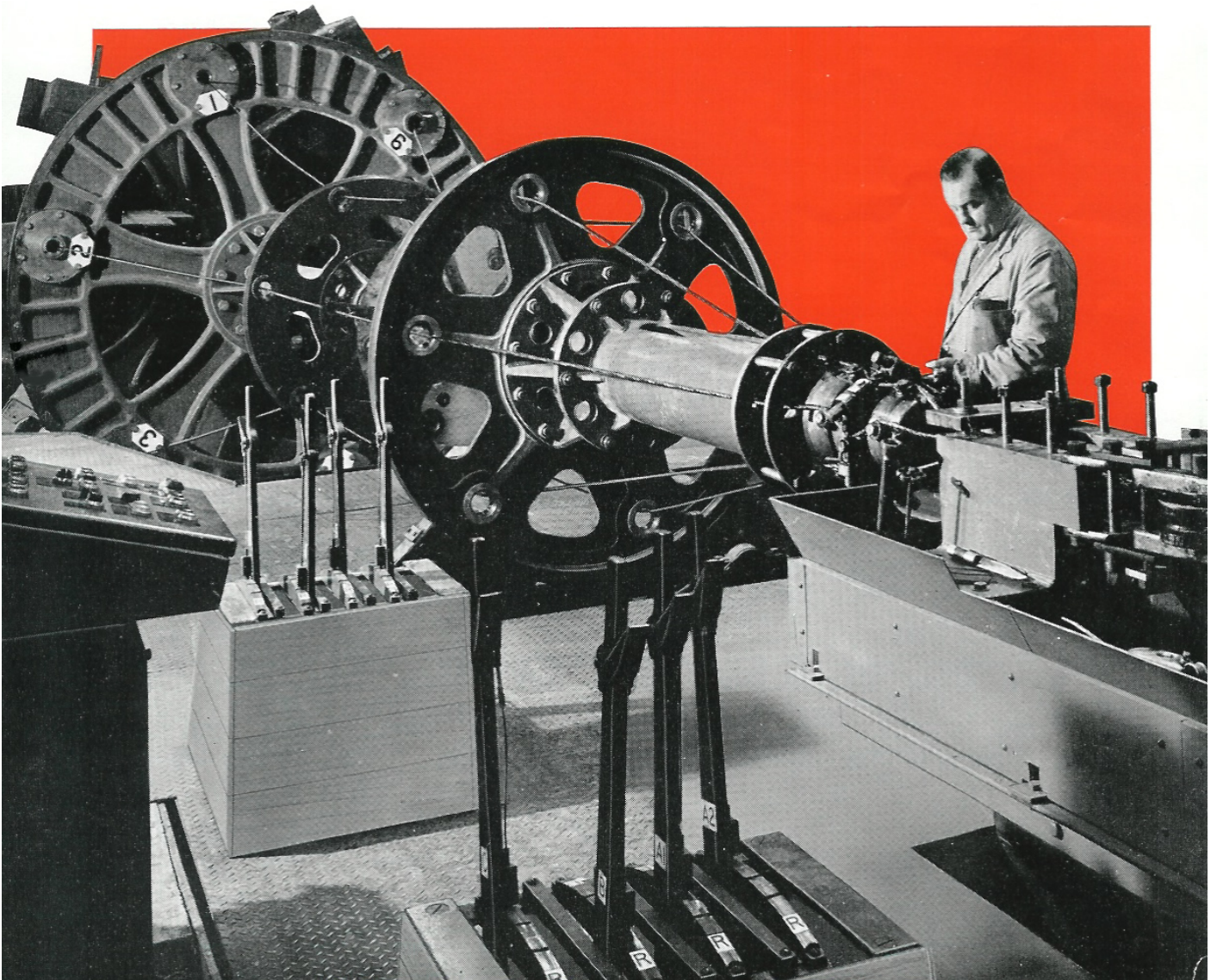


Hanson & Edwards

Heavy duty closers for
wire ropes with
round or flattened strand



Hanson & Edwards

Speed and versatility

A 120 hp DC motor powers a combination of 2 and 4 change-speed boxes to give speeds of 7, 10, 13, 17, 22, 30 and 40 rpm. Maximum speed for fully loaded reels (up to 10 ton) is 40 rpm.

At the haul-off, a four-speed box allows for infinite changes between lays, the range of lay varying with the machine speed. The full lay range extends from 3 in (76 mm) to 50 in (1270mm).

Simple, positive control

The entire operation is controlled by one man from a central control panel. Main drive, rotation drive, haul-off drive and PIV units are all connected into one central control desk. This is fitted with push buttons, selector switches and indicators to give positive, visual control of the entire production sequence.

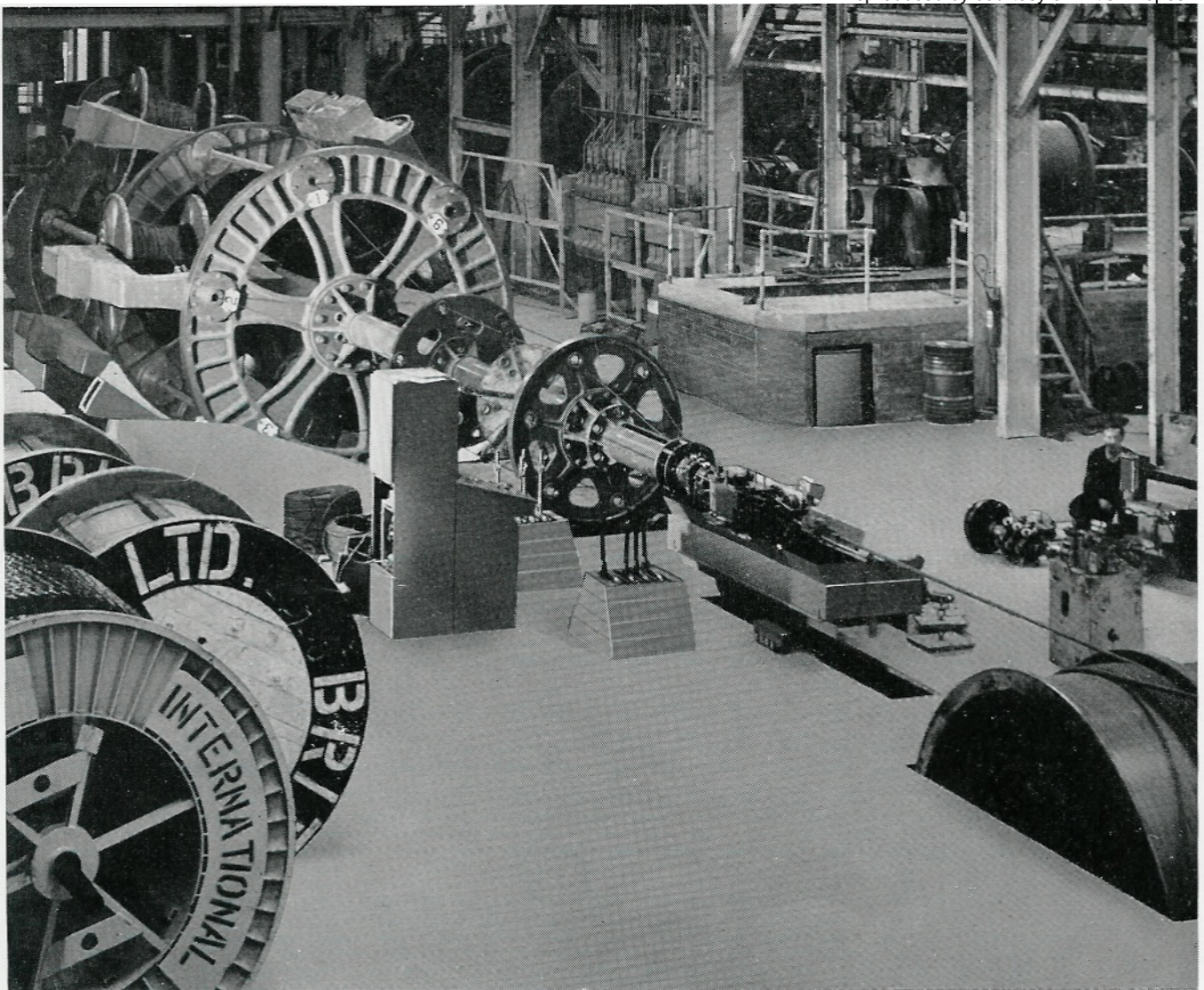
Strand correction on the run

A big advantage with these machines is the ability to correct cradles during the running of the machine. From the central control panel, an operator can override any selected cradle rotation thus ensuring correct stranding and consistent quality in the finished rope.

Wide range of ropes possible

The machines will accept reels up to 17in diameter (1828 mm) x 36in traverse (915 mm) x 24in barrel (635 mm). They will close any round or flattened strand ropes up to a maximum of 5½in diameter (140 mm).

Reproduced by courtesy of British Ropes Ltd



Heavy duty rope closers

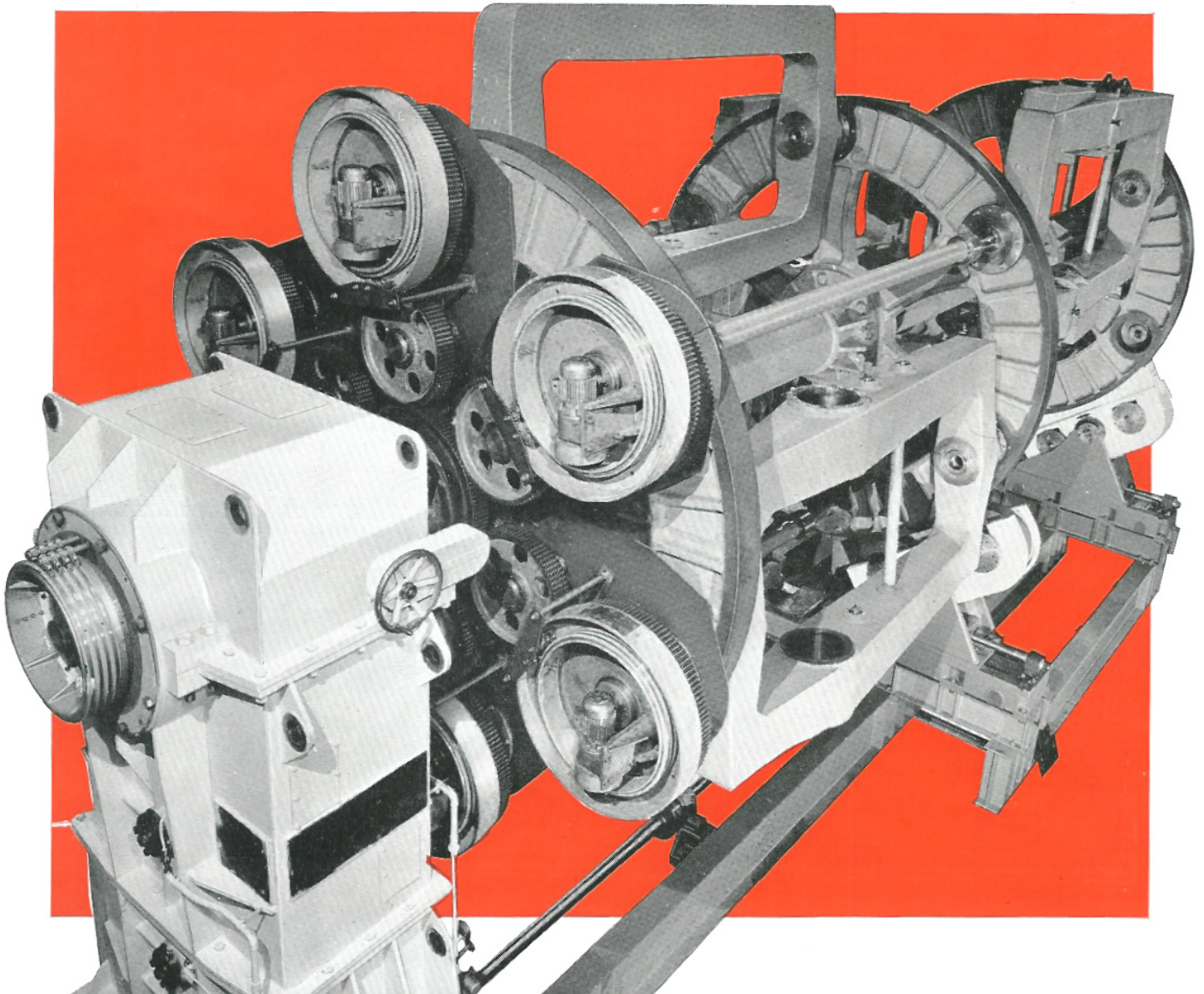
- * Close a full range of round or flattened strand rope up to a maximum diameter of 5½in (140mm)
- * Strand correction can be made whilst running
- * Simple, positive control
- * Fast and reliable operation
- * Braking designed to 'fail-safe'

More advantages of construction

Reel pintles incorporate automatic 'anti-slap'. Main basket rotating discs cast in Meehanite. Under-rollers have self adjustment in individual pairs. Rotation gears designed for 1/1 ratio between sun and planet. Automatic indexing motor incorporated in main drive for loading purposes - all drives interlocked. Die stand adjustable axially over a distance of 7ft (2134mm).

Main drive

The illustration, taken during construction with all guards removed, clearly shows rotation gearing and the cradle assemblies within the main basket discs.



Brief Specification

Cradles

The cradles of fabricated construction, will accept a reel 72 in dia. x 36 in (1829 x 914 mm) traverse x 24 in (610 mm) barrel 49½in (1257 mm) overall. The pintles carrying the reels are inserted and retracted by separately mounted power tool. Pintle design incorporates automatic 'anti-slap'. The lead angle from full reel to the axis of the cradle is 25°. Diabalo rollers are incorporated to take into account the side movement of the strand from the reel.

Main basket

The main basket comprises three Meehanite Discs connected by flange joints with interspacing tubes, forming the main mandrel of the basket. Six guide tubes are located within this mandrel to carry strands from a machine in tandem. In addition to these guides, on the centre line of the mandrel, is a floating core tube mounted on ball bearing supports. This core tube is held stationary when the machine is running by 'Bob Weights'. The bearings supporting the cradles are mounted in flanged sleeves, and allow for some torsion of the discs relative to one another. The extension mandrel gives a suitable distance from the front disc to the closing point. Angle of deflection does not exceed 20° at any point.

Main basket support

Main base joist along the length of the machine support cross-beams at the under-roller positions. The under-rollers are of the double type with a pivot arrangement, which allows for self adjustment of individual pairs. A set of single under-rollers support the front end extension to the mandrel.

Back stand

Fabricated box structure, split into appropriate sections for ease of handling.

A separate length of the main basket shaft is supported within the Back Stand by a large double row, self-aligning roller bearing, designed to carry the thrust of the main basket as well as the journal load. This portion of the main shaft carries the main driving gear of the machine, and the driving gear to the rotation, which is directly sleeve connected to the Sun Gear, this sleeve being supported on roller bearings. The backstand contains a series of spur gears to connect the two input shafts, main drive and rotation drive to the main drive shaft gear and rotation gear respectively. All gearing is lubricated by a force feed system. All shafts are located on pintles, which are inserted through bosses to locate the shaft ends. A means of locking is provided between the pintles and shafts so that no undue side load is imposed on the housing.

Rotation gears

These are designed for 1/1ratio between the sun gear and planet gears, exact floating condition can be obtained with the sun gear stationary. By means of electrical reversing controls at the machine control position, the operator can override the set speed of rotation of a particular cradle, whilst

the machine is running.

Locking of the sun gear is by means of a manually operated hand brake on to the sun gear sleeve.

Rotation drive

The drive to the rotation comprises a reverse unit and a PIV unit, which is remote operated by push buttons on the control console. Giving a range of back and forward rotation of 1/10 to 1/40 i.e. 0.100 to 0.025. The PIV is of the type which is suitable for changing ratio of speed whilst stationary.

Main drive

The main drive motor is a 120hp DC supplied by customer. The change speed boxes are a combination of 2 and 4 speed giving machine speeds of 7, 10, 13, 17, 22, 30, 40 rpm. The maximum speed is 40 rpm for fully loaded reels. A Pony Motor Drive is incorporated for loading purposes, having automatic indexing arrangement which will stop machine at correct loading position. All drives are fully interlocked.

Haul-off and die stand

Because of the high tensions required between the closing die and the haul-off, our design incorporates a complete frame work connecting the capstan and die stand.

The die stand is adjustable over a distance of 7ft (2134mm) along the axis of the machine. It provides for general adjustment of the closing die position and can be used for assisting in 'turn-backs'. The maximum pull of the capstan is 20 tons (20320kg), and is a single type with orthodox fleeting arrangements. The capstan is a flanged type mounted on an overhanging shaft from the main haul-off worm box. It is made of special grade 'Meehanite' 10ft (3048 mm) dia with 36in (914mm) working width.

Drive to haul-off

This drive comprises, 4-speed box, reverse box, 2-speed box and 34in (864mm) centres worm box. On the input shaft of the four speed box is mounted an epicyclic unit, controlled by a PIV unit, giving infinite variation between selected lays. Range of lay covered varies with machine speed, full coverage is from 3 to 50 in (102 to 1270 mm). All gears are enclosed and automatically lubricated. Remote change mechanism is incorporated for all gear boxes, at the operating position, on floor level.

The PIV unit is push button controlled on the main console.

Brake

The main basket brake is mounted on No. 1 disc. Being self-adjusting, calliper type, hydraulically operated.

The interlocking system will fail to safety, i.e. the brake is applied if the power to the machine drive fails.

Electrics

The machine is supplied complete with all built-in electrics, but excludes control gear.

Disclaimer

Whilst we have endeavoured to ensure that the information contained herein is accurate, Hanson & Edwards and Beaumont Machinery do not accept responsibility for any errors or omissions. This specification is subject to amendment.

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