

Wadkin

Hydraulic Cross Cut Saw, C.W.

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Classification 121. 131. 122.



Wadkin

Hydraulic Cross Cut Saw, C.W.

This is an entirely automatic cross cut specially developed for fast production. It is not an adaptation of an existing hand operated machine but has been designed throughout as a power-operated saw. As such it embodies many features to ensure speed of operation, quick adjustments, easy maintenance and dependability.

The potential output capacity of this machine over a wide range of work is considerably higher than any hand operated machine. This is due to the fact that the operator has always both hands free

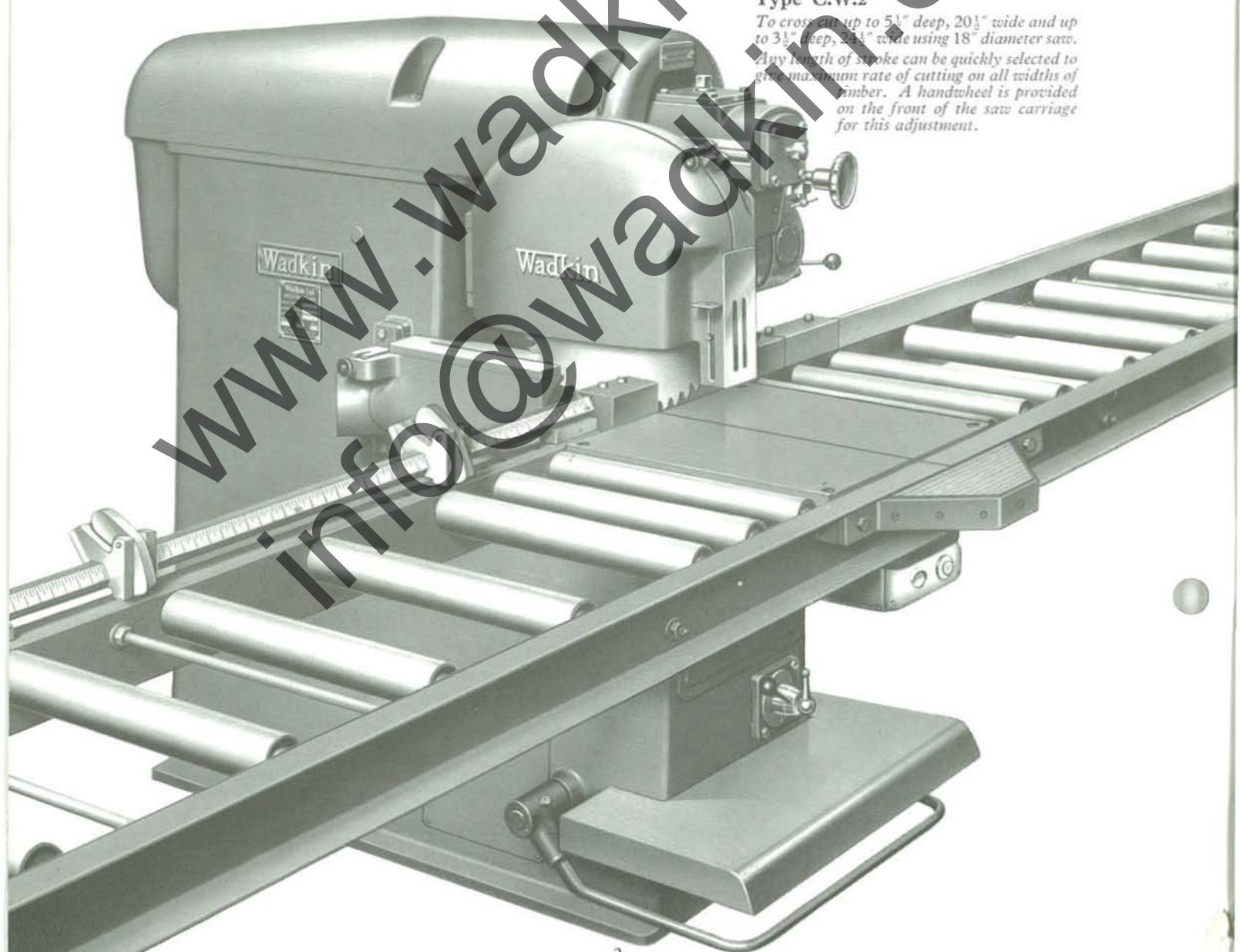
for speedy handling of the stock, also to the speed of the cutting stroke of the machine being quickly variable, to suit any section of stock.

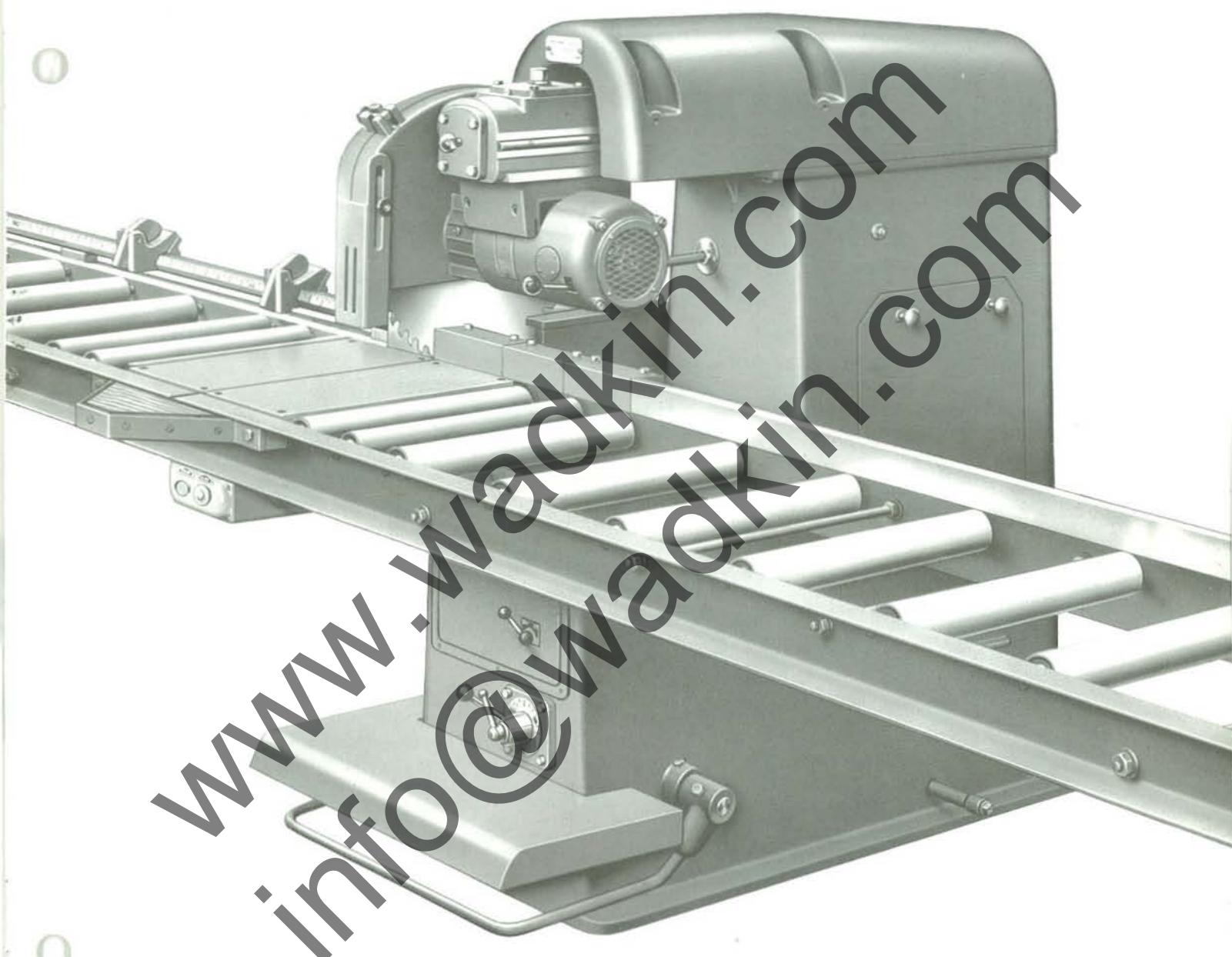
Hydraulic power for the cutting stroke ensures a smooth, even action and the method of control eliminates all trace of jerkiness throughout the entire sequence of operations.

The machine is available in two sizes. In both cases the saw may be either at the left or right of the carriage as required to suit the direction from which the timber is brought to the saw.

Type C.W.2

To cross cut up to 5 $\frac{1}{2}$ " deep, 20 $\frac{1}{2}$ " wide and up to 3 $\frac{1}{2}$ " deep, 24 $\frac{1}{2}$ " wide using 18" diameter saw. Any length of stroke can be quickly selected to give maximum rate of cutting on all widths of timber. A handwheel is provided on the front of the saw carriage for this adjustment.



**Type CW.1**

To cross cut up to $5\frac{1}{2}$ " deep, $12\frac{3}{4}$ " wide and up to $3\frac{1}{2}$ " deep, 17" wide using 18" diameter saw.
Length of stroke can be set for both 10" or 20" movement of saw carriage by hand lever adjustment on the main frame.



Specification

The Machine

The machine consists of a steel main frame which carries a cast iron hood member housing a power operated saw carriage. Inside is contained the tank which carries the oil pump and valve gear for the hydraulic mechanism.

The Saw Carriage

The saw carriage is a special aluminium alloy casting to give lightness and rigidity, to enable high traverse speeds and reversal without shock to be obtained. It is mounted on ball bearing rollers running on ground nitrally steel runways. These runways have a long life and are the controlling element of the straight line cut.

The Saw Motor

The saw motor is mounted on the saw spindle and the motor frame is carried in a circular slide controlled by nut and screw so that a rise and fall can be obtained to compensate for wear on the saw or for setting when trenching. An efficient locking device is fitted to this slide to ensure accuracy and rigidity. Saw spindle is provided with hand-

operated brake, for bringing the saw or cutter-head quickly to rest after use.

The Control Gear

The control gear for both the saw and pump motors is by push buttons operating a contactor built into the main frame, embodying no volt and overload releases.



Speed of cutting stroke is instantly variable by hand lever



Hydraulic unit is housed inside main frame. (Door removed to show accessibility)

The Hydraulic Unit

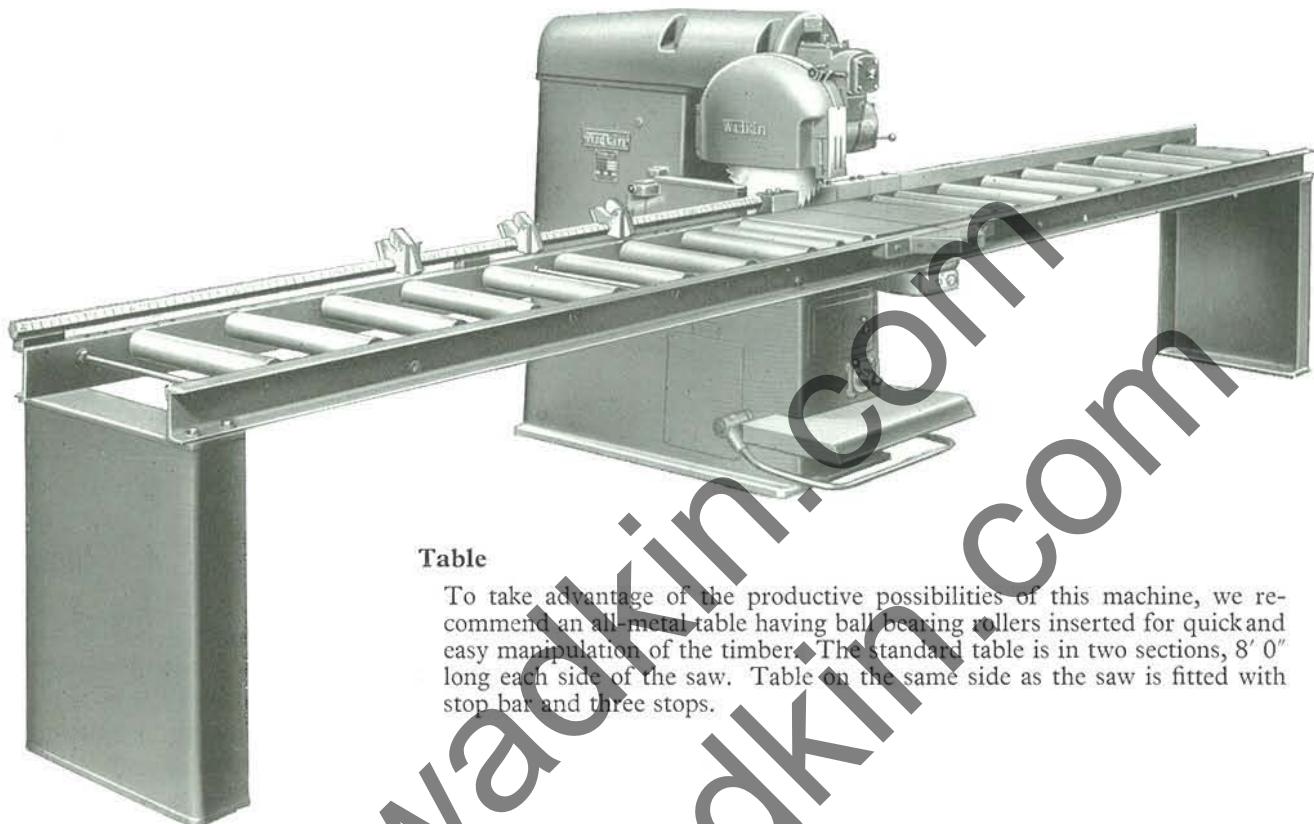
The saw carriage is operated by hydraulic gear controlled by foot pedal at the front of the machine.

The rate of flow of the oil is controlled by a lever on the front of the machine, and thus the forward speed of the carriage can be varied by simply moving the lever.

A constant high speed return stroke of 150 feet per minute reduces the idle time to a minimum.

The hydraulic unit consists of an electric motor driving a small gear pump, which delivers oil under pressure to the cylinder in the saw carriage, via a valve which is foot-operated.

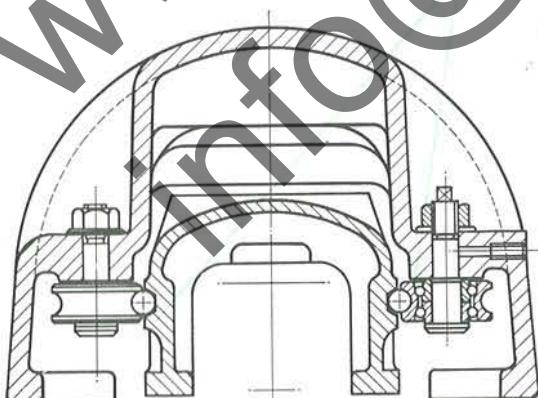
This unit is built into an oil tank, which is housed in the main frame, and is easily accessible.



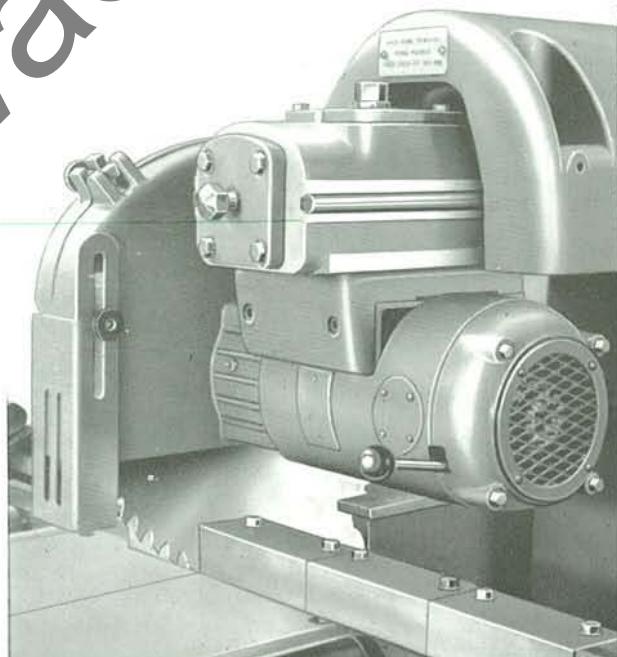
Table

To take advantage of the productive possibilities of this machine, we recommend an all-metal table having ball bearing rollers inserted for quick and easy manipulation of the timber. The standard table is in two sections, 8' 0" long each side of the saw. Table on the same side as the saw is fitted with stop bar and three stops.

The Wadkin method of mounting the saw carriage on circular tracks and ball bearing rollers guarantees accurate cutting indefinitely. Hard wearing nitralloy steel tracks can be reversed when necessary and are easily replaced.



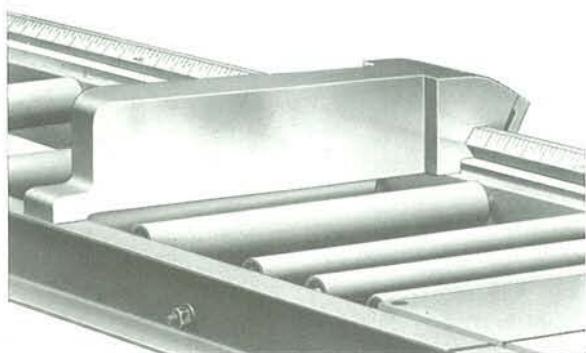
Section through saw carriage showing method of mounting.



Front and rear ball bearing rollers on this side of saw carriage are on eccentric pins to provide easy adjustment to take up wear, and maintain straight line cutting.



Specification (contd.)



The Saw Guard

The saw guard is designed to accommodate both saws and trenching heads. A special nose piece fits round both sides of the saw and in the normal position prevents the guard door from being accidentally opened. A hinged sawdust hood is securely fixed to the main frame.

Trenching Heads

Provision is made for the saw spindle to carry grooving or dado heads, thus considerably widening the scope of working of the machine. The depth of groove is variable by means of the rise and fall movement on the saw unit, which is controlled by means of a raising nut on top of the head.

The grooving head is made in two sections, mounted on a sleeve, with distance collars to suit the width of grooves required. Four distance collars are supplied which can be used singly or in combinations. To take off the saw and attach the grooving head is the work of two or three minutes only.

Two heads are available:—

- J.P.550 for grooves $\frac{1}{2}$ " to 1" wide up to $1\frac{1}{2}$ " deep
- J.P.558 for grooves $1\frac{1}{16}$ " to 2" wide up to $1\frac{3}{4}$ " deep

The above heads are 13" diameter, and the maximum distance between the cutter track and the table surface with the head raised to its highest position is $2\frac{1}{8}$ ".

Adjustable Fence

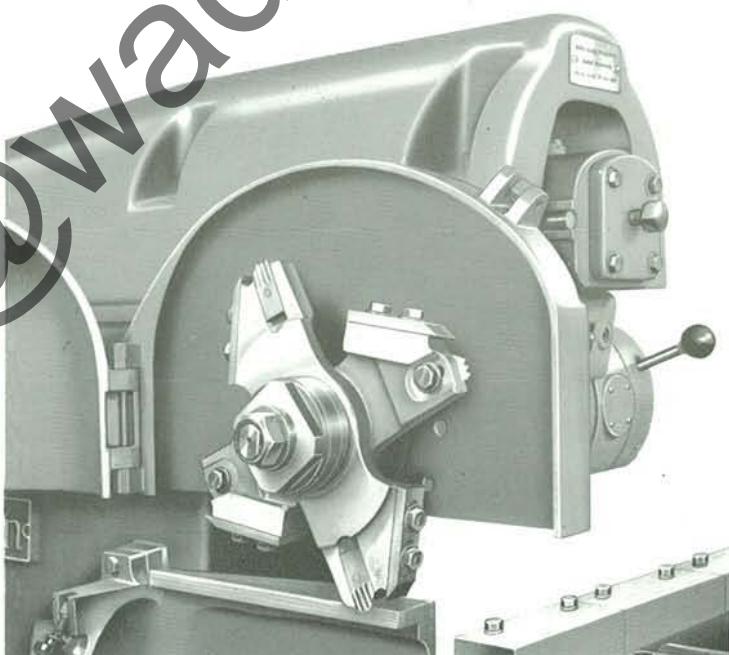
Adjustable fence, as shown left, can be supplied for use when several pieces are required to be cut side by side at one operation.

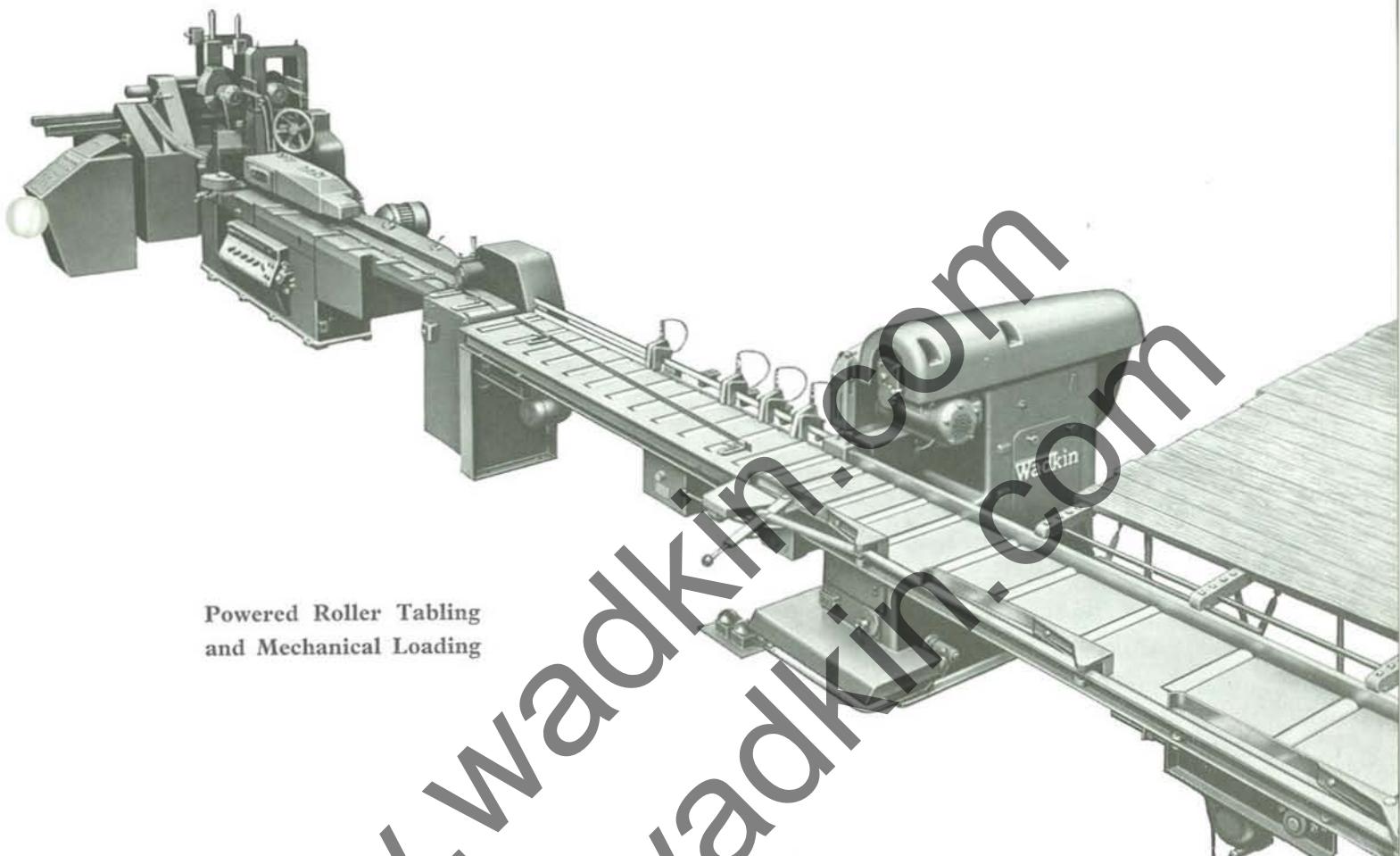
Saws

The saws used on Wadkin Cross Cutting and Trenching Machines run at a high peripheral speed, and it is therefore essential that they are correctly balanced and tensioned.

For a general purpose saw we recommend our W.X.T. Flat Cross Cut Saw. For work demanding high-grade finish, our W.X.T. Hollow Ground Cross Saw is recommended.

It is advisable that all saws used on these machines are obtained from us. No responsibility can be accepted when any other saws are used.





Powered Roller Tabling and Mechanical Loading

Powered roller tabling as shown above can be provided, and has been designed primarily as a means of direct feeding a second machine, such as a rip saw or moulder. This tabling is particularly suitable for material with sawn edges up to 12" wide for use with Model C.W.1. It can be applied to the C.W.2 machine for wider material provided this has sawn and not waney edges.

The standard lengths of infeed and outfeed tables are 8, 12, 16 or 20 feet. Standard equipment on all lengths of table consists of four pneumatically operated stops, three short stroke ejectors operated automatically by the return stroke of the machine to clear the stops, pneumatic selector valve, also associated pneumatic piping, filter, lubricator and regulator, and control gear.

Rapid selection of the pneumatic stops is by remote control conveniently positioned for the operator. The timber is controlled on the infeed table by hold back leaf springs manually operated. Tabling has both forward and reverse motions controlled by pedal.

Mechanical Loading

Alternative methods are available for loading the timber on to the infeed power tabling.

- (1) Hand loading from a hydraulic lift to keep timber at the correct height for quick handling. Positioned between two machines, one man can easily feed both.
- (2) Mechanical loading by tilt hoist and chain conveyor under the control of the machine operator.
- (3) For installations of two or more cross cuts, Storage Gravity Tracks can supply individual machines. These are loaded at a common point by one man who in the case of multi-machine installations can be aided by either hydraulic lift or tilt hoist.

Fuller details of the above alternatives designed to suit specific requirements can be supplied on request.

Principal Dimensions and Capacities

| Type C.W.1 | | | | Type C.W.2 | |
|--|--------------------|--|--|---|--|
| Standard diameter of saw | ... | 18" | 450 mm. | 18" | 450 mm. |
| Will cut off up to | ... | 17" \times 3½" or 12¾" \times 5½" | 430 \times 90 mm. or 320 \times 140 mm. | 24½" \times 3½" or 20½" \times 5½" | 620 \times 90 mm. or 520 \times 140 mm. |
| Length of stroke | ... | 10" or 20" | 255 or 510 mm. | up to 28½" | up to 725 mm. |
| Speed of stroke ... | ... | 5 to 120' per min. | 1·5 to 37 m. | 5 to 120' per min. | 1·5 to 37 m. |
| Return speed of stroke, constant | | 150' per min. | 46 m. | 150' per min. | 46 m. |
| Hydraulic working pressure | ... | 200 lb. per sq. in. | 14 kg. per sq. cm. | 200 lb. per sq. in. | 14 kg. per sq. cm. |
| Speed of saw in r.p.m., 50 cycles | | 3000 | 3000 | 3000 | 3000 |
| Speed of saw in r.p.m., 60 cycles | | 3600 | 3600 | 3600 | 3600 |
| Diameter of saw spindle for saws | | 1½" | 30 mm. or 35 mm. | 1½" | 30 mm. or 35 mm. |
| Horse power of saw motor | ... | 5 h.p. | 3·7 kW | 5 h.p. | 3·7 kW |
| Horse power of pump motor | ... | 1 h.p. | 0·75 kW | 1 h.p. | 0·75 kW |
| Height of table from floor | ... | 33" | 840 mm. | 33" | 840 mm. |
| Floor space, machine only with maximum movements | ... | 67" \times 28" | 1650 \times 710 mm. | 84" \times 28" | 2130 \times 710 mm. |
| Length of standard metal table in two sections, each 8' 0" (2440 mm.) long | ... | 16' 0" | 4880 mm. | 16' 0" | 4880 mm. |
| Width of table | ... | 15¾" | 390 mm. | 18¾" | 465 mm. |
| Approx. nett weight, machine only | ... | 13½ cwt. (1510 lb.) | 685 kg. | 15 cwt. (1680 lb.) | 760 kg. |
| Approx. gross weight, machine only | ... | 17½ cwt. (1960 lb.) | 890 kg. | 19 cwt. (2130 lb.) | 965 kg. |
| Approx. nett weight, table only | 7 cwt. (780 lb.) | | 350 kg. | 7½ cwt. (840 lb.) | 380 kg. |
| Approx. gross weight, table only | 9½ cwt. (1060 lb.) | | 480 kg. | 10 cwt. (1120 lb.) | 510 kg. |
| Approx. shipping dimensions: | | | | | |
| Machine only | ... | 80 cu. ft. | 2·3 m. ³ | 95 cu. ft. | 2·7 m. ³ |
| Table only | ... | 36 cu. ft. | 1·0 m. ³ | 39 cu. ft. | 1·1 m. ³ |

Details included with the machine

Saw motor. Hydraulic unit complete. Control panel. One pair of saw collars. Saw guard. Dust collecting hood. One set of spanners. One lubricating pump and tin of lubricant.

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