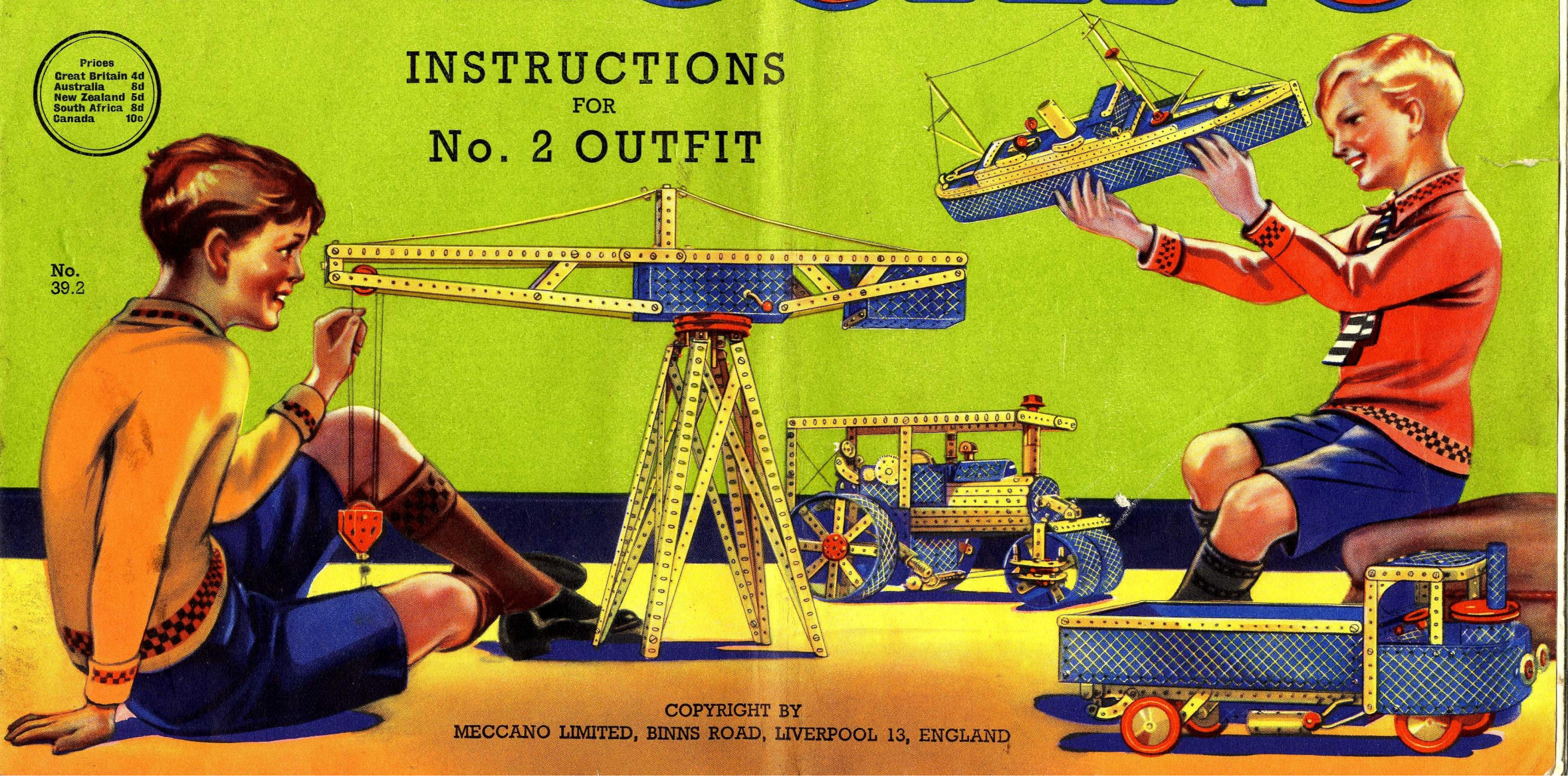
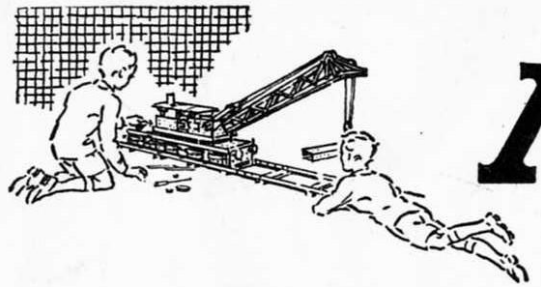
MECCANO

Prices
Great Britain 4d
Australia 8d
New Zealand 5d
South Africa 8d
Canada 10c

INSTRUCTIONS
FOR
No. 2 OUTFIT

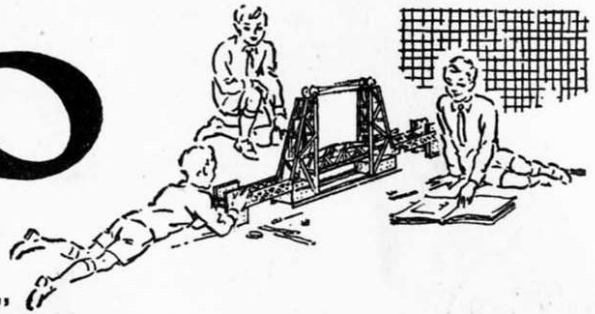
No.
39.2





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.

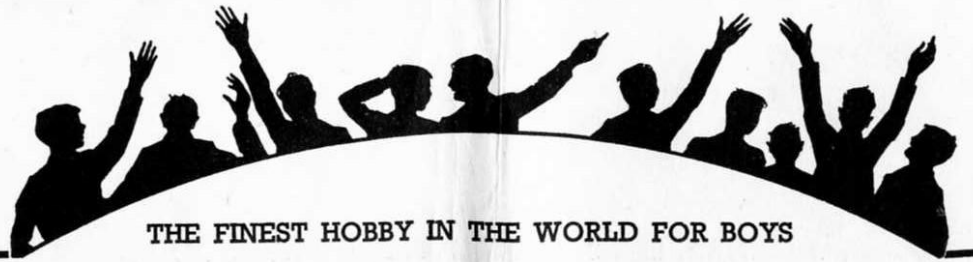
The " Meccano Magazine " is the finest of all papers for boys who are interested in the wonderful things going on in the world around them. It is published on the first of each month. If you are not already a reader write to the Editor for full particulars, or order a copy from your Meccano dealer, or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

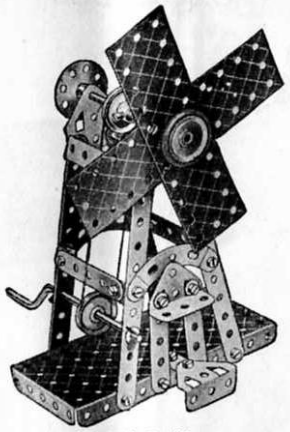
The service of Meccano does not end with selling an Outfit and an Instruction Manual. If ever you are in any difficulty with your models, or if you want advice on anything connected with this great hobby, write to us. We receive every day hundreds of letters from boys in all parts of the world, and each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

HOW TO COMMENCE THE FUN

THE MOST FASCINATING OF ALL HOBBIES

Meccano model-building is the most fascinating of all hobbies, because it never becomes dull. There is always something new to be done. First of all there is the fun of building a new model, and watching it take shape as part after part is added. Then, when the model is complete, comes the thrill of setting it to work just like the real structure it represents, by means of a Meccano Motor. This wonderful process can be repeated indefinitely, for there is no end to the number of Meccano models that can be built. Another point is that models built with Meccano are real engineering structures in miniature, and the keen model-builder has wonderful opportunities for learning the working of machines and mechanisms of all kinds. So he acquires practical engineering knowledge without special study.

It is so simple to build Meccano models that operations can be started as soon as the first Outfit is opened. Different boys build in different ways, but in the end they all reach the same splendid results. The following hints are given with the object of showing boys who are just commencing the wonderful Meccano hobby how to obtain the greatest possible fun.



Windmill

THE IMPORTANCE OF "LOCK-NUTTING"

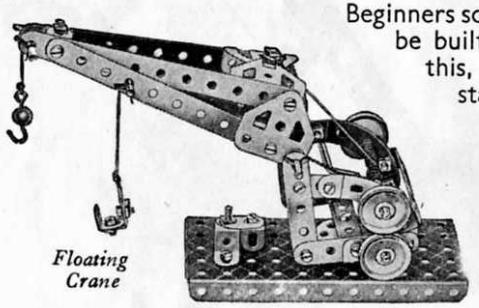
In building models in which Rods revolve in the holes of other parts it is important to make sure that such holes are exactly in line with one another. This can be done very easily by pushing through the holes a long Rod before the Bolts holding the various parts are tightened up.

In some models it is necessary to join certain parts together, so that, although they cannot come apart, they are free to pivot or move in relation to one another. To do this the parts are bolted together as usual, but the Nut is not screwed up tightly, so that the parts are not gripped. Then, to prevent the Nut from unscrewing, a second Nut is screwed up tightly against it, the first, meanwhile, being held with a spanner. This method of using a second Nut is known as lock-nutting, and it is employed in a large number of Meccano models.

During the construction of a model it is best to screw up the Nuts with the fingers, followed by just a light turn with the screwdriver, leaving the final tightening with spanner and screwdriver until all the parts are connected up.

A FEW USEFUL HINTS

It will be noticed that with each model shown in this Manual of Instructions is given a list of the parts required to build it. For the first few models it is a good plan to lay out on the table all the parts required for the one it is proposed to build, and put the remainder of the Outfit on one side. To help you to pick out the correct parts for your model a complete list of Meccano parts is given at the back of this Manual, and all the principal parts are illustrated. In the list the parts are all numbered, and in most cases their measurements are given. There is no need, however, to measure the parts to find out which is which, as the size is easily found from the number of holes. All Meccano holes are spaced $\frac{1}{2}$" apart, so that by counting two holes to the inch the size of a part can be found at once. For instance, Part No. 2 is listed as a $5\frac{1}{2}$" Perforated Strip, so you look in your Outfit for a Strip with eleven holes. Similarly No. 192 is a $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flexible Plate, so you look for a Flexible Plate eleven holes in length and five holes in width. By the time a few models have been built the names of the parts will have become familiar.



Floating Crane

Beginners sometimes wonder which section of a model should be built first. There cannot be any definite rule for this, as it depends on the design of the model. In stationary models the base usually should be built first. In most of the smaller models a $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plate forms an important part of the structure, and often the best plan is to start building by bolting parts to this Plate. For other models a good general rule is that the sections that form supports for a number of other parts should be built first.

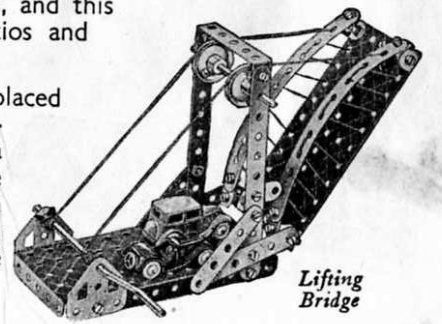
MOTORS AND GEARING

Models can be operated by means of either Meccano Clockwork or Electric Motors.

The Clockwork Motors have the advantage of being self-contained and extremely simple. If only a small amount of power is needed, the model may be driven direct from the driving spindle of the Motor or through a belt running over two pulleys of the same size, giving what is described as a 1:1 (one-to-one) ratio. Greater power can be obtained by a reduction in the speed of the drive, which can be produced in a simple manner by connecting a small pulley on the Motor to a larger pulley by means of a belt. Thus if a 1" Pulley is made to drive a 3" Pulley, a reduction ratio of approximately 1:3 is obtained. This means that the driven shaft will take about three times the load that the driving shaft would handle, but will rotate at only one-third of the speed. Rubber bands are better than Cord for driving belts for most purposes.

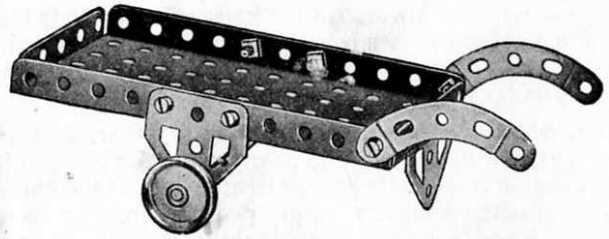
The Electric Motors have the advantage of giving long continuous runs. Their speed is much higher than that of the Clockwork Motors, and this makes it possible to employ higher reduction ratios and thus obtain greater power.

With the larger Outfits, belt drive can be replaced with advantage by gearing. To operate a slow-moving model demanding great power, such as a traction engine, gears that will provide a considerable reduction must be used. For example, a Worm meshed with a $\frac{1}{2}$" Pinion will give a 1:19 reduction; while a Worm meshed with a 57-teeth Gear will give a 1:57 reduction.



Lifting Bridge

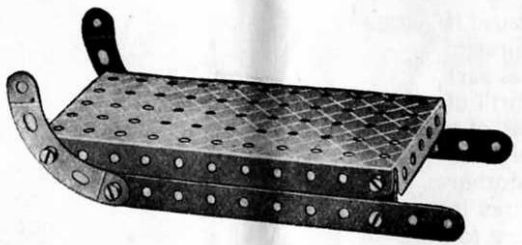
0.1 HAND CART



Parts required

1 of No. 16	1 of No. 52	2 of No.126a
2 „ „ 22	2 „ „ 90a	2 „ „ 155a
8 „ „ 37	1 „ „ 126	

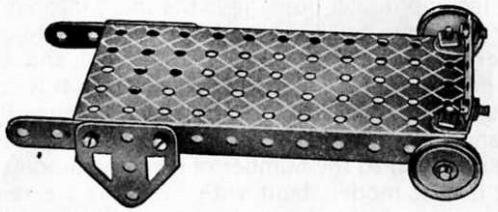
0.2 SLEDGE



Parts required

2 of No. 2	8 of No. 37	2 of No. 90a
2 „ „ 10	1 „ „ 52	

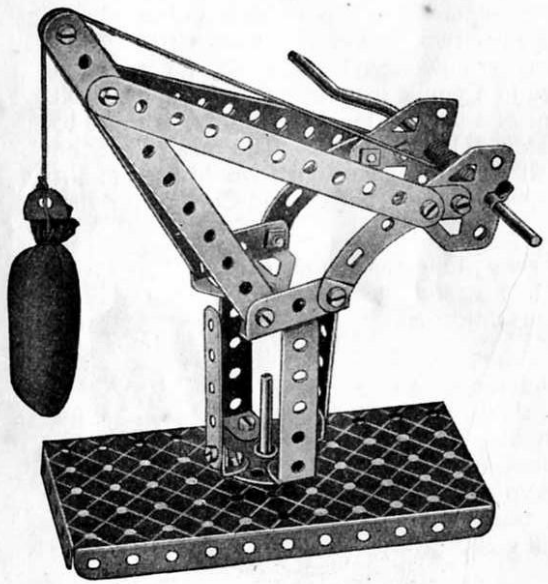
0.3 FLAT TRUCK



Parts required

2 of No. 5	2 of No. 22	1 of No. 90a
2 „ „ 12	8 „ „ 37	2 „ „ 126a
1 „ „ 16	1 „ „ 52	2 „ „ 155a

0.4 DOCKSIDE CRANE



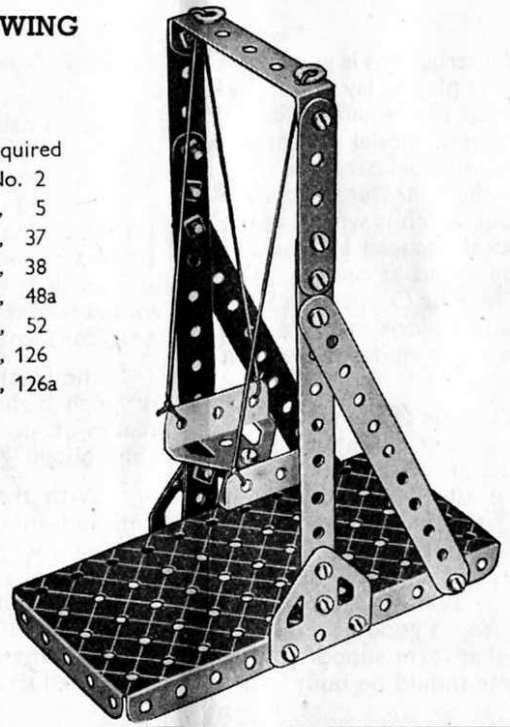
Parts required

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

0.5 SWING

Parts required

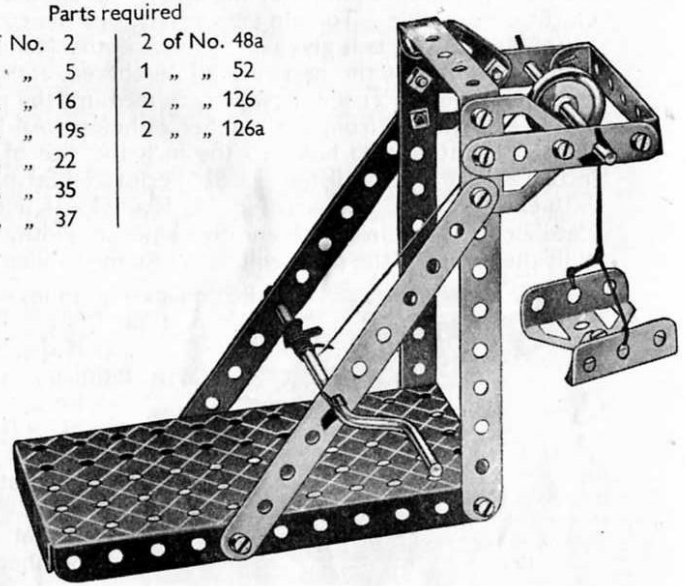
4 of No.	2
2 „ „	5
18 „ „	37
2 „ „	38
1 „ „	48a
1 „ „	52
2 „ „	126
2 „ „	126a



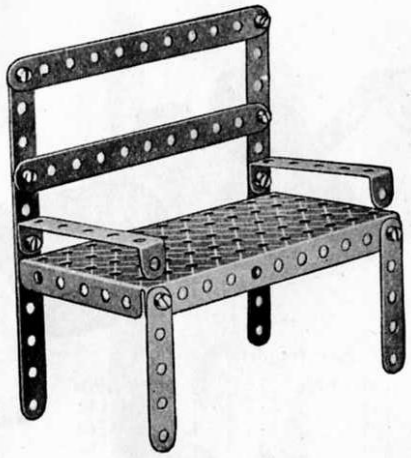
0.6 ELEVATOR

Parts required

4 of No. 2	2 of No. 48a
2 „ „ 5	1 „ „ 52
1 „ „ 16	2 „ „ 126
1 „ „ 19s	2 „ „ 126a
1 „ „ 22	
4 „ „ 35	
15 „ „ 37	



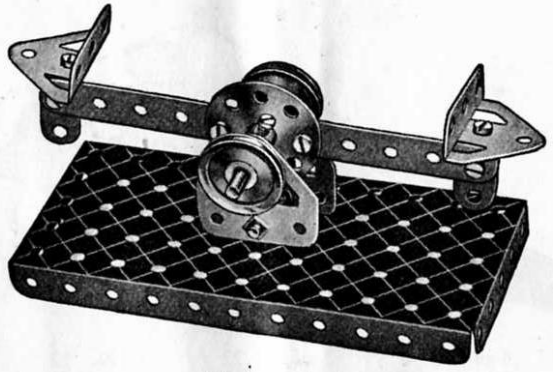
O.7 GARDEN SEAT



Parts required

4	of No.	2
2	„ „	5
10	„ „	37
2	„ „	48a
1	„ „	52

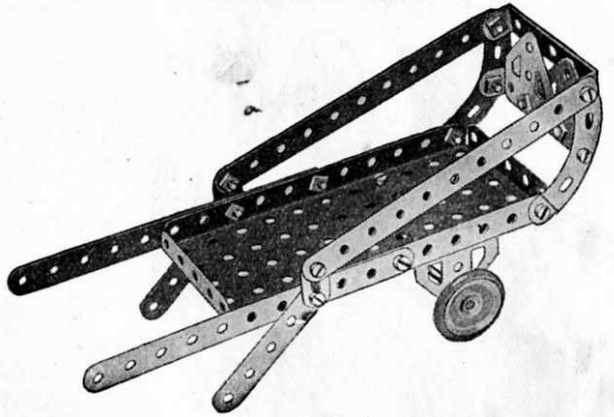
O.8 COUNTER SCALES



Parts required

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

O.9 COSTER'S BARROW



Parts required

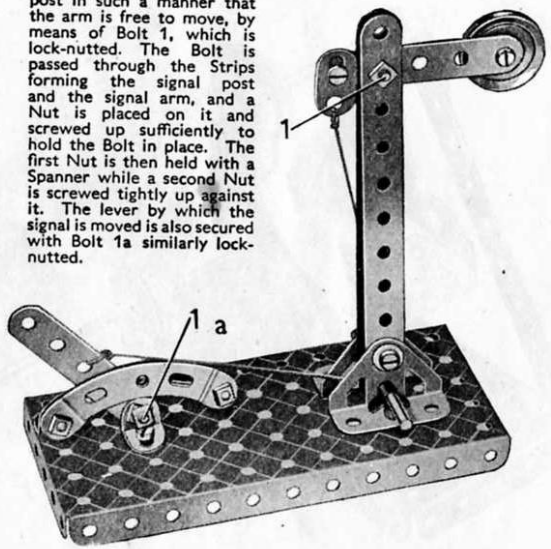
4	of No. 2	2	of No. 22	2	of No. 90a
2	„ „ 5	16	„ „ 37	2	„ „ 126
2	„ „ 10	2	„ „ 48a	2	„ „ 126a
1	„ „ 16	1	„ „ 52	2	„ „ 155a

O.10 SIGNAL

Parts required

2	of No.	2
2	„ „	5
1	„ „	10
3	„ „	12
1	„ „	17
1	„ „	22
2	„ „	35
11	„ „	37
3	„ „	37a
2	„ „	38
1	„ „	52
2	„ „	90a
2	„ „	111c
2	„ „	126

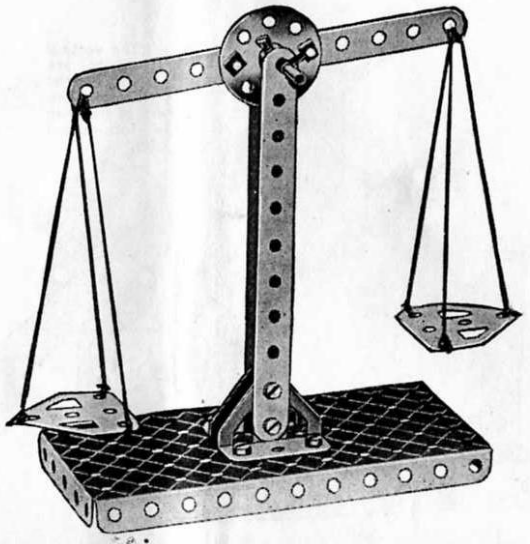
Fix the signal arm to the post in such a manner that the arm is free to move, by means of Bolt 1, which is lock-nutted. The Bolt is passed through the Strips forming the signal post and the signal arm, and a Nut is placed on it and screwed up sufficiently to hold the Bolt in place. The first Nut is then held with a Spanner while a second Nut is screwed tightly up against it. The lever by which the signal is moved is also secured with Bolt **1a** similarly lock-nutted.



O.11 SCALES

Parts required

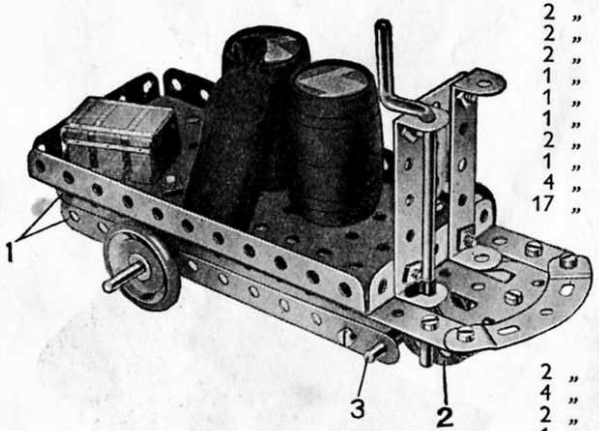
3	of No.	2
1	„ „	17
1	„ „	24
2	„ „	35
10	„ „	37
1	„ „	52
2	„ „	126
2	„ „	126a



O.12 ELECTRIC TRUCK

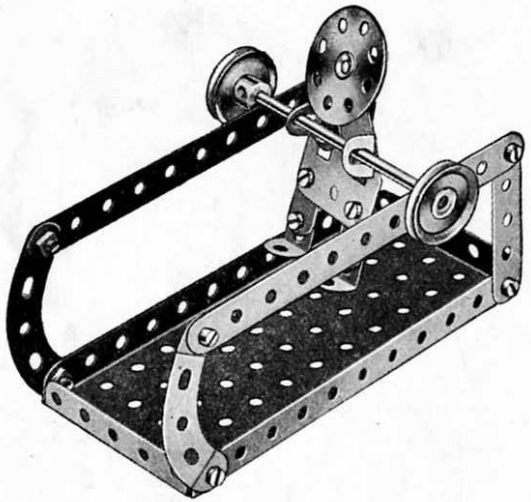
Parts required

4	of No.	2
2	„ „	5
2	„ „	10
2	„ „	12
1	„ „	16
1	„ „	17
1	„ „	19s
2	„ „	22
1	„ „	24
4	„ „	35
17	„ „	37
2	„ „	37a
4	„ „	38
2	„ „	48a
1	„ „	52
2	„ „	90a
2	„ „	111c
2	„ „	126
2	„ „	126a
2	„ „	155a



The two 5½" Strips **1** are fastened to the Flanged Plate by two Trunnions secured to the Plate on the underneath side. A Bush Wheel **2** is fixed on the Axle Rod **3**, which passes through the end holes of the 5½" Strips that form the sides of the truck frame.

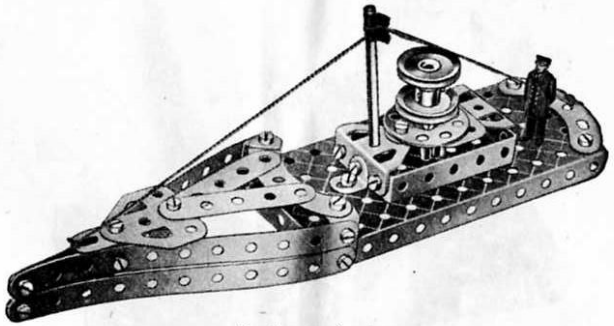
O.13 ACROBAT



Parts required

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

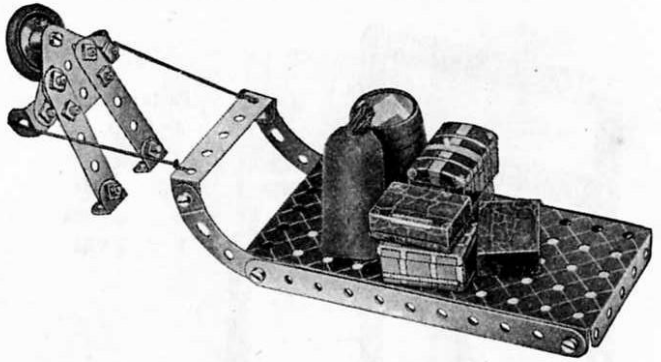
O.14 BATTLESHIP



Parts required

4	of No.	2
2	„ „	5
3	„ „	10
4	„ „	12
1	„ „	16
1	„ „	17
2	of No.	22
1	„ „	24
3	„ „	35
18	„ „	37
1	„ „	37a
2	„ „	48a
1	of No.	52
2	„ „	90a
1	„ „	111c
2	„ „	126
2	„ „	126a

O.15 ESKIMO BOY AND SLEDGE



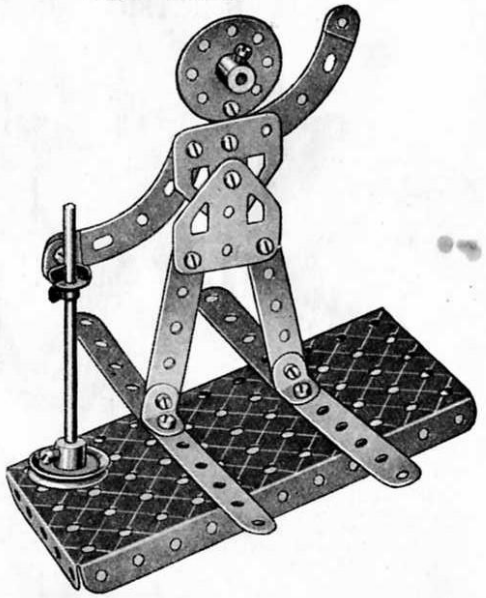
Parts required

2	of No.	2
2	„ „	5
2	„ „	10
4	„ „	12
1	of No.	22
14	„ „	37
1	„ „	48a
1	„ „	52
2	of No.	90a
1	„ „	111c
1	„ „	126a
1	„ „	155a

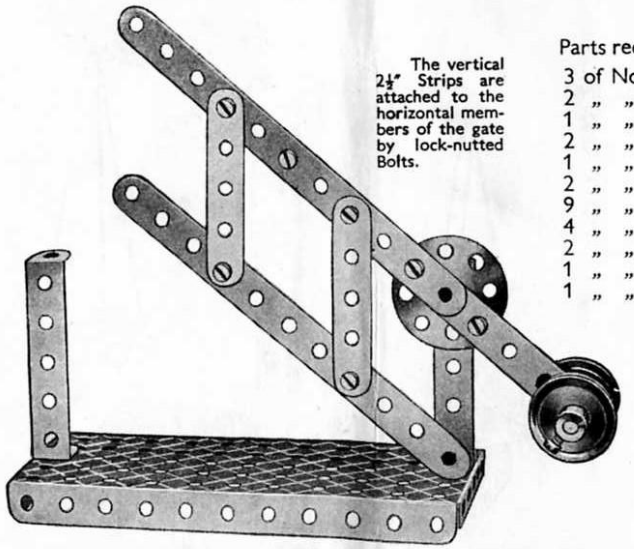
O.16 SKIER

Parts required

2	of No.	2
2	„ „	5
1	„ „	10
3	„ „	12
1	„ „	16
1	„ „	22
1	„ „	24
2	„ „	35
11	„ „	37
1	„ „	52
2	„ „	90a
2	„ „	126a



O.17 LEVEL CROSSING BARRIER

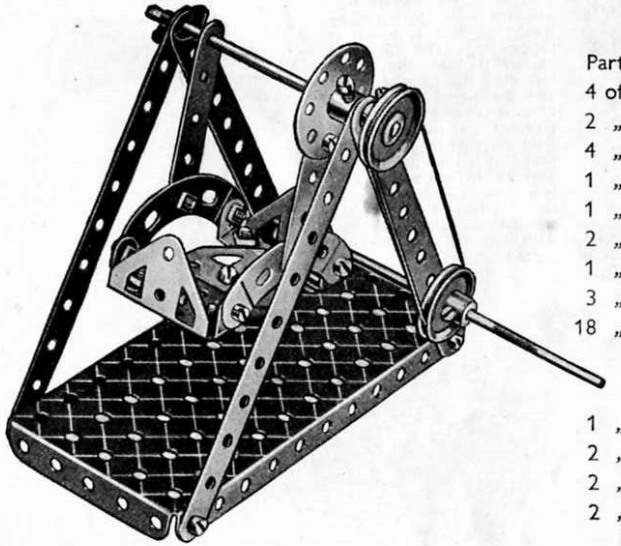


The vertical 2½" Strips are attached to the horizontal members of the gate by lock-nutted Bolts.

Parts required

3	of No.	2
2	„ „	5
1	„ „	17
2	„ „	22
1	„ „	24
2	„ „	35
9	„ „	37
4	„ „	37a
2	„ „	48a
1	„ „	52
1	„ „	111c

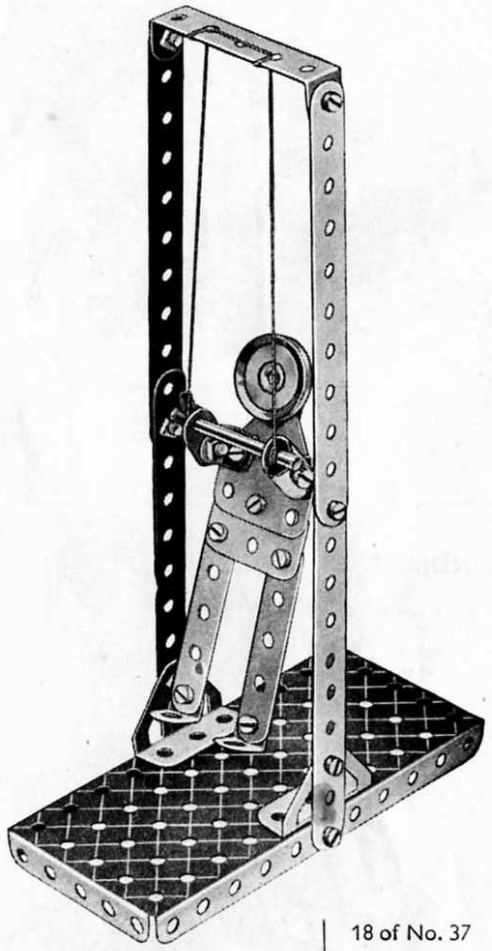
O.18 SWING-BOAT



Parts required

4	of No.	2
2	„ „	5
4	„ „	12
1	„ „	16
1	„ „	19s
2	„ „	22
1	„ „	24
3	„ „	35
18	„ „	37
1	„ „	52
2	„ „	90a
2	„ „	126
2	„ „	126a

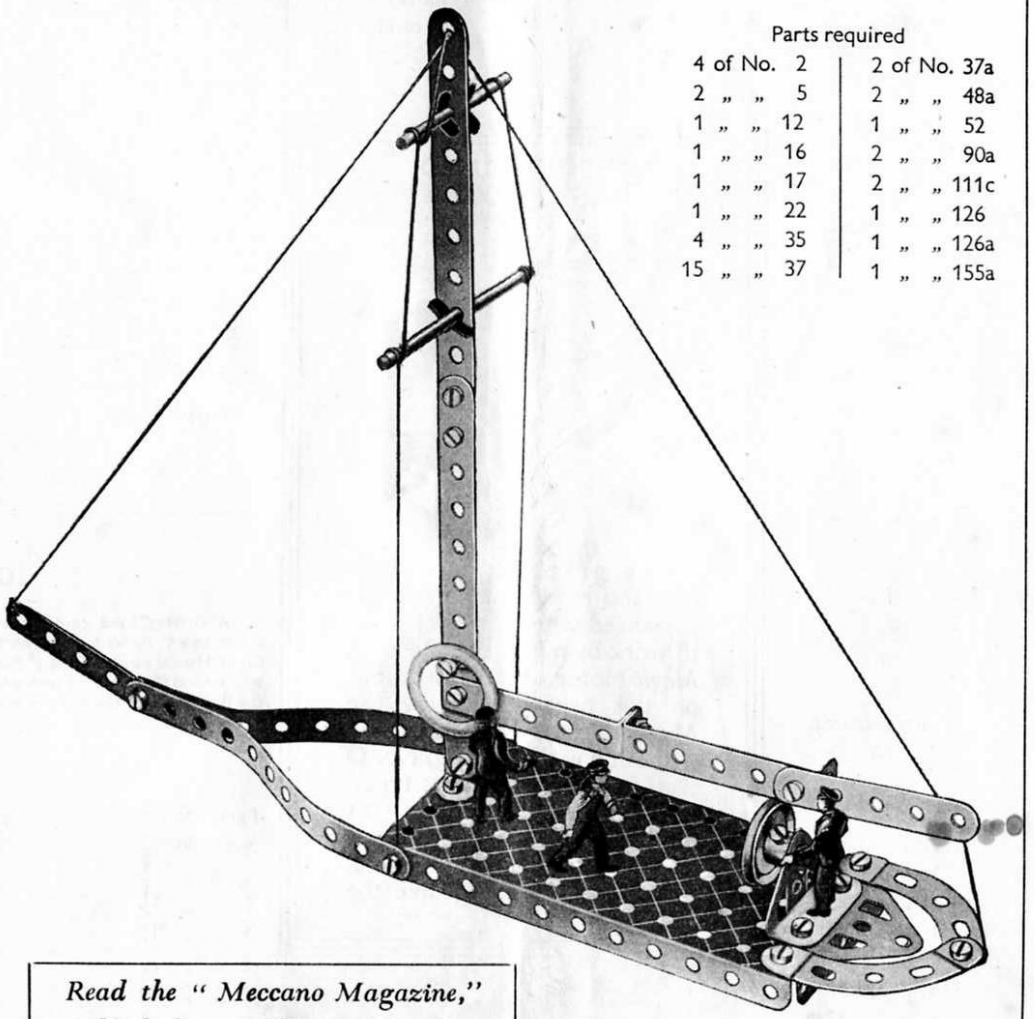
O.19 TRAPEZE ARTIST



Parts required

4 of No.	2	4 of No.	12
2 „ „	5	1 „ „	17
3 „ „	10	1 „ „	22
		2 „ „	35
		18 of No.	37
		1 „ „	48a
		1 „ „	52
		1 „ „	111c
		2 „ „	126
		2 „ „	126a

O.20 SAILING BOAT



Parts required

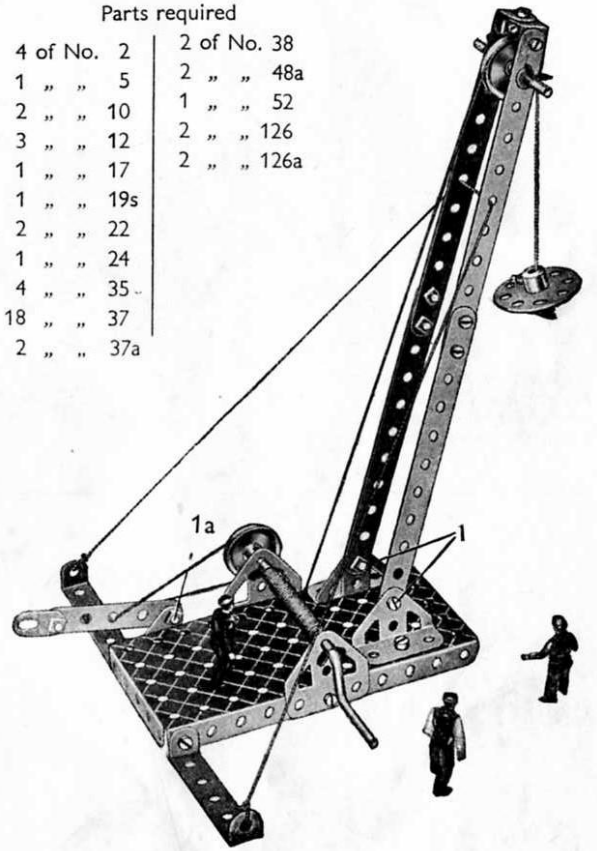
4 of No.	2	2 of No.	37a
2 „ „	5	2 „ „	48a
1 „ „	12	1 „ „	52
1 „ „	16	2 „ „	90a
1 „ „	17	2 „ „	111c
1 „ „	22	1 „ „	126
4 „ „	35	1 „ „	126a
15 „ „	37	1 „ „	155a

Read the "Meccano Magazine," published monthly. Ask your dealer for full particulars.

O.21 DERRICK CRANE

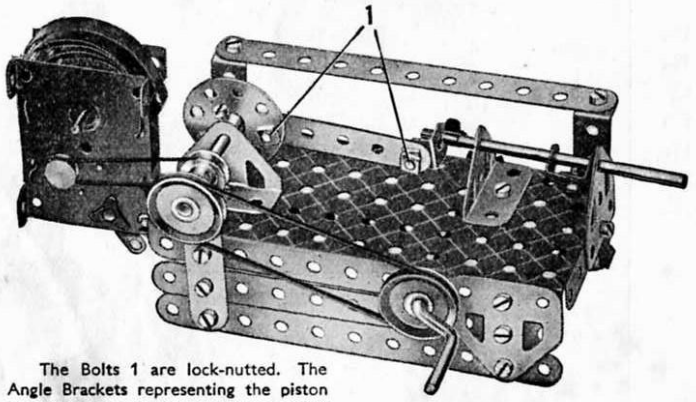
Parts required

4 of No.	2	2 of No.	38
1 „ „	5	2 „ „	48a
2 „ „	10	1 „ „	52
3 „ „	12	2 „ „	126
1 „ „	17	2 „ „	126a
1 „ „	19s		
2 „ „	22		
1 „ „	24		
4 „ „	35		
18 „ „	37		
2 „ „	37a		



The construction of the model is commenced by bolting the Trunnions and Flat Trunnions that support the jib and Crank Handle respectively to the 5½"×2½" Flanged Plate that forms the base of the model. The jib is then assembled and fastened to the Trunnions by means of the lock-nutted Bolts 1. The brake lever is a 2½" Strip extended by a Flat Bracket and is fastened to a second Flat Bracket bolted to the Flanged Plate, by means of a Bolt 1a, the Nut of which is left sufficiently loose to allow the Strip to move. A length of Cord is fastened to the lever and then passed round the 1" Pulley on the Crank Handle.

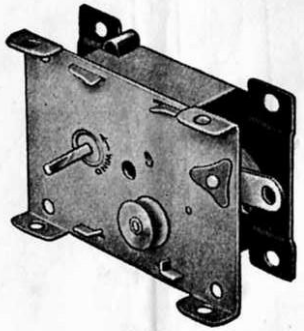
O.22 STATIONARY STEAM ENGINE



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

Parts required
4 of No. 2
2 „ „ 5
3 „ „ 12
1 „ „ 16
1 „ „ 17
1 „ „ 19s
2 „ „ 22
1 „ „ 24
3 „ „ 35
18 „ „ 37
2 „ „ 37a
1 „ „ 38
2 „ „ 48a
1 „ „ 52
2 of No. 126
2 „ „ 126a
Magic Motor

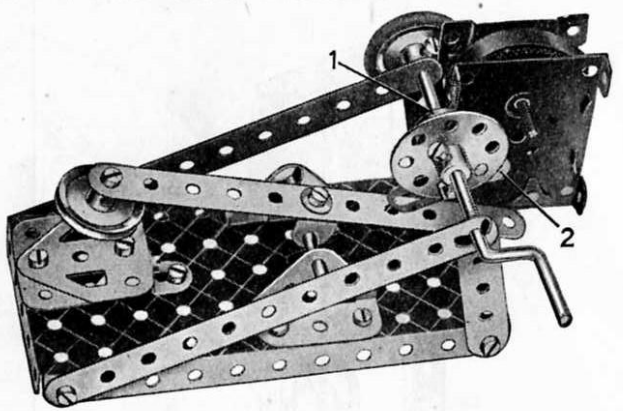
THE MECCANO *MAGIC* MOTOR



The greatest thrill in Meccano model-building is experienced when a model is set to work by means of a Meccano ***Magic*** Motor. The illustrations on this page show how the ***Magic*** Motor can be fitted without any difficulty to No. O 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!

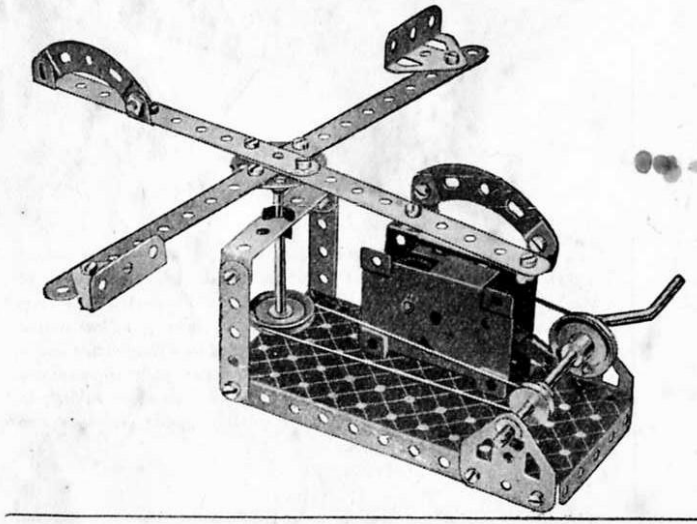
O.23 MECHANICAL HAMMER

Parts required
3 of No. 2
2 „ „ 5
1 of No. 10
4 „ „ 12
1 „ „ 17
1 „ „ 19s
2 „ „ 22
1 „ „ 24
3 „ „ 35
15 „ „ 37
1 „ „ 38
1 „ „ 52
1 „ „ 111c
2 „ „ 126
2 „ „ 126a
1 „ „ 155a
Magic Motor



The ½" fast Pulley 1 is driven from the pulley 2 on the *Magic* Motor by the Driving Band supplied with the Motor.

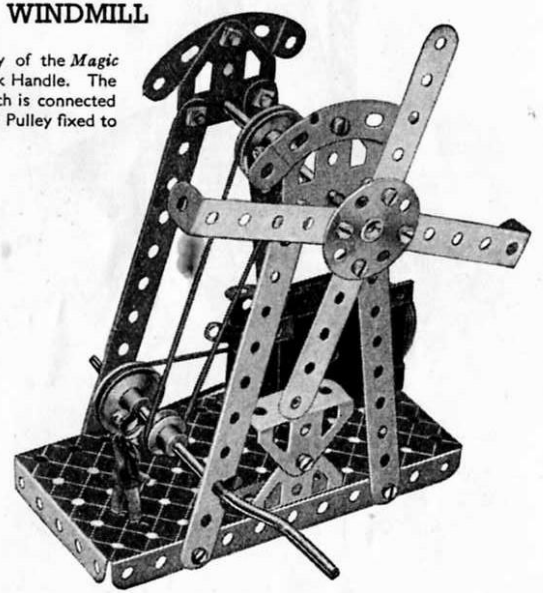
O.24 MERRY-GO-ROUND



Parts required
4 of No. 2
2 „ „ 5
4 „ „ 12
1 „ „ 16
1 „ „ 19s
2 „ „ 22
1 „ „ 24
4 „ „ 35
18 „ „ 37
2 „ „ 37a
2 „ „ 38
1 „ „ 48a
1 „ „ 52
2 „ „ 90a
2 of No. 111c
2 „ „ 126
2 „ „ 126a
Magic Motor

O.25 WINDMILL

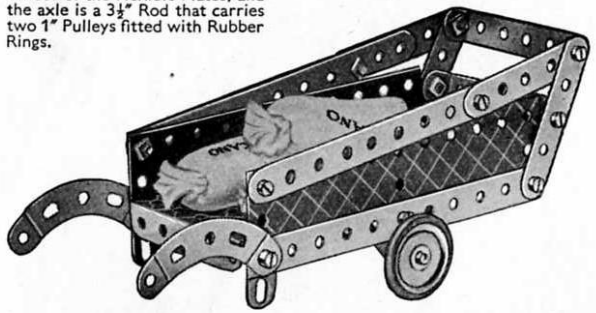
A Driving Band connects the pulley of the *Magic* Motor to a 1" Pulley fastened on the Crank Handle. The Crank Handle carries also a ½" Pulley, which is connected by a second Driving Band with a further 1" Pulley fixed to the Rod on which the sails are mounted.



Parts required
4 of No. 2
2 „ „ 5
1 „ „ 16
1 „ „ 19s
2 „ „ 22
1 „ „ 24
3 „ „ 35
18 „ „ 37
2 „ „ 38
2 „ „ 48a
Magic Motor
1 of No. 52
2 „ „ 90a
2 „ „ 126
2 „ „ 126a

1.1 PORTER'S TRUCK

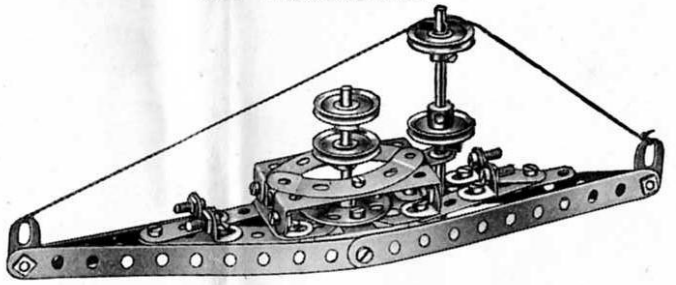
The bearings for the axle are Flat Trunnions fastened on the insides of the Flexible Plates, and the axle is a 3½" Rod that carries two 1" Pulleys fitted with Rubber Rings.



Parts required

4 of No.	2
4 „ „	5
2 „ „	10
1 „ „	16
2 „ „	22
14 „ „	37
2 „ „	38
2 „ „	48a
1 „ „	52
2 „ „	90a
2 „ „	126a
2 „ „	155a
2 „ „	189

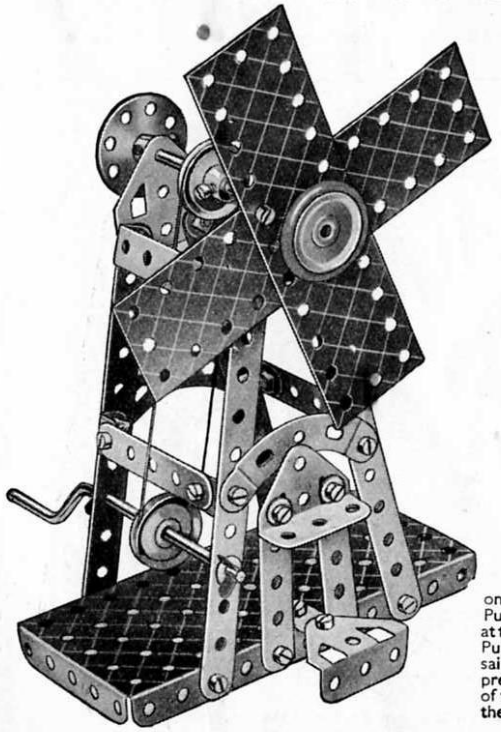
1.2 BATTLESHIP



Parts required

4 of No. 2	1 of No. 17	4 of No. 37a	4 of No. 111c
4 „ „ 5	4 „ „ 22	2 „ „ 38	1 „ „ 125
4 „ „ 10	1 „ „ 24	1 „ „ 40	2 „ „ 126
8 „ „ 12	3 „ „ 35	2 „ „ 48a	2 „ „ 126a
1 „ „ 16	24 „ „ 37	2 „ „ 90a	

1.3 WINDMILL

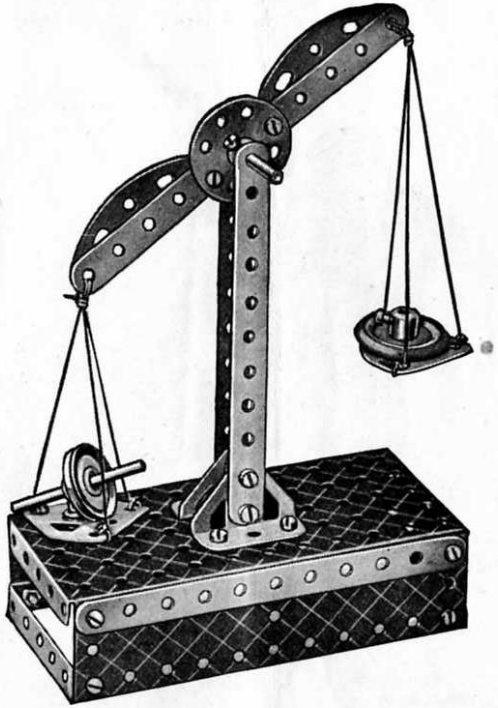


Parts required

4 of No.	2
4 „ „	5
1 „ „	10
4 „ „	12
1 „ „	16
1 „ „	19s
4 „ „	22
1 „ „	24
3 „ „	35
24 „ „	37
4 „ „	38
1 „ „	40
2 „ „	48a
1 „ „	52
2 „ „	90a
2 „ „	126
2 „ „	126a
1 „ „	155a
2 „ „	189

The sails are gripped on the 3½" Rod by the 1" Pulley (with Rubber Ring) at the front and another 1" Pulley at the back of the sails. The Pulleys are pressed against the faces of the sails and locked on the Rod.

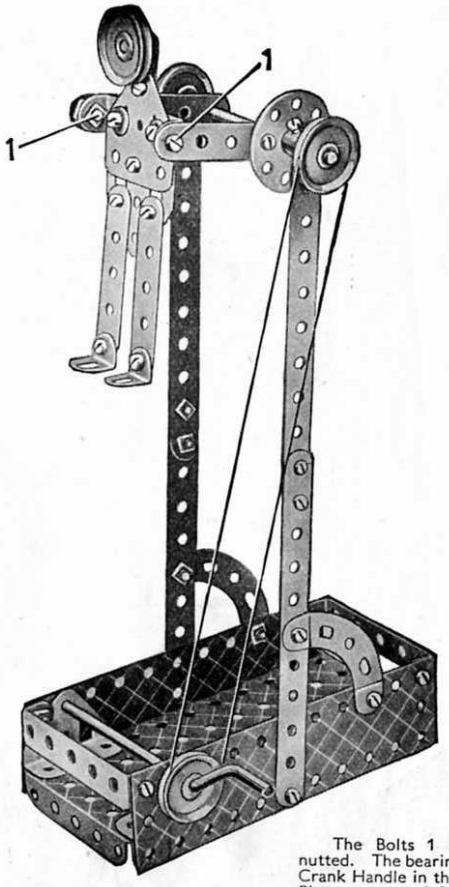
1.4 SCALES



Parts required

4 of No.	2
2 „ „	5
2 „ „	17
2 „ „	22
1 „ „	24
19 „ „	37
1 „ „	38
1 „ „	40
2 „ „	48a
1 „ „	52
2 „ „	90a
1 „ „	111c
2 „ „	126
2 „ „	126a
1 „ „	155a
2 „ „	189

1.5 GYMNAST

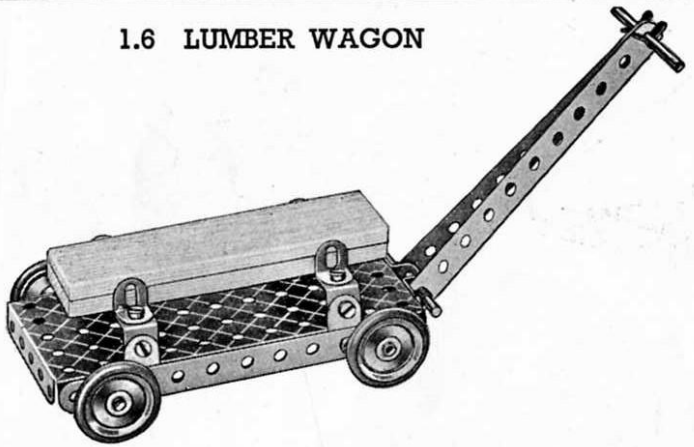


The Bolts 1 are lock-nutted. The bearings for the Crank Handle in the Flexible Plates are reinforced by Trunnions bolted to the Flanged Plate.

Parts required

4 of No. 2	1 of No. 24	1 of No. 52
4 „ „ 5	2 „ „ 35	2 „ „ 90a
1 „ „ 10	24 „ „ 37	4 „ „ 111c
4 „ „ 12	5 „ „ 37a	2 „ „ 126
1 „ „ 16	4 „ „ 38	2 „ „ 126a
1 „ „ 19s	1 „ „ 40	2 „ „ 189
4 „ „ 22	2 „ „ 48a	

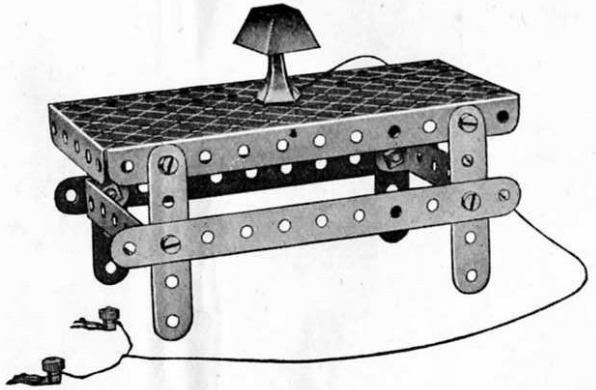
1.6 LUMBER WAGON



Parts required

4 of No. 2	2 of No. 16	4 of No. 35	1 of No. 52
4 „ „ 10	2 „ „ 17	14 „ „ 37	4 „ „ 155a
6 „ „ 12	4 „ „ 22	2 „ „ 48a	

1.7 TABLE

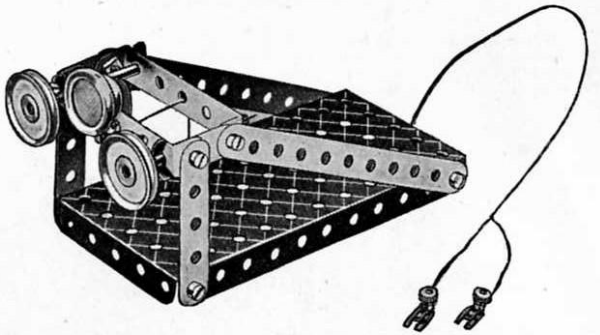


Parts required

2 of No. 2	8 of No. 37	1 of No. 52
4 „ „ 5	2 „ „ 48a	

The model is shown with a Stand Lamp from a Meccano Lighting Set.

1.8 BUFFER STOPS

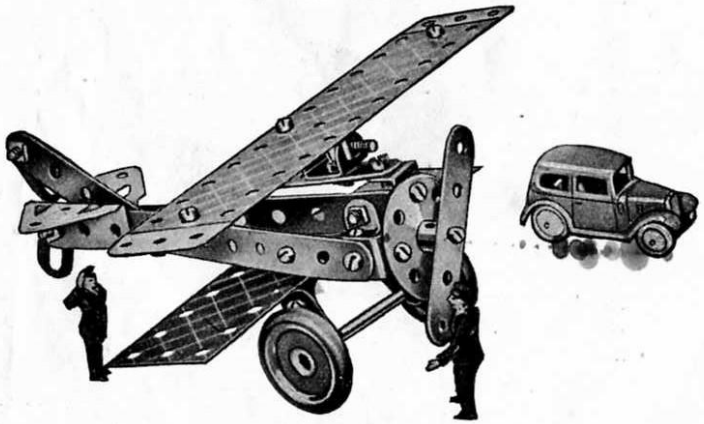


Parts required

2 of No. 2	2 of No. 17	9 of No. 37
2 „ „ 5	2 „ „ 22	2 „ „ 48a
3 „ „ 10	4 „ „ 35	1 „ „ 52

The model is fitted with a Spotlight from a Meccano Lighting Set.

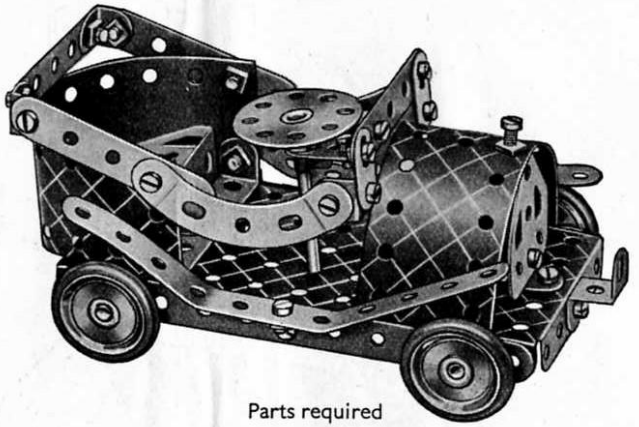
1.9 AEROPLANE



Parts required

2 of No. 2	1 of No. 17	2 of No. 37a	2 of No. 126
3 „ „ 5	2 „ „ 22	1 „ „ 38	2 „ „ 126a
4 „ „ 10	1 „ „ 24	3 „ „ 111c	2 „ „ 155a
8 „ „ 12	17 „ „ 37	1 „ „ 125	2 „ „ 189

1.10 "KIDDIE KAR"



Parts required

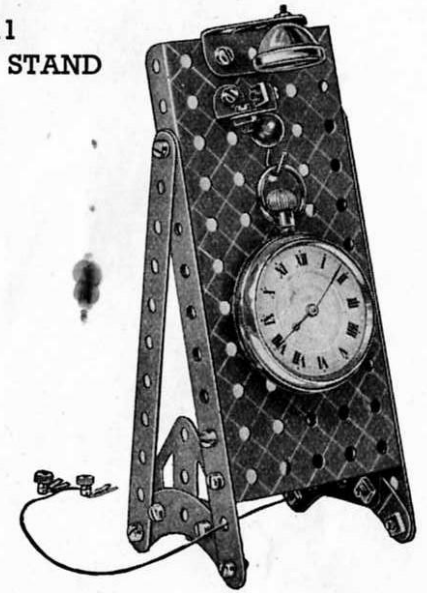
4 of No. 2	1 of No. 17	3 of No. 37a	1 of No. 125
4 „ „ 5	4 „ „ 22	2 „ „ 48a	2 „ „ 126
3 „ „ 10	1 „ „ 24	1 „ „ 52	1 „ „ 126a
7 „ „ 12	1 „ „ 35	2 „ „ 90a	4 „ „ 155a
2 „ „ 16	24 „ „ 37	2 „ „ 111c	2 „ „ 189

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

1.11 WATCH STAND

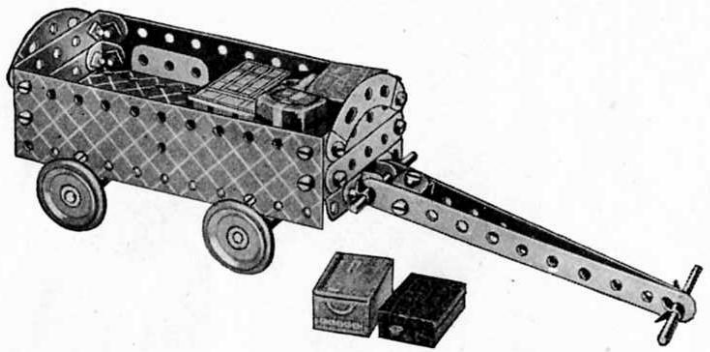
Parts required

4 of No.	2
2 „ „	12
19 „ „	37
1 „ „	38
1 „ „	52
1 „ „	57c
2 „ „	90a
1 „ „	126
2 „ „	126a



A good example of the use of the Meccano Lighting Set.

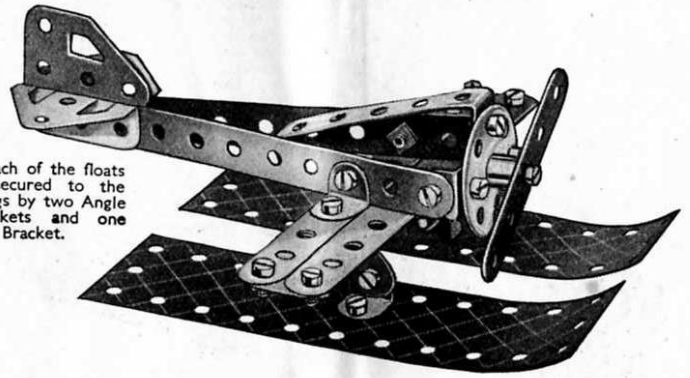
1.12 BAGGAGE TRUCK



Parts required

2 of No. 2	4 of No. 35	2 of No. 90a
2 „ „ 5	24 „ „ 37	4 „ „ 111c
8 „ „ 12	1 „ „ 37a	2 „ „ 126
2 „ „ 16	2 „ „ 38	2 „ „ 126a
2 „ „ 17	2 „ „ 48a	4 „ „ 155a
4 „ „ 22	1 „ „ 52	2 „ „ 189

1.13 RACING SEAPLANE

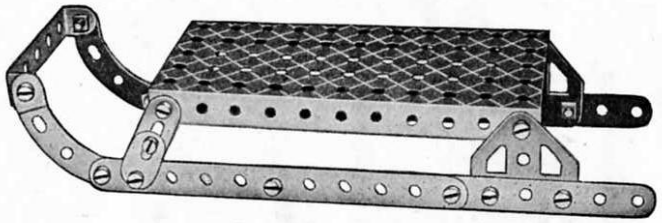


Each of the floats is secured to the wings by two Angle Brackets and one Flat Bracket.

Parts required

3 of No. 2	1 of No. 24	2 of No. 111c
3 „ „ 5	19 „ „ 37	2 „ „ 126
4 „ „ 10	1 „ „ 37a	1 „ „ 126a
8 „ „ 12	1 „ „ 48a	2 „ „ 189

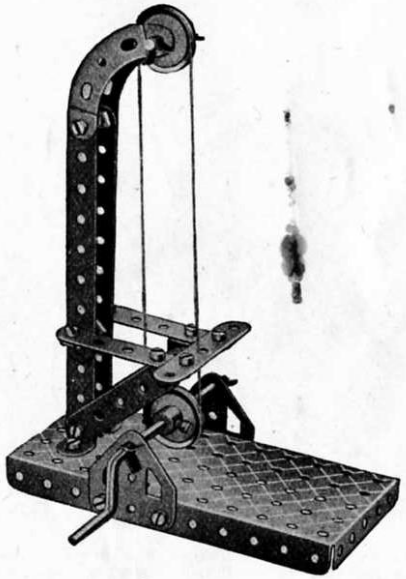
1.14 SLEDGE



Parts required

4 of No. 2	1 of No. 48a	2 of No. 126a
4 „ „ 10	1 „ „ 52	
20 „ „ 37	2 „ „ 90a	

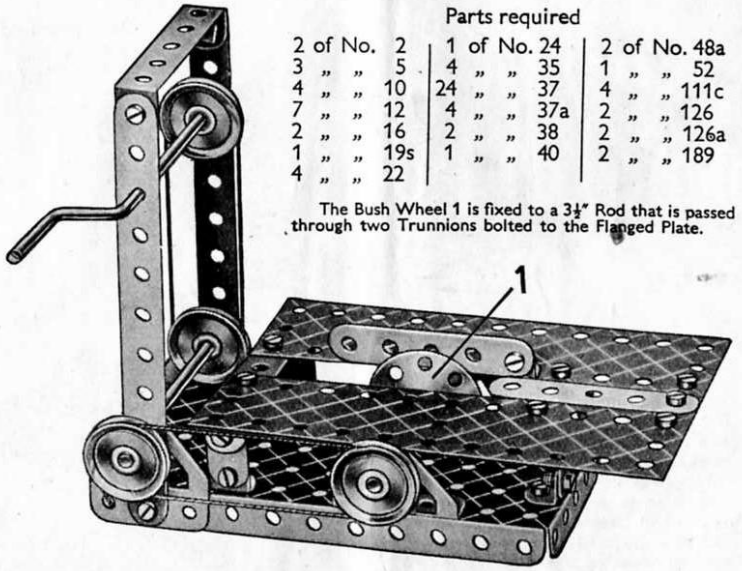
1.15 BAND SAW



Parts required

2 of No. 2	19 „ „ 37
4 „ „ 5	1 „ „ 40
6 „ „ 12	1 „ „ 52
1 „ „ 17	2 „ „ 90a
1 „ „ 19s	2 „ „ 126a
2 „ „ 22	
4 „ „ 35	

1.16 CIRCULAR SAW



Parts required

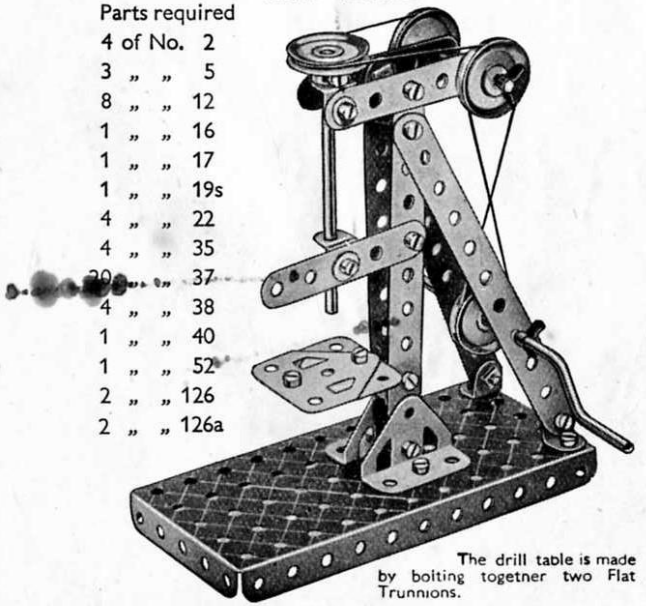
2 of No. 2	1 of No. 24	2 of No. 48a
3 „ „ 5	4 „ „ 35	1 „ „ 52
4 „ „ 10	24 „ „ 37	4 „ „ 111c
7 „ „ 12	4 „ „ 37a	2 „ „ 126
2 „ „ 16	2 „ „ 38	2 „ „ 126a
1 „ „ 19s	1 „ „ 40	2 „ „ 189
4 „ „ 22		

The Bush Wheel 1 is fixed to a 3½" Rod that is passed through two Trunnions bolted to the Flanged Plate.

1.17 DRILL

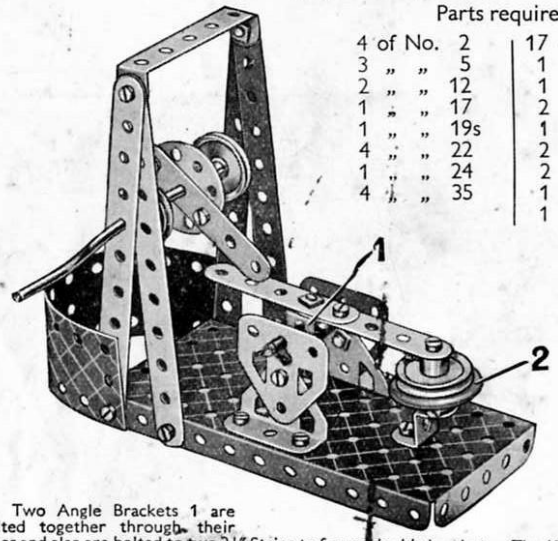
Parts required

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



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

1.18 TRIP HAMMER



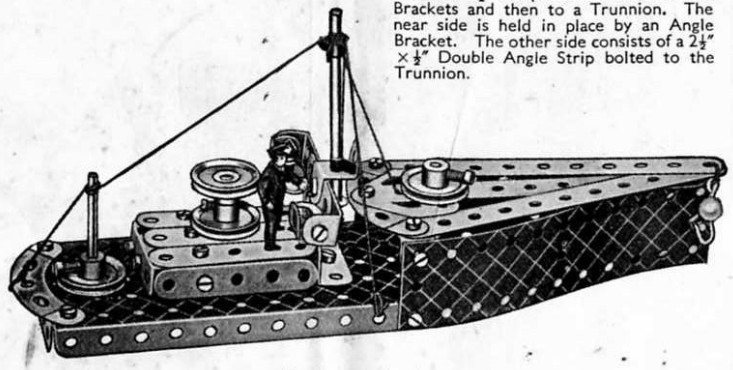
Parts required

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

Two Angle Brackets 1 are bolted together through their holes and also are bolted to two 2½" Strips to form a double bracket. The 1" fast Pulley 2 is fitted with a 1" Rubber Ring.

1.19 STEAM LAUNCH

The top of the deck-house consists of three 2½" Strips bolted first to Flat Brackets and then to a Trunnion. The near side is held in place by an Angle Bracket. The other side consists of a 2½" × ½" Double Angle Strip bolted to the Trunnion.

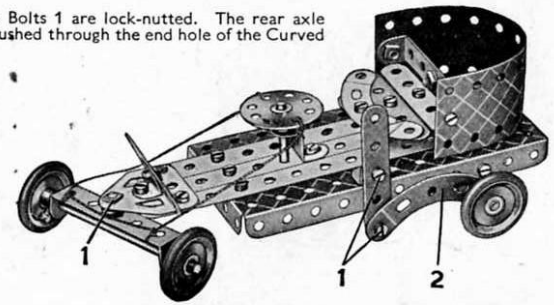


Parts required

3 of No. 2	4 of No. 22	1 of No. 52	2 of No. 126a
4 „ „ 5	4 „ „ 35	1 „ „ 57c	2 „ „ 189
3 „ „ 10	23 „ „ 37	2 „ „ 90a	
8 „ „ 12	4 „ „ 38	2 „ „ 111c	
1 „ „ 16	1 „ „ 40	1 „ „ 125	
2 „ „ 17	2 „ „ 48a	2 „ „ 126	

1.20 COASTER

The Bolts 1 are lock-nutted. The rear axle Rod is pushed through the end hole of the Curved Strip 2.

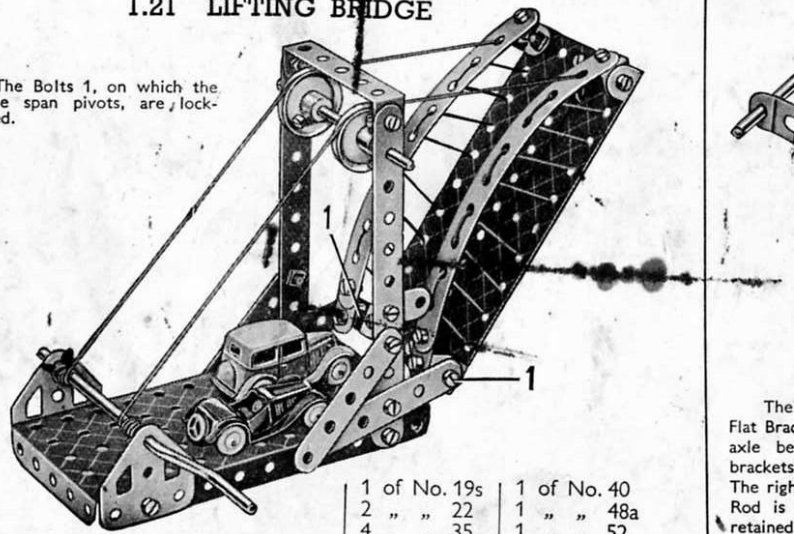


Parts required

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

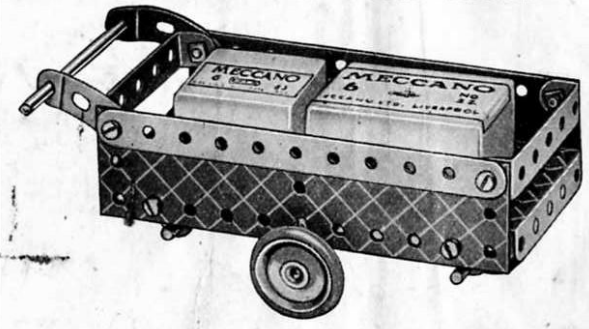
1.21 LIFTING BRIDGE

The Bolts 1, on which the bridge span pivots, are lock-nutted.



Parts required	1 of No. 19s		1 of No. 40
4 of No. 2	2 „ „ 22		1 „ „ 48a
4 „ „ 5	4 „ „ 35		1 „ „ 52
3 of No. 10	24 „ „ 37		3 „ „ 111c
8 „ „ 12	5 „ „ 37a		2 „ „ 126a
1 „ „ 16	4 „ „ 38		2 „ „ 189

1.22 HAND TRUCK



Parts required

2 of No. 2	
2 „ „ 10	
8 „ „ 12	
2 „ „ 16	
2 „ „ 17	
4 „ „ 22	
3 „ „ 35	
14 „ „ 37	
2 „ „ 48a	
1 „ „ 52	
2 „ „ 90a	
2 „ „ 155a	
2 „ „ 189	

The bearingsf or the 3½" Rod are Flat Brackets, and the front and rear axle bearings are reversed angle brackets built up from Angle Brackets. The right-hand 1" Pulley on the 3½" Rod is loose on the Rod, but is retained in place by a Spring Clip. The front and rear 1" Pulleys are fixed on their respective 2" Rods.

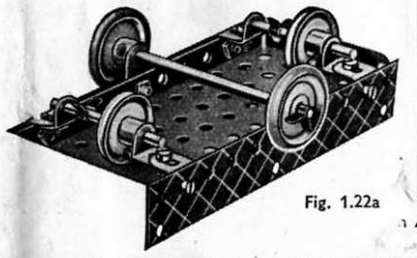
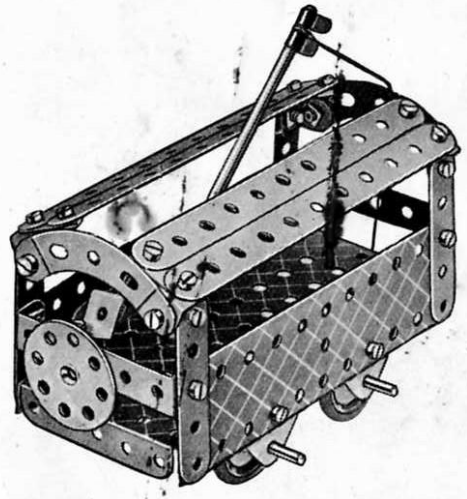


Fig. 1.22a

1.23 TROLLEY BUS

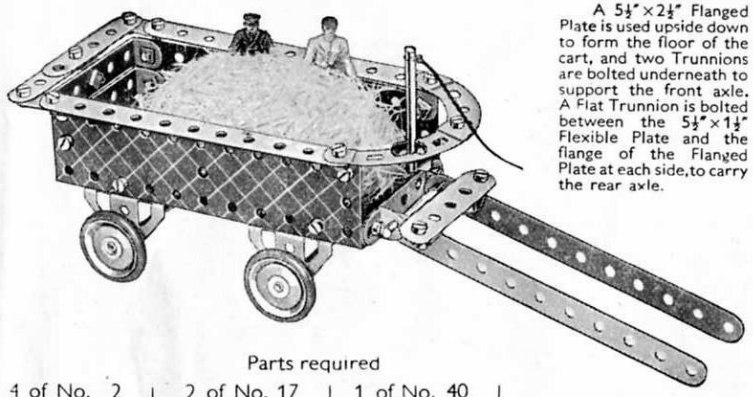


Parts required

4 of No. 2	
4 „ „ 5	
4 „ „ 10	
8 „ „ 12	
2 „ „ 16	
1 „ „ 19s	
4 „ „ 22	
1 „ „ 24	
4 „ „ 35	
24 „ „ 37	
1 „ „ 37a	
4 „ „ 38	
1 „ „ 40	
2 „ „ 48a	
1 „ „ 52	
2 „ „ 90a	
2 „ „ 111c	
1 „ „ 125	
2 „ „ 126	
2 „ „ 126a	
4 „ „ 155a	
2 „ „ 189	

The Reversed Angle Bracket that holds the trolley is fixed in position by a Bolt passed through the slot in the Bracket, then through two Washers, and into the boss of the Bush Wheel.

1.24 HAY CART

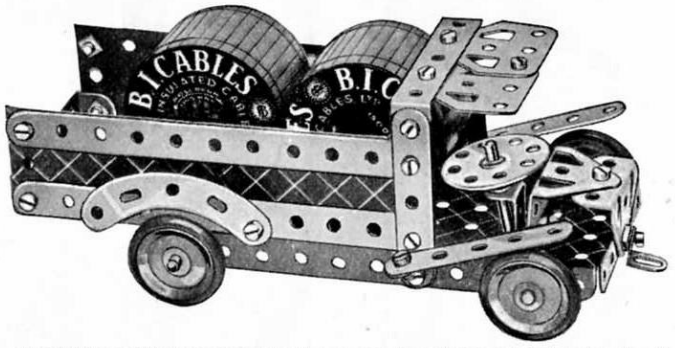


A 5½"×2½" Flanged Plate is used upside down to form the floor of the cart, and two Trunnions are bolted underneath to support the front axle. A Flat Trunnion is bolted between the 5½"×1½" Flexible Plate and the flange of the Flanged Plate at each side, to carry the rear axle.

Parts required

4 of No. 2	2 of No. 17	1 of No. 40	2 of No. 126
3 „ „ 5	4 „ „ 22	2 „ „ 48a	2 „ „ 126a
2 „ „ 10	4 „ „ 35	1 „ „ 52	4 „ „ 155a
7 „ „ 12	24 „ „ 37	2 „ „ 90a	2 „ „ 189
2 „ „ 16	1 „ „ 37a	1 „ „ 111c	

1.25 MOTOR LORRY



The 2½" Curved Strips representing the rear mudguards are each fastened to the sides by a ⅜" Bolt and Nut, with a Spring Clip between the mudguards and the 5½" Strip to form a distance piece.

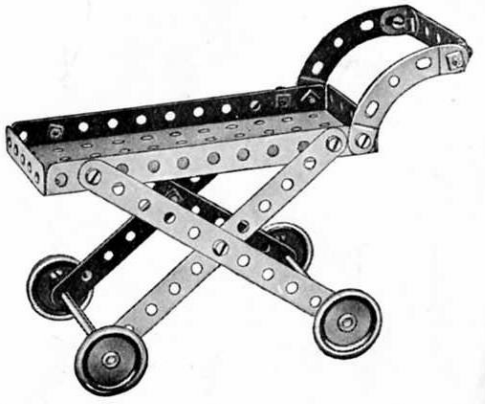
Parts required

4 of No. 2	1 of No. 17	19 of No. 37	2 of No 90a	2 of No. 126a
4 „ „ 5	4 „ „ 22	4 „ „ 37a	3 „ „ 111c	4 „ „ 155a
3 „ „ 12	1 „ „ 24	2 „ „ 48a	1 „ „ 125	2 „ „ 189
2 „ „ 16	2 „ „ 35	1 „ „ 52	2 „ „ 126	

1.26 HOSPITAL TROLLEY

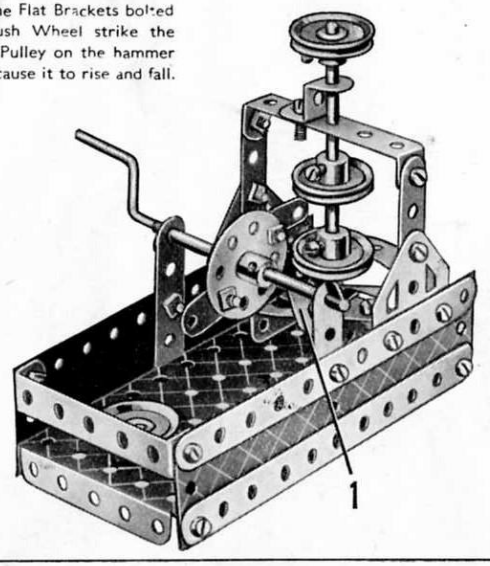
Parts required

4 of No. 2
1 „ „ 5
2 „ „ 12
2 „ „ 16
4 „ „ 22
12 „ „ 37
1 „ „ 52
2 „ „ 90a
4 „ „ 155a



1.27 STAMPING MILL

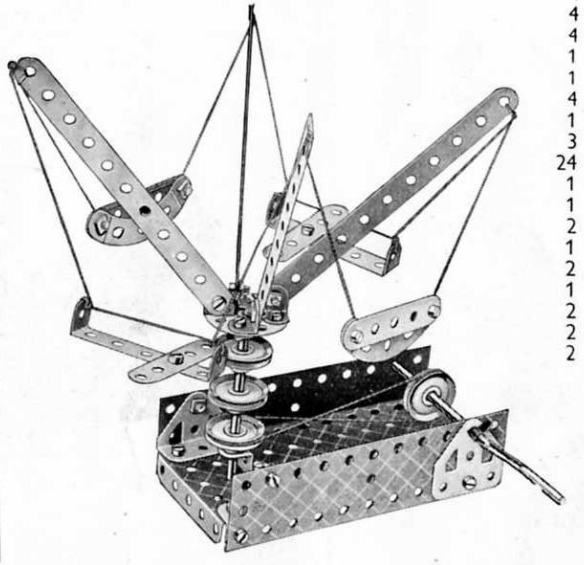
The anvil 1 is made up of two Trunnions bolted together. When the Crank Handle is rotated, the Flat Brackets bolted to the Bush Wheel strike the centre 1" Pulley on the hammer shaft and cause it to rise and fall.



Parts required

4 of No. 2
4 „ „ 5
4 „ „ 10
5 „ „ 12
1 „ „ 16
1 „ „ 19s
4 „ „ 22
1 „ „ 24
2 „ „ 35
24 „ „ 37
3 „ „ 37a
2 „ „ 48a
1 „ „ 52
1 „ „ 90a
4 „ „ 111c
1 „ „ 125
2 „ „ 126
2 „ „ 126a
2 „ „ 189

1.28 FLYING BOATS



Parts required

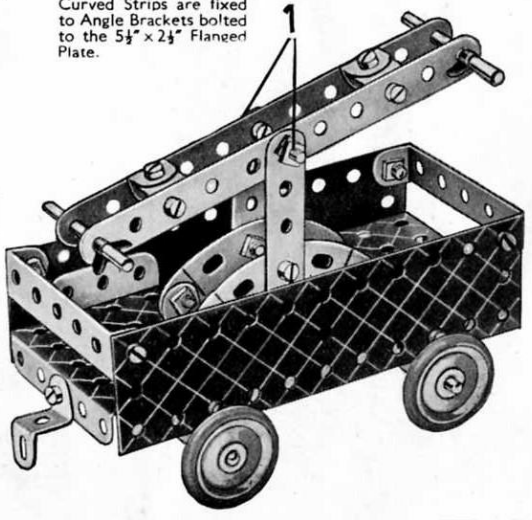
4 of No. 2
4 „ „ 5
4 „ „ 12
1 „ „ 16
1 „ „ 19s
4 „ „ 22
1 „ „ 24
3 „ „ 35
24 „ „ 37
1 „ „ 38
1 „ „ 40
2 „ „ 48a
1 „ „ 52
2 „ „ 90a
1 „ „ 125
2 „ „ 126
2 „ „ 126a
2 „ „ 189

1.29 HAND CAR

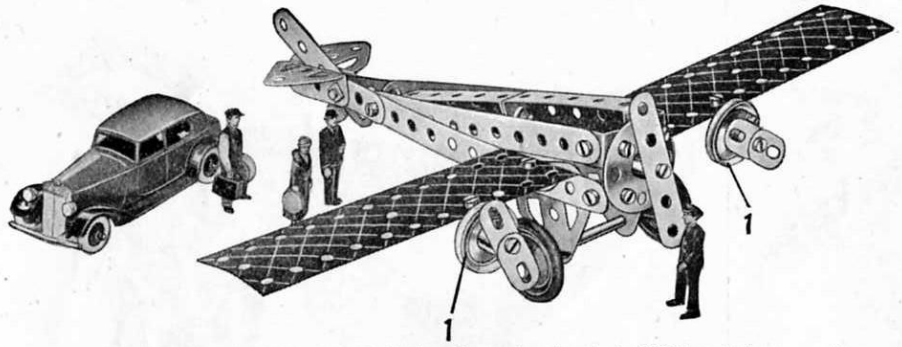
The Bolts 1, on which the 5½" Strips are pivoted, are lock-nutted. The 2½" small radius Curved Strips are fixed to Angle Brackets bolted to the 5½"×2½" Flanged Plate.

Parts required

2 of No. 2
2 „ „ 5
8 „ „ 12
2 „ „ 16
2 „ „ 17
4 „ „ 22
4 „ „ 35
23 „ „ 37
4 „ „ 37a
4 „ „ 38
2 „ „ 48a
1 „ „ 52
2 „ „ 90a
2 „ „ 111c
1 „ „ 125
2 „ „ 126
2 „ „ 126a
4 „ „ 155a
2 „ „ 189



1.30 MONOPLANE



The fast Pulleys 1 are fixed to Angle Brackets fastened to the wing by ⅜" Bolts, which are passed through the Angle Brackets, and held in the bosses of the Pulleys. The set screws of the Pulleys hold also a second Bolt on which the propellers are mounted.

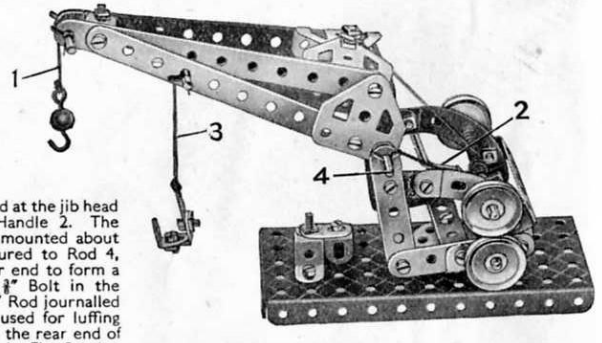
Parts required

4	of No.	2
4	„ „	5
4	„ „	10
8	„ „	12
1	„ „	16
4	„ „	22
1	„ „	24
2	„ „	35
20	„ „	37
3	„ „	37a
2	„ „	48a
1	„ „	57c
4	„ „	111c
2	„ „	126
2	„ „	126a
2	„ „	155a
2	„ „	189

1.31 FLOATING CRANE

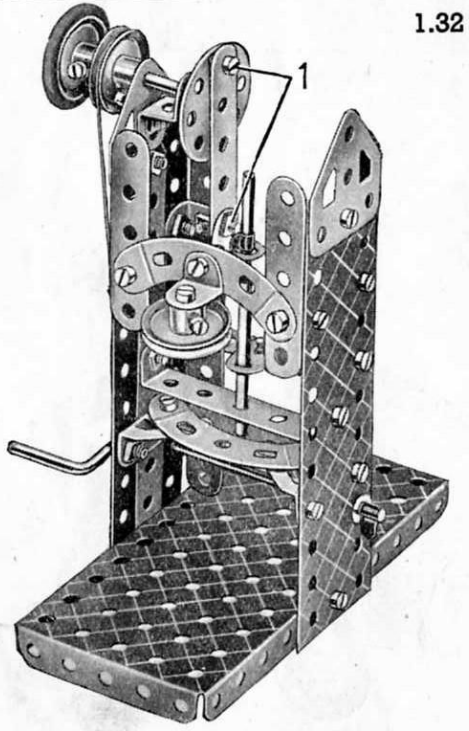
Parts required

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



The Cord 1 passes over the Rod at the jib head and is fastened to the Crank Handle 2. The other Cord 3 passes over a Rod mounted about halfway along the jib, and is secured to Rod 4, which has a 1" Pulley at the other end to form a handle. The Cord tied to the ⅜" Bolt in the Trunnions is taken around the 3½" Rod journalled above the Crank Handle, and is used for luffing the jib by turning the 1" Pulley at the rear end of the Rod. Two Angle Brackets and a Flat Bracket form the hook on Cord 3.

1.32 POWER PRESS



Parts required

4	of No.	2
4	„ „	5
1	„ „	10
6	„ „	12
1	„ „	16
1	„ „	17
1	„ „	19s
4	„ „	22
1	„ „	24
3	„ „	35
24	„ „	37
5	„ „	37a
1	„ „	38
1	„ „	40
2	„ „	48a
1	„ „	52
2	„ „	90a
4	„ „	111c
1	„ „	125
2	„ „	126
2	„ „	126a
1	„ „	155a
2	„ „	189

The Bolts 1 are lock-nutted, and the Angle Bracket at the lower end of the 2½" Strip has a 4½" Rod in its elongated hole, where it is held by means of two Spring Clips.

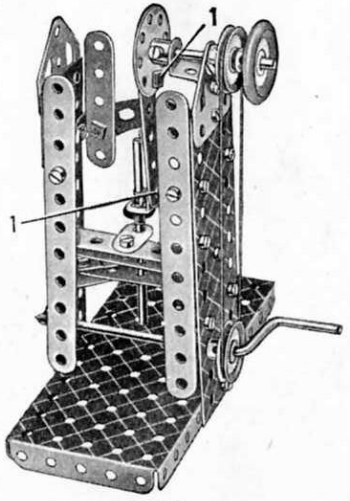
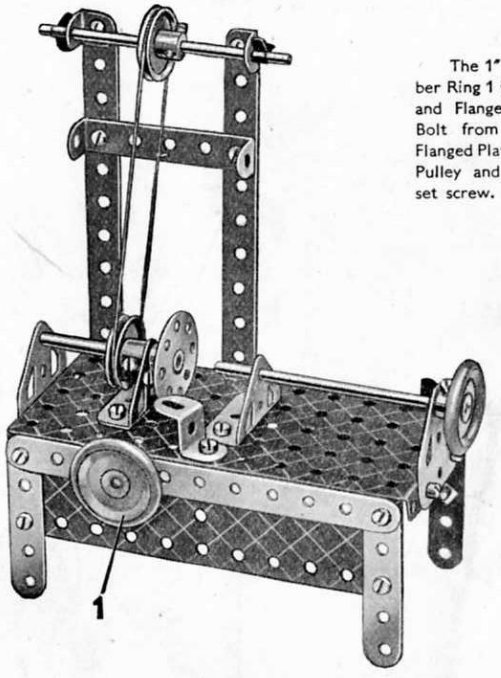


Fig. 1.32a

1.33 LATHE

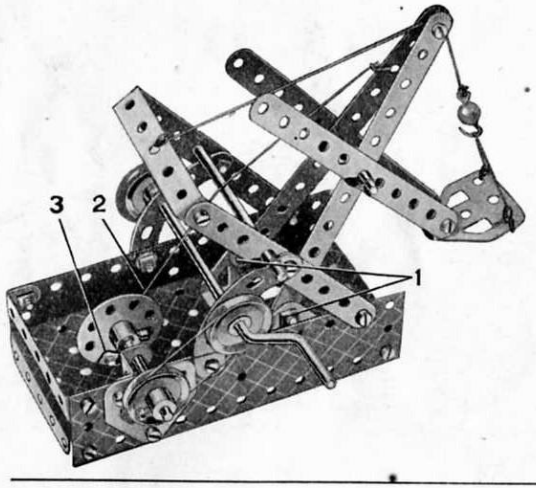


The 1" fast Pulley with Rubber Ring 1 is secured to the Strip and Flanged Plate by passing a Bolt from the inside of the Flanged Plate into the boss of the Pulley and then tightening the set screw.

Parts required

4	of No.	2
4	„ „	5
2	„ „	12
2	„ „	16
1	„ „	17
4	„ „	22
1	„ „	24
3	„ „	35
22	„ „	37
1	„ „	40
1	„ „	48a
1	„ „	52
1	„ „	111c
1	„ „	125
2	„ „	126
2	„ „	126a
2	„ „	155a
2	„ „	189

1.34 MECHANICAL SHOVEL



The Bolts 1, on which the jib pivots, are lock-nutted. The shovel arm is pivoted on a 2" Rod, and the shovel is supported by a Cord that passes over the ⅜" Bolt at the jib head and is fastened to a 2½"×½" Double Angle Strip as shown. The Cord 2 is fastened to the jib and then passes over a 3½" Rod journalled in the holes above the 2½" Curved Strips, and is attached to a Flat Bracket fastened by the lock-nutted Bolt 3 to the Bush Wheel.

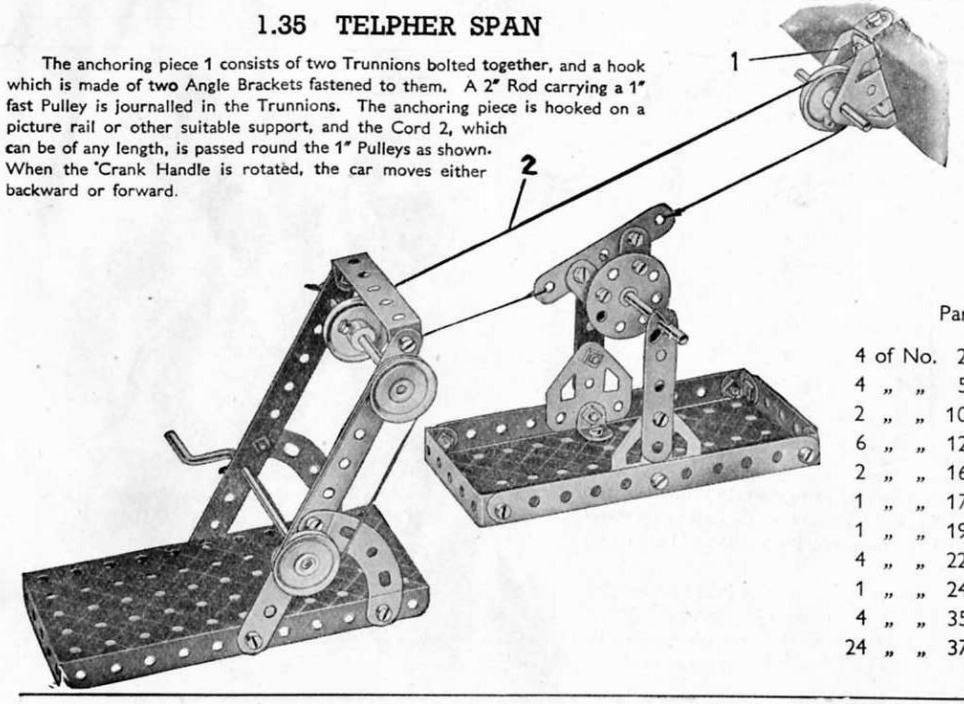
When the Crank Handle is rotated, the Bush Wheel imparts a digging motion to the jib and shovel arm.

Parts required

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

1.35 TELPHER SPAN

The anchoring piece 1 consists of two Trunnions bolted together, and a hook which is made of two Angle Brackets fastened to them. A 2" Rod carrying a 1" fast Pulley is journalled in the Trunnions. The anchoring piece is hooked on a picture rail or other suitable support, and the Cord 2, which can be of any length, is passed round the 1" Pulleys as shown. When the Crank Handle is rotated, the car moves either backward or forward.

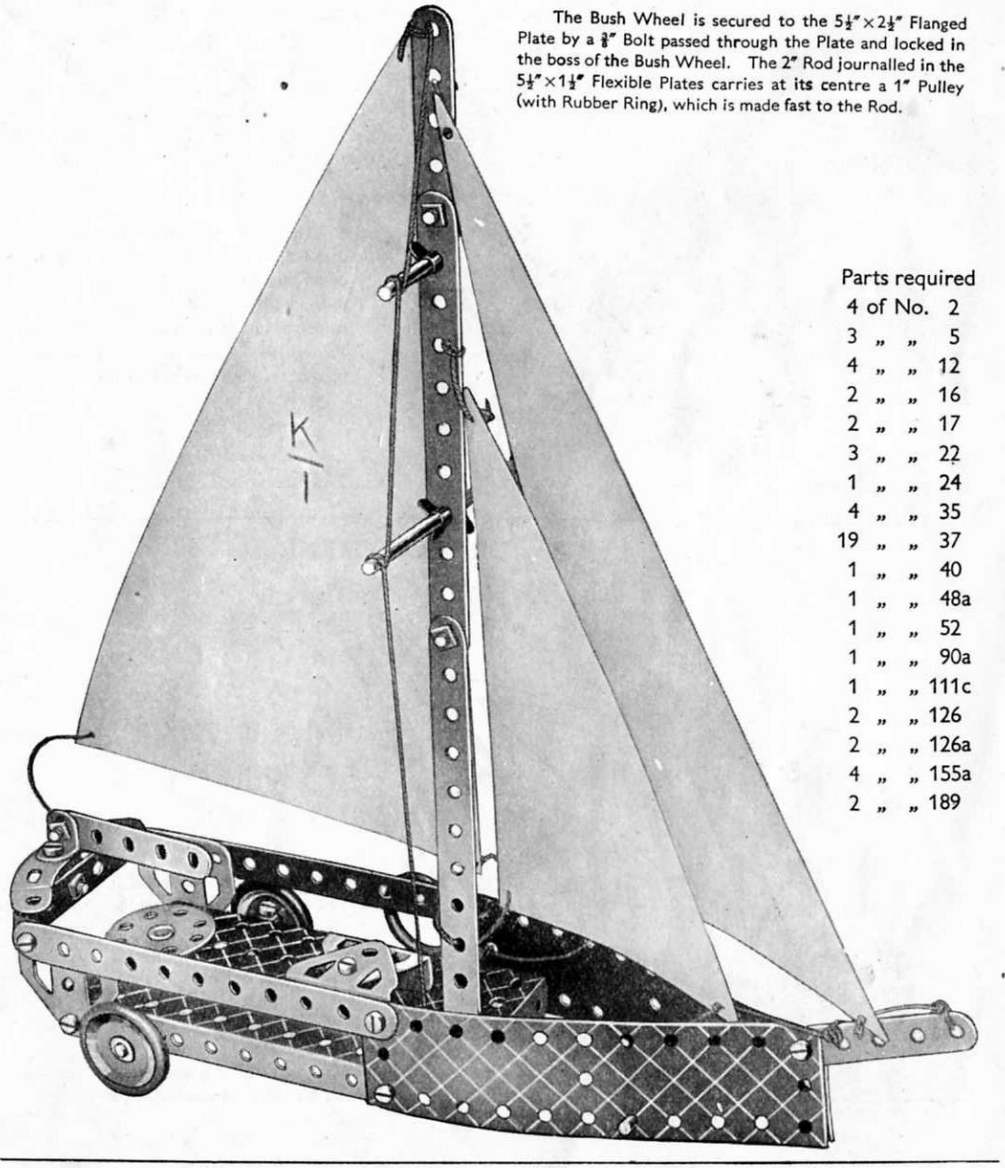


Parts required

4	of No.	2
4	„ „	5
2	„ „	10
6	„ „	12
2	„ „	16
1	„ „	17
1	„ „	19s
4	„ „	22
1	„ „	24
4	„ „	35
24	„ „	37
4	of No.	37a
4	„ „	38
1	„ „	40
2	„ „	48a
1	„ „	52
2	„ „	90a
4	„ „	111c
2	„ „	126
2	„ „	126a
2	„ „	189

1.36 LAND YACHT

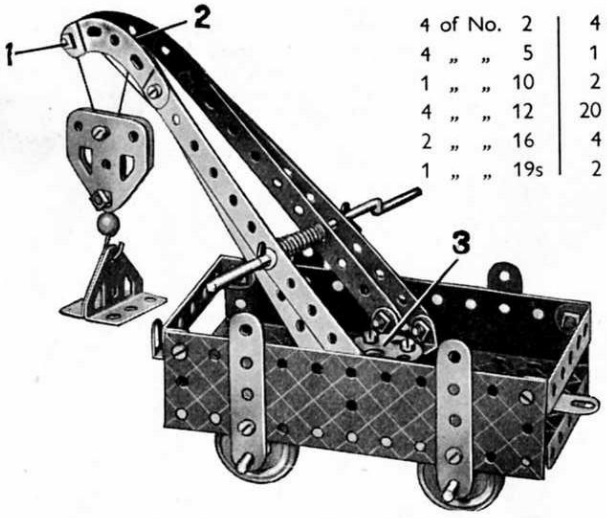
The Bush Wheel is secured to the 5½"×2½" Flanged Plate by a ⅜" Bolt passed through the Plate and locked in the boss of the Bush Wheel. The 2" Rod journalled in the 5½"×1½" Flexible Plates carries at its centre a 1" Pulley (with Rubber Ring), which is made fast to the Rod.



Parts required

4	of No.	2
3	„ „	5
4	„ „	12
2	„ „	16
2	„ „	17
3	„ „	22
1	„ „	24
4	„ „	35
19	„ „	37
1	„ „	40
1	„ „	48a
1	„ „	52
1	„ „	90a
1	„ „	111c
2	„ „	126
2	„ „	126a
4	„ „	155a
2	„ „	189

1.37 RAILWAY BREAKDOWN CRANE

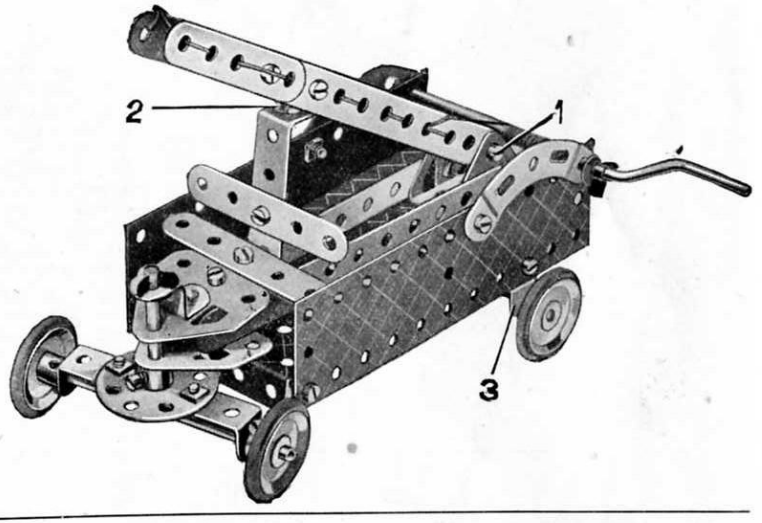


Parts required

4 of No. 2	4 of No. 22	1 of No. 40	1 of No. 125
4 „ „ 5	1 „ „ 24	2 „ „ 48a	2 „ „ 126
1 „ „ 10	2 „ „ 35	1 „ „ 52	2 „ „ 126a
4 „ „ 12	20 „ „ 37	1 „ „ 57c	4 „ „ 155a
2 „ „ 16	4 „ „ 37a	2 „ „ 90a	2 „ „ 189
1 „ „ 19s	2 „ „ 38	4 „ „ 111c	

The hoisting cord is secured to the Crank Handle, and then led over the ⅜" Bolt 1. It is then passed through the pulley block and fastened to the jib at 2. The jib is attached to the Bush Wheel 3 by means of Angle Brackets, and the complete unit is pivoted as follows. A ⅜" Bolt is passed through the 5½"×2½" Flanged Plate, and is secured in the boss of the Bush Wheel by its set screw.

1.38 FIRE-ENGINE

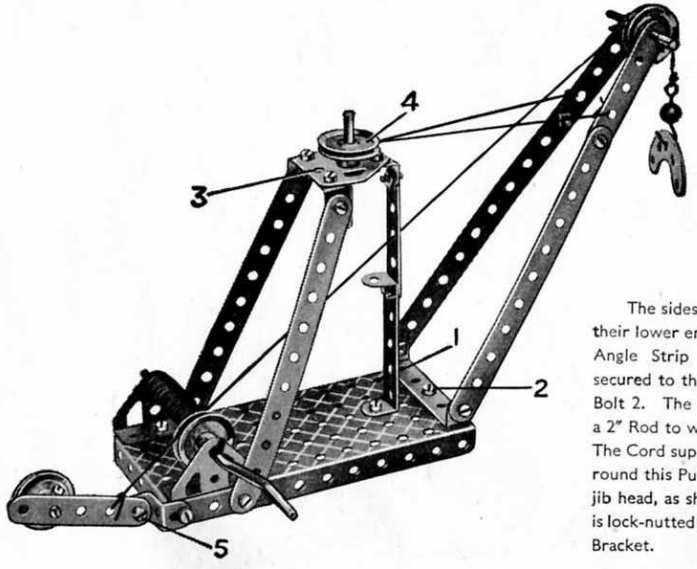


Parts required

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

Bolts 1 are lock-nutted. The sides of the ladder are held together by two Angle Brackets 2, which are bolted together to form a double bracket. The rear axle bearings 3 are Flat Brackets bolted inside the flange of the Flanged Plate. The Cord from the Crank Handle is tied in the fourth hole up the ladder so that when the Handle is turned it causes the ladder to lift.

1.39 DERRICK CRANE

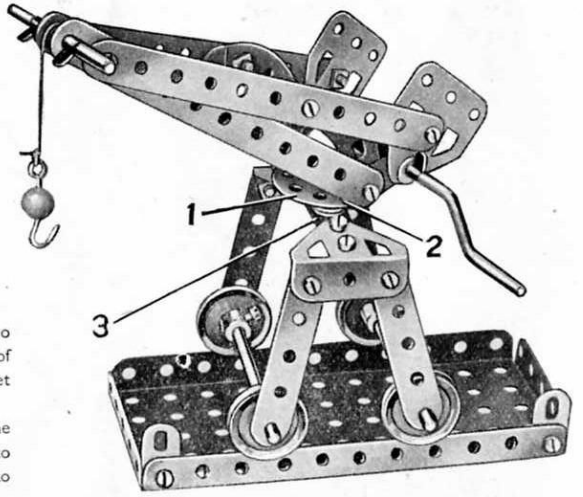


Parts required

4 of No. 2
4 „ „ 5
3 „ „ 12
2 „ „ 17
1 „ „ 19s
4 „ „ 22
4 „ „ 35
19 „ „ 37
4 „ „ 37a
1 „ „ 40
2 „ „ 48a
1 „ „ 52
1 „ „ 57c
2 „ „ 90a
1 „ „ 111c
1 „ „ 125
2 „ „ 126
1 „ „ 126a

The sides of the jib are bolted at their lower ends to a 2½"×½" Double Angle Strip 1, which is pivotally secured to the base by a lock-nutted Bolt 2. The Flat Trunnion 3 carries a 2" Rod to which is fitted a Pulley 4. The Cord supporting the jib is passed round this Pulley and attached to the jib head, as shown. The band brake is lock-nutted at 5 to a Reversed Angle Bracket.

1.40 TRAVELLING CRANE



Parts required

4 of No. 2	20 of No. 37
4 „ „ 5	4 „ „ 38
4 „ „ 10	1 „ „ 40
2 „ „ 12	1 „ „ 48a
2 „ „ 16	1 „ „ 52
1 „ „ 17	1 „ „ 57c
1 „ 19s	2 „ „ 90a
4 „ „ 22	1 „ „ 111c
1 „ „ 24	2 „ „ 126
4 „ „ 35	2 „ „ 126a

The sides of the jib are secured to the Bush Wheel 1 by two Angle Brackets 2. A ⅜" Bolt is passed from the underneath side of Double Angle Strip 3 into the boss of the Bush Wheel 1 and the set screw is then tightened.

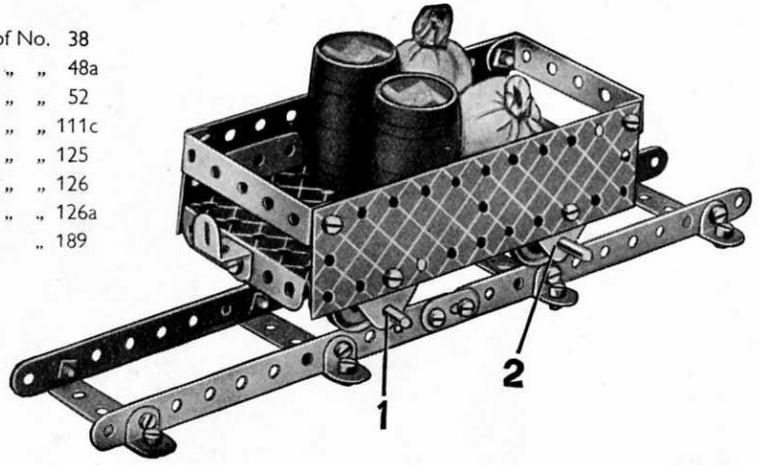
The Flat Trunnions at the lower end of the jib support the Crank Handle, which also passes through Flat Brackets bolted to the Angle Brackets 2 on the Bush Wheel 1. The Cord is fastened to the Crank Handle, and passes over the 2" Rod at the jib head.

1.41 RAILWAY TRUCK

Parts required

4 of No.	2	4 of No.	38
4 „ „	5	2 „ „	48a
2 „ „	10	1 „ „	52
8 „ „	12	4 „ „	111c
2 „ „	16	1 „ „	125
4 „ „	22	2 „ „	126
24 „ „	37	2 „ „	126a
4 „ „	37a	2 „	189

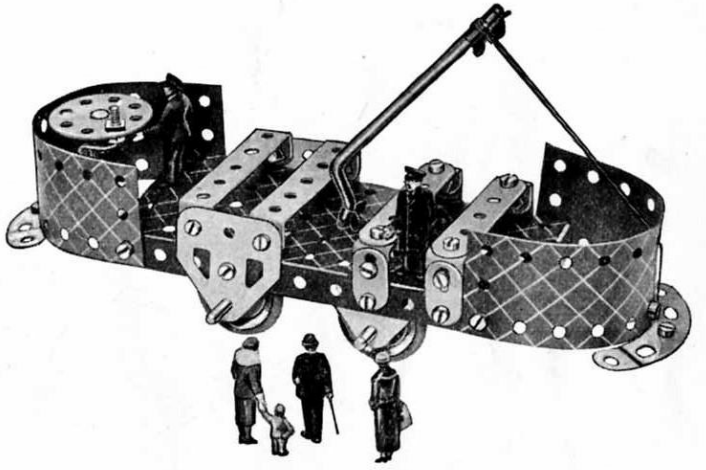
The axle bearings 1 are Flat Trunnions, and Trunnions are used for the bearings 2, which fit underneath the Flanged Plate in the manner shown in the underneath view of the model Side Tipping Wagon (1.46).

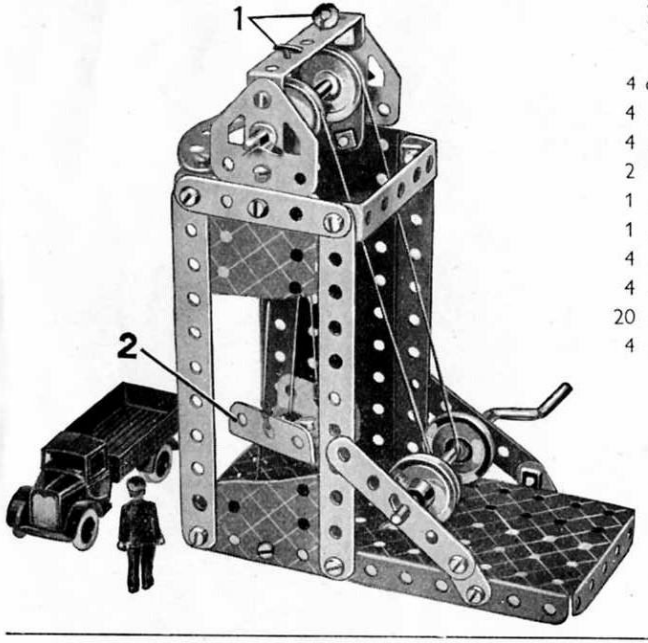


1.42 OPEN TRAMCAR

Parts required

2 of No.	5	1 of No.	40
4 „ „	10	2 „ „	48a
7 „ „	12	1 „ „	52
2 „ „	16	2 „ „	90a
1 „ „	19s	4 „ „	111c
4 „ „	22	1 „ „	125
1 „ „	24	2 „ „	126
4 „ „	35	2 „ „	126a
24 „ „	37	4 „ „	155a
3 „ „	37a	2 „ „	189





1.43 PITHEAD GEAR

Parts required

4 of No.	2	4 of No.	38
4 „ „	5	1 „ „	40
4 „ „	10	2 „ „	48a
2 „ „	12	1 „ „	52
1 „ „	16	1 „ „	90a
1 „ „	19s	4 „ „	111c
4 „ „	22	2 „ „	126
4 „ „	35	2 „ „	126a
20 „ „	37	2 „ „	189
4 „ „	37a		

A Cord is taken from each side of the lift cage over the 1" Pulleys and secured to each end of the Crank Handle. The Cords must both be the same length otherwise the lift will tilt.

The two guides for the lift consist of two pieces of Cord fastened to the Washers 1. The Cords are then passed through holes in the Double Angle Strip, through two corresponding holes in the lift cage 2, and then through the two corresponding holes in the Flanged Plate. Two more Washers are tied to the Cords beneath the Flanged Plate to keep the Cords tight. The lift cage 2 is made up of two Trunnions.

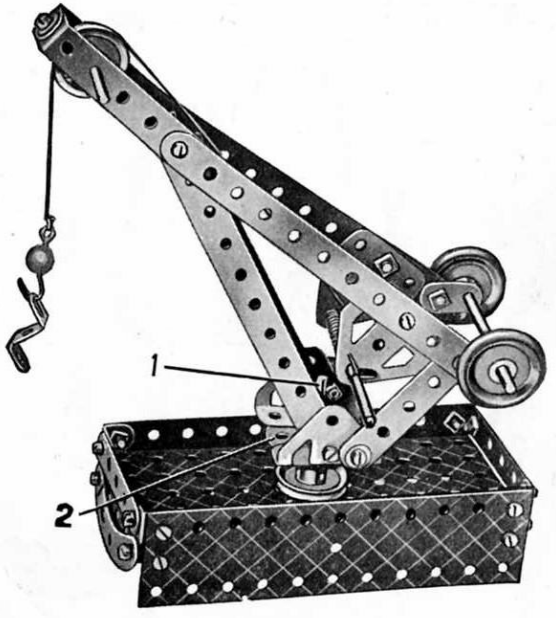
1.44 DOCKSIDE CRANE

Parts required

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

The Rod 1 passes through the bosses of the Bush Wheel 2 and the 1" Pulley, and is held in position by a Spring Clip underneath the Flanged Plate. The set screw of the Bush Wheel 2 is tightened on the Rod.

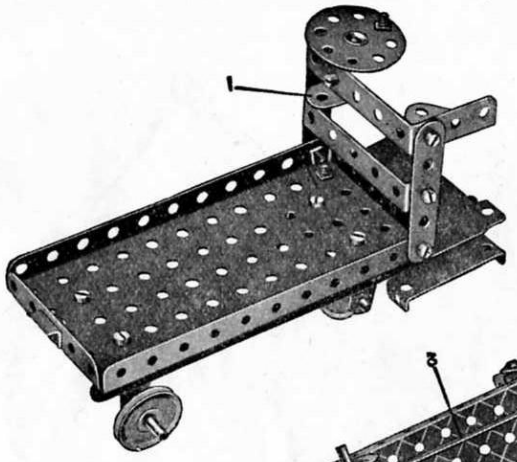
The 5½" Strips that form the jib are extended at the head by 2½" × ½" Double Angle Strips, in which a 2" Rod is journalled.



1.45 ELECTRIC TRUCK

Parts required

2 of No.	2	4 of No.	22
2 „ „	5	1 „ „	24
4 „ „	10	18 „ „	37
4 „ „	12	2 „ „	48a
1 „ „	16	1 „ „	52
1 „ „	17	1 „ „	111c
		1 „ „	125
		1 „ „	126
		1 *Magic* Motor	



The steering wheel, a Bush Wheel is secured to the Reversed Angle Bracket 1 by means of a ⅜" Bolt. Fig. 1.45a shows how the *Magic* Motor is mounted to drive the front wheels. The front wheel axle is journalled in two Flat Brackets bolted to the 5½" Strips 2 and 3.

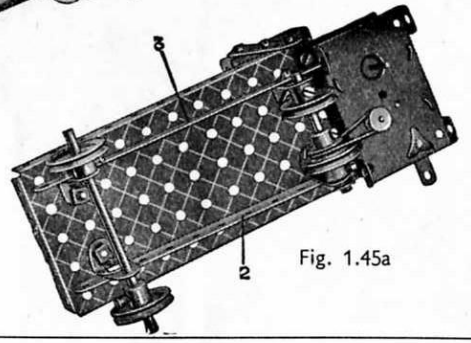
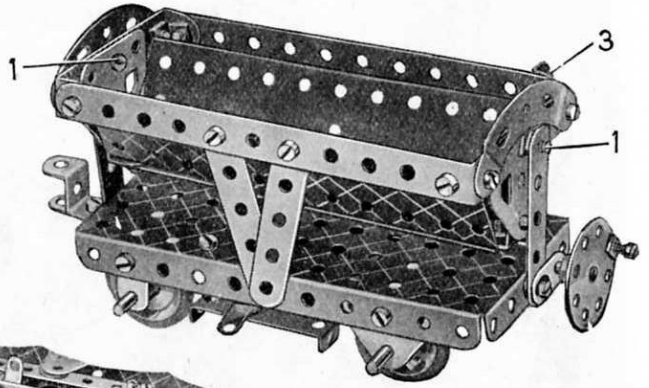


Fig. 1.45a

1.46 SIDE TIPPING WAGON

Parts required

3 of No.	2	2 of No.	90a
4 „ „	5	4 „ „	111c
4 „ „	10	1 „ „	125
7 „ „	12	2 „ „	126
2 „ „	16	2 „ „	126a
1 „ „	17	4 „ „	155a
4 „ „	22	2 „ „	189
1 „ „	24	1 *Magic* Motor	
24 „ „	37		
4 „ „	37a		
3 „ „	38		
2 „ „	48a		
1 „ „	52		



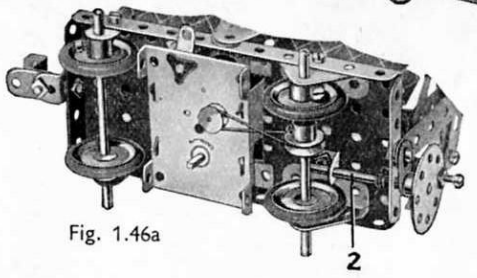
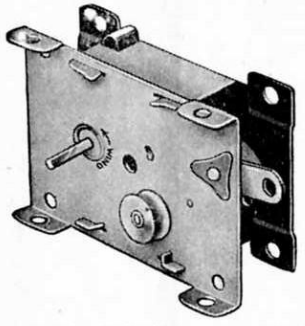


Fig. 1.46a

Each of the Bolts 1 is lock-nutted. A piece of Cord is fastened to the Rod 2 (Fig. 1.46a) wrapped round it two or three times, and then is taken through the hole in the Flanged Plate above the Rod and secured to the Angle Bracket 3.

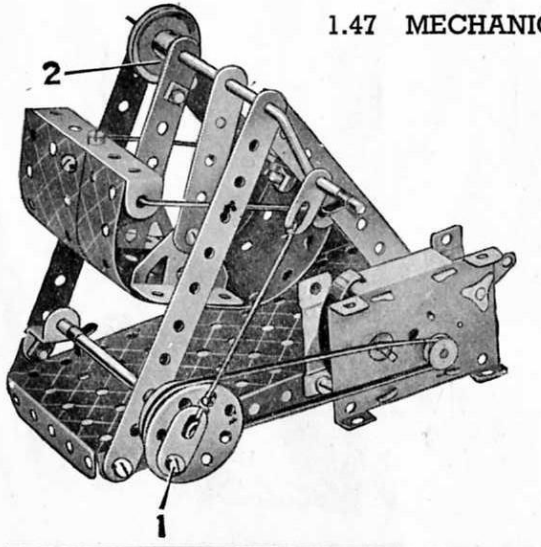
By turning the Bush Wheel the container is tipped sideways.

THE MECCANO *MAGIC* MOTOR



The greatest thrill in Meccano model-building is experienced when a model is set to work by means of a Meccano *Magic* Motor. The illustrations on this page show how the *Magic* Motor can be fitted without any difficulty to No. 1 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 !

1.47 MECHANICAL SWING



Parts required

4 of No.	2	1 „ „	40
2 „ „	5	2 „ „	48a
2 „ „	10	1 „ „	52
3 „ „	12	1 „ „	111c
1 „ „	16	1 „ „	125
1 „ „	19s	2 „ „	126
2 „ „	22	2 „ „	189
1 „ „	24	1 *Magic* Motor	
4 „ „	35		
15 „ „	37		
2 „ „	37a		
4 „ „	38		

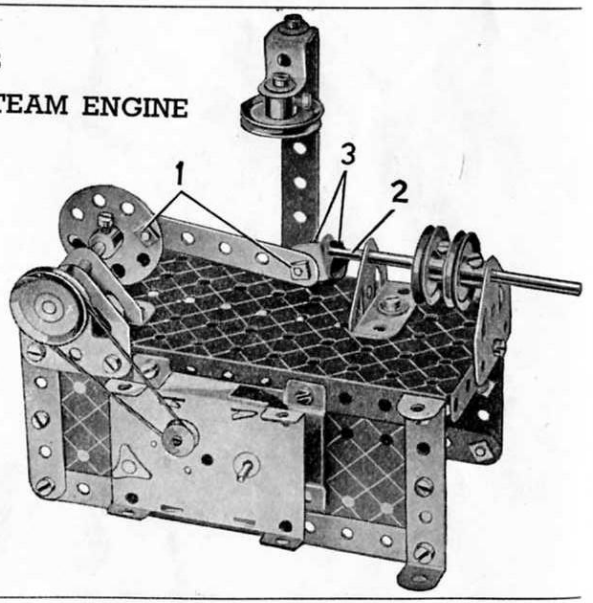
The left-hand 2½" Strip that supports the swing is connected to the Crank Handle by passing the set screw of the 1" Pulley Wheel 2 through the hole in an Angle Bracket bolted to the Strip and then into the boss of the Pulley. Bolt 1 on the Bush Wheel is fitted with lock-nuts.

The Bolts 1 are lock-nutted. The Rod 2 is secured to an Angle Bracket by means of two Spring Clips 3. The model is driven by a *Magic* Motor bolted to the 5½" × 2½" Flanged Plate. The pulley of the Motor is connected to a 1" fast Pulley on the crankshaft of the engine by a Driving Band.

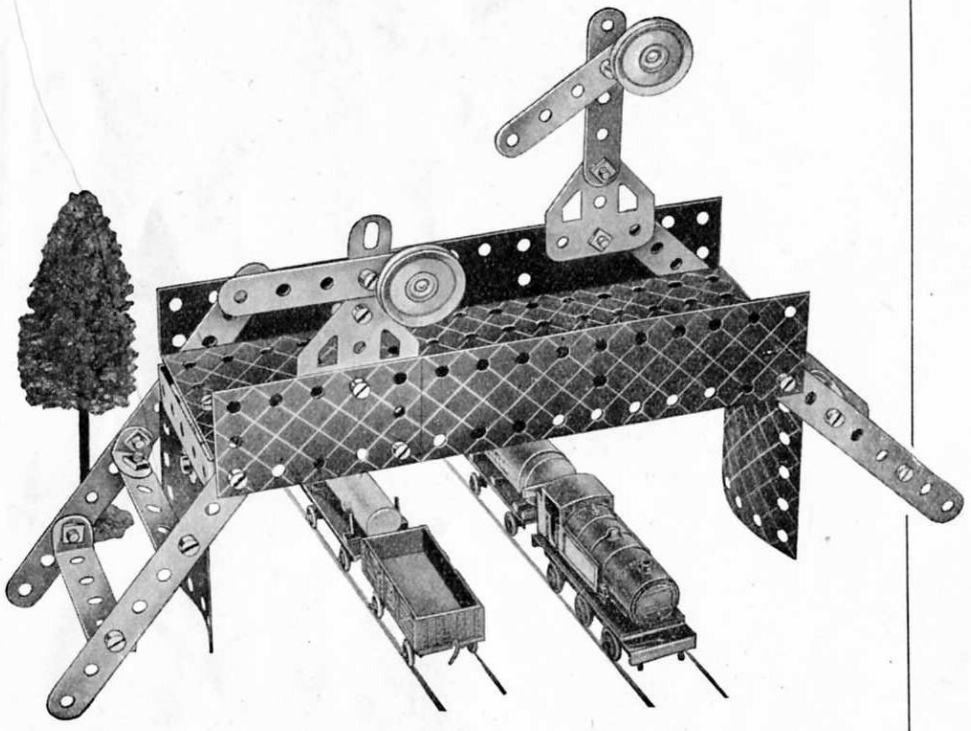
1.48 HORIZONTAL STEAM ENGINE

Parts required

3 of No.	2	1 „ „	111c
4 „ „	5	1 „ „	125
2 „ „	12	2 „ „	126
1 „ „	16	2 „ „	126a
1 „ „	17	2 „ „	189
4 „ „	22	1 *Magic* Motor	
1 „ „	24		
4 „ „	35		
24 „ „	37		
2 „ „	37a		
3 „ „	38		
1 „ „	48a		
1 „ „	52		



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 o 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 1/16" 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.

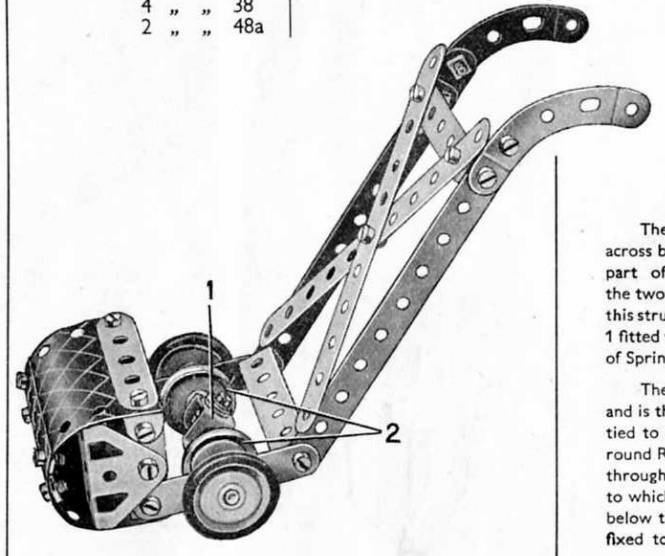
The signals are supported on Flat Trunnions bolted to the sides of the bridge. The smaller of the two signal posts is formed by two Flat Brackets, and the larger one is a 2½" Strip. The signal arms are 2½" Strips bolted to the posts in the second holes from one end. They are fitted at their shorter ends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

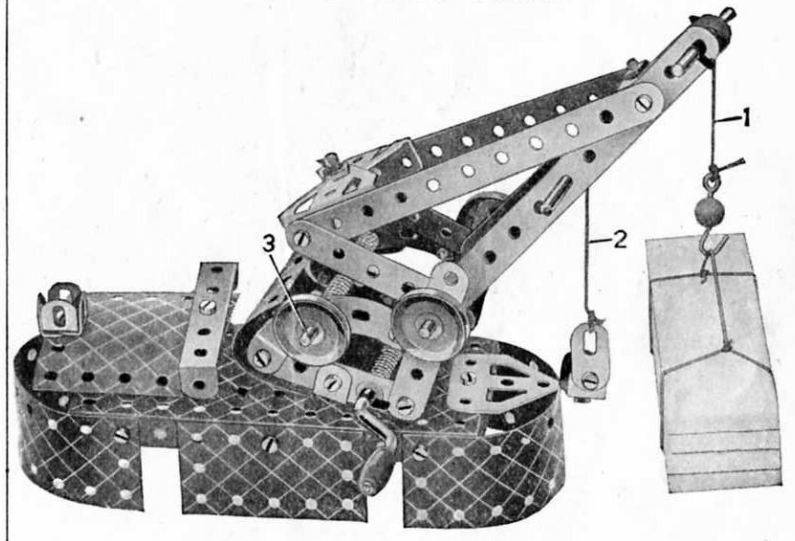
The "cutter" is made by bolting an Angle Bracket at each end of a Reversed Angle Bracket 1 and then sliding an Axle Rod through the free holes of the Brackets. The two Pulleys 2 are fixed to the Rod and pushed tightly against the "cutter" to make it rotate with the Rod as the wheels revolve. The wheels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



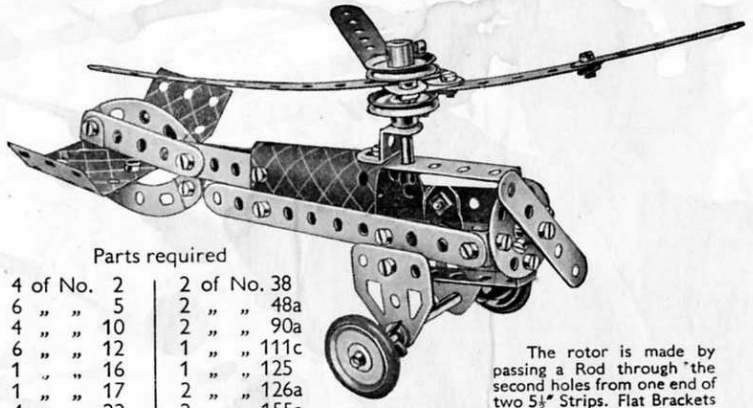
Parts required

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 round the Crank Handle.

The Cord 2 passes over a Rod held in place in the jib by an Anchoring Spring, and is then wound round 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

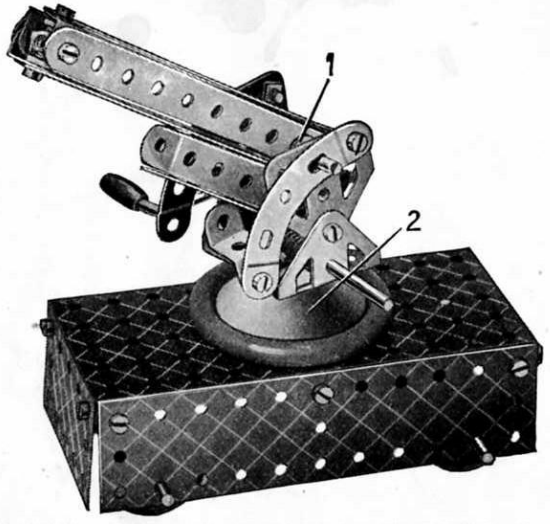
4 of No.	2	2 of No.	38
6 „ „	5	2 „ „	48a
4 „ „	10	2 „ „	90a
6 „ „	12	1 „ „	111c
1 „ „	16	1 „ „	125
1 „ „	17	2 „ „	126a
4 „ „	22	2 „ „	155a
1 „ „	24	2 „ „	188
3 „ „	35	1 „ „	199
25 „ „	37		

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

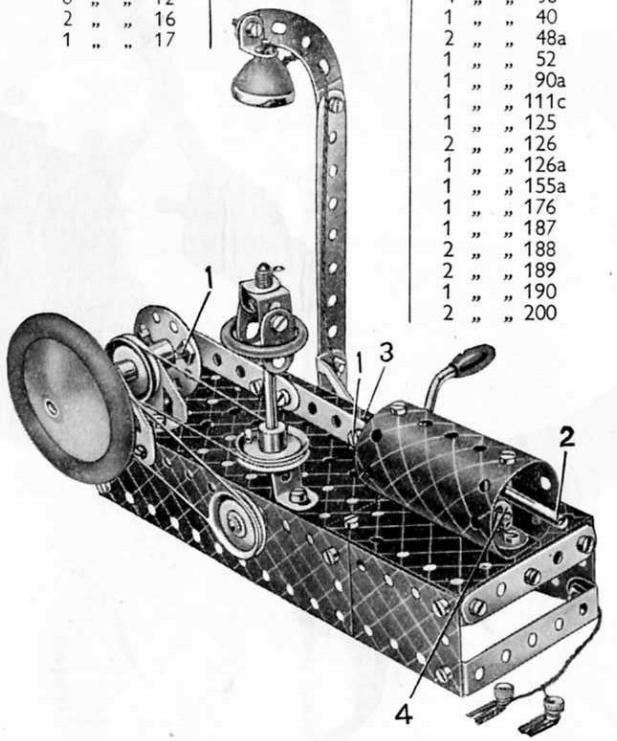


One end of a piece of Cord is fastened to the Crank Handle. It is wound round the Handle a few times and its other end is then fastened to the end of the gun. The two Trunnions are bolted to a Bush Wheel fixed on a 2" Rod that passes through the Road Wheel 2 and the Flanged Plate, and is held in place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



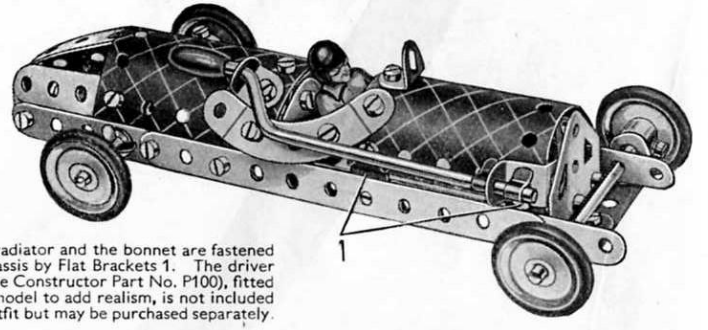
The bearings for the Rod representing the crankshaft are a Flat Trunnion and a Trunnion. The crankshaft carries a Road Wheel and a 1" Pulley at one end, a second 1" Pulley between the bearings, and a Bush Wheel at its other end.

The connecting rod is fastened to the Bush Wheel and to an Angle Bracket 3 by 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 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

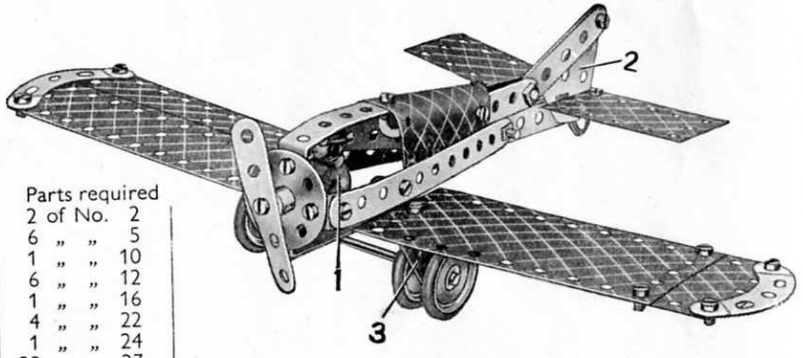


The radiator and the bonnet are fastened to the chassis by Flat Brackets 1. The driver (Aeroplane Constructor Part No. P100), fitted into the model to add realism, is not included in the Outfit but may be purchased separately.

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

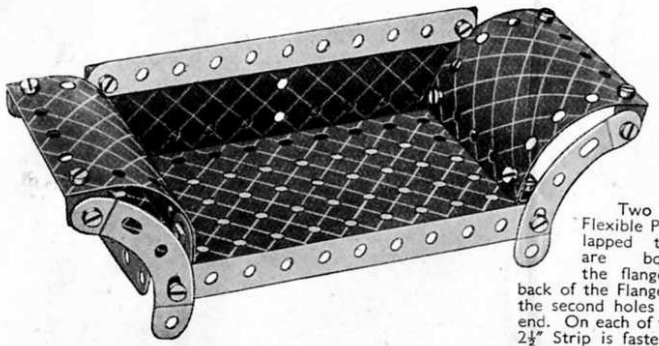


Parts required

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 SETTEE



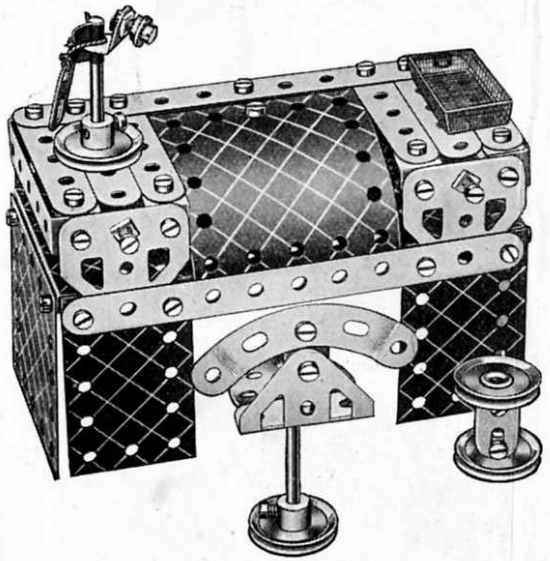
Parts required

2 of No. 2	23 of No. 37	2 of No. 90a
4 „ „ 5	2 „ „ 48a	2 „ „ 189
4 „ „ 12	1 „ „ 52	2 „ „ 200

Two 5½"×1½" Flexible Plates overlapped two holes are bolted to the flange at the back of the Flanged Plate in the second holes from each end. On each of the Bolts a 2½" Strip is fastened by its end hole, and the other end of the Strip is bolted to the turned down end of the 2½" Double Angle Strips under the arm rests.

2½" Strips are bolted behind the 5½"×1½" Flexible Plates at each end to form the back legs.

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

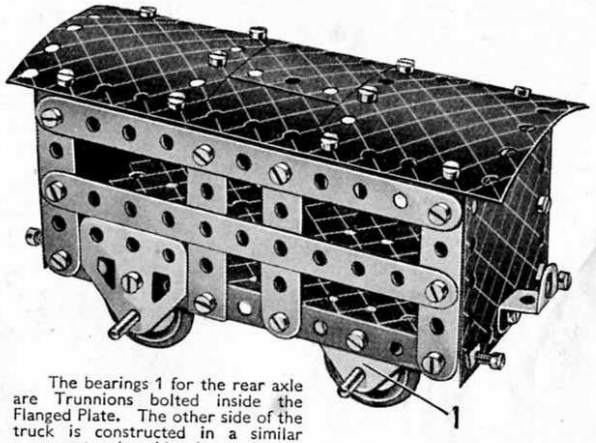
4 of No. 2	1 of No. 19g	3 of No. 38	2 of No. 111c
6 „ „ 5	4 „ „ 22	1 „ „ 40	2 „ „ 126
4 „ „ 10	1 „ „ 24	2 „ „ 48a	2 „ „ 126a
6 „ „ 12	4 „ „ 35	1 „ „ 52	1 „ „ 176
2 „ „ 16	38 „ „ 37	1 „ „ 57c	1 „ „ 187
2 „ „ 17	2 „ „ 37a	2 „ „ 90a	2 „ „ 188
	2 of No. 189	1 of No. 200	

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



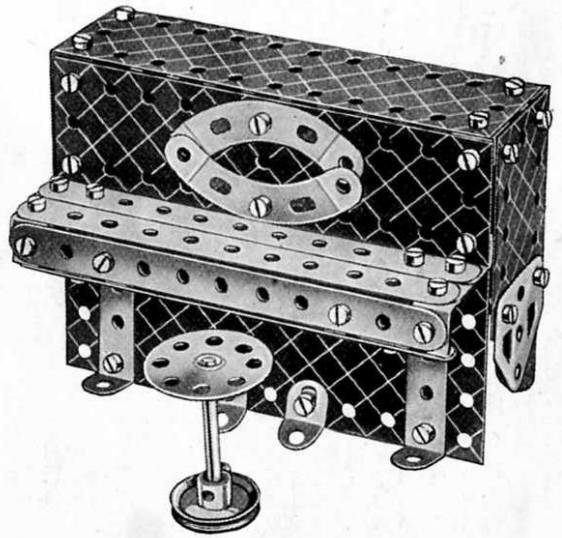
The bearings 1 for the rear axle are Trunnions bolted inside the Flanged Plate. The other side of the truck is constructed in a similar manner to the side shown in the illustration.

2.13 PIANO

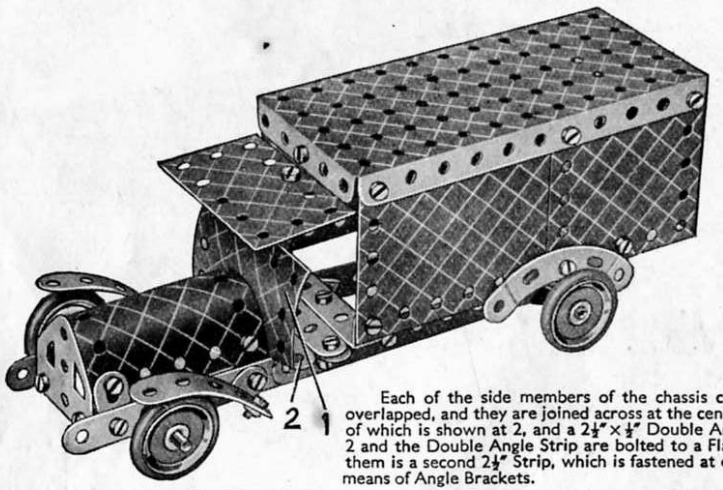
A 5½"×2½" Flanged Plate is used for the upper part of the back and to each end of this a 2½" Strip is bolted to form the rear legs.

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



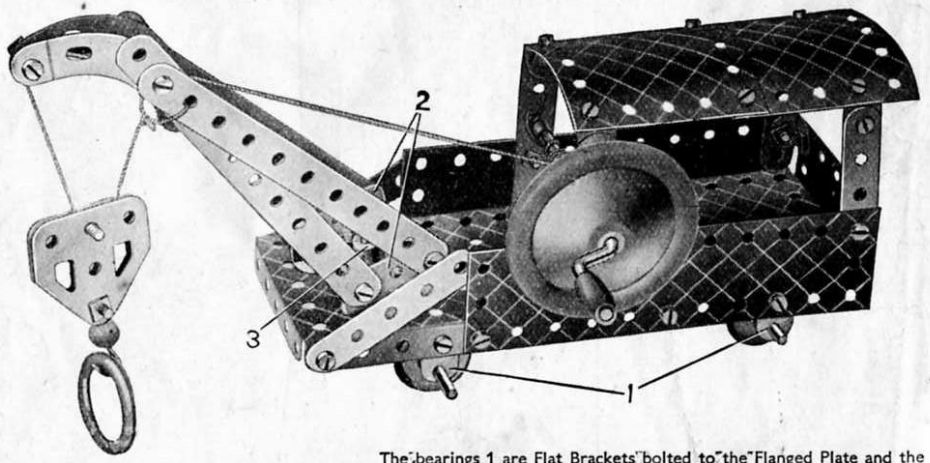
Each of the side members of the chassis consists of two 5½" Strips overlapped, and they are joined across at the centre by two 2½" Strips, one of which is shown at 2, and a 2½"×½" Double Angle Strip. The 2½" Strip 2 and the Double Angle Strip are bolted to a Flat Trunnion, and between them is a second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

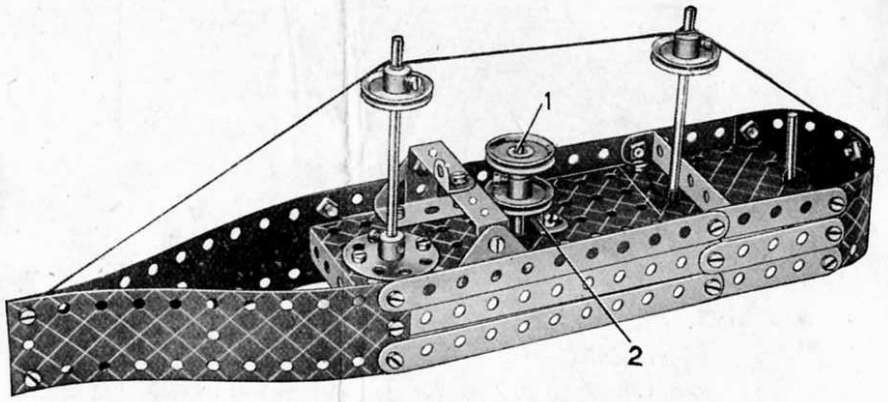


The bearings 1 are Flat Brackets bolted to the Flanged Plate and the Flexible Plates respectively. The jib is fastened to two Trunnions 2, which are bolted to the Bush Wheel 3. A 2" Rod is secured in the boss of the Bush Wheel 3. It then passes through a hole in the Flanged Plate, and is held in position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

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

2.16 STEAMSHIP

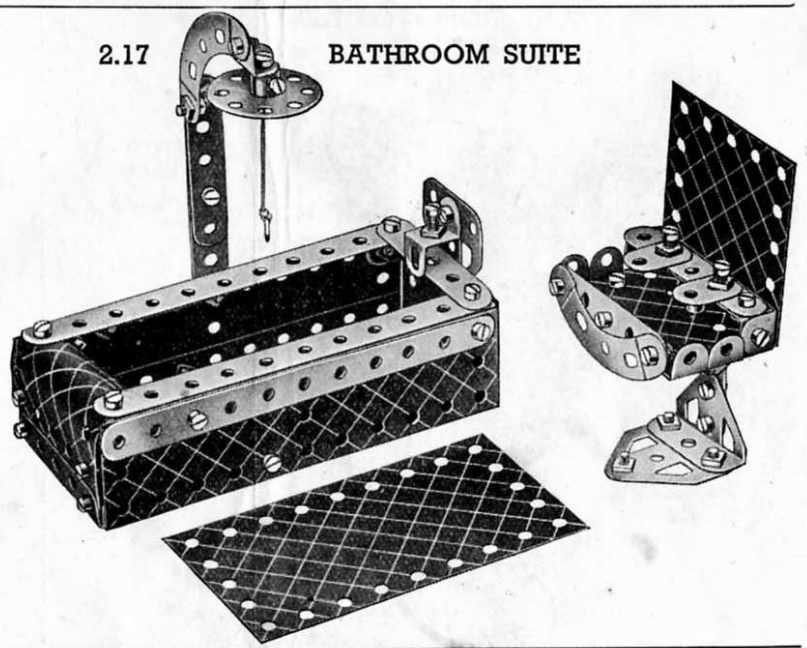


The deck of the model is a 5½"×2½" Flanged Plate extended by a 2½"×2½" Flexible Plate. A 2½"×½" Double Angle Strip fitted with an Angle Bracket represents the bridge, and it is supported by two Trunnions bolted to the deck. The funnel consists of a Rod 1 fitted with two 1" fast Pulleys. The Rod passes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

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

2.17 BATHROOM SUITE

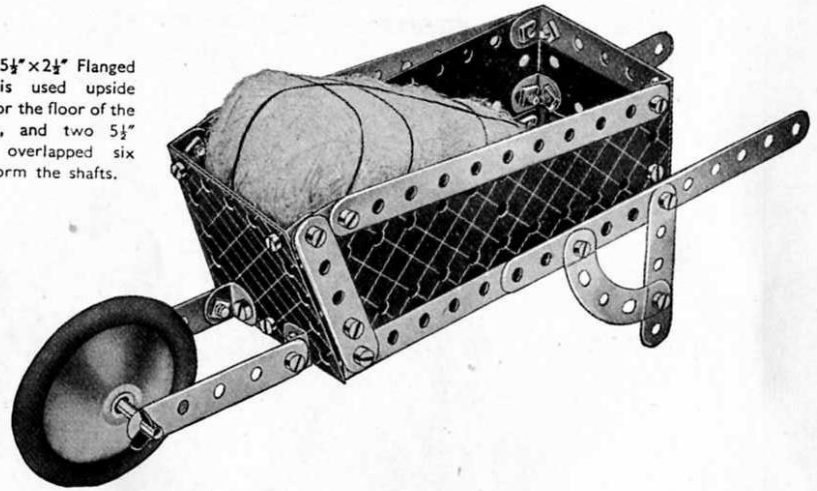


Parts required

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.

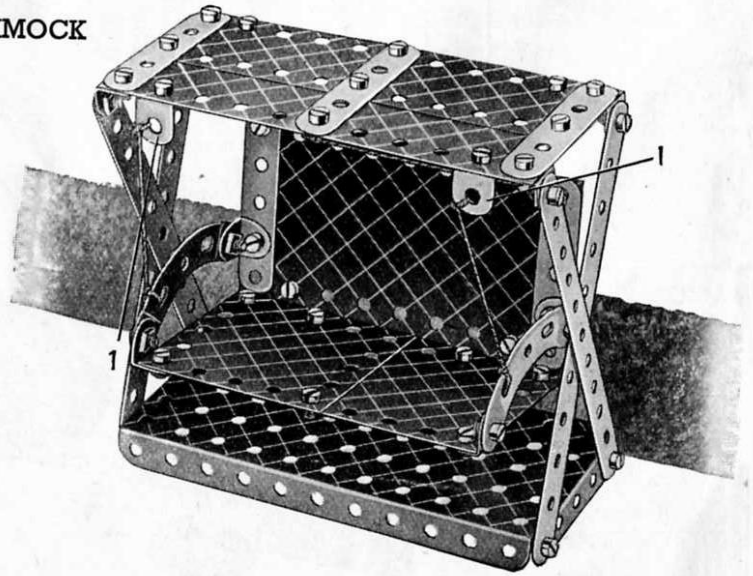


Parts required

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 GARDEN HAMMOCK

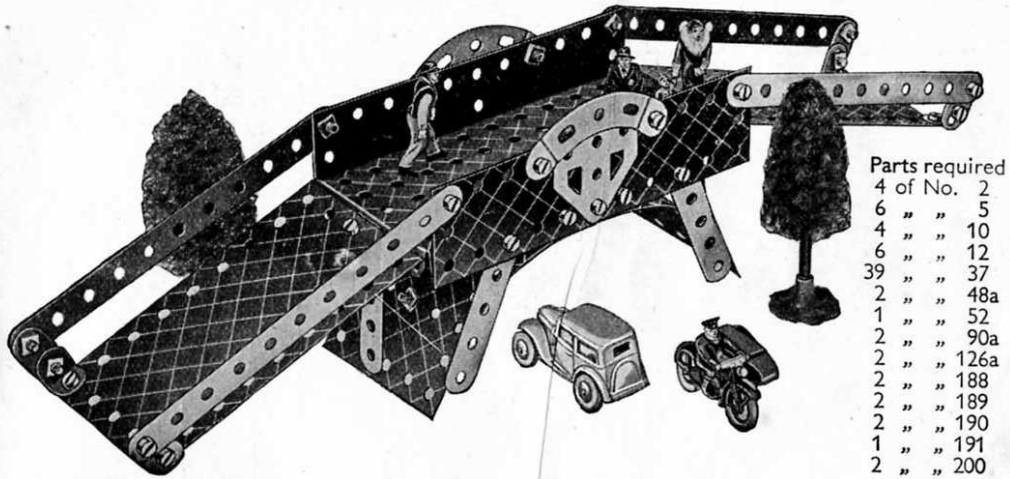
The Cord by which the back of the hammock is suspended is tied to the rear ends of the Double Angle Strips 1. The seat, which consists of two 2½"×2½" Flexible Plates, is attached to the back of the hammock by two Trunnions.



Parts required

4	of	No.	2	1	of	No.	52
5	„	„	5	2	„	„	90a
8	„	„	12	2	„	„	126
38	„	„	37	2	„	„	189
1	„	„	40	2	„	„	190
2	„	„	48a	1	„	„	191

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

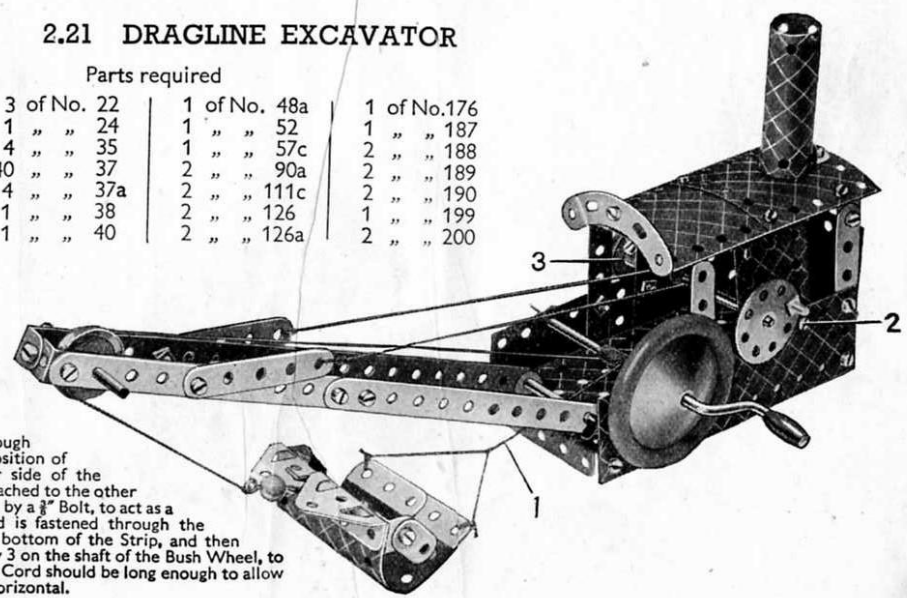
2.21 DRAGLINE EXCAVATOR

Parts required

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

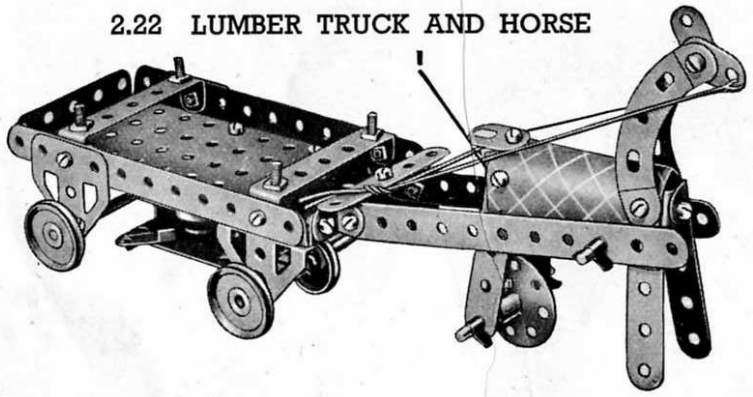
1	of	No.	176
1	„	„	187
2	„	„	188
2	„	„	189
2	„	„	190
1	„	„	199
2	„	„	200

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, by 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.



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

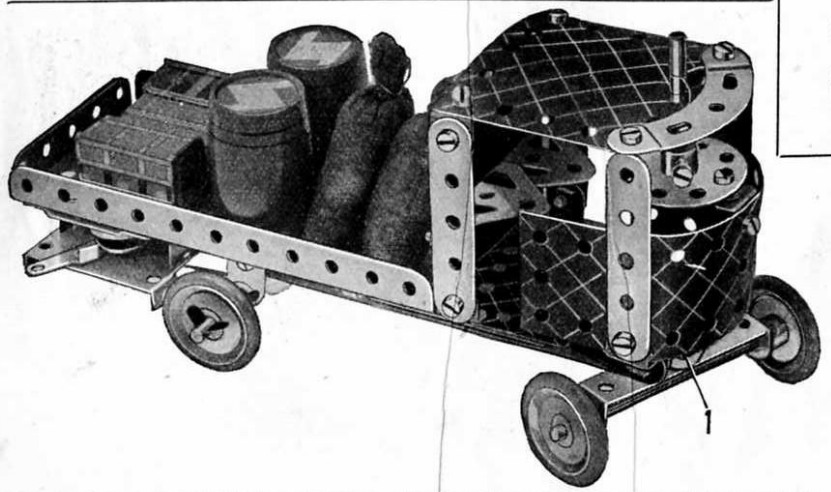


Parts required

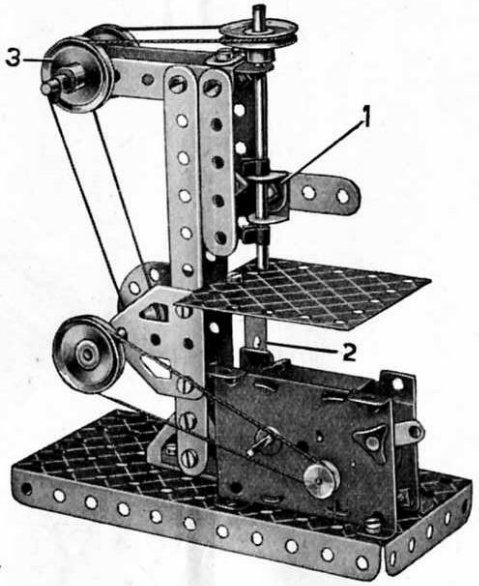
4 of No.	2	4 of No.	37a
5 „ „	5	2 „ „	48a
3 „ „	10	1 „ „	52
5 „ „	12	2 „ „	90a
2 „ „	16	4 „ „	111c
2 „ „	17	2 „ „	126
4 „ „	22	2 „ „	126a
1 „ „	24	4 „ „	155a
4 „ „	35	1 „ „	199
23 „ „	37	1 *Magic* Motor	

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



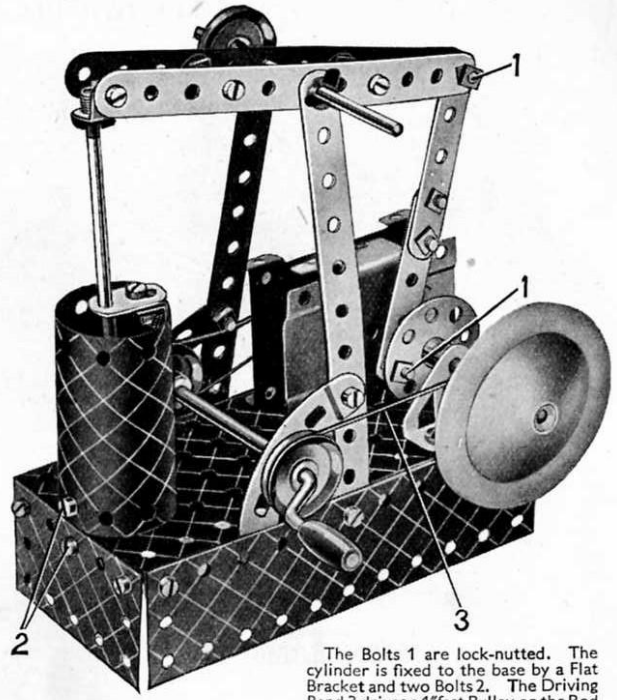
Parts required

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.

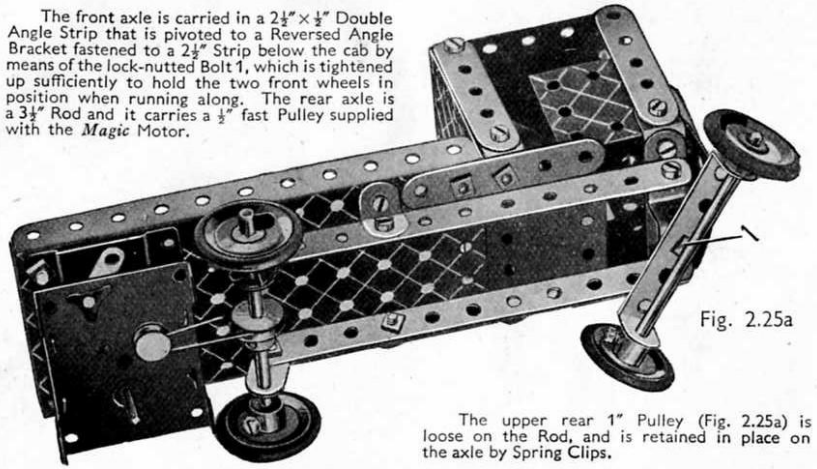


Fig. 2.25a

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

MECCANO MOTORS FOR OPERATING MECCANO MODELS

If you want to obtain the fullest enjoyment from the Meccano hobby you should operate your models by means of one of the Meccano Motors described on this page. You push over the control lever of the clockwork or electric Motor and immediately your Crane, Motor Car, Ship Coaler or Windmill commences to work in exactly the same manner as its prototype in real life.

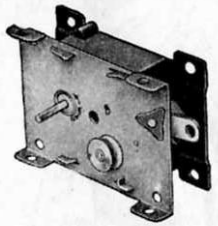
Each Motor is specially designed for building into Meccano models.

MECCANO CLOCKWORK MOTORS

These are the finest clockwork motors obtainable for model driving. They have exceptional power and length of run and their gears are cut with such precision as to make them perfectly smooth and steady in operation.

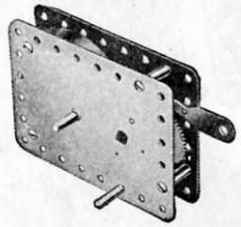
Meccano Clockwork Motors are specially suitable for small models built with a limited range of parts. They are extremely simple to operate and have the advantage of being self contained.

THE MECCANO *MAGIC* MOTOR



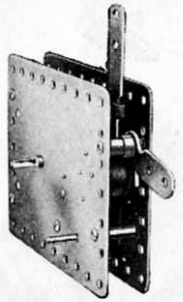
The Meccano *Magic* Motor is well designed and strongly constructed, and is fitted with a powerful spring giving a long and steady run. It is non-reversing. Each Motor is supplied with a separate ½" fast Pulley and three pairs of Driving Bands of different lengths.

A *Magic* Motor is the best power unit for driving small models built from Outfits Nos. O to 5. The larger Clockwork Motors, No. 1, No. 1a and No. 2, and the various Electric Motors, are more suitable for driving the heavier models built from Outfits Nos. 5 to 10.



No. 1 Clockwork Motor

This strongly built and efficient Motor is fitted with a powerful spring that gives a long and steady run, and is exceptionally smooth in action. The Motor is provided with a conveniently-placed brake lever by means of which it can be started and stopped. The Motor is of the non-reversing type.



No. 2 Clockwork Motor.

No. 1a Clockwork Motor

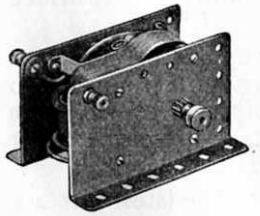
This Motor is more powerful than the No. 1 Motor and is fitted with reversing motion. It has brake and reverse levers.

No. 2 Clockwork Motor

This is a Motor of super quality. Brake and reverse levers enable it to be started, stopped or reversed, as required.

MECCANO ELECTRIC MOTORS

The Meccano Electric Motors shown here have been designed specially to provide smooth-running power units for the operation of Meccano models.

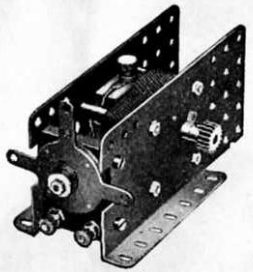


No. E1 Electric Motor (6 volt)

This Motor (non-reversing) will give excellent service. It is operated through a Meccano T6A, T6 or T6M Transformer from alternating current mains, or from a 6-volt accumulator.

No. E120 Electric Motor (20 volt)

The E120 Electric Motor is operated through a Meccano T20A, T20, or T20M Transformer from alternating current supply mains. Non-reversing.



No. E6 Electric Motor (6 volt)

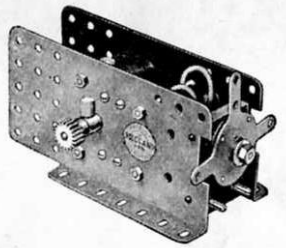
This fine Motor is fitted with reversing motion and provided with stopping and starting controls. It can be operated through a Meccano T6A, T6 or T6M Transformer from the mains (alternating current) or from a 6-volt accumulator.

No. EO6 Electric Motor (6 volt)

This strongly-built non-reversing Motor of the all-enclosed type will drive all the models built from Outfits up to No. 5, and also some of the lighter models built from Outfits 6 to 8. It can be operated through a Meccano T6A, T6 or T6M Transformer from the mains, providing the supply is alternating current, or from a 6-volt accumulator.

No. EO20 Electric Motor (20 volt)

The EO20 is a powerful non-reversing Motor of similar construction to the EO6 Motor illustrated above. It is designed to work from alternating current mains supply through a Meccano T20A, T20 or T20M Transformer.



No. E20b Electric Motor (20 volt)

This 20-volt Electric Motor is an extremely efficient power unit, fitted with reversing motion and provided with stopping and starting controls. It is operated through a Meccano T20A, T20 or T20M Transformer from alternating current supply mains.

MECCANO TRANSFORMERS

There are six Transformers in the series, as described below, all of which are available for the following A.C. supplies :—100/110 volts, 50 cycles ; 200/225 volts, 50 cycles ; 225/250 volts, 50 cycles. Any of the Transformers can be specially wound for supplies other than these at a small extra charge. When ordering a Transformer the voltage and frequency of the supply must always be stated.

No. T20A Transformer

No. T6 Transformer

FOR 20-volt ELECTRIC MOTORS

No. T20A TRANSFORMER (Output 35 VA at 20/3½ volts). Has two separate circuits at 20 volts, one of which is controlled by a 5-stud speed regulator, and a third circuit at 3½ volts for lighting up to 14 lamps.

No. T20 TRANSFORMER (Output 20 VA at 20 volts). Has one 20-volt circuit controlled by a 5-stud speed regulator.

No. T2 M TRANSFORMER (Output 20 'A at 20 volts). This Transformer is provided with one 20-volt circuit, but is not fitted with speed regulator.

FOR 6-volt ELECTRIC MOTORS

No. T6A TRANSFORMER (Output 40 VA at 9/3½ volts). Has two separate circuits at 9-volts, one of which is controlled by a 5-stud speed regulator, and a third circuit at 3½ volts for lighting up to 18 lamps.

No. T6 TRANSFORMER (Output 25 VA at 9 volts). Has one 9-volt circuit and is fitted with a 5-stud speed regulator.

No. T6M TRANSFORMER (Output 25 VA at 9 volts). Has one 9-volt circuit, but is not fitted with a speed regulator.

Resistance Controllers

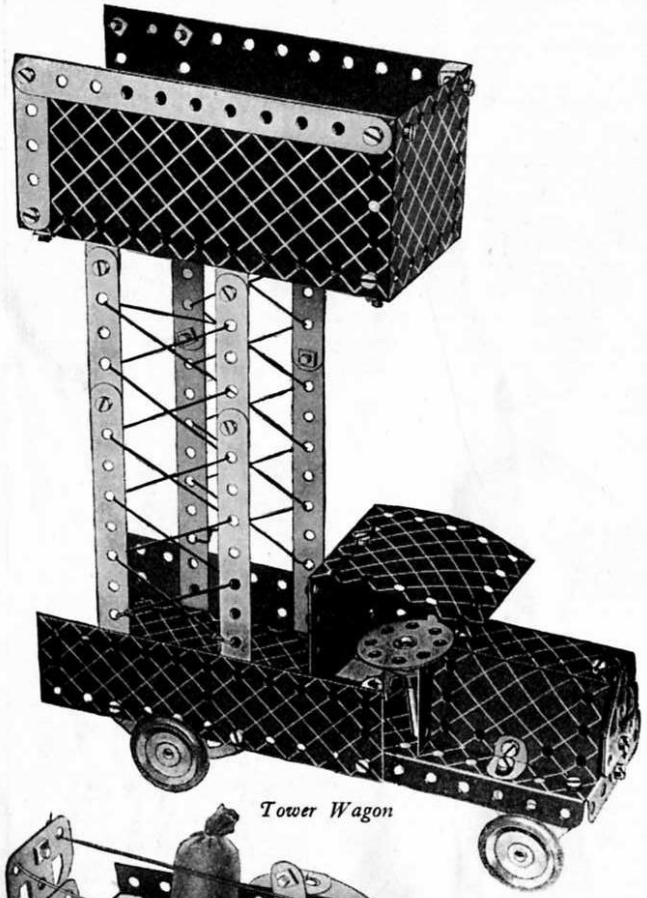
By means of these Controllers the speed of Meccano 6-volt and 20-volt Motors can be regulated exactly as desired.

BUILD BIGGER AND BETTER MODELS

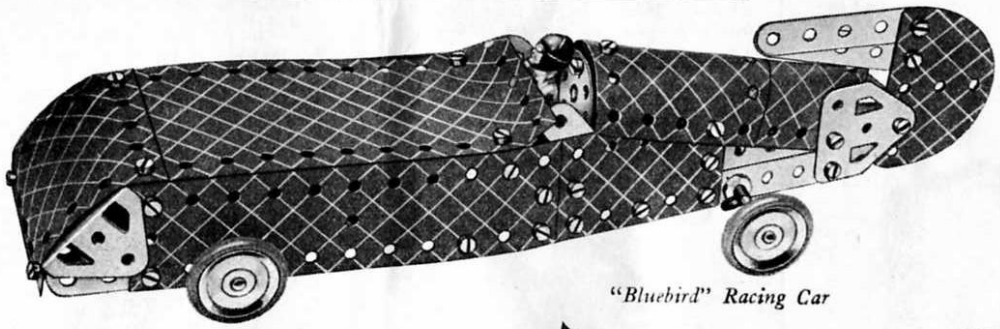
When you have built all the models shown in this Manual you will be keen to build bigger and more elaborate models. Your next step is to purchase a Meccano No. 2a Accessory Outfit containing all the parts required to convert your No. 2 into a No. 3 Outfit. You will then be able to build the full range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

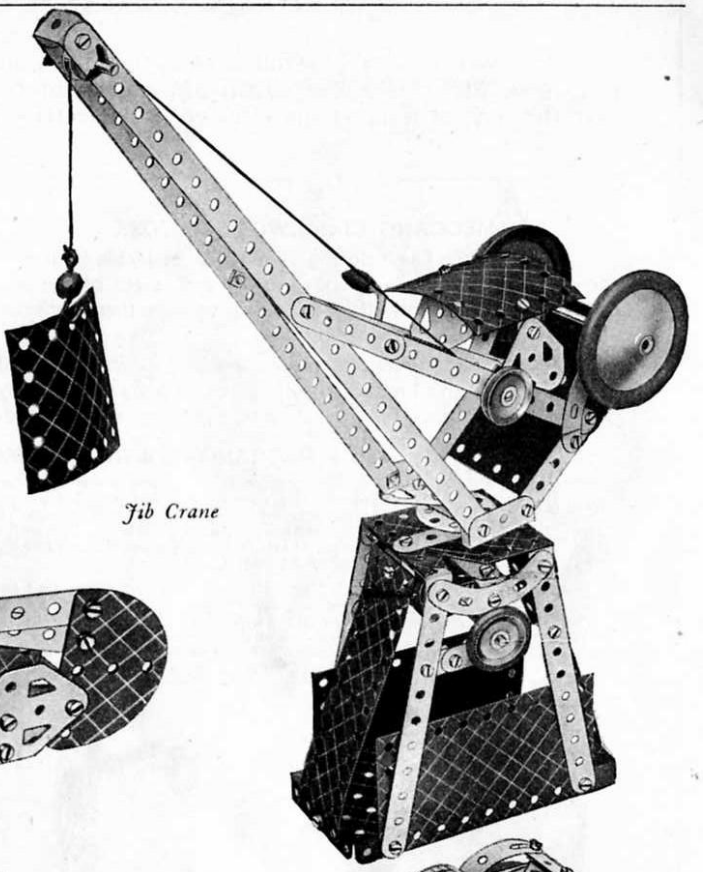
Ask your dealer to post to you regularly the latest Meccano parts lists and other Meccano literature.



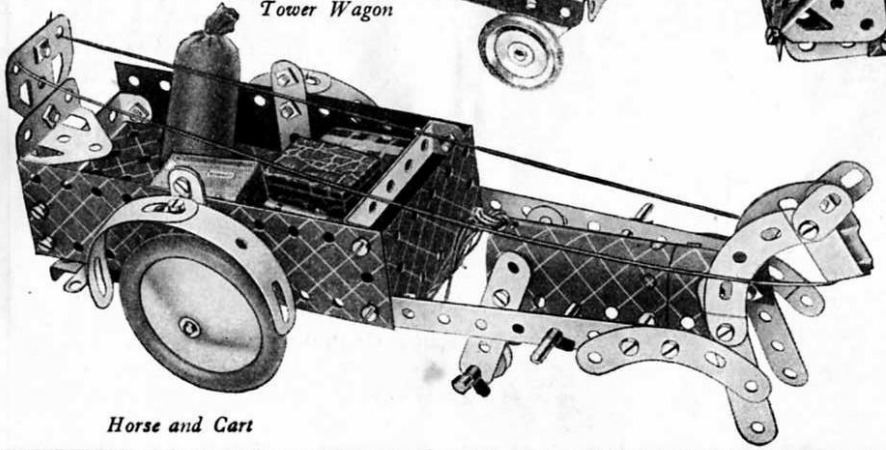
Tower Wagon



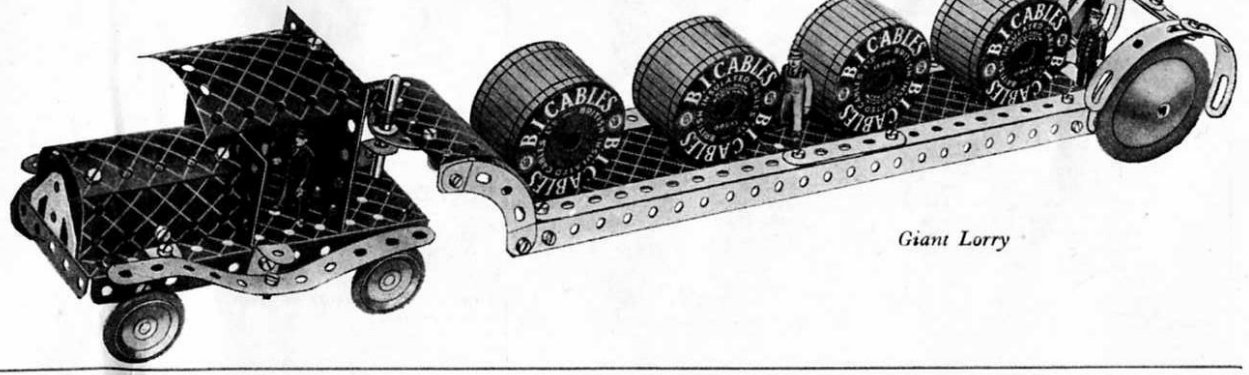
"Bluebird" Racing Car



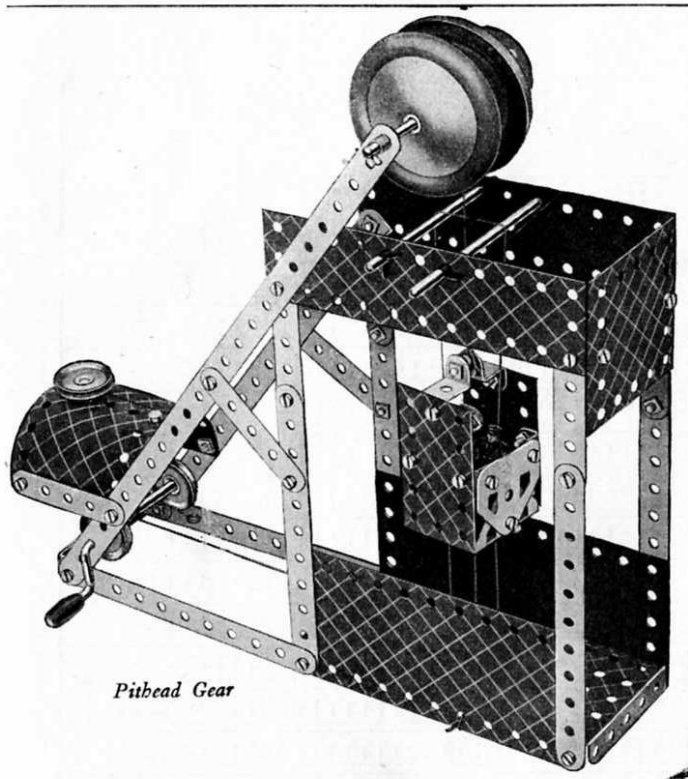
Jib Crane



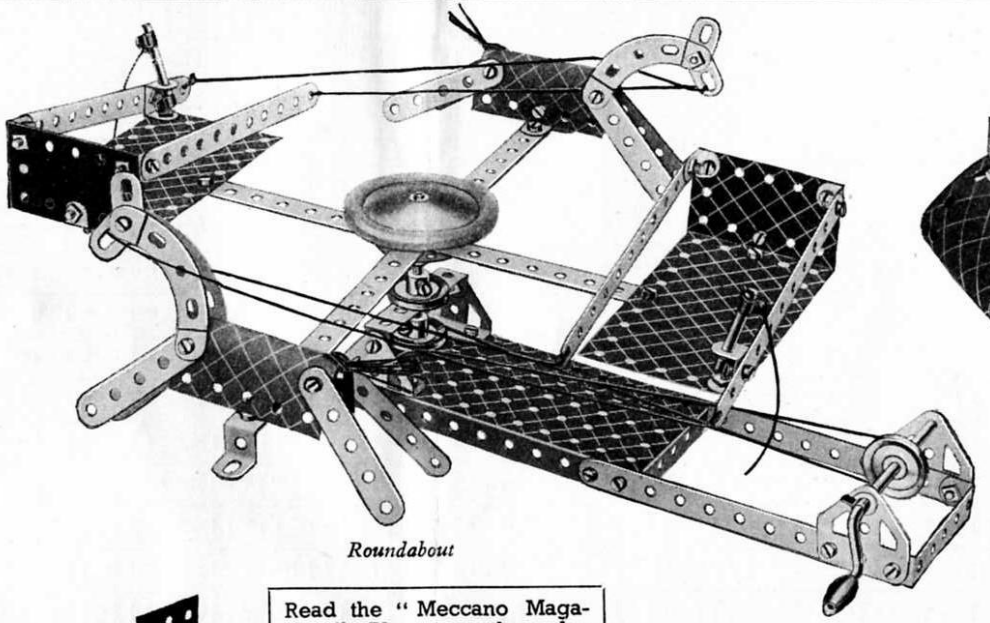
Horse and Cart



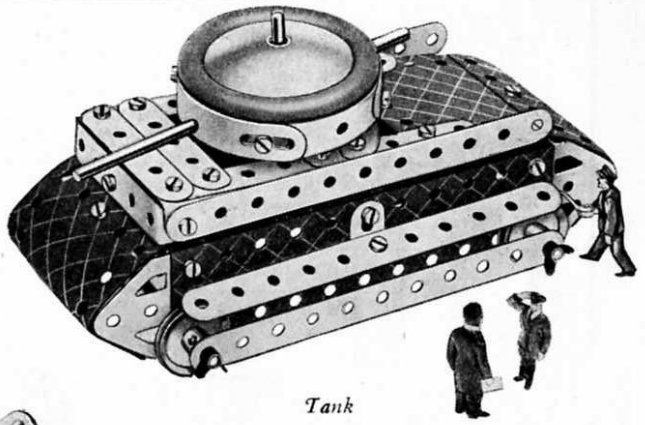
Giant Lorry



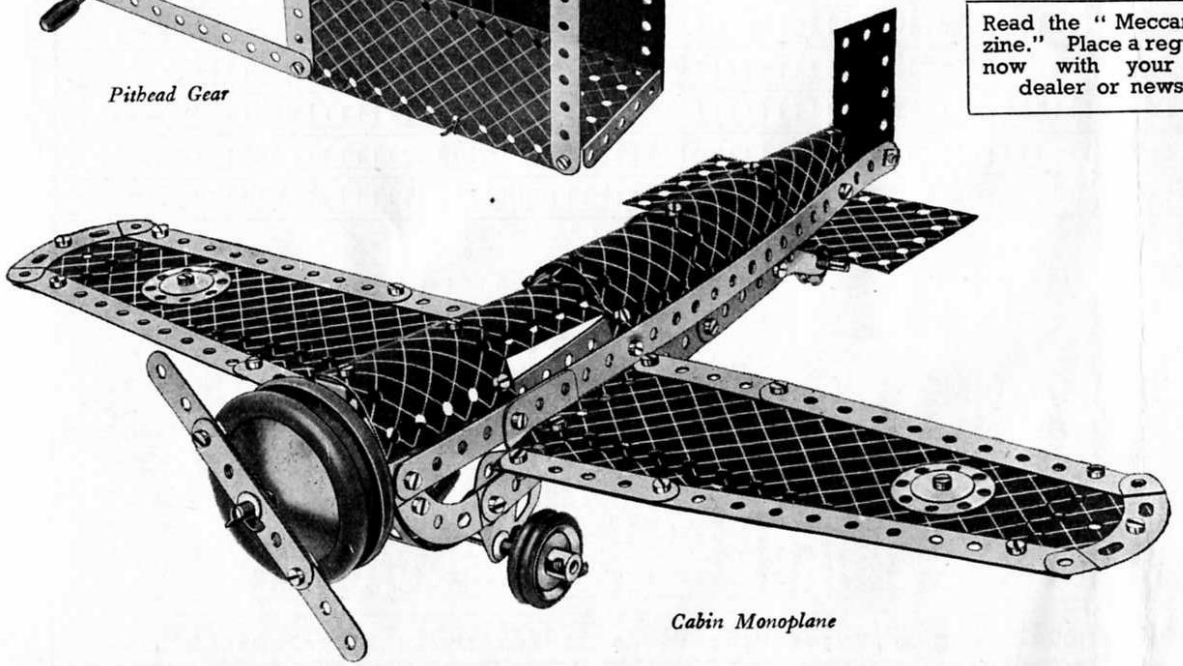
Pithead Gear



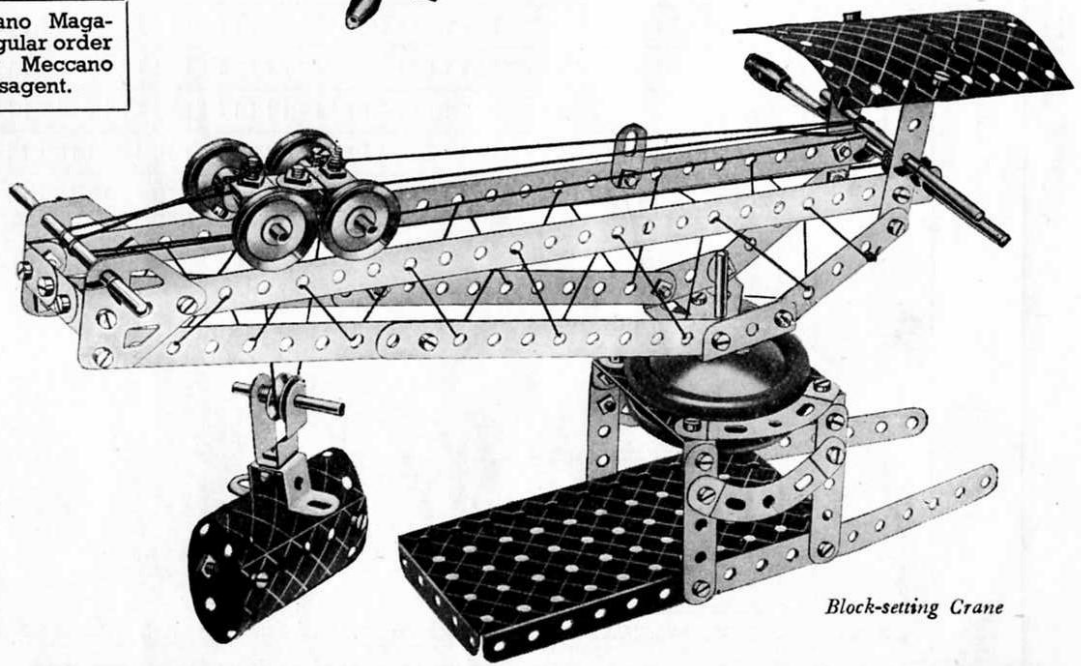
Roundabout



Tank



Cabin Monoplane



Block-setting Crane

No.	Description	0	1	1a	2	2a	3	3a	4	4a	5	5a	6	6a	7	7a	8	8a	9	9a	10
1	Perforated Strips, 12½"	—	—	—	—	2	2	2	4	6	10	2	12	—	12	2	14	—	14	10	24
1a	" " 9½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6
1b	" " 7½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	4	6
2	" " 5½"	4	4	—	4	2	6	2	8	6	14	—	14	4	18	3	21	3	24	12	36
2a	" " 4½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6	—	6	2	8
3	" " 3½"	—	—	—	—	—	—	2	2	—	2	2	4	2	6	—	6	2	6	12	18
4	" " 3"	—	—	—	—	—	—	—	—	—	—	2	2	—	2	4	6	2	8	4	12
5	" " 2½"	2	4	2	6	3	9	—	9	3	12	—	12	—	12	6	18	18	36	36	72
6	" " 2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	4	8	12
6a	" " 1½"	—	—	—	—	—	—	—	—	2	2	—	2	2	4	2	6	—	6	4	10
7	Angle Girders, 24½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	8
7a	" " 18½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	4	6
8	" " 12½"	—	—	—	—	—	—	—	—	4	4	—	4	4	8	2	10	—	10	6	16
8a	" " 9½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	4	6
8b	" " 7½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
9	" " 5½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	—	4	8	12
9a	" " 4½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	8
9b	" " 3½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6
9c	" " 3"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
9d	" " 2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	6	8
9e	" " 2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
9f	" " 1½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
10	Flat Brackets	4	4	—	4	1	5	—	5	3	8	—	8	4	12	8	20	3	23	1	24
11	Double Brackets	—	—	—	—	2	2	—	2	2	4	—	4	—	4	1	5	3	8	4	12
12	Angle Brackets, ½"×½"	4	8	—	8	—	8	—	8	4	12	4	16	2	18	16	34	2	36	14	50
12a	" " 1"×1"	—	—	—	—	—	—	—	—	2	2	—	2	2	4	2	6	—	6	2	8
12b	" " 1"×½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	6	8
12c	Obtuse Angle Brackets, ½"×½"	—	—	—	—	—	—	4	4	—	4	2	6	—	6	2	8	—	8	4	12
13	Axle Rods, 11½"	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	2	—	2	—	2
13a	" " 8"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	3	4
14	" " 6½"	—	—	—	—	—	—	—	—	—	—	1	1	—	1	2	3	—	3	1	4
15	" " 5"	—	—	—	—	—	—	—	—	2	2	—	2	—	2	2	4	—	4	2	6
15a	" " 4½"	—	—	—	—	—	—	—	—	1	1	—	1	2	3	2	5	—	5	1	6
15b	" " 4"	—	—	—	—	2	2	—	2	—	2	—	2	—	2	—	2	—	2	—	2
16	" " 3½"	1	2	—	2	1	3	1	4	—	4	—	4	—	4	1	5	—	5	3	8
16a	" " 2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3	—	6
16b	" " 3"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
17	" " 2"	1	2	—	2	—	2	—	2	—	2	—	2	—	2	3	5	—	5	3	8
18a	" " 1½"	—	—	—	—	1	1	1	2	2	4	—	4	—	4	—	4	—	4	2	6
18b	" " 1"	—	—	—	—	—	—	1	1	—	1	—	1	—	1	1	2	—	2	2	4
19b	Pulley Wheels, 3" with set screws	—	—	—	—	—	—	2	2	—	2	—	2	—	2	—	2	—	2	4	6
19g	Crank Handles, 3½" shaft with Erinoid grip	—	—	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	1	2
19h	" " 5" " " "	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1	—	1	—	1
19s	Crank Handles, 3½" shaft without Erinoid grip	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	Flanged Wheels, 1⅛" diameter	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	—	4	—	4
20a	Pulley Wheels, 2" with set screws	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4	2	6	—	6
20b	Flanged Wheels, ¾" diameter	—	—	—	—	—	—	—	—	—	—	—	—	4	4	1	4	—	4	—	4
21	Pulley Wheels, 1½" with set screws	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	—	2
22	" " 1" " " "	2	4	—	4	—	4	1	5	—	5	—	5	—	5	2	5	—	5	3	8
22a	" " 1" without " "	—	—	—	—	—	—	—	—	2	2	—	2	—	2	2	4	—	4	2	6
23	" " ½" " " "	—	—	—	—	1	1	—	1	—	1	—	1	—	1	2	3	—	3	1	4
23a	" " ½" with " "	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	1	—	1	2	4
24	Bush Wheels	1	1	—	1	—	1	—	1	—	1	—	1	—	1	1	2	—	2	4	4
25	Pinion Wheels, ½" diam., ½" face	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	3	4
25a	" " ½" " ½" "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
26	" " ½" " ½" "	—	—	—	—	—	—	—	—	—	—	—	—	2	2	1	3	1	4	2	6
26a	" " ½" " ½" "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
26b	" " ½" " ½" "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
27	Gear Wheels, 50 teeth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2	4
27a	" " 57 "	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2	—	2	2	4
27b	" " 133 " 3½" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
28	Contrate Wheels, 1½" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	2
29	" " ¾" "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2	—	2
30	Bevel Gears, ⅞", 26 teeth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
30a	" " ½", 16 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1
30c	" " 1½", 48 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1
31	Gear Wheels, 1", 38 "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
32	Worms	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2	—	2	—	2
34	Spanners	1	2	—	2	—	2	—	2	—	2	—	2	—	2	—	2	—	2	—	2
34b	Box Spanners	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1
35	Spring Clips	4	4	—	4	2	6	2	8	6	14	—	14	4	18	1	19	12	31	5	36
36	Screwdrivers	1	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1
36b	" (Special)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1
37a	Nuts	22	30	16	46	10	56	25	81	10	91	20	111	51	162	76	238	60	298	352	650
37b	Bolts, 3/16"	18	24	16	40	10	50	25	75	10	85	20	105	45	150	70	220	60	280	320	600
38	Washers	2	4	—	4	2	6	2	8	6	14	6	20	6	26	—	26	—	26	49	75
40	Hanks of Cords	—	1	—	1	—	1	—	1	—	1	1	2	1	3	—	3	3	6	—	6
41	Propeller Blades	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
43	Springs	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1	3	4
44	Cranked Bent Strips	—	—	—	—	1	1	—	1	—	1	—	1	1	1	—	1	—	1	1	2
45	Double Bent Strips	—	—	—	—	—	—	—	—	1	1	—	1	1	2	1	3	—	3	1	4
46	Double Angle Strips, 2½"×1"	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2	2	4	—	4
47	" " " 2½"×1½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
47a	" " " 3"×1½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
48	" " " 1½"×½"	—	—	—	—	—	—	1	1	—	1	1	2	—	2	—	2	—	2	2	4
48a	" " " 2½"×½"	2	2	—	2	—	2	4	6	2	8	—	8	2	10	—	10	—	10	2	12
48b	" " " 3½"×½"	—	—	—	—	—	—	—	—	—	—	2	2	—	2	4	6	—	6	2	8
48c	" " " 4½"×½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	2	4
48d	" " " 5½"×½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4	—	4
50a	Eye Pieces with boss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
51	Perforated Flanged Plates, 2½"×1½"	—	—	—	—	—	—	1	1	—	1	—	1	—	1	1	2	—	2	—	2
52	" " " 5½"×2½"	1	1	—	1	—	1	—	1	—	1	—	1	1	2	—	2	—	2	2	4
52a	" Flat Plates, 5½"×3½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	2	6
53	" Flanged Plates, 3½"×2½"	—	—	—	—	—	—	—	—	—	—	2	2	1	3	2	5	—	5	1	6
53a	" Flat Plates, 4½"×2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
54a	" Flanged Sector Plates, 4½"	—	—	—	—	—	—	2	2	—	2	—	2	—	2	—	2	—	2	—	2
55a	Perforated Strips, Slotted, 2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
57b	Hooks, Loaded (Large)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1
57c	" " (Small)	—	1	—	1	—	1	—	1	—	1	—	1	1	1	—	1	—	1	1	2
59	Collars with Set Screws	—	—	—	—	—	—	—	—	—	—	4	4	2	6	4	10	2	12	12	24
62	Cranks	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	—	2	2	4
62a	" Threaded	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
62b	Double Arm Cranks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
63	Couplings	—	—	—	—	—	—	—	—	—	—	—	—	1	1	5	6	—	6	2	8
64	Threaded Bosses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
65	Centre Forks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1
69c	Grub Screws, 5/16"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12	12
70	Perforated Flat Plates, 5½"×2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
72	" " " 2½"×2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
76	" Triangular Plates, 2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
77	" " " 1"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	2	4
78	Screwed Rods, 11½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
80a	" " 3½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
80c	" " 3"	—	—	—	—	—	—	—	—	2	2	—	2	—	2	—	2	—	2	—	2
81	" " 2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
82	" " 1"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
89	Curved Strips, 5½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	8	12
89a	" " 3", Cranked	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6
89b	" " 4"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	6	8
90	" " 2½"	—	—	—	—	—	—	—	—	—	—	2	2	—	2	2	4	—	4	8	12
90a	" " 2½" Cranked	2	2	—	2	2	4	—	4	—	4	—	4	—	4	2	4	—	4	4	8
94	Sprocket Chain, 40" lengths	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	2

No.	Description	0	1	1a	2	2a	3	3a	4	4a	5	5a	6	6a	7	7a	8	8a	9	9a	10
95	Sprocket Wheels, 2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	—	2
95a	" " 1½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
95b	" " 3"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
96	" " 1"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	2	4
96a	" " ¾"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	2
100	Braced Girders, 5½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2
102	Single Bent Strips	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	3	4
103	Flat Girders, 5½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
103a	" " 9½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
103b	" " 12½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
103c	" " 4½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
103d	" " 3½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
103e	" " 3"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
103f	" " 2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
103g	" " 2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
103h	" " 1½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
103k	" " 7½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
108	Architraves	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	2	4
109	Face Plates, 2½" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	2	4
110	Rack Strips, 3½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
111	Bolts, ¾"	—	—	—	—	—	—	—	—	—	—	2	2	1	2	1	3	—	3	15	18
111a	" ½"	—	—	—	—	—	—	—	—	2	2	—	2	—	2	4	6	—	6	12	18
111c	" ⅜"	2	4	—	4	2	6	—	6	—	6	—	6	—	6	—	6	6	12	12	24
114	Hinges	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
115	Threaded Pins	—	—	—	—	—	—	—	—	1	1	—	1	1	2	—	2	—	2	2	4
116	Fork Pieces, Large	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1	1	2
116a	" " Small	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	2
117	Steel Balls, ⅜" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	24	—	24
118	Hub Discs, 5½" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
120b	Compression Springs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	3	4
124	Reversed Angle Brackets, 1"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
125	" " " ½"	—	1	—	1	1	2	—	2	2	4	—	4	—	4	—	4	—	4	2	6
126	Trunnions	2	2	—	2	—	2	—	2	—	2	—	2	—	2	2	4	—	4	4	8
126a	Flat Trunnions	2	2	—	2	—	2	—	2	—	2	2	4	—	4	—	4	2	6	6	12
128	Boss Bell Cranks	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
129	Rack Segments, 3" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
130	Triple Throw Eccentrics	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
132	Flywheels, 2½" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
133	Corner Brackets, 1½" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
133a	" " 1" "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2
134	Crank Shafts, 1" stroke	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1
136	Handrail Supports	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	4
136a	" Couplings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
137	Wheel Flanges	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	3	4
140	Universal Couplings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
142a	Motor Tyres, 2"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	2	6	—	6
142b	" " 3"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	6
143	Circular Girders, 5½" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
144	Dog Clutches	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
145	Circular Strips, 7½" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
146	" Plates, 6" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
146a	" " 4" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
147a	Pawls	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
147b	Pivot Bolt with 2 Nuts	—	—	—	—	—	—	—	—	1	1	—	1	—	1	1	2	1	3	3	6
147c	Pawls with Boss	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	2
154a	Corner Angle Brackets, ½" R.H.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1
154b	" " " ½" L.H.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1
155a	Rubber Tyres, for 1" pulley	2	4	—	4	—	4	—	4	—	4	—	4	—	4	—	4	—	4	4	8
157	Fans, 2" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
160	Channel Bearings, 1½"×1"×½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	2
161	Girder Brackets, 2"×1"×½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	—	2
162	Boiler with Ends, complete	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1	1	2
162a	Boiler Ends	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
162b	Boilers without Ends	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1
163	Sleeve Pieces	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	—	2	—	2
164	Chimney Adaptors	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2	—	2	2	4
165	Swivel Bearings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2	—	2
166	End Bearings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	1	2
167b	Ring Frames for Rollers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
168	Ball Bearings, 4" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
169	Digger Buckets	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
170	Eccentrics, ¼" throw	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2
171	Socket Couplings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
175	Flexible Coupling Units	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
176	Anchoring Springs for Cord	—	—	1	1	—	1	—	1	—	1	—	1	—	1	—	1	—	1	3	4
179	Rod Socket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2
185	Steering Wheel, 1¾" diam.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1
186	Driving Bands, 2½" Light	—	—	1	1	—	1	—	1	—	1	—	1	2	3	—	3	—	3	—	3
186a	" " 6" "	—	—	—	—	—	—	—	—	1	1	1	1	1	2	—	2	—	2	—	2
186b	" " 10" "	—	—	—	—	—	—	—	—	—	—	1	1	1	2	—	2	—	2	—	2
186c	" " 10" Heavy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
186d	" " 15" "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	1	2
186e	" " 20" "	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	2
187	Road Wheels	—	—	1	1	1	2	2	4	—	4	—	4	—	4	—	4	—	4	—	4
188	Flexible Plates, 2½"×1½"	—	—	2	2	—	2	—	2	2	4	—	4	2	6	2	8	2	10	2	12
189	" " 5½"×1½"	—	2	—	2	—	2	—	2	2	4	—	4	2	6	2	8	2	10	2	12
190	" " 2½"×2½"	—	—	2	2	—	2	2	4	—	4	2	6	2	8	2	10	4	14	2	16
190a	" " 3½"×2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
191	" " 4½"×2½"	—	—	1	1	1	2	—	2	—	2	—	2	—	2	4	6	—	6	10	16
192	" " 5½"×2½"	—	—	—	—	2	2	—	2	2	4	—	4	2	6	6	12	6	18	12	30
196	Strip Plates 9½"×2½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4
197	" " 12½"×2½"	—	—	—	—	—	—	—	—	—	—	2	2	—	2	4	6	—	6	14	20
198	Hinged Flat Plates, 4½"×2½"	—	—	—	—	—	—	1	1	—	1	—	1	—	1	—	1	—	1	—	1
199	Curved Plates, U-Section, 2½"×2½"×$\frac{3}{16}$" radius	—	—	1	1	1	2	—	2	—	2	—	2	—	2	—	2	—	2	10	12
200	Curved Plates, 2½"×2½"×1$\frac{11}{16}$" radius	—	—	2	2	—	2	—	2	—	2	—	2	—	2	6	8	—	8	4	12
212	Rod and Strip Connectors	—	—	—	—	1	1	—	1	—	1	1	2	—	2	—	2	—	2	2	4
213	Rod Connectors	—	—	—	—	1	1	—	1	—	1	1	2	—	2	—	2	—	2	—	2
214	Semi-Circular Plates, 2½"	—	—	—	—	2	2	—	2	—	2	—	2	—	2	—	2	2	4	—	4
215	Formed Slotted Strips, 3"	—	—	—	—	4	4	—	4	—	4	4	8	—	8	—	8	—	8	4	12
216	Cylinder, 2½"	—	—	—	—	—	—	—	—	1	1	—	1	—	1	1	2	—	2	—	2
217a	Discs, 1½"	—	—	—	—	2	2	—	2	2	4	—	4	—	4	—	4	—	4	—	4
217b	" ¾"	—	—	—	—	2	2	—	2	—	2	—	2	—	2	—	2	—	2	2	4
219	Wheel Discs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	2	6	—	6
A1083	Drifts	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1	—	1
P52	Aeroplane Collars	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
	Clockwork Motor No. 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	1	—	1
	Electric Motor No. E120, 20-volts	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1

Full instructions for building a fine range of models are included with each Outfit.

REAL ENGINEERING PARTS IN MINIATURE

Meccano parts, an illustrated list of which is given in the following pages, combine to form a complete miniature engineering system with which practically any movement known in mechanics can be correctly reproduced. New parts are always being introduced in order to keep Meccano model-building in line with the most modern engineering requirements. The greatest care is taken in the designing of these parts to ensure that they function exactly as their counterparts in actual engineering practice. Ask your dealer for the latest complete illustrated price list and ask him also to keep you advised of all new parts that are added to the system.

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

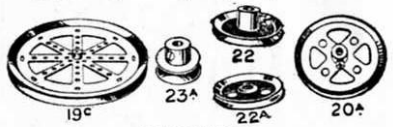
13.	11½"	16.	3½"
13a.	8"	16a.	2½"
14.	6½"	16b.	3"
15.	5"	17.	2"
15a.	4½"	18a.	1½"
15b.	4"	18b.	1"

19h

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

20 19A 20B

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



19C 22 23A 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" ,, ,, ,, ,, ,,

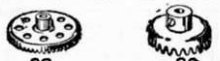
24. Bush Wheels

26B

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

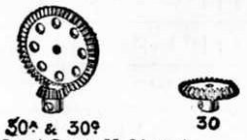
27 27A 27B

Gear Wheels
27. 50 teeth, to gear with ¾" pinion
27a. 57 ,, ,, ,, ¼" ,,
27b. 133 ,, ,, ,, ½" ,, (1½" diam.)
27c. 95 ,, ,, ,, ½" ,, (2½" diam.)



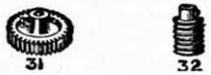
28 29

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



30A & 30B 30

30. Bevel Gears, ½", 26 teeth
30a. ,, ,, ¾", 16 ,, } Can only be
30c. ,, ,, 1½", 48 ,, } used together



31 32

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

34B

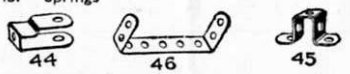
34. Spanners
34b. Box Spanners

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 ...	... box of 20
38s.	,, ...	... box of 60
40.	Hanks of Cord	

41. Propeller Blades

No.
43. Springs



44 46 45

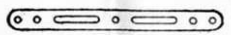
44. Cranked Bent Strips
45. Double ,, ,,
46. Double Angle Strips, 2½"×1"
47. ,, ,, ,, 2½"×1½"
47a. ,, ,, ,, 3"×1½"
48. ,, ,, ,, 1½"×½"
48a. ,, ,, ,, 2½"×½"
48b. ,, ,, ,, 3½"×½"
48c. ,, ,, ,, 4½"×½"
48d. ,, ,, ,, 5½"×½"

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"

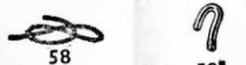
54a. Flanged Sector Plates, 4½" long



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

57B 57A 57

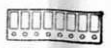
57. Hooks
57a. ,, Scientific
57b. ,, Loaded, Large
57c. ,, Loaded, Small



58 58B

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

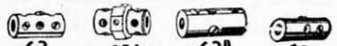
59. Collars, with grub-screws



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

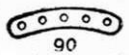
66. Weights, 50 grammes
67. ,, 25 ,,
68. Woodscrews, ½"
69. Set Screws
69a. Grub Screws, 3/16"
69b. ,, ,, 3/8"
69c. ,, ,, ¼"

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

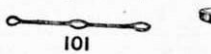
89. 5½" Curved Strips, 10" radius
89a. 3" ,, ,, cranked, 1¾" radius 4 to circle
89b. 4" Curved Strips, cranked, 4½" radius, 8 to circle
90. 2½" Curved Strips, 2⅜" radius
90a. 2½" ,, ,, cranked, 1⅜" radius, 4 to circle

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
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

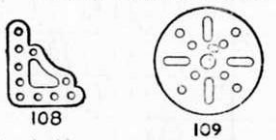
103.	5½" long	103e.	3" long
103a.	9½" ,,	103f.	2½" ,,
103b.	12½" ,,	103g.	2" ,,
103c.	4½" ,,	103h.	1½" ,,
103d.	3½" ,,	103k.	7½" ,,

104

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

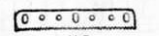
106 106A

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



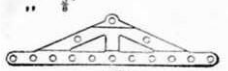
108 109

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



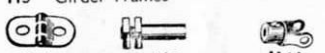
110

110. Rack Strips, 3½" long
110a. ,, ,, 6½" ,,
111. Bolts, 3/16"
111a. ,, 1/4"
111c. ,, 3/8"



113

113 Girder Frames



114 115 116A

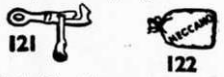
114. Hinges
115. Threaded Pins
116. Fork Pieces, Large
116a. ,, Small
117. Steel Balls, ⅜" diam.

118. Hub Discs, 5½" diam.

Ask your dealer for a copy of the latest Meccano Parts price list.

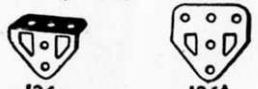
MECCANO PARTS

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

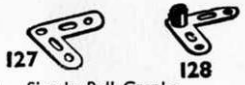


121. Train Couplings
122. Miniature Loaded Sacks

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

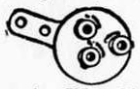


126. Trunnions 126a. Flat Trunnions



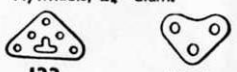
127. Simple Bell Cranks
128. Boss Bell Cranks

129. Rack Segments, 3" diam.



130. Eccentrics, Triple Throw

131. Dredger Buckets
132. Flywheels, 2¾" 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

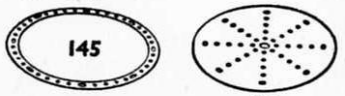
139. Flanged Brackets (right)
139a. " " (left)

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" "

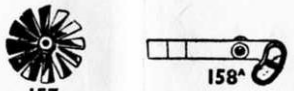
147. Pawls, with Pivot Bolt and Nuts
147a. Pawls
147b. Pivot Bolts with 2 Nuts
147c. Pawls without boss
148. Ratchet Wheels

149. Collecting Shoes for Electric Locos
150. Crane Grabs

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

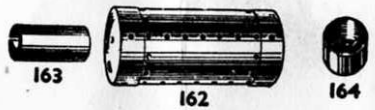
154a. Corner Angle Brackets, ½" (right-hand)
154b. Corner Angle Brackets, ½" (left-hand)
155. Rubber Rings (for 1" Pulleys) Black
155a. " " " White

156. Pointers (with boss), 2½" overall



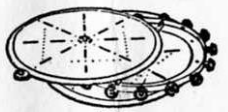
157. Fans, 2" diam.
158a. Signal Arms, Home
158b. " " Distant

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



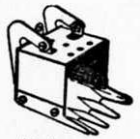
162. Boilers, complete, with ends
162a. " Ends
162b. " without ends
163. Sleeve Pieces
164. Chimney Adaptors

165. Swivel Bearings
166. End "

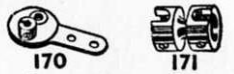


167. Geared Roller Bearings
167a. Roller Races, geared, 192 teeth
167b. Ring Frames for Rollers
167c. Pinions for Roller Bearings (16 teeth)

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



169. Digger Buckets



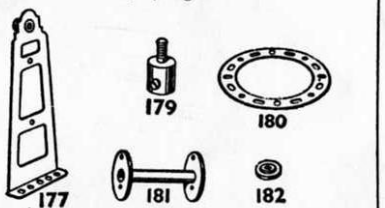
170. Eccentrics, ½" throw
171. Socket Couplings

172. Pendulum Connections
173. Rail Adaptors

174. Grease Cups

175. Flexible Coupling Units

176. Anchoring Springs for Cord



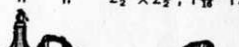
177. Shafting Standards, Large
178. " " Small
179. Rod Sockets
180. Toothed Gear Rings, 3½" diam.
181. Bobbins
182. Insulating Bushes
182a. Insulating Washers

183 Lamp Holders | 184c. 6-volt Lamps
184a. 2½-volt Lamps | 184d. 10 " "
184b. 3½ " " | 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"×⅝"
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, 1¼" | 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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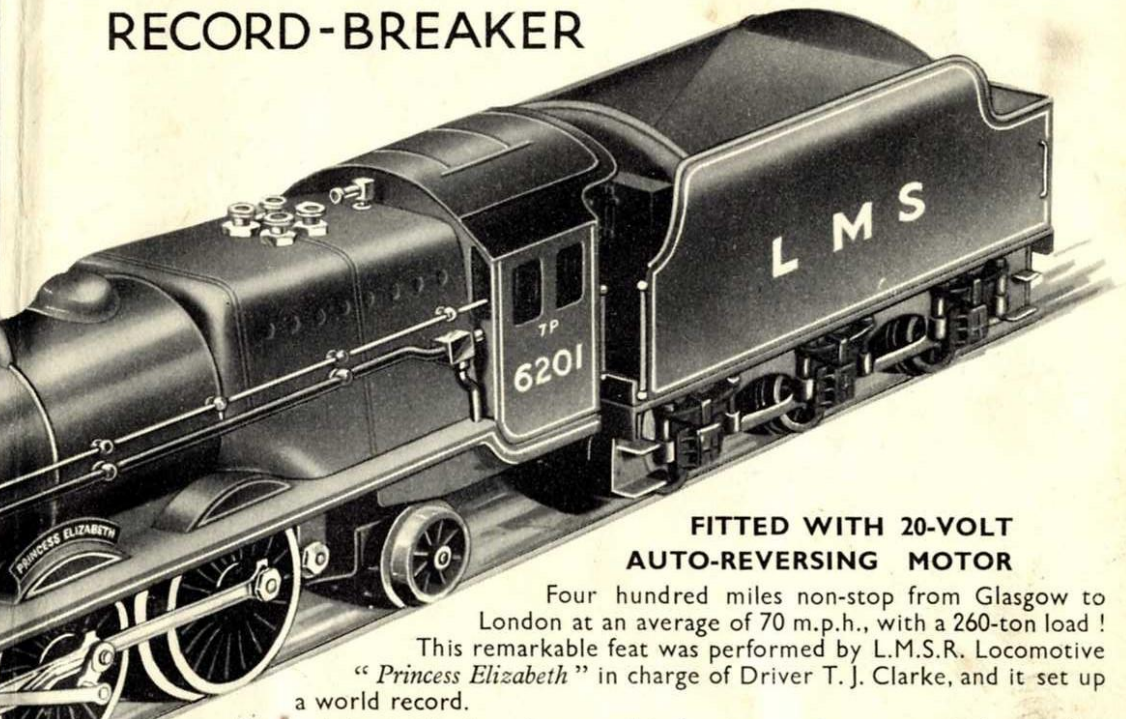

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