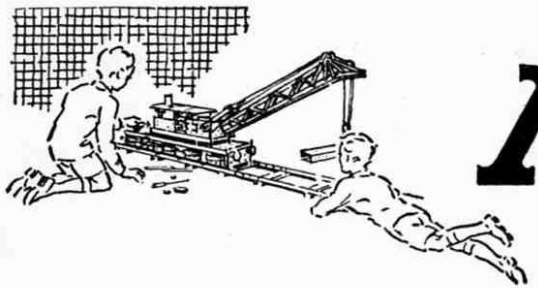
MECCANO

Prices
Great Britain 3d
Australia 6d
New Zealand 4d
South Africa 5d
Canada 10c

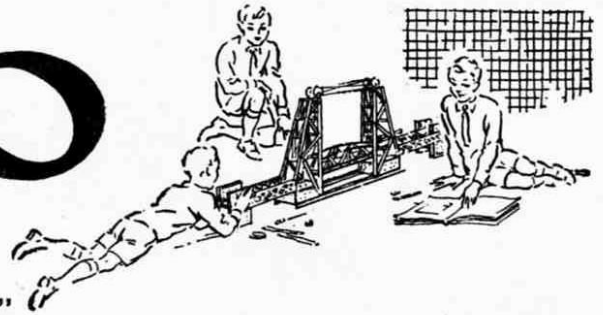
INSTRUCTIONS
FOR
No. 1a ACCESSORY OUTFIT

No.
40.1a



MECCANO

Real Engineering in Miniature



MODEL-BUILDING WITH MECCANO

There is no limit to the number of models that can be built with Meccano—Cranes, Clocks, Motor Cars, Ship Coalers, Machine Tools, Locomotives—in fact everything that interests boys. A screwdriver and a spanner, both of which are provided in each Outfit, are the only tools necessary.

When you have built all the models illustrated in the Manuals of Instruction the fun is not over, but is just beginning. Now comes the chance to make use of your own ideas. First of all, re-build some of the models with small changes in construction that may occur to you ; then try building models entirely of your own design. In doing this you will feel the real thrill of the engineer and the inventor.

HOW TO BUILD UP YOUR OUTFIT

Meccano is sold in eleven different Outfits, ranging from No. O to No. 10. Each Outfit from No. 1 upwards can be converted into the next one larger by the purchase of an Accessory Outfit. Thus, Meccano No. 1 Outfit can be converted into No. 2 Outfit by adding to it a No. 1a Accessory Outfit. No. 2a Outfit would then convert it into a No. 3 and so on. In this way, no matter with which Outfit you commence, you can build it up by degrees until you possess a No. 10 Outfit.

All Meccano parts are of the same high quality and finish, but the larger Outfits contain a greater quantity and variety, making possible the construction of more elaborate models.

As shown in the illustrations, the realism of many models can be increased by the inclusion of the figures, motor vehicles and other items from the Dinky Toys Series ; pilots and drivers from the Aeroplane and Motor Car Constructor Outfits ; trees and hedges from the Hornby Railway Series ; Meccano sacks, cable drums, etc. These items are not included in any of the Outfits. A Clockwork Motor is included in Outfits 7a, 8, 9 and 10 only, and an Electric Motor in Outfits 9a and 10 only.

ELECTRIC LIGHTING OF MECCANO MODELS

It is great fun to illuminate your Meccano models by electric light, and a special Meccano Lighting Set can be obtained from your dealer for this purpose. This consists of two spot lights with plain and coloured imitation glass discs, one stand lamp, two special brackets, and two pea lamps, operated from a 4-volt flash-lamp battery (not included in the Set). The stand lamp is used for decorative purposes, and the spot lights can be used as headlamps, floodlights on cranes, and in countless other ways.

THE "MECCANO MAGAZINE"

The "Meccano Magazine" is published specially for Meccano boys. Every month it describes and illustrates new Meccano models for Outfits of all sizes, and deals with suggestions from readers for new Meccano parts and for new methods of using the existing parts. There are model-building competitions specially planned to give an equal chance to the owners of small and large Outfits. In addition, there are splendid articles on such subjects as Railways, Famous Engineers and Inventors, Electricity, Chemistry, Bridges, Cranes and Aeroplanes, and special sections dealing with the latest Engineering, Aviation, Shipping and Road and Track News. Other pages deal with Stamp Collecting, and Books of interest to boys ; and a feature of outstanding interest is the section devoted to short articles from readers.

The " Meccano Magazine " is the finest of all papers for boys who are interested in the wonderful things going on in the world around them. It is published on the first of each month. If you are not already a reader write to the Editor for full particulars, or order a copy from your Meccano dealer, or from any newsagent.

THE MECCANO GUILD

Every owner of a Meccano Outfit should join the Meccano Guild. This is a world-wide organisation, started at the request of Meccano boys. Its primary object is to bring boys together and to make them feel that they are all members of a great brotherhood, each trying to help others to get the very best out of life. Its members are in constant touch with Headquarters, giving news of their activities and being guided in their hobbies and interests. Write for full particulars and an application form to the Secretary, Meccano Guild, Binns Road, Liverpool 13.

Clubs founded and established under the guidance of the Guild Secretary provide Meccano boys with opportunities of enjoying to the utmost the fun of model-building. There are nearly 200 active clubs in Great Britain, and nearly 100 in countries overseas, each with its Leader, Secretary, Treasurer and other officials. With the exception of the Leader, all the officials are boys, and as far as possible the proceedings of the clubs are conducted by boys.

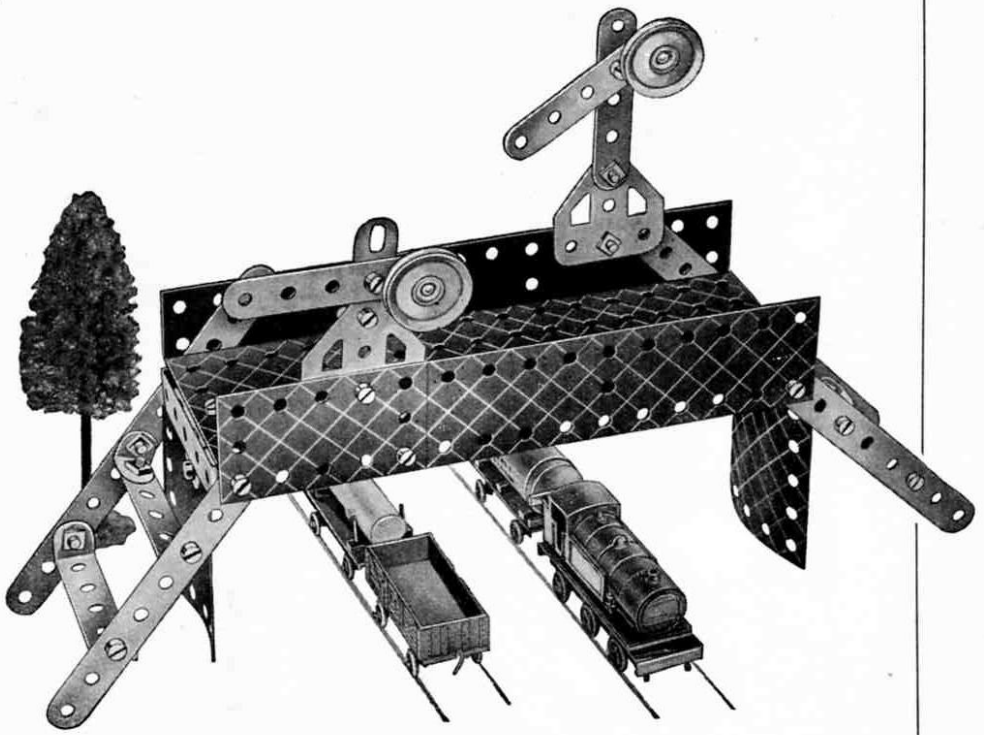
Recruiting Medallions are awarded to members who are successful in securing recruits for the Guild, and good work on behalf of Meccano clubs, or of the Guild generally, is recognised by the presentation of special Merit Medallions. Full particulars of both these awards will be sent post free on request.

THE FINEST HOBBY IN THE WORLD FOR BOYS

MECCANO SERVICE

The service of Meccano does not end with selling an Outfit and an Instruction Manual. If ever you are in any difficulty with your models, or if you want advice on anything connected with this great hobby, write to us. We receive every day hundreds of letters from boys in all parts of the world, and each of these is answered personally by one of our staff of experts. Whatever your problem may be, write to us about it.

2.1 RAILWAY FOOTBRIDGE



Parts required

4 of No. 2	2 of No. 22	1 of No. 52	2 of No. 188
6 „ „ 5	32 „ „ 37	2 „ „ 111c	2 „ „ 189
2 „ „ 10	2 „ „ 37a	2 „ „ 126	1 „ „ 190
6 „ „ 12	2 „ „ 48a	2 „ „ 126a	2 „ „ 200

The span of the bridge is a 5½"×2½" Flanged Plate, extended by a 2½"×2½" Flexible Plate. Trunnions are bolted to each end of the span, and have 1 11/16" radius Curved Plates fastened to them. The sides of the approach stairways are 5½" Strips. They are joined across by 2½"×½" Double Angle Strips and 2½" Strips fitted with Angle Brackets at each end.

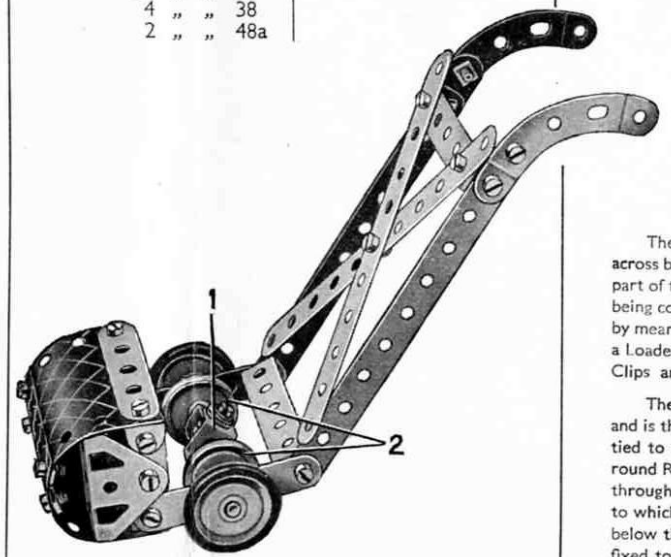
The signals are supported on Flat Trunnions bolted to the sides of the bridge. The smaller of the two signal posts is formed by two Flat Brackets, and the larger one is a 2½" Strip. The signal arms are 2½" Strips bolted to the posts in the second holes from one end. They are fitted at their shorter ends with 1" Pulleys, representing the spectacles, which are held in place by ⅜" Bolts passed through the Strips and inserted in their bosses.

2.2 LAWN MOWER

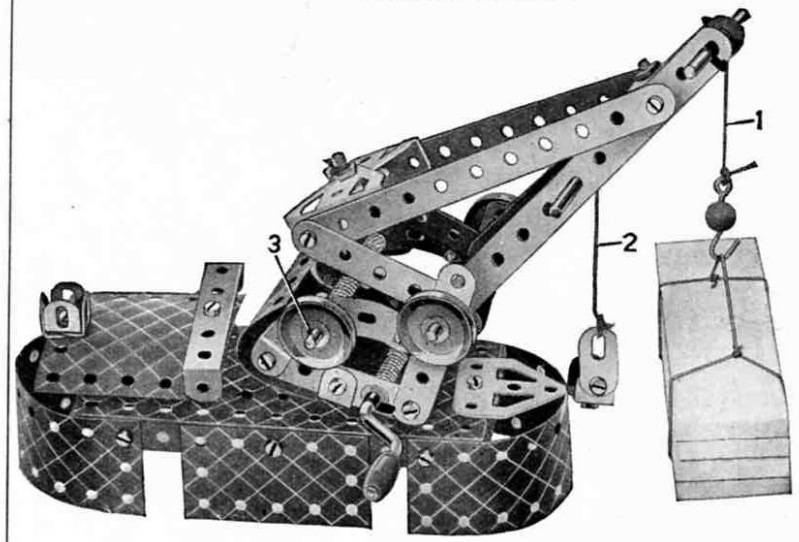
The " cutter " is made by bolting an Angle Bracket at each end of a Reversed Angle Bracket 1 and then sliding an Axle Rod through the free holes of the Brackets. The two Pulleys 2 are fixed to the Rod and pushed tightly against the " cutter" to make it rotate with the Rod as the wheels revolve. The wheels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

Parts required

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



2.3 FLOATING CRANE



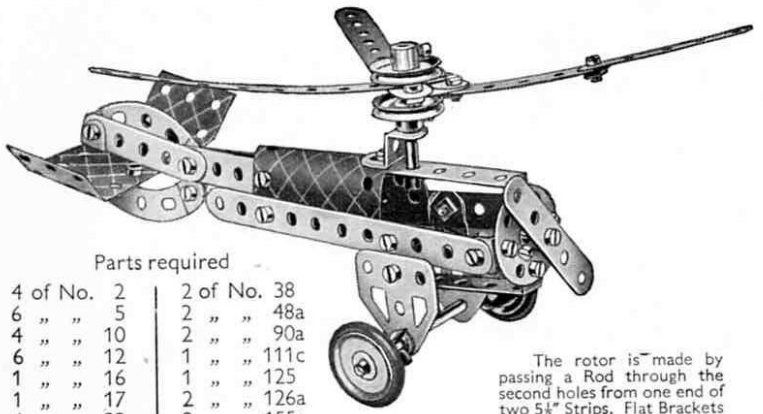
Parts required

4 of No. 2	4 of No. 22	2 of No. 48a	1 of No. 126a
6 „ „ 5	1 „ „ 24	1 „ „ 52	1 „ „ 176
3 „ „ 10	4 „ „ 35	1 „ „ 57c	2 „ „ 188
8 „ „ 12	29 „ „ 37	2 „ „ 90a	2 „ „ 189
2 „ „ 16	3 „ „ 37a	4 „ „ 111c	1 „ „ 199
2 „ „ 17	4 „ „ 38	1 „ „ 125	1 „ „ 200
1 „ „ 19g	1 „ „ 40	2 „ „ 126	

The jib consists of 5½" Strips and 2½" Strips. At its upper end these are joined across by Angle Brackets, and at its lower end by Trunnions. Each side of the lower part of the crane consists of 2½" Strips and small radius Curved Strips, the two sides being connected by 2½"×½" Double Angle Strips. The jib is pivoted to this structure by means of a 3½" Rod, which carries at each end a 1" Pulley. The Cord 1 fitted with a Loaded Hook, is passed over a 2" Rod held in place in the jib by means of Spring Clips and is then wound around the Crank Handle.

The Cord 2 passes over a Rod held in place in the jib by an Anchoring Spring, and is then wound around the Rod that forms the pivot for the jib. A third Cord is tied to a Bolt fastened in the two Trunnions at the base of the jib, and is wound round Rod 3. This Cord controls the luffing motion of the crane. A ⅜" Bolt passes through the Flanged Plate and is held by a set screw in the boss of the Bush Wheel to which the jib is fastened. The Bush Wheel is bolted to the Double Angle Strip below the Rod 3. The roof of the cabin is bolted to a ½" Reversed Angle Bracket fixed to the Flanged Plate.

2.4 AUTOGIRO



Parts required

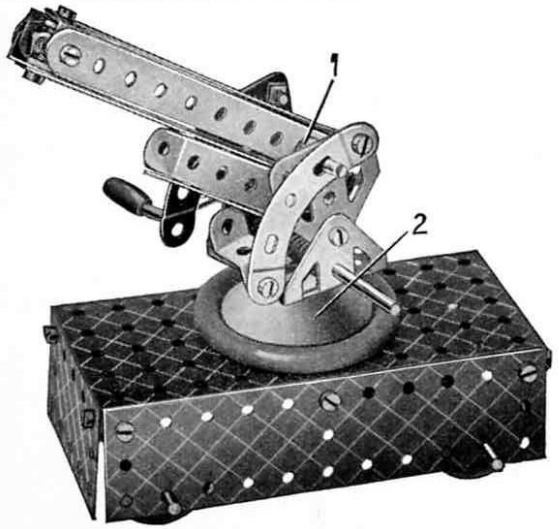
4 of No.	2	2 of No.	38
6 „ „	5	2 „ „	48a
4 „ „	10	2 „ „	90a
6 „ „	12	1 „ „	111c
1 „ „	16	1 „ „	125
1 „ „	17	2 „ „	126a
4 „ „	22	2 „ „	155a
1 „ „	24	2 „ „	188
3 „ „	35	1 „ „	199
25 „ „	37		

The rotor is made by passing a Rod through the second holes from one end of two 5½" Strips. Flat Brackets 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 „ „	155a
1 „ „	176
1 „ „	187
2 „ „	188
2 „ „	189

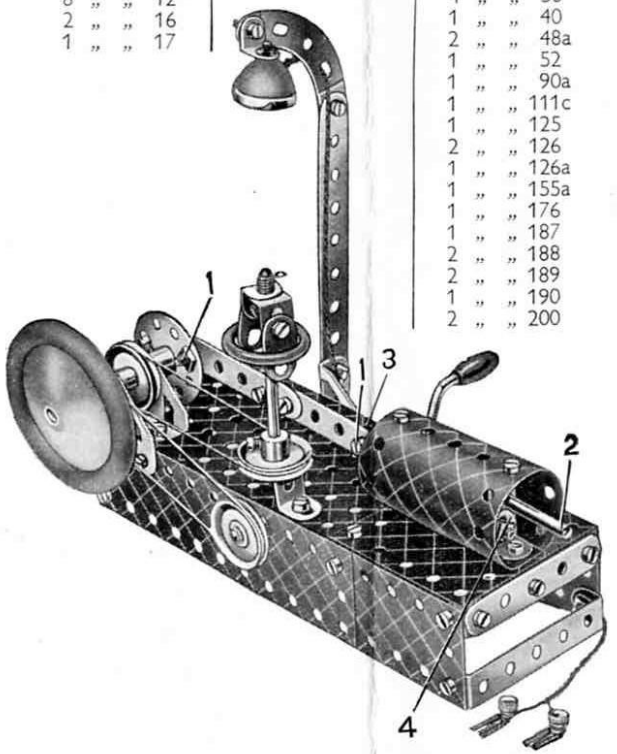


One end of a piece of Cord is fastened to the Crank Handle. It is wound round the Handle a few times and its other end is then fastened to the end of the gun. The two Trunnions are bolted to a Bush Wheel fixed on a 2" Rod that passes through the Road Wheel 2 and the Flanged Plate and is held in place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

2.6 GAS ENGINE

Parts required

1 of No.	2	1 of No.	19g	4 of No.	35
3 „ „	5	4 „ „	22	39 „ „	37
4 „ „	10	1 „ „	24	3 „ „	37a
8 „ „	12			4 „ „	38
2 „ „	16			1 „ „	40
1 „ „	17			2 „ „	48a
				1 „ „	52
				1 „ „	90a
				1 „ „	111c
				1 „ „	125
				2 „ „	126
				1 „ „	126a
				1 „ „	155a
				1 „ „	176
				1 „ „	187
				2 „ „	188
				2 „ „	189
				1 „ „	190
				2 „ „	200



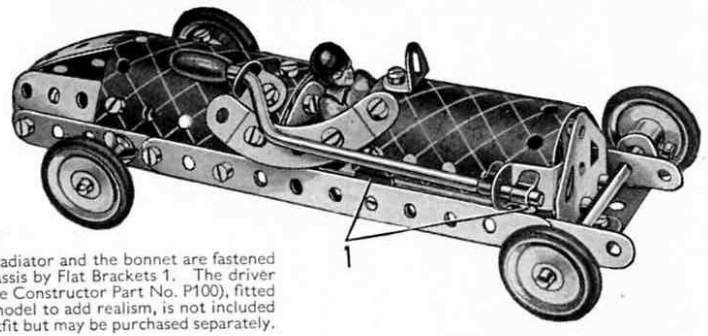
The bearings for the Rod representing the crankshaft are a Flat Trunnion and a Trunnion. The crankshaft carries a Road Wheel and a 1" Pulley at one end, a second 1" Pulley between the bearings, and a Bush Wheel at its other end.

The connecting rod is fastened to the Bush Wheel and to an Angle Bracket 3 by a lock-nutted Bolt 1. The Rod 2 is held in the Angle Bracket 3 by means of Spring Clips, one on each side. An Angle Bracket 4, carrying a Flat Bracket, is bolted inside the cylinder, and a similar arrangement is fitted at the other end. These form bearings for the Rod 2.

The model is operated by the Crank Handle, which carries also a 1" Pulley connected to one of the 1" Pulleys on the crankshaft by a belt of Cord. A second Cord drives the governor, which is mounted on a 3½" Rod journalled in the 5½ × 2½" Flanged Plate and a Reversed Angle Bracket.

The model is fitted with a Spotlight from the Meccano Lighting Set, current being supplied by a 4.5-volt pocket-lamp battery housed in the base of the model.

2.7 RACING CAR

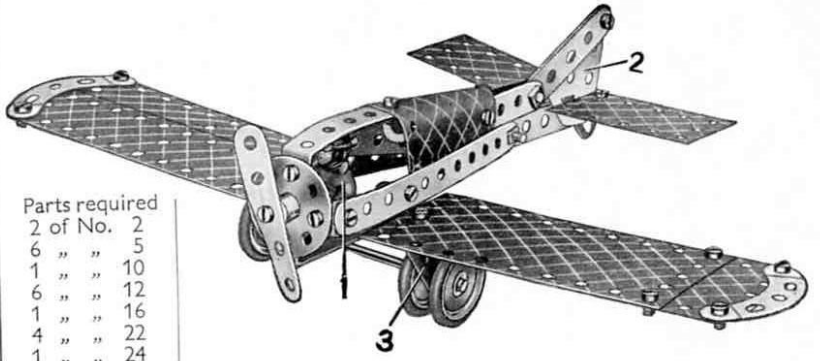


The radiator and the bonnet are fastened to the chassis by Flat Brackets 1. The driver (Aeroplane Constructor Part No. P100), fitted into the model to add realism, is not included in the Outfit but may be purchased separately.

Parts required

4 of No.	2	1 of No.	19g	2 of No.	38	1 of No.	126a
5 „ „	5	4 „ „	22	1 „ „	48a	4 „ „	155a
4 „ „	10	4 „ „	35	2 „ „	90a	1 „ „	199
8 „ „	12	30 „ „	37	1 „ „	125	1 „ „	200
2 „ „	16	1 „ „	37a	1 „ „	126		

2.8 LOW WING MONOPLANE

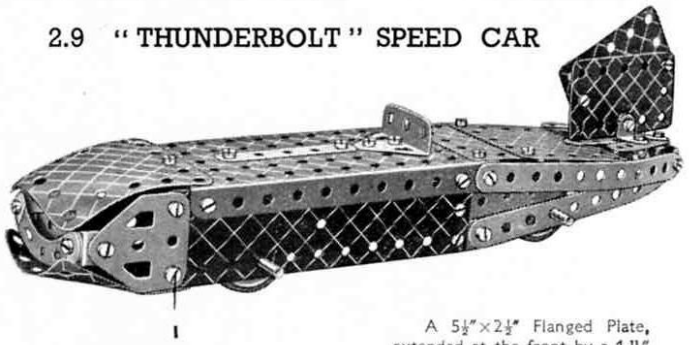


Parts required

2 of No.	2	2 of No.	126	2 of No.	189
6 „ „	5	1 „ „	126a	1 „ „	190
1 „ „	10	4 „ „	155a	1 „ „	191
6 „ „	12	2 „ „	188	1 „ „	199
1 „ „	16				
4 „ „	22				
1 „ „	24				
23 „ „	37				
2 „ „	37a				
2 „ „	38				
2 „ „	48a				
2 „ „	90a				
3 „ „	111c				

The pilot 1 (Aeroplane Constructor Part No. P100) is not included in the Outfit, but may be bought separately. The fin 2 is a Flat Trunnion, and it is clamped between the two 2½" Strips. The bearings 3 for the axle of the landing wheels are Trunnions, bolted to the wings. The wings are attached to the fuselage by Angle Brackets.

2.9 "THUNDERBOLT" SPEED CAR

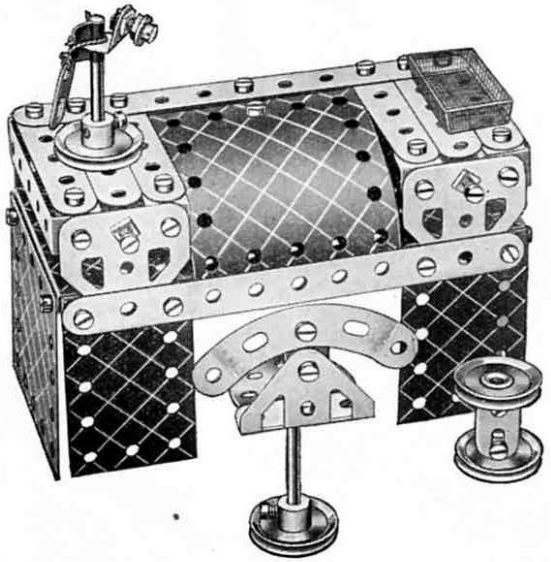


Parts required

4 of No.	2	1 of No.	52
6 „ „	5	2 „ „	90a
2 „ „	10	1 „ „	126
4 „ „	12	2 „ „	126a
2 „ „	16	4 „ „	155a
4 „ „	22	2 „ „	188
39 „ „	37a	2 „ „	189
39 „ „	37b	2 „ „	190
4 „ „	38	2 „ „	200
2 „ „	48a		

A 5½"×2½" Flanged Plate, extended at the front by a 1 11/16" radius Curved Plate and at the rear by two 2½"×2½" Flexible Plates, forms the top of the car. The rear part of each side is formed by two 5½" Strips and a 2½" Strip, the former being connected together at the tail by Angle Brackets. Bolts 1 hold a 2½"×½" Double Angle Strip that carries the 1 11/16" radius Curved Plate forming the underside of the front cowling.

2.10 ROLL TOP DESK



Parts required

2 of No.	2
6 „ „	5
4 „ „	10
7 „ „	12
2 „ „	17
4 „ „	22
1 „ „	24
3 „ „	35
38 „ „	37
5 „ „	37a
1 „ „	38
2 „ „	48a
1 „ „	52
1 „ „	90a
3 „ „	111c
1 „ „	126
2 „ „	126a
2 „ „	188
1 „ „	189
2 „ „	190
1 „ „	200

2.11 TRAVELLING CRANE

Parts required

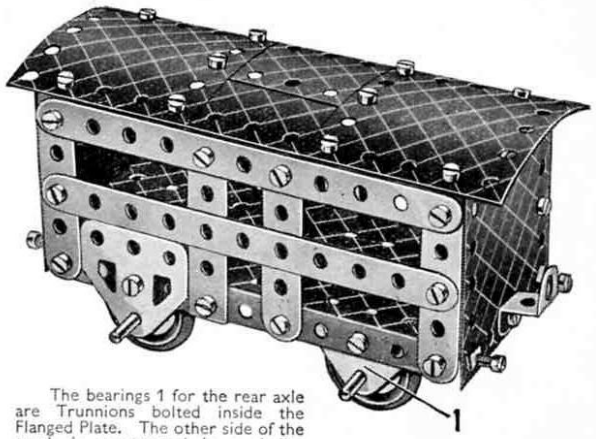
4 of No.	2	1 of No.	19g	3 of No.	38	2 of No.	111c
6 „ „	5	4 „ „	22	1 „ „	40	2 „ „	126
4 „ „	10	1 „ „	24	2 „ „	48a	2 „ „	126a
6 „ „	12	4 „ „	35	1 „ „	52	1 „ „	176
2 „ „	16	38 „ „	37	1 „ „	57c	1 „ „	187
2 „ „	17	2 „ „	37a	2 „ „	90a	2 „ „	188
2 of No. 189				1 of No. 200			

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 2½"×½" 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.

2.12 CATTLE TRUCK

Parts required

4 of No.	2
6 „ „	5
4 „ „	10
5 „ „	12
2 „ „	16
4 „ „	22
38 „ „	37
8 „ „	37a
4 „ „	38
2 „ „	48a
1 „ „	52
4 „ „	111c
1 „ „	125
2 „ „	126
2 „ „	126a
4 „ „	155a
2 „ „	188
2 „ „	190
2 „ „	200



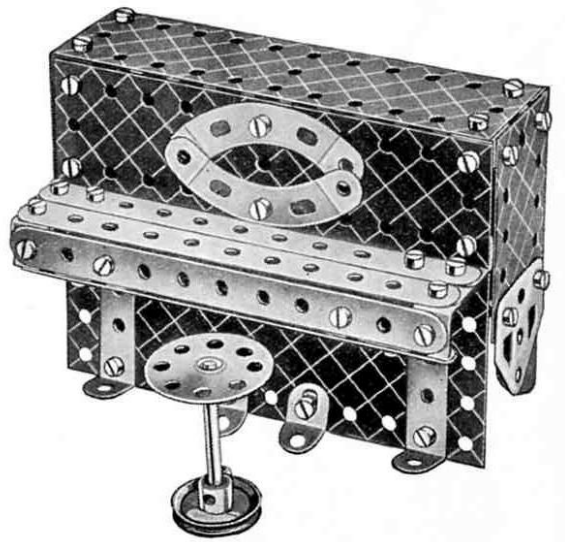
The bearings 1 for the rear axle are Trunnions bolted inside the Flanged Plate. The other side of the truck is constructed in a similar manner to the side shown in the illustration.

2.13 PIANO

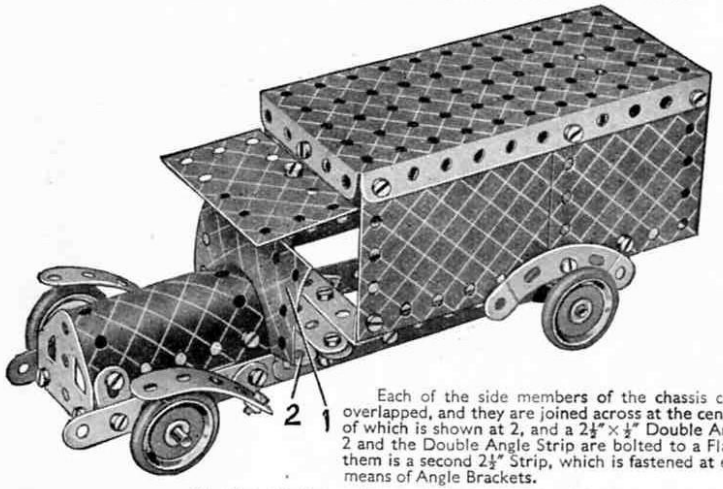
A 5½"×2½" Flanged Plate is used for the upper part of the back and to each end of this a 2½" Strip is bolted to form the rear legs.

Parts required

4 of No.	2
4 „ „	5
4 „ „	10
8 „ „	12
1 „ „	17
1 „ „	22
1 „ „	24
38 „ „	37
4 „ „	38
2 „ „	48a
1 „ „	52
2 „ „	90a
2 „ „	126
2 „ „	126a
2 „ „	188
2 „ „	189
1 „ „	190
1 „ „	191



2.14 MOTOR VAN



Each of the side members of the chassis consists of two 5½" Strips overlapped, and they are joined across at the centre by two 2½" Strips, one of which is shown at 2, and a 2½"×½" Double Angle Strip. The 2½" Strip 2 and the Double Angle Strip are bolted to a Flat Trunnion and between them is a second 2½" 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.

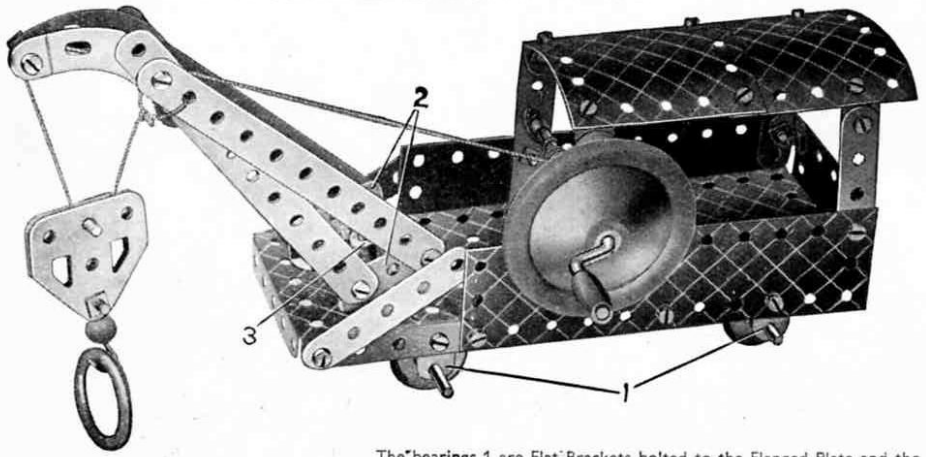
Parts required

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

2.15 RAILWAY BREAKDOWN CRANE

Parts required

4	of No. 2
6	„ „ 5
4	„ „ 10
3	„ „ 12
2	„ „ 16
1	„ „ 17
1	„ „ 19g
4	„ „ 22
1	„ „ 24
2	„ „ 35
39	„ „ 37
3	„ „ 37a
3	„ „ 38
1	„ „ 40
2	„ „ 48a
1	„ „ 52
1	„ „ 57c
2	„ „ 90a
3	„ „ 111c
2	„ „ 126
2	„ „ 126a
1	„ „ 155a
1	„ „ 176
1	„ „ 187
1	of No. 188
2	„ „ 189
1	„ „ 190
2	„ „ 200

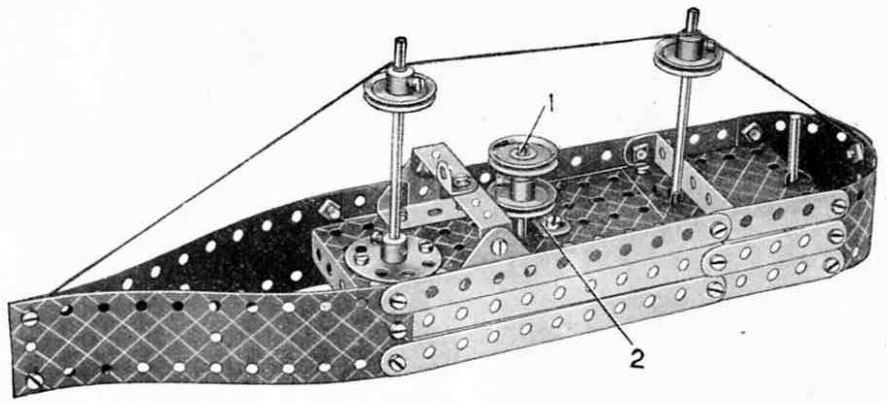


The bearings 1 are Flat Brackets bolted to the Flanged Plate and the Flexible Plates respectively. The jib is fastened to two Trunnions 2, which are bolted to the Bush Wheel 3. A 2" Rod is secured in the boss of the Bush Wheel 3. It then passes through a hole in the Flanged Plate, and is held in position by a Spring Clip underneath the Plate.

2.16 STEAMSHIP

Parts required

4	of No. 2
6	„ „ 5
1	„ „ 12
2	„ „ 16
2	„ „ 17
4	„ „ 22
1	„ „ 24
4	„ „ 35
34	„ „ 37
1	„ „ 40
2	„ „ 48a
1	„ „ 52
1	„ „ 125
2	„ „ 126
2	„ „ 188
2	„ „ 189
1	„ „ 190

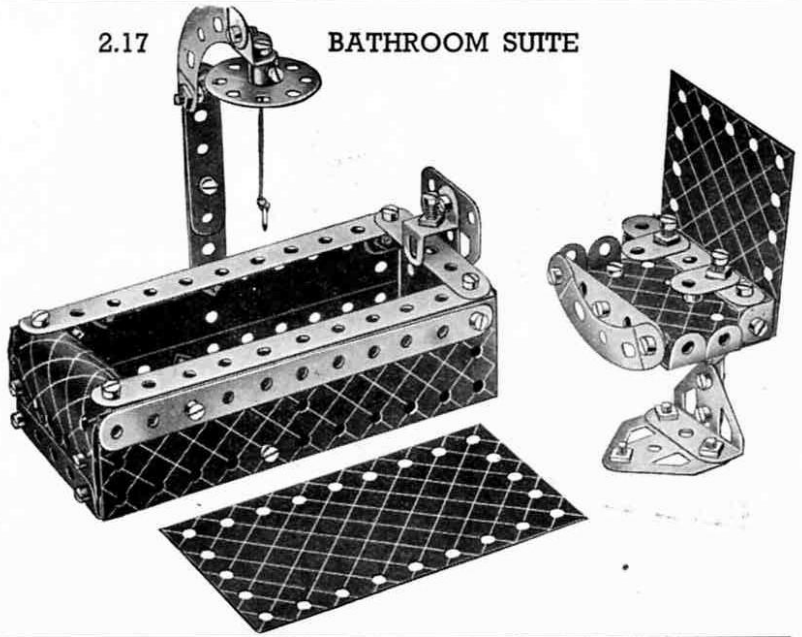


The deck of the model is a 5½"×2½" Flanged Plate extended by a 2½"×2½" Flexible Plate. A 2½"×½" Double Angle Strip fitted with an Angle Bracket represents the bridge, and it is supported by two Trunnions bolted to the deck. The funnel consists of a Rod 1 fitted with two 1" fast Pulleys. The Rod passes through the hole in a Reversed Angle Bracket 2 and then through the Flanged Plate.

2.17 BATHROOM SUITE

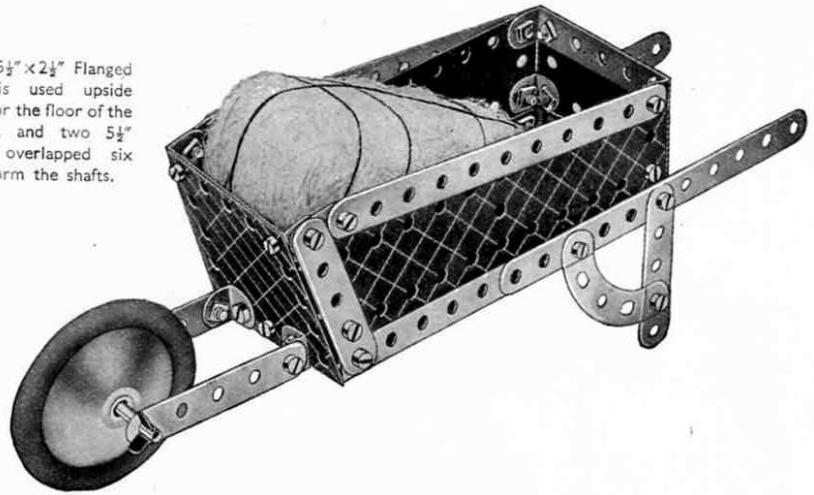
Parts required

4	of No. 2
6	„ „ 5
4	„ „ 10
8	„ „ 12
1	„ „ 24
40	„ „ 37
6	„ „ 37a
2	„ „ 38
2	„ „ 48a
1	„ „ 52
2	„ „ 90a
4	„ „ 111c
1	„ „ 125
2	„ „ 126
2	„ „ 126a
2	„ „ 188
2	„ „ 189
1	„ „ 190
1	„ „ 191
1	„ „ 199
1	„ „ 200



2.18 WHEELBARROW

A 5½" × 2½" Flanged Plate is used upside down for the floor of the barrow, and two 5½" Strips overlapped six holes form the shafts.



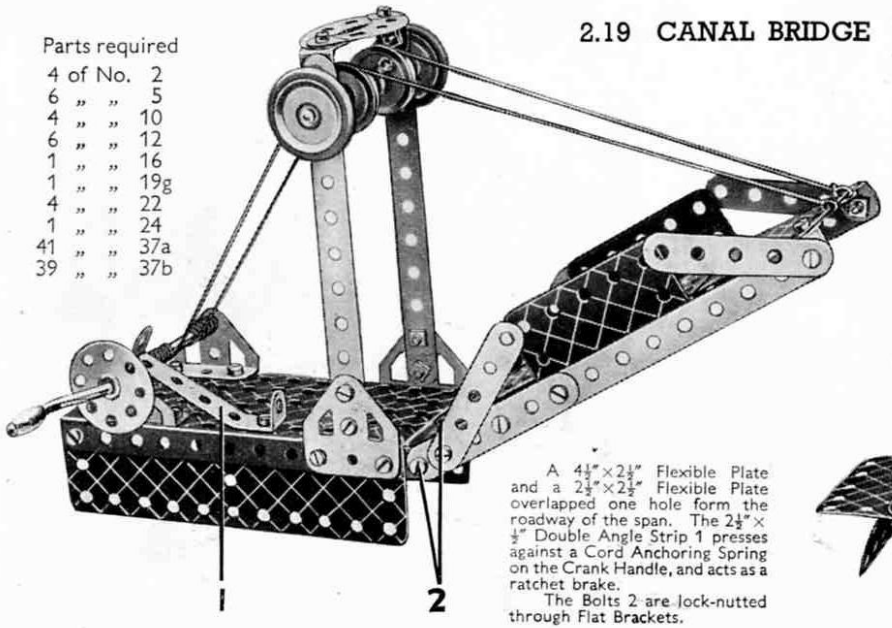
Parts required

4	of No.	2
6	„ „	5
2	„ „	10
4	„ „	12
1	„ „	17
2	„ „	35
29	„ „	37
2	„ „	48a
1	„ „	52
2	„ „	90a
1	„ „	187
1	„ „	188
2	„ „	189
1	„ „	190

2.19 CANAL BRIDGE

Parts required

4	of No.	2
6	„ „	5
4	„ „	10
6	„ „	12
1	„ „	16
1	„ „	19g
4	„ „	22
1	„ „	24
41	„ „	37a
39	„ „	37b



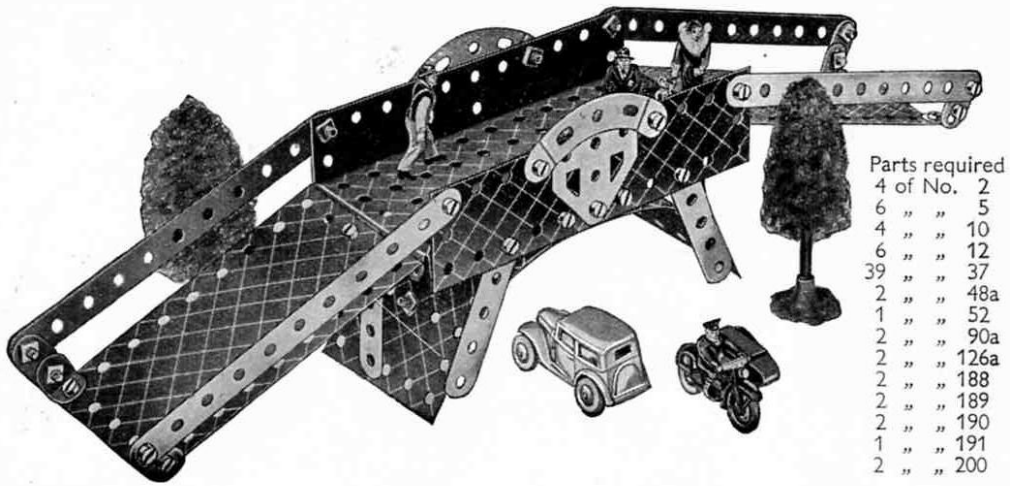
A 4½" × 2½" Flexible Plate and a 2½" × 2½" Flexible Plate overlapped one hole form the roadway of the span. The 2½" × ½" Double Angle Strip 1 presses against a Cord Anchoring Spring on the Crank Handle, and acts as a ratchet brake.

The Bolts 2 are lock-nutted through Flat Brackets.

Parts required (continued)

2	of No.	38
2	„ „	48a
1	„ „	52
2	„ „	90a
2	„ „	126
2	„ „	126a
2	„ „	155a
1	„ „	176
2	„ „	188
2	„ „	189
2	„ „	190
1	„ „	191
1	„ „	199
1	„ „	200

2.20 ROAD BRIDGE



Parts required

4	of No.	2
6	„ „	5
4	„ „	10
6	„ „	12
39	„ „	37
2	„ „	48a
1	„ „	52
2	„ „	90a
2	„ „	126a
2	„ „	188
2	„ „	189
2	„ „	190
1	„ „	191
2	„ „	200

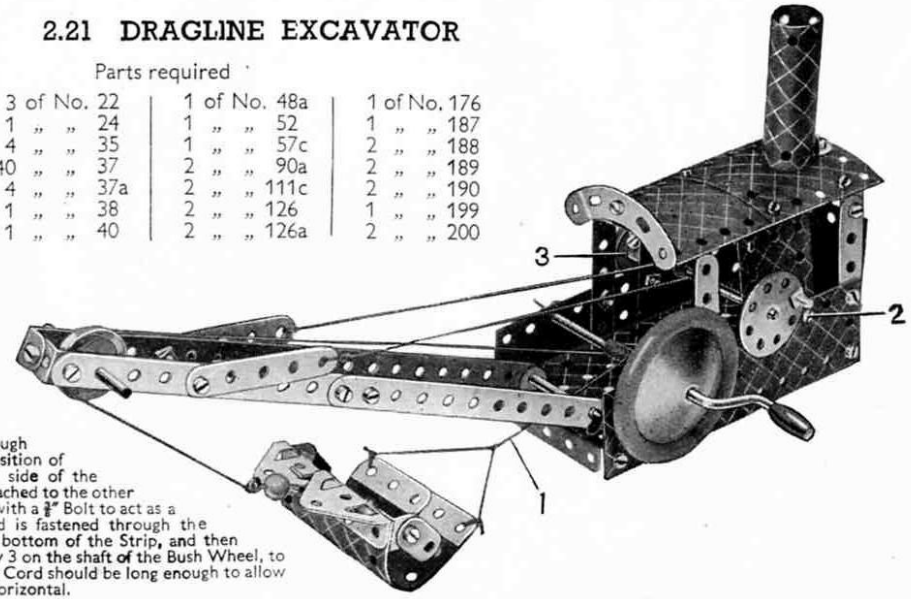
2.21 DRAGLINE EXCAVATOR

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

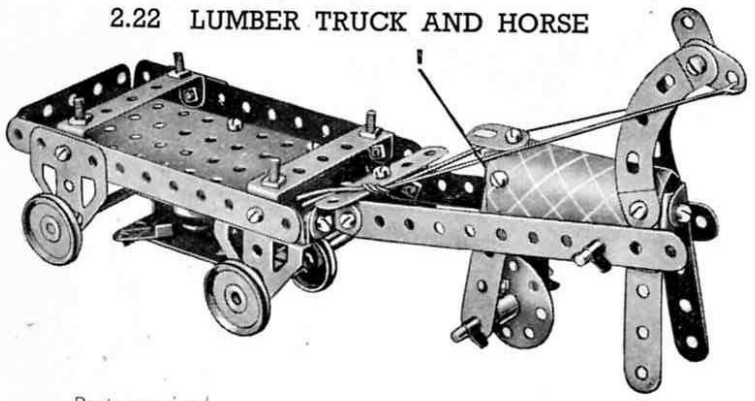
The **Cord 1** is wound round the Crank Handle about 12 times then one end of it is fastened to a small Loaded Hook and the other end to the Cord on the bucket.

A Curved Strip is pivoted by a ¾" 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 ¾" 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 greatest thrill in Meccano model-building is experienced when a model is set to work by means of a Meccano Motor. The illustrations below show how the Meccano *Magic* Motor can be fitted without any difficulty to No. 2 Outfit models of various types. Fit the model you have just built with one of these wonderful Motors, and enjoy the fun of watching it work just like the real thing.

2.22 LUMBER TRUCK AND HORSE

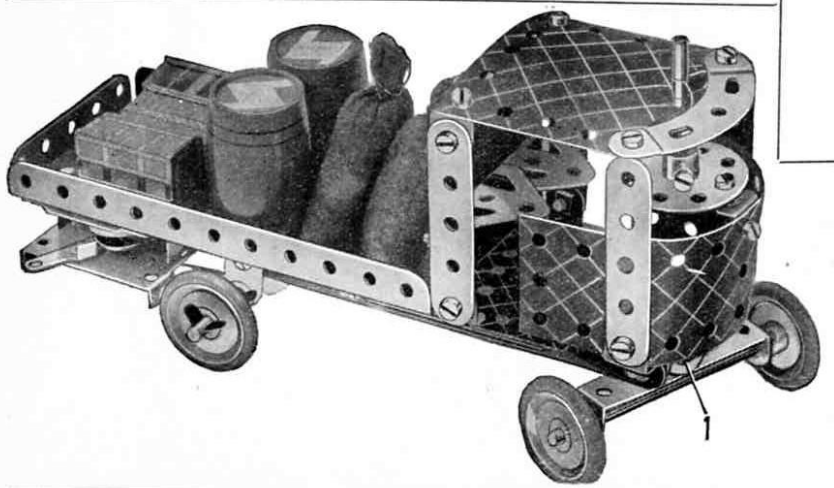


Parts required

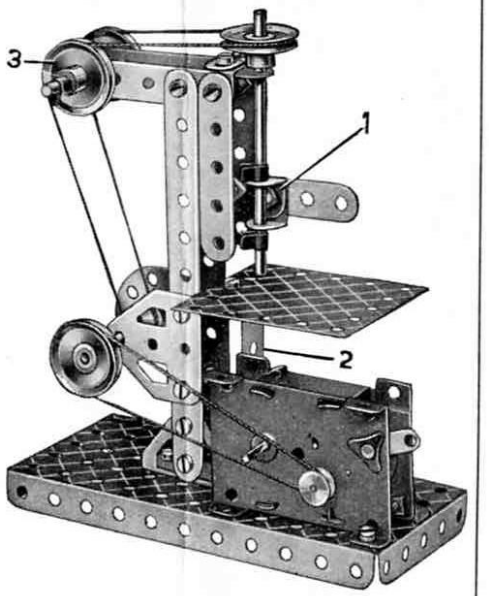
4 of No.	2	4 of No.	37a
5 „ „	5	2 „ „	48a
3 „ „	10	1 „ „	52
5 „ „	12	2 „ „	90a
2 „ „	16	4 „ „	111c
2 „ „	17	2 „ „	126
4 „ „	22	2 „ „	126a
1 „ „	24	4 „ „	155a
4 „ „	35	1 „ „	199
23 „ „	37	1 *Magic* Motor	

A *Magic* Motor is mounted beneath the cart and the Driving Band is taken from the pulley on the Motor to a ½" fast Pulley (supplied with the Motor) fastened on the 3½" 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.



2.23 DRILLING MACHINE



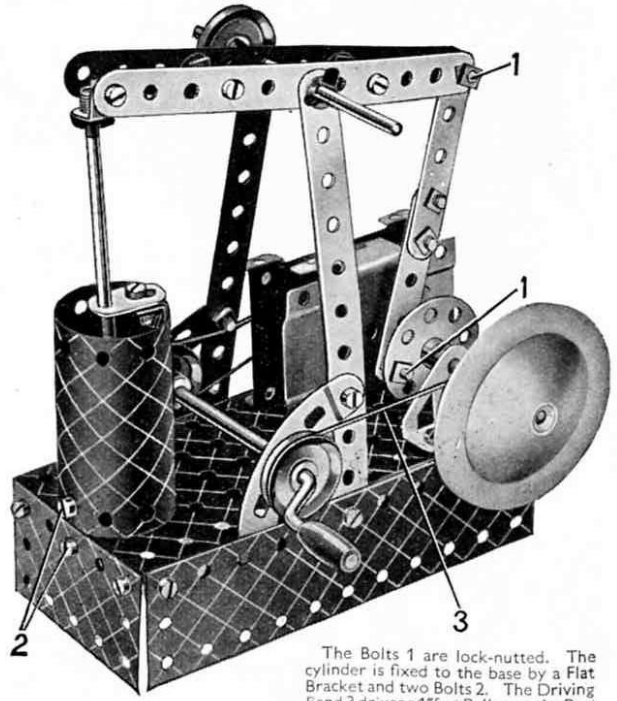
Parts required

2 of No.	2
5 „ „	5
1 „ „	10
5 „ „	12
1 „ „	16
2 „ „	17
4 „ „	22
1 „ „	24
4 „ „	35
22 „ „	37
2 „ „	37a
1 „ „	40
1 „ „	48a
1 „ „	52
1 „ „	111c
2 „ „	126
2 „ „	126a
1 „ „	190
1 *Magic* Motor	

The horizontal 2½" Strips at the top of the drill are joined together and also to the vertical 2½" Strips, by means of Angle Brackets. The lower bearings 1 are two Angle Brackets bolted to a 2½" Strip, and the Rod forming the drill is journalled in these, and in a Flat Bracket at its upper end. A 2½"×2½" Flexible Plate is supported by a Double Angle Strip 2, and represents the table.

The drive is taken from the Motor to the 1" Pulley on the lower shaft. A second Driving Band passes round the ½" fast Pulley supplied with the Motor, round the two Pulleys at 3, and finally round the 1" Pulley fastened on the vertical drill shaft.

2.24 BEAM ENGINE



Parts required

4 of No.	2
2 „ „	5
2 „ „	10
6 „ „	12
2 „ „	16
1 „ „	17
1 „ „	19g
4 „ „	22
1 „ „	24
4 „ „	35
31 „ „	37
4 „ „	37a
4 „ „	38
1 „ „	52
2 „ „	90a
2 „ „	111c
1 „ „	126
1 „ „	126a
1 „ „	176
1 „ „	187
2 „ „	188
2 „ „	189
1 „ „	191
1 *Magic* Motor	

The Bolts 1 are lock-nutted. The cylinder is fixed to the base by a Flat Bracket and two Bolts 2. The Driving Band 3 drives a 1" fast Pulley on the Rod on which the Road Wheel is fastened.

2.25 STEAM WAGON

Parts required

2 of No.	2	4 of No.	35	2 of No.	126
6 „ „	5	31 „ „	37	4 „ „	155a
2 „ „	10	1 „ „	37a	1 „ „	188
8 „ „	12	4 „ „	38	1 „ „	189
2 „ „	16	2 „ „	48a	1 „ „	190
1 „ „	17	1 „ „	52	1 „ „	200
4 „ „	22	1 „ „	90a	1 *Magic* Motor	
1 „ „	24	1 „ „	125		

The front axle is carried in a 2½"×½" Double Angle Strip that is pivoted to a Reversed Angle Bracket fastened to a 2½" Strip below the cab by means of the lock-nutted Bolt 1, which is tightened up sufficiently to hold the two front wheels in position when running along. The rear axle is a 3½" Rod and it carries a ½" fast Pulley supplied with the *Magic* Motor

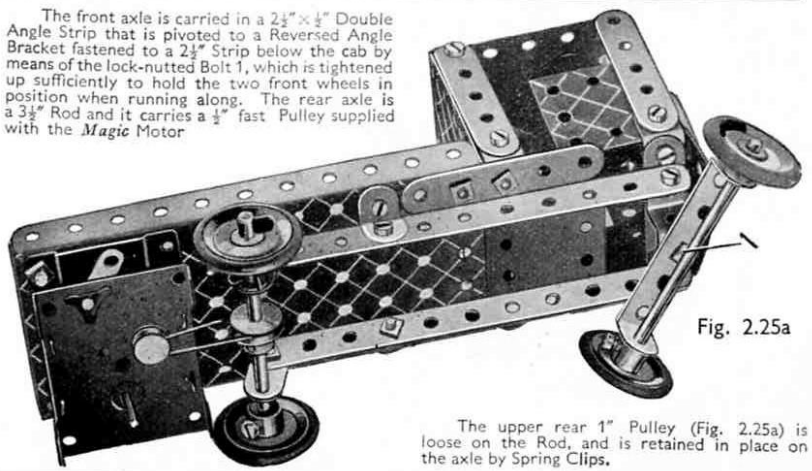


Fig. 2.25a

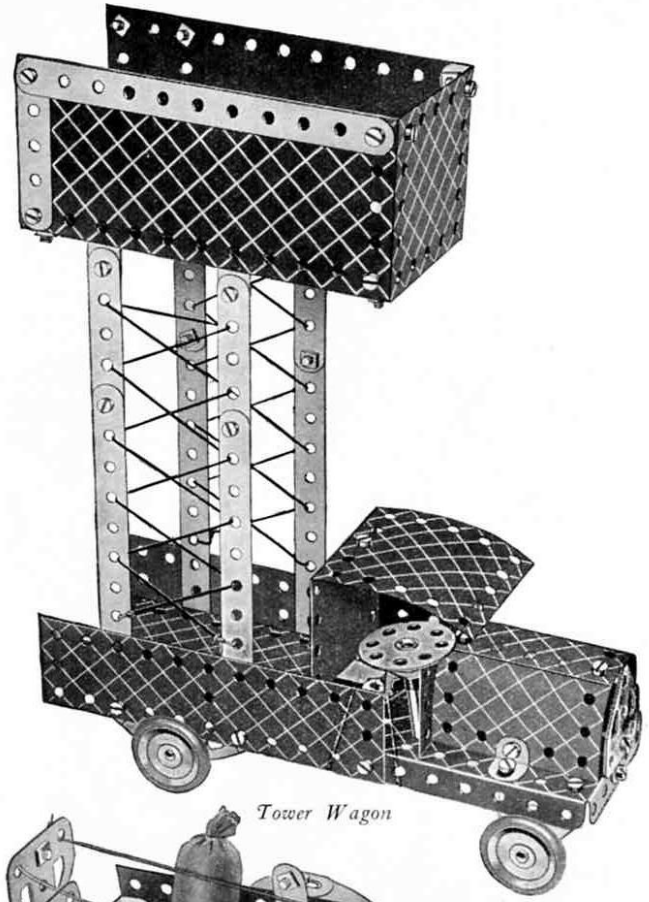
The upper rear 1" Pulley (Fig. 2.25a) is loose on the Rod, and is retained in place on the axle by Spring Clips.

BUILD BIGGER AND BETTER MODELS

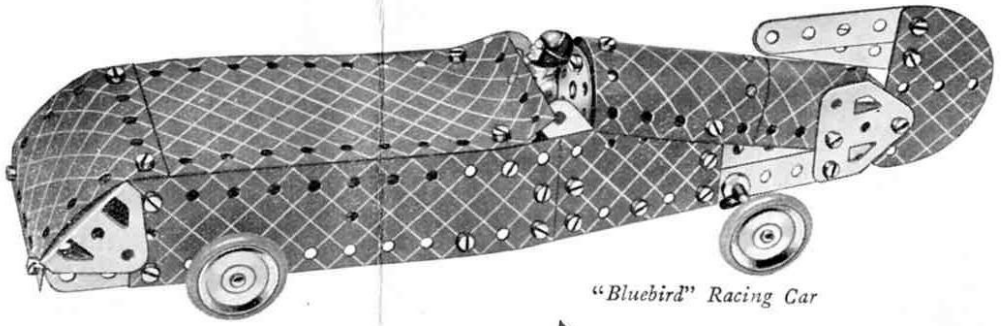
When you have built all the models shown in this Manual you will be keen to build bigger and more elaborate models. Your next step is to purchase a Meccano No. 2a Accessory Outfit containing all the parts required to convert your No. 2 into a No. 3 Outfit. You will then be able to build the full range of No. 3 Outfit models, a selection of which is illustrated on this page.

If you prefer to do so, you can build up and develop your Outfit quite easily by adding various parts to it from time to time. The model-building possibilities of the Meccano System are limitless, and the more Meccano parts you have the bigger and better the models you will be able to build.

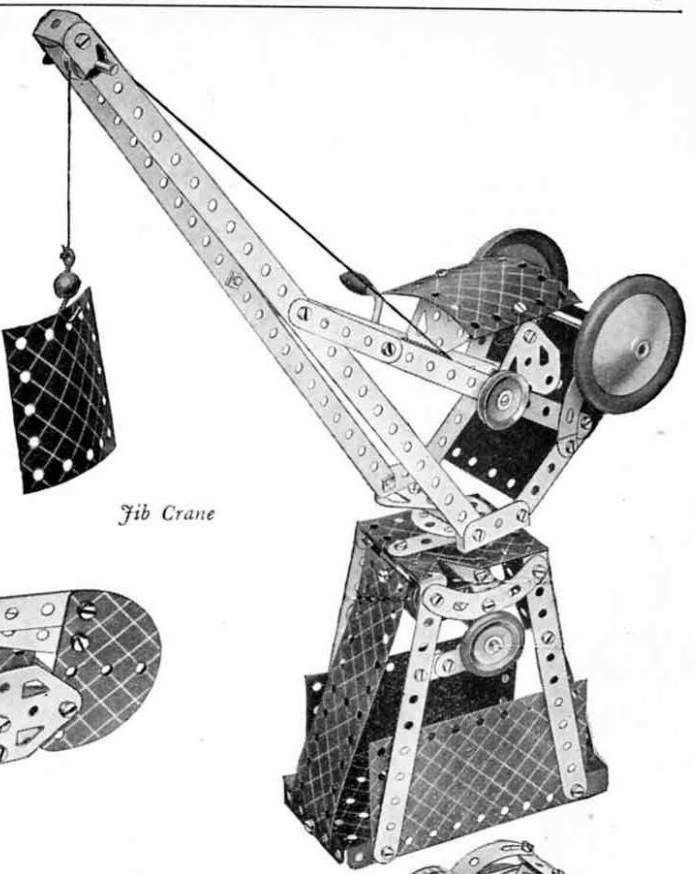
Ask your dealer to post to you regularly the latest Meccano parts lists and other Meccano literature.



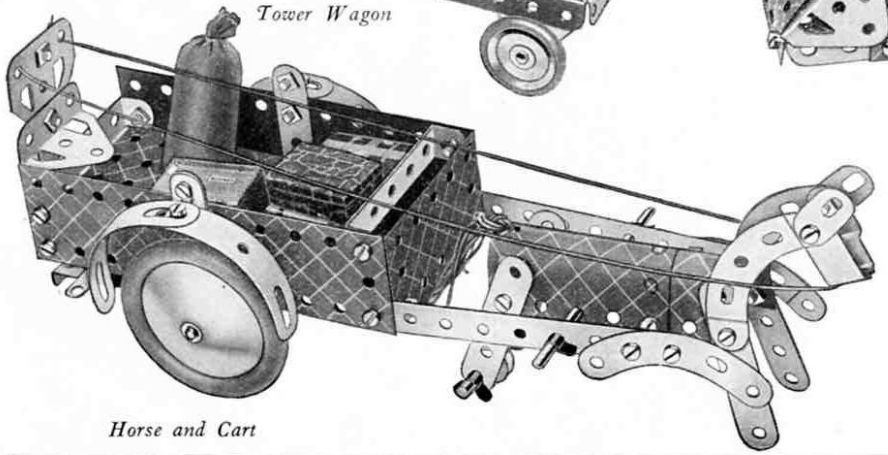
Tower Wagon



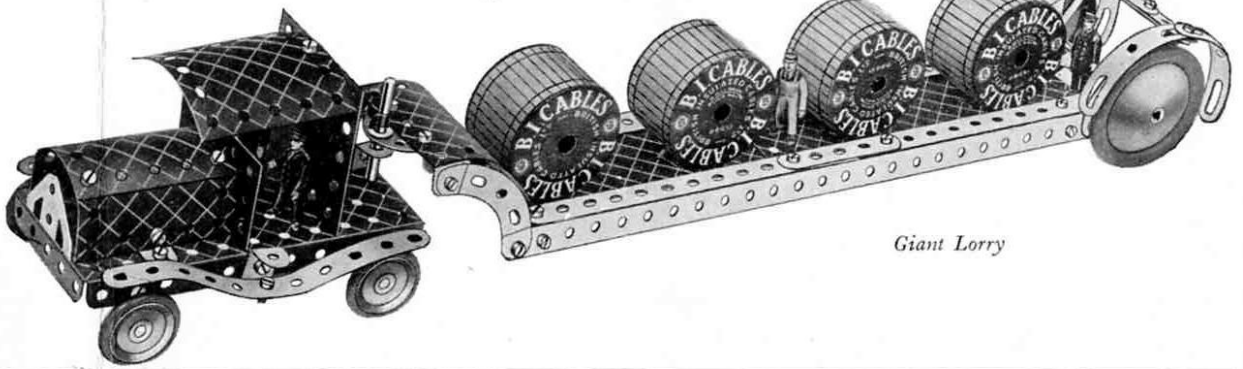
"Bluebird" Racing Car



Jib Crane



Horse and Cart



Giant Lorry

MECCANO PARTS

3

Perforated Strips

No.		No.	
1.	12½"	3.	3½"
1a.	9½"	4.	3"
1b.	7½"	5.	2½"
2.	5½"	6.	2"
2a.	4½"	6a.	1½"

9B

Angle Girders

7.	24½"	9a.	4½"
7a.	18½"	9b.	3½"
8.	12½"	9c.	3"
8a.	9½"	9d.	2½"
8b.	7½"	9e.	2"
9.	5½"	9f.	1½"

10 11 12

10. Flat Brackets
11. Double Brackets
12. Angle Brackets, ½"×½"
12a. " " 1"×1"
12b. " " 1"×½"
12c. Obtuse Angle Brackets, ½"×½"

Axle Rods

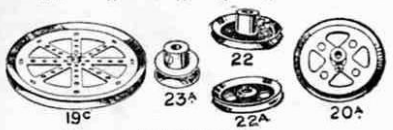
13.	11½"	16.	3½"
13a.	8"	16a.	2½"
14.	6½"	16b.	3"
15.	5"	17.	2"
15a.	4½"	18a.	1½"
15b.	4"	18b.	1"

19h

19g. Crank Handles, 3½" with Erinoid grip
19h. " " 5" " "
19s. " " 3½" without "

20 20a

19a. Wheels, 3" diam., with set-screws
20. Flanged Wheels, 1½" diam.
20b. " " ¾" "



19c 23A 22 22A 20A

Pulley Wheels

19b. 3" diam. with centre boss & set-screw
19c. 6" " " " "
20a. 2" " " " "
21. 1½" " " " "
22. 1" " " " "
23a. ½" " " " and grub-screw
22a. 1" " without " " "
23. ½" " " " " "

24. Bush Wheels

26B

No.		
25.	Pinion Wheels, ¾" diam., ¼" face	
25a.	" " " "	"
25b.	" " " "	"
26.	" " " "	"
26a.	" " " "	"
26b.	" " " "	"

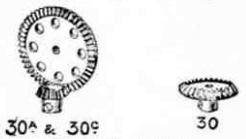
27 27A 27B

Gear Wheels

27. 50 teeth, to gear with ¾" pinion
27a. 57 " " " ½" "
27b. 133 " " " ½" "(3½" diam.)
27c. 95 " " " ½" "(2½" diam.)

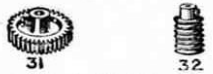
28 29

28. Contrate Wheels, 1¼" diam.
29. " " ¾" "



30A & 30C 30

30. Bevel Gears, ⅞", 26 teeth
30a. " " ½", 16 " } Can only be
30c. " " 1½", 48 " } used together



31 32

31. Gear Wheels, 1", 38 teeth
32. Worms

34B

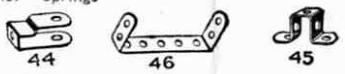
34. Spanners
34b. Box Spanners

35

35. Spring Clips ... ... box of 20
35s. " " ... ... box of 60
36. Screwdrivers
36a. " Extra Long
36b. " Special
37. Nuts and Bolts, 3/32" ... box of 12
37af. Nuts ... ... box of 50
37bf. Bolts, 3/32" ... box of 50
37f. Nuts and Bolts, 3/32" ... box of 50
37g. " " 3/32" ... box of 144
38. Washers ... ... pkt. of 20
38s. " ... ... box of 60
40. Hanks of Cord

41. Propeller Blades

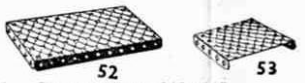
No.
43. Springs



44 46 45

44. Cranked Bent Strips
45. Double " "
46. Double Angle Strips, 2½"×1"
47. " " " 2½"×1½"
47a. " " " 3½"×1½"
48. " " " 1⅛"×½"
48a. " " " 2½"×½"
48b. " " " 3½"×½"
48c. " " " 4½"×½"
48d. " " " 5½"×½"

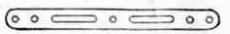
50a. Eye Pieces, with boss



52 53

51. Flanged Plates, 2½"×1½"
52. " " 5½"×2½"
52a. Flat Plates, 5½"×3½"
53. Flanged Plates, 3½"×2½"
53a. Flat Plates, 4½"×2½"

54a. Flanged Sector Plates, 4½" long



55. Perforated Strips, slotted, 5½" long
55a. " " " 2" long

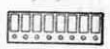
57B 57A 57

57. Hooks
57a. " Scientific
57b. " Loaded, Large
57c. " Loaded, Small

58 58B

58. Spring Cord, 40" Length
58a. Coupling Screws for Spring Cord
58b. Hooks for Spring Cord

59. Collars, with grub-screws



61. Windmill Sails

62 62B

No.
62. Cranks
62a. Threaded Cranks
62b. Double Arm Cranks

63 63A 63B 63C

63. Couplings
63a. Octagonal Couplings
63b. Strip Couplings
63c. Threaded Couplings

64 65

64. Threaded Bosses
65. Centre Forks

66 & 67

66. Weights, 50 grammes
67. " 25 "
68. Woodscrews, ¼"
69. Set Screws
69a. Grub Screws, 3/16"
69b. " " 3/8"
69c. " " 1/4"

76 72 77

70. Flat Plates, 5½"×2½"
72. " " 2½"×2½"
73. " " 3" ×1½"
76. Triangular Plates, 2½"
77. " " 1"

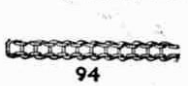
80A

Screwed Rods

78.	11½"	80b.	4½"
79.	8"	80c.	3"
79a.	6"	81.	2"
80.	5"	82.	1"
80a.	3½"		

90

89. 5½" Curved Strips, 10" radius
89a. 3" " " cranked, 1½" radius 4 to circle
89b. 4" Curved Strips, cranked, 4½" radius, 8 to circle
90. 2½" Curved Strips, 2⅜" radius
90a. 2½" " " cranked, 1⅛" radius, 4 to circle

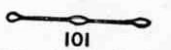


94 95B

94. Sprocket Chain, per 40" length
95. " Wheels, 36 teeth, 2" diam.
95a. " " 28 " 1½" "
95b. " " 56 " 3" "
96. " " 18 " 1" "
96a. " " 14 " ¾" "

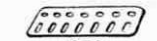
99

No.			
	Braced Girders		
97.	3½" long	99a.	9½" long
97a.	3" "	99b.	7½" "
98.	2½" "	100.	5½" "
99.	12½" "	100a.	4½" "



101 102

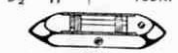
101. Healds, for looms
102. Single Bent Strips



103D

Flat Girders

103.	5½" long	103e.	3" long
103a.	9½" "	103f.	2½" "
103b.	12½" "	103g.	2" "
103c.	4½" "	103h.	1½" "
103d.	3½" "	103k.	7½" "

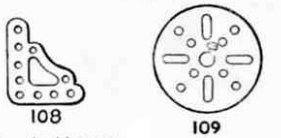


104

104. Shuttles, for looms
105. Reed Hooks, for looms

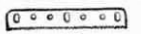
106 106A

106. Wood Rollers
106a. Sand Rollers
107. Tables for designing machines



108 109

108. Architraves
109. Face Plates, 2½" diam.



110

110. Rack Strips, 3½" long
110a. " 6½" "
111. Bolts, ¾" 111c. Bolts, ¾"
111a. " ½" 111d. " 1½"

113

113 Girder Frames

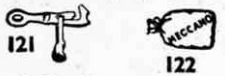
114 115 116A

114. Hinges
115. Threaded Pins
116. Fork Pieces, Large
116a. " " Small
117. Steel Balls, ⅜" diam.

118. Hub Discs, 5½" diam.

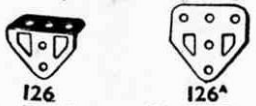
MECCANO PARTS

No.
120. Buffers 120a. Spring Buffers
120b. Compression Springs



121. Train Couplings
122. Miniature Loaded Sacks

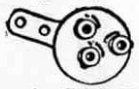
123. Cone Pulleys
124. Reversed Angle Brackets, 1"
125. " " " ½"



126. Trunnions 126a. Flat Trunnions

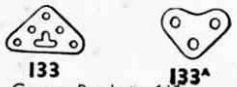
127. Simple Bell Cranks
128. Boss Bell Cranks

129. Rack Segments, 3" diam.



130. Eccentrics, Triple Throw

131. Dredger Buckets
132. Flywheels, 2½" diam.



133. Corner Brackets, 1½"
133a. " " 1"

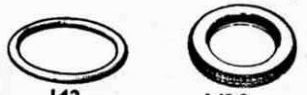
134. Crank Shafts, 1" stroke
135. Theodolite Protractors

136. Handrail Supports
136a. Handrail Couplings
137. Wheel Flanges

No.
138. Ships' Funnels
†138a-z. " " Raked

139. Flanged Brackets (right)
139a. " " (left)

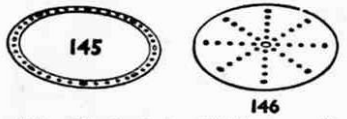
140. Universal Couplings
141. Wire Lines (for clock weights)



142. Rubber Rings (to fit 3" diam. rims)
142a. Motor Tyres (to fit 2" diam. rims)
142b. " " " 3" "
142c. " " " 1" "
142d. " " " 1½" "

143. Circular Girders, 5½" diam.

144. Dog Clutches



145. Circular Strips, 7½" diam. overall
146. " Plates, 6" "
146a. " " 4" "

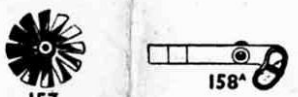
147. Pawls, with Pivot Bolt and Nuts
147a. Pawls
147b. Pivot Bolts with 2 Nuts
147c. Pawls without boss
148. Ratchet Wheels

149. Collecting Shoes for Electric Locos
150. Crane Grabs

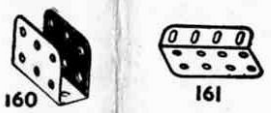
No.
151. Pulley Blocks, Single Sheave
152. " " Two "
153. " " Three "

154a. Corner Angle Brackets, ½" (right-hand)
154b. Corner Angle Brackets, ½" (left-hand)
155. Rubber Rings (for 1" Pulleys) Black
155a. " " " White

156. Pointers (with boss), 2½" overall



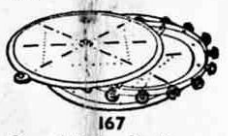
157. Fans, 2" diam.
158a. Signal Arms, Home
158b. " " Distant



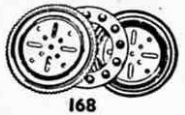
160. Channel Bearings, 1½"×1"×½"
161. Girder Brackets, 2"×1"×½"

162. Boilers, complete, with ends
162a. " Ends
162b. " without ends
163. Sleeve Pieces
164. Chimney Adaptors

165. Swivel Bearings
166. End "



167. Geared Roller Bearings
167a. Roller Races, geared, 192 teeth
167b. Ring Frames for Rollers
167c. Pinions for Roller Bearings (16 teeth)



No.
168. Ball Bearings, 4" diam.
168a. " Races, flanged discs
168b. " " toothed "
168c. " Casings, complete with balls

169. Digger Buckets

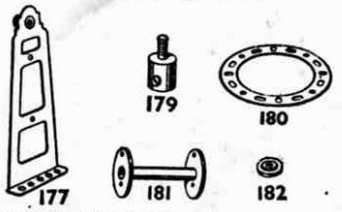
170. Eccentrics, ½" throw
171. Socket Couplings

172. Pendulum Connections
173. Rail Adaptors

174. Grease Cups

175. Flexible Coupling Units

176. Anchoring Springs for Cord



177. Shafting Standards, Large
178. " " Small
179. Rod Sockets
180. Toothed Gear Rings, 3½" diam.
181. Bobbins
182. Insulating Bushes
182a. Insulating Washers

183 Lamp Holders
184a. 2½-volt Lamps
184b. 3½ " "
184c. 6-volt Lamps
184d. 10 " "
184e. 20 " "

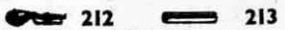
No.
185. Steering Wheels, 1¾" diam.
186. Driving Bands, 2½" (Light)
186a. " " 6" "
186b. " " 10" "
186c. " " 10" (Heavy)
186d. " " 15" "
186e. " " 20" "
187. Road Wheels

Flexible Plates.
188. 2½"×1½"
189. 5½"×1½"
190. 2½"×2½"
190a. 3½"×2½"
191. 4½"×2½"
192. 5½"×2½"
Strip Plates.
196. 9½"×2½"
197. 12½"×2½"

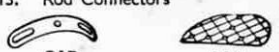
198. Hinged Flat Plates, 4½"×2½"
199. Curved Plates, U-Section 2½"×2½"×½"
200. " " 2½"×2½", 1 11/16" radius

201. Lamps with Flex (3½ volts)
202. Angle Brackets (for Headlamps)
203. Headlamps
203a. Headlamp Rims
203b. " Bodies
204. " Nuts
205. " Glasses
206. Lampshades
207. Lamp Bases
207a. Lamp with Standard and Flex
208. Battery Tags and Studs
208a. Washers for Battery Studs
210. Nuts for Battery Studs

211a. Helical Gear ½" { *Can only be*
211b. " " 1½" { *used together*



212. Rod and Strip Connectors
213. Rod Connectors



214. Semi-Circular Plates 2½"
215. Formed Slotted Strips 3"

216. Cylinders, 2½"

217a. Discs, 1½" 217b. Discs ½"
219. Wheel Discs

† The series includes 26 Funnels in the correct designs and colours of leading shipping companies.

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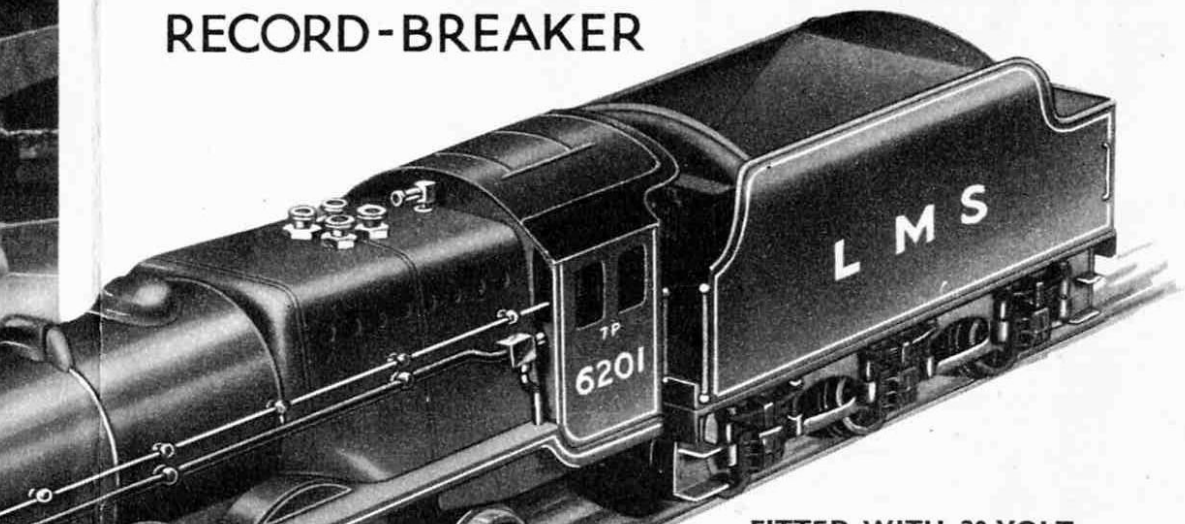

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