Wadkin

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TRIPLE DRUM SANDER, TYPE O T.

PRINCIPAL DIMENSIONS AND CAPACITIES

	42"	52"
Sanding capacity of machine	42" wide x 6" thick (1067 x 152mm)	52" wide x 6" thick (1321 x 152mm)
Diameter of sanding drums	$11\frac{1}{2}$" (nominal) (292mm)	
Speed of 1st and 2nd sanding drums	1,200 r.p.m.	
Speed of 3rd sanding drum	1,335 r.p.m.	
Infinitely variable speeds from	15' to 30' per min. (4.6 to 9.1 metres per min.)	
Horse power of sanding drum motors	$7\frac{1}{2}$	10
Horse power of bed feed motor	2	3
Approximate floor space	7' 4" x 9' 11" (2235 x 3023 mm)	7' 4" x 10' 9" (2235 x 3277 mm)
Net weight in cwts.	95 (10640 lbs) (4825 kgs)	$105\frac{1}{2}$ (11816 lbs) (5360 kgs)
Shipping dimensions in cubic feet	367 (10.4 cu. metres)	410 (11.6 cu. metres)

DETAILS INCLUDED WITH THE MACHINE

Motors and control gear.
Exhaust hood.
Lubricating pump.
Sand paper for each drum.
Set of spanners.
Tin of lubricant.

EXTRAS TO SPECIAL ORDER

Power rise and fall motion to table.
Power operated cleaning brush at the outfeed end of the machine.

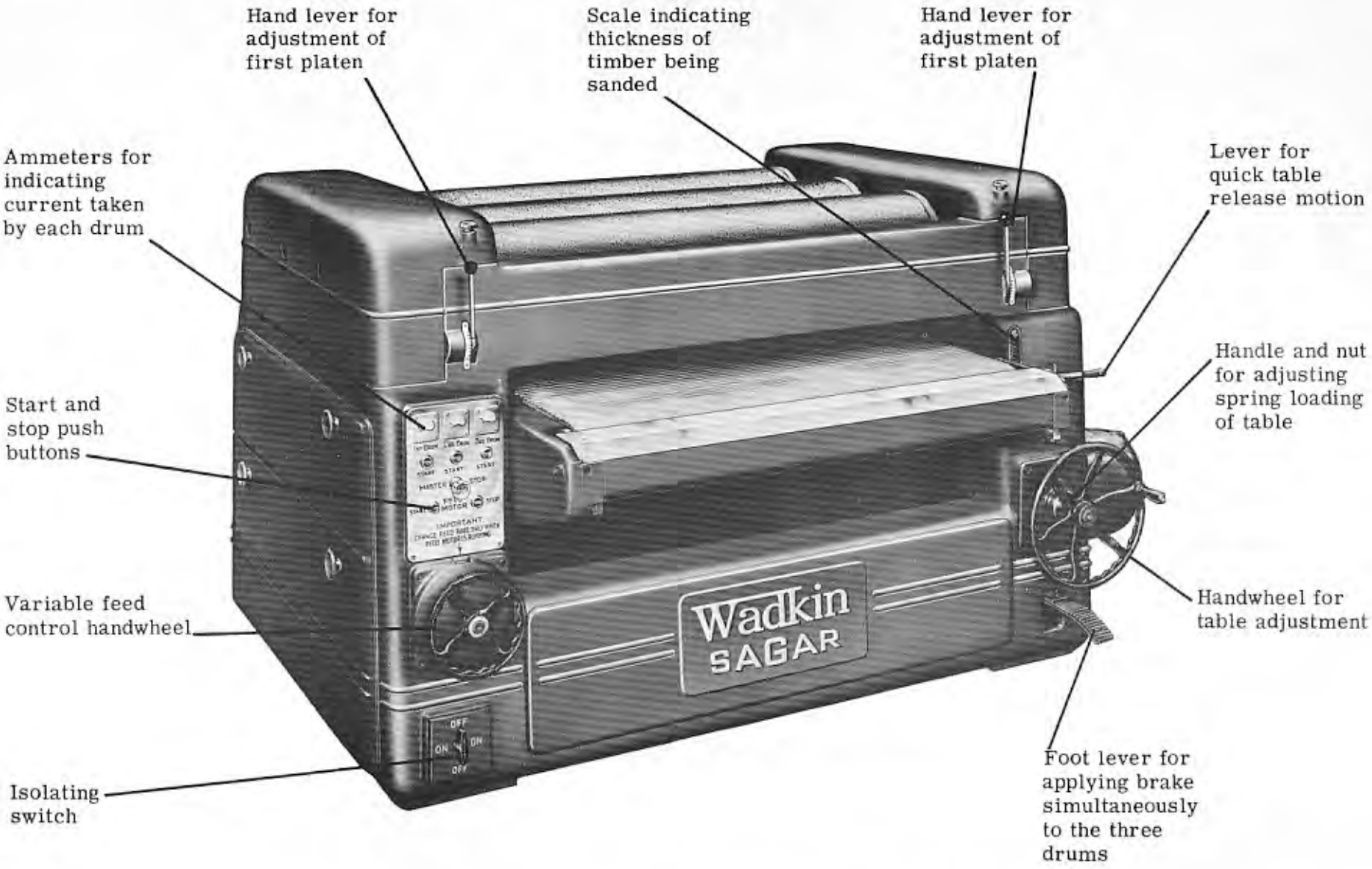


FIG. 1 GENERAL VIEW OF MACHINE WITHOUT EXHAUST HOOD

INSTALLATION

The machine is despatched from the Works either as a complete unit or if it is known that lifting facilities are limited and the machine may have to be moved on rollers or skids, the drums are removed. In either case the table and its counter balance weight are secured so that they do not move during transit. When the machine is sent complete the drums are also wedged up so that their weight does not come onto the ball bearings. The packing for both bed and drums should be left in position until the machine is on its foundations.

The correct way to sling the machine is shown in Fig. 2, i. e. the slings are threaded through the side of the machine.

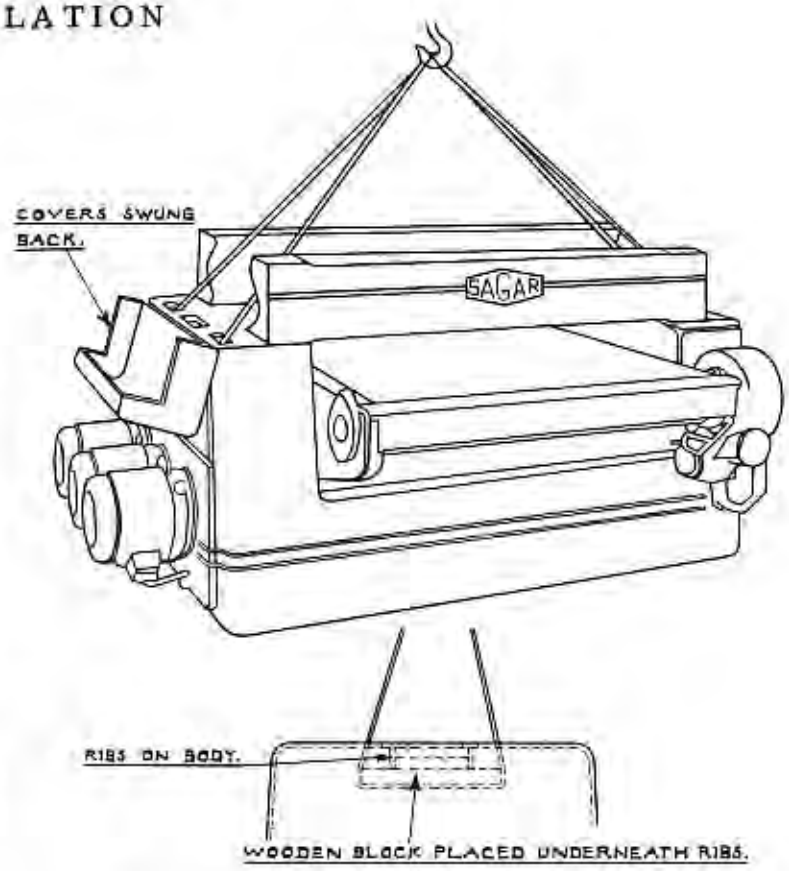


FIG. 2. METHOD OF SLINGING MACHINE.

FOUNDATIONS.

Foundation bolts $\frac{5}{8}$" (16mm) diameter and plates should be used to bolt down the machine to the foundations but these are not supplied with the machine unless specially ordered. Fig. 4 shows position of bolt holes and clearances required. If the ground is very solid a concrete bed 9" (229mm) thick will be sufficient but usually a 12" (254mm) thickness of concrete is required. Provide 4" (102mm) to 6" (152mm) square holes in the concrete and with bolts in position lower the machine onto the foundation. Note, the bolts must have squares under the heads and the square plates must have square holes in them to prevent the bolts rotating when finally tightening them up.

FOUNDATIONS (Continued)

The machine should be levelled with a good engineer's level. Swing back the covers on either side of the machine exposing the machined top surfaces of the frame sides on which the level should be placed.

One corner of the machine will be higher than the other three. This should be allowed to rest on the foundation and the other three corners raised by means of steel wedges. After the machine has been carefully levelled a banking of clay or a wood frame should be put round the machine as shown in Fig. 3. This it will be noted is about 1" (25mm) above the base. The machine and bolt holes are then grouted in with a mixture of two of sand to one of cement. Next day remove the clay banking or frame and trim off the edge of the grouting. Do not tighten the bolts until the grout has set hard.

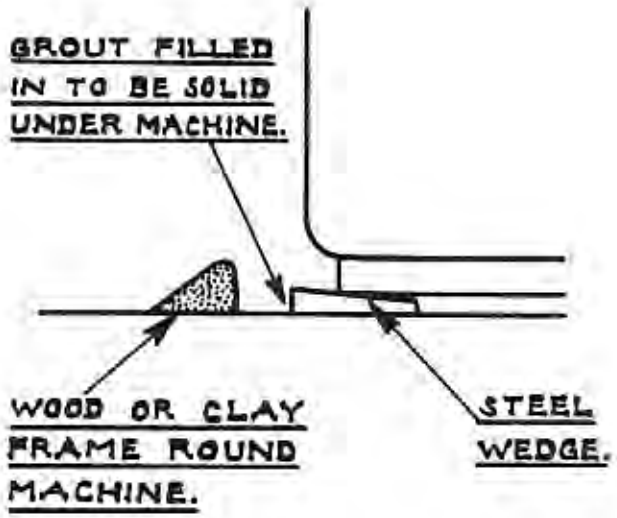


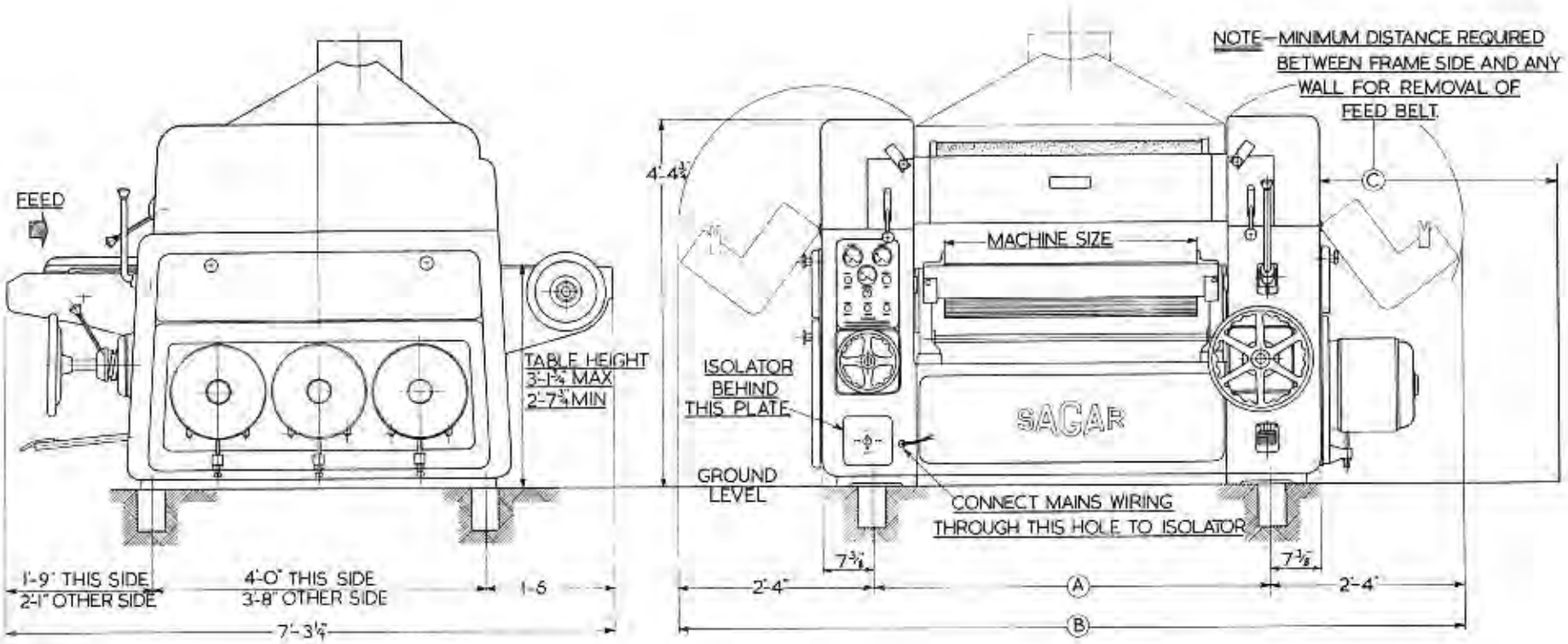
FIG. 3
METHOD OF BANKING AFTER LEVELLING

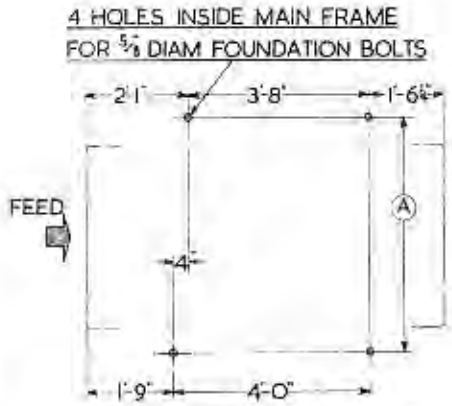
WIRING

For electrical installation instructions see pages 34 to 36. Diagram of Connections D. 937/2 gives wiring details when direct on line starter is fitted and Diagram of Connections D. 1046 gives wiring details for star delta starter.

DUST EXTRACTION

An exhaust hood which fits immediately above the sanding drums and covers the top of the machine can be supplied to special order. It has a circular outlet for connecting to a main exhaust system. For the 42" and 52" machines the outlet diameter is 12" and for the 62" machine the diameter is 14".





PLAN OF FOUNDATION BOLTS HOLE CENTRES

DIMENSIONS FOR BOLT HOLES ARE APPROXIMATE ONLY. LEAVE HOLE IN FOUNDATION 6" TO 8" SQUARE AND FILL IN WITH CEMENT WHEN MACHINE IS IN POSITION

M/C SIZE	Ⓐ	Ⓑ	Ⓒ
36"	4'-9"	9'-5"	2'-10"
42"	5'-3"	9'-11"	3'-4"
52"	6'-1"	10'-9"	4'-2"
62"	6'-11"	11'-7"	5'-0"
72"	7'-9"	12'-5"	5'-10"

FIG. 4

FOUNDATION PLAN FOR TRIPLE DRUM SANDING MACHINE TYPE - OT

LUBRICATION.

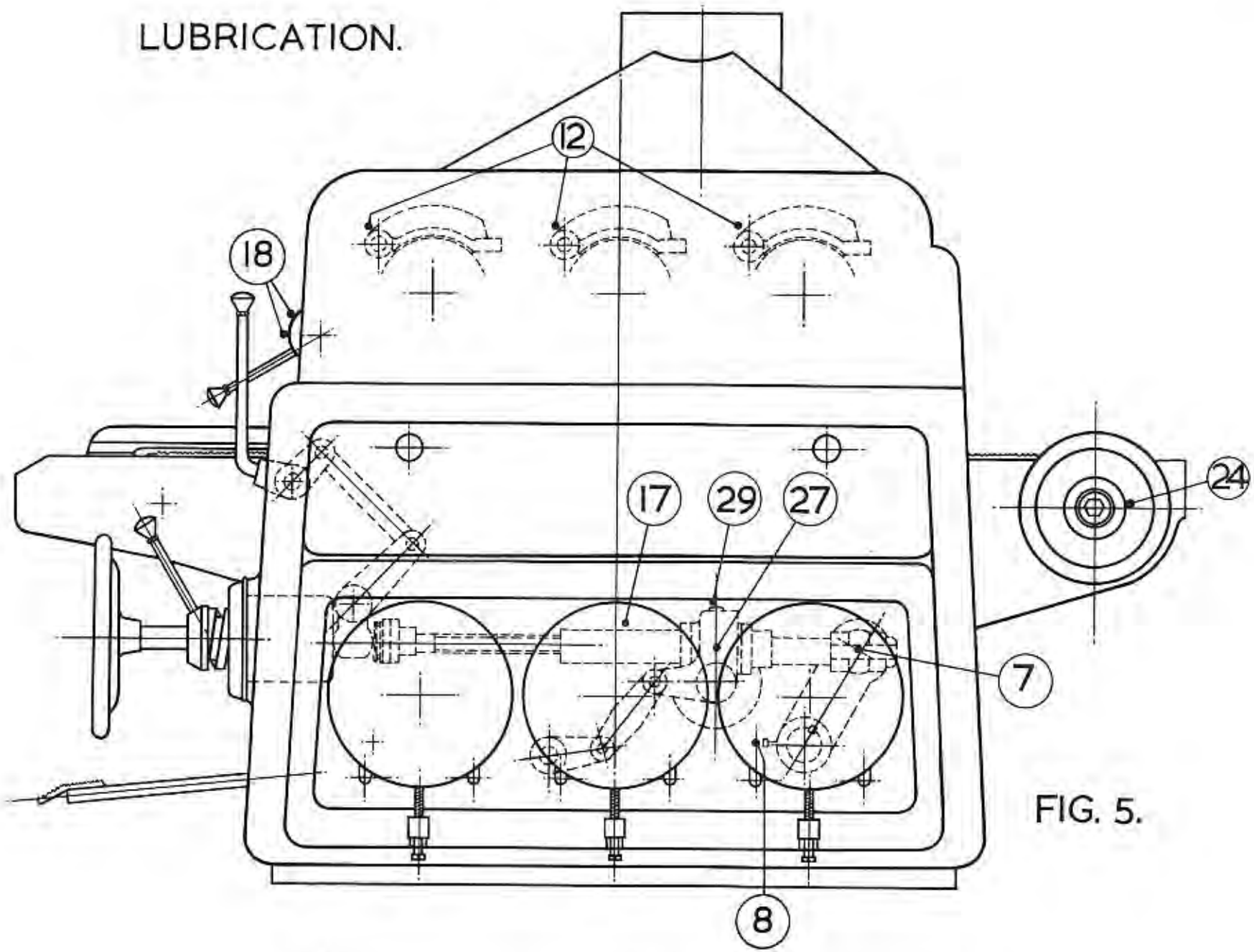


FIG. 5.

LUBRICATION

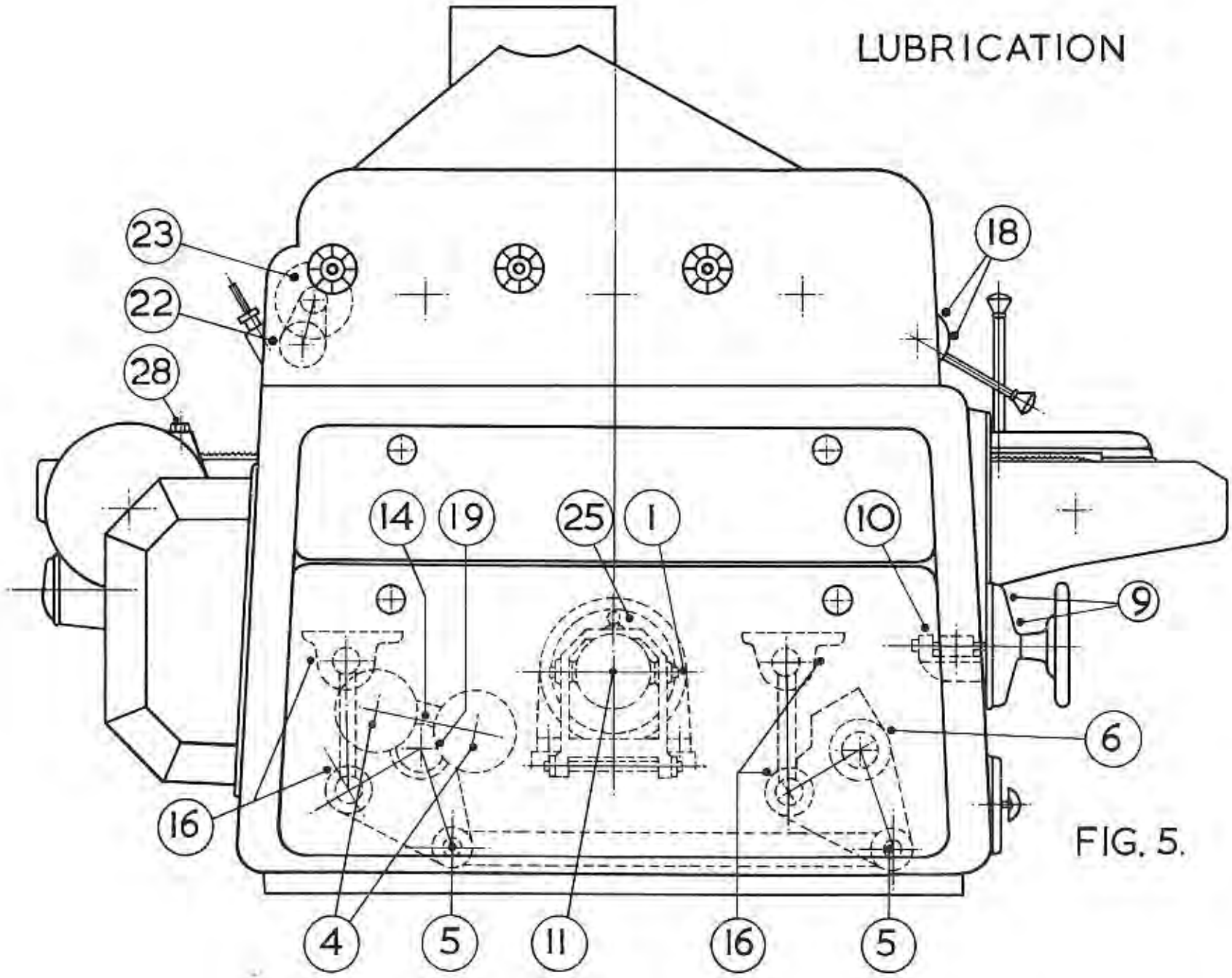


FIG. 5.

LUBRICATION.

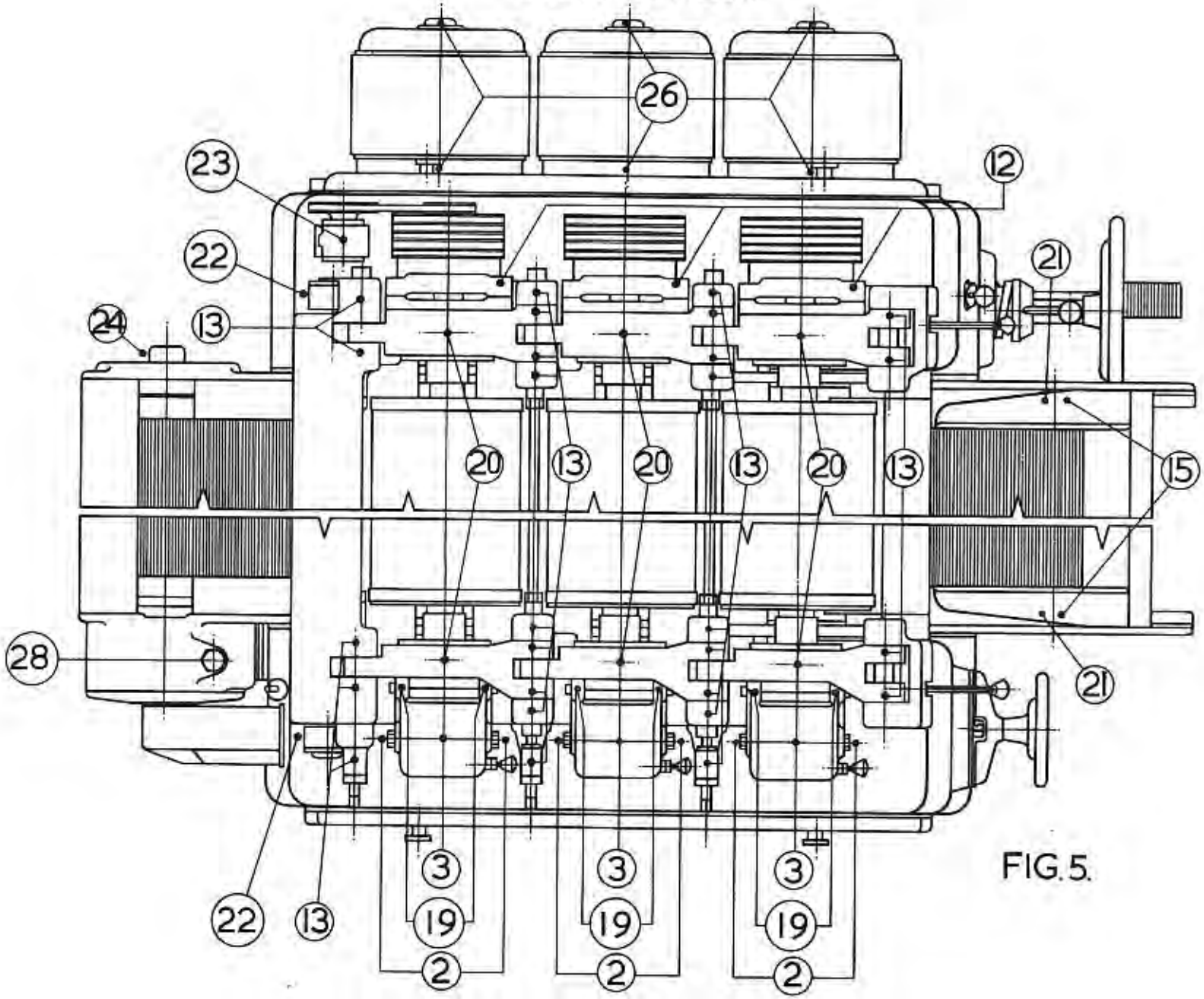


FIG. 5.

LUBRICATION

	LOCATION	POINTS	PERIOD
1.	Variable speed cone pulley bearing	1	A
2.	Eccentric shaft bearings - oscillation box	6	
3.	Drum oscillation gearing	3	
4.	Feed drive jockey pulley bearings	2	
5.	Tie rod pin bearings	4	
6.	Bearings for infeed table raising levers	2	
7.	Trunnion nut for table raising lever	1	
8.	Rear cross shaft bearings	2	
9.	Feed speed change gearing	2	B
10.	Feed speed change handwheel screw	1	
11.	Variable speed cone pulley sleeve	1	
12.	Brake shoe hinge pins	3	
13.	Drum adjusting hinge shafts	27	
14.	Jockey pulley lever bearings	1	
15.	Feed belt tensioning screws	2	
16.	Table raising link pins	16	
17.	Sleeve nut for table raising screws	1	
18.	Raising shaft for infeed platen	4	
19.	Drum oscillating link cover shafts	6	
20.	Sanding drum bearings	6	C
21.	Infeed table roller bearings	2	
22.	Rotary brush shaft bearings	2	
23.	Brush drive pulley bearing	1	
24.	Outfeed table roller bearing	1	
25.	Feed motor bearings	2	D
26.	Sanding drum motor bearings	6	
27.	Raising gear motor bearings	2	
28.	Table feed drive gearbox	1	E
29.	Table raising gearbox	1	

LUBRICATION

WEEKLY

Thoroughly clean down the machine and oil all links and pins not provided with lubricators using Wadkin oil Grade L4.

A POINTS Give one depression of the grease gun using Wadkin grease Grade L6.
B POINTS Give one or two depressions of the oil gun with Wadkin oil Grade L4.

MONTHLY

Oil brake cables using Wadkin oil Grade L4.

C POINTS Give one or two depressions of the grease gun using Wadkin grease Grade L6.

QUARTERLY

D POINTS Give two depressions of the grease gun using Wadkin grease Grade L6.
E POINTS Top up with Wadkin gear oil Grade L2.

WADKIN RANGE OF OIL AND GREASE LUBRICANTS WITH EQUIVALENTS

Wadkin Grade	Equivalent Lubricants		
	Shell Mex and B. P. Ltd.	Mobil Oil Co. Ltd.	Caltex Lubricants
Gear Oil Grade L2.	Shell Vitrea Oil 69	Mobil Oil D. T. E. /BB	Meropa Lubricant No. 2 Oil
Machine Oil Grade L4.	Shell Vitrea Oil 33	Mobil Vactra Oil (Heavy Medium)	Caltex Aleph Oil
Ball Bearing Grease Grade L6	Shell Nerita Grease 3	Mobilux Grease No. 2	Regal Starfak No. 2 Grease

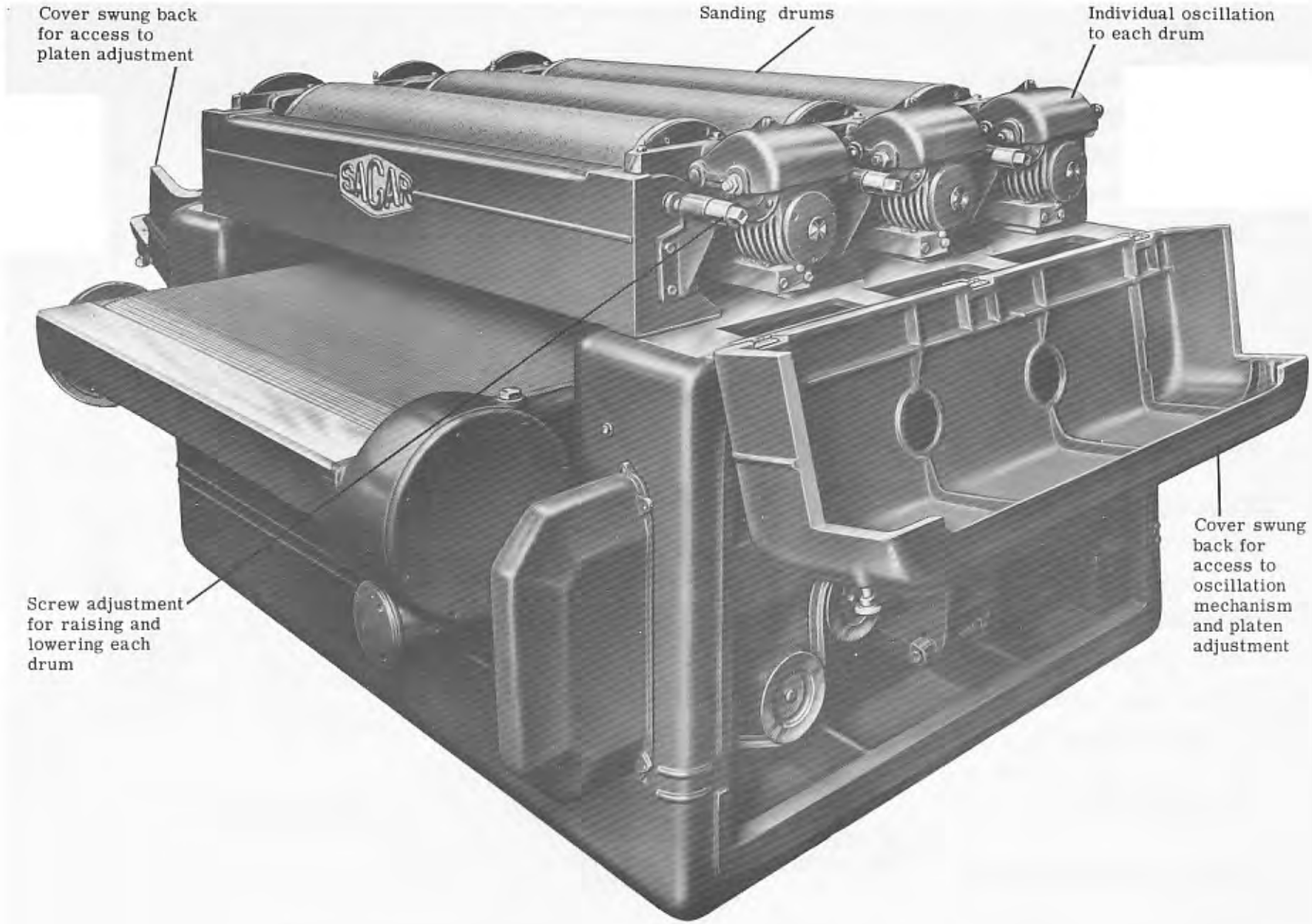


FIG. 6 SIDE VIEW SHOWING DRUM OSCILLATION MECHANISMS

OSCILLATION MOTION

The oscillation motion is self contained and is obtained through a worm and wormwheel drive to an eccentric shaft.

It is engaged when the pin 'AA' is located in the lower notch 'AB' of the spring loaded notched retaining bar 'AC'.

To release the oscillating motion pull out the retaining bar and raise the oscillating gear cover 'AD'. Place the pin 'AA' in the upper notch 'AE' of the retaining bar so that the cover is held in the raised position.

These adjustments can be carried out whilst the machine is running.

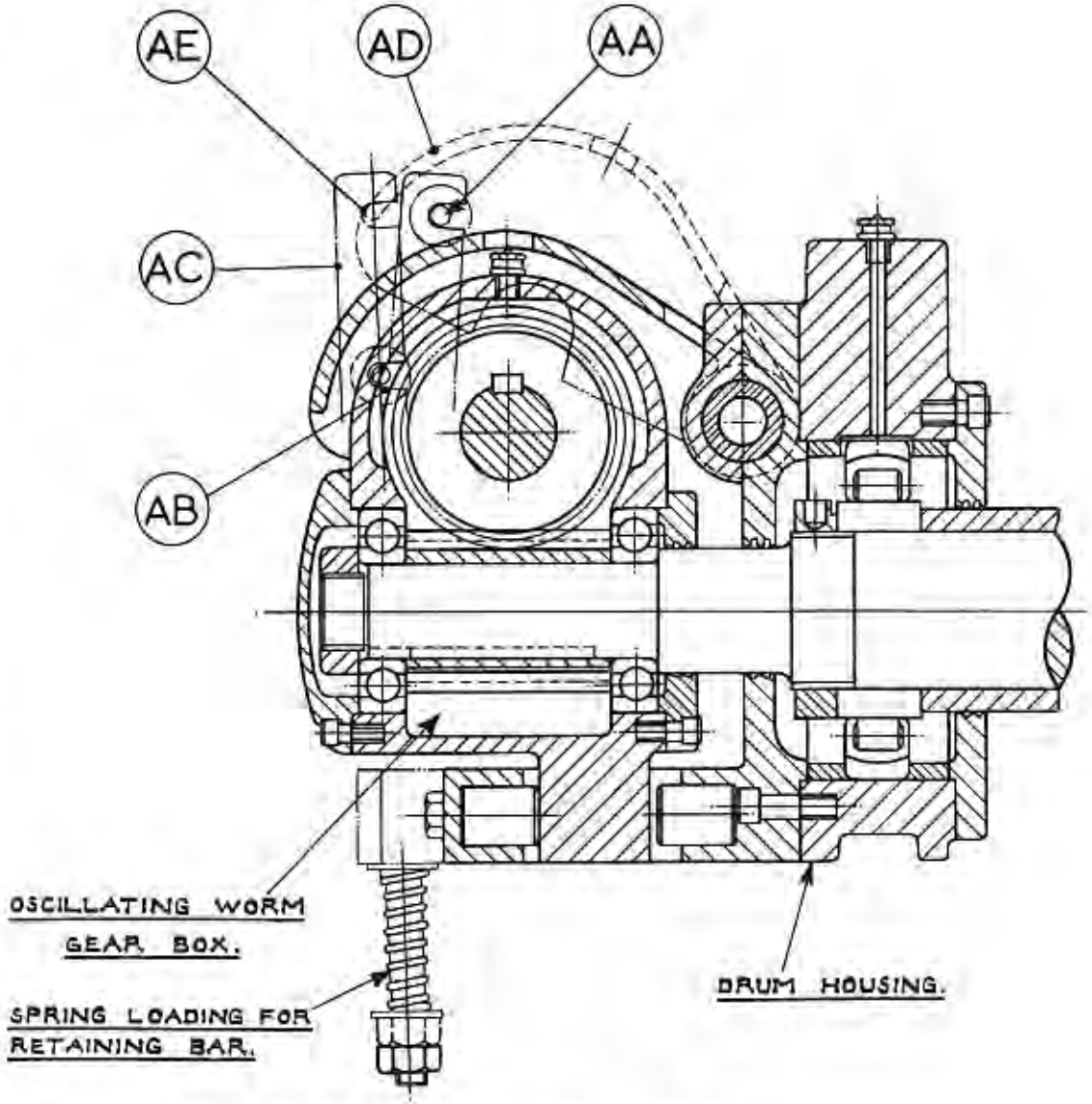


FIG. 7 SECTION THROUGH OSCILLATING MECHANISM.

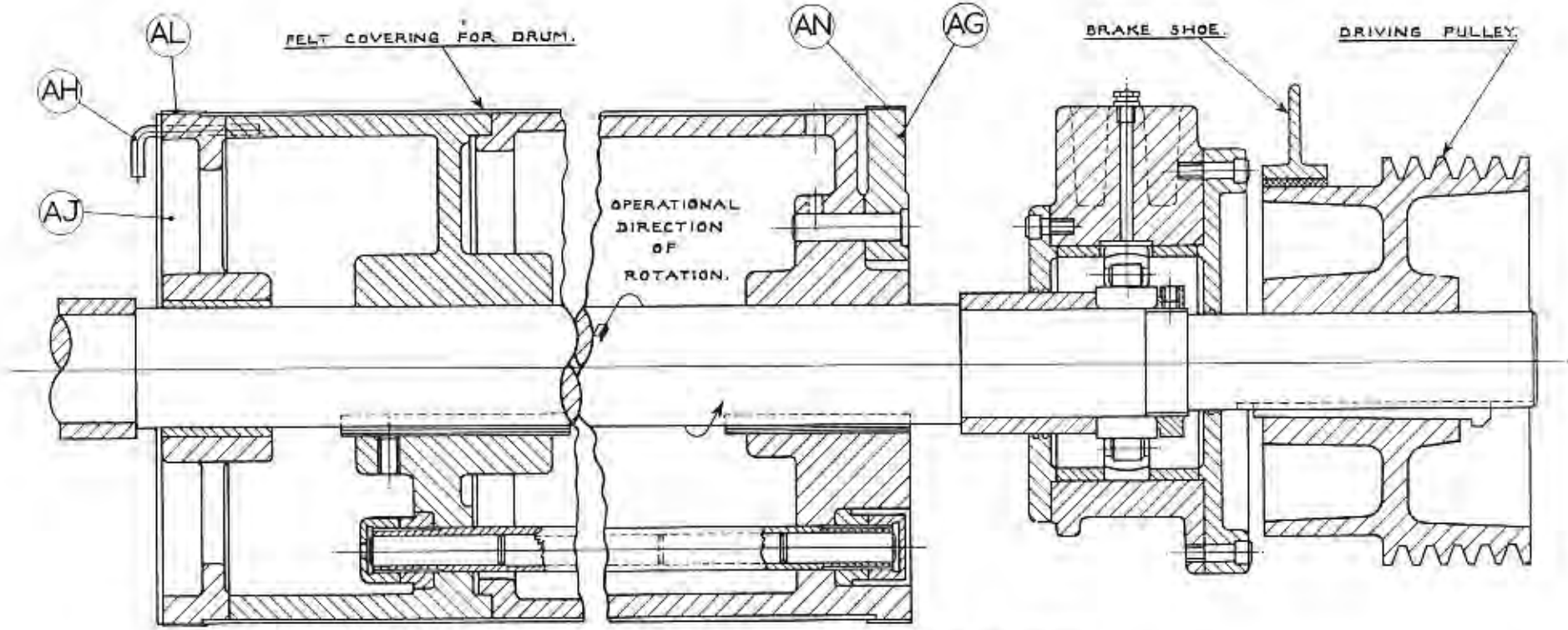


FIG. 8 SECTION THROUGH SPIRAL DRUM AND DRIVING END OF SPINDLE.

THE SANDPAPER

Sandpaper 24" wide is used for all sizes of O T machines and both ends of the sheet are cut parallel to an angle of $39\frac{1}{2}^{O}$. Whenever possible use an old paper as a template and allow $\frac{1}{4}$" at either end for final adjustment and trimming.

The table below gives the point to point length for the different sizes of machine.

SIZE OF MACHINE	42"	52"	62"
OVERALL LENGTH OF DRUM	46"	56"	66"
POINT TO POINT LENGTH 'L'	$102\frac{1}{4}$"	118"	$133\frac{3}{4}$"

However should it be necessary to calculate the length of paper required the following will give an approximate value. The overall length of sandpaper has a variable factor and a constant factor. The variable factor is governed by the effective surface area of the paper and the width. of paper. In all cases where the effective width of paper used is $23\frac{1}{2}$" the helix angle for the drum is $39\frac{1}{2}^{O}$, since the sine of the angle of the helix is equal to

$$\frac{\text{Effective width of paper}}{\text{Circumference of the drum}}$$

With this information the constant factor can readily be calculated by multiplying the actual width of the paper by the cotangent of the helix angle to give a value of 29. 1". This figure is the same whatever the length of the drum. For O T machines the effective width is twice the diameter of the drum. Therefore the variable factor can be obtained by multiplying the overall length of the drum plus $\frac{1}{4}$" each end by 1. 5708 $(\pi/2)$.

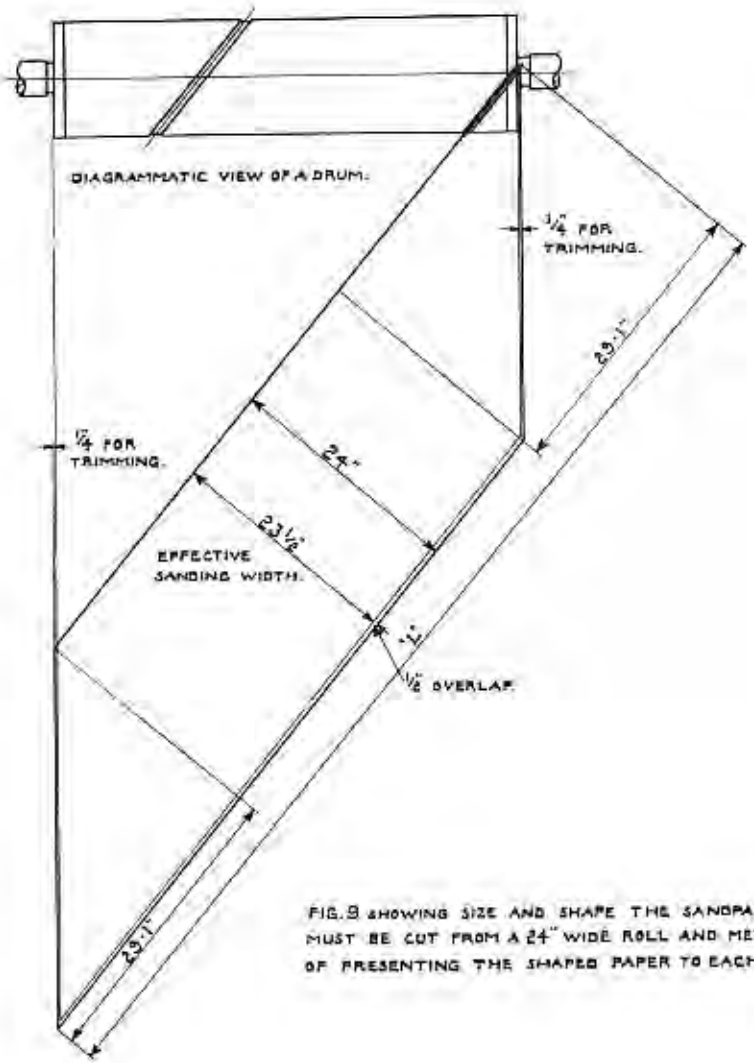


FIG. 9 SHOWING SIZE AND SHAPE THE SANDPAPER MUST BE CUT FROM A 24" WIDE ROLL AND METHOD OF PRESENTING THE SHAPED PAPER TO EACH DRUM.

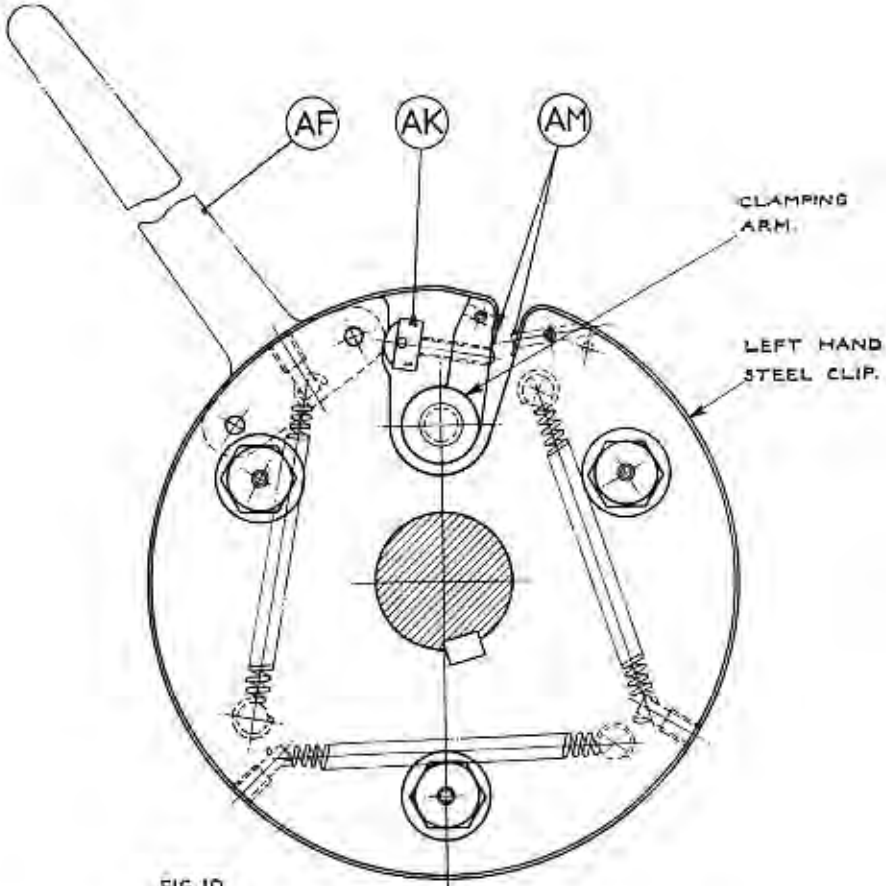


FIG. 10

SECTION THROUGH SPIRAL DRUM.

TO CHANGE A SANDPAPER

When changing a sandpaper proceed as follows:-

1. Fit the pegged lever into the two holes provided in the right hand end (pulley side) of the drum 'AG' and turn the drum in the normal operating direction of rotation until the pegged lever rests against the top of the platen (after the drum), thereby preventing any further movement.

2. Fit the other pegged lever 'AF' into the left hand end of the drum (oscillating end) and turn in a similar manner until the securing pin 'AH' can be inserted through the tensioning disc 'AJ' into the drum. The sandpaper is now slack, and the pegged levers should be removed.

3. Release the screw 'AK' with a tommy pin so that the left hand clamping strap 'AL' can be slipped off the retaining pegs 'AM'. The sandpaper can now be wound off up to the right hand end of the drum.

4. The jacking screw in the right hand end of the drum should be unscrewed with a tommy pin and the clamping strap 'AN' taken off its retaining pegs. Remove the sandpaper complete.

5. See that the felt on the drum is perfectly clean, before attaching a new sandpaper, which should have been prepared as described on page 14. Lay the sloping edge of the paper along the right hand end of the drum so that it overlaps by $\frac{1}{4}$". Bend the paper over the right hand end clamping arm and cut off to miss the pegs for the clamping strap 'AN'.

6. Hook the clamping strap onto the peg in the right hand end clamping arm and turn the drum in the normal operating direction with the left hand. While this is being done guide the clamping strap 'AN' with the edge of the paper under it along the edge of the drum with the right hand until it can be hooked onto the fixed peg. Secure the paper by jacking out the clamping arm by means of the jacking screw and tommy bar.

7. As the width of the paper is 24" and the diameter of the drum is $23\frac{1}{2}$" there will be an $\frac{1}{2}$" overlap as the paper is wound along the drum. IT IS VITAL that this $\frac{1}{2}$" overlap should be central along the whole length of the groove. If at the left hand end of the drum the overlap is not equal on either side of the scribed line release the right hand end clamping strap 'AN' and adjust the paper as necessary.

TO CHANGE A SANDPAPER (Cont'd)

8. When correct, hook one end of the left hand clamping strap 'AL' onto the fixed peg in the tensioning disc 'AH'. Guide the strap with the paper beneath it along the left hand edge of the drum until the other end of the strap 'AL' can be hooked onto the peg in the clamping arm. Then tension the clamping arm by means of the jacking screw and a tommy pin.

IT IS IMPORTANT at this stage to examine the lie of the paper over the whole length of the drum and smooth out towards the left hand end of the drum all buckles and signs of ballooning that may be observed.

9. Check that both clamping straps lie parallel with the ends of the drum, and are securely seated on their pegs. Both clamping arms should now be given a spiral tension and any overlapping sandpaper dressed off each end of the drum.

10. Fit the two pegged levers as before and with pressure applied to the left hand lever remove the securing pin 'AH'. The torsional action of the spring loaded tensioning disc is now free to act and take up any initial slackness and continue to maintain tension in the paper during the sanding operation.

TO CHANGE FELTS

The felt is spirally wound onto to the drum in a similar manner to the sandpaper.

1. Remove sandpaper as described above.

2. Take off old felt and clean the drum with petrol.

3. Apply EVOSTIK CEMENT to the drum and when tacky firmly attach the felt leaving a 7/16" gap each side of the spiral scribed line, in this case the felt should be cut to the dimensions of the old felt. Alternatively felt cut $23\frac{1}{2}$" wide can be fitted up to the spiral scribed line and 7/16" cut off each side of the adjoining edges. For either method ensure that the felt is firmly glued to the drum and that there is a gap $\frac{7}{8}$" wide running spirally along the length of the drum.

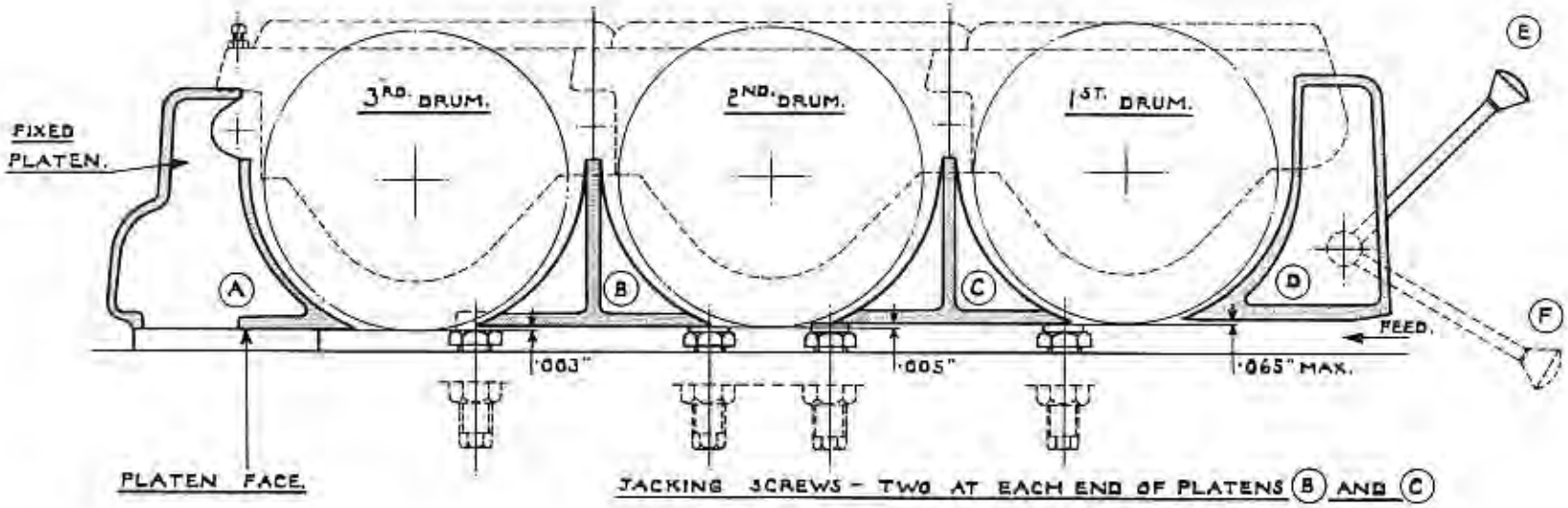


FIG. 11 SECTION THROUGH PLATENS.

A platen setting gauge as shown in Fig. 12 can be supplied. The top surface of the gauge is at an angle to the base, so that the thickness of the small end is slightly less than the minimum distance from platen face to the side facings. Each of the graduations on the side of the gauge represents .0005" vertical movement of platen.

To set the platen proceed as follows:-

1. PLATEN 'A' DATUM POSITION 'A_1'.

Platen 'A' is fixed so it is necessary to determine a datum position for this platen before the height of the other platens can be fixed for depth of cut. To do this insert the gauge under the platen and note the reading. In the example the reading is 15 graduations.

2. PLATEN 'B'.

Assume cut required by 3rd drum is .003" which should be a reasonable cut in most cases. Then the graduations to be added to the datum position 'A_1' are .003 x 2 = 6 graduations. Thus in the example 15 + 6 = 21 graduations for position 'B_1'.

The four jacking screws should now be adjusted so that when the setting gauge is inserted under the platen a reading of 21 graduations is obtained at all four corners of the platen. This adjustment is described on page 21.

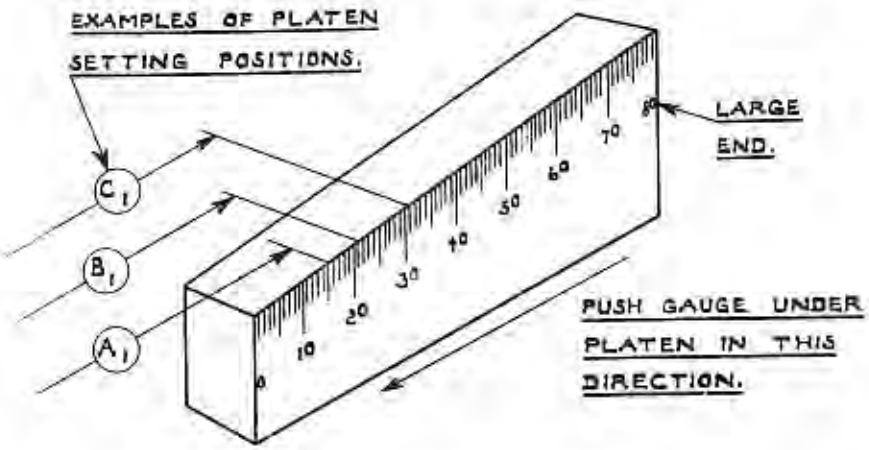


FIG. 12 PLATEN SETTING GAUGE.

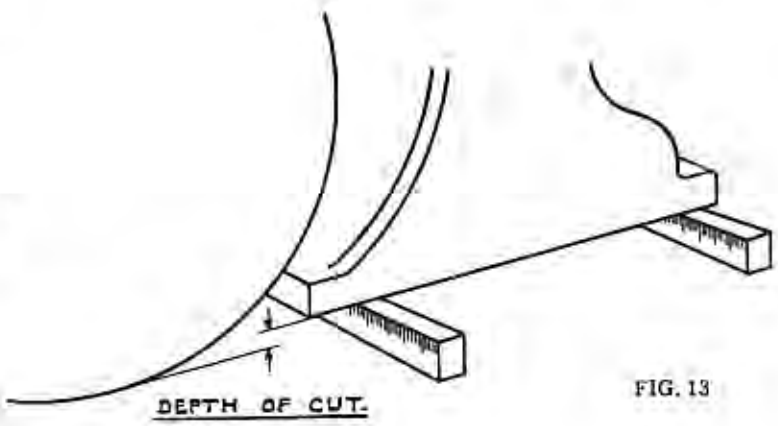


FIG. 13

3. PLATEN 'C'.

A reasonable cut for the 2nd drum would be .005" which means that .005 x 2 = 10 graduations have to be added to position 'B_1' to obtain position 'C_1', i.e. 21 + 10 graduations for position 'C_1'. Platen 'C' also has four jacking screws and is adjusted in a similar manner to platen 'B', but this time the gauge readings should be 31 graduations.

4. The infeed platen has rise and fall motion by two hand levers 'E' at the front of the machine. This motion is resisted by a friction disc and springs so that the setting given to the levers is maintained. When leaving the Works the lever is at position 'F' which sets the infeed platen level with the outfeed platen. This means that when the levers are in the down position there is no cut.

Platen 'D' must therefore be set in relation to platen 'C' for the depth of cut required by the 1st drum. An upward movement of the levers gives a depth of cut up to a maximum of about .065" (position 'E') above the outfeed platen 'A'.

5. Now set each drum level with the platen immediately behind it. Method of raising or lowering the drums is given on page 20.

SETTING THE DRUM PARALLEL WITH THE FEED BELT.

To set the drum parallel with PLATEN 'A' (THE DATUM SURFACE FOR ALL SETTINGS) release the locknut 'AQ' and adjust the square head screw 'AL'. Make this adjustment at both ends of the drum until the cutting surface of the drum is felt to be level with the datum surface when tested by a straight edge. Tighten the locknuts when correct setting is obtained.

RAISING THE DRUM.

Pull the adjusting shaft 'AS' to the left by turning the screw 'AT' in a clockwise direction to raise the drum.

LOWERING THE DRUM.

Reverse the procedure for raising the drum by turning the screw 'AT' in an anti-clockwise direction.

The amount of vertical adjustment in thousandths of an inch is indicated on the circular plates on the outside of the left hand hinged drum covers.

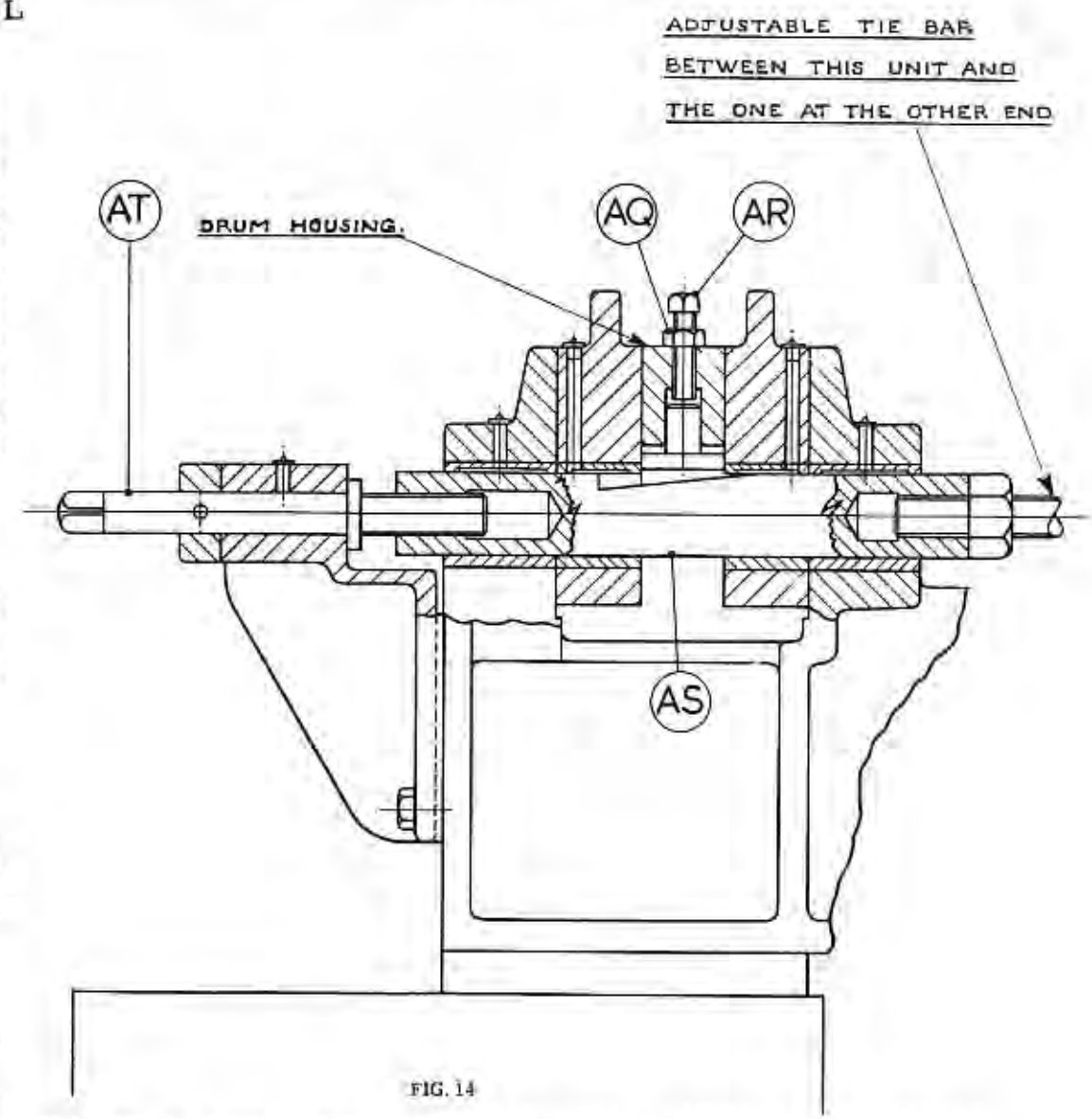


FIG. 14

SECTION THROUGH RISE AND FALL SHAFT AND SETTING SCREW.

ADJUSTMENT TO SECOND AND THIRD PLATENS.

A section through one of the eight jacking devices is shown in Fig. 15. Each device should be used as described below to adjust the platen.

1. Slacken locknut 'G' and lockscrew 'H'.

2. Adjust the jackscrew 'J' to bring the platen base to correct height above the fixed outfeed platen.

3. Tighten the locknut while holding the head of the jackscrew 'J' to prevent movement.

4. Finally tighten lockscrew 'H'.

BRAKE SHOE ADJUSTMENT FOR LINING WEAR.

Release locknut 'K' and turn cable screw 'L' to draw the brake cable downwards, then tighten locknut 'K'.

Each brake shoe is adjusted in the same manner so that depression of the foot brake gives simultaneous and equal braking conditions for each drum.

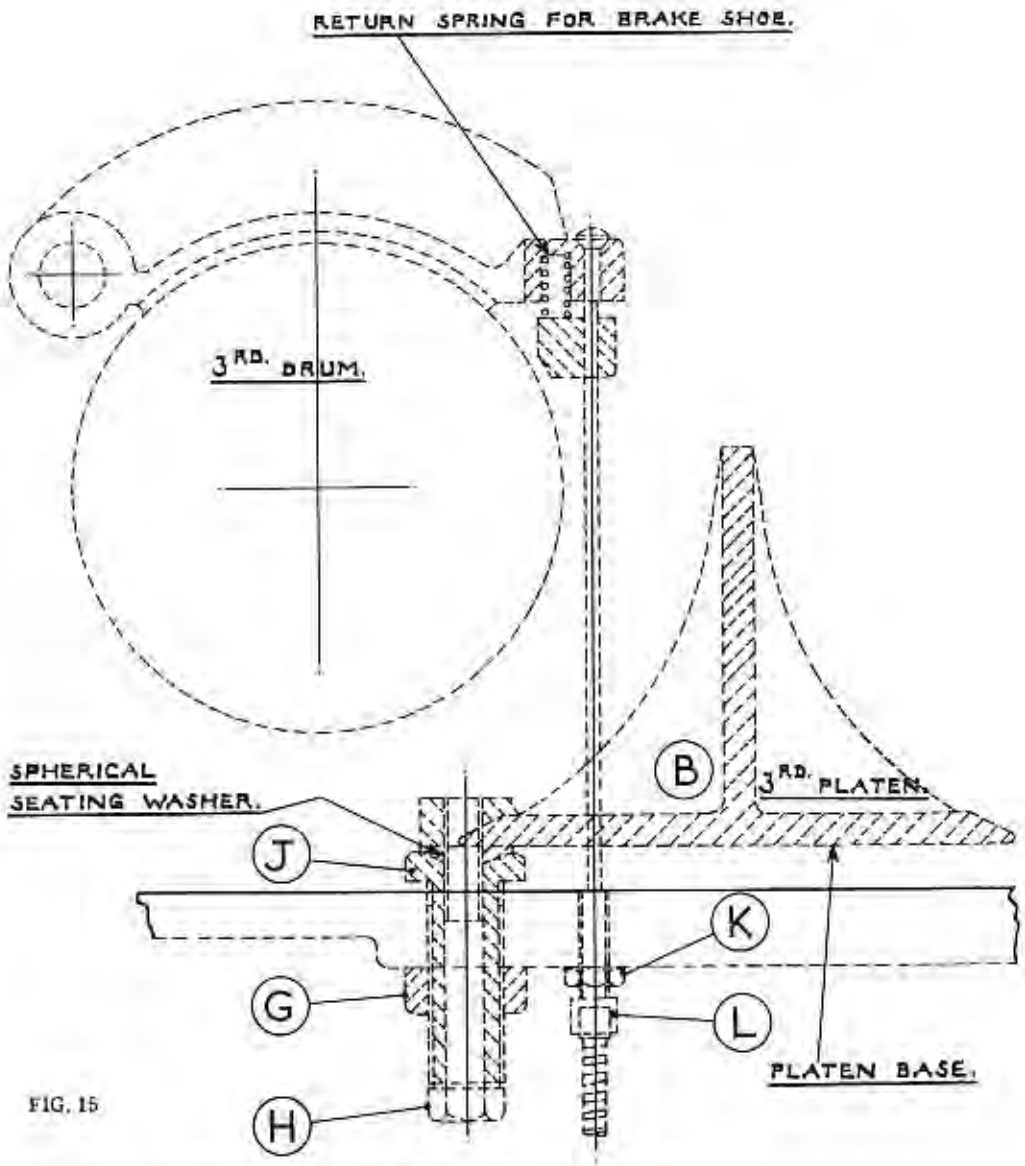


FIG. 15

BRAKE AND PLATEN ADJUSTMENT.

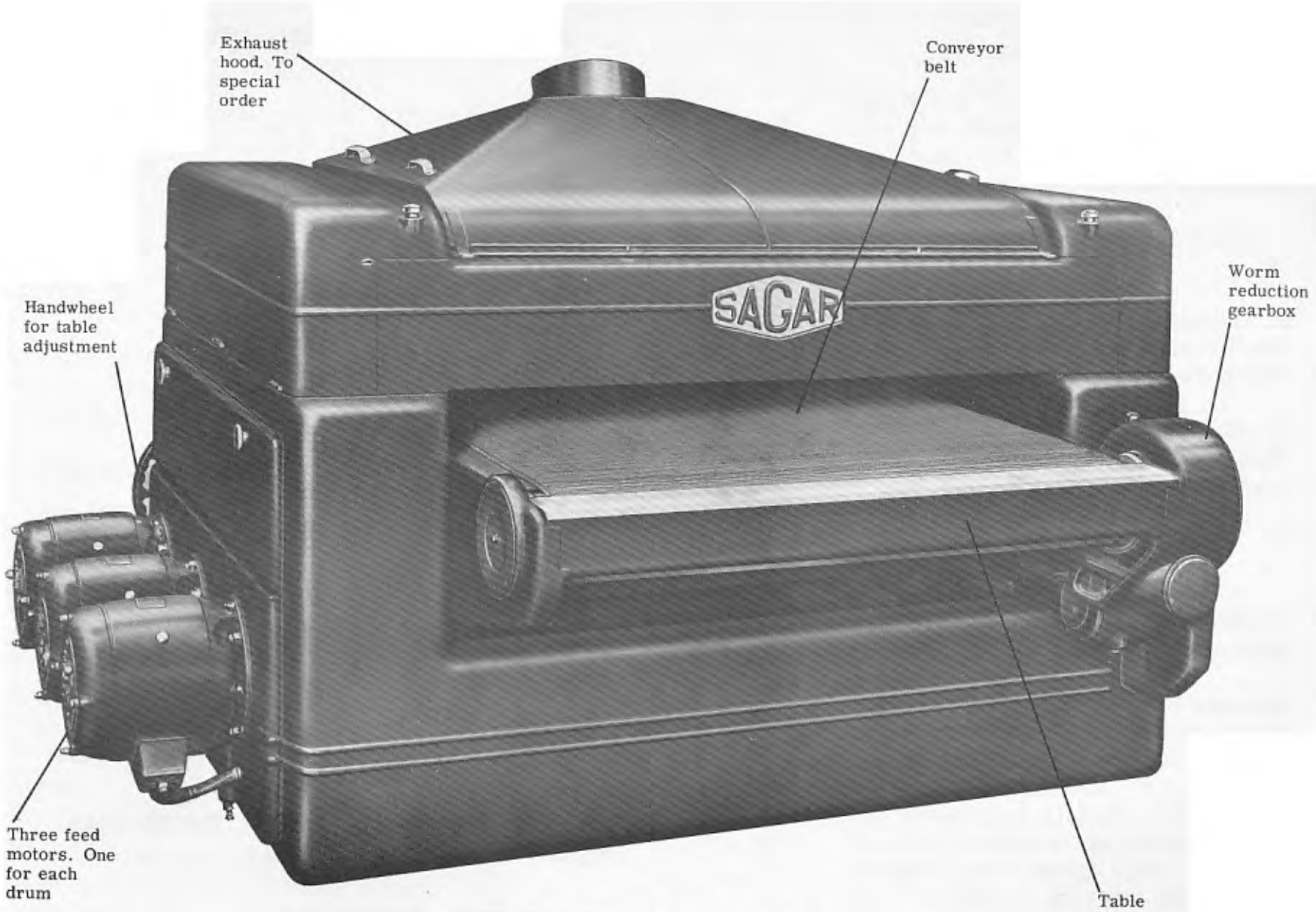


FIG. 16 OUTFEED END OF MACHINE

FITTING A NEW ENDLESS FEED BELT

To remove old feed belt and fit a new belt proceed as follows:-

1. Remove the eight cap screws 'BA' and withdraw the infeed and outfeed tables 'BB' and 'BC'.

2. Fit two $1\frac{1}{2}$" x 6" boards 'BD' under the conveyor belt, and pack up from main frame binder rails to support sagging part of the belt.

3. Slacken the belt as much as possible by turning the two screws 'BE' in a clockwise direction with the wrench 'BF' provided.

4. Remove the driving (outfeed) roller 'BG' as follows:-

   (a) Remove drawbolt 'BH' (with key provided) by unscrewing it from the stub spindle 'BI'. NOTE: The drawbolt has a left hand thread.

   (b) Withdraw the four cap head screws 'BJ' and insert two of them into the tapped holes provided in the housing flange to jack out the complete roller housing 'BK' and the outfeed roller 'BG'.

5. Remove the $1\frac{1}{2}$" boards and packing fitted at stage 2.

6. Fit two timbers 7" x 3" x 7' 0" long 'BL', one end of each resting on the infeed binder rail and the other ends supported on the trestle as shown in Fig. 18.

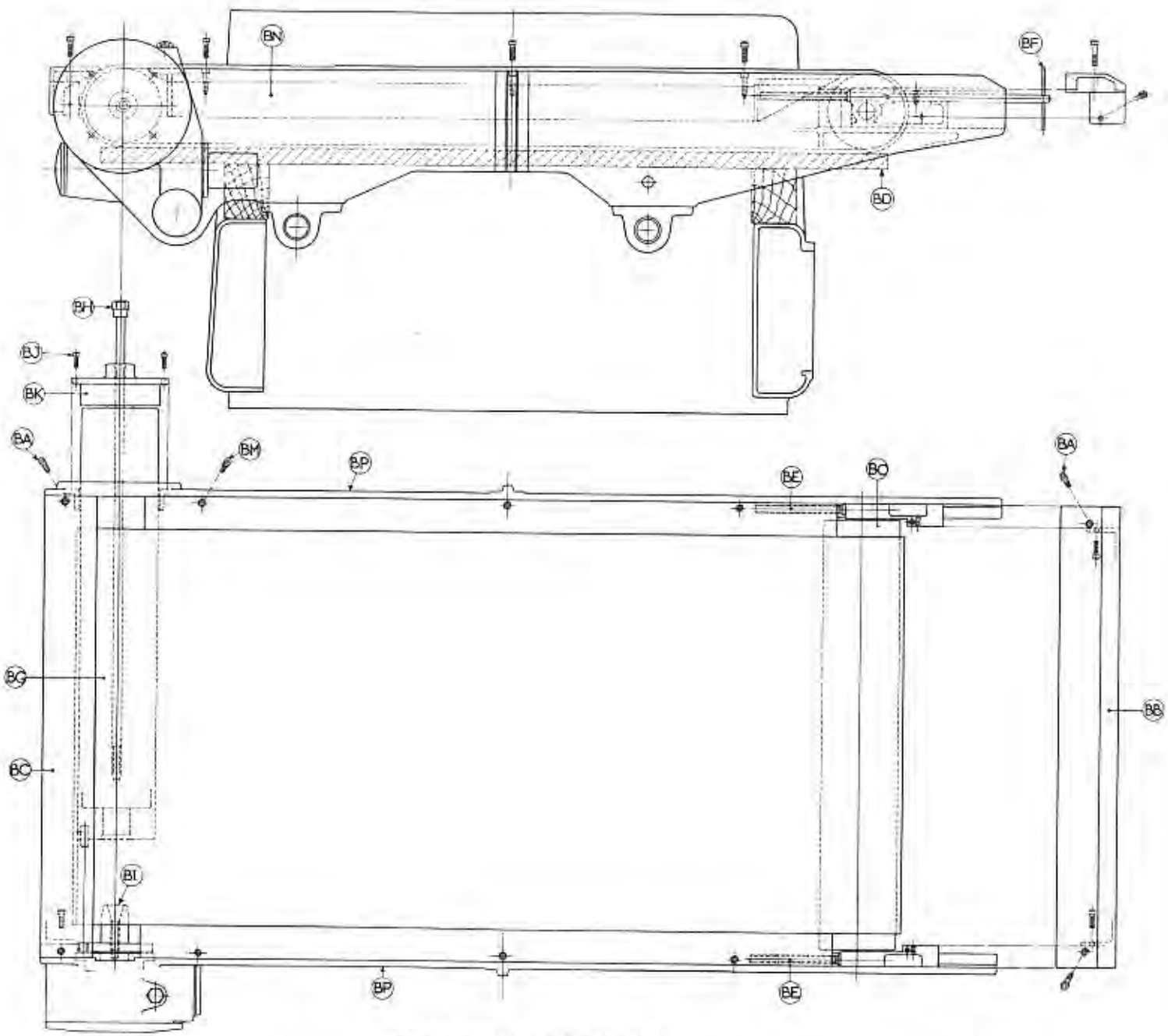
7. Remove the six cap head screws 'BM' holding the table to the side members.

8. Lower the table until the centre table section 'BN' is nearly touching the 7" x 3" timber supports.

9. Turn the two screws 'BE' in an anti-clockwise direction until they are free from their nuts.

10. Slide the centre table section complete with infeed roller 'BQ' along the table side members 'BP' until it is outside the machine and resting on the timber supports as shown in Fig. 18.

11. Remove the infeed roller 'BO' and the two shaft support slides.



METHOD OF REMOVING ENDLESS FEED BELT.

FIG. 17

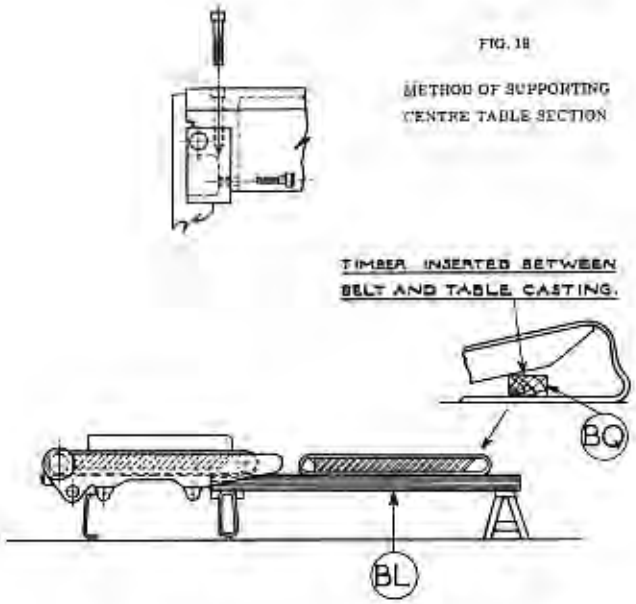


FIG. 18

METHOD OF SUPPORTING
CENTRE TABLE SECTION

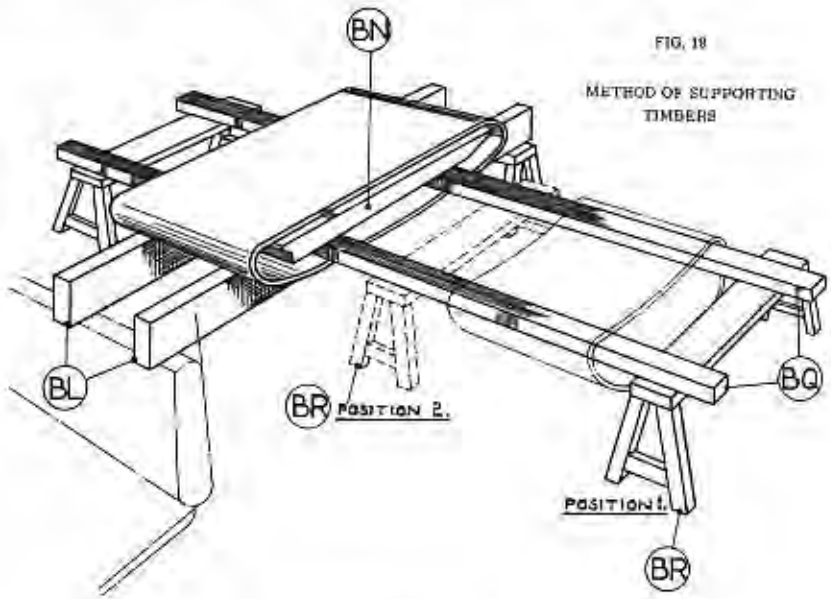


FIG. 19

METHOD OF SUPPORTING
TIMBERS

12. Fit long cross timbers 4" x 4" x 15' 0" long 'BQ' on two supporting trestles as shown in Fig. 19 as follows:-

(a) Lift front end of the table and thread the first long timber between the belt and the table casting.

(b) Repeat at the rear using the second long timber.

13. Slide the conveyor belt from the table casting onto the long timbers.

14. Transfer the support trestle 'BR' from position 1 to position 2.

15. Remove old conveyor belt and replace it by a new one. NOTE: Care must be taken that the new belt is fitted to run in the direction of the arrow marked on the inside of the belt.

16. Restore support trestle 'BR' to position 1.

17. Repeat stages 1 to 13 in the reverse order.

Where a mechanical lifting appliance is available follow the operations 1 to 4 above and then proceed as follows:-

5. Remove the six cap head screws 'BM'.

6. Turn the two screws 'BE' in an anti-clockwise direction until they are free from their nuts.

7. Draw the table platen complete with conveyor belt and infeed roller forward until the infeed roller can be drawn out at the side.

8. Draw the table platen and conveyor belt further forward until a rope sling can be placed around it.

9. Take the weight of the table by means of the lifting appliance hooked to the rope sling and draw it free from the machine.

10. Lower the table until one edge rests on the floor.

11. Disconnect the rope sling and carefully balance the table in an upright position.

12. Lift off the old conveyor belt and replace it by a new one. NOTE: Care must be taken that the new belt is fitted to run in the direction of the arrow marked on the inside of the belt.

13. Re-fix the table to the machine by performing the operations 1 to 11 in the reverse order.

TRACKING AND TENSIONING THE FEED BELT

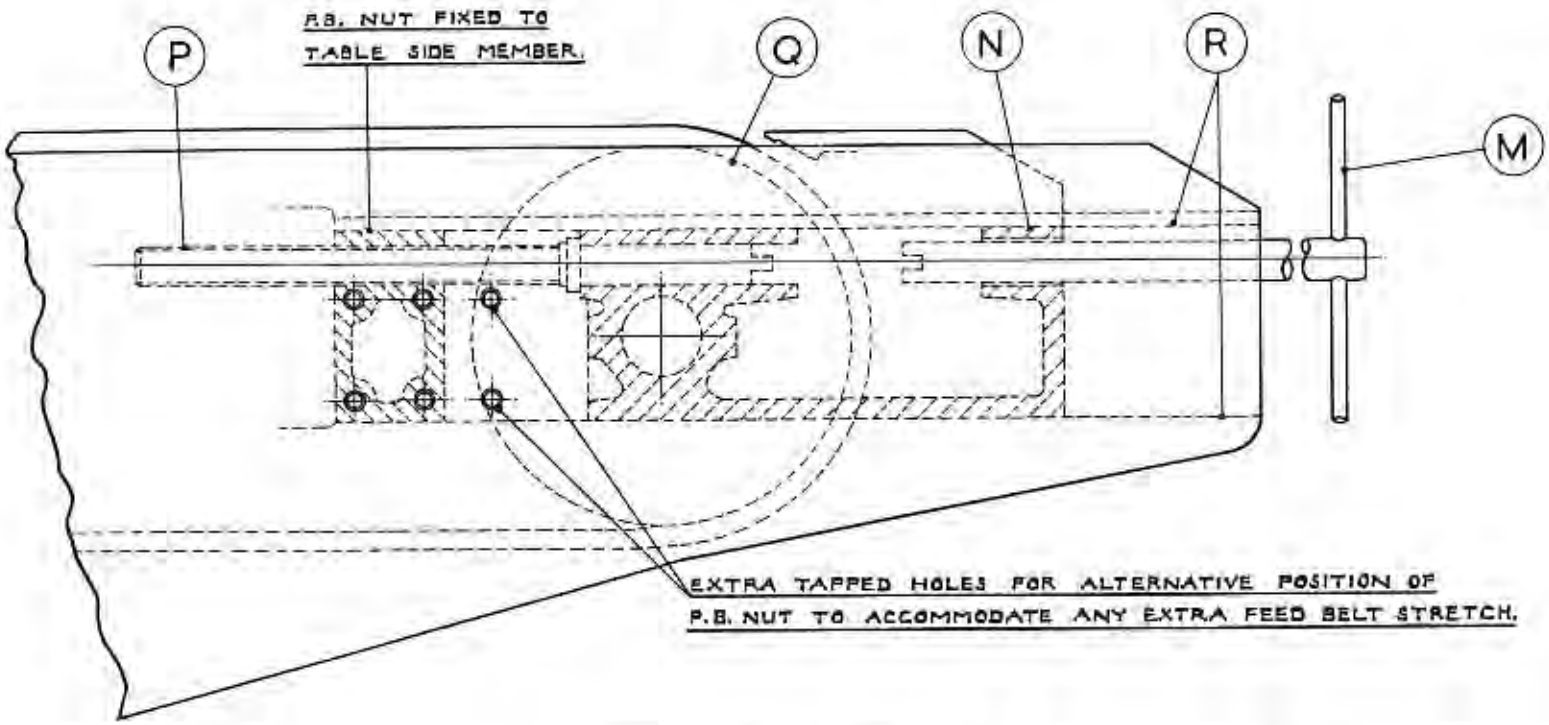


FIG. 20 SHOWING METHOD OF TRACKING AND TENSIONING

Insert the tee headed wrench 'M' through the hole in the die block 'N' to fit onto the sunk head of the screw 'P'. By turning the screw in an anti-clockwise direction, the infeed roller 'Q' and die block are moved outwards along the slides 'R' which tensions the belt.

Belt tracking is achieved by applying a gradual increase of tension (by means of the screw) to the side to which the belt is running. It may be found necessary to make this adjustment alternatively at both sides until a running balance is obtained.

TABLE AND ENDLESS FEED BELT

The table is mounted on two side frames. It is counterbalanced and is raised and lowered on hinged links by means of the handwheel at the front of the machine on the right hand side. Behind this handwheel on the same shaft is a spring loaded cushioning device by means of which the give of the table can be adjusted e. g. it is desirable to have less table give for sanding framed up joinery, which may have joints that require levelling off, than when sanding veneered cabinet work. On this side is also the lever for operating the quick release motion to the table, used in case of accident or jams. The cushioning device also permits the table to yield in the event of oversize or irregular material being fed into the machine.

A motorised worm reduction gear for powered rise and fall motion of the table can be supplied to special order. The lever operated control switch is mounted at the infeed end of the machine with positive safety stops at top and bottom of the table movement. The powered drive moves the table in the direction the control lever is moved.

The feed motor is housed in the lower half of the main frame and is fitted with a ball bearing mounted variable speed unit. Drive is transmitted from this motor to a worm reduction gearbox by means of vee belt and pulleys with spring loaded jockey pulley compensation for table rise and fall motions. The gearbox drives the outfeed table roller giving movement to the conveyor belt.

All gears and shafts in the worm reduction gearbox revolve on ball and taper roller bearings, being adequately lubricated by an oil splash bath and effectively sealed from harmful dust and dirt. The gearbox is provided with filler and oil sump plugs, for use when periodic replenishing of gear oil becomes necessary.

The variable speed unit is controlled by the handwheel at the infeed end on the left hand side of the machine. By operating this handwheel an infinitely variable range of speeds for the conveyor belt may be selected while the machine is running. A scale mark in feet per minute may be seen through a window conveniently placed on top of the feed handwheel gear cover. NOTE: Do not regulate the feed speed unless the feed drive is running.

ADJUSTMENT FOR FEED SPEED CORRECTION

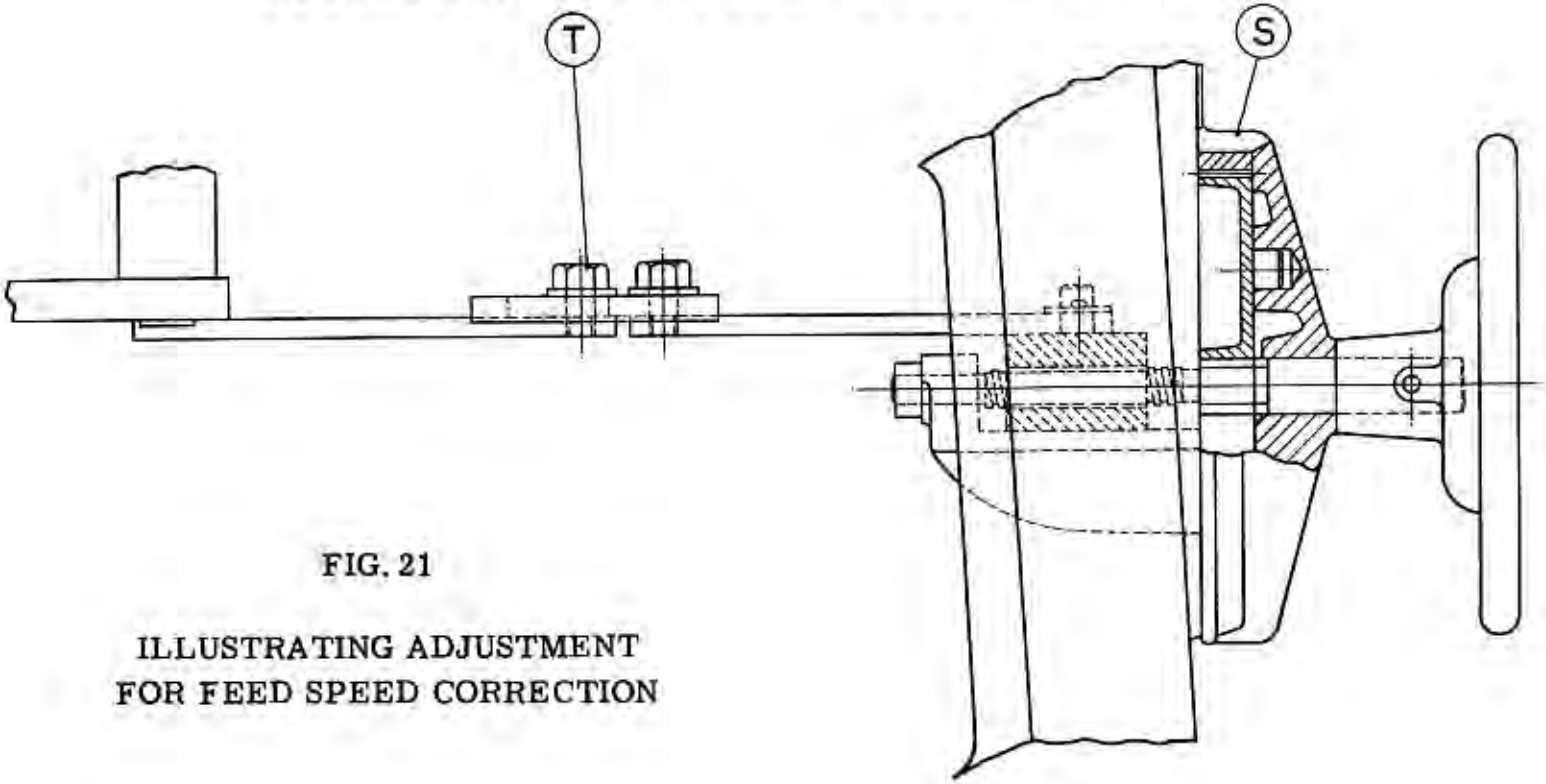


FIG. 21

ILLUSTRATING ADJUSTMENT
FOR FEED SPEED CORRECTION

1. Check the actual conveyor belt speed by stop watch and a measured length. NOTE: If a measured length L in inches is marked by chalk on the conveyor belt and its movement past a fixed point is timed to take t seconds, then the feet per minute $F = \frac{5 \times L}{t}$

2. Compare the measured speed with the speed indicated by the feed speed scale at window 'S'.

3. If there is a difference in the two readings

   (a) Slacken screw 'T'
   (b) Turn handwheel until speed indicated on scale agrees with the calculated speed
   (c) Tighten screw 'T'.

4. Check by calculating conveyor belt speed again, and if there is still a difference between the two readings repeat operations 3 a, b and c until there is reasonable agreement of readings.

THE TABLE

IMPORTANT. The table on which the conveyor belt runs is supported on a parallelogram system of linkages and guided by an adjustable vertical guide at each side, all of which are aligned with great accuracy and care during erection at our Works, and should not be disturbed on any account. If however they become accidently disturbed a Wadkin service engineer should be called in to correct the settings.

DRIVE AND FEED BELTS

Variable speed vee belt - Crofts

$1\frac{1}{2}$" x 7/16" x $97\frac{1}{2}$" long.

Endless serrated rubber conveyor belt - Greengate and Erwell.

1 58" inside length, $\frac{3}{8}$" thick in the following widths:-

1 - $36\frac{1}{4}$" wide for 36" machine.
1 - $42\frac{1}{4}$" wide for 42" machine.
1 - $52\frac{1}{4}$" wide for 52" machine.
1 - $62\frac{1}{4}$" wide for 62" machine.
1 - $72\frac{1}{4}$" wide for 72" machine.

Vee ropes for drum drive - Fenner

15 - A. 85 for 36" and 42" machines.
18 - A. 85 for 52" machine.
18 - A. 84 for 62" machine.
15 - B. 85 for 72" machine.

Rotary Brush Assembly
(To special order)

1 - $\frac{3}{8}$" P. 'Renold' Duplex Chain No. 114038
$14\frac{1}{4}$" pitch length, 38 links.

1 - $\frac{3}{8}$" x 28^{O} 'Brammer' belt 31" long.

BALL BEARING LIST

Makers' Number	Size			Number per Machine	Where used on Machine	
	Bore	Outside Diameter	Width			
Hoff. XLS $2\frac{3}{4}$	$2\frac{3}{4}$"	$4\frac{1}{8}$"	11/16"	1	Feed motor variable pulley	
Hoff. LS 13	$1\frac{1}{2}$"	$3\frac{1}{4}$"	$\frac{3}{4}$"	12	Oscillating gear	
Hoff. 140 DR	40mm	80mm	23mm	2	Jockey pulleys	
Hoff. ULS 13	$1\frac{1}{2}$"	$3\frac{1}{4}$"	$\frac{3}{4}$"	3	2 - Front table roller 1 - Stub shaft for rear table roller	
Hoff. LS 12AC	$1\frac{1}{4}$"	$2\frac{3}{4}$"	11/16"	2	Input shaft for gearbox	
Hoff. L 4060	$2\frac{1}{2}$"	$5\frac{1}{4}$"	1. 5/16" 1"	6	3 - R. H. drum housing shaft 3 - L. H. drum housing shaft	
Hoff. XW $3\frac{3}{4}$	$3\frac{3}{4}$"	3. 13/16"	$4\frac{7}{8}$"	1	Table spring housing	
Hoff. W 2	2"	2. 1/32"	2. 31/32"	1	Table raising screw	
Timken 3875/3820	1. 500"	3. 375"	1. 1875"	2	Worm shaft	
Timken 444/432	1. 500"	3. 750"	1. 094"	1	Worm wheel shaft	
Timken 455/453AS	2. 000"	4. 250"	1. 0938"	1	Worm wheel shaft	
Hoff. Needle rollers	3/16" dia. x $1\frac{1}{2}$" long			360	Table raising cross shaft	
Hoff. LS 10	1"	$2\frac{1}{4}$"	$\frac{5}{8}$"	2	Chain wheel shaft	Rotary brush - to special order
Hoff. ULS 12	$1\frac{1}{4}$"	$2\frac{3}{4}$"	11/16"	2	Brush bearing housing	
Hoff. MS 7	$\frac{5}{8}$"	1. 13/16"	$\frac{5}{8}$"	1	Worm	Power raising gear for table - to special order
Hoff. LS 8	$\frac{3}{4}$"	1. 7/8"	9/16"	1	Table raising screw	
Hoff. MS 10 AC	1"	$2\frac{1}{2}$"	$\frac{3}{4}$"	2	End of sleeve	
Hoff. EW 1	1"	$1\frac{5}{8}$"	$\frac{3}{8}$"	1	Worm	
Torrington Needle Rollers	$\frac{1}{8}$" dia. x 1" long			138	Wormbox	

COMMON DRUM SANDING TROUBLES AND PROBABLE CAUSES

TROUBLE	PROBABLE CAUSE	REMEDY	FEATURES INCLUDED IN 'OT' SANDER TO OBVIATE TROUBLE
SNAKING - zig zag pattern shown up lengthwise on work	Usually caused by a build up of resin at one point on a drum, and some grains of abrasive standing proud. It can be aggravated by drum circle being proud of outfeed platen.	Once started snaking can best be cured by changing the sand paper.	Last drum is oscillated about 50% faster than the first two drums, so that if snaking occurs the same pattern is not reproduced and No. 3 Drum would also tend to obliterate pattern of snaking from No. 1 and No. 2 Drums.
PLANER MARKS - exactly the same as knife marks on a planer or moulder and equivalent to one revolution of the drum and distance material has travelled.	Drum not perfectly circular. Platen adjustment is very important, because if drum circle is proud of last platen chatter sets up in the work and fault is exaggerated.	Covering drum with a resilient felt helps to prevent planer marks.	Drums true to within .0015" on circularity and felt fitted to drums.
BLOTCHY SURFACE	Inefficient exhaust not taking away all the dust. This allows dust to accumulate on the infeed platen, until it drops over in small particles on to work, and is rolled in by the following drum, or the same drum from which it originated.	Ensure exhaust fitted will take away all the dust.	-

COMMON DRUM SANDING TROUBLES AND PROBABLE CAUSES

SNAKING is a fault that may mar the work of any drum sander, however well designed, if it is not operated correctly, and to avoid snaking particular attention should be given to the following points:-

1. The sandpaper must be tightly and smoothly wrapped onto the drum, and the tension disc must be free to take up all slackness when sanding. A buckle in the paper will inevitably cause snaking.

2. A damaged felt or wood dust or chips on the felt frequently causes snaking. Every time a new paper is fitted to a drum examine the felt for defects.

3. Feel for unbalance in either the motor or the drum when running and if it is present have it corrected at once. Running out of balance can damage the bearings and can be a contributory cause of snaking.

4. Too heavy a cut can result in overheating of isolated areas on the sandpaper which frequently causes snaking.

5. If the cutting surface of the drum is not set level with the Fixed Platen overheating can result. See page 18 for setting instructions.

6. Local overheating is often caused by mortise and tenon and other joints in framed up work if the joints are not well made, which means extra work for the sandpaper.

7. Excess glue from joints will adhere to the paper in patches and leads to snaking and patchy sanding.

8. Incorrect levelling of the machine on its foundations may lead to a twisted frame and therefore unsatisfactory work.

9. If the exhaust system is inefficient blotchy surface and snaking will result.

ELECTRICAL INSTRUCTIONS

INSTALLATION INSTRUCTIONS

The whole of the cabling between the motors and control gear is carried out by Wadkin Ltd., and it is only necessary to connect the supply cables to the machine for it to be put into service. This should be carried out as follows:-

1. Connect the supply cables to the appropriate terminals on the isolating switch. These cables should be carried to the machine in steel conduit which should be secured by means of locknuts at the point of entry.

2. Connect the machine solidly to EARTH.

3. Ensure that the direction of rotation of the motors is correct before putting the machine into service, to reverse rotation interchange any two incoming supply cables.

OPERATING INSTRUCTIONS

Close isolating switch and release the master stop button. Press start button for each drum motor and feed motor in turn. NOTE: When the drum motors are star/delta started the start buttons must not be released until each motor has reached full speed. To stop feed: press stop feed button. To stop machine: press master stop button. To lock off machine: press and turn master stop button. This must be released before a start can be made.

OVERLOAD

Should the machine stop due to overload wait for a short time to allow the heater coils to cool then press the reset plunger on the overload assembly and start in the usual manner.

SIZE No. 1 CONTACTOR SPARES

Fixed and moving contacts	Cat. No. MSA567
Operating coil	Cat. No. MS150/3 (400 volts 50 cycles)

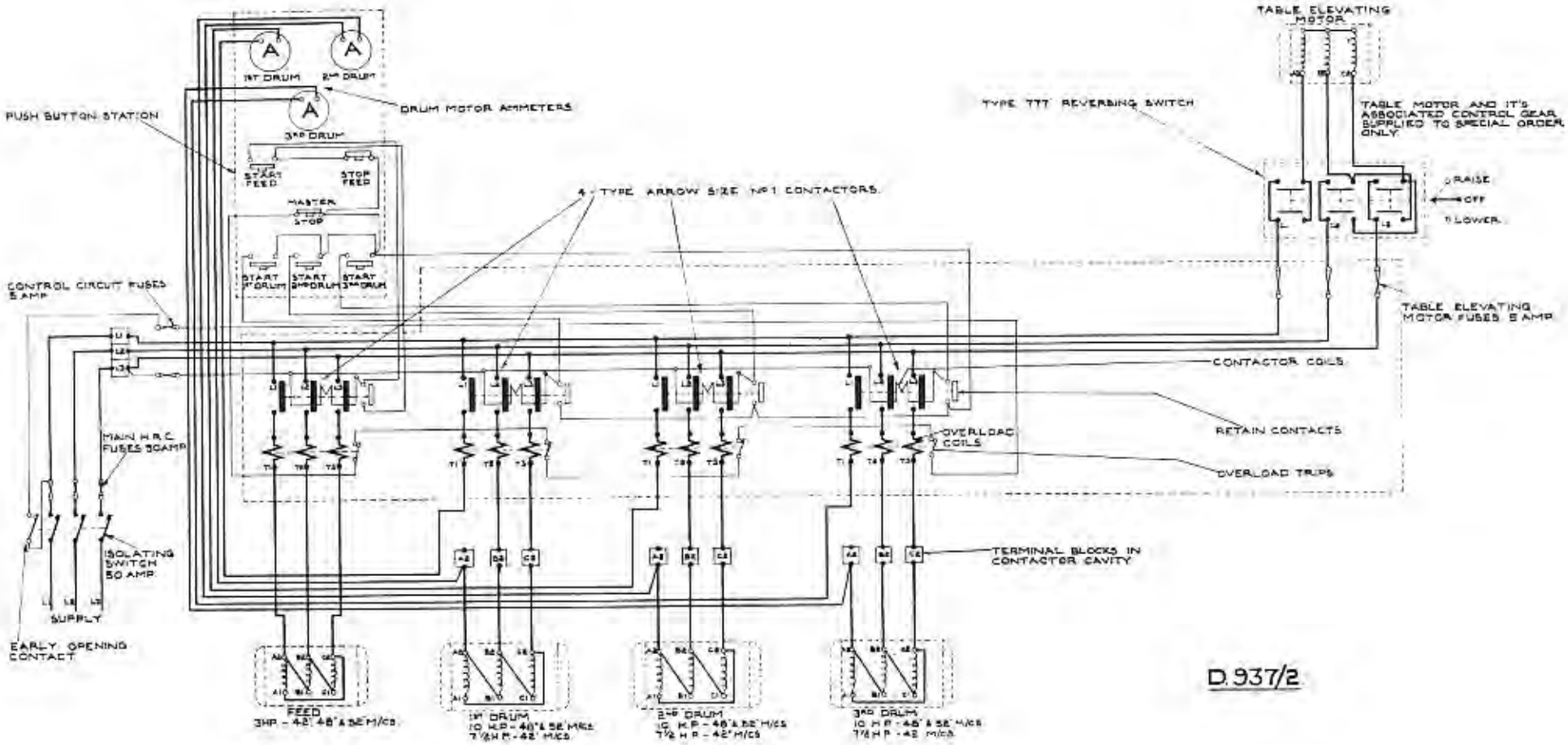
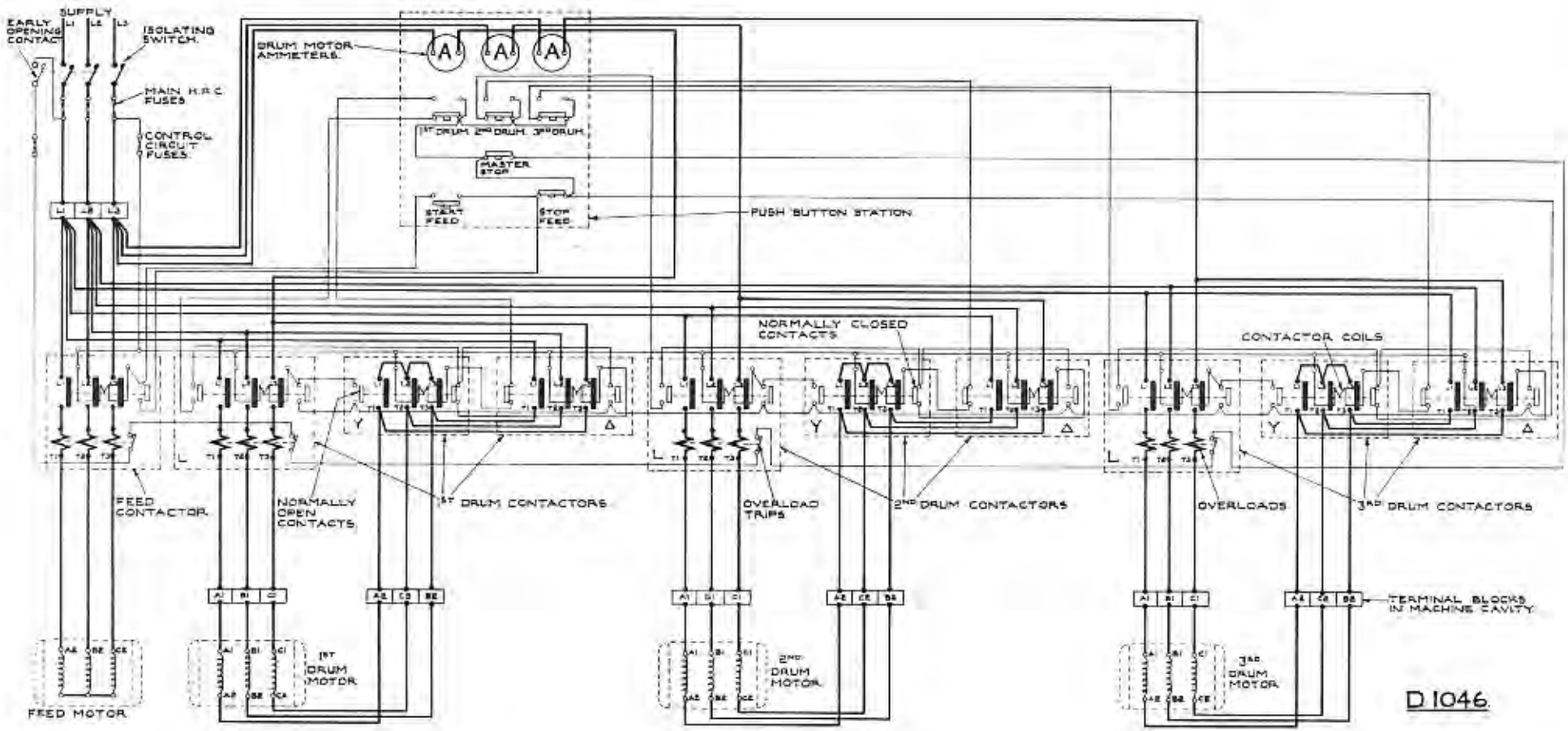


TABLE ELEVATING MOTOR
TABLE MOTOR AND IT'S ASSOCIATED CONTROL GEAR SUPPLIED TO SPECIAL ORDER ONLY
TYPE TTT REVERSING SWITCH
RAISE
OFF
LOWER
PUSH BUTTON STATION
DRUM MOTOR AMMETERS
1ST DRUM
2ND DRUM
3RD DRUM
START FEED
STOP FEED
MASTER STOP
START 1ST DRUM
START 2ND DRUM
START 3RD DRUM
4 - TYPE ARROW SIZE Nº1 CONTACTORS
CONTROL CIRCUIT FUSES 5 AMP
TABLE ELEVATING MOTOR FUSES 5 AMP
CONTACTOR COILS
RETAIN CONTACTS
OVERLOAD COILS
OVERLOAD TRIPS
MAIN H.R.C. FUSES 30AMP
ISOLATING SWITCH 50 AMP
SUPPLY
EARLY OPENING CONTACT
TERMINAL BLOCKS IN CONTACTOR CAVITY
FEED
3HP - 42' 48' & 52' M/CS
1ST DRUM
10 H.P - 48' & 52' M/CS
7½ H.P - 42' M/CS
2ND DRUM
10 H.P - 48' & 52' M/CS
7½ H.P - 42' M/CS
3RD DRUM
10 H.P - 48' & 52' M/CS
7½ H.P - 42' M/CS

D.937/2


EARLY OPENING CONTACT
SUPPLY
L1
L2
L3
ISOLATING SWITCH.
MAIN H.R.C. FUSES
CONTROL CIRCUIT FUSES.
DRUM MOTOR AMMETERS.
A
A
A
1ST DRUM. 2ND DRUM. 3RD DRUM.
MASTER STOP
START FEED
STOP FEED
PUSH BUTTON STATION
NORMALLY CLOSED CONTACTS
CONTACTOR COILS
FEED CONTACTOR.
NORMALLY OPEN CONTACTS
1ST DRUM CONTACTORS
OVERLOAD TRIPS
2ND DRUM CONTACTORS
OVERLOADS
3RD DRUM CONTACTORS
TERMINAL BLOCKS IN MACHINE CAVITY
FEED MOTOR
1ST DRUM MOTOR
2ND DRUM MOTOR
3RD DRUM MOTOR
D 1046