

# New Meccano Model

## Power Press

EACH side of the main column consists of two  $12\frac{1}{2}$ " Angle Girders and three  $12\frac{1}{2}$ " Strips. These are connected at the top by a  $2\frac{1}{2}$ " Strip, and at their lower ends by a  $5\frac{1}{2}" \times 2\frac{1}{2}"$  Flexible Plate strengthened by two  $5\frac{1}{2}"$  Strips. The sides are connected by bolting to them a  $5\frac{1}{2}" \times 2\frac{1}{2}"$  Flanged Plate 1, and two  $5\frac{1}{2}" \times 1\frac{1}{2}"$  Flexible Plates 2 each edged by a  $5\frac{1}{2}"$  Strip. The top of the column is a  $5\frac{1}{2}" \times 2\frac{1}{2}"$  Flexible Plate attached to the sides by Angle Brackets.

The rear of the base is filled in by one half of a Hinged Flat Plate extended by a  $2\frac{1}{2}" \times 1\frac{1}{2}"$  Flexible Plate. These parts are bolted to the Angle Girders of the main column. The front of the base is formed by the other half of the Hinged Flat Plate bolted to a horizontally placed  $5\frac{1}{2}" \times 1\frac{1}{2}"$  Flexible Plate. The Plates are edged as shown in Fig. 1 by a  $5\frac{1}{2}"$  and three  $2\frac{1}{2}"$

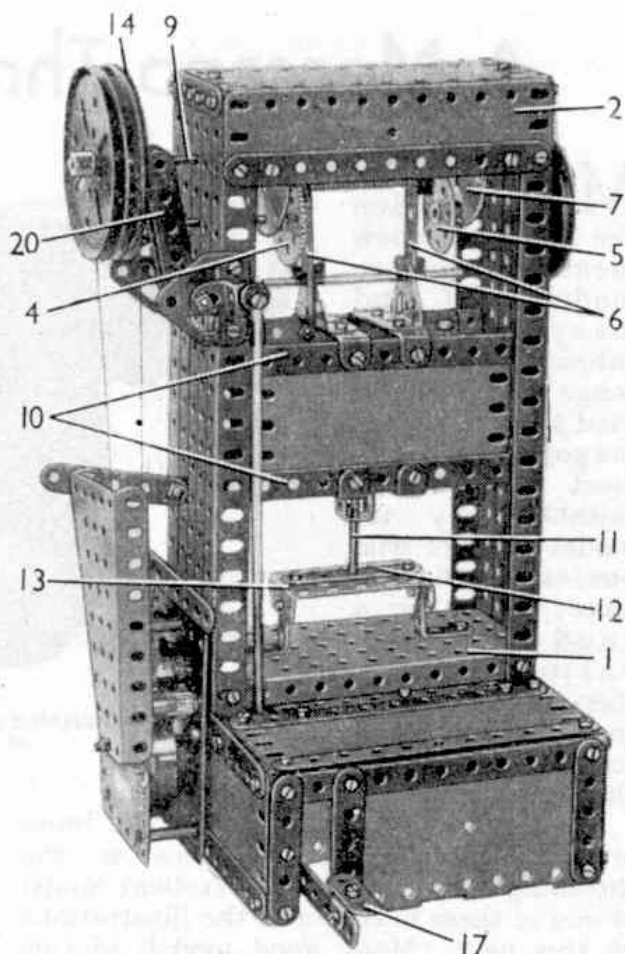


Fig. 1. A Power Press driven by a No. 1 Clockwork Motor and clutch controlled through a foot pedal.

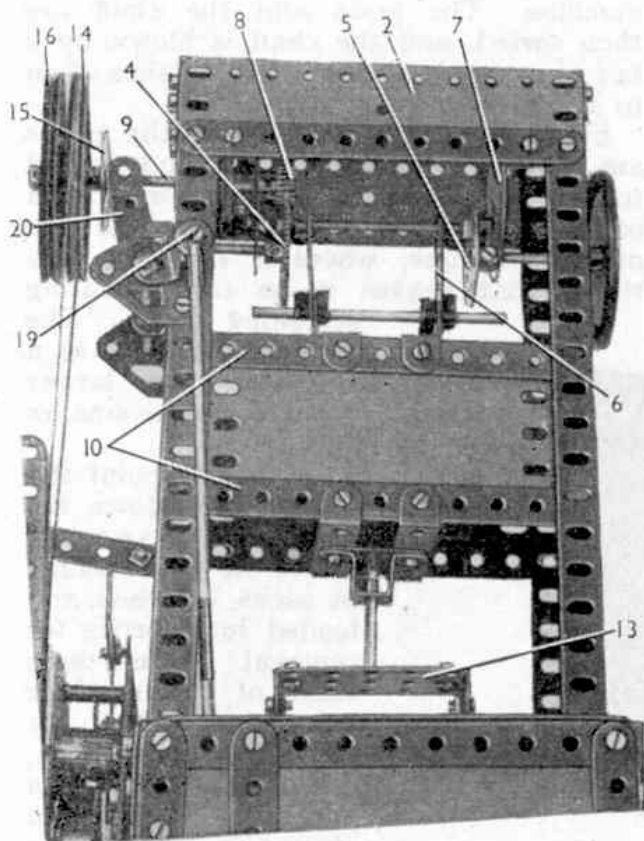


Fig. 2. The Power Press seen from the rear, showing the geared crank arrangement for operating the ram.

Strips and the assembly is attached to Angle Brackets bolted to the sides. The top of the base is a  $5\frac{1}{2}" \times 2\frac{1}{2}"$  Flexible Plate and two  $2\frac{1}{2}" \times 1\frac{1}{2}"$  Flexible Plates 3. The  $5\frac{1}{2}" \times 2\frac{1}{2}"$  Plate is strengthened by two  $5\frac{1}{2}"$  Strips and is connected to the sides by Angle Brackets.

The press is operated by a crank arrangement formed by a 3" Screwed Rod that is fixed by nuts on a 57-tooth Gear 4 and a Bush Wheel 5. Two  $2\frac{1}{2}"$  Strips 6 are pivoted freely on the Screwed Rod. The Bush Wheel and the Gear are fixed on 2" Rods, each of which is mounted in one side of the column and in a Semi-Circular Plate 7. The Semi-Circular Plates are bolted to  $2\frac{1}{2}" \times \frac{1}{2}"$  Double Angle Strips fixed between the Plates 2, but spaced from these Plates by two Washers on each side. A  $\frac{1}{2}"$  Pinion 8 engages the Gear 4. The Pinion is fixed on a  $3\frac{1}{2}"$  Rod 9 mounted in one side of the column and in one of the Semi-Circular Plates 7, and a 1" Pulley is used to hold the Rod in place.

Each side of the ram that slides up and down the column consists of a  $4\frac{1}{2}" \times 2\frac{1}{2}"$  Flexible Plate bolted centrally

between two  $5\frac{1}{2}$ " Strips 10. The sides are connected by four  $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strips, the lower pair support a  $1\frac{1}{2}$ " Strip and a Double Bent Strip together. A  $3\frac{1}{2}$ " Rod 11 is held by Spring Clips

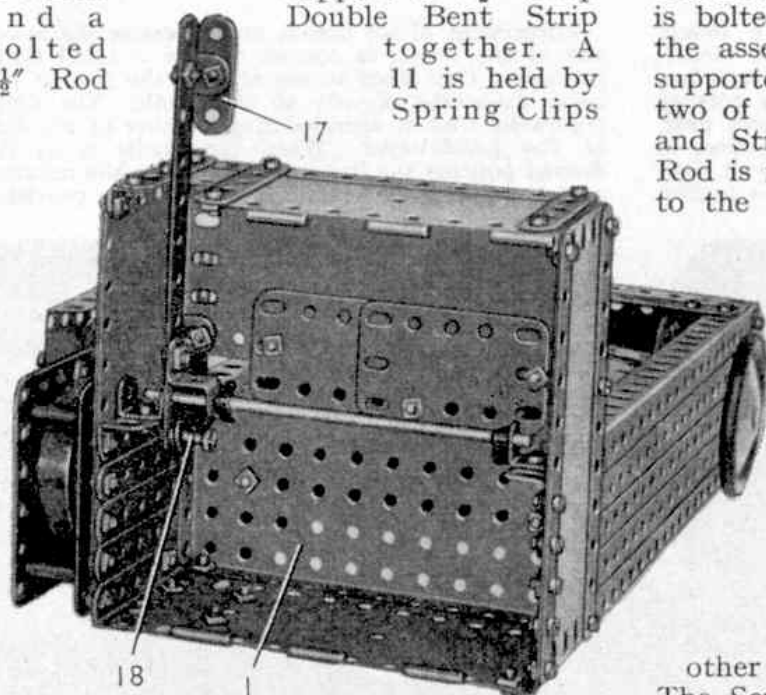


Fig. 3. An interior view of the base of the Power Press.

in the Strip and the Double Bent Strip, and represents the press tool. A Trunnion is bolted to each of the upper pair of Double Angle Strips, and a  $3\frac{1}{2}$ " Rod is passed through these and through the next-to-end holes of the  $2\frac{1}{2}$ " Strips 6. The Rod 11 must slide freely through the centre holes of a  $2\frac{1}{2}$ " Strip 12 and a  $2\frac{1}{2} \times 1\frac{1}{2}$ " Flanged Plate 13. The Strip is spaced from the Flanged Plate by two Washers on each bolt, and the Flanged Plate is supported by two  $1 \times 1$ " Angle Brackets bolted to the Flanged Plate 1.

A No. 1 Clockwork Motor is attached to one side of the base by two  $\frac{3}{8}$ " Bolts, but is spaced from the base by nuts. A 1" Pulley fixed on the Motor driving shaft is connected by Cord to a 3" Pulley 14, which is free to turn on Rod 9. A Wheel Disc 15 is placed on the Rod next to the Pulley, and in addition the Rod carries a 3" Pulley 16 and a 1" loose Pulley fitted with a Motor Tyre. The loose Pulley is placed between the two 3" Pulleys 14 and 16, and forms part of a friction clutch assembly to transmit the drive from the Motor to Rod 9. When Pulley 14 is moved to the left (Fig. 1) it presses against the Tyre and the drive is engaged. When Pulley 14 is moved to the right it turns idly on Rod 9 and does not drive the press.

The clutch mechanism is controlled by a foot pedal 17 formed by a  $5\frac{1}{2}$ " Strip and a  $1\frac{1}{2}$ " Strip connected by an Angle Bracket. A  $\frac{1}{2}$ " Reversed Angle Bracket is bolted to the  $5\frac{1}{2}$ " Strip, (Fig. 3) and the assembly pivots freely on a 5" Rod supported in Double Brackets bolted to two of the main column Girders. A Rod and Strip Connector fitted with a  $3\frac{1}{2}$ " Rod is mounted on a Pivot Bolt 18 fixed to the inner end of the  $5\frac{1}{2}$ " Strip. The  $3\frac{1}{2}$ " Rod is joined by a Rod Connector to a 5" Rod, and the latter is fitted with a Rod and Strip Connector that pivots on a  $\frac{1}{2}$ " Bolt 19. Bolt 19 is attached by two nuts to a  $\frac{1}{2}$ " Reversed Angle Bracket that is fixed by two nuts at one end of a 3" Screwed Rod.

The Screwed Rod is mounted in two Flat Trunnions bolted to the side of the column, and is held in position by two nuts screwed tightly against each other next to one of the Flat Trunnions. The Screwed Rod carries two  $2\frac{1}{2}$ " Strips 20, each of which is fixed tightly in place by two nuts. These Strips bear against the face of the Wheel Disc 15. When the

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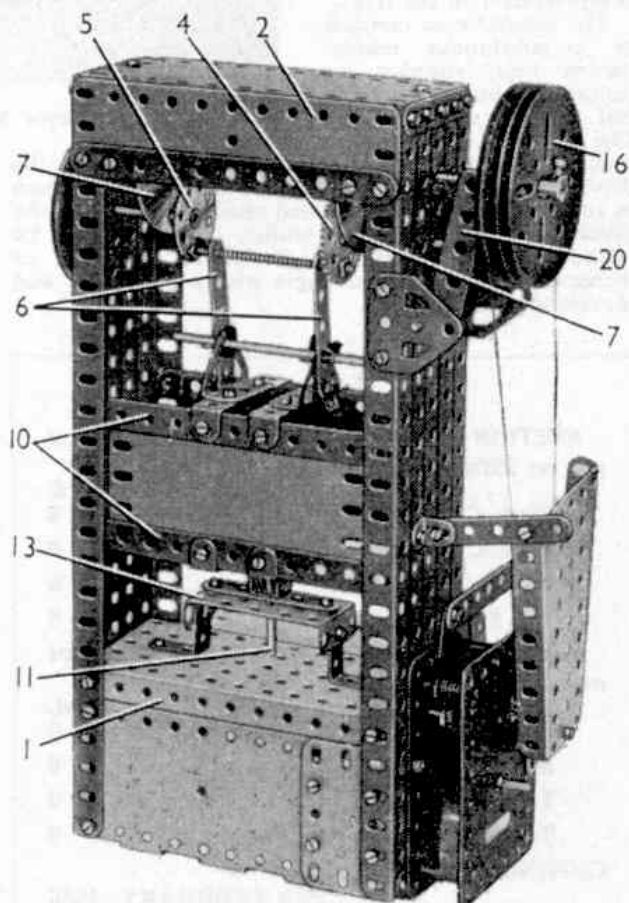


Fig. 4. Another view of the Power Press from the rear.

**For Valour**—(Continued from page 4)

distinction apart from being Britain's most cherished award. It has always been made from cannon captured at Sebastopol, but a few years ago supplies ran out and a substitute was found by the War Office. This was found to be unsuitable, but fortunately another gun was accidentally discovered, so that this tradition of manufacture continues.

It was Queen Victoria's most earnest wish that the Victoria Cross should not fall into disrepute, as previous honours had done; that it should be "highly prized and eagerly sought after by the officers and men of our naval and military services." It can be fairly be said that her intention has been fulfilled. After one hundred years—and two world wars—only 1,344 Victoria Crosses and three bars have been won.

**Aboard H.M.S. "Ark Royal"**—(Continued from page 8)

scanners mounted under their fuselages, and the ship's three helicopters—two S-55 Whirlwinds and one S-51 Dragonfly. Later, they will be joined by two squadrons of Sea Venom two-seat all-weather fighters.

H.M.S. *Ark Royal* is already a fine, proud and efficient ship, although she has had her aircraft embarked only since early October. Her crew are very conscious of the traditions they have inherited. The first *Ark Royal*, built for Sir Walter Raleigh in 1587, became the flagship of some of Britain's greatest sailors and led the chase of the beaten Armada into the North Sea in 1588. She displaced 692 tons, cost £5,000 and remained in service until 1636.

The second *Ark Royal* had a displacement ten times that of the first and was a converted merchant vessel which served the R.N.A.S. as a seaplane tender throughout the 1914-18 War. She was dragged out of reserve in World War II, and served until 1946, although her name was changed to *Pegasus*, because the third *Ark Royal* had, meanwhile, been commissioned.

No. 3 was, of course, the great wartime carrier of 22,000 tons. Now we have the new *Ark Royal*, an even greater, mightier vessel, armed with sixteen 4.5 in. guns and 45 smaller guns, in addition to her aircraft, and reputed to have cost over £20 million. If with me you could have seen her speeding through the Channel at nearly 30 knots, with great mountains of water curving away from her sleek hull, you would have thought it a small price to pay for such a combination of fighting efficiency and beauty.

**Road and Track**—(Continued from page 13)

Since then designer Colin Chapman has driven Lotus-based cars in international sports car events all over the world, seeking always to improve their design in the light of his own experience. His forceful policy has paid handsome dividends, for in two seasons forty different drivers of Lotus based cars have won over two hundred awards in sports car races alone in Great Britain.

I personally lost count of the number of times last season that Chapman in the Mark IX Lotus was not only leading his class, but was also in front of cars with larger engine capacity, as for instance in the T.T. when, with a 1100 c.c. Coventry Climax engine, he led all the 2 litre and 1½ litre cars.

If one day you decide to build a Lotus then all you need, according to Colin Chapman, are normal hand tools and a bench. No welding or machining facilities are required, and axles, engine and gearbox are easily obtained.

**Power from Lightning**—(Continued from page 23)

We do know a lot today about lightning conductors and similar ways of minimising thunderstorm damage. It has been discovered that, to be fully effective, a conductor must have its lower end buried deep in damp earth, dry soil or sand being poor conductors of electricity.

Lightning flashes have been measured for length as well as for duration. They may flash through

twenty miles of air, but there are sometimes short ones only about a mile long. Most flashes last only about one-hundredth of a second; they seem much longer because the retina of the human eye retains the image.

The longest flash ever recorded lasted nearly one second, but such a flash is a great rarity. Even the smallest flash discharges enough electrical energy to keep an ordinary electric fire alight for ten years, and a flash lasting a whole second would have as much electrical energy as the combined output of all the electrical power stations in Great Britain.

One of the newest branches of thunderstorm science is the detection of such storms as they are born, 1,000 miles or more from the United Kingdom. Radar detector equipment records lightning flashes as far away as the Bay of Biscay, where freak weather destined for Britain is often bred.

**New Meccano Model**—(Continued from page 43)

pedal 17 is depressed the Screwed Rod is rotated slightly and the Strips 20 press the two 3" Pulleys and the Motor Tyre into frictional contact to engage the drive. As soon as the pedal is released the drive is disconnected.

A cover over the lower part of the Cord drive is provided by a Flanged Sector Plate. This is attached to the Motor by a ¼" Reversed Angle Bracket, and to one side of the column by a 2¼" Strip and an Angle Bracket.

Parts required to build the Power Press: 6 of No. 1; 14 of No. 2; 1 of No. 3; 11 of No. 5; 2 of No. 6a; 4 of No. 8; 2 of No. 11; 12 of No. 12; 2 of No. 12a; 2 of No. 15; 4 of No. 16; 2 of No. 17; 2 of No. 19b; 2 of No. 22; 1 of No. 22a; 1 of No. 24; 1 of No. 24a; 1 of No. 26; 1 of No. 27a; 10 of No. 35; 118 of No. 37a; 96 of No. 37b; 16 of No. 38; 1 of No. 40; 1 of No. 45; 6 of No. 48a; 1 of No. 51; 1 of No. 52; 1 of No. 54; 2 of No. 80c; 1 of No. 111a; 6 of No. 111c; 3 of No. 125; 2 of No. 126; 2 of No. 126a; 1 of No. 142c; 1 of No. 147b; 1 of No. 187; 3 of No. 188; 3 of No. 189; 2 of No. 191; 4 of No. 192; 1 of No. 198; 2 of No. 212; 1 of No. 213; 2 of No. 214; 1 No. 1 Clockwork Motor.

**BASSETT-LOWKE MODEL RAILWAYS**

The new Bassett-Lowke Catalogue is a well-produced, good-quality handbook presenting a wide range of miniature railway equipment in Gauges 0 and 00. For the most part it deals with Bassett-Lowke productions in Gauge 0, including steam railways in that gauge. In addition to finished models and accessories, from signals to scenery, there are plenty of parts, fittings and mechanisms for those who like to construct their own models, as well as the drawings, diagrams and so on necessary for successful modelling.

In the 00 Gauge section ready-made equipment of various makes, including Hornby-Dublo, is shown, with plenty of illustrations and information for the miniature railway owner. Copies can be obtained from Dept. M.R./17, Bassett-Lowke Ltd., Northampton, price 2/-

**BOND'S MODEL AND EXPERIMENTAL ENGINEERING HANDBOOK**

Bond's O'Euston Road Ltd., 357 Euston Road, London N.W.1, have now issued the 1955-56 edition of their handbook. Revision has brought 00 Gauge railway material, including Hornby-Dublo, into the first section. Then come Gauge 0 products, and after that details of locomotive parts and castings for live steam models in the larger gauges. The wide range of parts in each section will appeal specially to the home modeller.

The products dealt with also include stationary, marine and aero engines in miniature, and there are attractive pages for the ship and aircraft modeller. Drawings, blue prints, wood and a useful range of B.A. Screws and Nuts for modellers conclude this useful publication, copies of which are available from the address shown above at 2/- each.