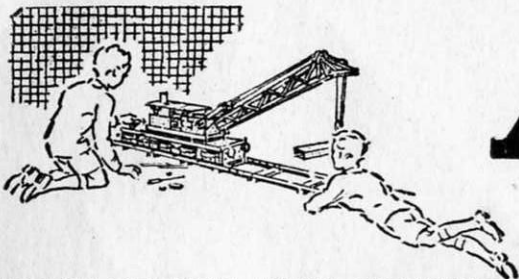


MECCANO

INSTRUCTIONS FOR
No. 1a ACCESSORY OUTFIT

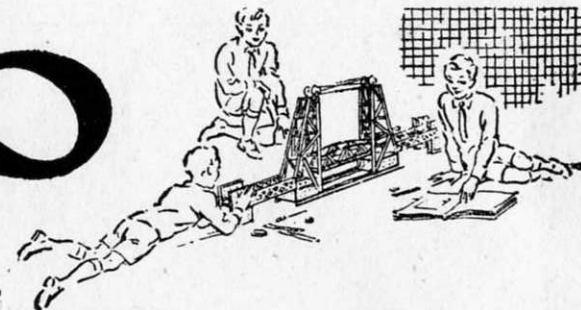
No.
41.1a





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. 0 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 news-agent.

THE MECCANO GUILD

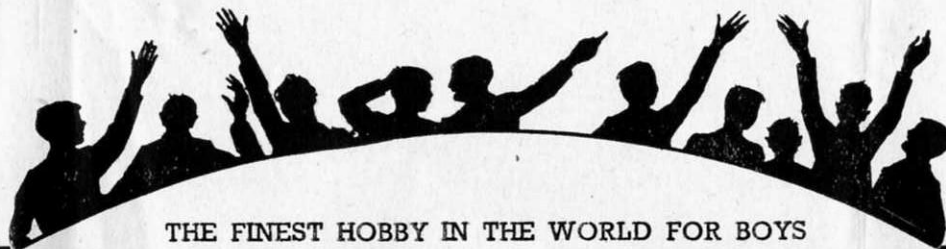
Every owner of a Meccano Outfit should join the Meccano Guild. This is a world-wide organisation, started at the request of Meccano boys. Its primary object is to bring boys together and to make them feel that they are all members of a great brotherhood, each trying to help others to get the very best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

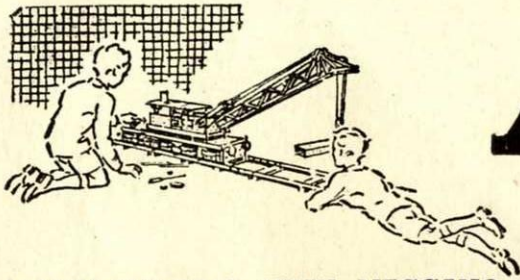
Recruiting Medallions are awarded to members who are successful in securing recruits for the Guild, and good work on behalf of Meccano clubs, or of the Guild generally, is recognised by the presentation of special Merit Medallions. Full particulars of both these awards will be sent post free on request.

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.



THE FINEST HOBBY IN THE WORLD FOR BOYS



MODEL-BUILDING WITH MECCANO

IMPORTANT

Wartime conditions and restrictions have made necessary certain alterations in the introductory page of this Manual. The most important are the following:—

The Meccano Lighting Set has been withdrawn, but the models shown with lighting arrangements can readily be built with only slight changes.

The Aeroplane and Motor Car Constructor Outfits also are withdrawn, and the miniature pilots and drivers shown in certain models are no longer available.

The Meccano Plates (Flanged, Flat, Curved, etc.,) are shown in the Manuals with diagonal lines. On the new Meccano Plates these lines are omitted.

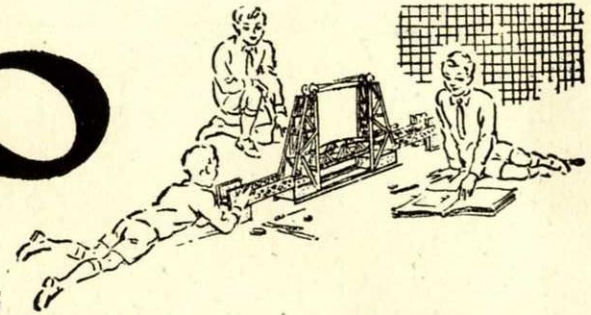
The only Meccano Motor at present available is the "MAGIC" Clockwork Motor. It is not included in Outfits.

MECCANO LIMITED

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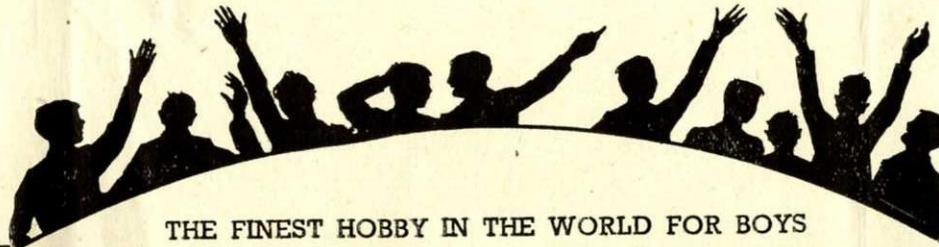
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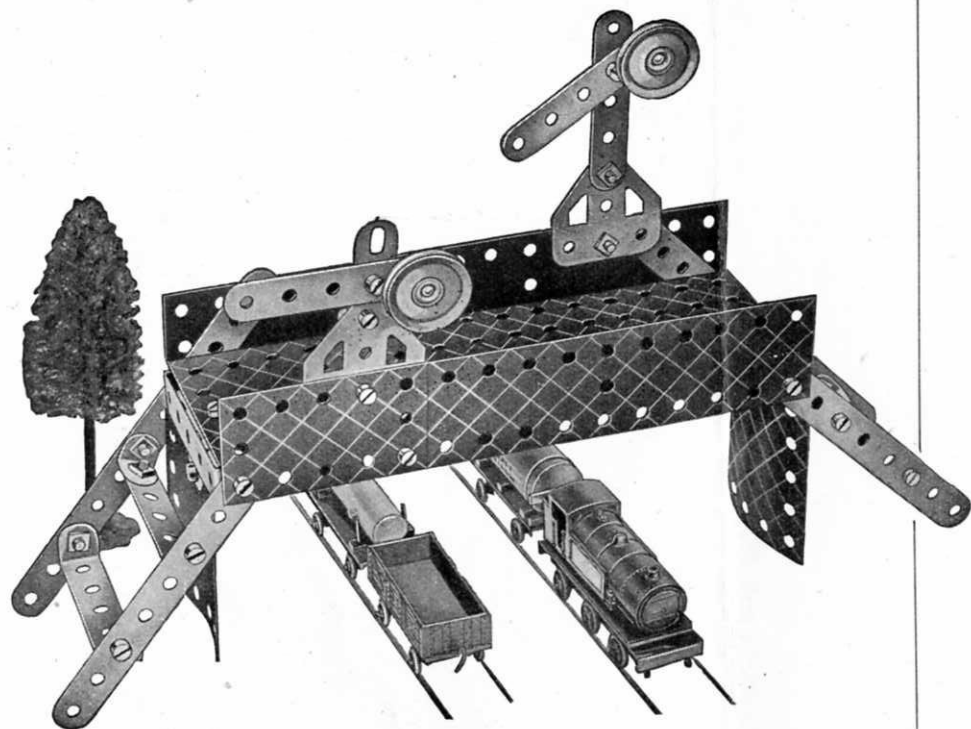
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THE FINEST HOBBY IN THE WORLD FOR BOYS

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 $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plate, extended by a $2\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plate. Trunnions are bolted to each end of the span, and have $1\frac{1}{8}"$ radius Curved Plates fastened to them. The sides of the approach stairways are $5\frac{1}{2}"$ Strips. They are joined across by $2\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strips and $2\frac{1}{2}"$ Strips fitted with Angle Brackets at each end.

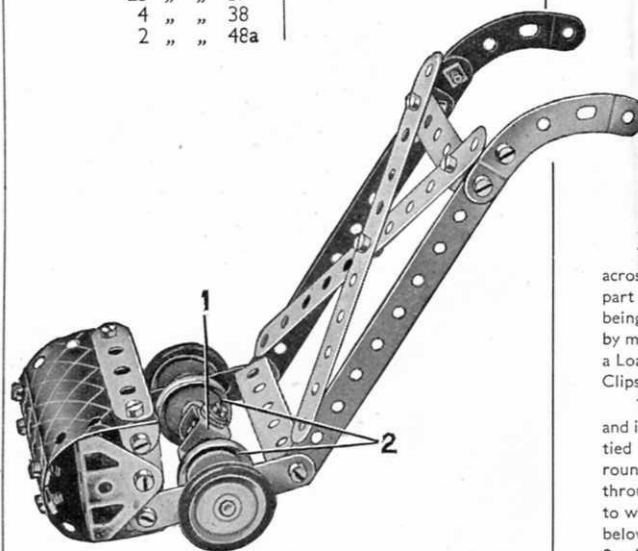
The signals are supported on Flat Trunnions bolted to the sides of the bridge. The smaller of the two signal posts is formed by two Fishplates, and the larger one is a $2\frac{1}{2}"$ Strip. The signal arms are $2\frac{1}{2}"$ Strips bolted to the posts in the second holes from one end. They are fitted at their shorter ends with $1"$ Pulleys, representing the spectacles, which are held in place by $\frac{3}{8}"$ Bolts passed through the Strips and inserted in their bosses.

2.2 LAWN MOWER

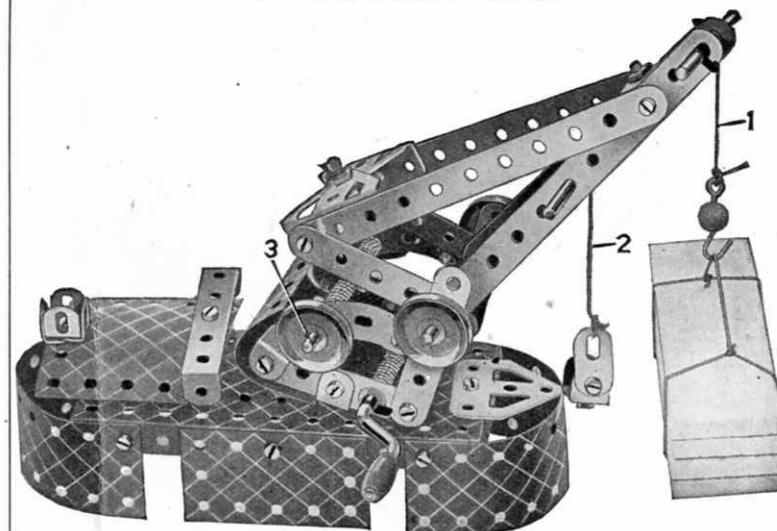
The "cutter" is made by bolting an Angle Bracket at each end of a Reversed Angle Bracket 1 and then sliding an Axle Rod through the free holes of the Brackets. The two Pulleys 2 are fixed to the Rod and pushed tightly against the "cutter" to make it rotate with the Rod as the wheels revolve. The wheels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



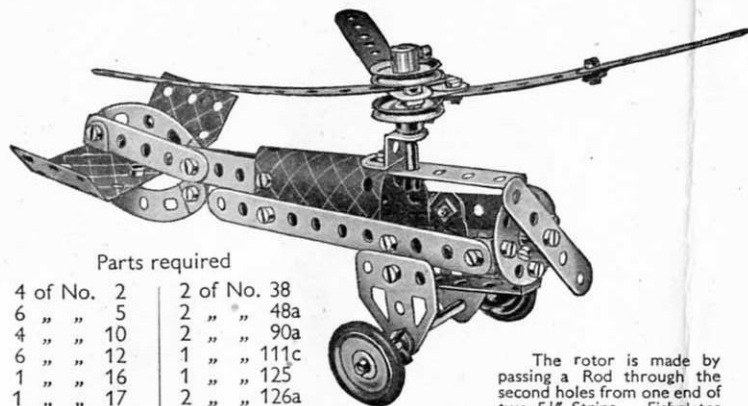
Parts required

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 $5\frac{1}{2}"$ Strips and $2\frac{1}{2}"$ 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 $2\frac{1}{2}"$ Strips and small radius Curved Strips, the two sides being connected by $2\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strips. The jib is pivoted to this structure by means of a $3\frac{1}{2}"$ 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 $\frac{3}{8}"$ 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 $\frac{1}{2}"$ Reversed Angle Bracket fixed to the Flanged Plate.

2.4 AUTOGIRO



Parts required

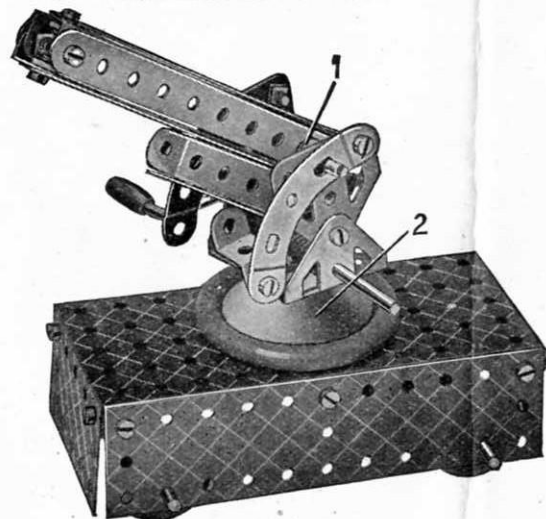
4 of No. 2	2 of No. 38
6 " " 5	2 " " 48a
4 " " 10	2 " " 90a
6 " " 12	1 " " 111c
1 " " 16	1 " " 125
1 " " 17	2 " " 126a
4 " " 22	2 " " 155
1 " " 24	2 " " 188
3 " " 35	1 " " 199
25 " " 37	

The rotor is made by passing a Rod through the second holes from one end of two 5 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

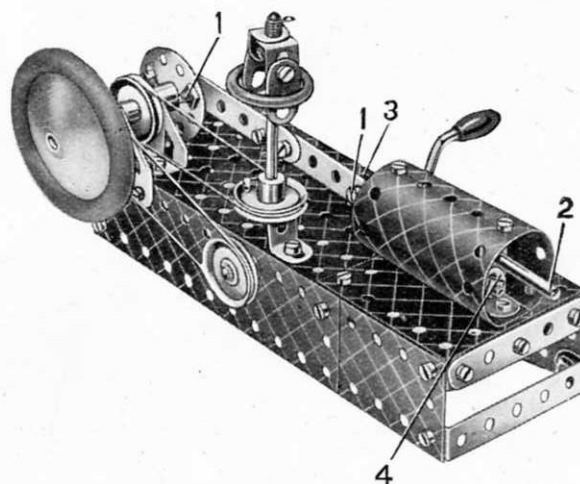


One end of a piece of Cord is fastened to the Crank Handle. It is wound round the Handle a few times and its other end is then fastened to the end of the gun. The two Trunnions are bolted to a Bush Wheel fixed on a 2" Rod that passes through the Road Wheel 2 and the Flanged Plate and is held in place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

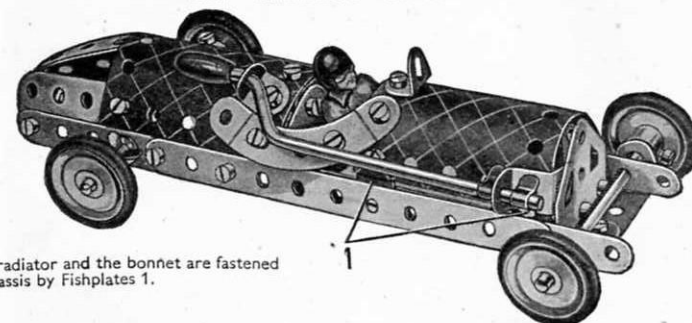


The bearings for the Rod representing the crankshaft are a Flat Trunnion and a Trunnion. The crankshaft carries a Road Wheel and a 1" Pulley at one end, a second 1" Pulley between the bearings, and a Bush Wheel at its other end.

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 3 1/2" Rod journalled in the 5 1/2" x 2 1/2" Flanged Plate and a Reversed Angle Bracket.

2.7 RACING CAR

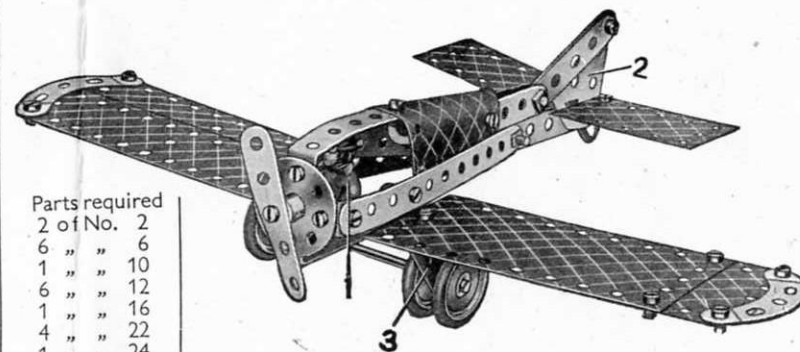


The radiator and the bonnet are fastened to the chassis by Fishplates 1.

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

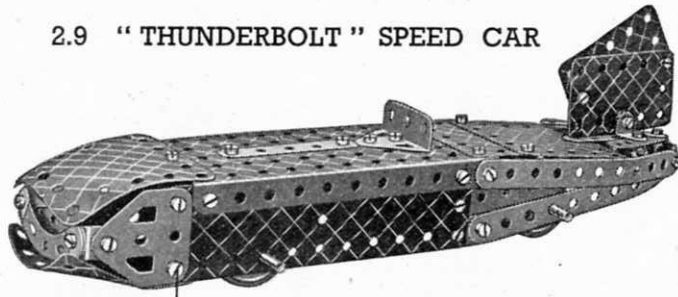


Parts required

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 2 1/2" 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

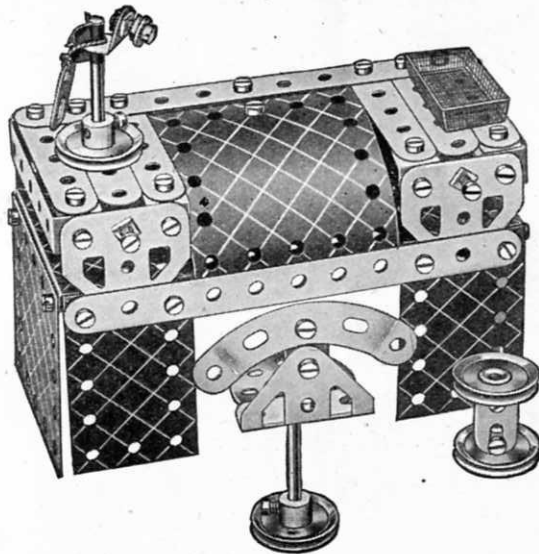


Parts required

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

A $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plate, extended at the front by a $1\frac{1}{8}"$ radius Curved Plate and at the rear by two $2\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plates, forms the top of the car. The rear part of each side is formed by two $5\frac{1}{2}"$ Strips and a $2\frac{1}{2}"$ Strip, the former being connected together at the tail by Angle Brackets. Bolts 1 hold a $2\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strip that carries the $1\frac{1}{8}"$ radius Curved Plate forming the underside of the front cowling.

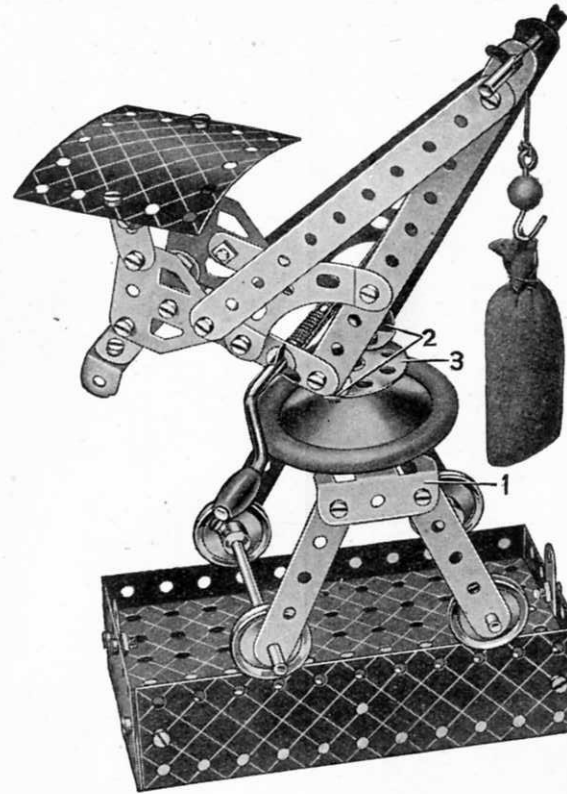
2.10 ROLL TOP DESK



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

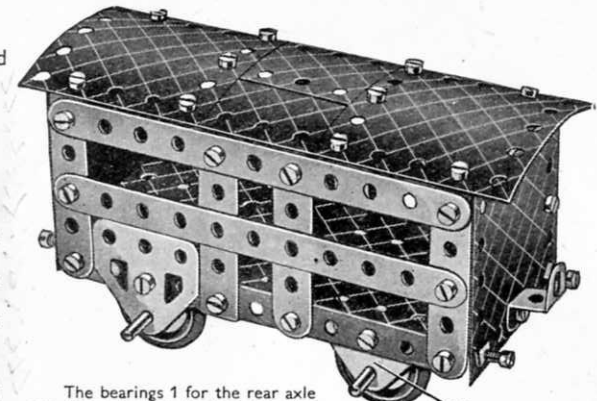


Parts required

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 $2\frac{1}{2}" \times \frac{1}{2}"$ 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.

2.12 CATTLE TRUCK



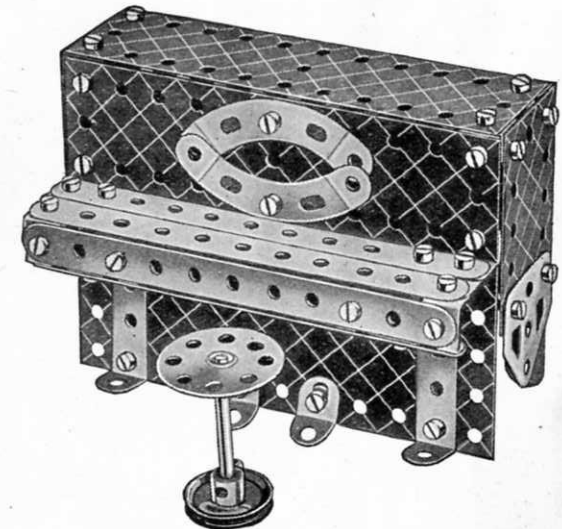
Parts required

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

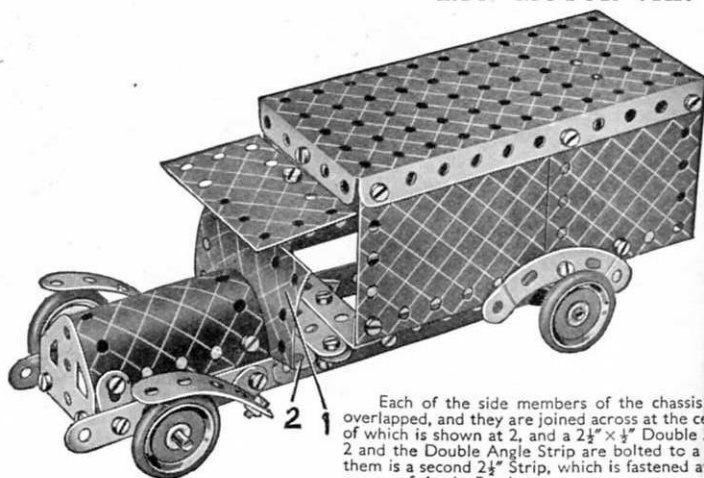
A $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plate is used for the upper part of the back and to each end of this a $2\frac{1}{2}"$ Strip is bolted to form the rear legs.



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 $5\frac{1}{2}$ " 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.

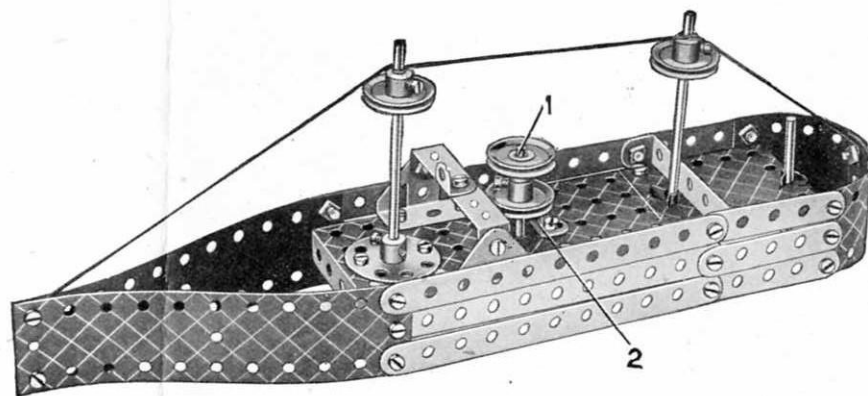
Parts required

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

2.16 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

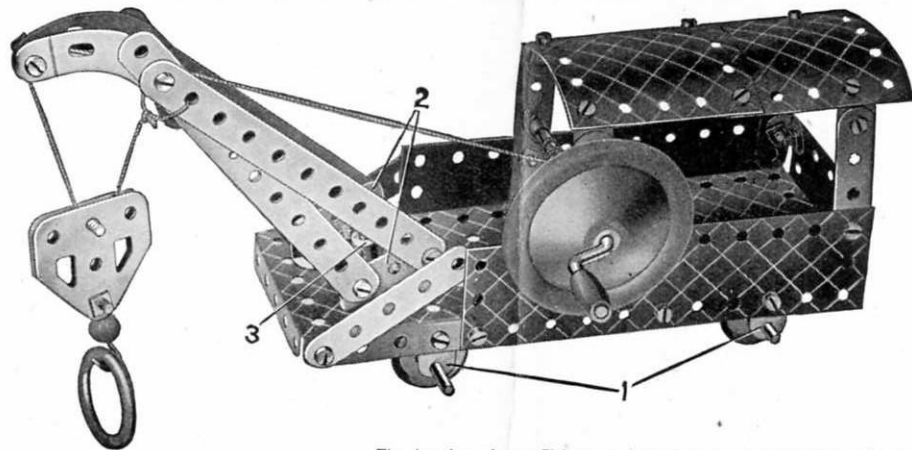


The deck of the model is a $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flanged Plate extended by a $2\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flexible Plate. A $2\frac{1}{2}$ " \times $\frac{1}{2}$ " Double Angle Strip fitted with an Angle Bracket represents the bridge, and it is supported by two Trunnions bolted to the deck. The funnel consists of a Rod 1 fitted with two $1\frac{1}{2}$ " fast Pulleys. The Rod passes through the hole in a Reversed Angle Bracket 2 and then through the Flanged Plate.

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 of No. 188
1 " " 155
1 " " 176
1 " " 187

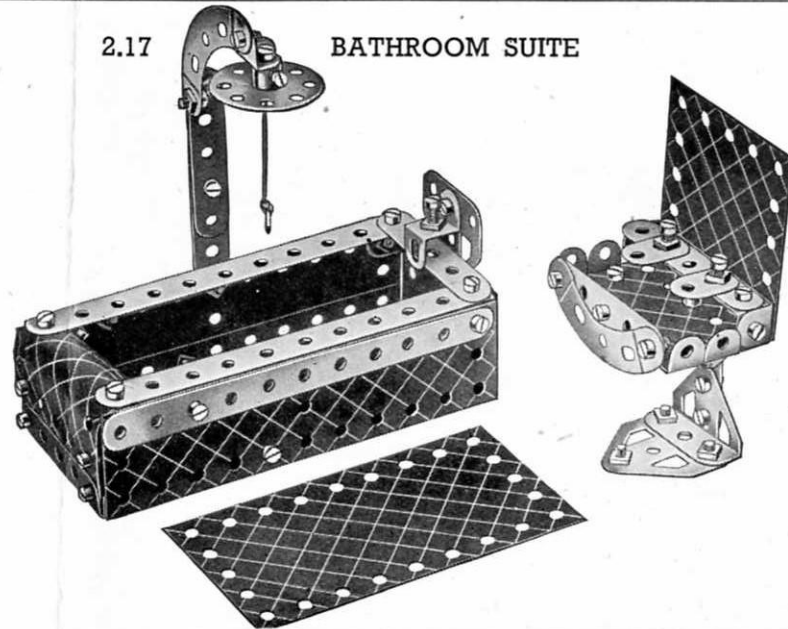


The bearings 1 are Fishplates bolted to the Flanged Plate and the Flexible Plates respectively. The jib is fastened to two Trunnions 2, which are bolted to the Bush Wheel 3. A 2" Rod is secured in the boss of the Bush Wheel 3. It then passes through a hole in the Flanged Plate, and is held in position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

2.17 BATHROOM SUITE

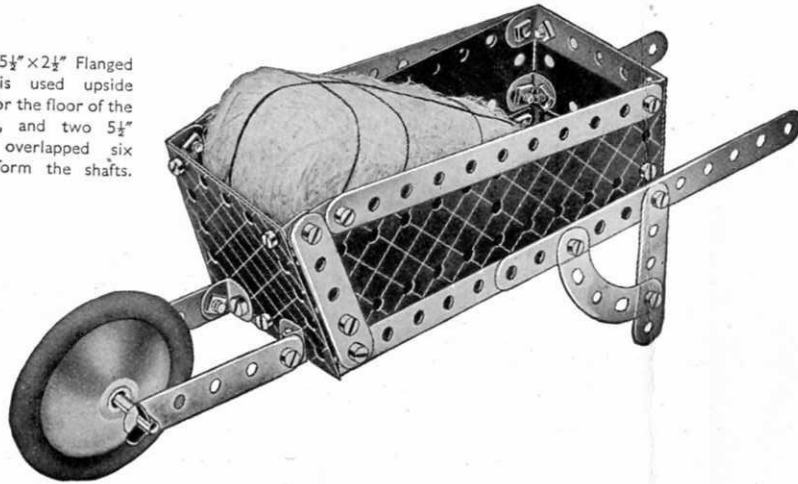
Parts required

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

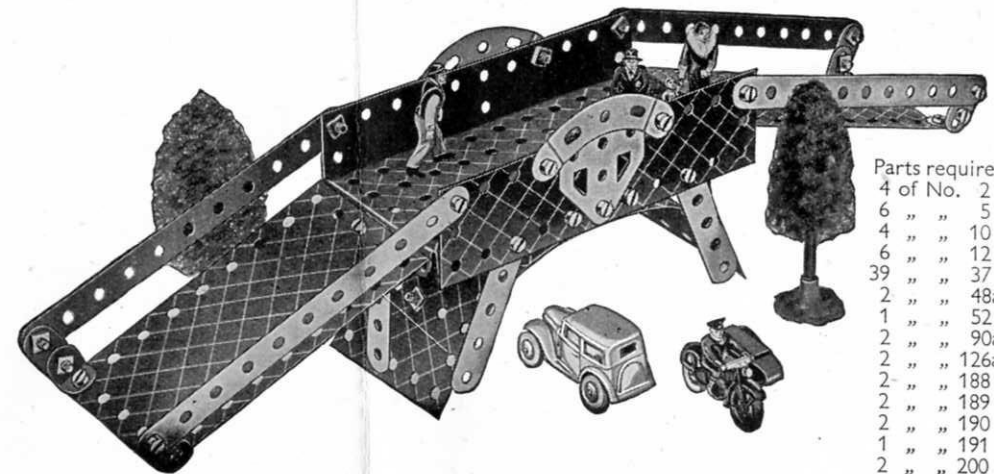
A $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plate is used upside down for the floor of the barrow, and two $5\frac{1}{2}"$ Strips overlapped six holes form the shafts.



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

2.20 ROAD BRIDGE



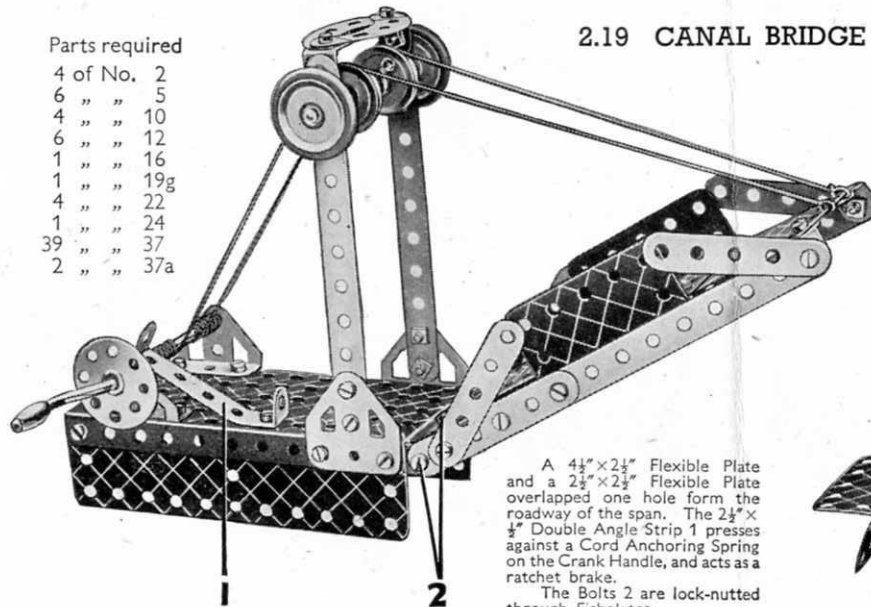
Parts required

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

2.19 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



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
(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

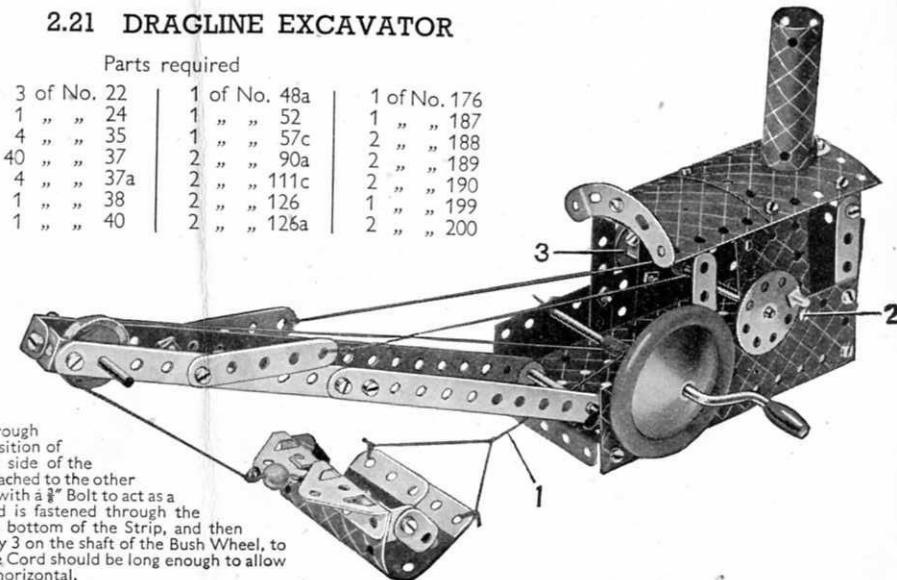
2.21 DRAGLINE EXCAVATOR

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 $\frac{3}{8}"$ 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 $\frac{3}{8}"$ 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.



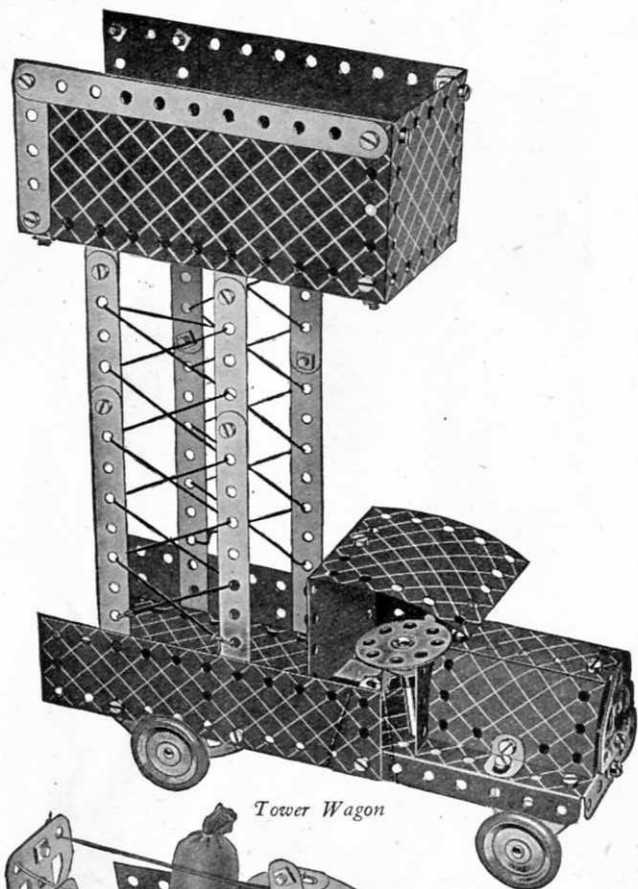
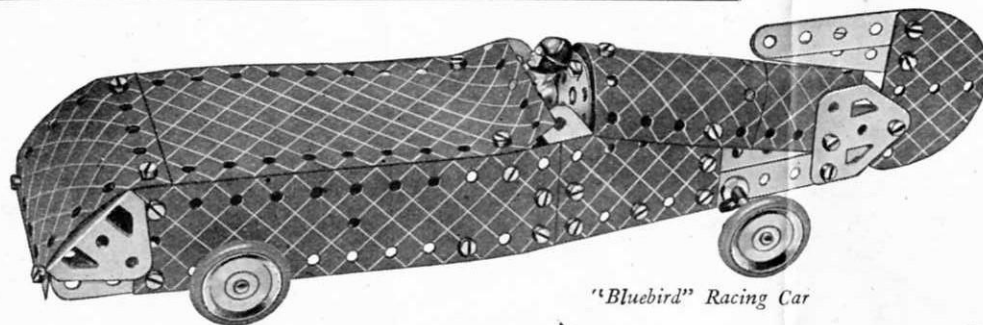
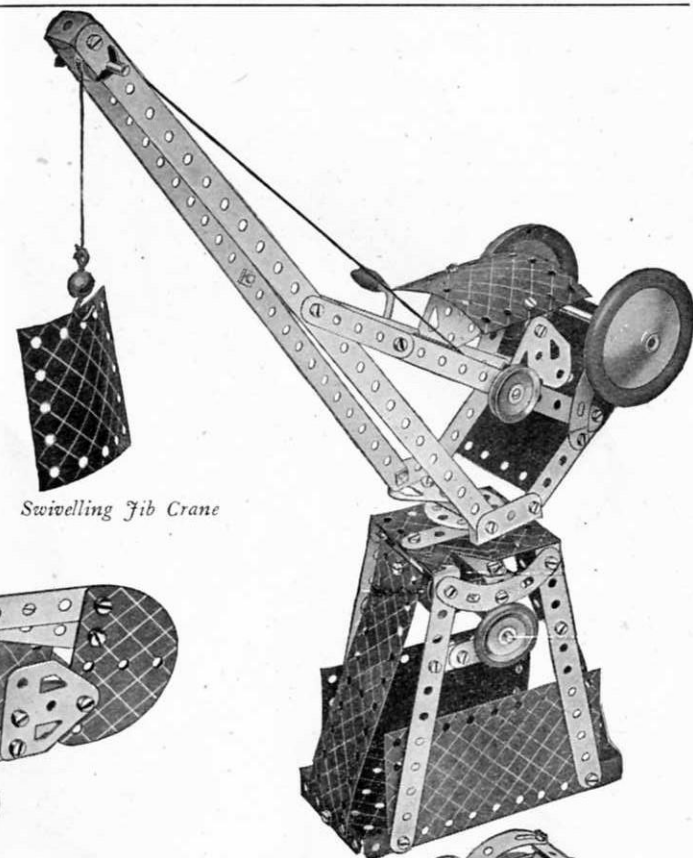
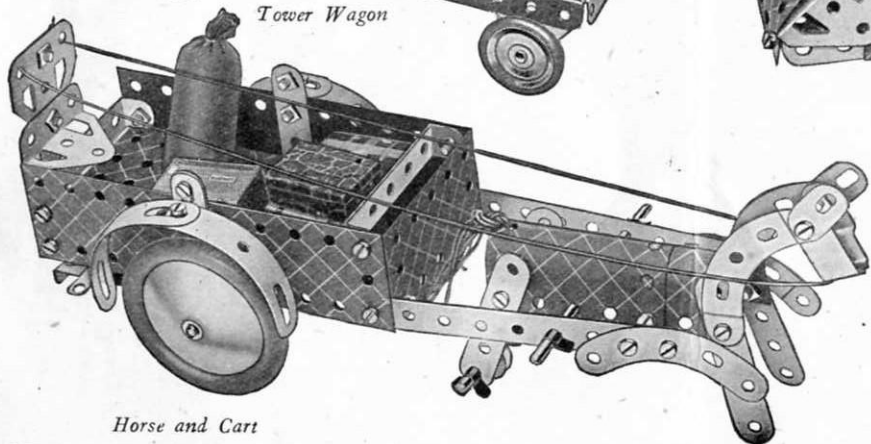
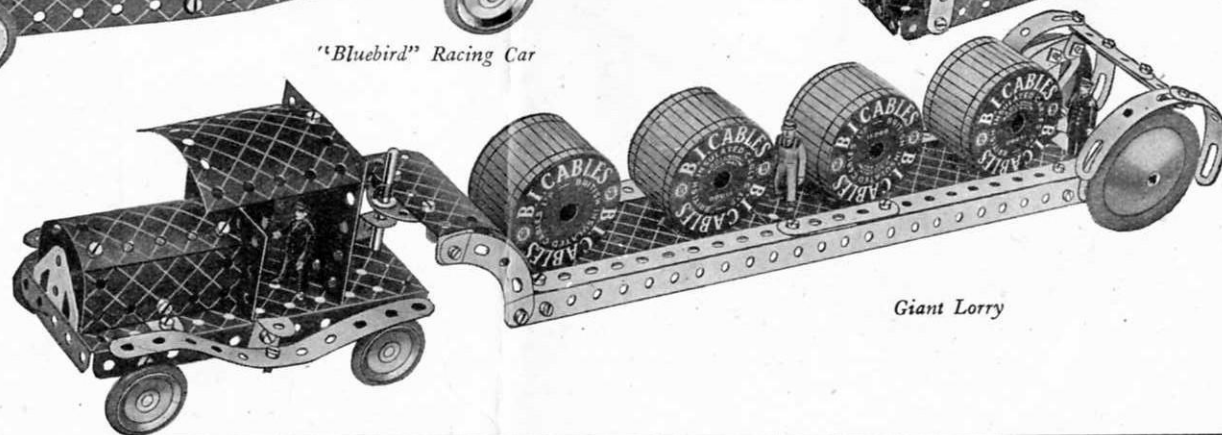
A selection of Models built with MECCANO No. 3 Outfit

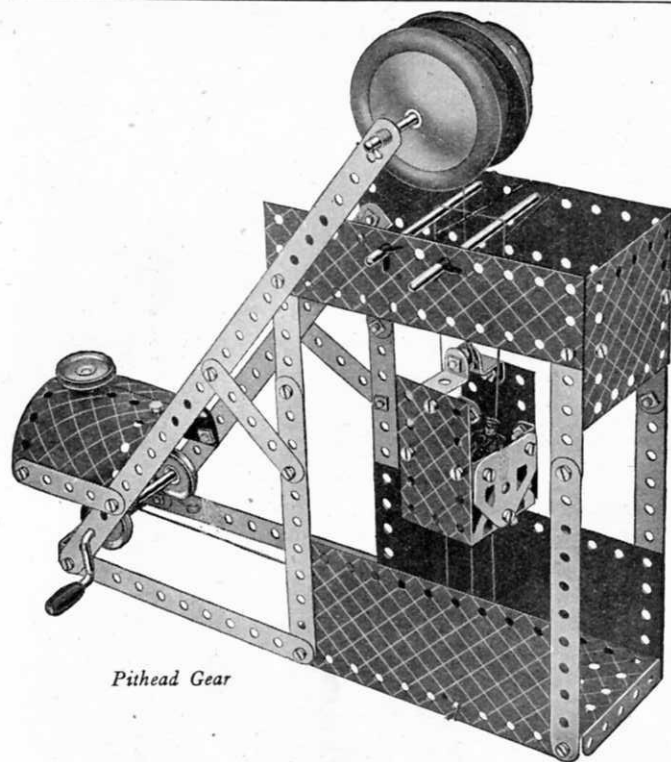
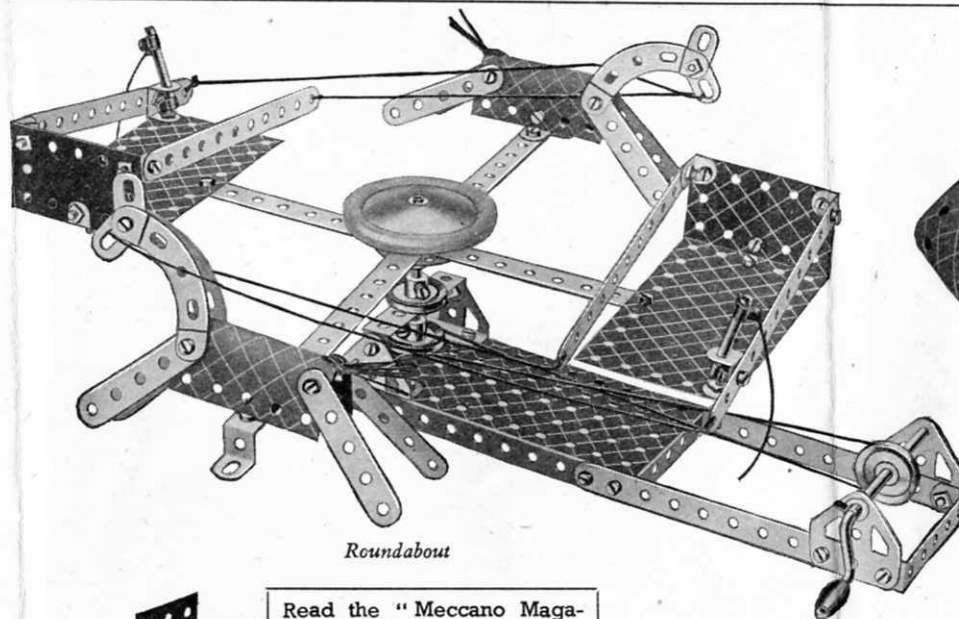
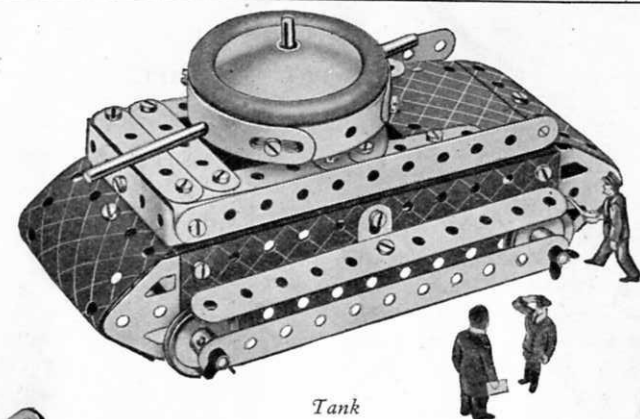
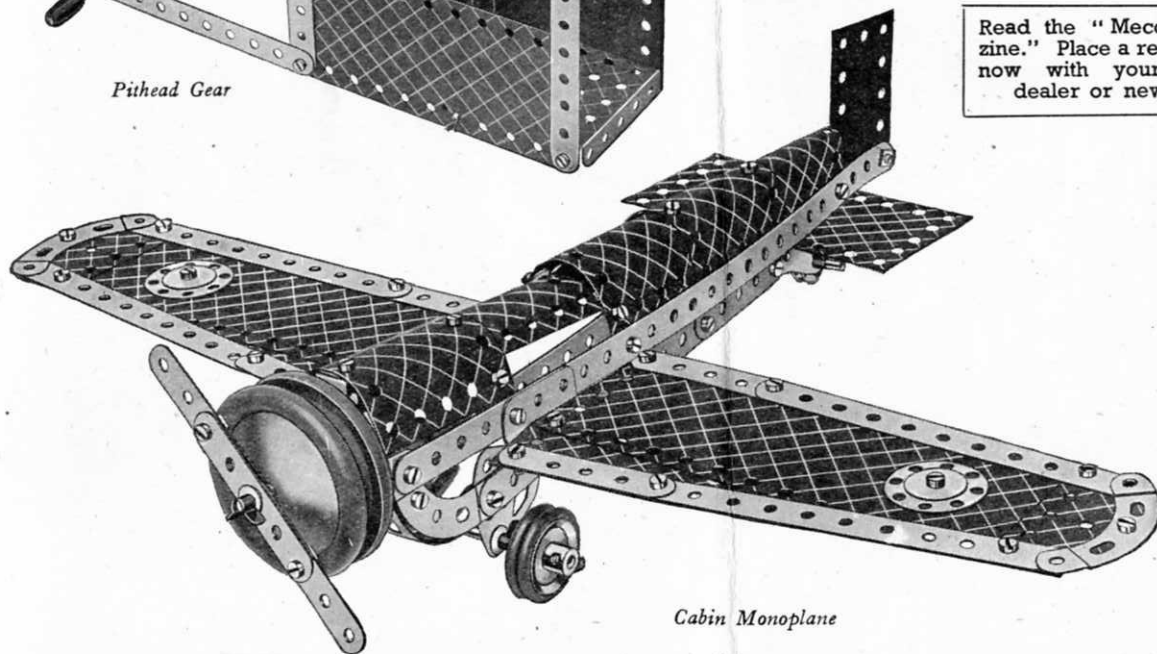
BUILD BIGGER AND BETTER MODELS

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.

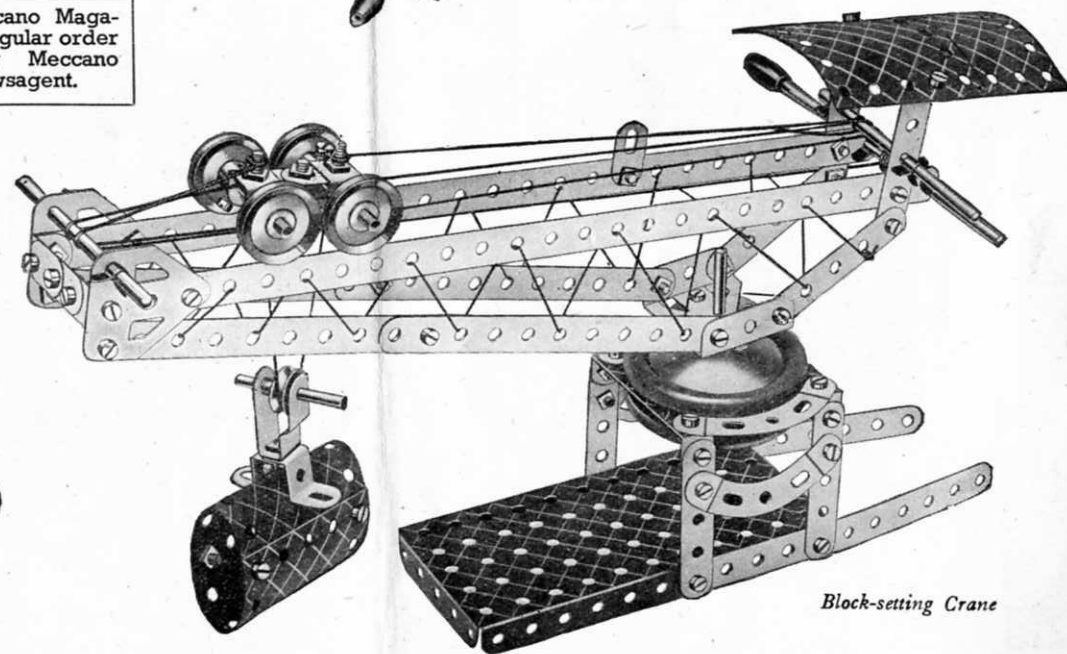
If you prefer to do so, you can build up and develop your Outfit quite easily by adding various parts to it from time to time. The model-building possibilities of the Meccano System are unlimited, and the more Meccano parts you have the bigger and better the models you will be able to build.

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

*Tower Wagon**"Bluebird" Racing Car**Swivelling Jib Crane**Horse and Cart**Giant Lorry*

*Pithead Gear**Roundabout**Tank**Cabin Monoplane*

Read the "Meccano Magazine." Place a regular order now with your Meccano dealer or newsagent.

*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

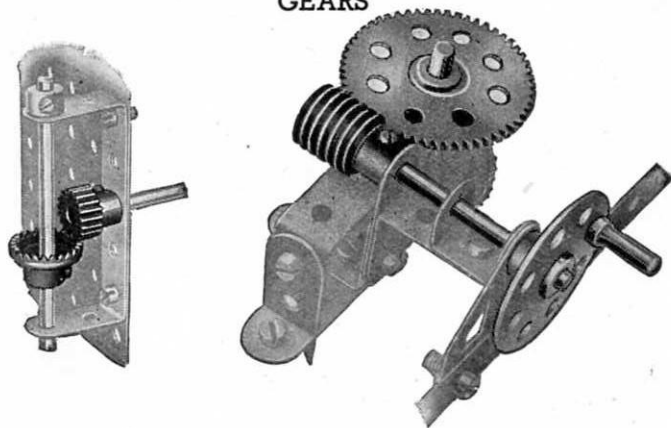


The compact rear axle drive unit illustrated above is intended chiefly for use in small models of motor cars. Two Corner Angle Brackets are secured by Bolts passing through their elongated holes to a $1\frac{1}{2}$ " Strip, to which a Double Bent Strip also is secured. The Rod carrying the Worm is passed through the centre hole of the Strips and held in position by a Collar.

The driven Rod is journaled 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 $\frac{3}{4}$ " Pinion.

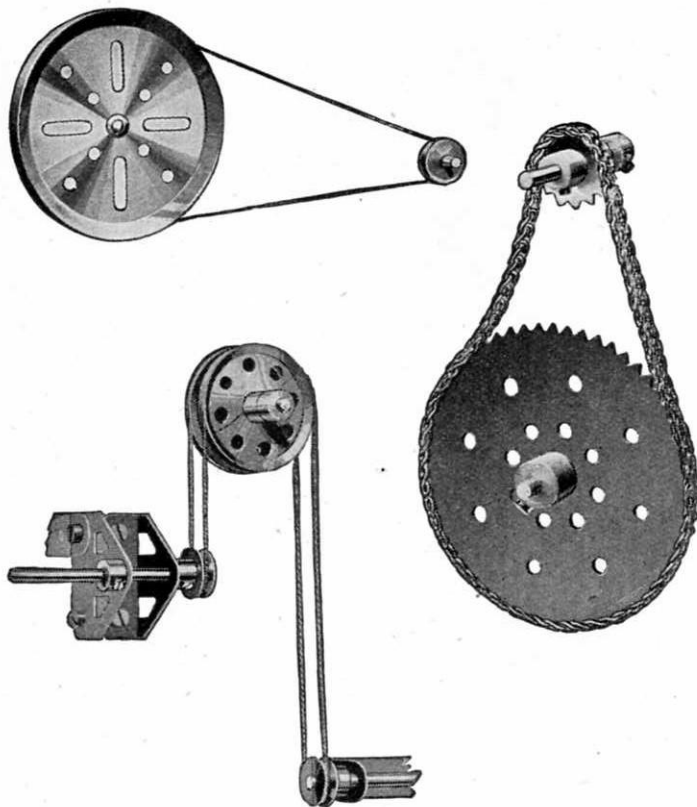
GEARS



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.

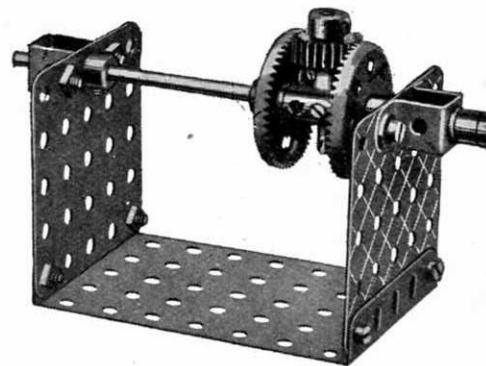
BELT AND CHAIN DRIVES



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

meccanoindex.co.uk

3
Perforated Strips

No.	12 1/2"	No.	3 1/2"
1a.	9 1/2"	4.	3 1/2"
1b.	7 1/2"	5.	2 1/2"
2.	5 1/2"	6.	2 1/2"
2a.	4 1/2"	6a.	1 1/2"

9a
Angle Girders

7.	2 1/2"	9a.	4 1/2"
7a.	1 1/2"	9b.	3 1/2"
8.	1 1/2"	9c.	2 1/2"
8a.	9 1/2"	9d.	2 1/2"
8b.	7 1/2"	9e.	2 1/2"
9.	5 1/2"	9f.	1 1/2"

10
Flat Brackets

10.	1 1/2" x 1 1/2"
11.	1 1/2" x 1 1/2"
12.	1 1/2" x 1 1/2"
12a.	1 1/2" x 1 1/2"
12b.	1 1/2" x 1 1/2"
12c.	Obtuse Angle Brackets, 1 1/2" x 1 1/2"

13
Axle Rods

13.	11 1/2"	16.	3 1/2"
13a.	8 1/2"	16a.	2 1/2"
14.	6 1/2"	16b.	2 1/2"
15.	5 1/2"	17.	2 1/2"
15a.	4 1/2"	18a.	1 1/2"
15b.	4 1/2"	18b.	1 1/2"

19g
Crank Handles, 3 1/2" with Erinoid grip

19g.	Crank Handles, 3 1/2" with Erinoid grip
19h.	" " " 3 1/2" without "
19s.	" " " 3 1/2" without "

19a
Wheels, 3" diam., with set-screws

19a.	Wheels, 3" diam., with set-screws
20.	Flanged Wheels, 1 1/2" diam.
20b.	" " " 1 1/2" diam.

19c
Pulley Wheels

19b.	3" diam. with centre boss & set-screw
19c.	6" " " " " "
20a.	2" " " " " "
21.	1 1/2" " " " " "
22.	1" " " " " "
23a.	1" " " " " and grub-screw
22a.	1" " " " " " "
23.	1/2" " " " " " "

24
Bush Wheels

24.	Bush Wheels
-----	-------------

26^b

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

27
Gear Wheels

27.	50 teeth, to gear with 1/2" pinion
27a.	57 " " " " (3 1/2" diam.)
27b.	133 " " " " (2 1/2" diam.)
27c.	95 " " " " (2 1/2" diam.)

28
Contrate Wheels, 1 1/2" diam.

28.	Contrate Wheels, 1 1/2" diam.
29.	" " " " " "

30
Bevel Gears, 1/2" 26 teeth

30.	Bevel Gears, 1/2" 26 teeth
30a.	" " " 16 " " "
30c.	" " " 1 1/2" 48 " " "

Can only be used together

31
Gear Wheels, 1", 38 teeth

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

34
Spanners

34.	Spanners
34b.	Box Spanners

35
Spring Clips

35.	Spring Clips
35a.	" " " " " box of 20
36.	Screwdrivers
36a.	" " " " " Extra Long
36b.	" " " " " Special

37
Nuts and Bolts

37.	Nuts and Bolts, 1/2" box of 12
37a.	Nuts " " " " box of 50
37b.	Bolts, 1/2" " " box of 50
37c.	Nuts and Bolts, 3/8" box of 50
37d.	" " " " " box of 144
37e.	Washers " " " " " pkt. of 20
37f.	" " " " " box of 60
37g.	" " " " " " "
37h.	" " " " " " "
37i.	" " " " " " "
37j.	" " " " " " "
37k.	" " " " " " "
37l.	" " " " " " "
37m.	" " " " " " "
37n.	" " " " " " "
37o.	" " " " " " "
37p.	" " " " " " "
37q.	" " " " " " "
37r.	" " " " " " "
37s.	" " " " " " "
37t.	" " " " " " "
37u.	" " " " " " "
37v.	" " " " " " "
37w.	" " " " " " "
37x.	" " " " " " "
37y.	" " " " " " "
37z.	" " " " " " "

40
Hanks of Cord

40.	Hanks of Cord
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41
Propeller Blades

41.	Propeller Blades
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44
Cranked Bent Strips

44.	Cranked Bent Strips
45.	Double Angle Strips, 2 1/2" x 1 1/2"
46.	" " " " " " "
47.	" " " " " " "
47a.	" " " " " " "
48.	" " " " " " "
48a.	" " " " " " "
48b.	" " " " " " "
48c.	" " " " " " "
48d.	" " " " " " "

50a
Eye Pieces, with boss

50a.	Eye Pieces, with boss
51.	Flanged Plates, 2 1/2" x 1 1/2"
52.	" " " " " " "
52a.	" " " " " " "
53.	Flanged Plates, 3 1/2" x 2 1/2"
53a.	Flat Plates, 4 1/2" x 2 1/2"

54a
Flanged Sector Plates, 4 1/2" long

54a.	Flanged Sector Plates, 4 1/2" long
55.	Perforated Strips, slotted, 5 1/2" long
55a.	" " " " " 2" long

57
Hooks

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

58
Spring Cord, 40" Length

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

 58

58. Spring Cord, 40" Length

58a. Coupling Screws for Spring Cord

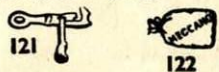
58b. Hooks for Spring Cord

 53*

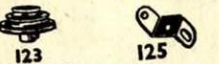
59. Collars, with grub-screws

MECCANO PARTS

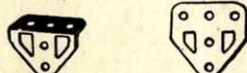
120. Buffers
120b. Compression Springs
120a. Spring Buffers



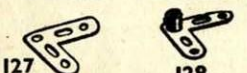
121. Train Couplings
122. Miniature Loaded Sacks



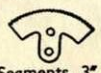
123. Cone Pulleys
124. Reversed Angle Brackets, 1"
125. " "



126. Trunnions
126a. Flat Trunnions



127. Simple Bell Cranks
128. Boss Bell Cranks



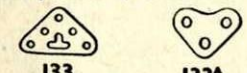
129. Rack Segments, 3" diam.



130. Eccentrics, Triple Throw



131. Dredger Buckets
132. Flywheels, 2 1/2" diam.



133. Corner Brackets, 1 1/2"
133a. " "



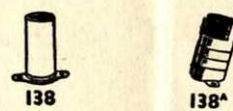
134. Crank Shafts, 1" stroke
135. Theodolite Protractors



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)



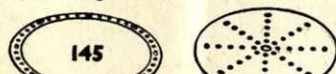
142. Rubber Rings (to fit 3" diam. rims)
142a. Motor Tyres (to fit 2" diam. rims)
142b. " " " 3" "
142c. " " " 1" "
142d. " " " 1 1/2" "



143. Circular Girders, 5 1/2" diam.



144. Dog Clutches



145. Circular Strips, 7 1/2" 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



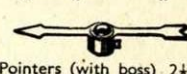
149. Collecting Shoes for Electric Locos
150. Crane Grabs



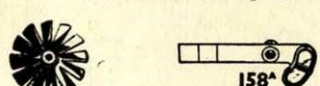
- No. 151. Pulley Blocks, Single Sheave
152. " " Two " "
153. " " Three " "



- 154a. Corner Angle Brackets, 1/2" (right-hand)
154b. Corner Angle Brackets, 1/2" (left-hand)
155. Rubber Rings (for 1" Pulleys) Black
155a. " " " White



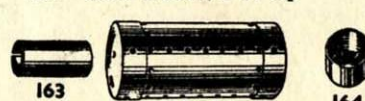
156. Pointers (with boss) 2 1/2" overall



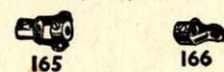
157. Fans, 2" diam.
158a. Signal Arms, Home
158b. " " Distant



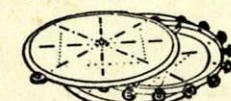
160. Channel Bearings, 1 1/2" x 1" x 1/2"
161. Girder Brackets, 2" x 1" x 1/2"



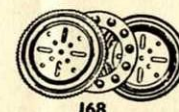
162. Boilers, complete, with ends
162a. " Ends
162b. " without ends
163. Sleeve Pieces
164. Chimney Adaptors



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)



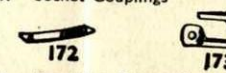
- No. 168. Ball Bearings, 4" diam.
168a. " Races, flanged discs
168b. " " toothed
168c. " Casings, complete with balls



169. Digger Buckets



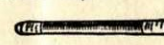
170. Eccentrics, 1/2" throw
171. Socket Couplings



172. Pendulum Connections
173. Rail Adaptors



174. Grease Cups



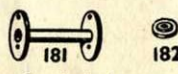
175. Flexible Coupling Units



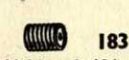
176. Anchoring Springs for Cord



177. Shafting Standards, Large
178. " " Small
179. Rod Sockets



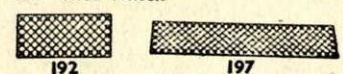
180. Toothed Gear Rings, 3 1/2" diam.
181. Bobbins
182. Insulating Bushes
182a. Insulating Washers



183. Lamp Holders
184a. 2 1/2-volt Lamps
184b. 3 1/2 " "
184c. 6-volt Lamps
184d. 10 " "
184e. 20 " "



- No. 185. Steering Wheels, 1 1/2" diam.
186. Driving Bands, 2 1/2" (Light)
186a. " " 6" "
186b. " " 10" "
186c. " " 10" (Heavy)
186d. " " 15" "
186e. " " 20" "
187. Road Wheels



- Flexible Plates.
188. 2 1/2" x 1 1/2"
189. 5 1/2" x 1 1/2"
190. 2 1/2" x 2 1/2"
190a. 3 1/2" x 2 1/2"
Strip Plates.
191. 4 1/2" x 2 1/2"
192. 5 1/2" x 2 1/2"
196. 9 1/2" x 2 1/2"
197. 12 1/2" x 2 1/2"



198. Hinged Flat Plates, 4 1/2" x 2 1/2"
199. Curved Plates, U-Section 2 1/2" x 2 1/2" x 1/8"
200. " " 2 1/2" x 2 1/2", 1 1/8" radius



201. Lamps with Flex (3 1/2 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



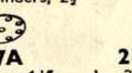
- 211a. Helical Gear 1/2" { Can only be
211b. " " 1 1/2" used together



212. Rod and Strip Connectors
213. Rod Connectors



215. Semi-Circular Plates 2 1/2"
214. Formed Slotted Strips 3"



- 217A. Discs, 1 1/2" | 217B. Discs 3/4"
219. Wheel Discs