

Wadkin

Chisel Mortiser Type, M.G.

PRINCIPAL DIMENSIONS AND CAPACITIES

Will take timber when using 4" long chisels	10½" deep x 7" wide
Will take timber when using 6½" long chisels	9" deep x 7" wide
Maximum size of square chisel with 1 h.p. motor	¾"
Will bore up to	¾" x 5" deep
Height of table from floor	22¼"
Longitudinal motion of table	18"
Transverse motion of table	3½"
Horse power of motor	1
Speed of motor on 50 cycles in r.p.m.	2800

DETAILS INCLUDED WITH THE MACHINE

One set of adapter bushes, comprising one each $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{3}{8}$ ", for bits and $\frac{13}{16}$ " and $1\frac{3}{16}$ " for chisels.
 One stop bar with two stops. One depth stop. One set of spanners. One grease gun and sample tin of ball bearing grease lubricant.

Wadkin Ltd., Green Lane Works, Leicester.
 Telephones : 27114 (4 lines) 28021 (3 lines)

London Office, 89 Kingsway, W.C.2
 Telephone : HOLborn 3974 (2 lines)

MORTISING

Do not allow the lips or spurs of the bit to touch the cutting edge of the chisel, they must be set $\frac{1}{32}$ " clear. To set the bit correctly first keep the lips close up to the cutting edge of the chisel and at the same time set the shoulder of the chisel $\frac{1}{32}$ " from the machine chuck as shown at 'A,' Fig. 1. When in this position, securely lock the bit and afterwards push the chisel until the shoulder is in contact with the face of the chuck and finally lock tight.

Do not jerk the tool into the work but give steady pressure. Withdraw the tool occasionally from the work to allow the bit to clear itself of chips.

A set of bushes is supplied to take the full range of tools up to the machine capacity.

HAND LEVER

This is adjustable to the most convenient position by undoing the nut at the back of the quadrant and fixing in any of the holes in the quadrant. The stop 'C,' Fig. 3, is fixed in any of the holes provided to limit the backward movement of the lever.

STOPS

Stop 'B,' Fig. 2, controls the travel of the tool and determines the depth of mortise. The length of the mortise is obtained by the two stops on the long bar fixed on the table.

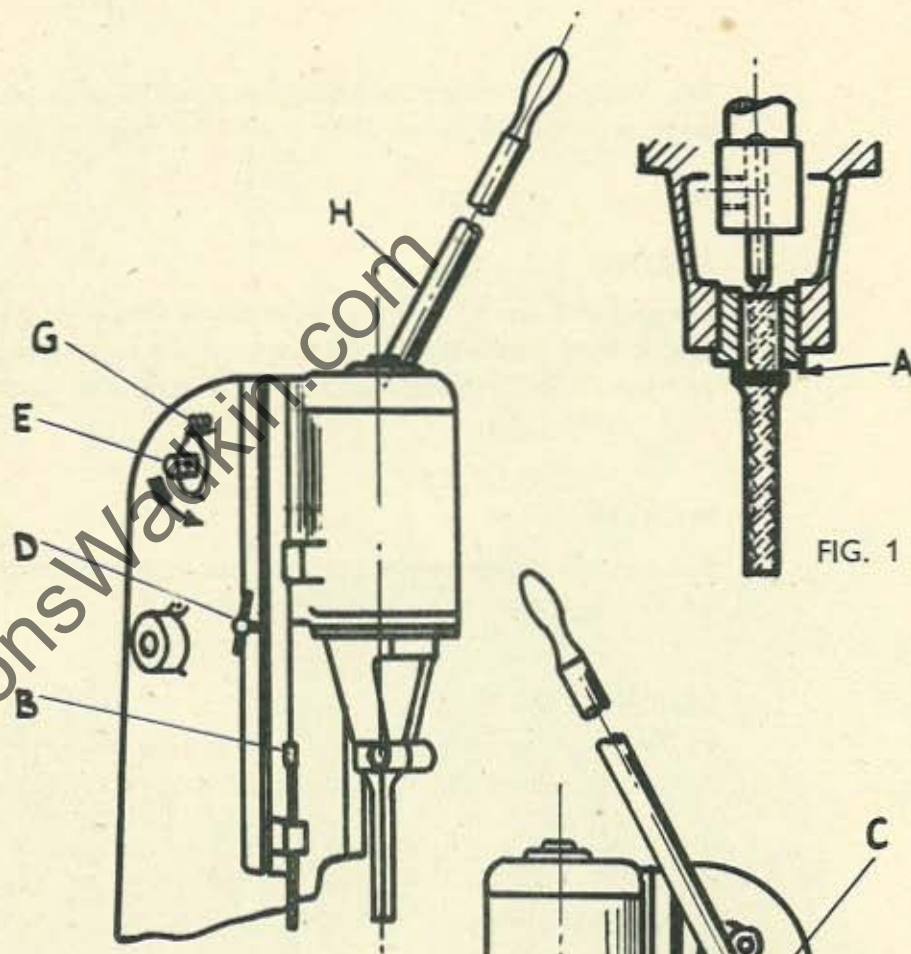


FIG. 2

FIG. 1

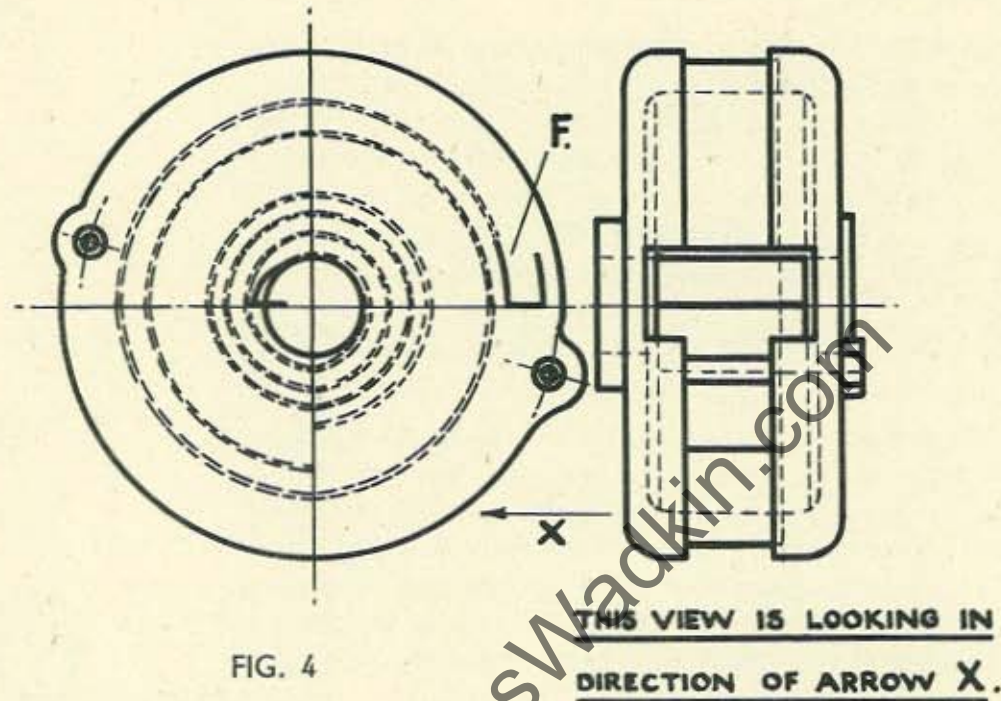


FIG. 4

COUNTERBALANCE SPRING

The chisel headstock is balanced by a spring arrangement which is set before the machine is despatched. Should it be necessary to adjust or remove the spring, the following instructions must be observed. The complete spring box is attached to spindle 'E,' Fig. 2. To give correct tension to the spring to control the motor in the up and down movement, give a partial turn to the spindle 'E' in anti-clockwise direction with a bar placed in the end of the spindle, taking care to loosen screw 'G', Fig. 2. To test the tension, first tighten screw 'G' and pull down hand lever a few times. If movement is not easy then give a partial turn to the spindle 'E' and lock screw 'G' in either of the locating holes in the spindle.

To remove the complete box from the machine, the motor headstock must be lowered and locked by handle 'D,' Fig. 2. Unloosen chain from headstock, slacken off the screw 'G' and remove the grub screw on the right hand side. The spindle 'E' can now be removed, giving access to the spring box. The spring, when mounted in the box, must have the hook pointing upwards as shown at 'F,' Fig. 4.

SQUARE CHISELS AND BITS

The chisel must be sharpened on the inside only and the cutting edges should be shaped to give a curve shown at Fig. 5 and maintained in a shape as new. Never file the outside as this will reduce the size of the mortise. The bevels of the cutting edges must meet exactly at the corners. The depth 'U' from the corner point to the curve at the centre should be about $\frac{1}{8}$ the diameter of the size of the chisel. The cutting edges must be as short as possible and filed to an angle of about 35° as shown at Fig. 5. The part behind the cutting edges must then taper off to an angle of 25° . It is recommended that the special tool illustrated below (Fig. 7) is used to ensure the correct angle on all four cutting edges of the chisel.

The bit is sharpened by filing above the cutting edges 'V' keeping the file at an angle of 15° . They must be kept in a straight line with the inside points extending past the centre, as shown at Fig. 6. The spurs 'W' must be sharpened on the top and front only, never on the outside. They must be kept in line with the cutting edges 'V.' When a bit is worn away by frequent sharpening replace by a new one, otherwise the square chisel may be split at the cutting edge. Use a file of very fine grade for sharpening both chisels and bits.

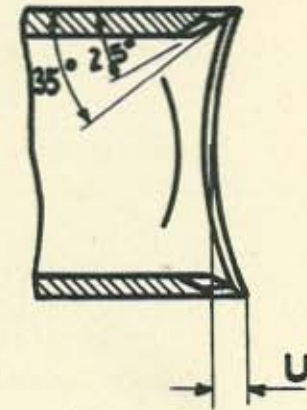


FIG. 5

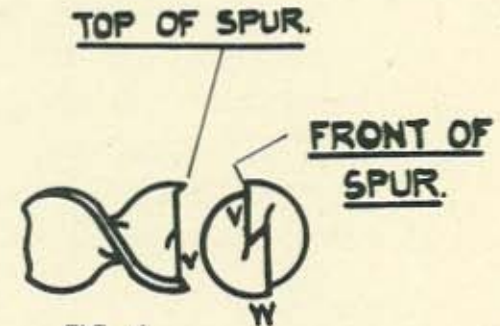


FIG. 6

SHARPENER FOR HOLLOW MORTISE CHISELS

The tool illustrated opposite has been produced to enable mortise chisels to be kept properly sharpened. It is used in an ordinary joiner's brace and is maintained centrally with the axis of the chisel by means of a pilot which fits the bore of the chisel. This ensures all four cutting edges being ground to the correct angle. The corners only must be finished off sharp with a file.

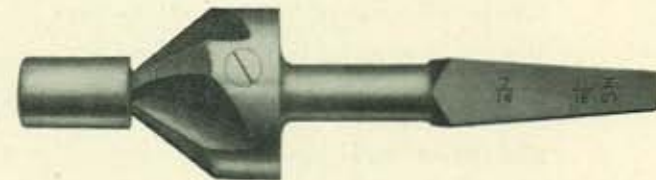


FIG. 7

BALL BEARING LIST

Motor shaft	1 SKF RM 6 F	$\frac{3}{4}$ " bore,	2" outside diam.,	$\frac{11}{16}$ " wide
Motor shaft	1 SKF RL 11 F	$1\frac{1}{8}$ " bore,	3" outside diam.,	$\frac{11}{16}$ " wide

ELECTRICAL INSTALLATION INSTRUCTIONS

The cabling between the motor and the control gear has been carried out by Wadkin Ltd., and it is only necessary to bring the line leads to the machine for it to be put into service. This should be done as follows :—

- (1) Fit triple pole isolating switch near the machine, unless this has been supplied to special order by Wadkin Ltd., when it will be fitted and connected up at the machine.
- (2) Connect the line lead to the appropriate terminals. See diagram of connections. The cables should be taken to the machine in conduit and secured by locknuts to the control gear.
- (3) Connect solidly to earth.
- (4) Close isolating switch and press ^{START}~~stop~~ button. If machine does not rotate in the right direction, interchange any two incoming lines.

FAILURE TO START

- (1) Electric supply is not available at machine.
- (2) Fuses have blown or have not been fitted.
- (3) Isolating switch has not been closed.

STOPPAGE DURING OPERATION AND FAILURE TO RESTART

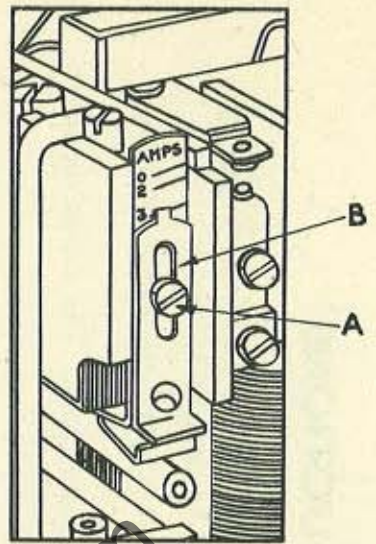
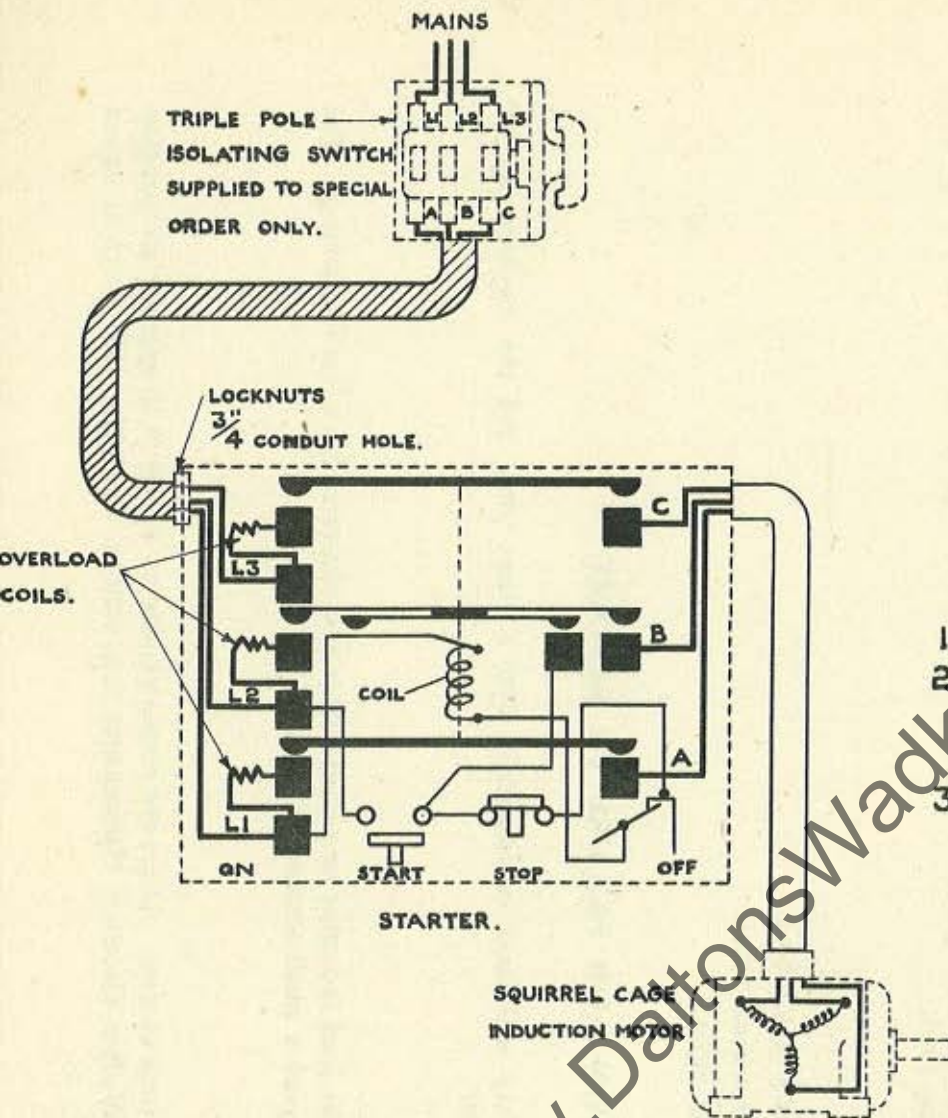
- (1) Fuses have blown.
- (2) Overloads have tripped. They will reset automatically after a short time, and the machine can be restarted in the usual manner.

ADJUSTMENTS

For a finer overload setting, set the load indicator to a lower value and *vice-versa* for a less fine setting. The load indicator should only be moved a small amount at a time.

GENERAL

Check the earth connection from time to time. Users are recommended to display in an appropriate position in the maintenance department Wadkin Electrical Maintenance Instructions, Card No. 356, which is issued gratis on application.



TO SET LOAD INDICATOR.

1. LOOSEN SCREW 'A'.
 2. SLIDE INDICATOR 'B' TILL END OF POINTER IS ON RATED CURRENT OF MOTOR.
 3. TIGHTEN SCREW 'A'.
- STARTER WILL THEN TRIP WHEN CURRENT EXCEEDS SCALE SETTING BY APPROX. 25%.

INSTALLATION INSTRUCTIONS.

FIT TRIPLE POLE ISOLATING SWITCH NEAR MACHINE IN ORDER THAT THE STARTER MAY BE READILY ISOLATED FOR INSPECTION PURPOSES. BRING LINE CABLES L1-L2-L3 THROUGH CONDUIT WHICH SHOULD BE SCREWED INTO THE STARTER AND HELD BY MEANS OF LOCKNUTS. WHEN ISOLATING SWITCH IS NOT SUPPLIED CABLING SHOWN THUS TO BE CARRIED OUT BY CUSTOMER.

OPERATING INSTRUCTIONS.

TO START, CLOSE ISOLATING SWITCH AND PRESS GREEN BUTTON MARKED "ON". TO STOP PRESS RED BUTTON MARKED "STOP". ENSURE THAT DIRECTION OF ROTATION IS CORRECT BEFORE PUTTING THE MACHINE INTO SERVICE. TO REVERSE ROTATION INTERCHANGE L1 & L2.

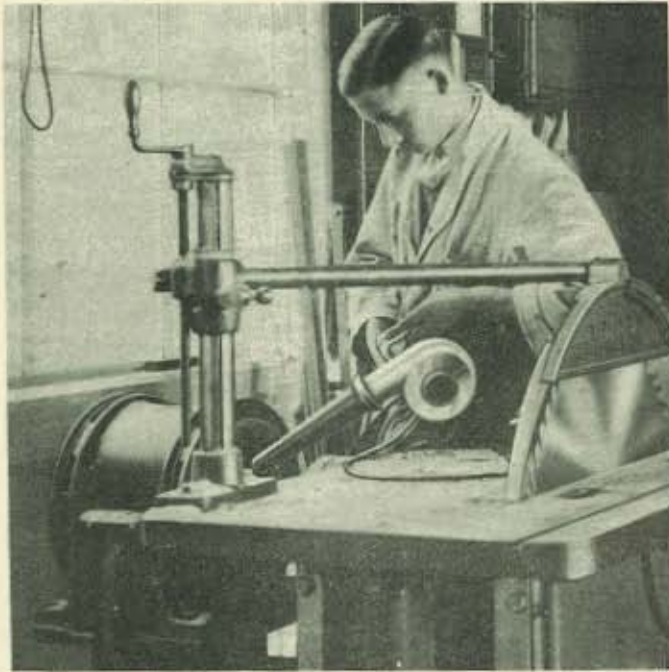
OVERLOAD.

FOR A FINER SETTING OF OVERLOAD, SET LOAD INDICATOR TO A LOWER VALUE AND VICE VERSA FOR A LESS FINE SETTING. LOAD INDICATOR SHOULD ONLY BE MOVED A SMALL AMOUNT AT A TIME. SHOULD THE MOTOR STOP DUE TO OVERLOAD WAIT FOR A SHORT TIME TO ALLOW THE RELAYS TO COOL AND THEN START IN THE USUAL MANNER.

EARTH MACHINE.

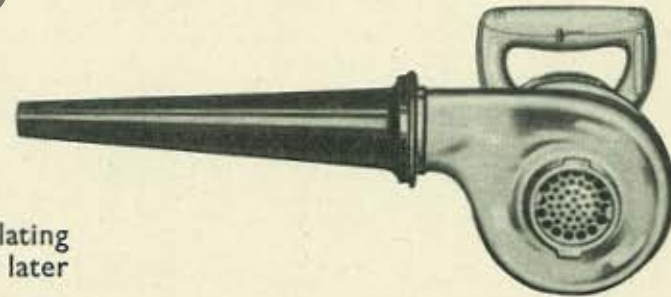
DIAGRAM OF CONNECTIONS.

D 165/1.



DONT LEAVE ELECTRIC MOTORS TO LOOK AFTER THEMSELVES . . .

. . . blow away harmful dust, chips and dirt with a Wadkin Electric Blower



No motor can run at its maximum efficiency with its ventilating duct or control gear covered with dust and dirt. Sooner or later the resultant overheating will cause serious trouble.

Similarly, accumulations of chips and dust, in the mechanical parts of the machine can interfere with its efficiency. A few minutes a week for blowing down all Woodworking Machinery will be amply repaid in better and easier running, in increased life, and freedom from breakdown.

Blowers can be supplied for single phase A.C. or Direct Current for any voltage up to 250.

Please state voltage when ordering.

SPECIFICATION

Horse-power of motor	1/2
Net weight...	7 lbs.
Speed	11,400 r.p.m.
Velocity of air in feet per minute	14,800
Fully guaranteed for one year		

www.DaltonsWadkin.com