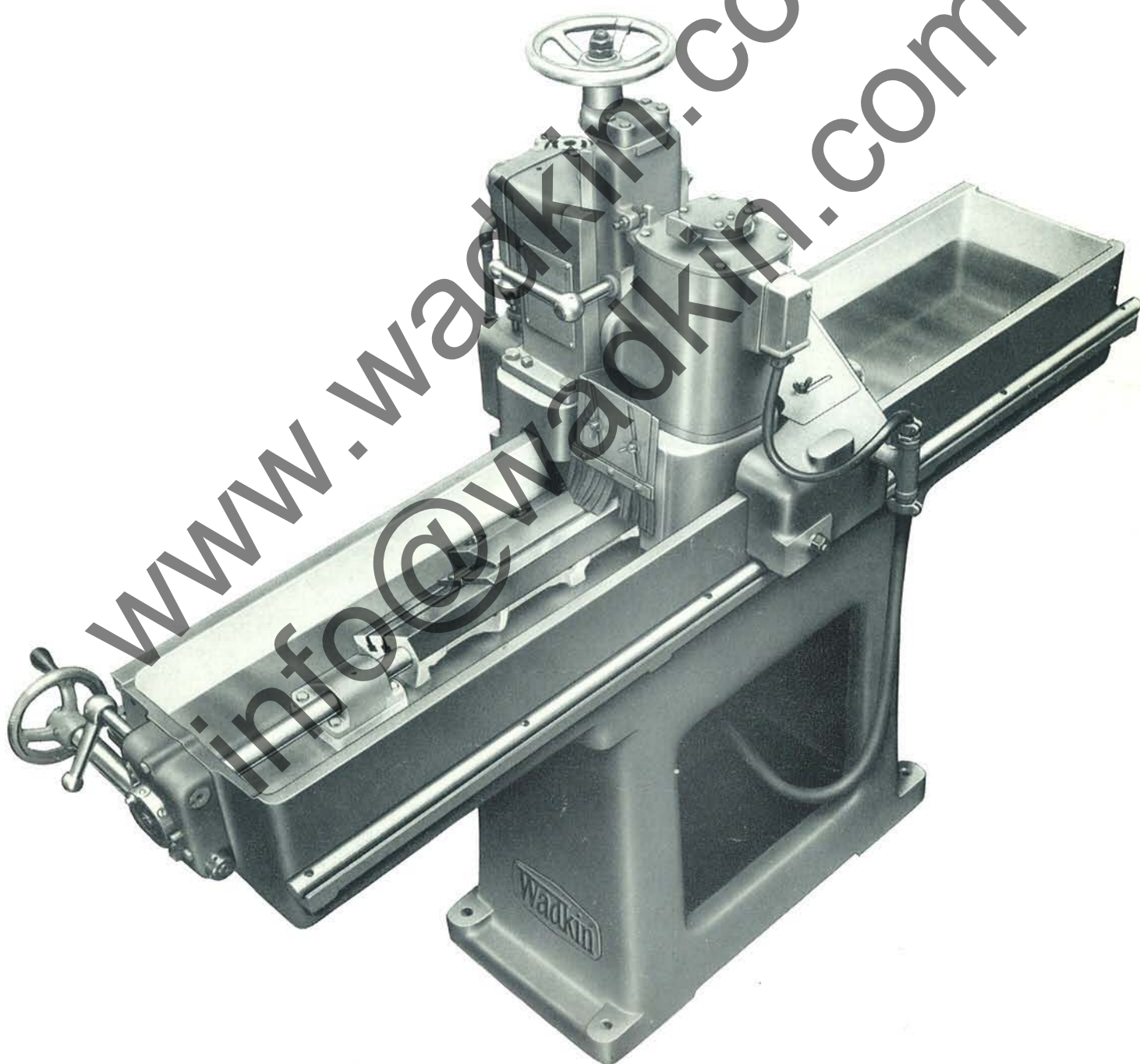


Wadkin

36" and 48" Straight Knife Grinder Type N.Q.

(Classification No. 55.7)

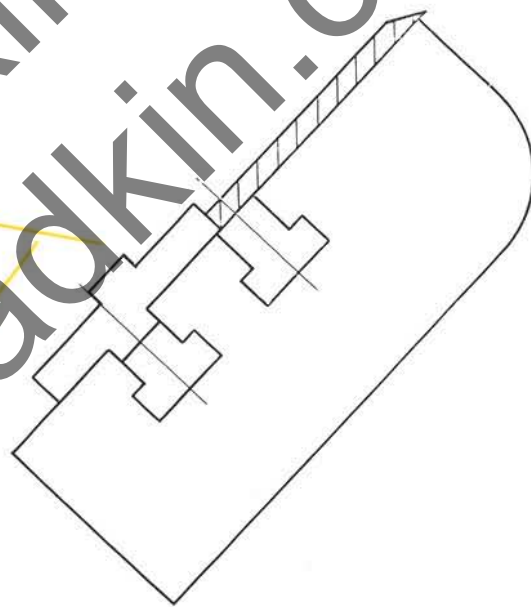
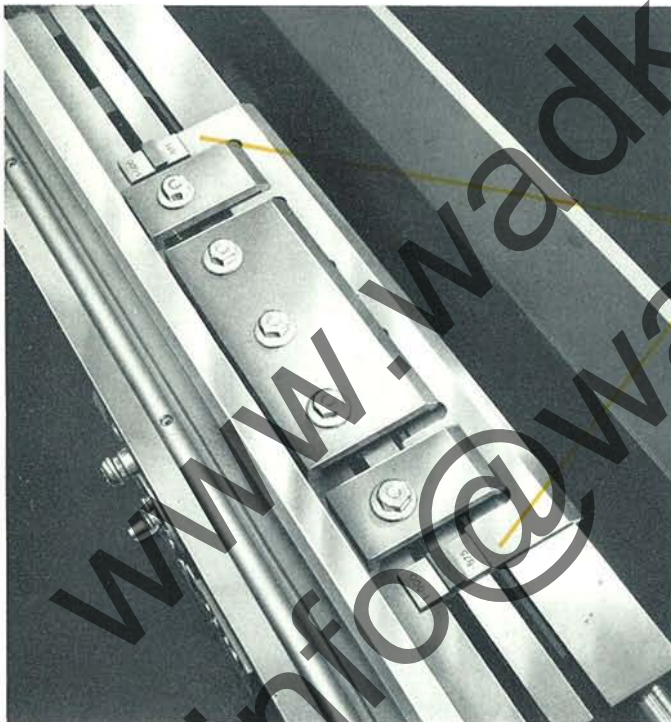


Wadkin

Straight Knife Grinder, Type N.Q.

The importance of keeping knives and cutters properly ground, and thus ensuring efficient production from key machines such as Planers and Moulders, Surfacing and Thicknessing Machines, justifies particular attention being given to the choice of equipment for this purpose. Long experience with different types of grinding machines in our own Tool and Cutter Department has proved that wet grinding gives better results, and that for the long knives used in planing machines, the most accurate grinding is obtained by mounting the knife on a stationary carrier and traversing the grinding

wheel backwards and forwards along the blade. These essential requirements are among the outstanding features of the Wadkin N.Q. Machine. In addition, the ability to do both flat and hollow grinding—the fully automatic operation of the machine, and the method of flooding the knives and grinding wheel—will commend the machine to all with a knowledge of what is needed for perfect grinding. The machine is suitable for grinding thick and thin knives, chipper irons, veneer knives and guillotine knives up to 36" long.



Showing the mounting of knives and the use of setting blocks ensuring parallel grinding and preserving initial balance of a pair of knives.

The Machine

The machine consists of a horizontal open tank mounted upon a pedestal at a convenient working height. The outer sides of the tank are flanged to support nitralloy hardened round rods which form a track for the grinding wheel carriage. The knife is supported on a knife bar mounted inside the tank in easily renewable bearings. The bar is arranged to cant up to 45°.

Knife Setting

All knives are set up for grinding from the back edge of the knife, using precision made setting blocks. In the case of short knives up to 18" long, both knives are set up side by side on the bar and ground at one operation. A range of four pairs of setting blocks, each giving four setting positions in each groove, cater for every woodworking machine knife between $\frac{3}{4}$ " and $4\frac{1}{8}$ " wide. The



knives are rigidly held down to the bar by means of clamps, two sets of which are provided, suitable for clamping knives with bevel angle 25° and over.

For bevel angles under 25° , special clamps will be required and these can be supplied as an extra. Alternatively, wide slotted knives can be secured through the slots in the knife.

The Grinding Head

The grinding wheel head is mounted on a carriage which is traversed on three hardened and ground ball bearing rollers along a track on the outside of the tank. Three-point mounting of the carriage ensures complete freedom from rock throughout the life of the machine. The carriage is power-traversed by a $\frac{1}{2}$ h.p. flanged motor operating through reduction gear to a rack pinion engaging with a rack on the side of the tank. The speed of traverse is 27 feet per minute. The carriage is automatically reversed by trip dogs mounted on the side of the tank which engage the trip reversing switch on the carriage.

The Carriage

The carriage can be stopped anywhere along its traverse by simply pulling a knob which disengages the rack pinion. Trip dogs are quickly adjustable to suit any length of knife. The grinding head is mounted in a vertical slide controlled by handwheel, screw and nut to facilitate setting and compensate for wheel wear.

Automatic Downfeed

An automatic downfeed to the grinding wheel is provided actuated by the reversing action of the trip dogs. This can be preset to give a downfeed of .0002", .0004", .0006" or .0008" at each end of stroke. A graduated device is fitted for automatically stopping the downfeed after any predetermined amount up to .008" has been ground off the knife. The machine can thus be set and left grinding without the knives being ground to waste.

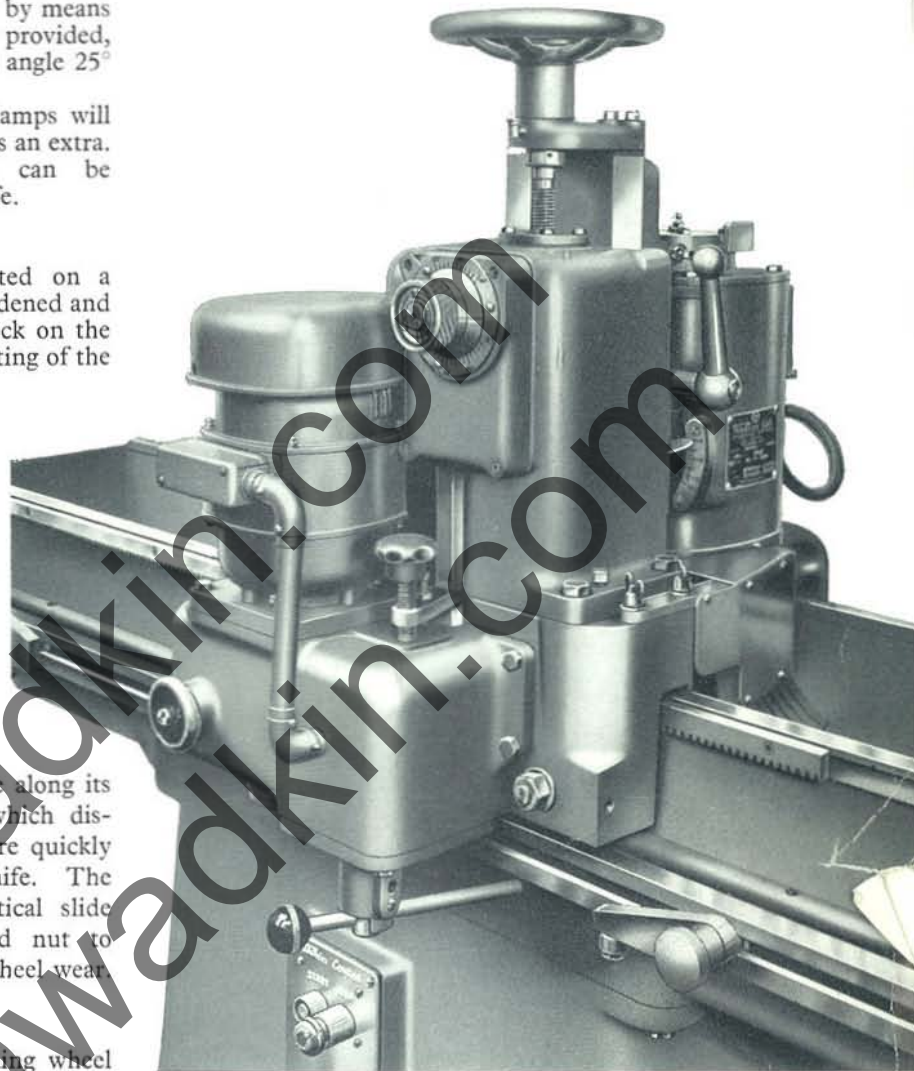
The Grinding Wheel Spindle

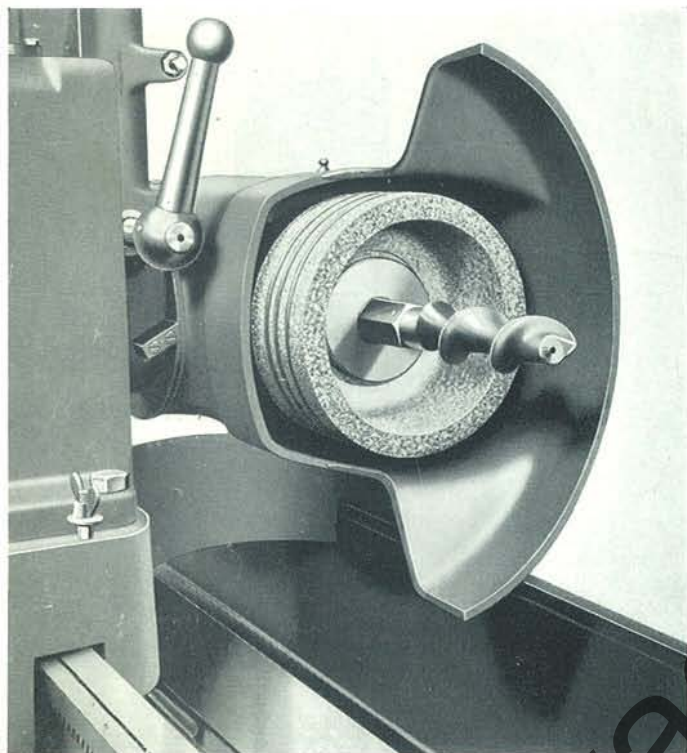
The spindle cants up to 25° from the vertical, the exact angle being indicated by pointer and scale. It can also be swung into a horizontal position to facilitate changing the grinding wheel. A dead stop is fitted for easy location of the vertical position. The spindle is mounted on precision ball bearings protected from grit by

labyrinth seals. It is spring loaded to prevent end play and to guarantee controlled accuracy in the grinding operation.

Wet Grinding

The grinding wheel is constantly flooded with a grinding solution, consisting of water and soluble oil which effectively prevents burning of the knife. The solution is forced upwards on to the knife by means of a screw paddle mounted on the spindle end. A hood round the grinding wheel and splash guard on the carriage retains the solution and prevents any splash outside the grinding head unit. A plug is fitted to the bottom of the tank to drain off the solution when cleaning out the tank.





Head swings horizontally for wheel changing.

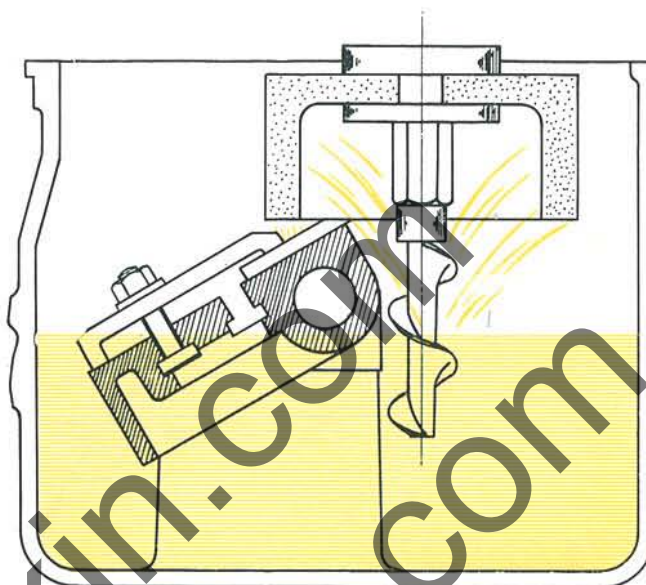


Diagram showing method of flooding the grinding wheel and knife.

Details included with machine :

One cup grinding wheel; four pairs of setting blocks; one setting strip; one set of clamp plates; one set of spanners; grease gun; tin of special ball bearing grease.

Principal Dimensions and Capacities

Maximum length of knife (standard)	36"	915 mm.	48"	1220 mm.
Maximum knife section (normal)	4 1/4"	110 x 15 mm.	4 1/4" x 5"	110 x 15 mm.
Maximum knife section (if slotted knives)	6 1/4"	160 x 15 mm.	6 1/4" x 5"	160 x 15 mm.
Minimum knife section	1 1/4" x 1/8"	20 x 4 mm.	1 1/4" x 1/8"	20 x 4 mm.
Bevel angle	0-45°		0-45°	
Arranged for hollow grinding	0-25° on spindle		0-25° on spindle	
Speed of carriage traverse	27 ft. per min.	8230 mm/min.	27 ft. per min.	8230 mm/min.
H.P. of wheel head	2		2	
H.P. of traverse motor	1/6		1/6	
Wheel size	6 1/2" dia. x 3" cup type, 7/8" bore	165 x 75 mm. x 22 mm.	6 1/2" dia. x 3" cup type, 7/8" bore	165 x 75 mm. x 22 mm.
Wheel speed on 50 cycles	3000 r.p.m.		3000 r.p.m.	
Wheel speed on 60 cycles	3600 r.p.m.		3600 r.p.m.	
Down feed at each end of stroke	0-0002" 0-0004" 0-0006" 0-0008"	0-005 0-010 mm. 0-015 0-020 mm.	0-0002" 0-0004" 0-0006" 0-0008"	0-005 0-010 mm. 0-015 0-020 mm.
Floor space	78" x 30"	1980 x 760 mm.	90" x 30"	2290 x 760 mm.
Net weight	1750 lb.	790 kg.	1900 lb.	860 kg.
Gross weight	2200 lb.	990 kg.	2360 lb.	1070 kg.
Shipping dimensions	58 cu. ft.	1.6 m ³	61 cu. ft.	1.7 m ³

Telephone: Leicester 68151 (7 lines)
 Telegrams: } Woodworker, Leicester, Telex.
 Cables: }
 Telex: 34646 (Wadkin, Leicester)

Wadkin Ltd.
 Green Lane Works, Leicester

LE5 4PF

and at
 York House, Empire Way, Wembley, Middx.
 Telephone: 01-902 7714 (3 lines)
 Telex: 262210

