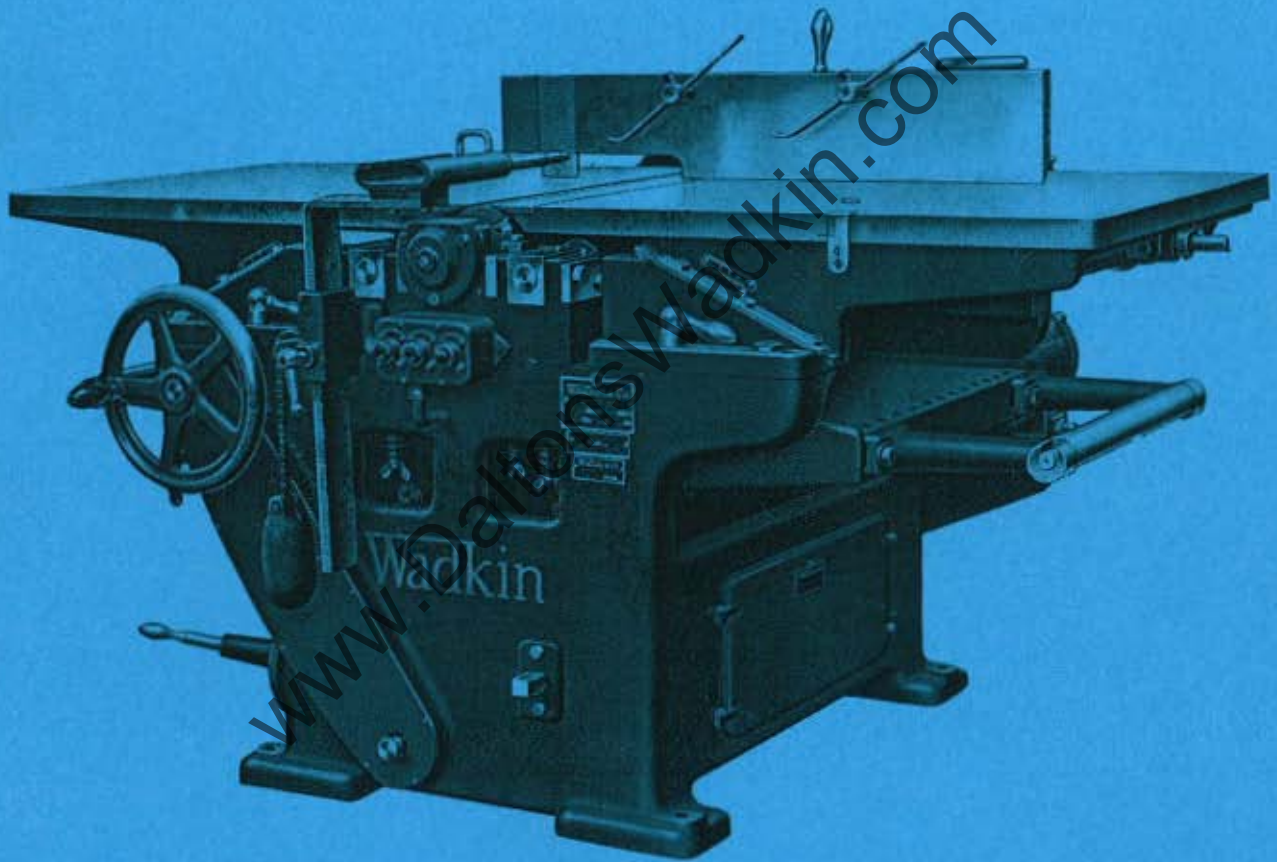


Wadkin

Combined Surfer and Thicknesser, R.M. 16" and 24" sizes



Chairman and Joint Managing Director:
Sir Holland Goddard.

Directors:
J. B. Bullivant, F.C.A. (*Deputy Chairman*).
L. Austin, M.L.P.E. (*Joint Managing*).
C. H. Morris.
S. Radcliffe, B.Sc. (Tech.), A.M.I.Mech.E.,
M.I.P.E.
W. L. Sims, O.B.E., M.I.E.E., M.I.Mech.E.
H. Beeton.

Wadkin Ltd.
Green Lane Works, Leicester

Telegrams: Woodworker-Phone-Leicester
Telephones: Leicester (67114 (4 lines)
(66021 (3 lines)

London Office:
Brookfield House, 62-64 Brook Street, W.1
Telephones: MAYfair 7048 & 9

THICKENING. OR PLANING TO EXACT SIZE IS PERFORMED ON THE BOTTOM TABLE. A GRADUATED SCALE & POINTER REGISTER THE FINISHED THICKNESS OF WORK DESIRED. THE POINTER IS ACCURATELY SET BEFORE THE MACHINE IS DESPATCHED. BUT IT IS ADVISABLE TO CHECK OVER ITS ACCURACY BEFORE STARTING THE MACHINE, SHOULD IT BE DISPLACED DURING TRANSIT. DO NOT TIGHTEN UNDULY THE WEARSTRIPS ON THE TABLE SLIDES, BUT SUFFICIENT ONLY TO TAKE UP ALL PLAY. THE FEED ROLLERS & PRESSURE BARS FIG. 7 MUST BE SET IN RELATION TO THE CUTTERBLOCK AS SHOWN. THE SPRINGS CONTROLLING THE PRESSURES MUST BE ADJUSTED SUFFICIENT ONLY TO HOLD THE WORK FIRMLY. THE ANTI-FRICTION ROLLERS IN THE TABLE TO BE A $\frac{1}{64}$ ABOVE THE TABLE LEVEL FOR PLANING BOARDS WHICH ARE FAIRLY STRAIGHT. IF THE WORK IS WET OR BADLY TWISTED, THE ROLLERS SHOULD BE SET A LITTLE HIGHER IN THE TABLE.

PRESSURE BARS. IF IT IS DESIRED TO CUT Mouldings OVER $\frac{1}{2}$ IN DEPTH, IT IS NECESSARY TO REMOVE BOTH PRESSURE BARS MARKED G SHOWN AT FIG. 7. TO REMOVE THE PRESSURE BARS, FIRST DRAW BACK THE SURFACING TABLES & TAKE OFF THE COMPLETE FENCE. REMOVE WING NUTS & SPRINGS FROM THE PRESSURE BAR STUDS. IT IS NECESSARY TO DETACH ONE CLAMP PLATE & CUTTER ONLY FROM THE CUTTERBLOCK & GIVE PARTIAL TURN BY HAND TO THE BLOCK TO BRING THE STUDS INTO CONTACT WITH THE UNDERSIDE OF PRESSURE BAR AS SHOWN IN FIG. 8. CONTINUE TO TURN THE BLOCK & GRADUALLY RAISE THE PRESSURE BAR EVENLY OUT OF THE SLOT, TO REMOVE THE OPPOSITE BAR. THE OPERATION ABOVE IS REPEATED.

FOR DRY SOFT WOOD

FIG. 3

FOR DRY HARD WOOD

FIG. 4

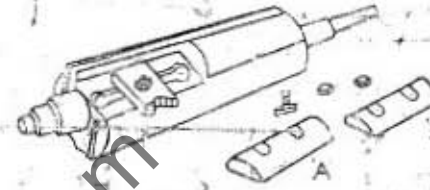


FIG. 5

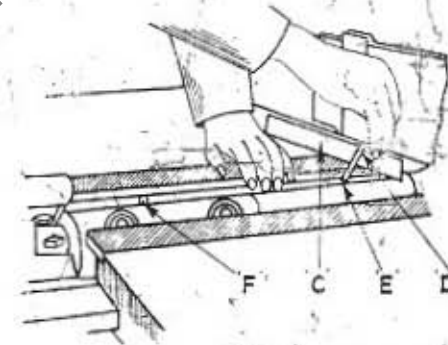


FIG. 6

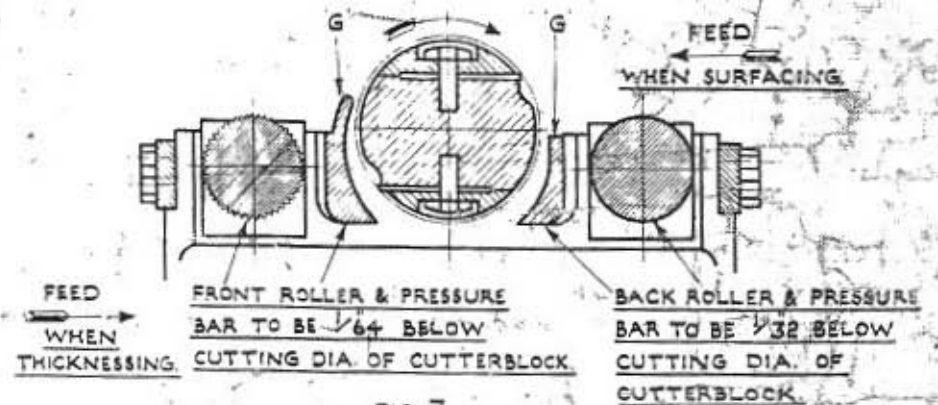


FIG. 7

MOULDINGS. MOULDINGS CAN BE WORKED IN TWO WAYS, EITHER BY USING THE BOTTOM TABLE & PASSING THE WORK UNDER THE CUTTERS WITH THE POWER FEED MOTION OR ALTERNATELY PASSING THE WORK OVER THE CUTTERS BY HAND, USING THE TOP TABLE. THE PARTICULAR OPERATION DEPENDS ENTIRELY ON THE TYPE & SIZE OF THE MOULDING TO BE CUT & ALSO THE QUANTITY REQUIRED. WHEN USING THE TOP TABLE, THE ORDINARY FENCE ACTS AS THE GUIDE. WITH THE BOTTOM TABLE, IT IS NECESSARY TO USE WOOD GUIDE STRIPS TO KEEP THE WORK PARALLEL, WHICH ARE SECURED BY SCREWS AT EACH END OF THE TABLE.

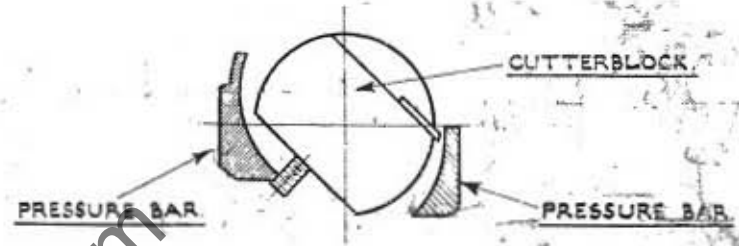


FIG. 8.

LUBRICATION

CUTTERBLOCK BEARINGS. GIVE 4 TO 6 DEPRESSIONS OF GREASE GUN EVERY 3 TO 6 MONTHS, USING WADKIN GRADE L6 BALL BEARING GREASE. **FEED ROLLERS.** OIL DAILY, USING WADKIN GRADE L4 OIL.

GEAR BOX. DRAIN OFF OLD OIL & RE-FILL EVERY 6 MONTHS USING WADKIN GEAR OIL GRADE L2. TOP UP WITH OIL TO GAUGE LEVEL. **MOTORS.** IF BEARINGS ARE FITTED WITH GREASE CAPS, GIVE ONE TURN OF CAPS WEEKLY USING WADKIN GREASE, GRADE L6.

GENERAL OIL LUBRICATION. OIL WEEKLY, USING WADKIN OIL, GRADE L4.

BOTTOM TABLE ROLLERS. THESE ARE PACKED WITH GREASE, RENEW EVERY 6 TO 12 MONTHS USING WADKIN GREASE, GRADE L6.

EQUIVALENT LUBRICANTS:

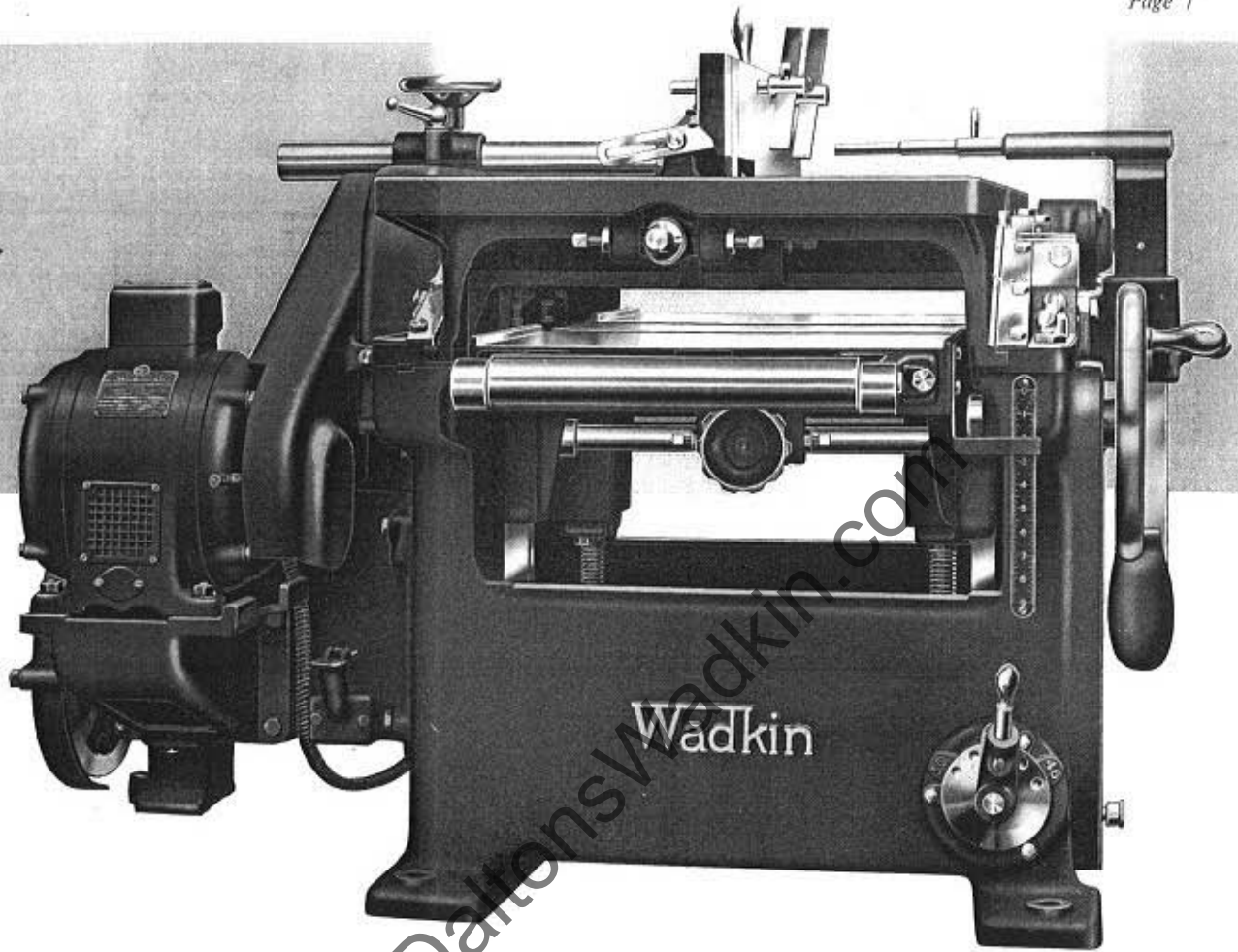
GRADE L6. ALTERNATIVELY GREASE.

GRADE L2. ALTERNATIVELY GEAR OIL.

GRADE L4. ALTERNATIVELY OIL.

- SHELL-MEX.
- SHELL MERITA GREASE 3.
- MOBIL OIL Co. MOBIL No. 11 GREASE.
- CALTEX REGAL STARPAK No. 2 GREASE.
- SHELL-MEX.
- SHELL VITREA OIL 60.
- MOBIL OIL Co. MOBIL OTE/55 OIL.
- CALTEX MEROPA LUBRICANT No. 2 OIL.
- SHELL-MEX.
- SHELL VITREA OIL 33.
- MOBIL OIL Co. MOBIL VACTRA OIL (HEAVY MEDIUM).

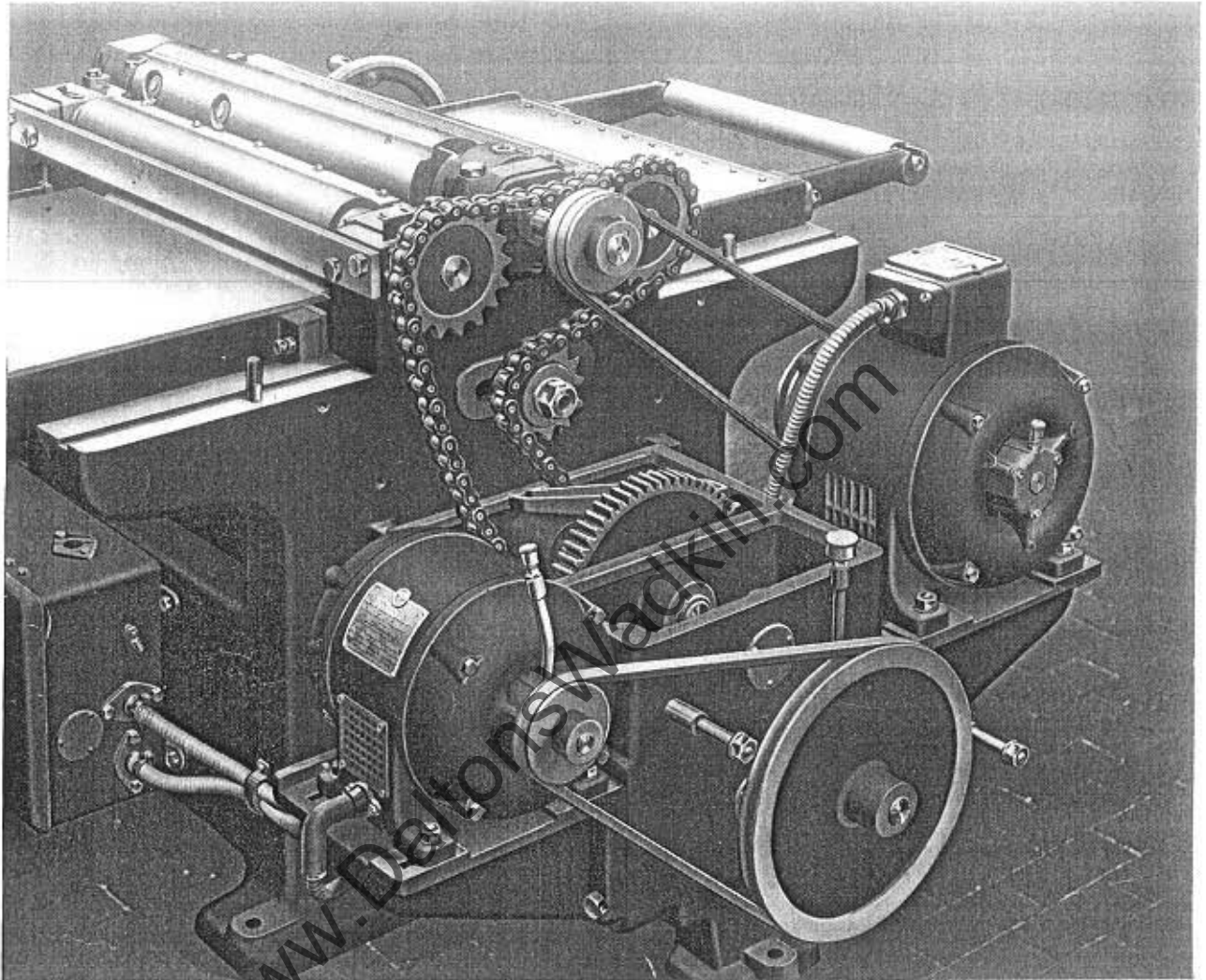
WADKIN LTD GREEN LANE WORKS MANCHESTER ENGLAND



The above illustration is an end view of the machine and shows the method of mounting the thicknessing table described in detail on the opposite page.

A simple turn on this conveniently placed handwheel raises and lowers two anti-friction rollers in the thicknessing table to suit the class of timber being thicknessed; both rollers adjust simultaneously, and the mechanism is so designed that it is impossible for the rollers to get out of line either with each other or with the table surface.





Shows the arrangement of the drive to the cutterblock and feed. Both tables and all covers have been removed for illustration purposes.

Electric Drive

Wadkin Planing and Thicknessing machines are driven by two separate motors mounted on the side of the machine, not under the thicknessing table, and consequently are not continually working in an accumulation of dust and chips falling from the machine. The serious risk of motor breakdown and fire is thus entirely eliminated.

Motors are available for alternating or direct current.

The Control Gear

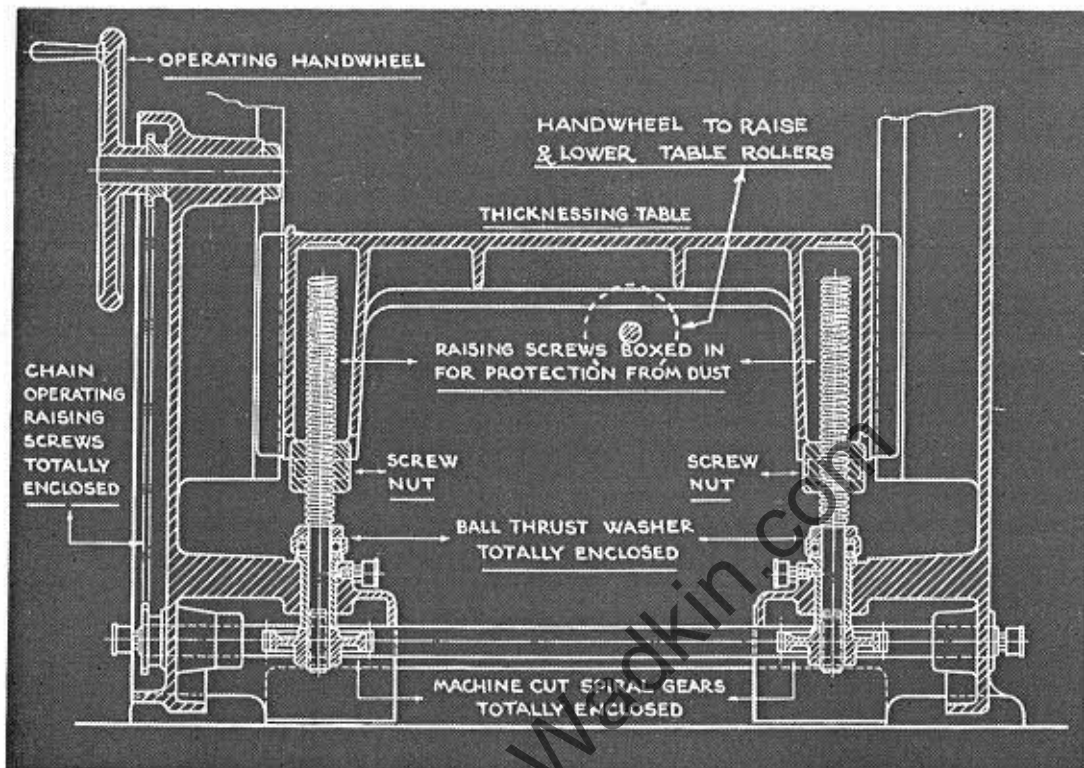
The control gear for alternating current is of the automatic contactor type, controlled by two start buttons and one master stop button. The latter is of an improved type incorporating a new 'lock-out safety' feature.

Overload safety feature is included in both

cutterblock and feed contactors, both of which inherently give no-volt protection. The control gear is interlocked so that the feed motor contactor automatically falls out if the cutterblock motor is stopped. The contactor gear is built into a dust-tight recess in the main frame, the gear itself being carried on the hinged door of the recess for convenient wiring and inspection. For direct current, dust-proof, hand operated starters are supplied as standard, but push button control can be supplied to order.

Belt Drive

A countershaft is provided when the machine is required to be driven by a lineshaft above or below the floor. The shaft runs in ball bearings carried by strong standards. It is fitted with fast and loose pulleys and striking gear. The loose pulley is also mounted on ball bearings.



The Thickening Table

The Thickening Table is mounted on broad slides on each side of the main frame, and is raised and lowered 9" by handwheel. An index scale registers the exact thickness of timber being planed.

The sectional drawing above clearly shows how the raising and lowering motion is obtained, and it will be noted that all the vital mechanism is completely protected against dust and chips.

Long working life and ease of operation is ensured at all times as a result of this dust-proof design, whilst the use of machine-cut steel and gunmetal spiral gears and ball thrust washers to take the weight of the table, all assist in obtaining a particularly smooth and easy rise and fall motion to the thickening table.

Carrier rolls are provided at both ends of the table for supporting long work. In addition, the table is provided with two anti-friction rollers, both being arranged with a small vertical adjustment.

The adjustment is obtained simultaneously on both rollers by means of one handwheel at the feeding-in end of the machine.

The Fence

The Fence cants up to 45 degrees and is designed to give absolute rigidity in all positions. It is quickly adjustable across the table by handwheel, and the method of holding and guiding the fence

avoids the need for a vee slot in the table. Lever handles lock the fence in any desired position on the table.

An extension on the front table enables the fence to be set back to allow the full width of the cutters to be used. Two adjustable holding-down springs are provided.

The Safety Guard

The Safety Guard provided on all machines has telescopic steel cover and is easily and quickly extended across the cutterblock. The guard draws back well clear of the cutters.

The Power Feed

A powerful and steady feed is obtained on a Wadkin by the chain drive to the rollers as shown overleaf.

The gearbox provides for three speeds of 20, 30 and 46 feet a minute, and the speeds can be varied whilst the feed is in operation.

All the gears are steel, machine-cut and run continuously in oil.

The gearbox oil bath also automatically lubricates the chain, and the gear spindle bearings. The feed roller bearings are each provided with an oil chamber, making them self-oiling. Both rollers are of steel, the feeding-in roller being grooved, and the feeding-out roller smooth. A scraper is provided to the feeding-out roller to avoid any possibility of chips being carried round and impressed into the finished surface.



Specification

The Main Frame

The Main Frame is exceptionally heavy with large base area to eliminate vibration and shaped to afford good foot room for the operator.

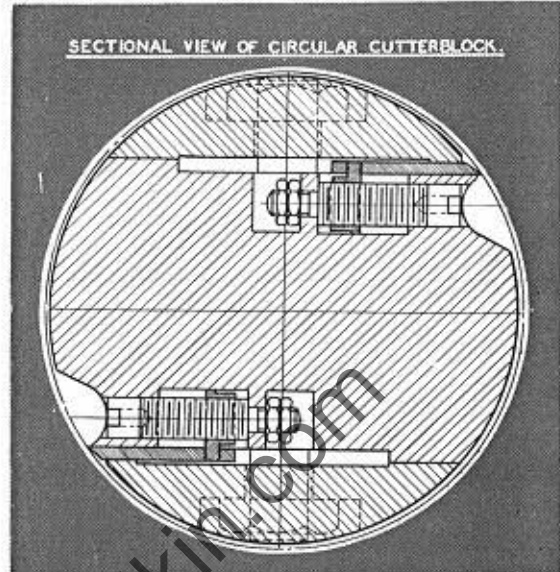
The Surfacing Tables

The Surfacing Tables are long and dead true. The new method of grinding ensures a standard of accuracy never before achieved by other methods of manufacture. Not only does this improve the quality of the planing, and enable the machine to make perfectly true glue joints, but the highly polished surface greatly assists the smooth feeding of the wood past the cutterblock. The tables have horizontal draw-out motion for convenience in changing and sharpening cutters. Each table has also a rising and falling motion, and the table edges adjacent to the cutters are fitted with steel lip plates. Index scales are provided on both tables to indicate the exact amount of the vertical movement in relation to the cutterblock. When required the front table can be arranged to cant for taper planing as shown below. This screw method of canting not only allows the table to be adjusted to the correct height with a minimum of trouble, but the raising screw also serves to lock the table down on to machined faces, thus maintaining proper alignment with the rear table.

The Cutterblock

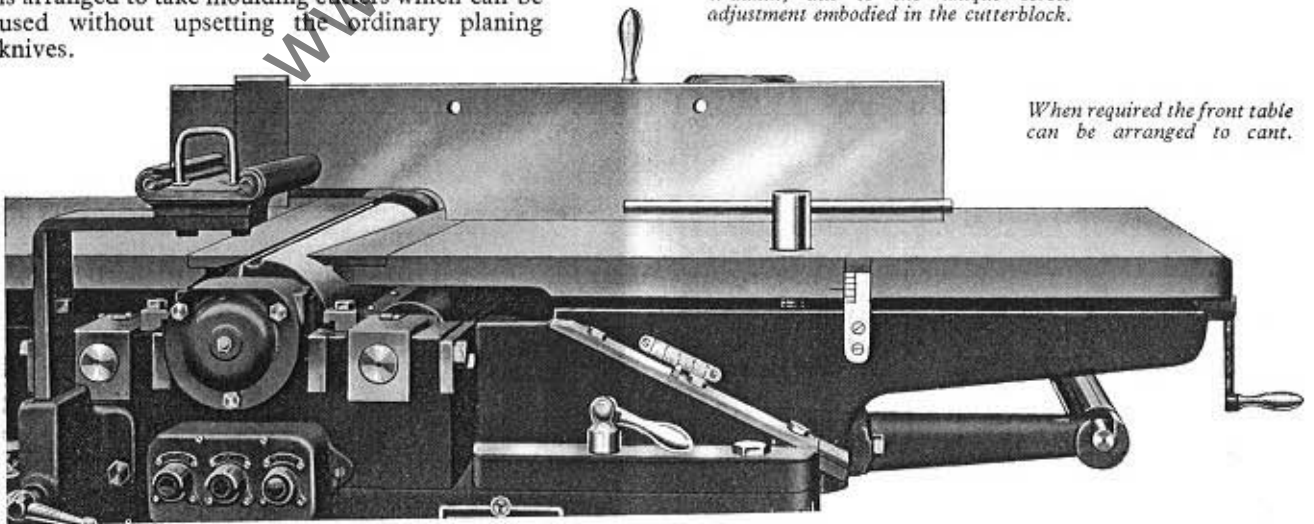
The Cutterblock is of the circular safety type arranged to give a shearing cut. It is of the two knife pattern and is so designed that the knives are rigidly supported close up to the edge, thus preventing knife chatter, and making it impossible for chips to wedge in front of the knives. It is made from a steel forging and revolves in special heavy type ball bearings.

The cutterblock has a 5" diameter cutting circle and is arranged to take moulding cutters which can be used without upsetting the ordinary planing knives.



Cutter setting is an extremely simple operation on a Wadkin, due to the unique screw adjustment embodied in the cutterblock.

When required the front table can be arranged to cant.



INSTRUCTIONS

Wadkin

R.M.

INSTRUCTION No 300/B

COMBINED SURFACE PLANERS AND THICKNESSERS

CUTTERBLOCK & CUTTERS. ALL CUTTERS SHOULD BE BALANCED IN SETS & EACH CUTTER GRIND AN EQUAL AMOUNT. KEEP THE CUTTERS SHARP WHEN IN POSITION ON BLOCK BY USING A FINE GRADE OIL STONE DIPPED IN PARAFFIN. ALLOW THE STONE TO REST LIGHTLY & FLAT ON THE BEVEL & PASS OVER THE CUTTER WITH A ROTATING ACTION A FEW TIMES. GIVE ABOUT TWO STROKES FULL LENGTH OF EACH KNIFE WITH THE STONE ON THE FACE SIDE, TO REMOVE ALL BURRS FROM THE CUTTING EDGE. DO NOT ALLOW A HEEL GREATER THAN A $\frac{1}{32}$ WIDE ON THE BEVEL BEFORE TAKING OUT & REGRINDING ON THE GRINDING MACHINE. TAKE CARE TO GRIND OFF THE SAME AMOUNT FROM EACH CUTTER, WHEN GRINDING TAKE VERY LIGHT CUTS WITH THE GRINDING WHEEL. USE A WHEEL OF SUITABLE GRIT & GRADE. FOR DRY GRINDING KEEP THE WHEEL FROM "GLAZE" BY USING AN EMERY WHEEL DRESSER OCCASIONALLY. FOR GENERAL WORK WE RECOMMEND KNIFE ANGLES FOR SOFT & HARD WOODS, AS SHOWN IN FIGS. 1 & 2. WHERE A VERY FINE FINISH IS REQUIRED ON DRY SOFT & HARD WOODS, A SLIGHT FRONT BEVEL IS GIVEN AS SHOWN BY FIGS. 3 & 4. FOR WET OR GREEN TIMBER THE CUTTING BEVEL MAY BE INCREASED BY 5 DEGREES BUT FRONT BEVEL SHOULD NOT BE GIVEN. THE CUTTERBLOCK IS ARRANGED FOR ATTACHING MOULDING CUTTERS WITHOUT IN ANY WAY UPSETTING THE PLANING KNIVES & IT IS PROVIDED WITH TWO DOVETAIL SLOTS AS SHOWN AT FIG 5. TO FIX MOULDING CUTTERS, TAKE OFF MAKING UP PIECES A & B & USE DOVETAIL BOLTS IN THE SLOTS.

CUTTER SETTING. THE PATENT CUTTER SETTING DEVICE GIVES VERY FINE MICROMETER SCREW ADJUSTMENT TO THE KNIVES, WHICH MUST BE SET PARALLEL WITH THE BACK SURFACING TABLE & WITH A $\frac{1}{16}$ PROJECTION FROM THE CUTTERBLOCK. AN ORDINARY STRAIGHT EDGE (C) FIG. 6 IS PLACED ON THE BACK TABLE OVERHANGING THE CUTTERBLOCK & THE CUTTER IS ADJUSTED IN RELATION TO IT BY MEANS OF A KEY (D) OPERATING TWO MICROMETER SCREWS (E) & (F). THE SCREWS ARE MOVEABLE IN EITHER DIRECTION TO ADJUST THE CUTTER IN OR OUT OF THE CUTTERBLOCK.

