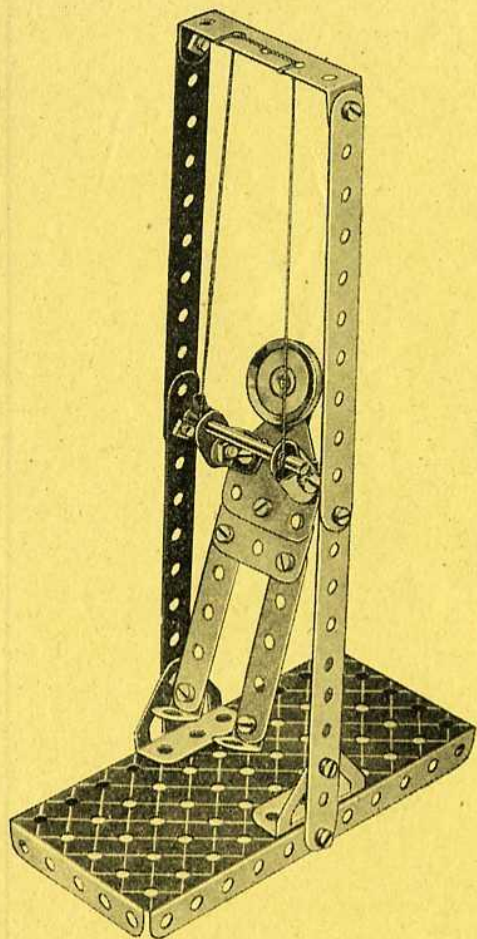


SELECTED MODELS FROM
MECCANO
OUTFITS Nos. 0, 1, 2 & 3



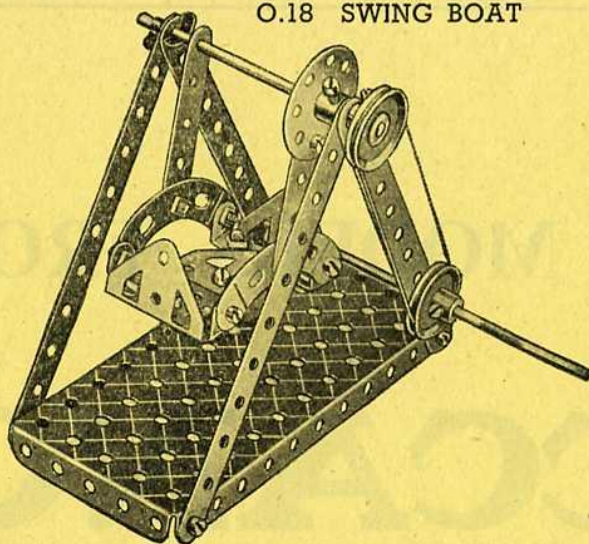
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O.19 TRAPEZE ARTIST



| Parts required | | 4 of No. 12 | 18 of No. 37 |
|----------------|----------|-------------|--------------|
| 4 of No. 2 | 1 " " 17 | 1 " " 48a | 1 " " 52 |
| 2 " " 5 | 1 " " 22 | 1 " " 111c | 2 " " 126 |
| 3 " " 10 | 2 " " 35 | 2 " " 126a | |

O.18 SWING BOAT



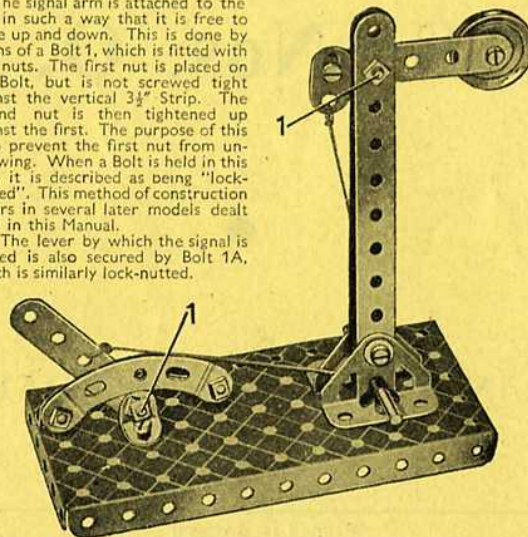
| Parts required | |
|----------------|-----------|
| 4 of No. 2 | 2 " " 5 |
| 4 " " 12 | 1 " " 16 |
| 1 " " 19s | 2 " " 22 |
| 2 " " 24 | 3 " " 35 |
| 18 " " 37 | 1 " " 52 |
| 2 " " 90a | 2 " " 126 |
| 2 " " 126a | |

O.10 SIGNAL

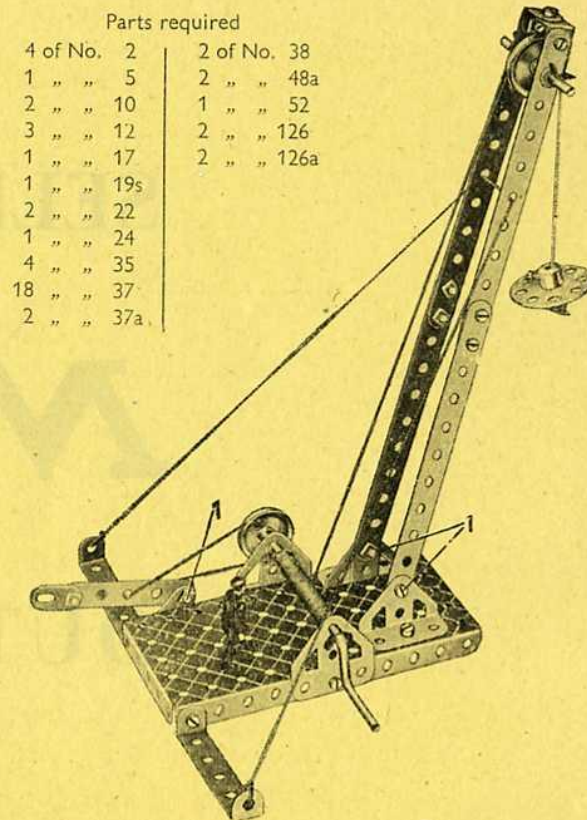
The signal arm is attached to the post in such a way that it is free to move up and down. This is done by means of a Bolt 1, which is fitted with two nuts. The first nut is placed on the Bolt, but is not screwed tight against the vertical $3\frac{1}{2}$ " Strip. The second nut is then tightened up against the first. The purpose of this is to prevent the first nut from unscrewing. When a Bolt is held in this way, it is described as being "lock-nutted". This method of construction occurs in several later models dealt with in this Manual.

The lever by which the signal is moved is also secured by Bolt 1A, which is similarly lock-nutted.

| Parts required | |
|----------------|-----------|
| 2 of No. 2 | 2 " " 5 |
| 1 " " 10 | 3 " " 12 |
| 1 " " 17 | 1 " " 22 |
| 2 " " 35 | 11 " " 37 |
| 3 " " 37a | 2 " " 38 |
| 1 " " 52 | 2 " " 90a |
| 2 " " 111c | 2 " " 126 |



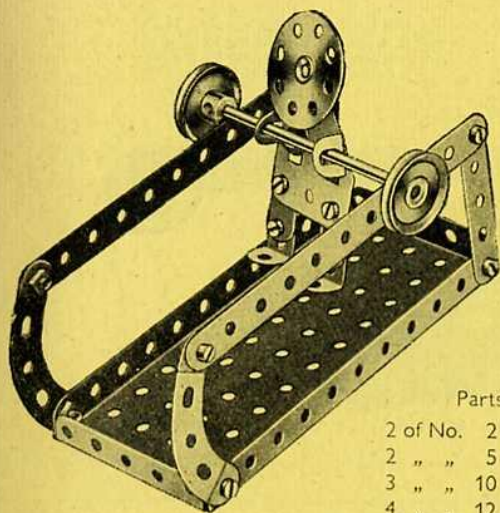
O.21 DERRICK CRANE



| Parts required | |
|----------------|-------------|
| 4 of No. 2 | 2 of No. 38 |
| 1 " " 5 | 2 " " 48a |
| 2 " " 10 | 1 " " 52 |
| 3 " " 12 | 2 " " 126 |
| 1 " " 17 | 2 " " 126a |
| 1 " " 19s | |
| 2 " " 22 | |
| 1 " " 24 | |
| 4 " " 35 | |
| 18 " " 37 | |
| 2 " " 37a | |

The construction of the model is commenced by bolting the Trunnions and Flat Trunnions that support the jib and Crank Handle respectively to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate that forms the base of the model. The jib is then assembled and fastened to the Trunnions by means of the lock-nutted Bolt 1. The brake lever is a $2\frac{1}{2}$ " Strip extended by a Fishplate and is fastened to a second Fishplate bolted to the Flanged Plate, by means of a Bolt 1a, the nut of which is left sufficiently loose to allow the Strip to move. A length of Cord is fastened to the lever and then passed round the 1" Pulley on the Crank Handle.

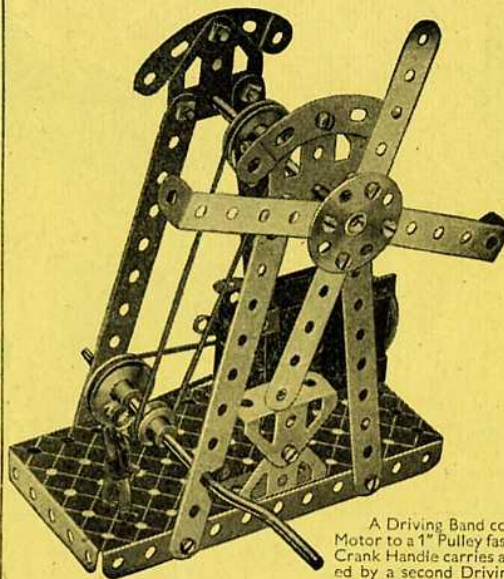
O.13 ACROBAT



Parts required

| | |
|------------|------------|
| 2 of No. 2 | 1 " " 24 |
| 2 " " 5 | 15 " " 37" |
| 3 " " 10 | 1 " " 52 |
| 4 " " 12 | 2 " " 90a |
| 1 " " 16 | 1 " " 111c |
| 2 " " 22 | 1 " " 126a |

O.25 WINDMILL



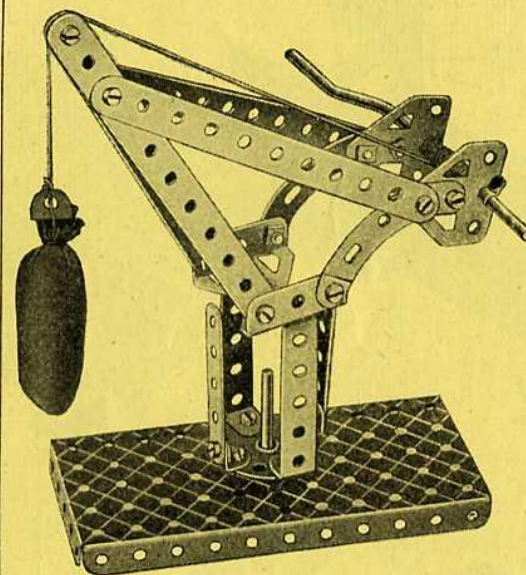
Parts required

| |
|------------|
| 4 of No. 2 |
| 2 " " 5 |
| 1 " " 16 |
| 1 " " 19s |
| 2 " " 22 |
| 1 " " 24 |
| 3 " " 35 |
| 18 " " 37 |
| 2 " " 38 |
| 2 " " 48a |
| 1 " " 52 |
| 2 " " 90a |
| 2 " " 126 |
| 2 " " 126a |

Magic Motor (not included in Outfit)

A Driving Band connects the pulley of the *Magic Motor* to a 1" Pulley fastened on the Crank Handle. The Crank Handle carries also a 1/2" Pulley, which is connected by a second Driving Band with a further 1" Pulley fixed to the Rod on which the sails are mounted.

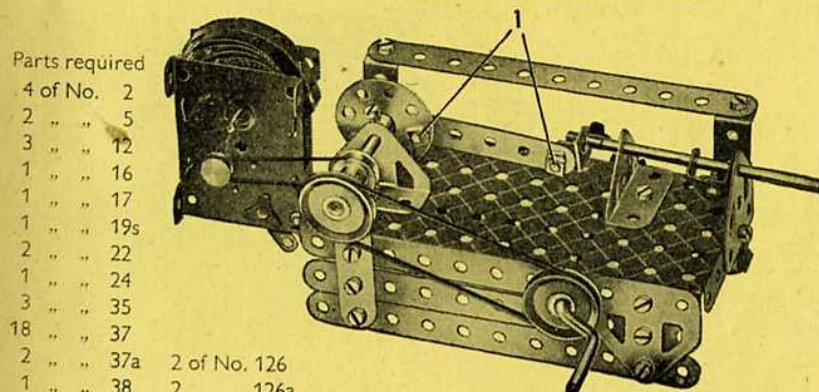
O.4 DOCKSIDE CRANE



Parts required

| |
|------------|
| 4 of No. 2 |
| 2 " " 5 |
| 3 " " 12 |
| 1 " " 17 |
| 1 " " 19s |
| 1 " " 22 |
| 1 " " 24 |
| 2 " " 35 |
| 18 " " 37 |
| 2 " " 37a |
| 2 " " 38 |
| 2 " " 48a |
| 1 " " 52 |
| 2 " " 90a |
| 2 " " 111c |
| 2 " " 126 |
| 2 " " 126a |

O.22 STATIONARY STEAM ENGINE



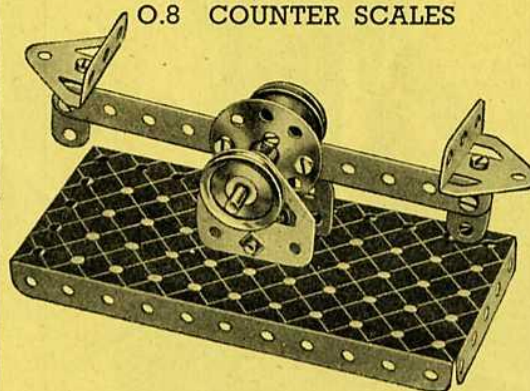
Parts required

| | |
|------------|--------------|
| 4 of No. 2 | 2 of No. 126 |
| 2 " " 5 | 2 " " 126a |
| 3 " " 12 | |
| 1 " " 16 | |
| 1 " " 17 | |
| 1 " " 19s | |
| 2 " " 22 | |
| 1 " " 24 | |
| 3 " " 35 | |
| 18 " " 37 | |
| 2 " " 37a | |
| 1 " " 38 | |
| 2 " " 48a | |
| 1 " " 52 | |

Magic Motor (not included in Outfit)

The Bolts 1 are lock-nutted. The Angle Brackets representing the piston are clamped to the Rod by a nut and bolt fastened in their elongated holes.

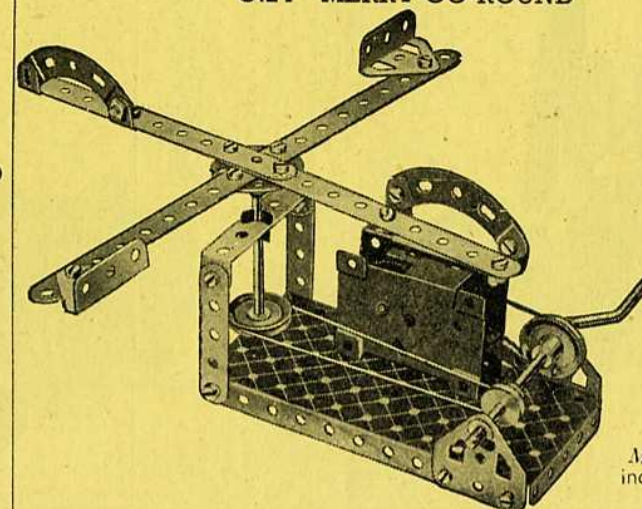
O.8 COUNTER SCALES



Parts required

| | | |
|------------|-------------|-------------|
| 1 of No. 2 | 2 of No. 22 | 1 of No. 52 |
| 2 " " 10 | 1 " " 24 | 2 " " 126 |
| 4 " " 12 | 9 " " 37 | 2 " " 126a |
| 1 " " 17 | 2 " " 38 | |

O.24 MERRY-GO-ROUND

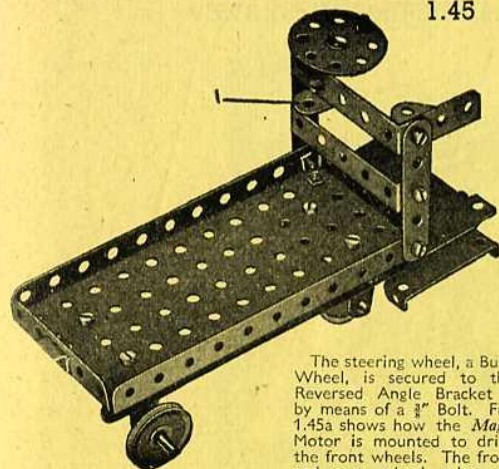


Parts required

| |
|------------|
| 4 of No. 2 |
| 2 " " 5 |
| 4 " " 12 |
| 1 " " 16 |
| 1 " " 19s |
| 2 " " 22 |
| 1 " " 24 |
| 4 " " 35 |
| 18 " " 37 |
| 2 " " 37a |
| 4 " " 38 |
| 1 " " 48a |
| 1 " " 52 |
| 2 " " 90a |
| 2 " " 111c |
| 2 " " 126 |
| 2 " " 126a |

Magic Motor (not included in Outfit)

1.45 ELECTRIC TRUCK



The steering wheel, a Bush Wheel, is secured to the Reversed Angle Bracket 1 by means of a $\frac{3}{8}$ " Bolt. Fig. 1.45a shows how the Magic Motor is mounted to drive the front wheels. The front and rear wheel axles are journaled in two Fishplates bolted to the $5\frac{1}{2}$ " Strips 2 and 3.

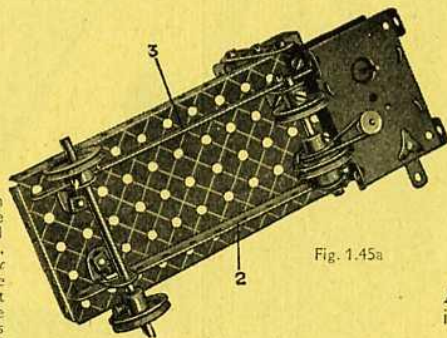


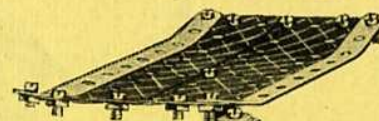
Fig. 1.45a

Parts required

| | |
|----------|------|
| 2 of No. | 2 |
| 2 " | 5 |
| 4 " | 10 |
| 4 " | 12 |
| 1 " | 16 |
| 1 " | 17 |
| 4 " | 22 |
| 1 " | 24 |
| 18 " | 37 |
| 2 " | 48a |
| 1 " | 52 |
| 1 " | 111c |
| 1 " | 125 |
| 1 " | 126 |

Magic Motor (not included in Outfit)

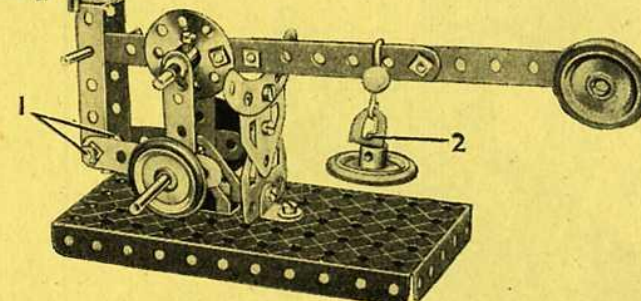
1.6 LETTER BALANCE



The Bolts 1 are lock-nutted. The $\frac{3}{8}$ " Bolt 2 is passed through the hole of the Angle Bracket and then held by the grub screw in the boss of the 1" Pulley.

Parts required

| | |
|----------|-----|
| 4 of No. | 2 |
| 4 " | 5 |
| 4 " | 10 |
| 2 " | 12 |
| 1 " | 16 |
| 2 " | 17 |
| 4 " | 22 |
| 1 " | 24 |
| 4 " | 35 |
| 28 " | 37 |
| 24 " | 37a |
| 4 " | 38 |
| 2 " | 48a |

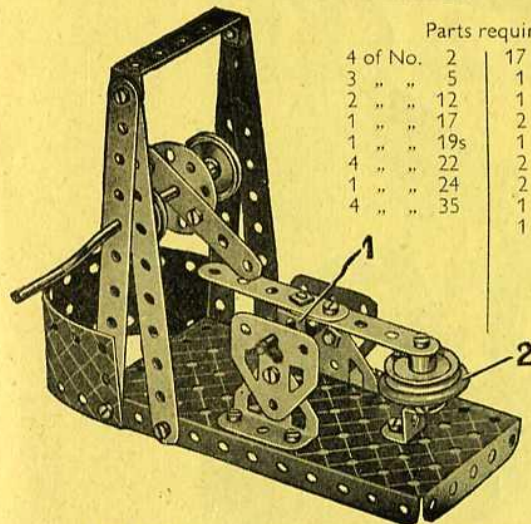


| | |
|----------|-----|
| 1 of No. | 52 |
| 1 " | 57c |
| 1 " | 90a |

| | |
|----------|------|
| 4 of No. | 111c |
| 1 " | 125 |
| 2 " | 126 |

| | |
|----------|------|
| 2 of No. | 126a |
| 4 " | 155 |
| 2 " | 189 |

1.18 TRIP HAMMER



Parts required

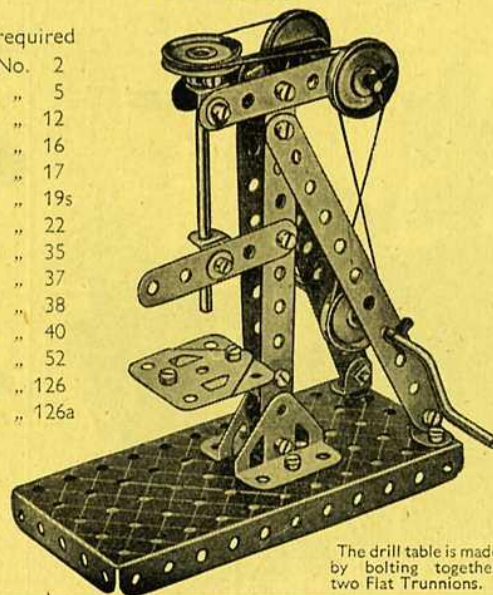
| | | | |
|----------|-----|-----------|------|
| 4 of No. | 2 | 17 of No. | 37 |
| 3 " | 5 | 1 " | 48a |
| 2 " | 12 | 1 " | 52 |
| 1 " | 17 | 2 " | 111c |
| 1 " | 19s | 1 " | 125 |
| 4 " | 22 | 2 " | 126 |
| 1 " | 24 | 2 " | 126a |
| 4 " | 35 | 1 " | 155 |
| | | 1 " | 189 |

Two Angle Brackets 1 are bolted together through their holes and also are bolted to two $2\frac{1}{2}$ " Strips to form a "U" shaped bracket. The 1" fast Pulley 2 is fitted with a 1" Rubber Ring.

1.17 DRILL

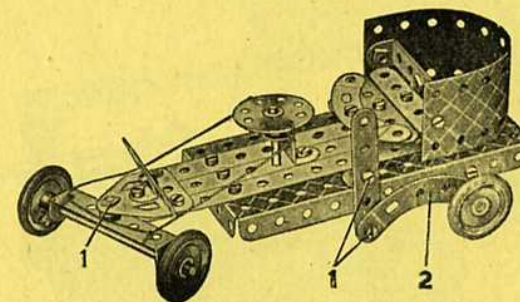
Parts required

| | |
|----------|------|
| 4 of No. | 2 |
| 3 " | 5 |
| 8 " | 12 |
| 1 " | 16 |
| 1 " | 17 |
| 1 " | 19s |
| 4 " | 22 |
| 4 " | 35 |
| 20 " | 37 |
| 4 " | 38 |
| 1 " | 40 |
| 1 " | 52 |
| 2 " | 126 |
| 2 " | 126a |



The drill table is made by bolting together two Flat Trunnions.

1.20 COASTER



Parts required

| | |
|----------|------|
| 3 of No. | 2 |
| 4 " | 5 |
| 5 " | 12 |
| 2 " | 16 |
| 1 " | 17 |
| 4 " | 22 |
| 1 " | 24 |
| 1 " | 35 |
| 20 " | 37 |
| 4 " | 37a |
| 4 " | 38 |
| 1 " | 40 |
| 2 " | 48a |
| 1 " | 52 |
| 2 " | 90a |
| 2 " | 111c |
| 1 " | 125 |
| 2 " | 126 |
| 2 " | 126a |
| 4 " | 155 |
| 1 " | 189 |

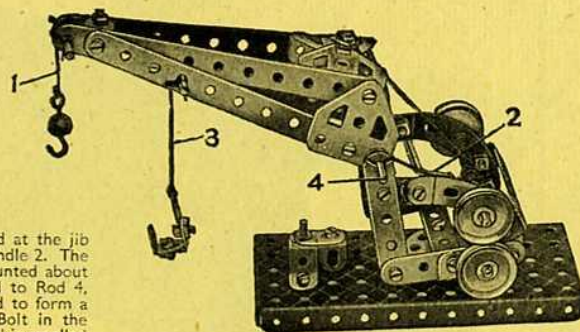
The Bolts 1 are lock-nutted. The rear axle Rod is pushed through the end holes of the Curved Strips 2 on each side of the model.

1.31 FLOATING CRANE

Parts required

| | |
|------------|--------------|
| 4 of No. 2 | 2 of No. 90a |
| 4 " " 5 | 3 " " 111c |
| 4 " " 10 | 1 " " 125 |
| 7 " " 12 | 2 " " 126 |
| 2 " " 16 | 2 " " 126a |
| 2 " " 17 | |
| 1 " " 19s | |
| 4 " " 22 | |
| 1 " " 24 | |
| 4 " " 35 | |
| 24 " " 37 | |
| 4 " " 37a | |
| 4 " " 38 | |
| 1 " " 40 | |
| 2 " " 48a | |
| 1 " " 52 | |
| 1 " " 57c | |

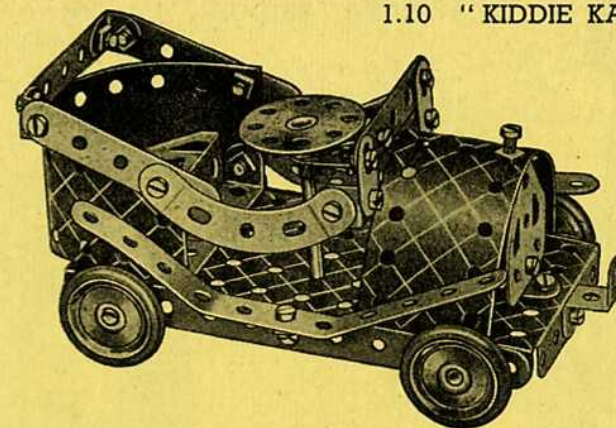
The Cord 1 passes over the Rod at the jib head and is fastened to the Crank Handle 2. The other Cord 3 passes over a Rod mounted about halfway along the jib, and is secured to Rod 4, which has a 1" Pulley at the other end to form a handle. The Cord tied to the $\frac{1}{2}$ " Bolt in the Trunnions is taken around the $3\frac{1}{2}$ " Rod journalled above the Crank Handle, and is used for luffing the jib by turning the 1" Pulley at the rear end of the Rod. Two Angle Brackets and a Fishplate form the hook on Cord 3.



1.10 "KIDDIE KAR"

Parts required

| | |
|------------|--------------|
| 4 of No. 2 | 3 of No. 37a |
| 4 " " 5 | 2 " " 48a |
| 3 " " 10 | 1 " " 52 |
| 7 " " 12 | 2 " " 90a |
| 2 " " 16 | 2 " " 111c |
| 1 " " 17 | 1 " " 125 |
| 4 " " 22 | 2 " " 126 |
| 1 " " 24 | 1 " " 126a |
| 1 " " 35 | 4 " " 155 |
| 24 " " 37 | 2 " " 189 |

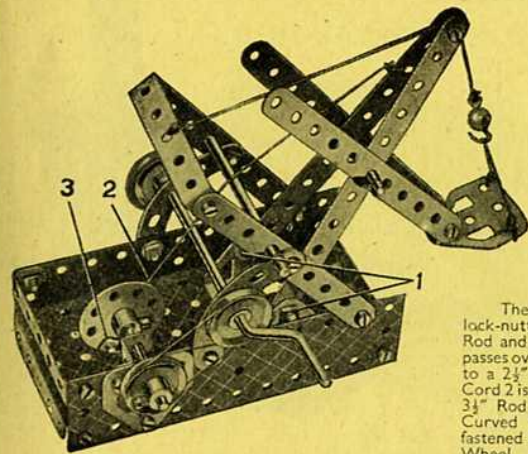


Two Trunnions overlapped one hole, and fastened to the Flanged Plate by an Angle Bracket, form the seat.

1.34 MECHANICAL SHOVEL

Parts required

| | |
|------------|-------------|
| 4 of No. 2 | 4 of No. 38 |
| 4 " " 5 | 1 " " 40 |
| 1 " " 10 | 2 " " 48a |
| 2 " " 12 | 1 " " 52 |
| 1 " " 16 | 1 " " 57c |
| 2 " " 17 | 2 " " 90a |
| 1 " " 19s | 4 " " 111c |
| 3 " " 22 | 1 " " 125 |
| 1 " " 24 | 2 " " 126 |
| 4 " " 35 | 2 " " 126a |
| 24 " " 37 | 1 " " 155 |
| 4 " " 37a | 2 " " 189 |



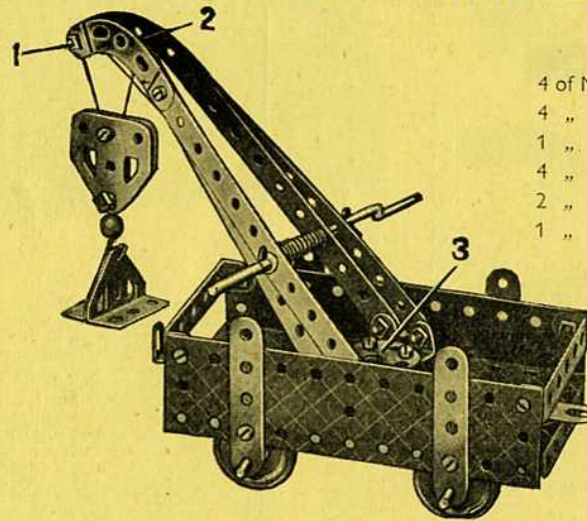
The Bolts 1, on which the jib pivots, are lock-nutted. The shovel arm is pivoted on a 2" Rod and the shovel is supported by a Cord that passes over the $\frac{1}{2}$ " Bolt at the jib head and is fastened to a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip as shown. The Cord 2 is fastened to the jib and then passes over a $3\frac{1}{2}$ " Rod journalled in the holes above the $2\frac{1}{2}$ " Curved Strips, and is attached to a Fishplate fastened by the lock-nutted Bolt 3 to the Bush Wheel.

When the Crank Handle is rotated, the Bush Wheel imparts a digging motion to the jib and shovel arm.

1.37 RAILWAY BREAKDOWN CRANE

Parts required

| | | | |
|------------|-------------|-------------|--------------|
| 4 of No. 2 | 4 of No. 22 | 1 of No. 40 | 1 of No. 125 |
| 4 " " 5 | 1 " " 24 | 2 " " 48a | 2 " " 126 |
| 1 " " 10 | 2 " " 35 | 1 " " 52 | 2 " " 126a |
| 4 " " 12 | 20 " " 37 | 1 " " 47c | 4 " " 155 |
| 2 " " 16 | 4 " " 37a | 2 " " 90a | 2 " " 189 |
| 1 " " 19s | 2 " " 38 | 4 " " 111c | |

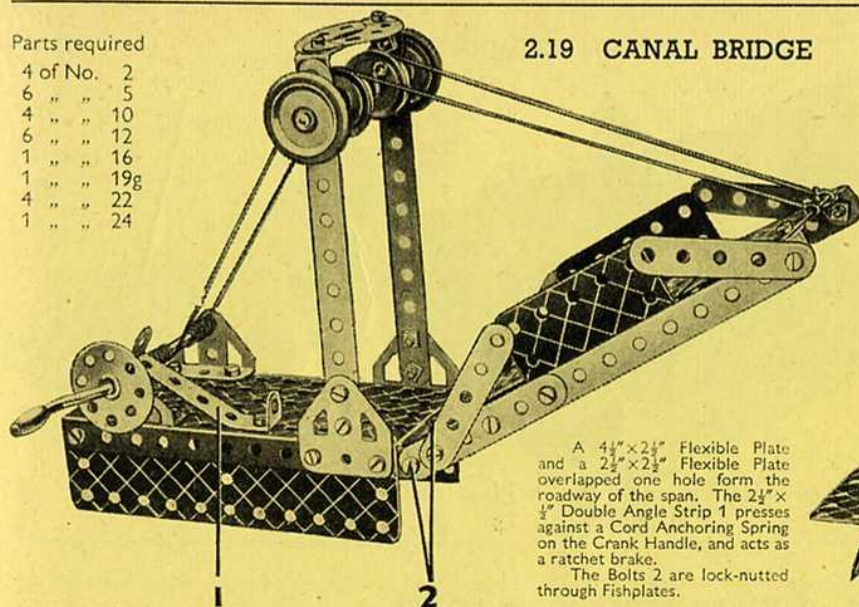


The hoisting cord is secured to the Crank Handle, and then led over the $\frac{1}{2}$ " Bolt 1. It is then passed through the pulley block and fastened to the jib at 2. The jib is attached to the Bush Wheel 3 by means of Angle Brackets and the complete unit is pivoted as follows. A $\frac{1}{2}$ " Bolt is passed through the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate, and is secured in the boss of the Bush Wheel by its set screw.

Parts required

| | |
|----------|-----|
| 4 of No. | 2 |
| 6 " " | 5 |
| 4 " " | 10 |
| 6 " " | 12 |
| 1 " " | 16 |
| 1 " " | 19g |
| 4 " " | 22 |
| 1 " " | 24 |

2.19 CANAL BRIDGE



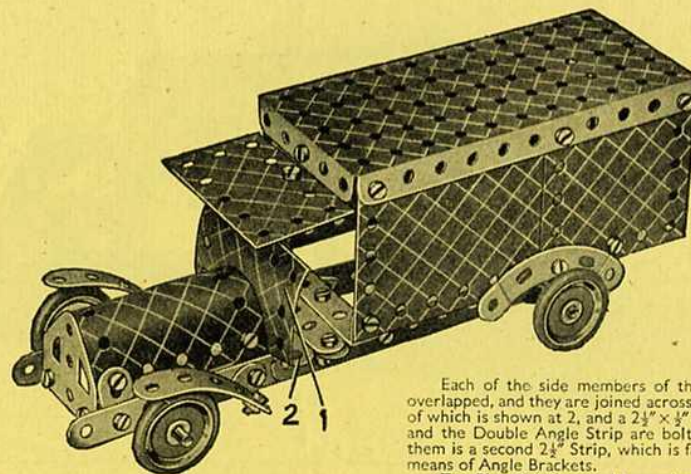
A $4\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plate and a $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plate overlapped one hole form the roadway of the span. The $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 1 presses against a Cord Anchoring Spring on the Crank Handle, and acts as a ratchet brake.

The Bolts 2 are lock-nutted through Fishplates.

Parts required

| | |
|-----------|------|
| 39 of No. | 37 |
| 2 " " | 37a |
| 2 " " | 38 |
| 2 " " | 48a |
| 1 " " | 52 |
| 2 " " | 90a |
| 2 " " | 126 |
| 2 " " | 126a |
| 2 " " | 155 |
| 1 " " | 176 |
| 2 " " | 188 |
| 2 " " | 189 |
| 2 " " | 190 |
| 1 " " | 191 |
| 1 " " | 199 |
| 1 " " | 200 |

2.14 MOTOR VAN



Parts required

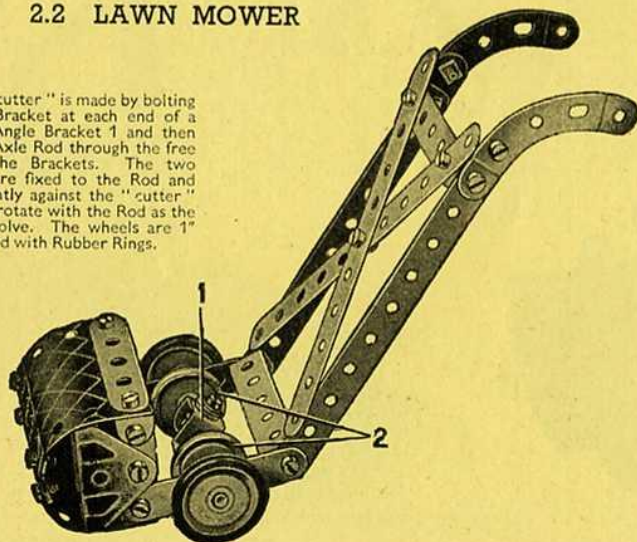
| | | | |
|----------|-----|----------|------|
| 4 of No. | 2 | 1 of No. | 52 |
| 4 " " | 5 | 2 " " | 90a |
| 4 " " | 10 | 1 " " | 126 |
| 8 " " | 12 | 2 " " | 126a |
| 2 " " | 16 | 4 " " | 155 |
| 4 " " | 22 | 2 " " | 188 |
| 4 " " | 35 | 2 " " | 189 |
| 40 " " | 37 | 2 " " | 190 |
| 4 " " | 38 | 1 " " | 191 |
| 2 " " | 48a | 1 " " | 199 |

Each of the side members of the chassis consists of two $5\frac{1}{2}''$ Strips overlapped, and they are joined across at the centre by two $2\frac{1}{2}''$ Strips, one of which is shown at 2, and a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip. The $2\frac{1}{2}''$ Strip 2 and the Double Angle Strip are bolted to a Flat Trunnion, and between them is a second $2\frac{1}{2}''$ Strip, which is fastened at each end to the chassis by means of Angle Brackets.

The Plate 1 is fastened to an Angle Bracket that is bolted to Strip 2. The body is fixed to the chassis by a Double Angle Strip and an Angle Bracket.

2.2 LAWN MOWER

The "cutter" is made by bolting an Angle Bracket at each end of a Reversed Angle Bracket 1 and then sliding an Axle Rod through the free holes of the Brackets. The two Pulleys 2 are fixed to the Rod and pushed tightly against the "cutter" to make it rotate with the Rod as the wheels revolve. The wheels are 1" Pulleys fitted with Rubber Rings.



Parts required

| | |
|----------|-----|
| 4 of No. | 2 |
| 4 " " | 5 |
| 4 " " | 10 |
| 6 " " | 12 |
| 1 " " | 16 |
| 4 " " | 22 |
| 25 " " | 37 |
| 4 " " | 38 |
| 2 " " | 48a |
| 2 " " | 90a |
| 1 " " | 125 |
| 2 " " | 126 |
| 2 " " | 155 |
| 2 " " | 200 |

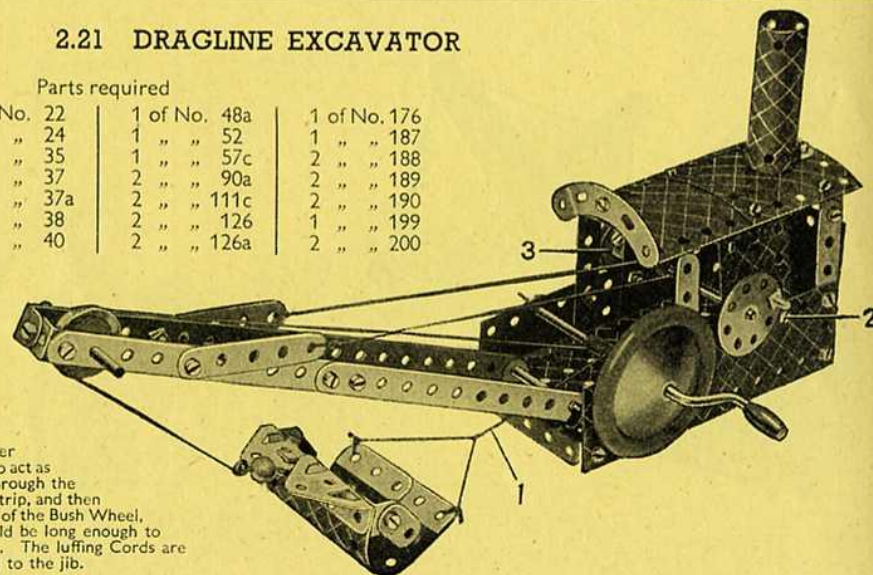
2.21 DRAGLINE EXCAVATOR

Parts required

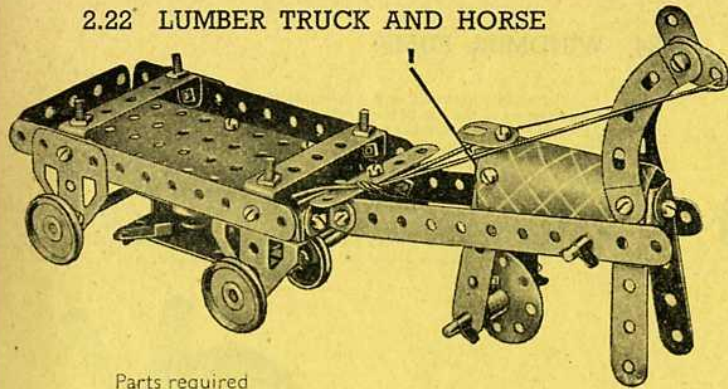
| | | | | | | | |
|----------|-----|----------|-----|----------|------|----------|-----|
| 4 of No. | 2 | 3 of No. | 22 | 1 of No. | 48a | 1 of No. | 176 |
| 6 " " | 5 | 1 " " | 24 | 1 " " | 52 | 1 " " | 187 |
| 2 " " | 10 | 4 " " | 35 | 1 " " | 57c | 2 " " | 188 |
| 8 " " | 12 | 40 " " | 37 | 2 " " | 90a | 2 " " | 189 |
| 1 " " | 16 | 4 " " | 37a | 2 " " | 111c | 2 " " | 190 |
| 2 " " | 17 | 1 " " | 38 | 2 " " | 126 | 1 " " | 199 |
| 1 " " | 19g | 1 " " | 40 | 2 " " | 126a | 2 " " | 200 |

The Cord 1 is wound round the Crank Handle about 12 times then one end of it is fastened to a small Loaded Hook and the other end to the Cord on the bucket.

A Curved Strip is pivoted by a $\frac{1}{2}''$ Bolt through one of its ends in the position of Bolt 2 but on the rear side of the model. A 1" Pulley is attached to the other end of the Curved Strip, with a $\frac{1}{2}''$ Bolt to act as a weight. A loop of Cord is fastened through the slotted hole next to the bottom of the Strip, and then passes round the 1" Pulley 3 on the shaft of the Bush Wheel, to act as a brake band. The Cord should be long enough to allow the Strip to lie nearly horizontal. The luffing Cords are attached to two $2\frac{1}{2}''$ Strips, lock-nutted to the jib.



2.22 LUMBER TRUCK AND HORSE



Parts required

| | |
|------------|--------------------------------------|
| 4 of No. 2 | 4 of No. 37a |
| 5 " " 5 | 2 " " 48a |
| 3 " " 10 | 1 " " 52 |
| 6 " " 12 | 2 " " 90a |
| 2 " " 16 | 4 " " 111c |
| 2 " " 17 | 2 " " 126 |
| 4 " " 22 | 2 " " 126a |
| 1 " " 24 | 4 " " 155 |
| 4 " " 35 | 1 " " 199 |
| 23 " " 37 | Magic Motor (not included in Outfit) |

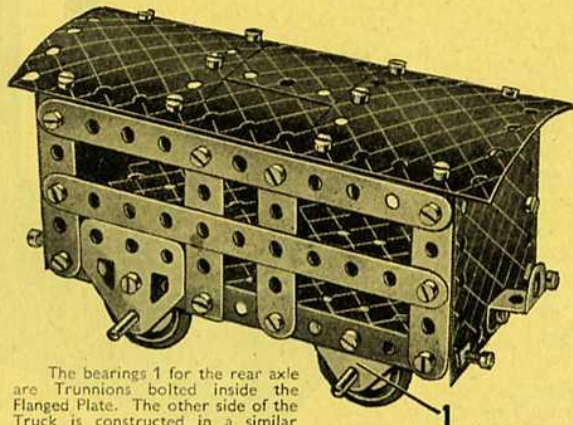
A Magic Motor is mounted beneath the cart and the Driving Band is taken from the pulley on the Motor to a $\frac{1}{2}$ " fixed Pulley (supplied with the Motor) fastened on the $3\frac{1}{2}$ " Rod that forms the front axle.

The forelegs of the horse are held together by means of two Angle Brackets bolted in the positions shown. This construction is duplicated at 1 for the hind legs. The forelegs of the horse are held clear of the ground by means of the reins.

2.12 CATTLE TRUCK

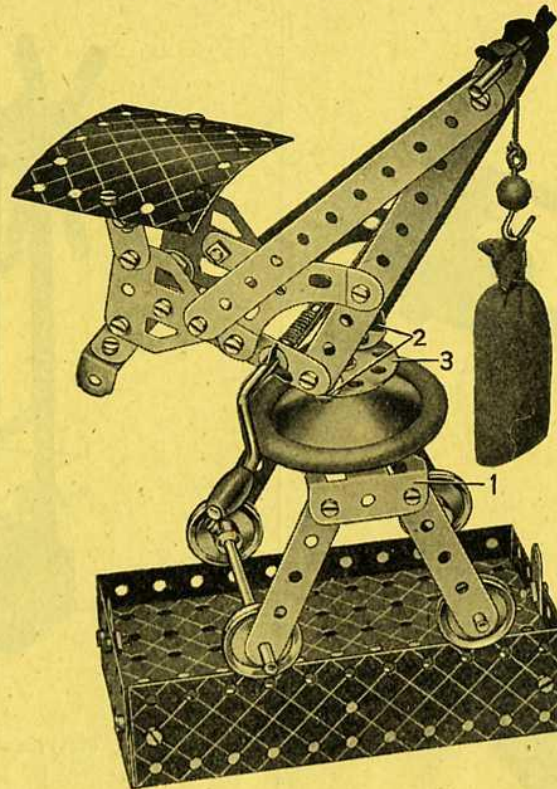
Parts required

| |
|------------|
| 4 of No. 2 |
| 6 " " 5 |
| 4 " " 10 |
| 5 " " 12 |
| 2 " " 16 |
| 4 " " 22 |
| 40 " " 37 |
| 4 " " 37a |
| 4 " " 38 |
| 2 " " 48a |
| 1 " " 52 |
| 4 " " 111c |
| 1 " " 125 |
| 2 " " 126 |
| 2 " " 126a |
| 4 " " 155 |
| 2 " " 188 |
| 2 " " 190 |
| 2 " " 200 |



The bearings 1 for the rear axle are Trunnions bolted inside the Flanged Plate. The other side of the Truck is constructed in a similar manner to the side shown in the illustration.

2.11 TRAVELLING CRANE

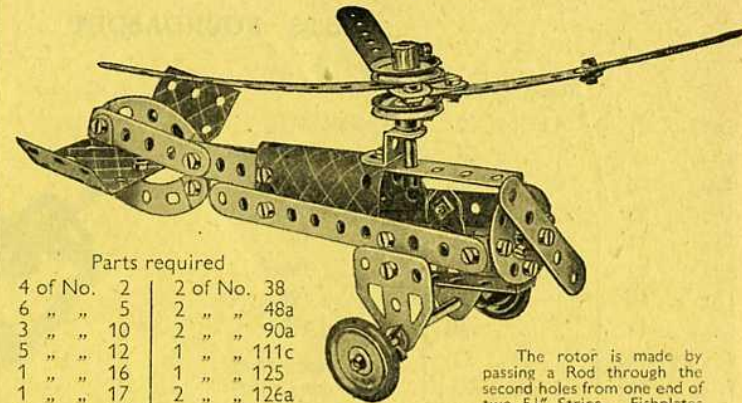


Parts required

| | | | |
|------------|--------------|--------------|---------------|
| 4 of No. 2 | 1 of No. 19g | 3 of No. 38 | 2 of No. 111c |
| 6 " " 5 | 4 " " 22 | 1 " " 40 | 2 " " 126 |
| 4 " " 10 | 1 " " 24 | 2 " " 48a | 2 " " 126a |
| 6 " " 12 | 4 " " 35 | 1 " " 52 | 1 " " 176 |
| 2 " " 16 | 38 " " 37 | 1 " " 57c | 1 " " 187 |
| 2 " " 17 | 2 " " 37a | 2 " " 90a | 2 " " 188 |
| | 2 of No. 189 | 1 of No. 200 | |

A 2" Rod is secured in the boss of the Bush Wheel 3. It then passes through the Road Wheel and through the centre of a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip bolted between the two Trunnions 1. A Washer and a Cord Anchoring Spring are pushed on to the Rod to hold it in position. The crane jib is attached to the Bush Wheel by the Angle Brackets 2. The sack shown on the crane hook is not included in the Outfit.

2.4 AUTOGIRO



Parts required

| | |
|------------|-------------|
| 4 of No. 2 | 2 of No. 38 |
| 6 " " 5 | 2 " " 48a |
| 3 " " 10 | 2 " " 90a |
| 5 " " 12 | 1 " " 111c |
| 1 " " 16 | 1 " " 125 |
| 1 " " 17 | 2 " " 126a |
| 4 " " 22 | 2 " " 155 |
| 1 " " 24 | 2 " " 188 |
| 3 " " 35 | 1 " " 199 |
| 24 " " 37 | |

The rotor is made by passing a Rod through the second holes from one end of two $5\frac{1}{2}$ " Strips. Fishplates are bolted to the short ends of the Strips and the third blade of the rotor is fixed to them as shown.

2.5 ANTI-AIRCRAFT GUN



Parts required

| |
|------------|
| 4 of No. 2 |
| 1 " " 5 |
| 6 " " 12 |
| 2 " " 16 |
| 2 " " 17 |
| 1 " " 19g |
| 4 " " 22 |
| 1 " " 24 |
| 3 " " 35 |
| 26 " " 37 |
| 4 " " 38 |
| 2 " " 48a |
| 1 " " 52 |
| 2 " " 90a |
| 1 " " 125 |
| 2 " " 126 |
| 2 " " 126a |
| 4 " " 155 |
| 1 " " 176 |
| 1 " " 187 |
| 2 " " 188 |
| 2 " " 189 |

One end of a piece of Cord is fastened to the Crank Handle. It is wound round the Handle a few times and its other end is then fastened to the end of the gun. The two Trunnions are bolted to a Bush Wheel fixed on a 2" Rod that passes through the Road Wheel 2 and the Flanged Plate and is held in place by an Anchoring Spring. The Spring Clips 1 at each side space the gun barrel from the Flat Trunnions.

3.23 ROUNDABOUT

Parts required

| | | |
|------------|-------------|---------------|
| 2 of No. 1 | 4 of No. 22 | 4 of No. 111c |
| 6 " " 2 | 1 " " 24 | 2 " " 125 |
| 8 " " 5 | 6 " " 35 | 2 " " 126 |
| 4 " " 10 | 50 " " 37 | 2 " " 126a |
| 2 " " 11 | 4 " " 37a | 1 " " 187 |
| 8 " " 12 | 4 " " 38 | 2 " " 188 |
| 1 " " 16 | 1 " " 40 | 2 " " 191 |
| 1 " " 17 | 2 " " 48a | 2 " " 199 |
| 1 " " 18a | 1 " " 52 | |
| 1 " " 19g | 4 " " 90a | |

Magic Motor (not included in Outfit)

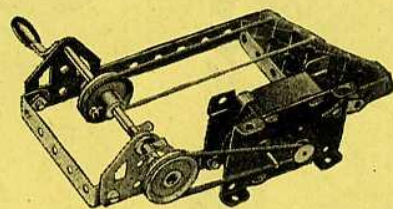


Fig. 3.23a

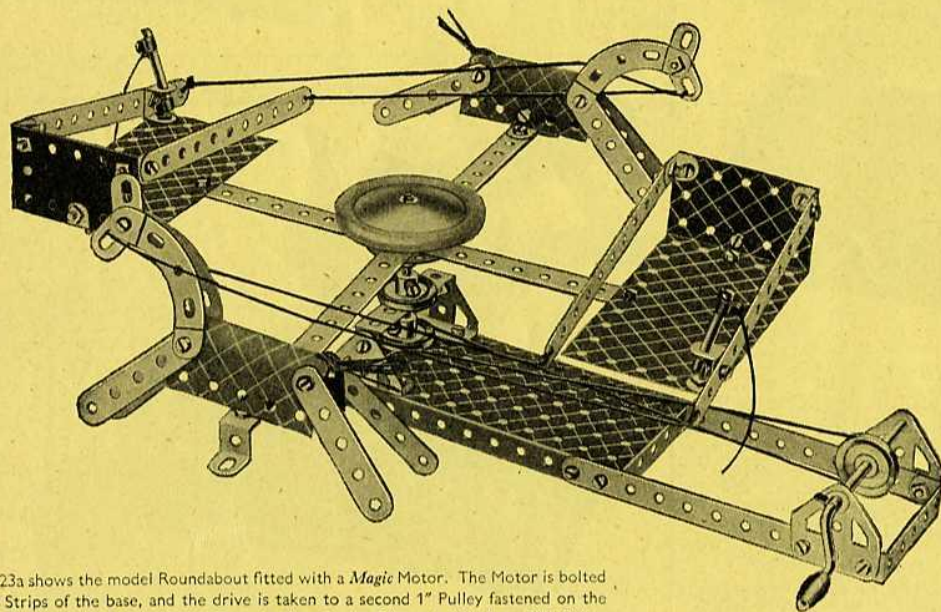


Fig. 3.23a shows the model Roundabout fitted with a *Magic Motor*. The Motor is bolted to the $5\frac{1}{2}$ " Strips of the base, and the drive is taken to a second 1" Pulley fastened on the Crank Handle and spaced from the Flat Trunnion by a Spring Clip and a Washer. This Pulley is removed from the end of the pivot rod of the roundabout underneath the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate.

3.24 WINDMILL PUMP

Up and down motion of the pumping shaft is obtained from a crank fastened to the end of the Crank Handle. The crank is formed by securing an Angle Bracket to the boss of a 1" Pulley, two Washers being used between the Bracket and the boss. A $2\frac{1}{2}$ " Strip is pivoted to the crank and to the pumping beam, the other end of which is pivotally attached to a Double Bracket on the pump rod. The Bolts 1 are lock-nutted. The 1" Pulley on the Crank Handle is connected by a belt of Cord to the shaft carrying the sails. The *Magic Motor* is bolted by its flanges to the baseplate, and the drive is taken from the pulley of the Motor to a $\frac{1}{2}$ " Pulley fixed on the shaft of the Crank Handle. If desired the Motor may be dispensed with and the model operated by hand.

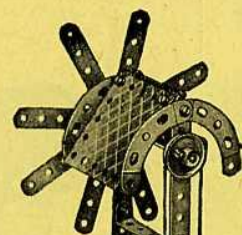
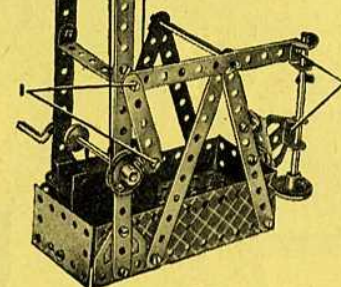


Fig. 3.24a



Parts required

| | |
|------------|--------------|
| 2 of No. 1 | 3 of No. 37a |
| 5 " " 2 | 2 " " 38 |
| 9 " " 5 | 1 " " 40 |
| 2 " " 11 | 2 " " 48a |
| 7 " " 12 | 1 " " 52 |
| 1 " " 15b | 4 " " 90a |
| 2 " " 16 | 1 " " 126 |
| 1 " " 19g | 2 " " 126a |
| 3 " " 22 | 2 " " 188 |
| 1 " " 24 | 2 " " 189 |
| 5 " " 35 | 2 " " 190 |
| 39 " " 37 | |

Magic Motor (not included in Outfit)

