil into the bearing and is prevented from entering the motor by the seal (30).

Guard: An aluminum guard (51) is provided for use either in connection with the fence or separately for collar shaping. This guard is clamped on the side of the table with the thumb nut (52) and may be removed if the nature of the work requires it.

Fence: The fence (39) is bolted on to the table at slotted holes (40) which permit adjustment to suit cutters of any diameter. The infeed table (41) of the fence may be adjusted parallel to the outfeed table (42) by handwheel (43).

Servicing the Motor: To dismantle the motor first remove spindle (1) as described heretofore; next remove table (14) by screwing capstan up until it comes off from above; now remove base (46) by taking out three bolts from below; next pull out well cover (33) and spring out its supporting ring (47).

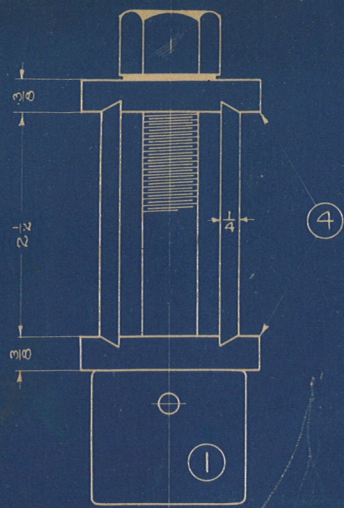
Now screw off retaining washer (34) using a spanner or drift to start it; now remove motor brushes (48) by taking off brush holder caps (49); remove 4 thru bolts which releases end flange from motor field; pry off upper end flange by inserting screw driver or drift in notch at edge provided for this purpose.

At this point either the lower bearing will slip out of the lower end flange or upper bearing will slip off shaft of motor.

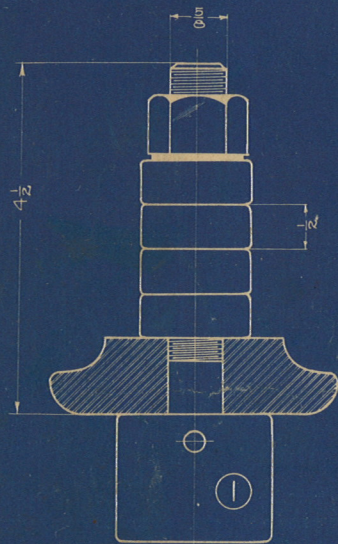
Upper bearing is removed from end flange by springing out retaining ring (50); lower bearing is removed from armature shaft by unscrewing nut (29).

Warning: In disassembling motor, armature should always be pulled upward, otherwise the fan will injure field windings, and brush holders will injure armature wind.

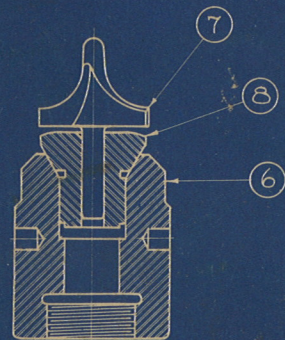
J. D. WALLACE & CO., - - - CHICAGO, U. S. A.



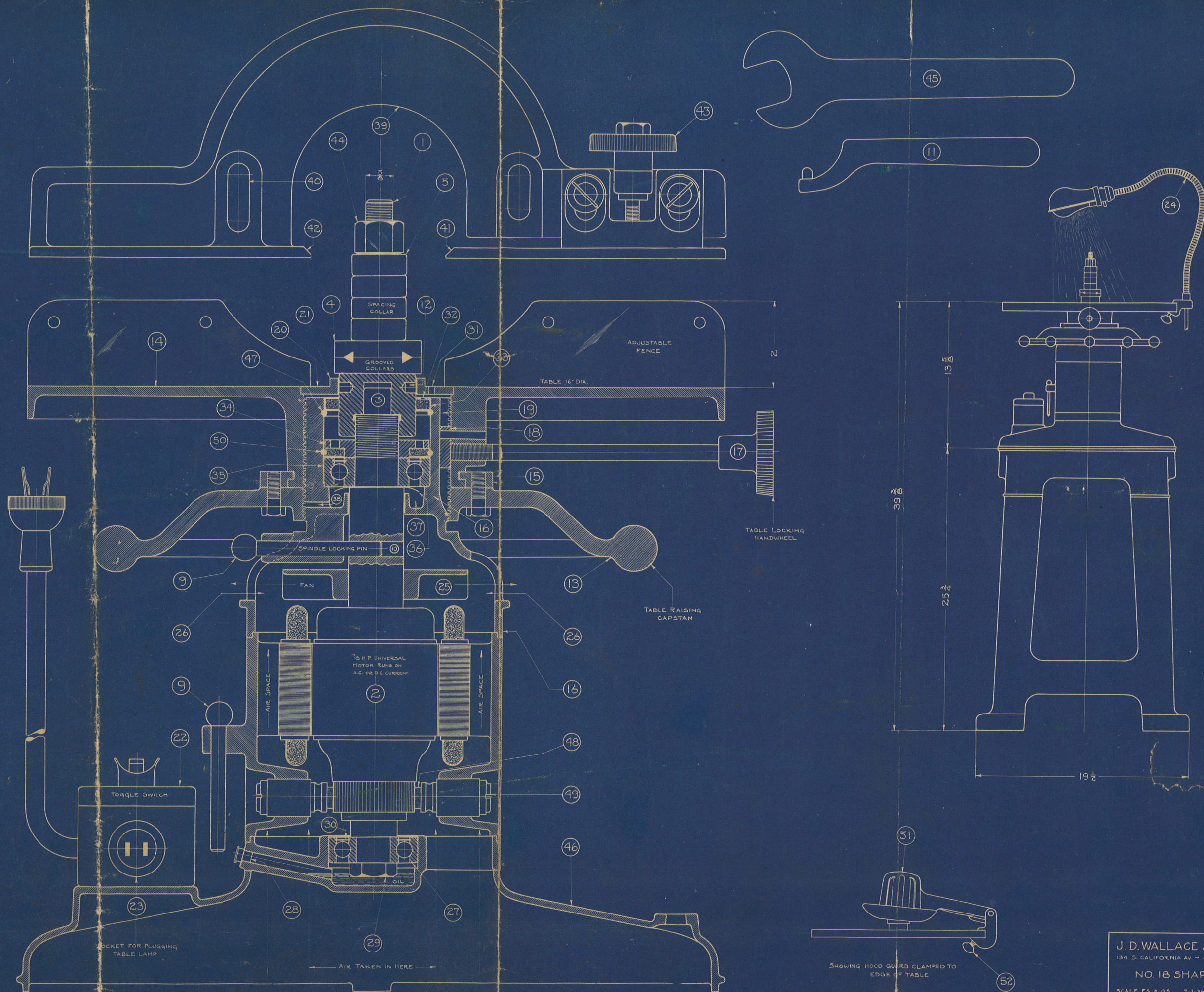
SHOWING SETUP OF KNIVES MADE FROM STANDARD SHAPER STEEL



SHOWING SETUP WITH A SOLID SHAPER CUTTER



SHOWING SETUP OF CHUCK AND COLLET FOR HOLDING ROUTING TOOLS



SOCKET FOR PLUGGING TABLE LAMP

AIR TAKEN IN HERE

SHOWING HOOD GUARD CLAMPED TO EDGE OF TABLE

J. D. WALLACE AND CO.  
 134 S. CALIFORNIA AV. CHICAGO, ILL.  
 NO. 18 SHAPER  
 SCALE P5 & Q5 7-1-36 1736