

# Wadkin

DOUBLE END DIMENSIONING AND PROFILING MACHINE TYPE W.E.

## PRINCIPAL DIMENSIONS AND CAPACITIES

Maximum section of material forward feeding dogs. . . . .	15" x 6"	385 x 150 mm.
Normal maximum sawing depth . . . . .	3"	76 mm.
Length between tenon shoulders	- maximum 6' - 6"	1980 mm.
	- minimum 6½"	165 mm.
Distance of saw from chain track	- maximum 5"	127 mm.
	- minimum ½"	12 mm.
Distance between outside of chain tracks	- maximum 6' - 5½"	1968 mm.
	- minimum 6"	150 mm.
Maximum length of tenon . . . . .	4½"	115 mm.
Diameter of cut off saws . . . . .	12"	300 mm.
Rates of feed	- 50 cycles 15 and 30 ft/min.	4.5 and 9 m/min.
	- 60 cycles 18 and 36 ft/min.	5.5 and 11 m/min.
Heads will cant, with one head either top or bottom . . . . .	180°	180°
Rise and fall of overhead pressures . . . . .	9"	230 mm.
Horsepower and speed of motors . . . . .	50 cycles	60 cycles
Head motors 5 h.p. . . . .	3000 r.p.m.	3600 r.p.m.
Feed motor 1 h.p. . . . .	1500 r.p.m.	1800 r.p.m.
Traverse motor 1 h.p. . . . .	1500 r.p.m.	1800 r.p.m.
Note:- If frequency changer is supplied head motors have additional speed of 6000 r.p.m.		
Nett weight approximate . . . . .	8500 lbs.	3900 kg.
Gross weight approximate . . . . .	10,000 lbs.	4500 kg.

## FEED CHAINS

### ADJUSTMENTS

The feed chains are aligned and the chain sprockets dowelled before despatch and should not be altered. Any alteration for squareness should be done by adjusting the feed dogs. Tensioning the feed chains is done by adjusting idler sprocket brackets 'A' Fig.1 by means of hexagon head screw and locknut 'B' Fig.1. Both chains should be tensioned equally. Chain return should be  $5\frac{3}{4}$ " above front bed slide for correct tension.

### LUBRICATION

Lubrication of the feed chains is done by hand pumps 'A' Fig.2. These pumps should be operated daily by pulling out pump handle to maximum and then releasing. The flow is set before despatch. The reservoirs should be kept filled with Wadkin Oil Grade L. 4. The chain sprockets are lubricated by tip-up oilers 'C' Fig.1 and 'B' Fig.2. These should be filled daily with Wadkin Oil Grade L. 4.

## FEED UNIT

### ADJUSTMENTS

The power from the feed motor is transmitted by two step flat pulleys to the wormshaft and wormwheel mounted on the feed shaft. To change feed speeds remove guard 'C' Fig.2. Slacken off belt by means of handwheel 'D' Fig.2. Select speed range and re-tension belt and replace guard. For setting up, the chains can be operated manually with the large crank handle supplied to fit the square end on the wormshaft.

### LUBRICATION

Check oil sight 'E' Fig.2 in wormbox monthly. Top up with Wadkin Heavy Gear Oil Grade L.2. Oil level should not be less than two thirds up the sight glass.

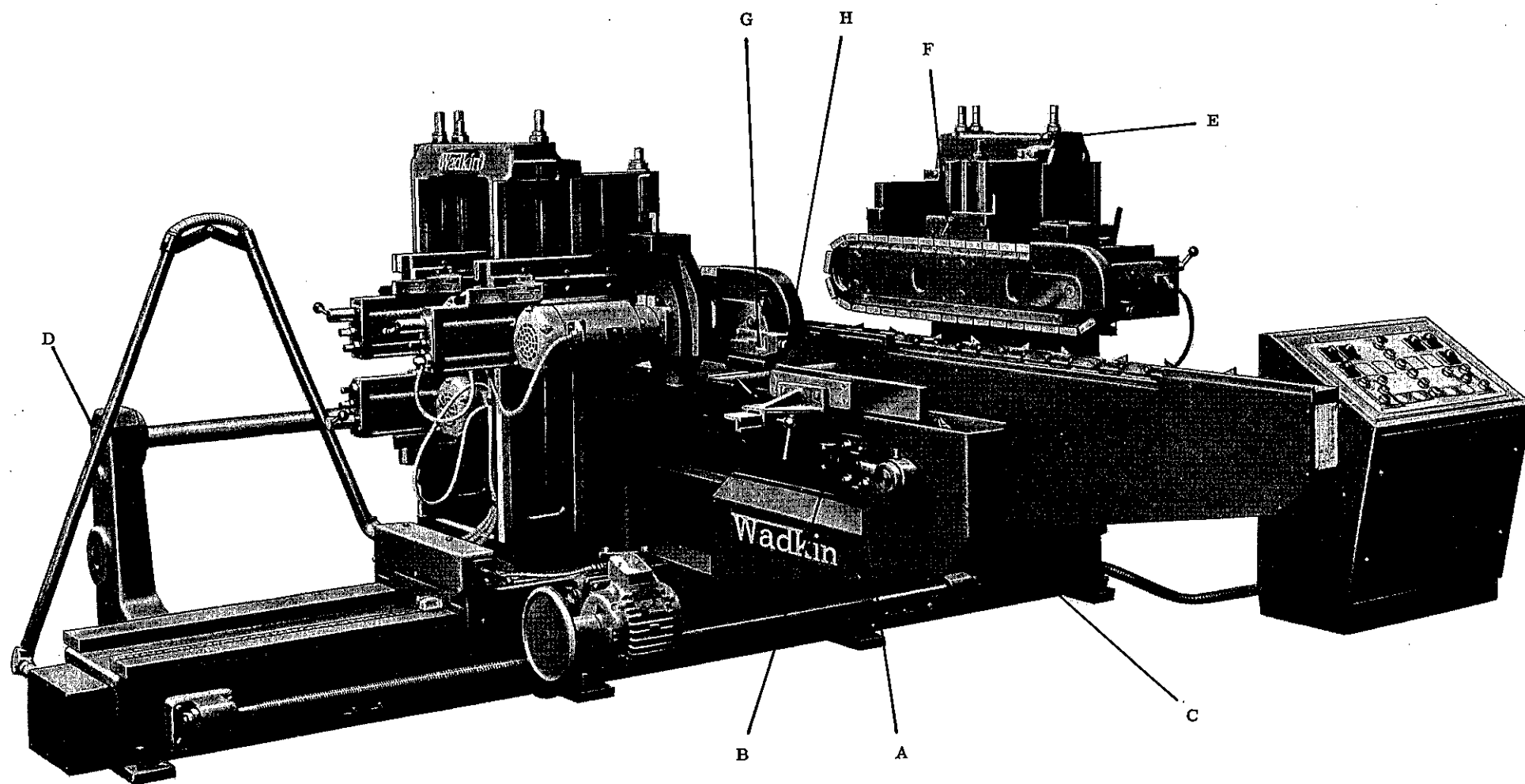


FIG. 1.

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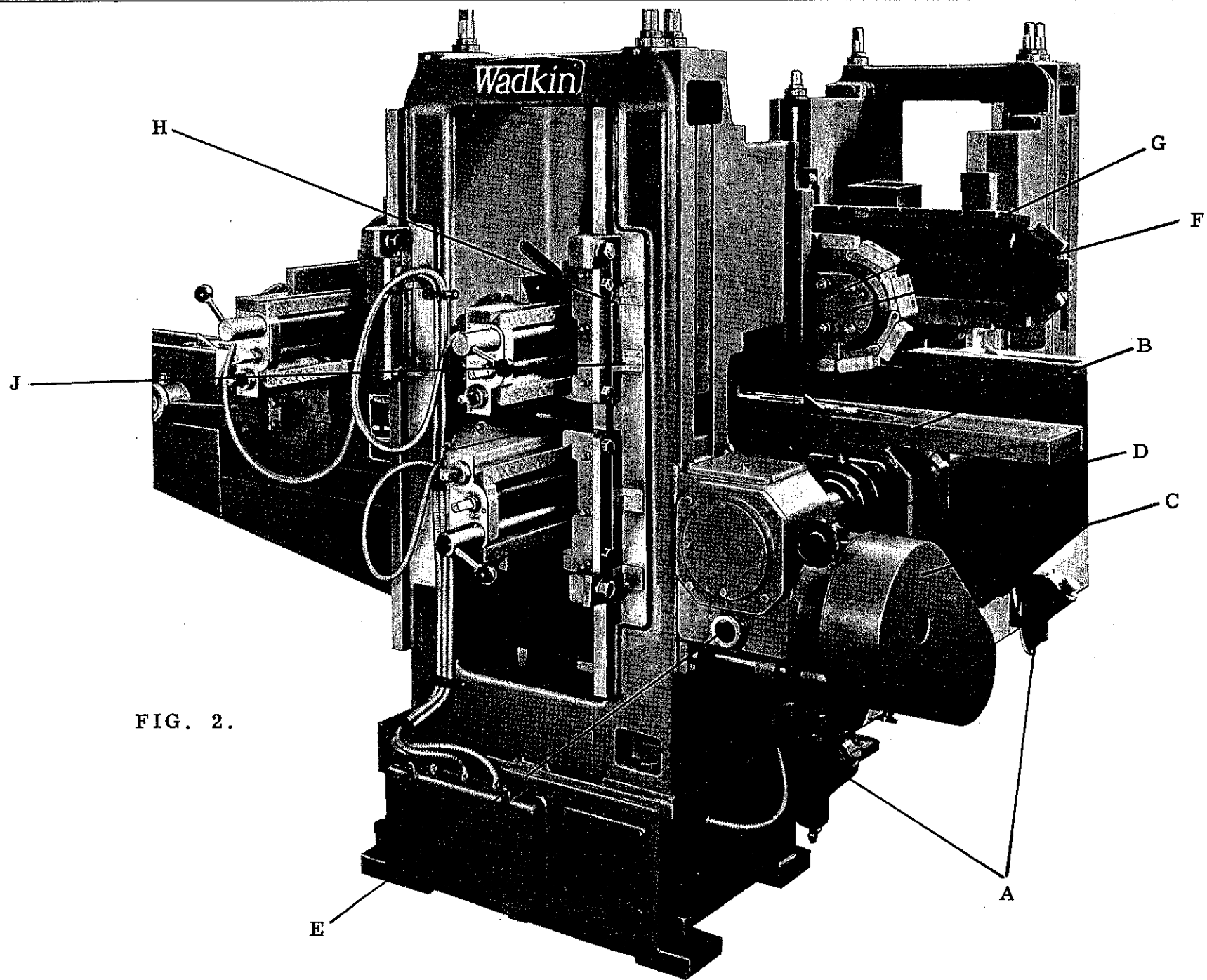


FIG. 2.

## LUBRICATION (Continued)

Feed shaft support bracket grease nipple 'D' Fig.1. Give three depressions of grease gun every three months. Use Wadkin Grease Grade L.6. The bearings of the feed motor are lubricated by grease nipples situated at each end of the motor. These points should be given three depressions of the grease gun every three months using Wadkin Grease Grade L.6.

## TOP CATERPILLAR PRESSURE UNITS

## ADJUSTMENTS

Rise and fall of the pressure beam is effected by raising screw 'E' Fig.1 and can be locked when set by handle 'F' Fig.1. The infeed pressure shoe units 'G' Fig.1 which hold back the work on to the feed dogs and control the work before entering the main pressure, are spring loaded and can be varied by adjusting knurled screw 'H' Fig.1. These units can be fitted on the inside of pressure beams if required and the pressure shoes can be locked out by means of square head screw 'A' Fig.3. The track can be tensioned by adjusting quadrant plate 'F' Fig.2 by slackening off bolts and adjusting square head screw 'G' Fig.2. For correct tension it should be possible to lift the top return track at the centre position,  $1\frac{1}{2}$ " (38 mm.) clear of the pressure beams. The pressure rubbers are held in position by two screws and special washers and are easily detachable. Three grades of rubbers are available, hard, medium and soft. The medium grade is fitted as standard.

## LUBRICATION

Tip up oiler 'B' Fig.3 should be filled daily with Wadkin Oil Grade L.4. The flow is set by Wadkin. Oil raising screws 'E' Fig.1 and all slide faces occasionally to ensure smooth operation. A little powdered graphite spread along top and bottom slides of pressure beams will increase efficiency.

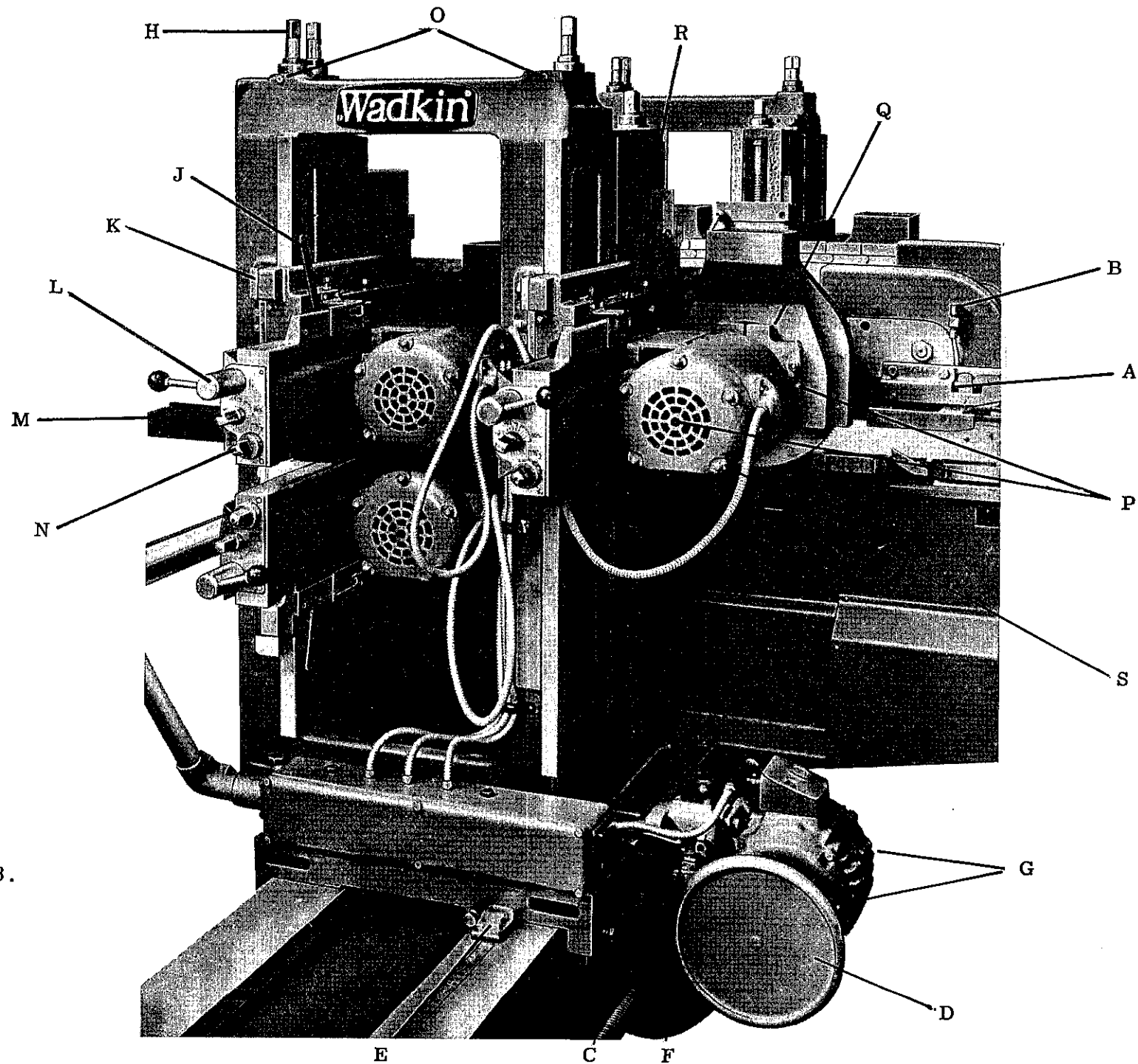


FIG. 3.

## TRAVERSE UNIT

### ADJUSTMENTS

Power traverse to the adjustable headstock is obtained by 1 h.p. motor. Control 'in' or 'out' is by rotary switch 'C' Fig.3. Final adjustment can be carried out manually by handwheel 'D' Fig.3. One revolution gives  $\frac{1}{4}$ " horizontal movement. The power motion is cut out 4" from the end of maximum and minimum settings after which the headstock must be traversed manually. The scale magnifier 'E' Fig.3 is adjustable and is normally set to read the distance between the datum lines which are  $\frac{1}{4}$ " from outside edge of each chain track.

### LUBRICATION

The bed slides and traverse nut are lubricated by hand operated oil pump 'F' Fig.3 which should be operated before traversing headstock by pulling out handle to maximum and then releasing. The flow is set by Wadkin. The pump should be kept filled with Wadkin Oil Grade L.4, check oil sight weekly. Grease end bearings in motor 'G' Fig.3. Give three depressions of grease gun every three months using Wadkin Grease Grade L.6.

## HEAD UNITS

### ADJUSTMENTS

The method of adjusting all head units is identical. Rise and fall of the head is carried out by rotating raising screw 'H' Fig.3, either by ratchet spanner or large crank handle supplied with the machine. This movement can be locked by locking plate 'K' Fig.3. Horizontal adjustment is carried out by rotating screw 'M' Fig.3 using small crank handle supplied and movement locked with lever 'J' Fig.3. To cant the head, lever 'L' Fig.3 must be released by rotating anti-clockwise three or four turns. The head can then be canted by rotating screw 'N' Fig.3 using small crank handle. Ensure head is locked after setting by rotating lever 'L' Fig.3 clockwise three or four turns, care must be taken not to over tighten.



## HEAD UNITS (Continued)

### ADJUSTMENTS (Continued)

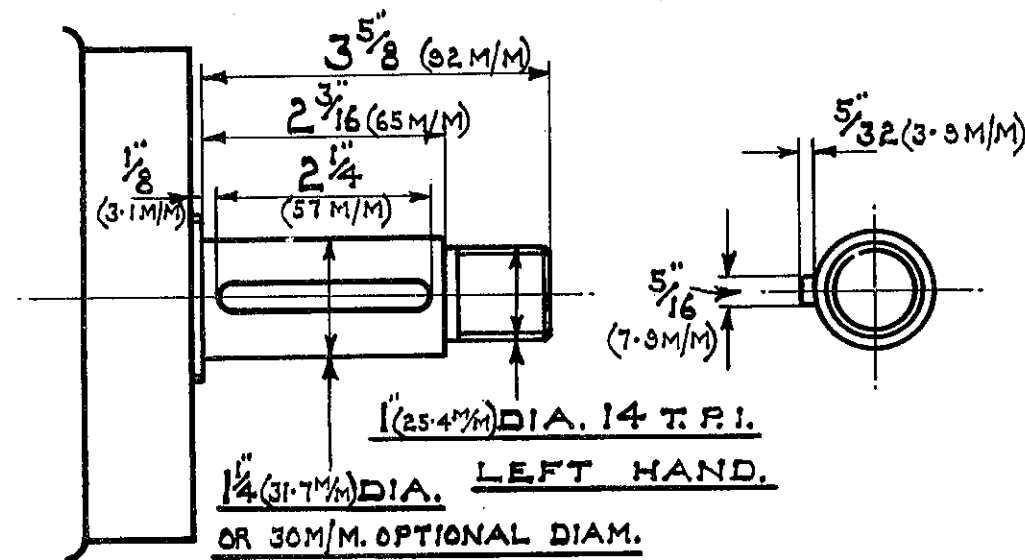
A dowel pin is provided for each head located at front end of head slide to position head in vertical and horizontal positions. A tommy bar hole 'S' Fig.3 is provided at the rear end of each head motor to facilitate holding the spindle when locking or unlocking the cutterblocks. Exhaust hoods are provided with each head and are carried from clamping plate 'Q' Fig.3. This plate can be swivelled through 180° according to head position and the hood can be fitted with the plate inside or outside to suit cutterblock. Slots allow adjustment of hood on the plate. Scales are provided for vertical, horizontal and canting movements. There are two pointers for the vertical adjustment of the head. One for when the head is vertical 'H' Fig.2 showing dimension of the spindle shoulder above or below the chain track and one for when the head is horizontal 'J' Fig.2 showing the dimension of the spindle centre line above or below the track. The pointer for the horizontal position 'R' Fig.3 of the head is used in conjunction with code plate 'J' Fig.1 and shows the dimension of saw, tenon block, top scriber or bottom scriber spindle centre line from the datum line, i.e.  $\frac{1}{4}$ " from the outside edge of the chain track.

### LUBRICATION

Grease nipple each end of motor units 'P' Fig.3. Give three depressions of the grease gun every three months. Use Wadkin Grease Grade L.6. Oil nipples for raising screws 'O' Fig.3 should be given three depressions of oil gun weekly. Use Wadkin Oil Grade L.4. Oil cross traverse screws 'M' Fig.3 and all slide faces occasionally to ensure smooth operation.

### WADKIN OILS & GREASES WITH EQUIVALENTS

WADKIN GRADE	CASTROL EQUIVALENT	MOBIL OIL CO. EQUIVALENT	SHELL EQUIVALENT
L2	ALPHA 417	MOBIL DTE OIL BB	VITREA OIL 69
L4	PERFECTO NN	MOBIL VACTRA OIL	VITREA OIL 33
L6	SPHEEROL S	MOBILUX GREASE No. 2	ALVANIA GREASE No. 3



DETAIL OF SPINDLE END FOR ALL HEAD UNITS.

### DUST EXTRACTION EQUIPMENT

An adequate dust extraction system must be provided for efficient operation of the machine. A complete set of trunking has been designed for the machine and can be supplied to special order. All exhaust hood outlets are 5" square. Recommendations for extraction equipment are as follows :-

For 6 to 8 head machine allow 4160 cubic feet air/minute x 2" total water gauge.

For 4 head machine allow 2620 cubic feet air/minute x 2" total water gauge.

# BEARING LIST

Position on Machine	Makers No.	Quantity	Bore Dia.	Outside Dia.	Thickness
Raising screws for head and pressures	SKF 08 thrust washer	1 per screw	1"	1.25/32"	$\frac{5}{8}$ "
Driving end head motors	14 MJ 45	1 per head	45 mm.	100 mm.	25 mm.
Non driving end head motors	MJ 30 SRR	1 per head	30 mm.	72 mm.	19 mm.
Nut for traverse	SKF 019 thrust washer	2	$2\frac{3}{8}$ "	3.9/16"	1"
Outer support feed shaft	SKF 6308 deep groove	1	30 mm.	72 mm.	19 mm.
Wormwheel end feed shaft	SKF 6409 deep groove	1	45 mm.	120 mm.	29 mm.
Top pressure chainwheels	R & M LJ 30 RR sealed	2	30 mm.	62 mm.	.945"
Wormshaft	Hoffman 340 AC	2	40 mm.	90 mm.	23 mm.
Feed motor					
Drive end	Hoffman 320 P	1	20 mm.	52 mm.	15 mm.
Non drive end	Hoffman 320 P	1	20 mm.	52 mm.	15 mm.
Traverse motor					
Drive end	Hoffman 320 P	1	20 mm.	52 mm.	15 mm.
Non drive end	Hoffman 320 P	1	20 mm.	52 mm.	15 mm.

## MAINTENANCE SCHEDULE

### DAILY

1. Fill chain sprocket tip up oilers.
2. Fill pressure chain tip up oilers.
3. Operate hand pumps for feed chains. Top up with oil if required.

### WEEKLY

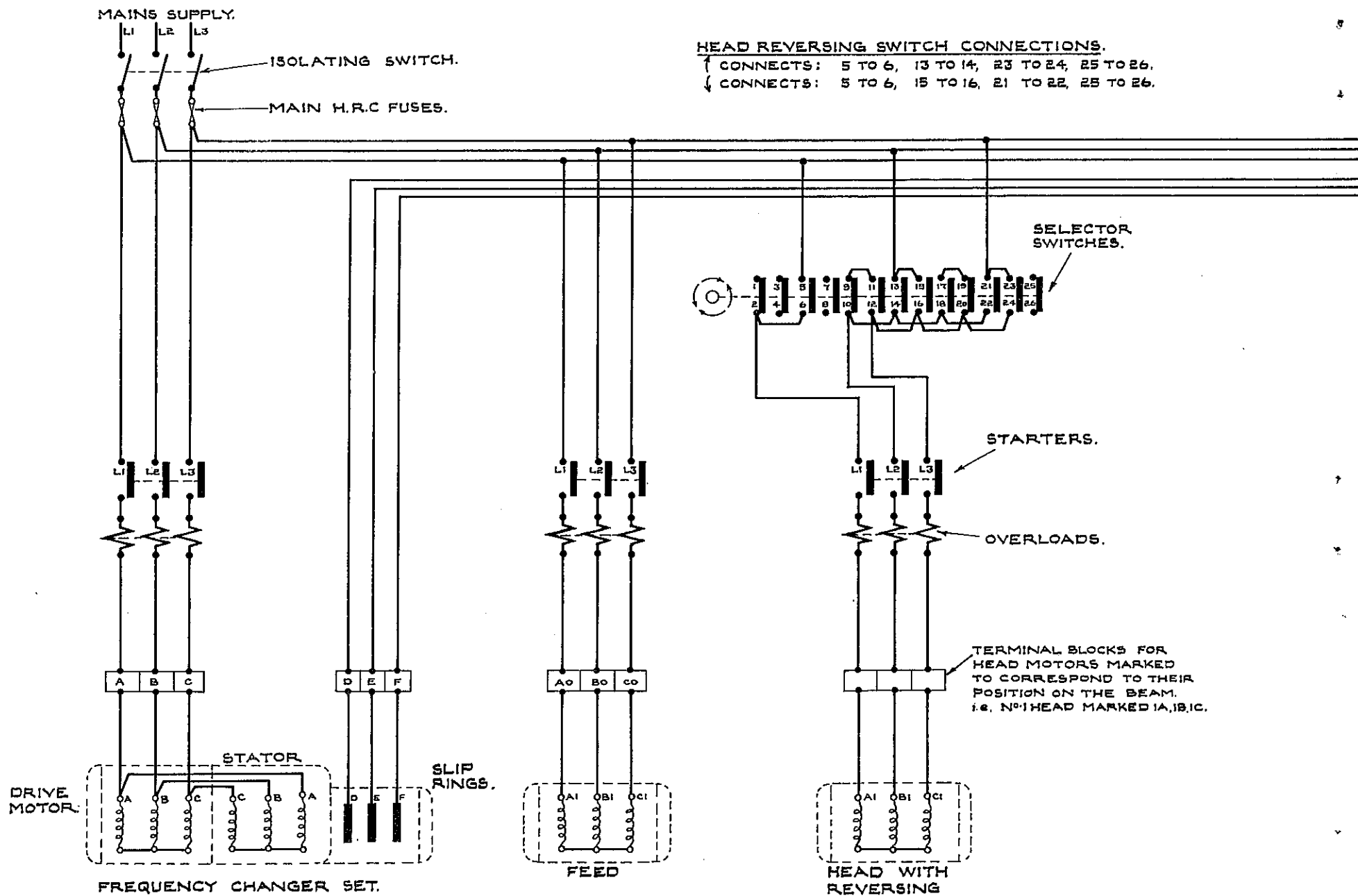
1. Check oil sight in traverse pump. Top up with oil if required.
2. Oil all slides and raising screws.

### MONTHLY

1. Check oil sight in feed wormbox. Top up with oil if required.
2. Operate machine over full traverse movement.

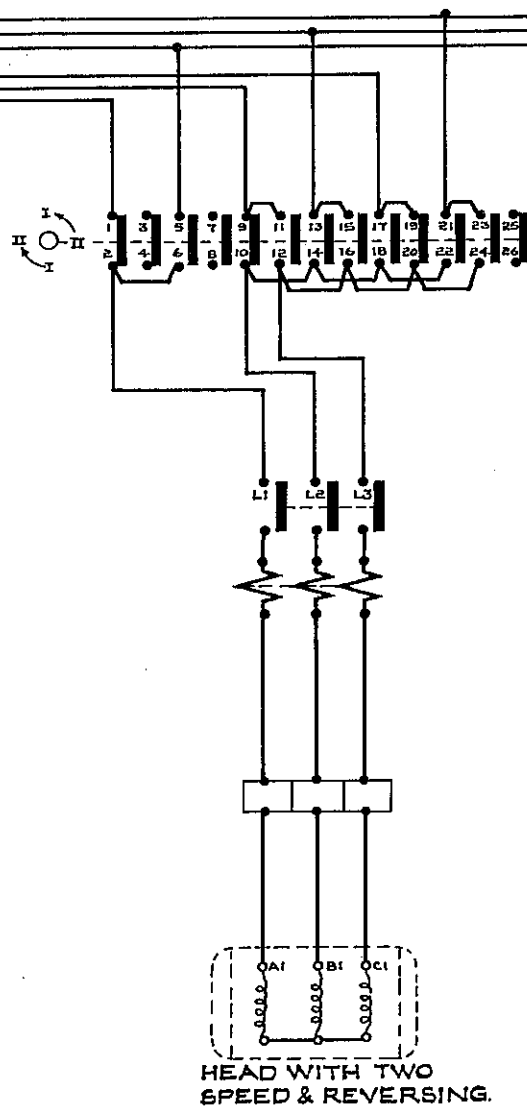
### EVERY THREE MONTHS

1. Grease head unit motor bearings.
2. Grease feed shaft outboard bearing.
3. Grease feed motor bearings.
4. Grease traverse motor bearings.



# HEAD TWO SPEED & REVERSING SWITCH CONNECTIONS.

- I CONNECTS: 5 TO 6, 13 TO 14, 23 TO 24, 25 TO 26.
- II CONNECTS: 1 TO 2, 9 TO 10, 19 TO 20, 25 TO 26.
- I CONNECTS: 5 TO 6, 15 TO 16, 21 TO 22, 25 TO 26.
- II CONNECTS: 1 TO 2, 11 TO 12, 17 TO 18, 25 TO 26.



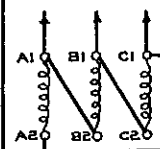
# TRAVERSE SWITCH CONNECTIONS.

- O MAKES NO CONNECTIONS.
- CONNECTS: 1 TO 2, 7 TO 8, 9 TO 10.
- ← CONNECTS: 1 TO 2, 5 TO 6, 11 TO 12.

## MOTOR CONNECTIONS.

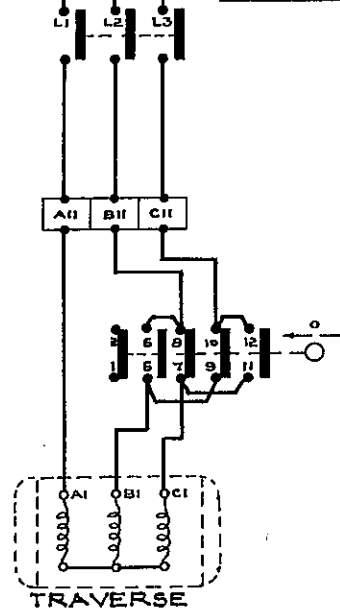
'STAR' CONNECTION FOR MAINS SUPPLY 380/440 VOLTS, 3 PHASE, 50 CYCLES OR FREQUENCY CHANGER OUTPUT OF 500/550 VOLTS, 3 PHASE, 100 CYCLES.

STAR

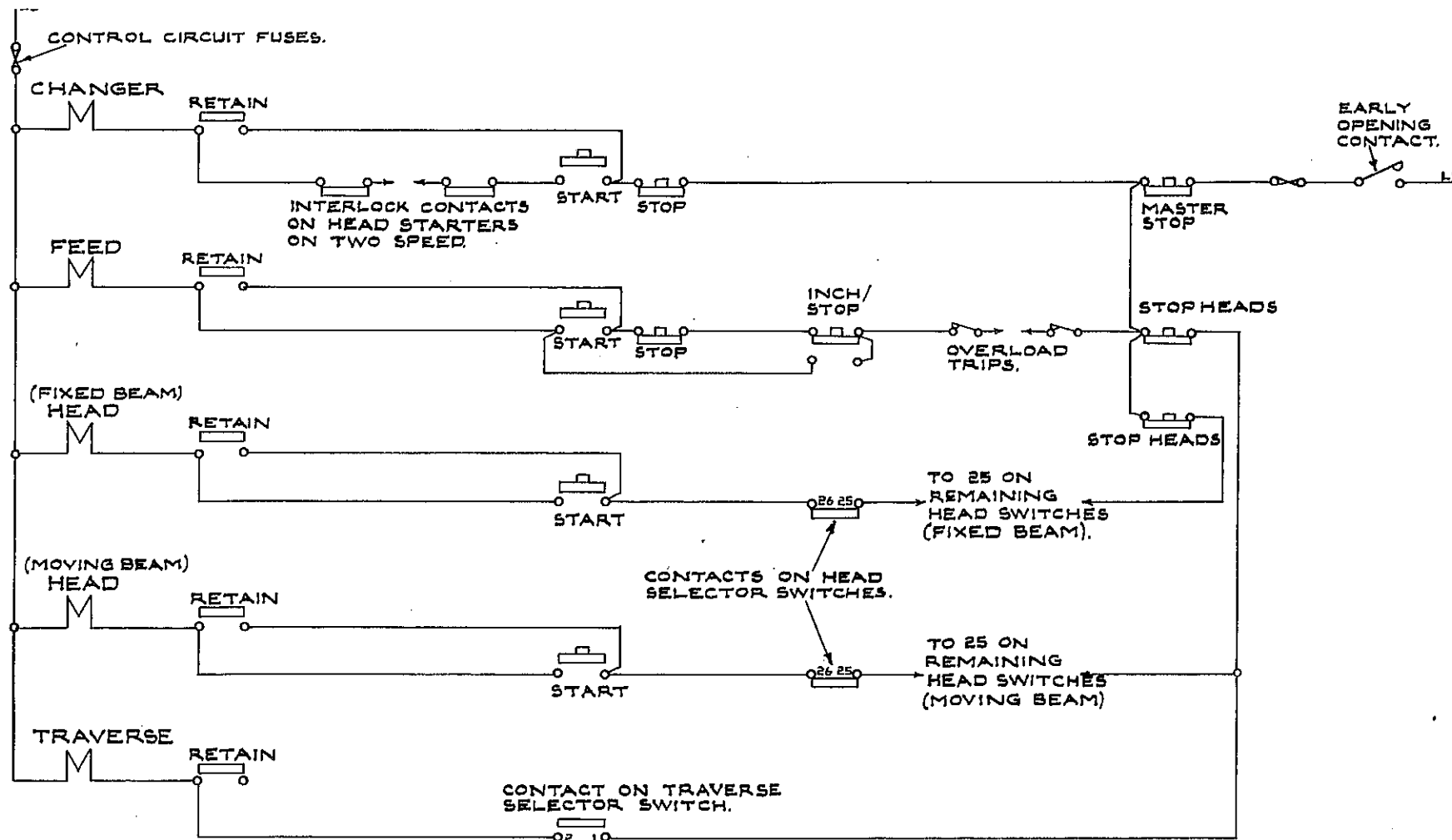


DELTA

'DELTA' CONNECTION FOR MAINS SUPPLY 200/220 VOLTS, 3 PHASE, 50 CYCLES OR FREQUENCY CHANGER OUTPUT OF 360/380 VOLTS, 3 PHASE 100 CYCLES.

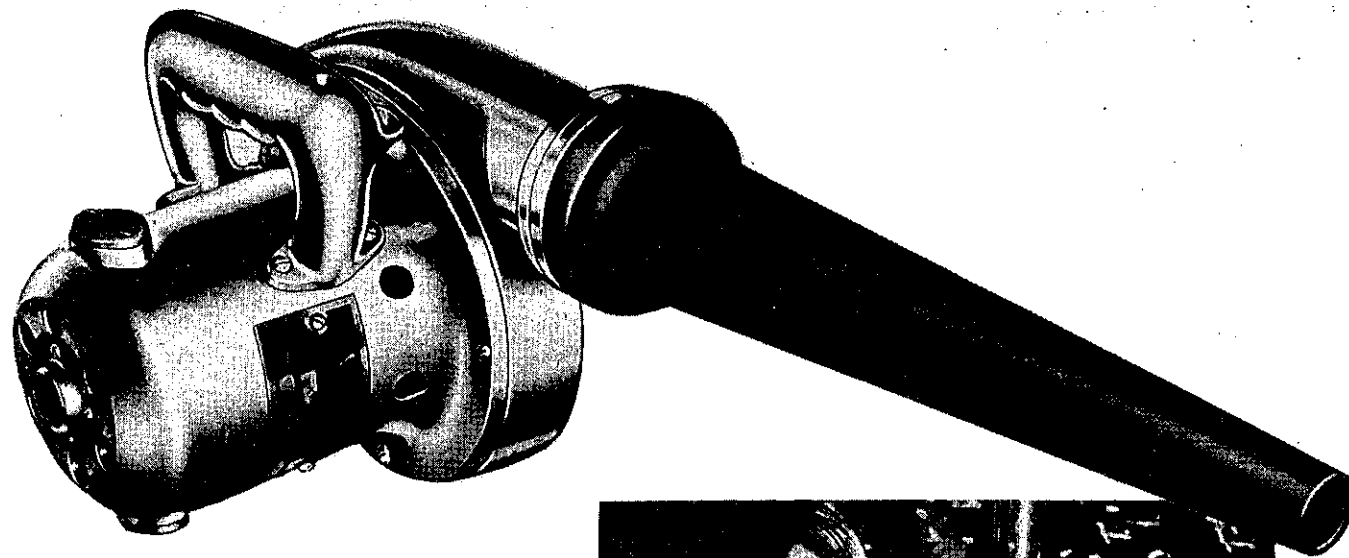


**D.1497**



## CONTROL CIRCUIT CONNECTIONS.

USE WITH DIAGRAM D.1497.



## **... 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.

