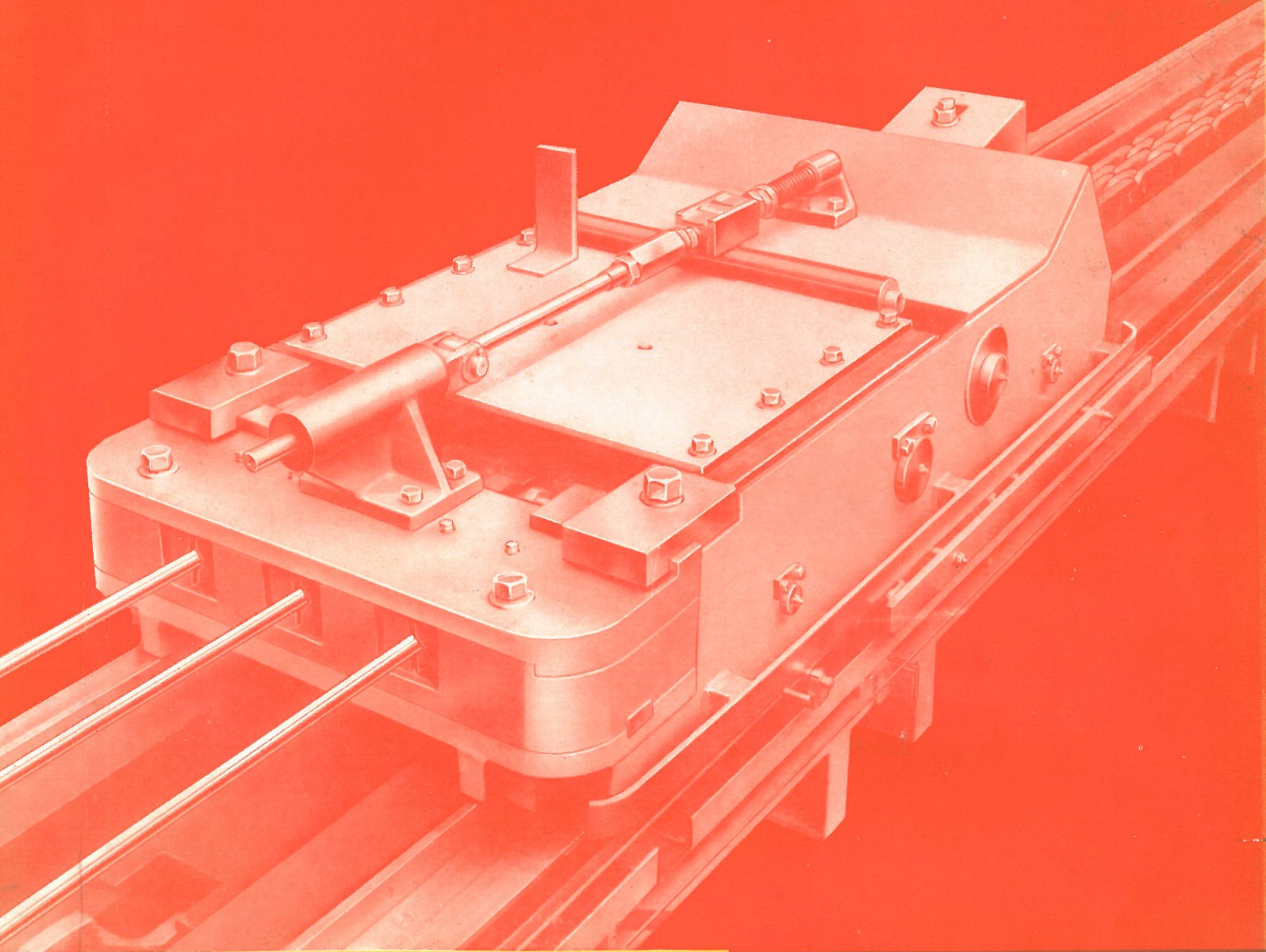
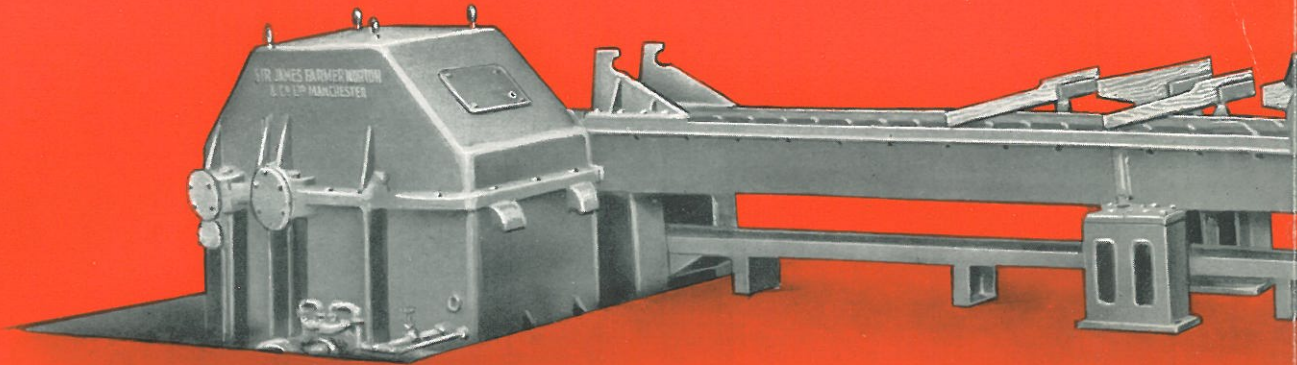


# Farmer Norton



**bar draw**

**benches**



# Farmer Norton F

**As manufacturers of draw benches for the past 90 years, we have pleasure in presenting our latest range of Fully Automatic Bar Draw Benches from 1 to 150 tons pulling power with drawing speeds up to 200 feet per minute for production of bright drawn steel and non-ferrous bars of round, hexagon, square, flat and other sections.**

**Lengths of draw benches are made to suit the individual requirements of the maximum length to be drawn.**

## **BEDS**

Heavy welded steel construction throughout. Made in easily transportable sections. Renewable mild steel wearing plates for chain and carriage tracks.

## **CHAINS**

3 or 5 link type according to the power of the bench. Specially rolled high tensile alloy steel plates, ground alloy steel rivets. Hydraulic machine riveting ensures consistency throughout the whole of chain length.

## **SPROCKETS**

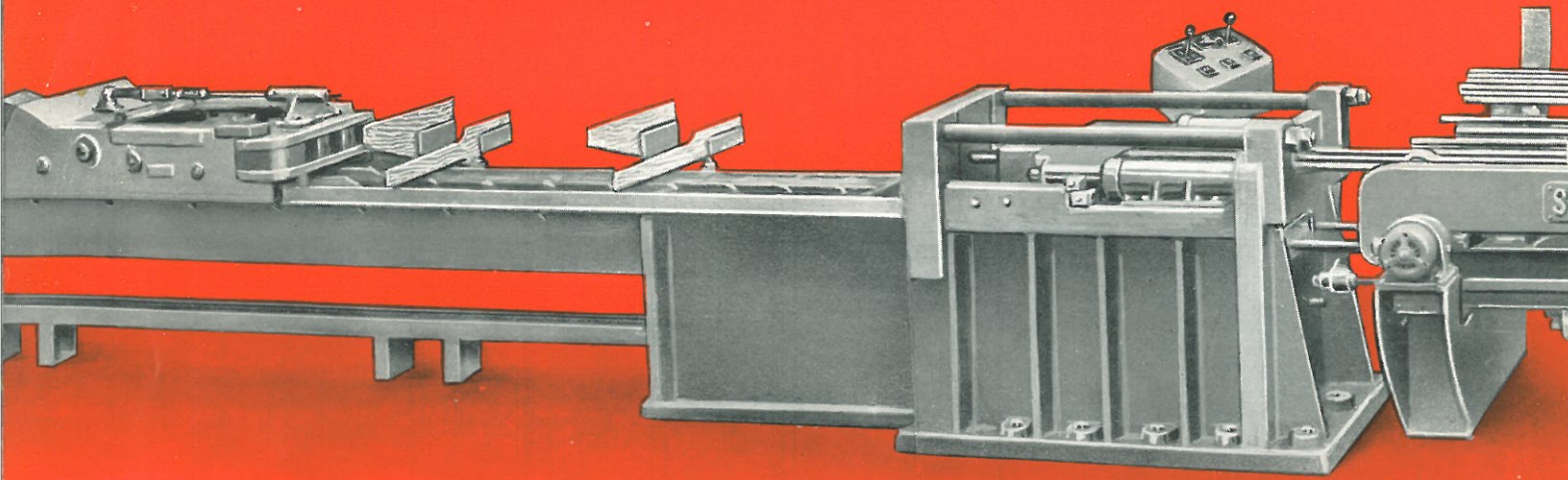
High tensile alloy steel accurately machined all over. Mounted on large diameter forged steel shafts. Supported in large adjustable phosphor bronze bearings.

## **CHAIN DRIVE**

By A.C. or D.C. Variable Speed Motor or A.C. Constant Speed Motor together with Dynamatic Slip Coupling. Either system giving slow "dogging-in" speed with rapid acceleration to pre-determined drawing speed.

## **MAIN DRIVE GEAR BOXES**

1. By totally enclosed worm gear unit.
2. By single reduction double helical totally enclosed gear box.
3. By double reduction double helical totally enclosed gear box (as illustration).
4. By a combination of (1) and (2) or (1) and (3).
5. When drive incorporates a Dynamatic Slip Coupling, it is usual to supply a 3 or 4 speed gear box in the main drive. Self contained pump lubrication to gear box.



# Fully Automatic Bar Draw

**2**

**DRAW CARRIAGE**

Heavy all steel welded construction. Forged steel hook. Interchangeable hardened alloy steel jaws. Automatic simultaneous gripping of 1, 2, 3 or 4 bars. Gripping **DOES NOT** rely upon impact of carriages with dieplate.

**CARRIAGE RETURN**

By independent 2 speed geared motor with dynamic braking. Return speeds up to 400 ft. per min. Dual endless chain within width of bed.

**DIE PLATES**

Forged steel machined all over. Spherically seated dieholders. Die plates are interchangeable. Fitted with phosphor bronze wearing plates. Self contained pump lubrication to dies.

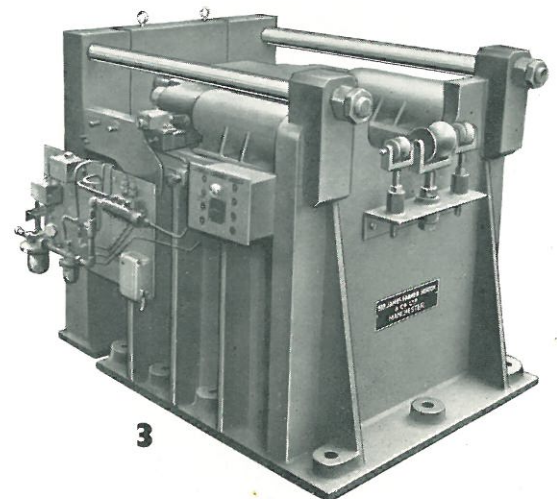
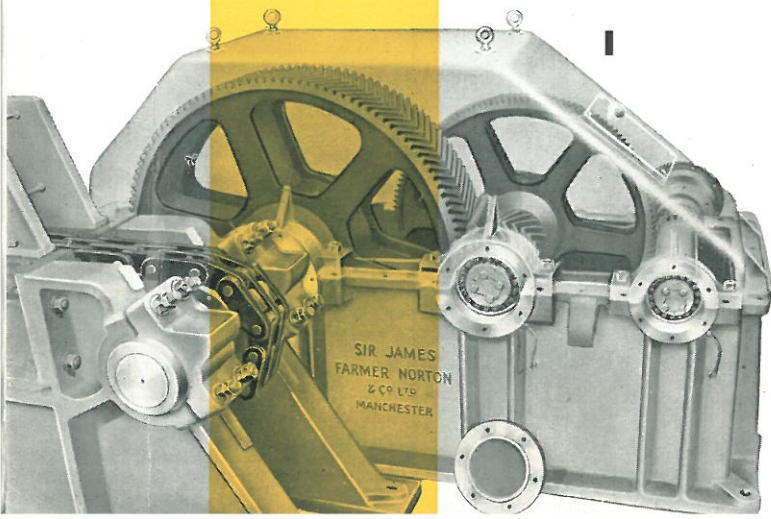
**DIEPLATE FRAME**

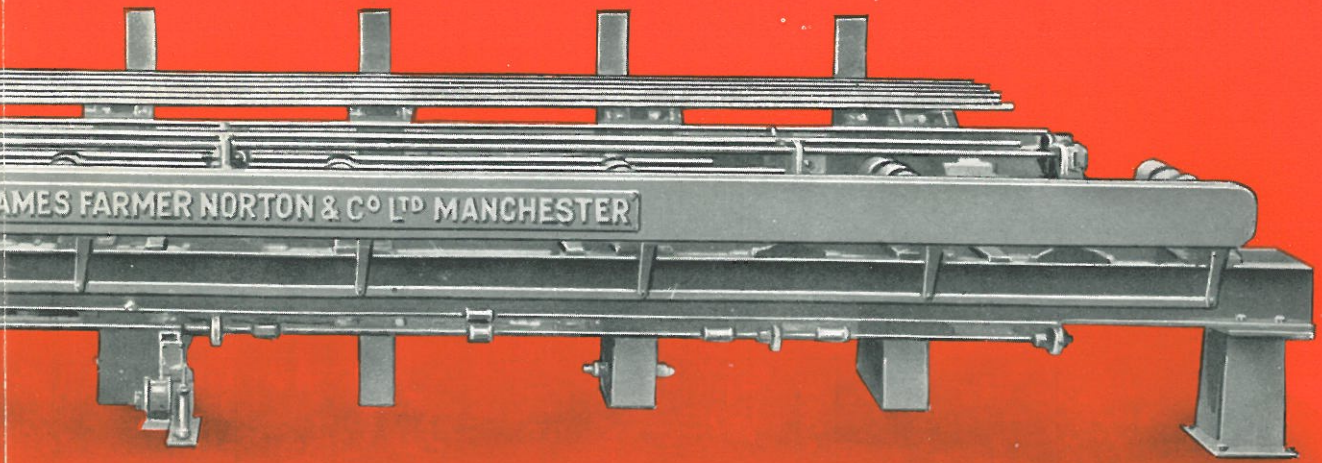
Heavy welded fully normalised construction. Dieplate slide plate extends down to foundation.

**3**

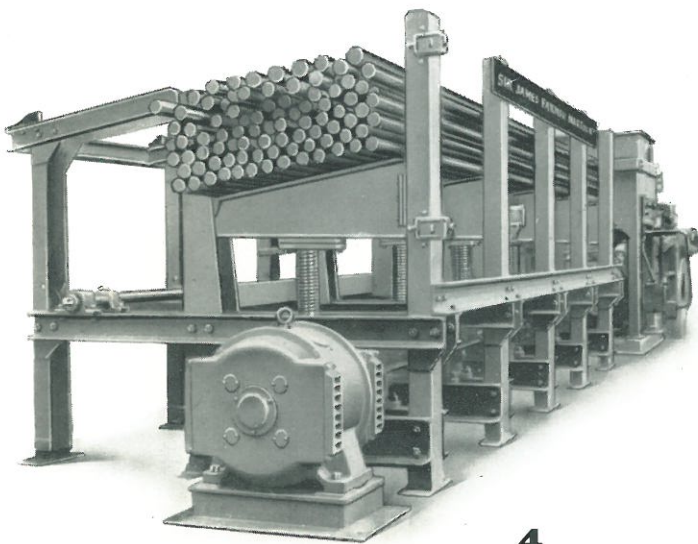
**HYDRAULIC PUSH POINTING UNIT**

Heavy welded fully normalised construction. Direct acting twin cylinders. Automatic pre-grip. Length of stroke is infinitely variable between zero and maximum. Interchangeable hardened and ground alloy steel grippers. Grippers carried in "quick removal" cartridge units. Self contained hydraulic pump tank and valve unit.

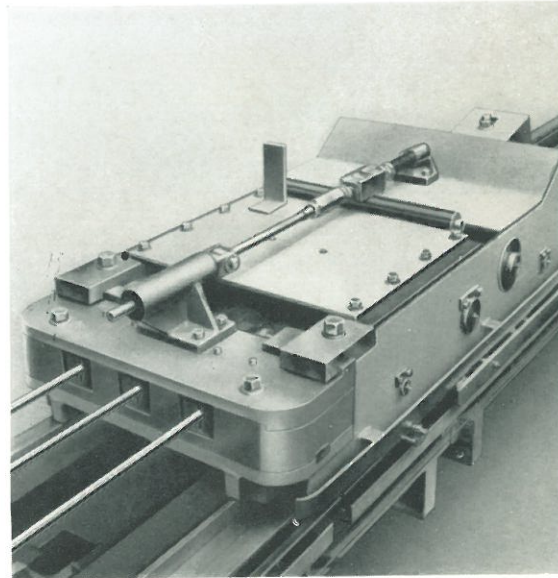




# Draw Benches



4



2

4

**BAR FEED  
STILLAGES**

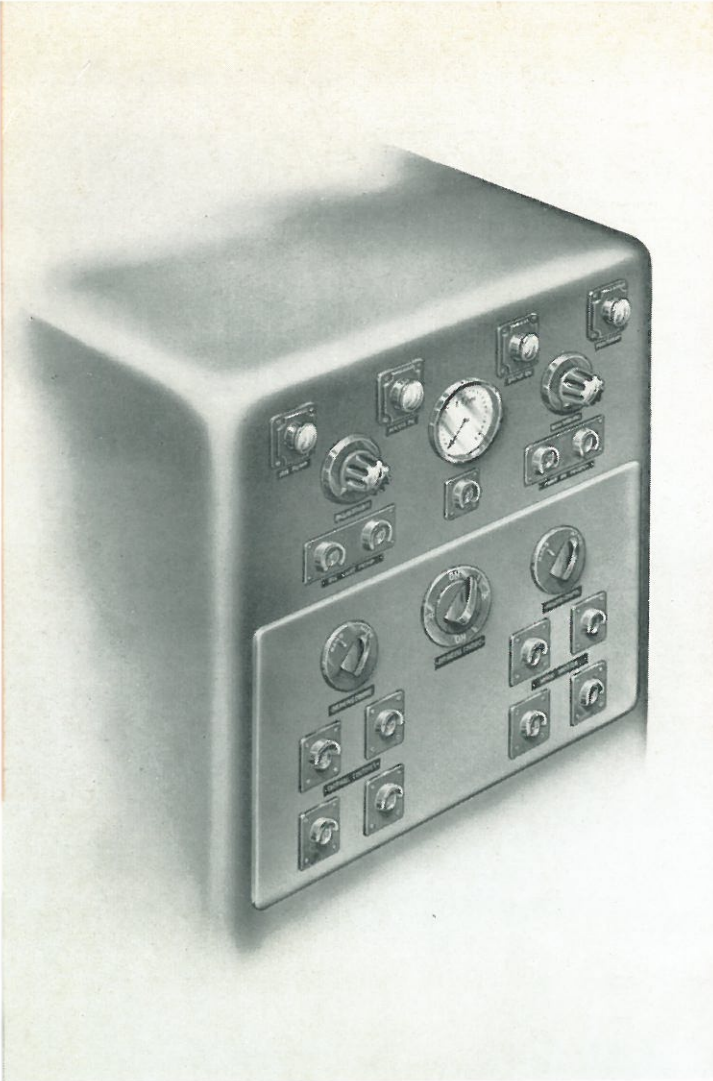
Manual or automatic bar feed stillages can be supplied.  
Suitable for rounds, squares, hexagons, etc.  
Single, double, or triple selection in automatic sequence.

**BAR  
DISCHARGE**

By unloading arms arranged to swing over the bench and under the bars together with pusher arms for positively clearing drawn bars (sections or rounds) from the bench.  
Discharge into stillage alongside bed.

**COMPLETE  
DRAW BENCH  
LINES**

Complete Draw Bench lines comprising Draw Bench, Shearing Machine, Bar Straightening Machine, together with fully automatic loading, discharge, transfer lines, conveyors, etc., can be supplied for high speed production.



## Control arrangements for Automatic Bar Draw Benches

WHETHER THE DRIVE is by A.C. or D.C. Variable Speed Motor or by A.C. Constant Speed Motor together with Dynamic Slip Coupling, it is usual to supply two Control Stations, one for infrequent operation containing all the main start and stop push buttons, pre-set potentiometers for drawing and crawling speeds, etc., which can be mounted in some convenient position away from the draw bench. The other Control Station usually of the pedestal type is mounted adjacent to the dieplate and carries the operational "Joystick" controls, together with necessary push buttons, etc.

A Tacho-Indicator is supplied so that the actual chain speed is visible at all times. All conflicting motions are electrically or mechanically interlocked to prevent any possibility of damage occurring through the accidental engagement of a control in the wrong sequence.

Similarly the main motor cannot be started until the gear box pump motor is running. In the event of failure of the pumps or supply, the main motor will automatically stop. Visible warning lights are fitted to the control panels to indicate live circuits.

## Capacity Chart

PULLING POWER OF DRAW BENCH		Lbs.	12,000	25,000	35,000	50,000	70,000	100,000	140,000	200,000
		Tons	5	10	15	20	30	45	60	90
		Kilo	5,100	10,200	15,300	20,400	30,600	45,900	61,200	91,800
CAPACITY MILD STEEL BAR (ROUND) or EQUIVALENT CROSS SECTIONAL AREA	Single Draw	Inch	$\frac{5}{8}$	1	1½	2	2½	3	4	6
		M/m	16	25	38	50	63	76	100	150
	Double Draw	Inch	$\frac{3}{8}$	$\frac{5}{8}$	1	1¼	1½	2	2¼	2¾
		M/m	9.5	16	25	32	38	50	57	70
	Triple Draw	Inch	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{11}{16}$	$\frac{7}{8}$	1 $\frac{1}{16}$	1½	2
		M/m	6	9.5	12.5	17	22	27	38	50
MAXIMUM DRAWING SPEED (average)		Ft. per Min.	150	100	75	60	50	40	30	20
		Met. per Min.	46	31	23	18	15	12	9	6
MAIN MOTOR H.P. (FULL LOAD)			50	70	75	80	100	120	120	120
PUSH POINTING POWER		Lbs.	—	Above	70,000	100,000	140,000	200,000	280,000	400,000
		Tons	—	$\frac{5}{8}$ " dia.	30	40	60	90	120	180
		Kilo	—	Bar	30,600	40,800	61,200	91,800	122,400	183,600
PUSH POINTING PUMP MOTOR H.P.			—	—	10	15	23	30	40	60

The above information is for general guidance only. Actual quotations may vary to suit specific enquiries.

THE MACHINES ILLUSTRATED and described in this leaflet cover the most modern Fully Automatic Bar Draw Benches and Auxiliary Equipment for bar production in the Ferrous and Non-Ferrous Industry. In addition to these we also manufacture complete ranges of :—

- ★ Tube Draw Benches (Fully and Semi Automatic)
- ★ Bar and Tube Reeling and Straightening Machines
- ★ Centreless Bar Turning Machines (Fully and Semi Automatic)
- ★ Rotary Swaging Machines (Hot or Cold)
- ★ Horizontal and Vertical Bull Blocks for Rod or Tube
- ★ Wire Drawing Machines
- ★ Combined Drawing, Cutting off and Straightening Machines
- ★ Rolling Mills and Auxiliary Equipment

We shall be pleased to forward leaflets describing any of the above machinery on request.

Our Technical Staff will be pleased to co-operate in the development of special modifications to standard machines including the preparation of layouts and supply of equipment for complete new plants.

**Sir**

**ADEL**

Telephones :

**SIR JAMES  
FARMER  
NORTON  
INTERNATIONAL**

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