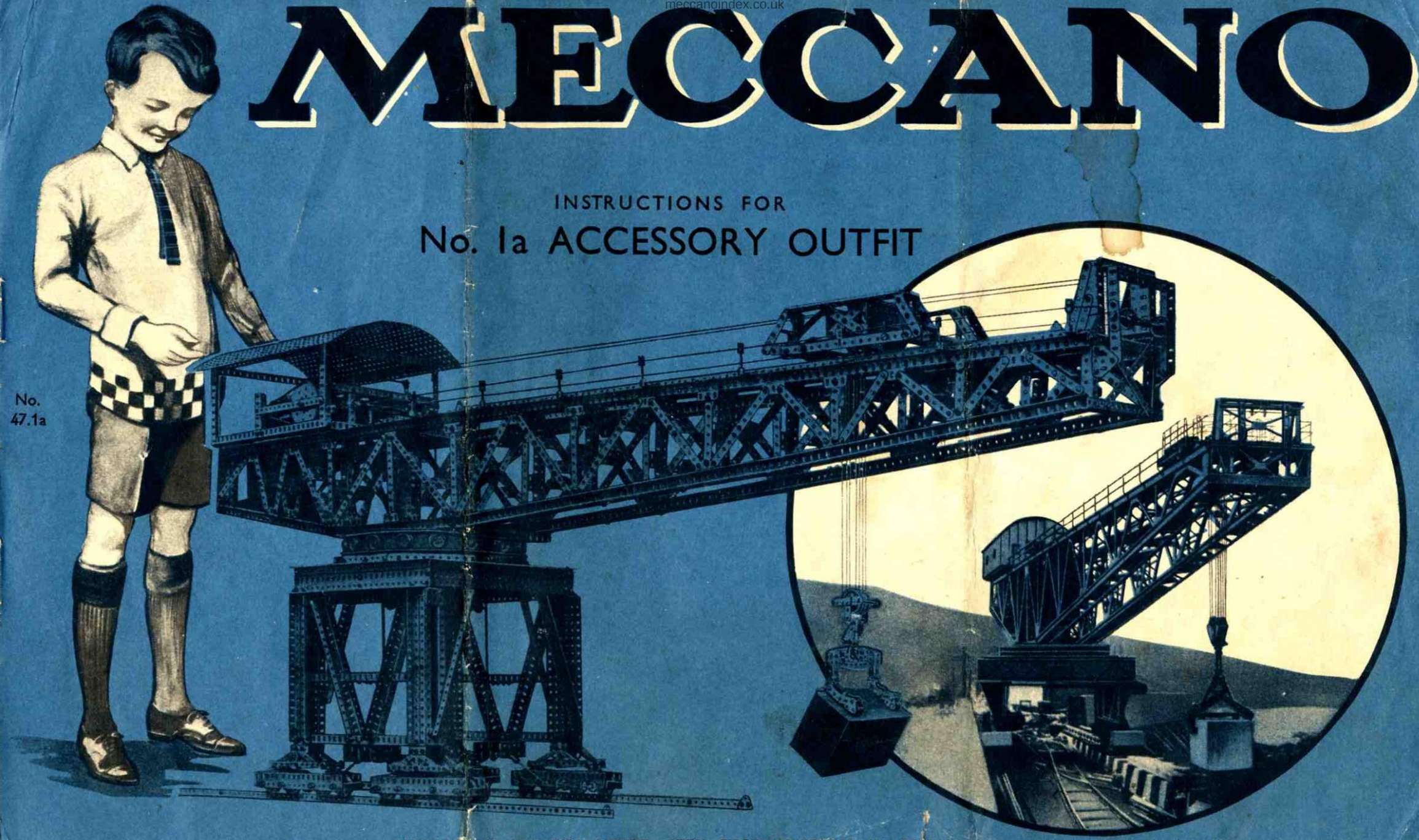
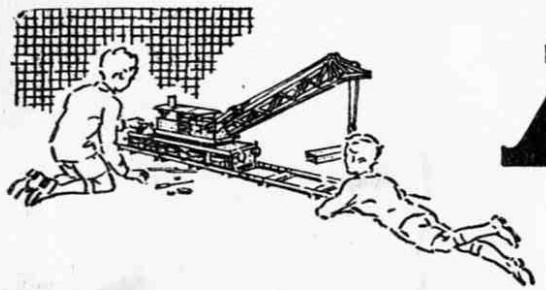
MECCANO

INSTRUCTIONS FOR

No. 1a ACCESSORY OUTFIT

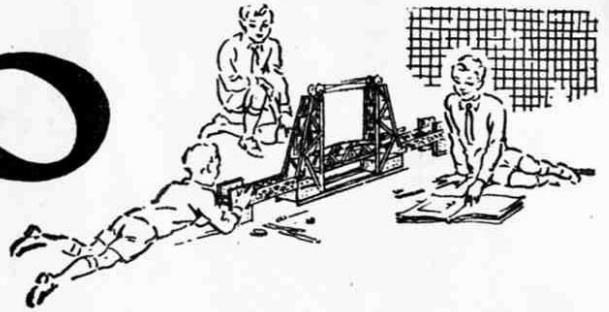
No.
47.1a





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, Aeroplanes, 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 11 different Outfits, ranging from No. O to No. 10. Each Outfit from No. 1 upwards can be converted into the one next 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 begin, you can build it up by degrees until you have 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.

Special Note.—The Meccano Plates (Flanged, Flat, Curved, etc.) are shown in the Manuals with diagonal white lines. In the new Meccano Outfits these parts are plain.

Several of the illustrations in this Manual show how miniature figures and various small articles can be introduced to add realism to the models. These are not included in the Outfit. Many of them are Meccano Dinky Toys that can be bought separately from your Meccano dealer.

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 and Shipping News. Other pages deal with Stamp Collecting, and Books of interest to boys ; and a feature of outstanding popularity is the section devoted to short articles from readers.

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

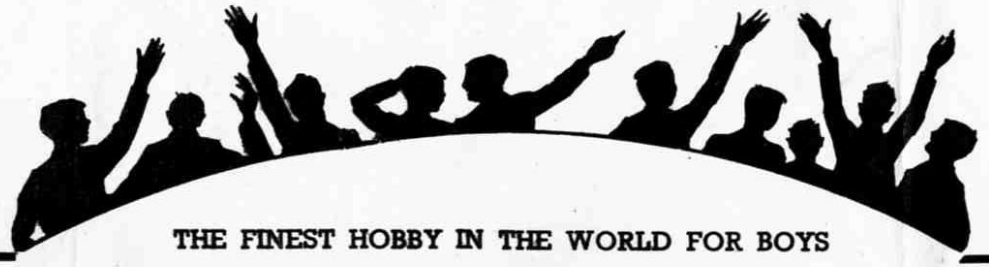
Every owner of a Meccano Outfit should join the Meccano Guild. This is a world-wide organisation, started at the request of Meccano boys. Its primary object is to bring boys together and to make them feel that they are all members of a great brotherhood, each trying to help others to get the very best 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. Each has 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.

MECCANO SERVICE

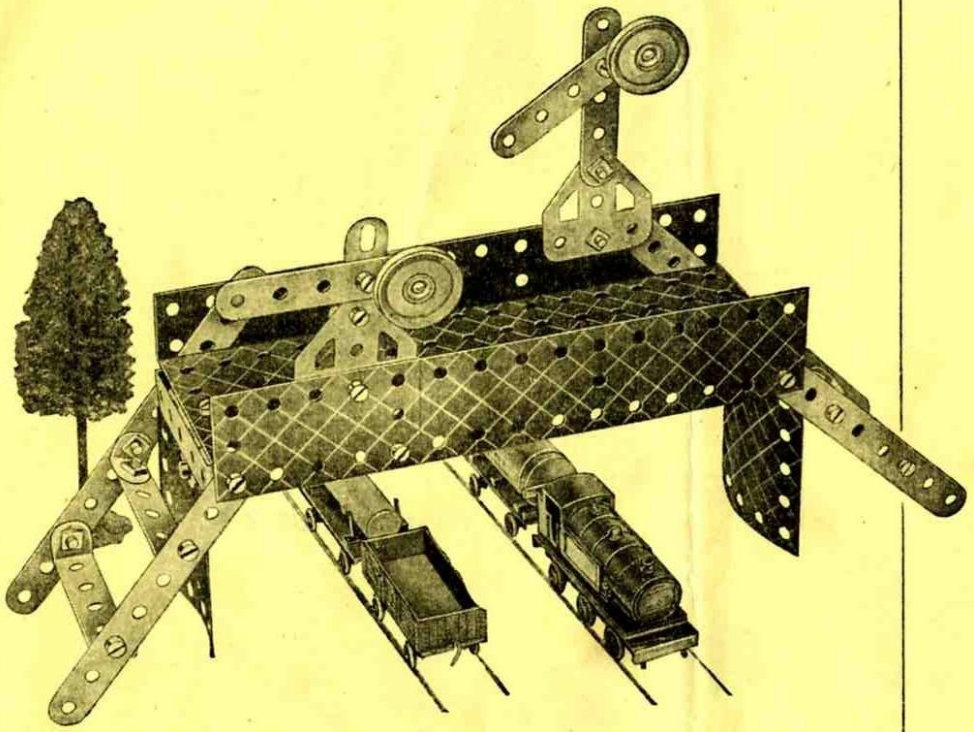
The service of Meccano does not end with selling an Outfit and an Instruction Manual. If ever you are in any difficulty with your models, or if you want advice on anything connected with this great hobby, write to us. We receive hundreds of interesting letters from boys in all parts of the world, and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

Whatever your problem may be, write to us about it. Do not hesitate. We shall be delighted to help you in any way possible.



THE FINEST HOBBY IN THE WORLD FOR BOYS

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 1¼" 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.

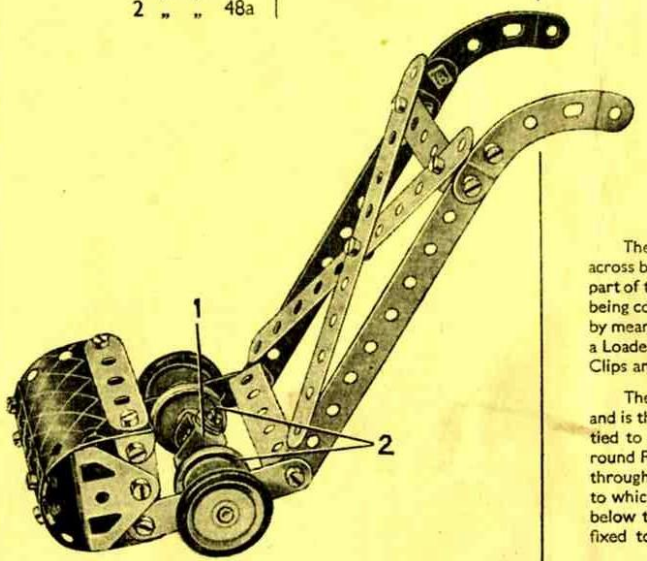
The signals are supported on Flat Trunnions bolted to the sides of the bridge. The smaller of the two signal posts is formed by two Fishplates, and the larger one is a 2½" Strip. The signal arms are 2½" Strips bolted to the posts in the second holes from one end. They are fitted at their shorter ends 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

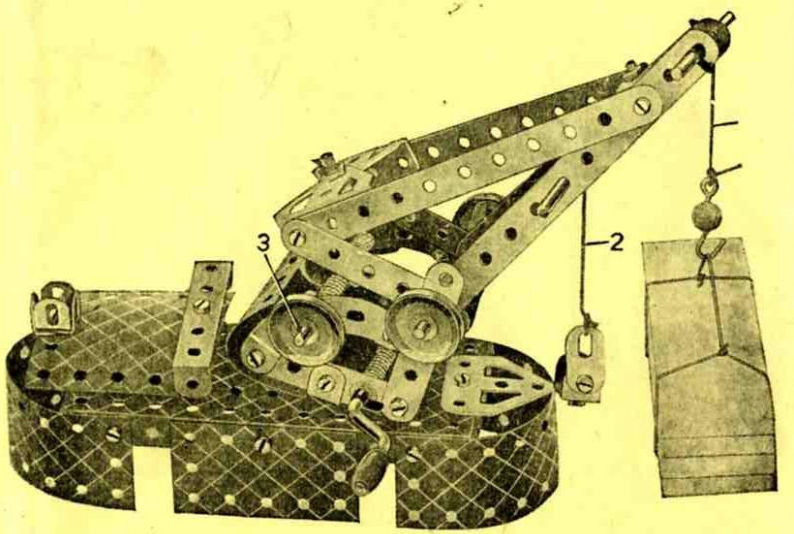
The "cutter" is made by bolting an Angle Bracket at each end of a Reversed Angle Bracket 1 and then sliding an Axle Rod through the free holes of the Brackets. The two Pulleys 2 are fixed to the Rod and pushed tightly against the "cutter" to make it rotate with the Rod as the wheels revolve. The wheels 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 „ „ 155
1 „ „ 16	2 „ „ 200
4 „ „ 22	
25 „ „ 37	
4 „ „ 38	
2 „ „ 48a	



2.3 FLOATING CRANE



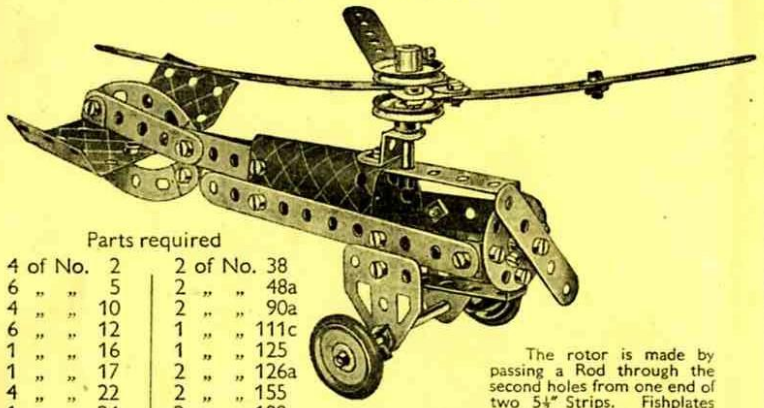
Parts required

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 a small radius Curved Strip, the two sides being connected by a 2½"×½" Double Angle Strip. 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 the jib by a Cord 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

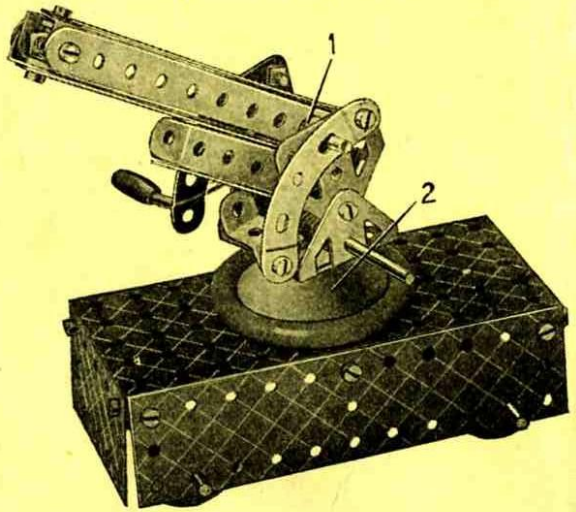
4 of No.	2	2 of No.	38
6 „ „	5	2 „ „	48a
4 „ „	10	2 „ „	90a
6 „ „	12	1 „ „	111c
1 „ „	16	1 „ „	125
1 „ „	17	2 „ „	126a
4 „ „	22	2 „ „	155
1 „ „	24	2 „ „	188
3 „ „	35	1 „ „	199
25 „ „	37		

The rotor is made by passing a Rod through the second holes from one end of two 5½" Strips. 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

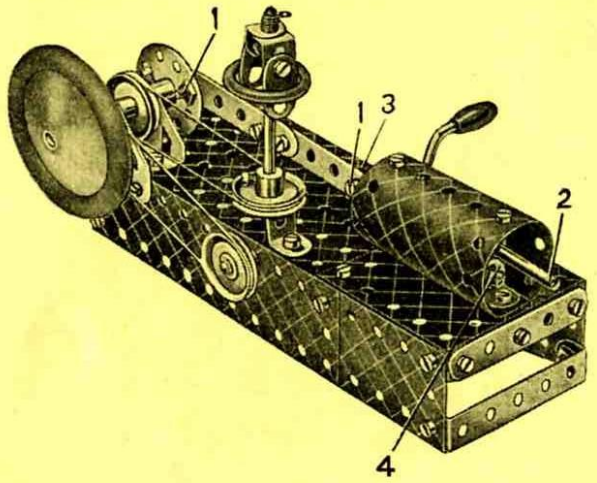


One end of a piece of Cord is fastened to the Crank Handle. It is wound round the Handle a few times and its other end is then fastened to the end of the gun. The two Trunnions are bolted to a Bush Wheel fixed on a 2" Rod that passes through the Road Wheel 2 and the Flanged Plate and is held in place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

2.6 GAS ENGINE

Parts required

3 of No.	5	33 of No.	37	1 of No.	126a
4 „ „	10	3 „ „	37a	1 „ „	155
8 „ „	12	4 „ „	38	1 „ „	176
2 „ „	16	1 „ „	40	1 „ „	187
1 „ „	17	2 „ „	48a	2 „ „	188
1 „ „	19g	1 „ „	52	2 „ „	189
4 „ „	22	1 „ „	111c	1 „ „	190
1 „ „	24	1 „ „	125	2 „ „	200
4 „ „	35	1 „ „	126		

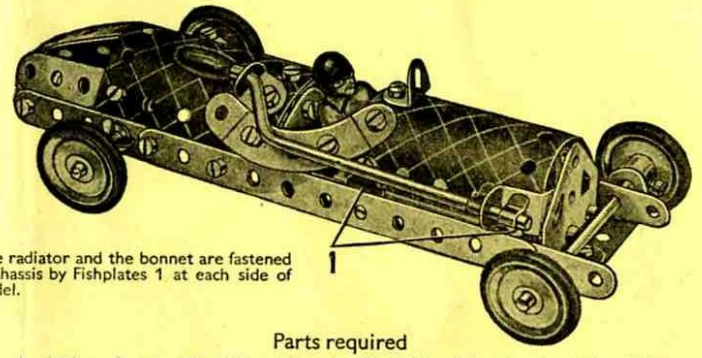


The bearings for the Rod representing the crankshaft are a Flat Trunnion and a Trunnion. The crankshaft carries a Road Wheel and a 1" Pulley at one end, a second 1" Pulley between the bearings, and a Bush Wheel at its other end.

The connecting rod is fastened to the Bush Wheel and to an Angle Bracket 3 by lock-nutted Bolts 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 Fishplate, 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.

2.7 RACING CAR

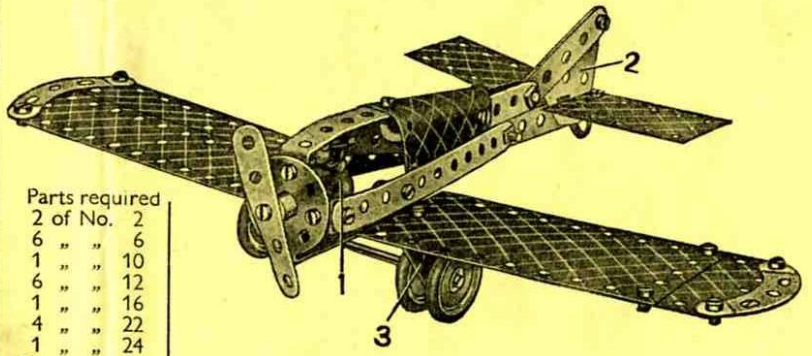


The radiator and the bonnet are fastened to the chassis by Fishplates 1 at each side of the model.

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 „ „	155
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

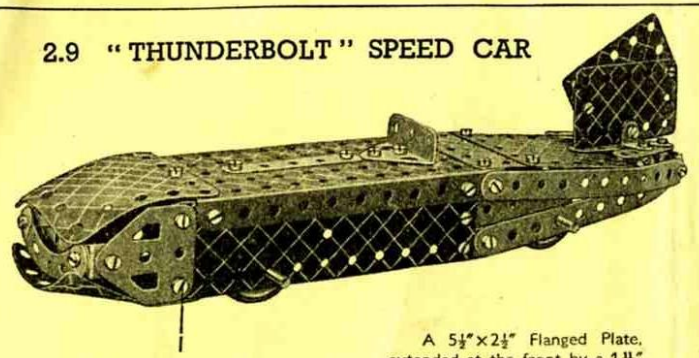


Parts required

2 of No.	2	2 of No.	126	2 of No.	189
6 „ „	6	1 „ „	126a	1 „ „	190
1 „ „	10	4 „ „	155	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 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. A Trunnion 3 bolted to each wing forms a bearing for the axle of the landing wheels.

2.9 "THUNDERBOLT" SPEED CAR

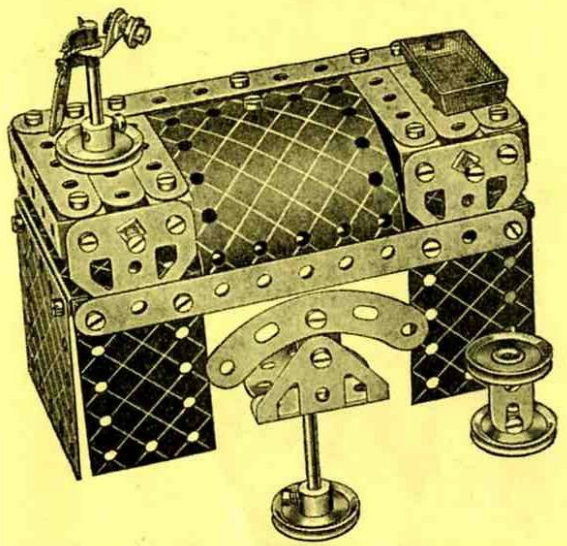


Parts required

4 of No.	2	1 of No.	52
6 „ „	5	2 „ „	90a
2 „ „	10	1 „ „	126
4 „ „	12	2 „ „	126a
2 „ „	16	4 „ „	155
4 „ „	22	2 „ „	188
38 „ „	37	2 „ „	189
1 „ „	37a	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 on each side hold a 2½"×½" Double Angle Strip that carries the 1 11/16" radius Curved Plate forming the underside of the front cowling.

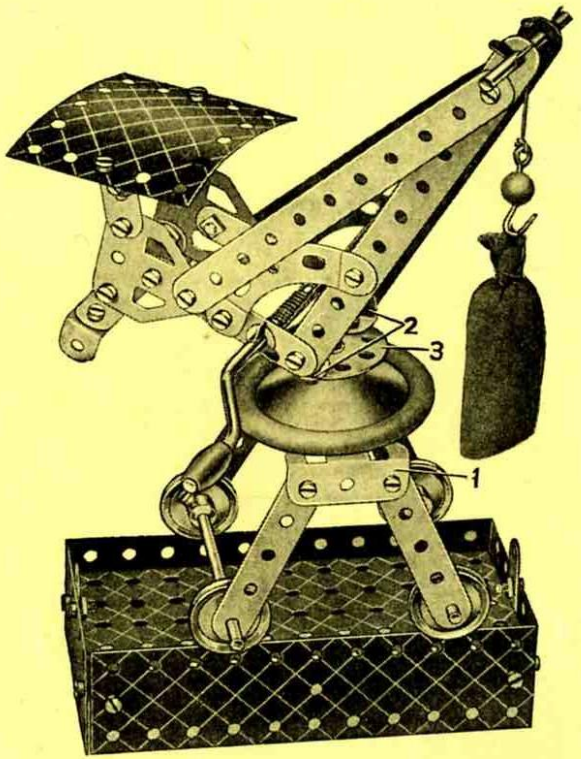
2.10 ROLL TOP DESK



Parts required

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

2.11 TRAVELLING CRANE



Parts required

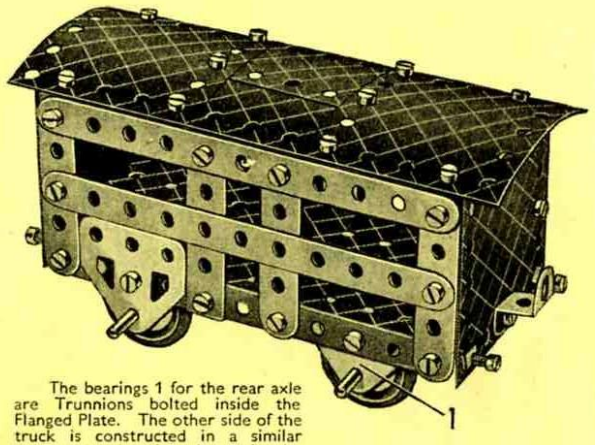
4 of No.	2	1 of No.	19g	3 of No.	38	2 of No.	111c
6 „ „	5	4 „ „	22	1 „ „	40	2 „ „	126
4 „ „	10	1 „ „	24	2 „ „	48a	2 „ „	126a
6 „ „	12	4 „ „	35	1 „ „	52	1 „ „	176
2 „ „	16	38 „ „	37	1 „ „	57c	1 „ „	187
2 „ „	17	2 „ „	37a	2 „ „	90a	2 „ „	188
2 of No.	189			1 of No.	200		

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 Sttip 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 loaded sack on the crane hook is not included in the Outfit.

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 „ „	155
2 „ „	188
2 „ „	190
2 „ „	200



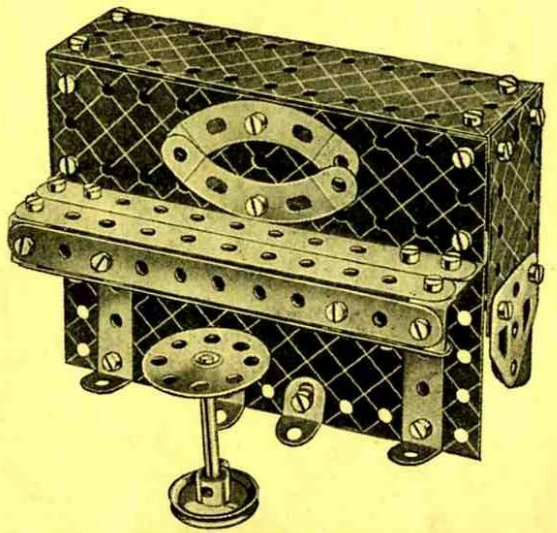
The bearings 1 for the rear axle are Trunnions bolted inside the Flanged Plate. The other side of the truck is constructed in a similar manner to the side shown in the illustration.

2.13 PIANO

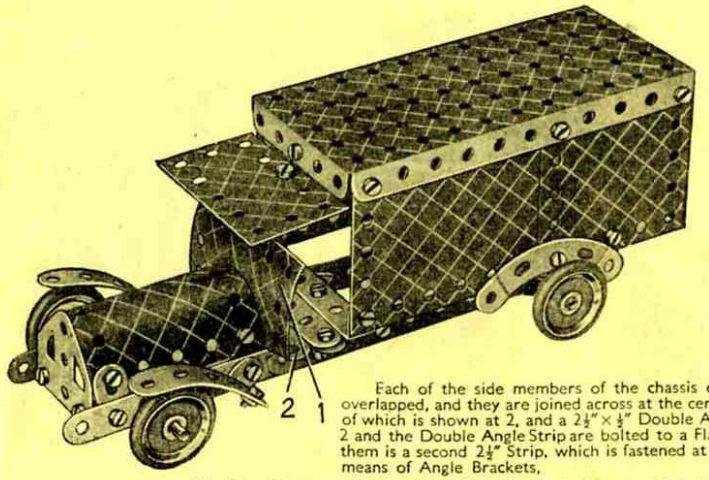
A 5½"×2½" Flanged Plate is used for the upper part of the back and to each end of this a 2½" Strip is bolted to form the rear legs.

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.

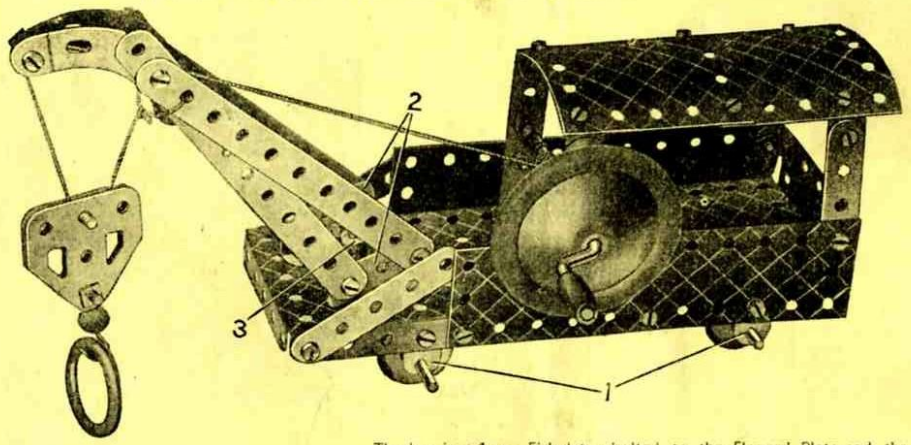
Parts required

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	„ „	155
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	„ „	155
1	„ „	176
1	„ „	187
1	of No.	188
2	„ „	189
1	„ „	190
2	„ „	200

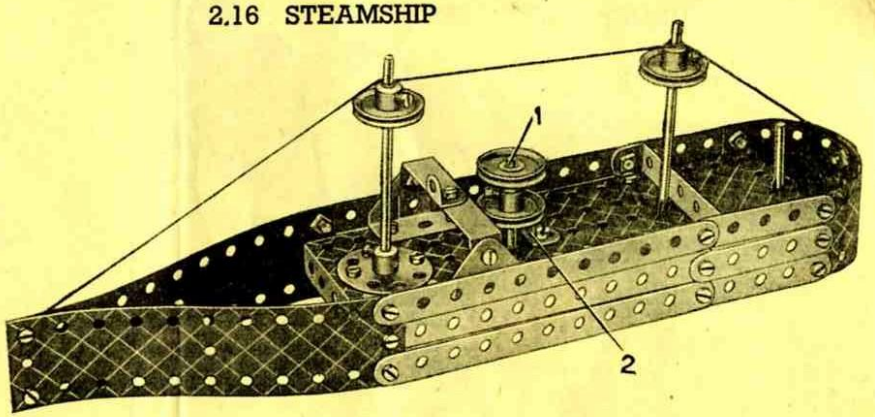


The bearings 1 are Fishplates bolted to the Flanged Plate and the Flexible Plates respectively. The jib is fastened to two Trunnions 2, which are bolted to the Bush Wheel 3. A 2" Rod is secured in the boss of the Bush Wheel 3. It then passes through a hole in the Flanged Plate, and is held in position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

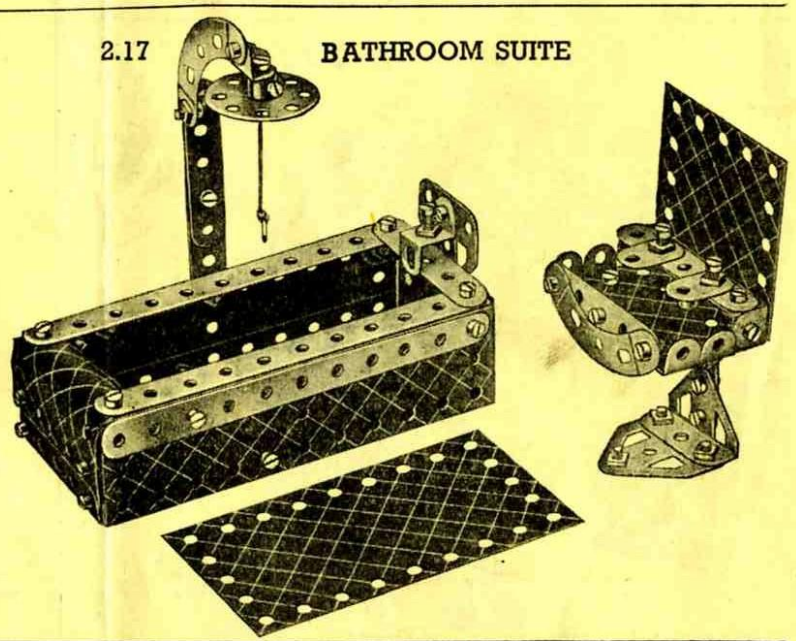


The deck of the model is a 5½" × 2½" Flanged Plate extended by a 2½" × 2½" Flexible Plate. A 2½" × ½" Double Angle Strip fitted with an Angle Bracket represents the bridge, and it is supported by two Trunnions bolted to the deck. The funnel consists of a Rod 1 fitted with two 1" fast Pulleys. The Rod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

2.17 BATHROOM SUITE

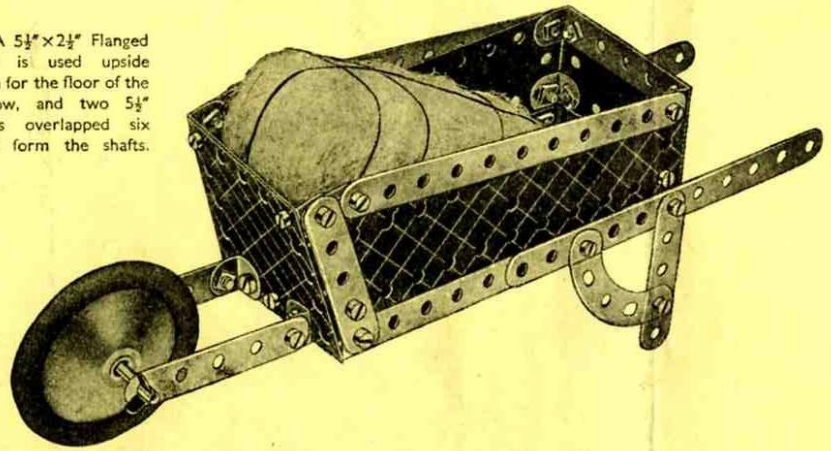
Parts required

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.



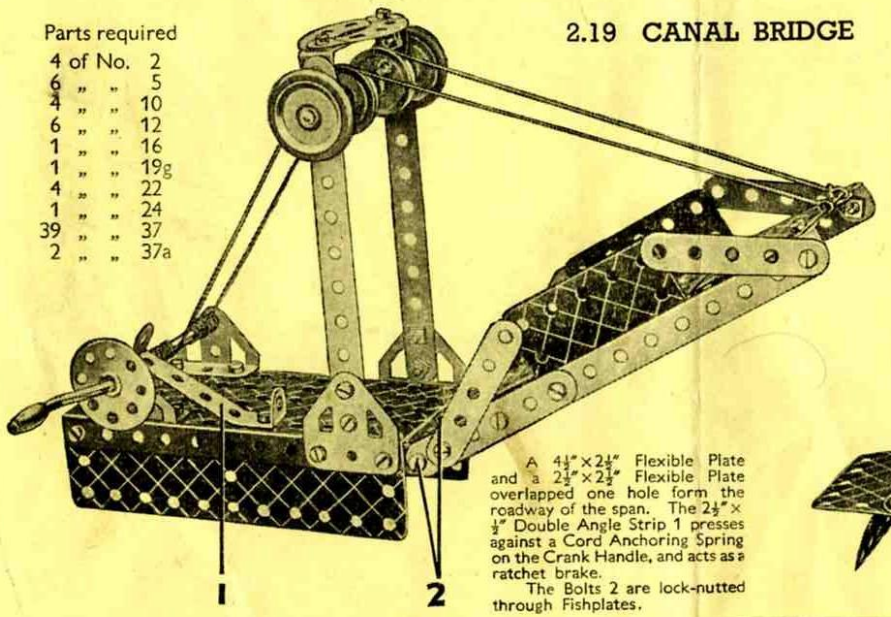
Parts required

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
39	„ „	37
2	„ „	37a

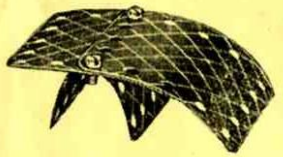


Parts required (continued)

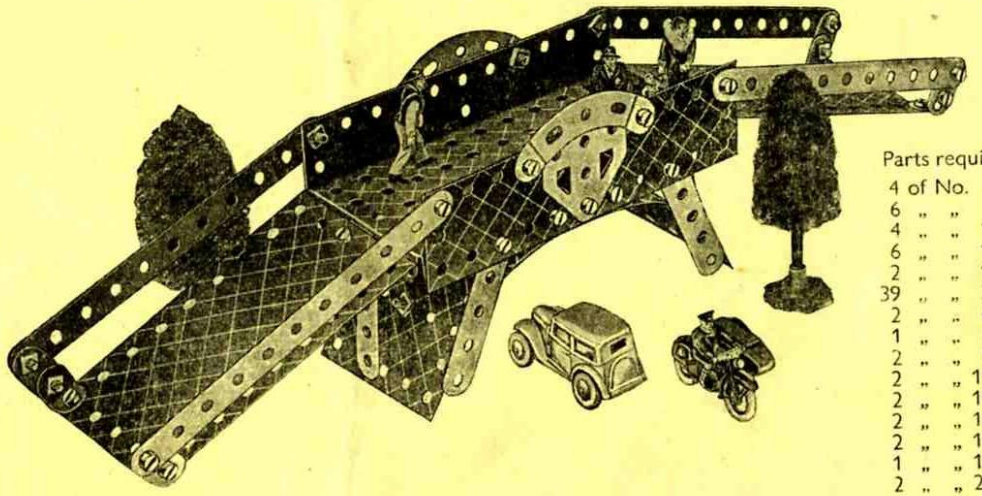
2	of No.	38
2	„ „	48a
1	„ „	52
2	„ „	90a
2	„ „	126
2	„ „	126a
2	„ „	155
1	„ „	176
2	„ „	188
2	„ „	189
2	„ „	190
1	„ „	191
1	„ „	199
1	„ „	200

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 Fishplates.



2.20 ROAD BRIDGE



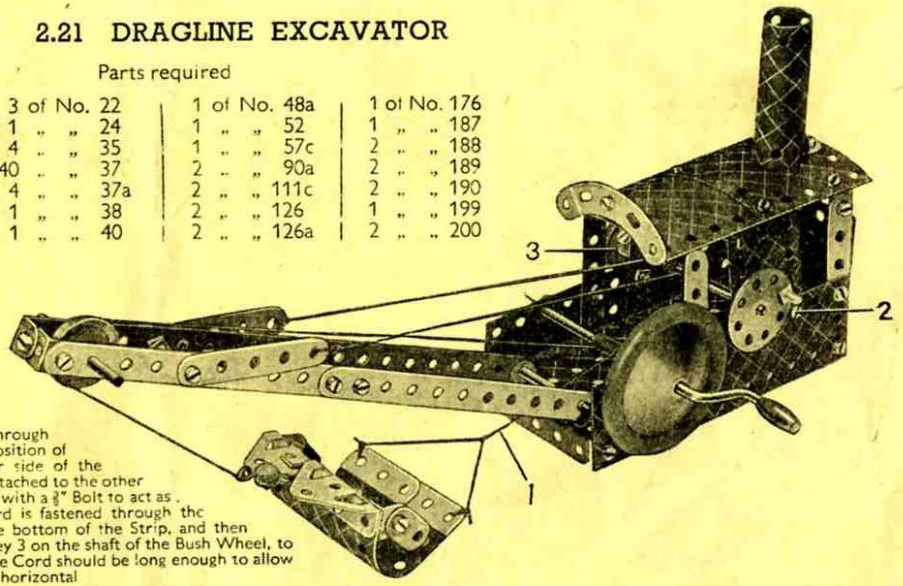
Parts required

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



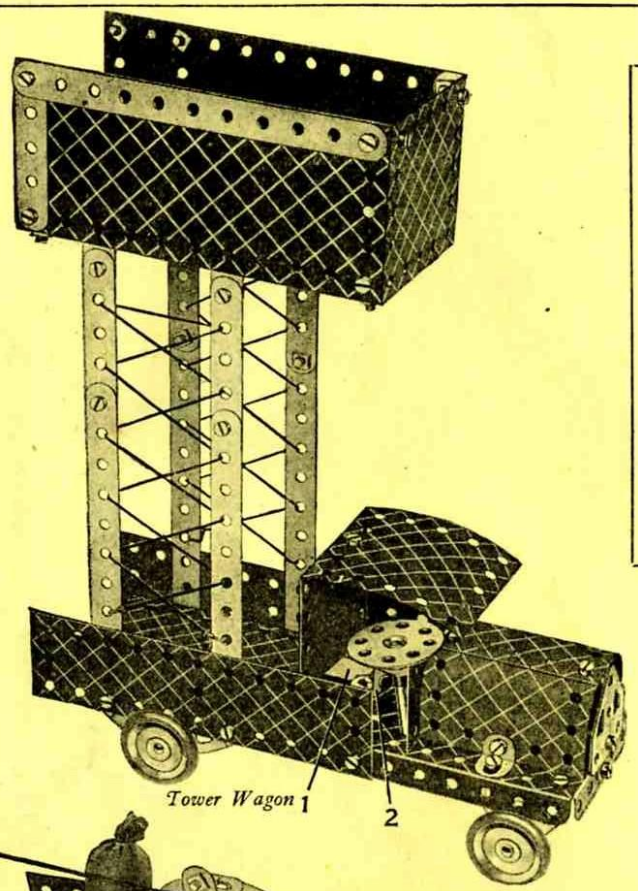
The Cord 1 is wound round the Crank Handle about 12 times then one end of it is fastened to a small Loaded Hook and the other end to the Cord on the bucket.

A Curved Strip is pivoted by a ⅜" 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 ⅜" 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

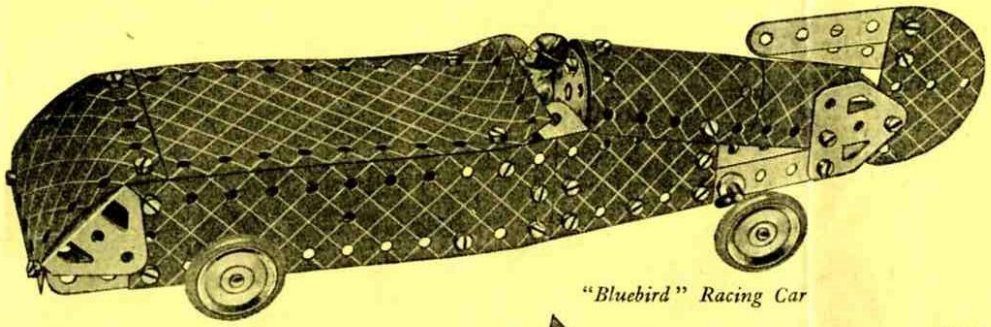
BUILD BIGGER AND BETTER MODELS

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 and the following page.

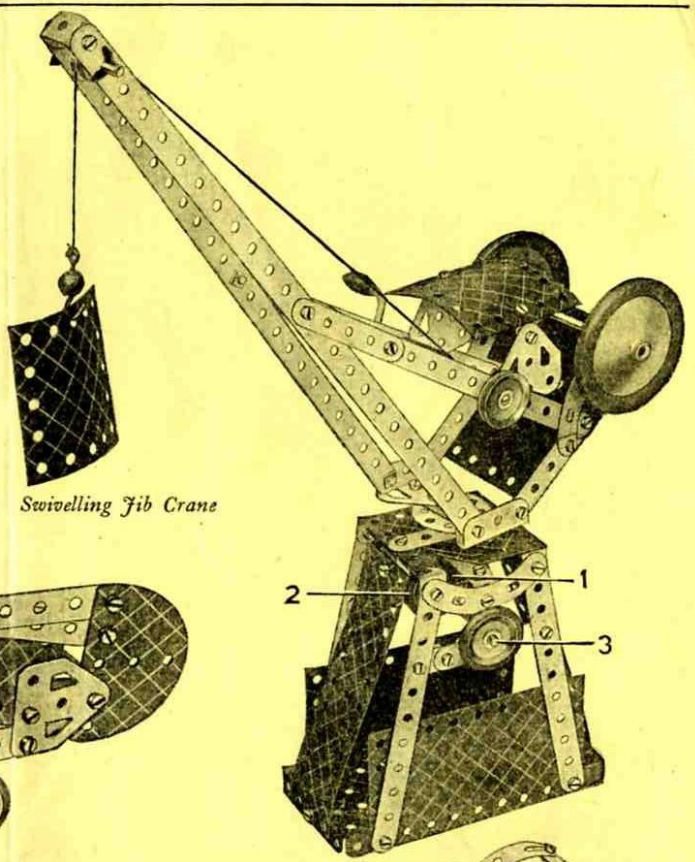
If you prefer to do so, you can build up and develop your Outfit quite easily by adding various parts to it from time to time. The model-building possibilities of the Meccano System are unlimited, and the more Meccano parts you have the bigger and better the models you will be able to build.



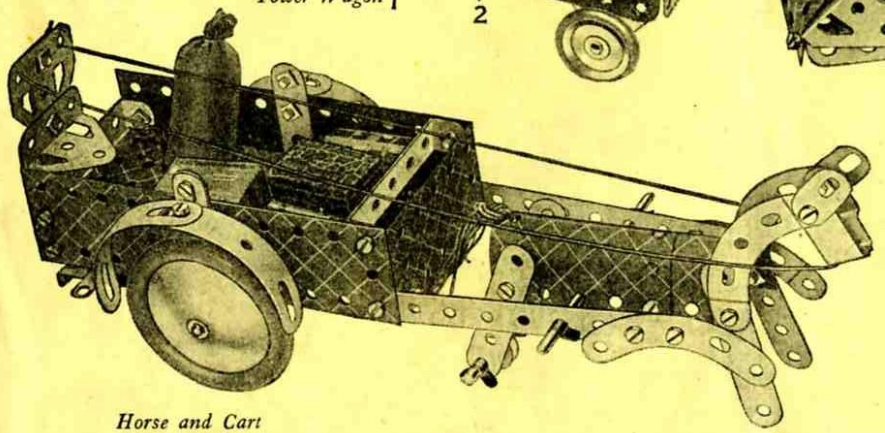
Tower Wagon



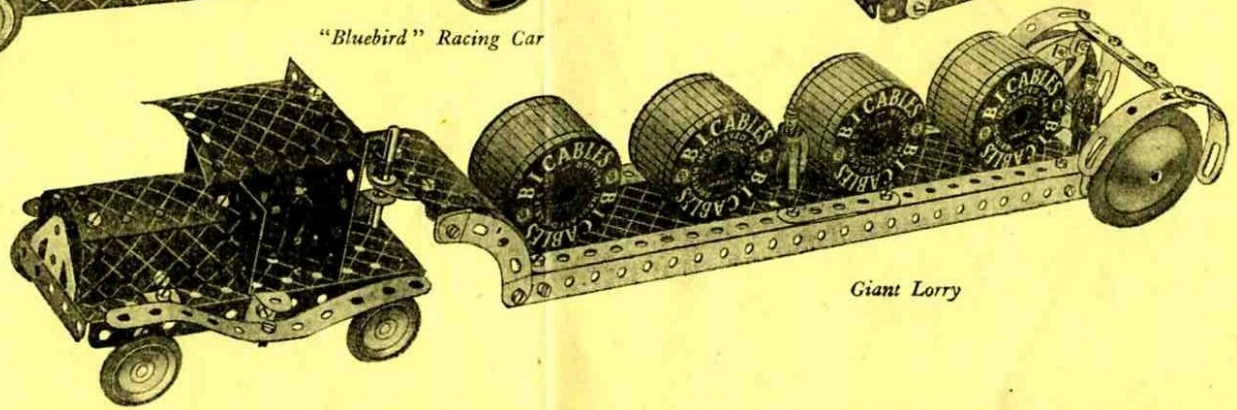
"Bluebird" Racing Car



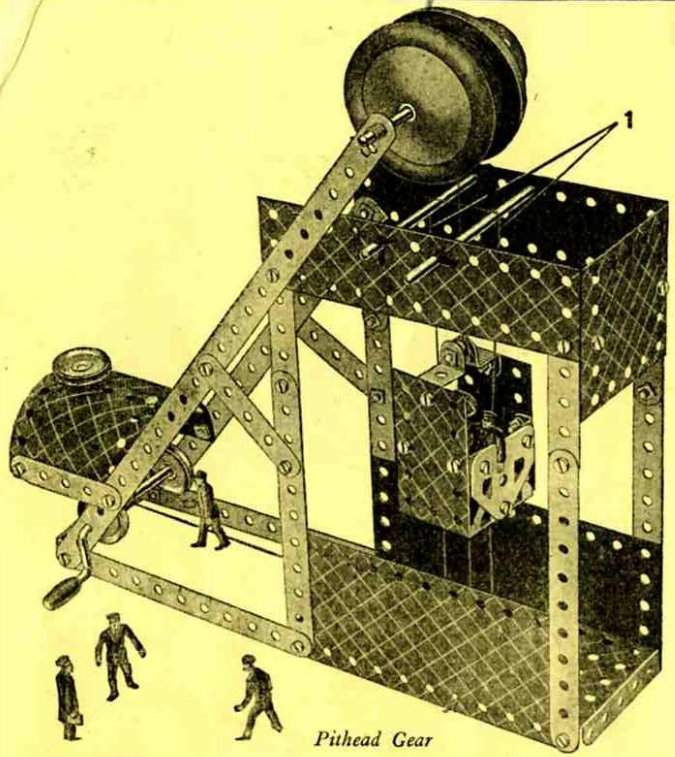
Swivelling Jib Crane



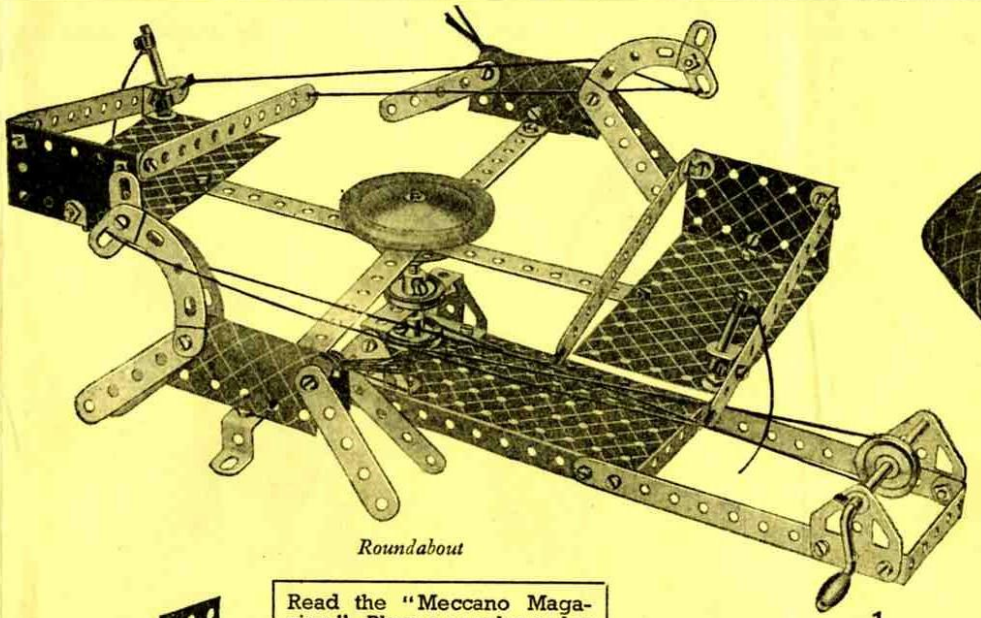
Horse and Cart



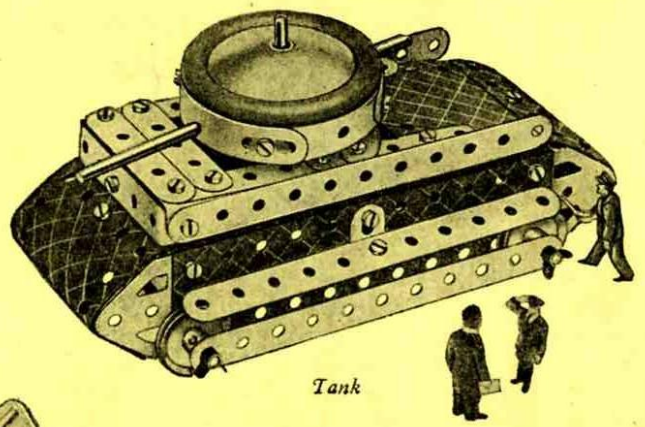
Giant Lorry



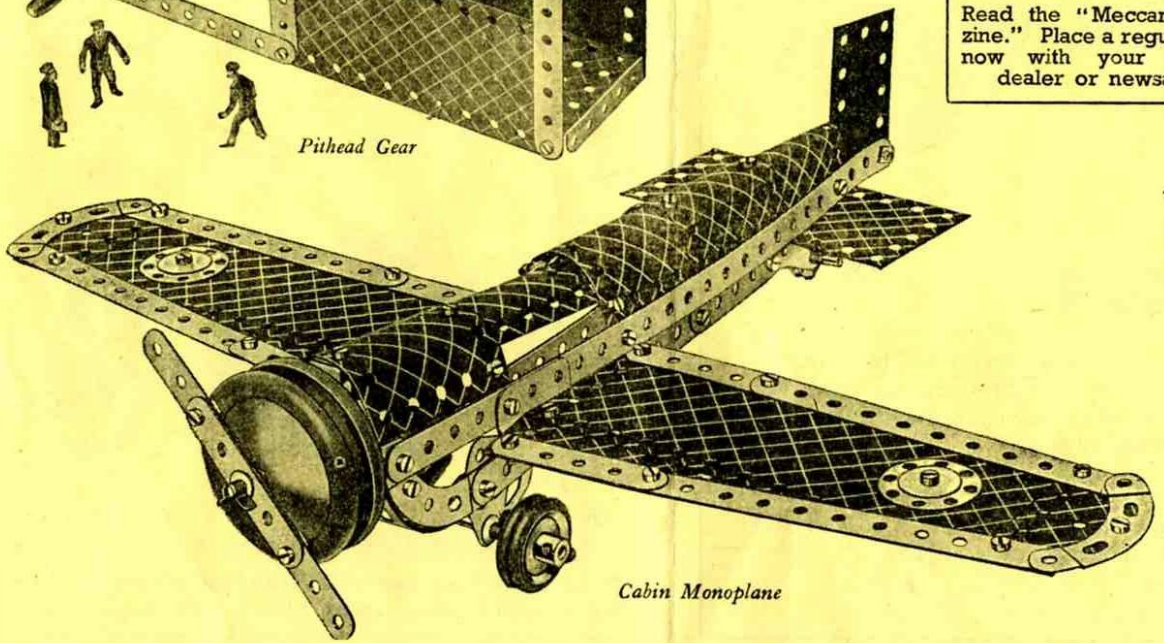
Pithead Gear



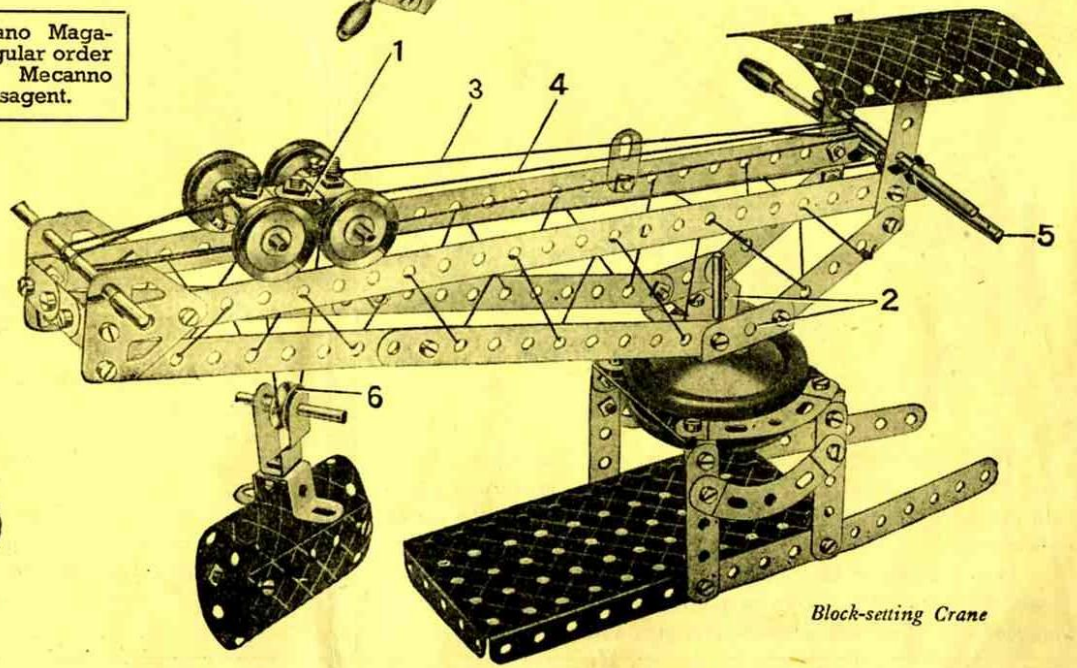
Roundabout



Tank



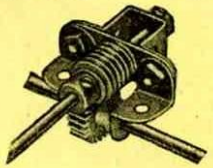
Cabin Monoplane



Block-setting Crane

Here are a few simple and interesting movements showing how easily real mechanisms can be reproduced with Meccano.

WORM AND PINION BEARING

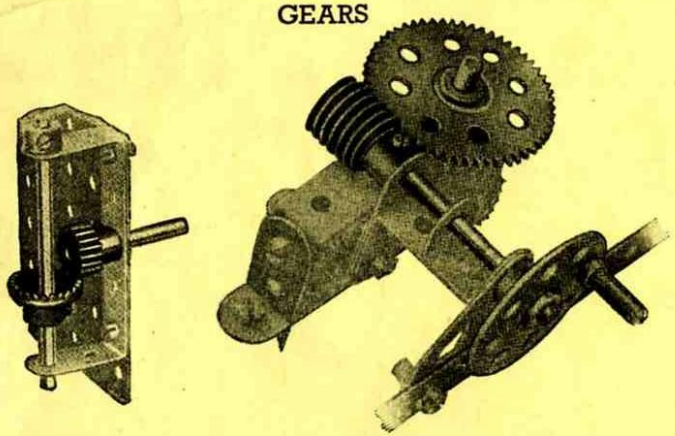


The compact rear axle drive unit illustrated above is intended chiefly for use in small models of motor cars. Two Corner Angle Brackets are secured by Bolts passing through their elongated holes to a 1½" Strip, to which a Double Bent Strip also is secured. The Rod carrying the Worm is passed through the centre hole of the Strips and held in position by a Collar.

The driven Rod is journalled in the Corner Angle Brackets and carries a Pinion that engages with the Worm.

A feature of this bearing that should not be overlooked is that the useful gear ratio of 25:1 is provided by employing a ¾" Pinion.

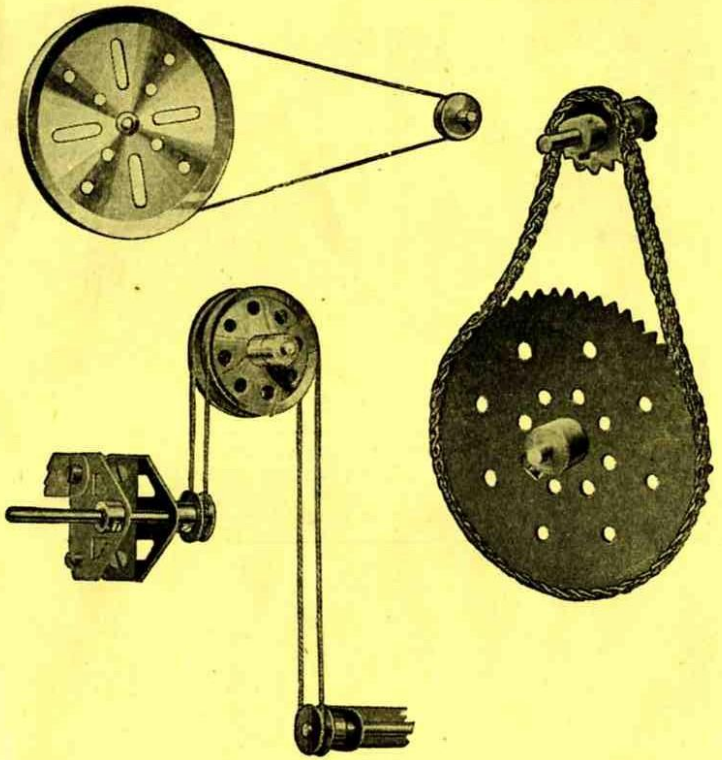
GEARS



The Meccano system includes a wide range of Gear Wheels, Bevel Gears, Pinions, Contrate Wheels and Worms in various sizes. All manner of interesting movements can be obtained by the use of these gears.

How a drive can be transmitted from a vertical to a horizontal shaft, or vice versa, is shown on the left. On the right the Worm engaged with a Gear Wheel gives a very great reduction in shaft speed.

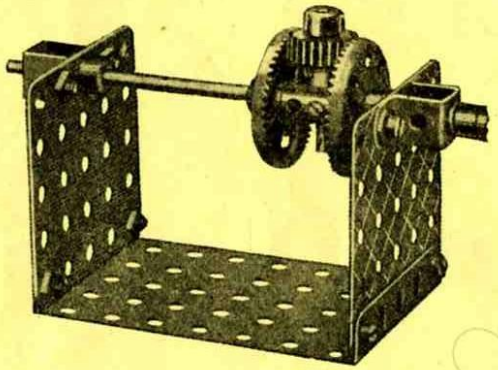
BELT AND CHAIN DRIVES



Above we show examples of belt and chain drive. The movements illustrated require no explanation excepting, perhaps, the lower belt drive, which shows a simple method for transmitting the drive from one shaft to another when the shafts are not in line.

Cords usually take the place of belts in Meccano models but miniature belting can be made from strips of canvas, indiarubber, etc., in which case Flanged Wheels should be used instead of grooved Pulleys.

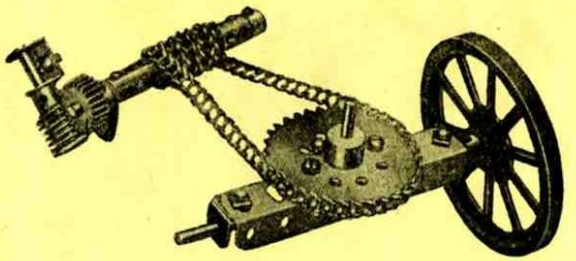
EPICYCLIC TRANSMISSION GEAR



Practically every type of mechanical power transmission gear can be reproduced with Meccano.

The device illustrated is designed to provide a gear ratio between two shafts mounted in direct line with one another. Its chief merit lies in the compactness of its construction and lack of external bearings.

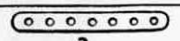
STEERING GEARS



The various types of steering mechanism commonly in use on vehicles of all descriptions can readily be reproduced with Meccano.

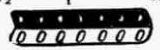
In the example illustrated, the road wheels are controlled by an endless Sprocket Chain operated by a Worm and Pinion mechanism.

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. Fishplates
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 **19A** **20B**

19a. Spoked Wheels, 3" diam.
20. Flanged Wheels, 1½" diam.
20b. " " ¾" "

19C **23A** **22** **22A** **20A**

Pulleys

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

24 **24A**

24. Bush Wheels, 1⅛" diam.
24a. Wheel Disc, 1⅛" diam., without bush

26B

No.				
25.	Pinions,	¾" diam.,	½" face,	25 teeth
25a.	"	¾" "	½" "	25 "
25b.	"	¾" "	½" "	25 "
26.	"	¾" "	½" "	19 "
26a.	"	¾" "	½" "	19 "
26b.	"	¾" "	½" "	19 "

27 **27A** **27B**

Gear Wheels

27. 50 teeth, 1¼" diam.
27a. 57 " 1½" "
27b. 133 " 3½" "
27c. 95 " 2½" "

28 **29**

28. Contrate Wheels, 1½" diam., 50 teeth
29. " " ¾" " 25 "

30A & 30C **30**

30. Bevel Gears, ⅜" diam., 26 teeth (for use in pairs)

30a.	"	"	½"	16	" } Can only be
30c.	"	"	1½"	48	" } used together

31 **32**

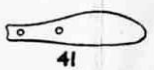
31. Gear Wheels, 1" diam., ¼" face, 38 teeth
32. Worms, ½" diam.

34B

34. Spanners
34b. Box Spanners

35 **38D**

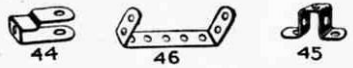
35. Spring Clips
36. Screwdrivers
36a. " Extra Long
36c. Drift (for levering bolt holes into line)
37. Nuts and Bolts, 3/16"
37a. Nuts
37b. Bolts, 3/16"
38. Washers
38d. " ¾"
40. Hanks of Cord



41

41. Propeller Blades

No.
43. Tension Springs, 2" long



44 **46** **45**

44. Bent Strips, stepped
45. Double Bent Strips
46. Double Angle Strips, 2½"×1"
47. " " " 2½"×1½"
47a. " " " 3"×1½"
48. " " " 1½"×½"
48a. " " " 2½"×½"
48b. " " " 3½"×½"
48c. " " " 4½"×½"
48d. " " " 5½"×½"

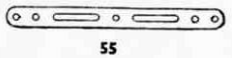
50. Slide Pieces

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"

54

54. Flanged Sector Plates, 4½" long



55

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

57B

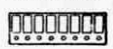
57b. Hooks, Loaded, Large
57c. " " Small

58 **53B**

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

59

59. Collars, with screws



61

61. Windmill Sails

62 **62A**

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

63 **63A** **63C**

63. Couplings
63b. Strip Couplings
63c. Threaded Couplings

64 **65**

64. Threaded Bosses
65. Centre Forks
69. Set Screws, 1/32"
69a. Grub Screws, 1/32"
69b. " " 1/24"
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. Curved Strips, 5½", 10" radius
89a. " " 3", stepped, 1¾" radius, 4 to circle
89b. Curved Strips, 4", stepped, 4½" radius, 8 to circle
90. Curved Strips, 2½", 2⅜" radius
90a. " " 2½", stepped, 1⅜" radius, 4 to circle

94 **95B**

94. Sprocket Chain, 40" length
95. " Wheels, 36 teeth, 2" diam.
95a. " " 28 " 1½" "
95b. " " 56 " 3" "
96. " " 18 " 1" "
96a. " " 14 " ½" "

99 Braced Girders

No.		No.	
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

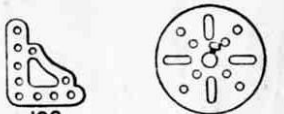
103.	5½" long	103e.	3" long
103a.	9½" "	103f.	2½" "
103b.	12½" "	103g.	2" "
103c.	4½" "	103h.	1½" "
103d.	3½" "	103k.	7½" "

104

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

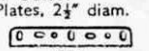
106 **106A**

106. Wood Rollers
106a. Sand Rollers



108 **109**

108. Corner Gusset
109. Face Plates, 2½" diam.



110

110. Rack Strips, 3½" long
110a. " " 6½" "
111. Bolts, ½" 111c. Bolts, ⅜"
111a. " ½" 111d. " 1⅛"

113

113. Girder Frames

114 **115** **116A**

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

118

118. Hub Discs, 5½" diam.

MECCANO PARTS


120b

No.
120b. Compression Springs, $\frac{1}{16}$" long


122

122. Miniature Loaded Sacks


123


125

123. Cone Pulleys, 1½", 1" and ¾" diam.
124. Reversed Angle Brackets, 1"
125. ,, ,, ,, ½"


126


126A

126. Trunnions 126a. Flat Trunnions

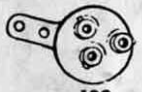

127


128

127. Bell Cranks
128. Bell Cranks, with Boss


129

129. Toothed Segments, 1½" radius


130


130a

130. Eccentrics, Triple Throw, ¼", ⅜" and ½"
130a Eccentrics, Single Throw, ½"


131


132

131. Dredger Buckets
132. Flywheels, 2¾" diam.


133


133A

133 Corner Brackets, 1½"
133a ,, 1"


134

No.
134. Crank Shafts, 1" stroke


136


137


136A

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


138A

138a. Ships' Funnels


139

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


140

140. Universal Couplings


142


142A

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

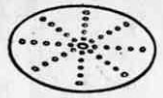

143

143. Circular Girders, 5½" diam.


144

No.
144. Dog Clutches


145


146

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


147 & 148

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


151

151. Pulley Blocks, Single Sheave
152. ,, ,, Two ,,
153. ,, ,, Three ,,

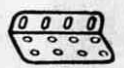

154A & 154B

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


157

157. Fans, 2" diam.


160


161

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


163


162

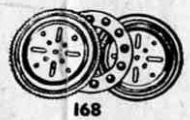

164

No.
162. Boilers, complete, 5" long×2½" diam.
162a. ,, Ends, 2½" diam. ×⅜in.
162b. ,, without ends, 4½" long×2½" diam.
163. Sleeve Pieces, 1½" long×⅝" diam.
164. Chimney Adaptors, ¾" diam. × ½" high


165


166

165. Swivel Bearings
166. End ,,
167b. Flanged Ring, 9⅛" diam


168

168. Ball Bearings, 4" diam.
168a. ,, Races, flanged discs, 3¾" diam.
168b. ,, ,, toothed ,, 4" diam.
168c. ,, Cages, 3⅜" diam., complete with balls.

171

171. Socket Couplings

175

175. Flexible Coupling Units

176

176. Anchoring Springs for Cord

179

180

179. Rod Sockets
180. Gear Rings, 3½" diam. (133 ext. teeth, 95 int.)

185

187

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, 2½" diam.
187a. Conical Disc, 1⅞" diam.

192

197

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"

200

198

199

198 Hinged Flat Plates, 4½"×2½"
199. Curved Plates, U-Section
2½"×2½"×⅝" radius
200. ,, ,, 2½"×2½", 1⅛" radius

211A
211B

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

212

213

212. Rod and Strip Connectors
213. Rod Connectors

215

214

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

216

216. Cylinders, 2½" long, 1¼" diam.

Printed in England