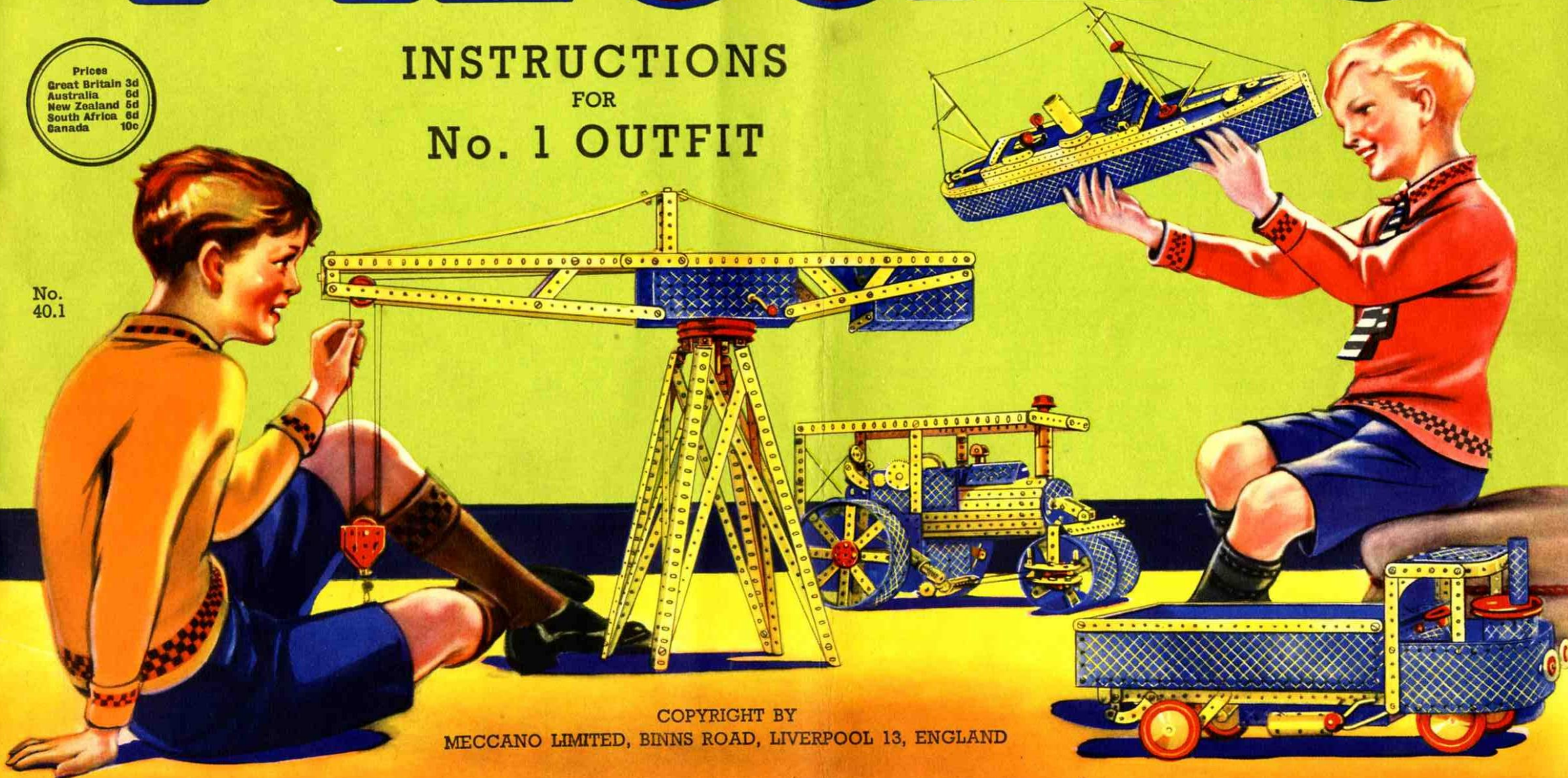


# MECCANO

## INSTRUCTIONS FOR No. 1 OUTFIT

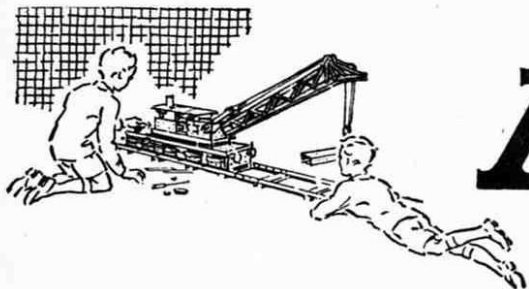
Prices  
Great Britain 3d  
Australia 6d  
New Zealand 5d  
South Africa 6d  
Canada 10c

No.  
40.1



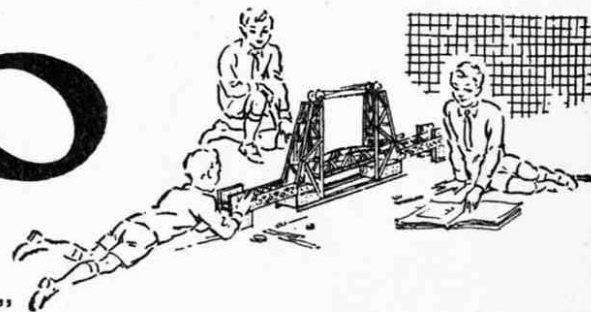
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# MECCANO

*Real Engineering in Miniature*



## MODEL-BUILDING WITH MECCANO

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

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

## HOW TO BUILD UP YOUR OUTFIT

Meccano is sold in eleven different Outfits, ranging from No. 0 to No. 10. Each Outfit from No. 1 upwards can be converted into the next one larger by the purchase of an Accessory Outfit. Thus, Meccano No. 1 Outfit can be converted into No. 2 Outfit by adding to it a No. 1a Accessory Outfit. No. 2a Outfit would then convert it into a No. 3 and so on. In this way, no matter with which Outfit you commence, you can build it up by degrees until you possess a No. 10 Outfit.

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

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

## ELECTRIC LIGHTING OF MECCANO MODELS

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

## THE "MECCANO MAGAZINE"

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

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

## THE MECCANO GUILD

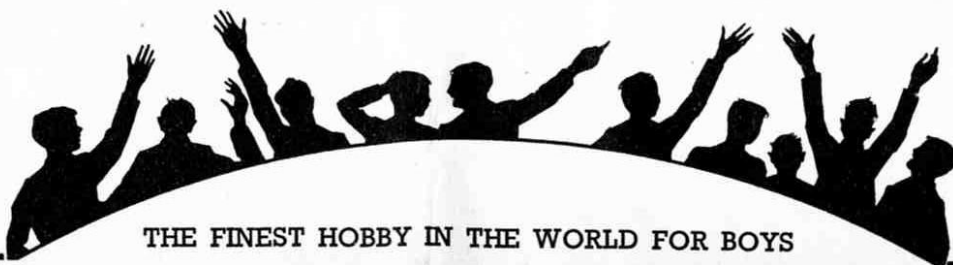
Every owner of a Meccano Outfit should join the Meccano Guild. This is a world-wide organisation, started at the request of Meccano boys. Its primary object is to bring boys together and to make them feel that they are all members of a great brotherhood, each trying to help others to get the very best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

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

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

## MECCANO SERVICE

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



THE FINEST HOBBY IN THE WORLD FOR BOYS

## HOW TO COMMENCE THE FUN

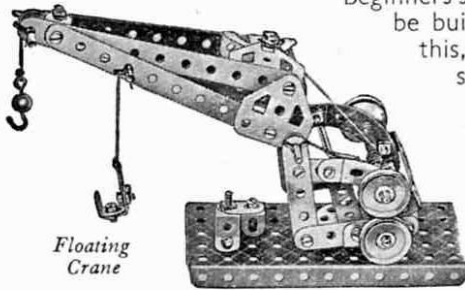
### THE MOST FASCINATING OF ALL HOBBIES

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.

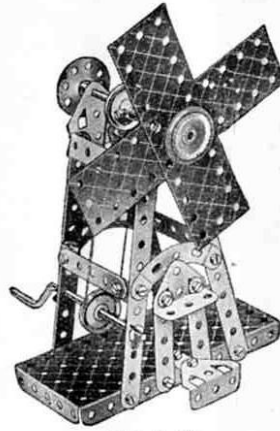
### A FEW USEFUL HINTS

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.



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.

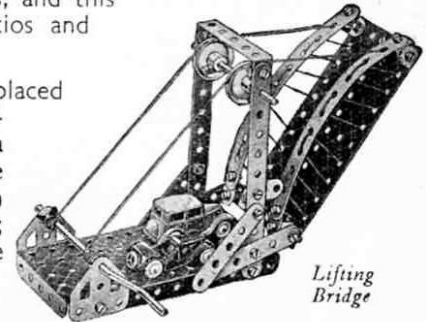
### MOTORS AND GEARING

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.

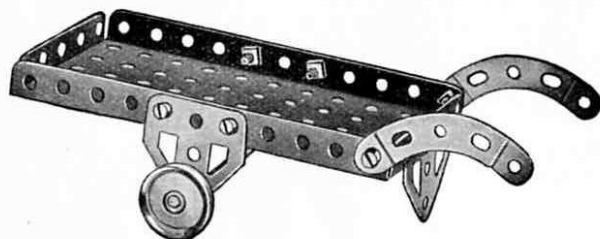
With the larger Outfits, belt drive can be replaced with advantage by gearing. To operate a slow-moving model demanding great power, such as a traction engine, gears that will provide a considerable reduction must be used. For example, a Worm meshed with a  $\frac{1}{2}$ " Pinion will give a 1:19 reduction;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



Lifting  
Bridge

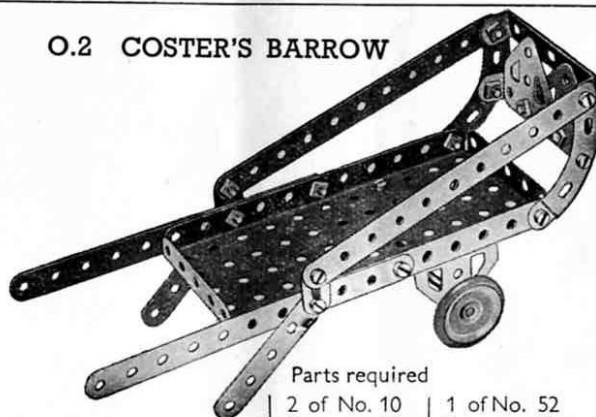
These Models can be built with MECCANO No. 0 Outfit

## O.1 HAND CART



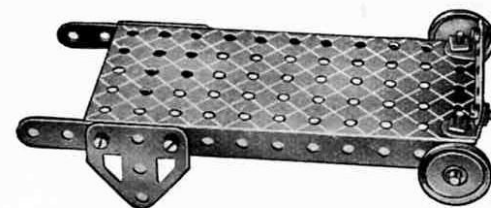
Parts required		
1 of No. 16	1 of No. 52	2 of No. 126a
2 " " 22	2 " " 90a	2 " " 155a
8 " " 37	1 " " 126	

## O.2 COSTER'S BARROW



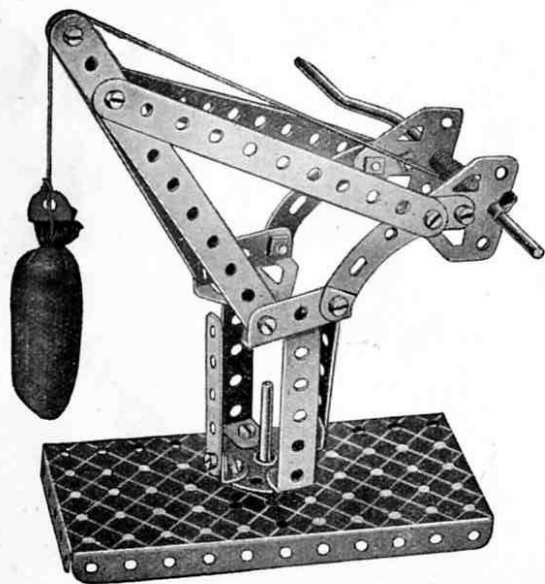
Parts required		
2 of No. 10	1 of No. 52	
1 " " 16	2 " " 90a	
2 " " 22	2 " " 126	
16 " " 37	2 " " 126a	
2 " " 48a	2 " " 155a	
4 of No. 2		
2 " " 5		

## O.3 FLAT TRUCK



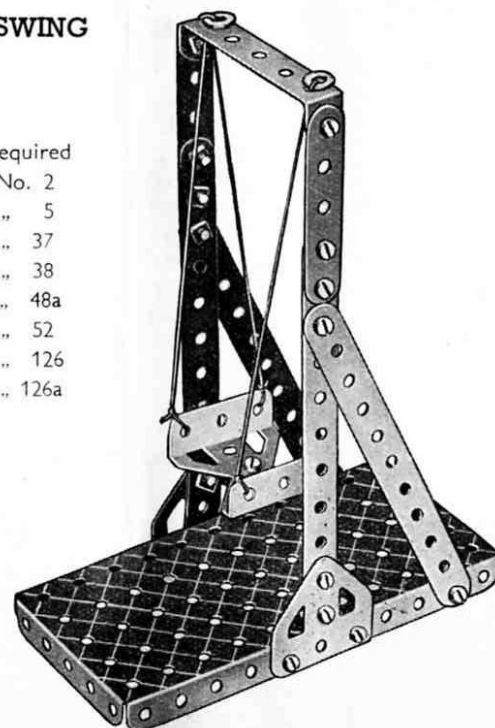
Parts required		
2 of No. 5	2 of No. 22	1 of No. 90a
2 " " 12	8 " " 37	2 " " 126a
1 " " 16	1 " " 52	2 " " 155a

## O.4 DOCKSIDE CRANE



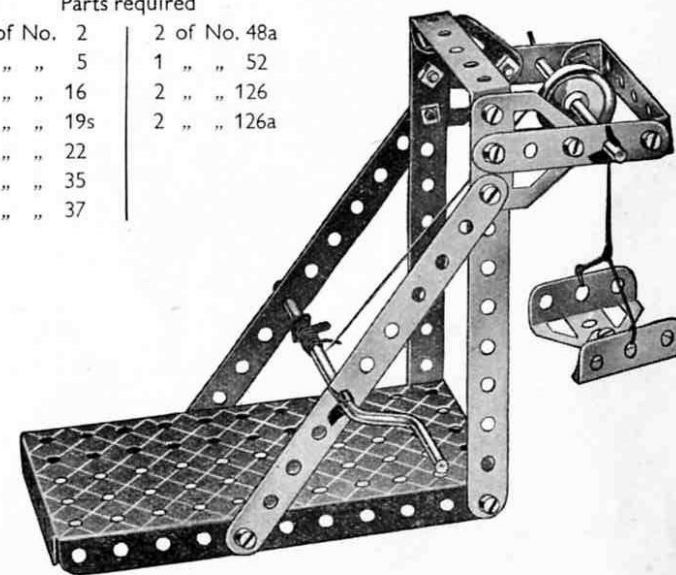
Parts required	
4 of No. 2	
2 " " 5	
3 " " 12	
1 " " 17	
1 " " 19s	
1 " " 22	
1 " " 24	
2 " " 35	
18 " " 37	
2 " " 37a	
2 " " 38	
2 " " 48a	
1 " " 52	
2 " " 90a	
2 " " 111c	
2 " " 126	
2 " " 126a	

## O.5 SWING



Parts required	
4 of No. 2	
2 " " 5	
18 " " 37	
2 " " 38	
1 " " 48a	
1 " " 52	
2 " " 126	
2 " " 126a	

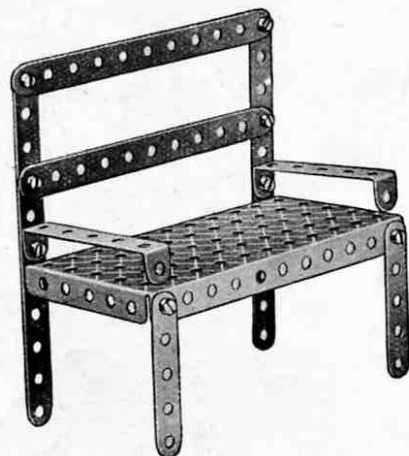
## O.6 ELEVATOR



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	



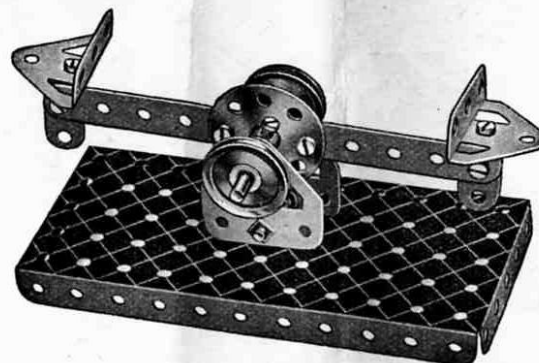
## O.7 GARDEN SEAT



## Parts required

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

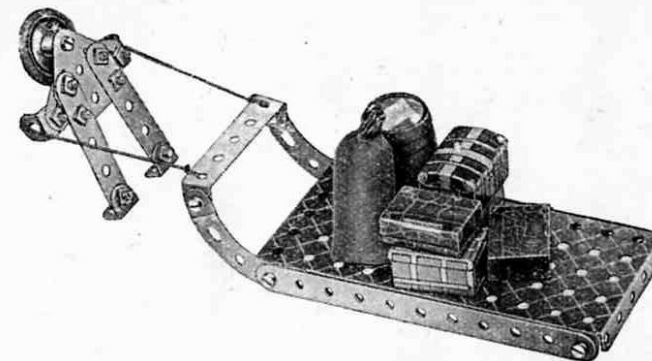
## O.8 COUNTER SCALES



## 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 ESKIMO BOY AND SLEDGE



## Parts required

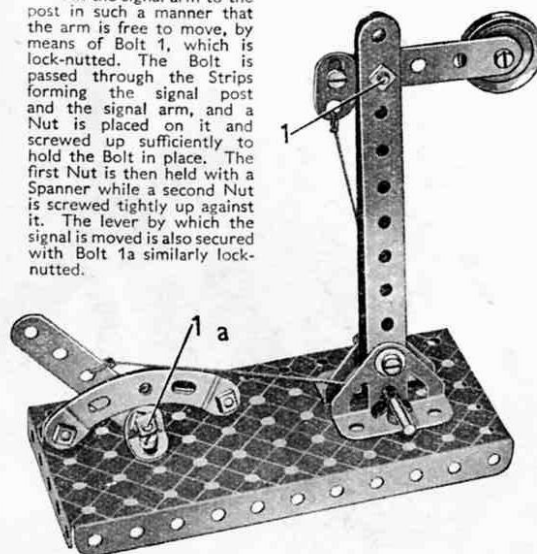
2 of No. 2	1 of No. 22	2 of No. 90a
2 " " 5	14 " " 37	1 " " 111c
2 " " 10	1 " " 48a	1 " " 126a
4 " " 12	1 " " 52	1 " " 155a

## 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.

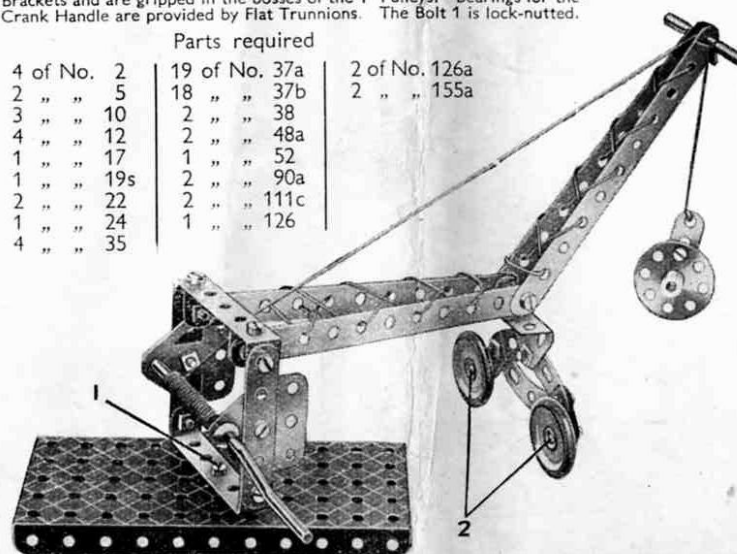


## O.11 RADIAL CRANE

The wheeled bogie that carries the boom and jib is formed from two Curved Strips and two Flat Brackets. The 1" Bolts 2 pass through the Flat Brackets and are gripped in the bosses of the 1" Pulleys. Bearings for the Crank Handle are provided by Flat Trunnions. The Bolt 1 is lock-nutted.

## Parts required

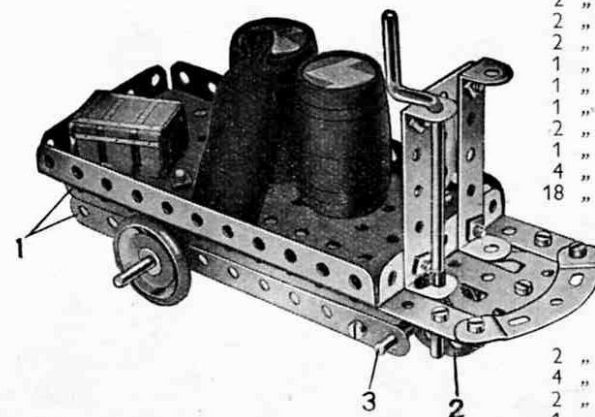
4 of No. 2	19 of No. 37a	2 of No. 126a
2 " " 5	18 " " 37b	2 " " 155a
3 " " 10	2 " " 38	
4 " " 12	2 " " 48a	
1 " " 17	1 " " 52	
1 " " 19s	2 " " 90a	
2 " " 22	2 " " 111c	
1 " " 24	1 " " 126	
4 " " 35		



## O.12 ELECTRIC TRUCK

## Parts required

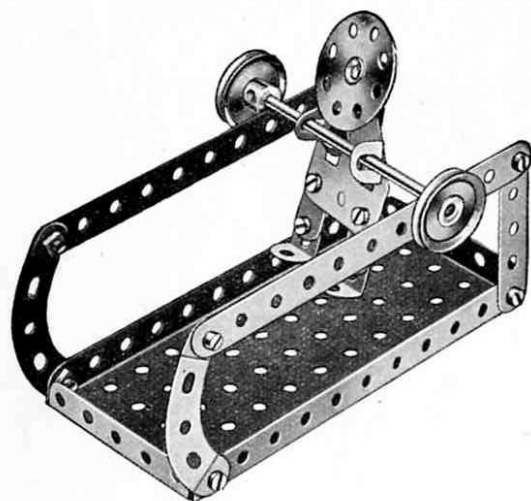
4 of No. 2
2 " " 5
2 " " 10
2 " " 12
1 " " 16
1 " " 17
1 " " 19s
2 " " 22
1 " " 24
4 " " 35
18 " " 37



The two 5 1/2" 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 5 1/2" Strips that form the sides of the truck frame.

2 " " 37a
4 " " 38
2 " " 48a
1 " " 52
2 " " 90a
2 " " 111c
2 " " 126
2 " " 126a
2 " " 155a

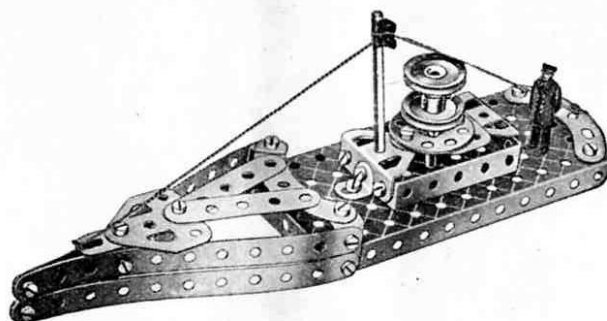
## O.13 ACROBAT



## 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

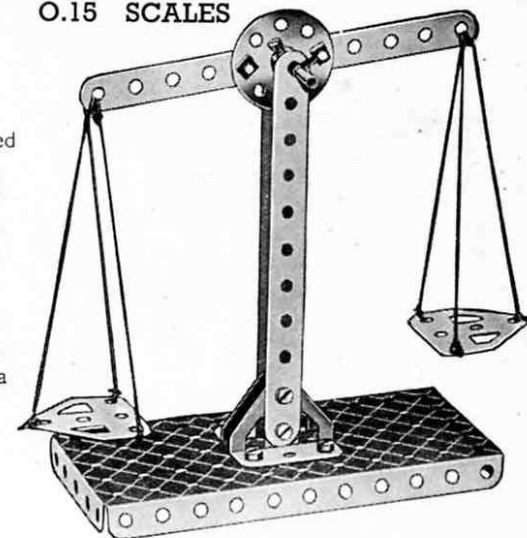
## O.14 BATTLESHIP



## Parts required

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

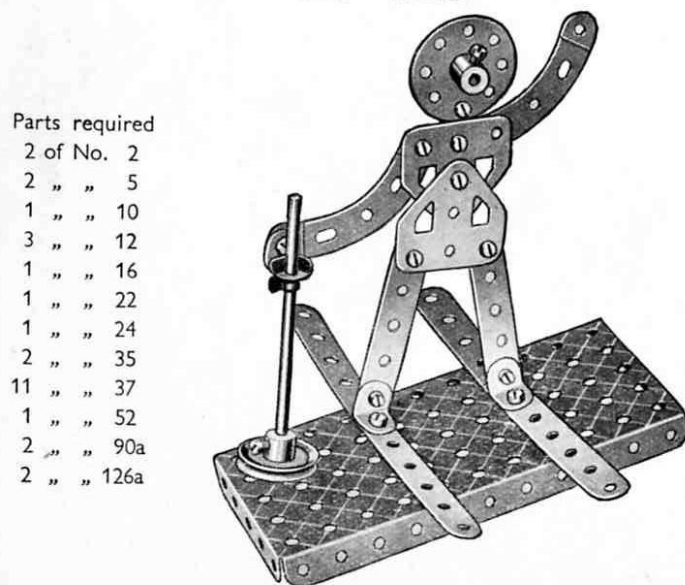
## O.15 SCALES



## Parts required

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

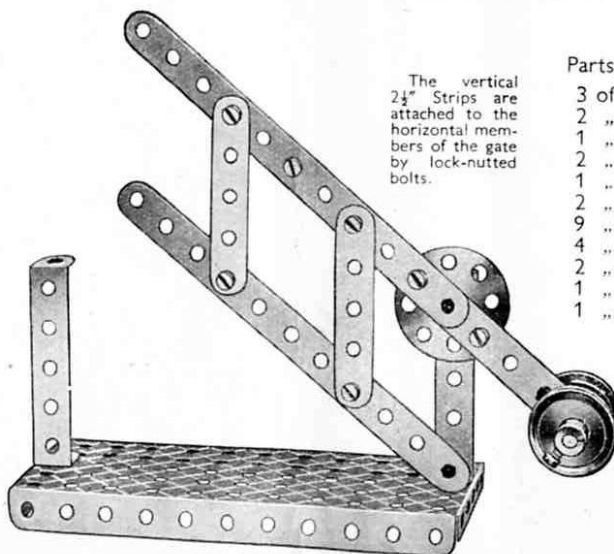
## O.16 SKIER



## 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

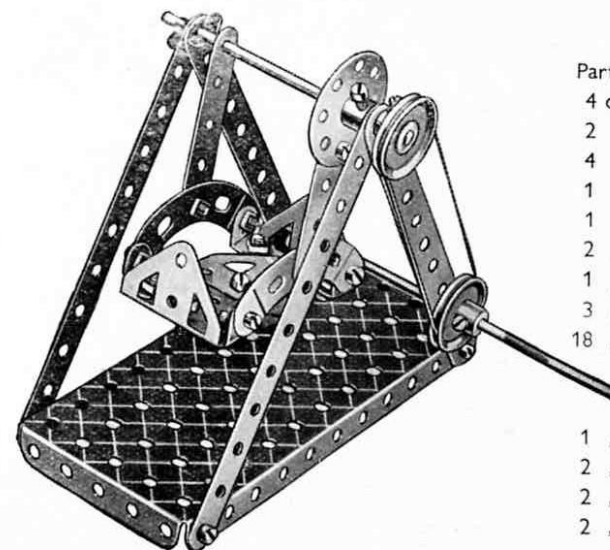


## Parts required

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

The vertical  
2½" Strips are  
attached to the  
horizontal mem-  
bers of the gate  
by lock-nutted  
bolts.

## O.18 SWING BOAT



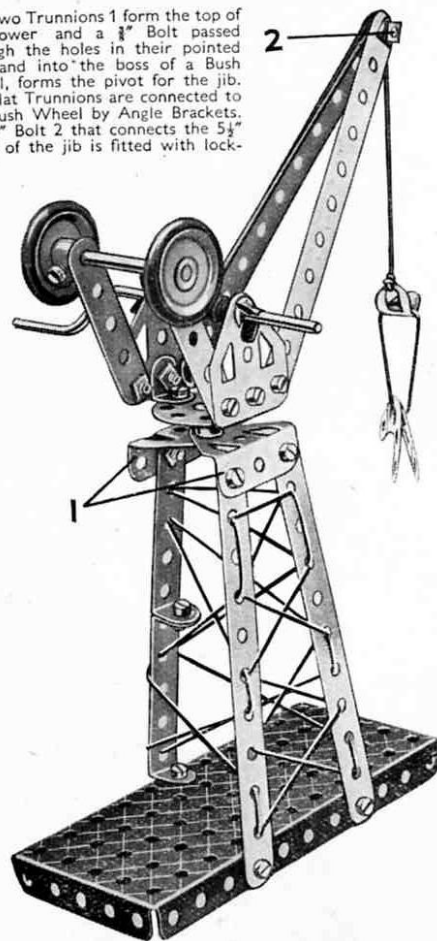
## Parts required

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



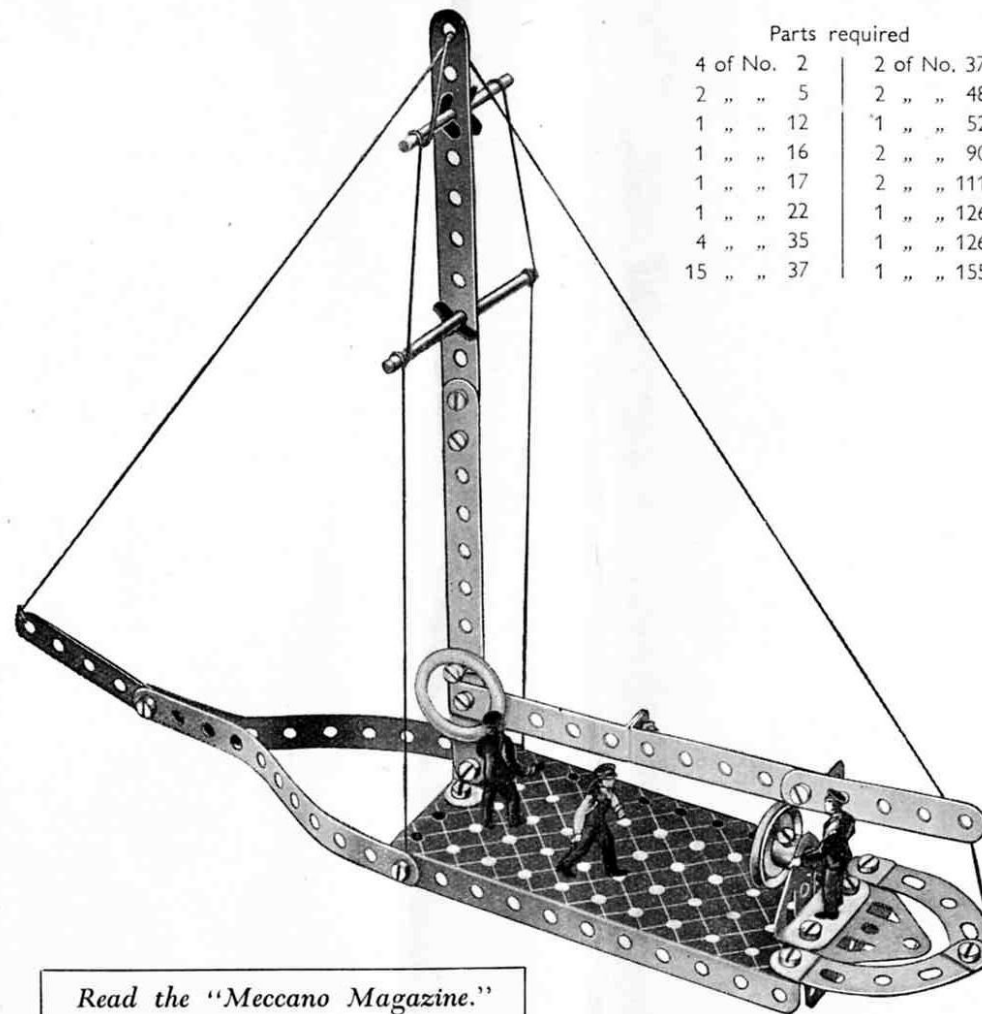
## O.19 DOCKSIDE CRANE

Two Trunnions 1 form the top of the tower and a  $\frac{1}{2}$ " Bolt passed through the holes in their pointed ends and into the boss of a Bush Wheel, forms the pivot for the jib. The Flat Trunnions are connected to the Bush Wheel by Angle Brackets. The  $\frac{1}{2}$ " Bolt 2 that connects the  $5\frac{1}{2}$ " strips of the jib is fitted with lock-nuts.



Parts required		
4 of No. 2	1 of No. 24	1 of No. 52
2 " " 5	2 " " 35	2 " " 90a
3 " " 12	17 " " 37a	2 " " 111c
1 " " 17	15 " " 37b	2 " " 126
1 " " 19s	2 " " 38	2 " " 126a
2 " " 22	2 " " 48a	2 " " 155a

## O.20 SAILING BOAT



## Parts required

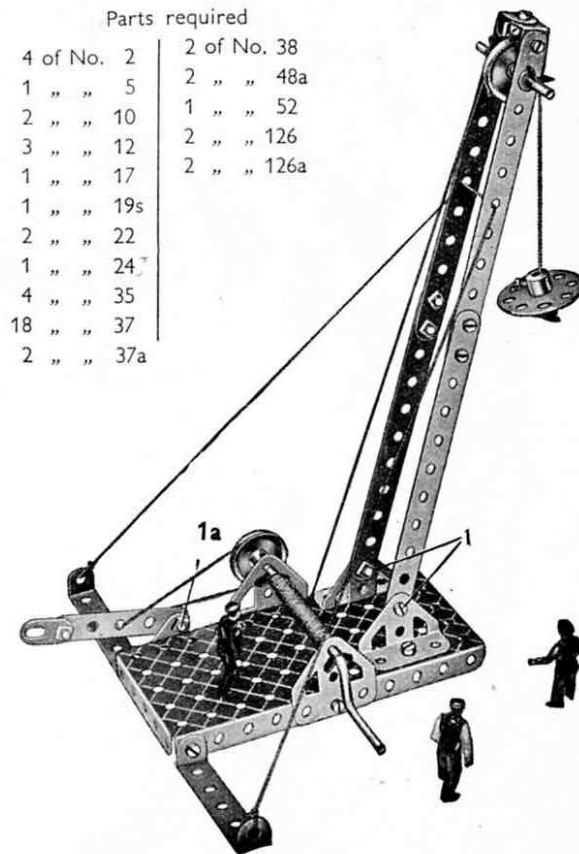
4 of No. 2	2 of No. 37a
2 " " 5	2 " " 48a
1 " " 12	1 " " 52
1 " " 16	2 " " 90a
1 " " 17	2 " " 111c
1 " " 22	1 " " 126
4 " " 35	1 " " 126a
15 " " 37	1 " " 155a

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

## O.21 DERRICK CRANE

## Parts required

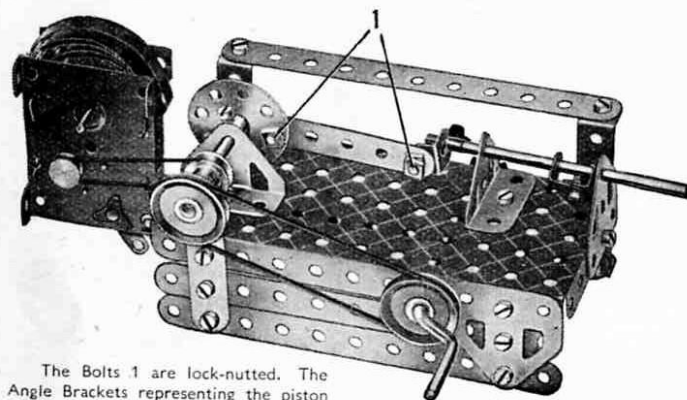
4 of No. 2	2 of No. 38
1 " " 5	2 " " 48a
2 " " 10	1 " " 52
3 " " 12	2 " " 126
1 " " 17	2 " " 126a
1 " " 19s	
2 " " 22	
1 " " 24	
4 " " 35	
18 " " 37	
2 " " 37a	



The construction of the model is commenced by bolting the Trunnions and Flat Trunnions that support the jib and Crank Handle respectively, to the  $5\frac{1}{2}$ " x  $2\frac{1}{2}$ " Flanged Plate that forms the base of the model. The jib is then assembled and fastened to the Trunnions by means of the lock-nutted Bolts 1. The brake lever is a  $2\frac{1}{2}$ " 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.

## MECCANO No. O Outfit Models fitted with the MECCANO Magic Motor

## 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.

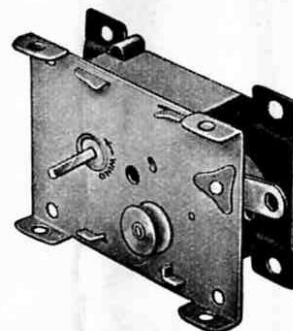
## Parts required

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

## Parts required

3 of No. 2
2 " " 5
1 " " 10

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!

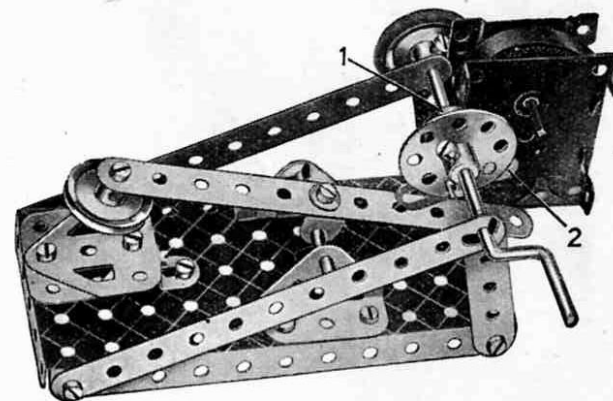
## Parts required

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

1 of No. 52  
2 " " 90a  
2 " " 126  
2 " " 126a

## O.23 MECHANICAL HAMMER



The  $\frac{1}{2}$ " fast Pulley 1 is driven from the pulley 2 on the Magic Motor by the Driving Band supplied with the Motor.

## 4 of No. 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

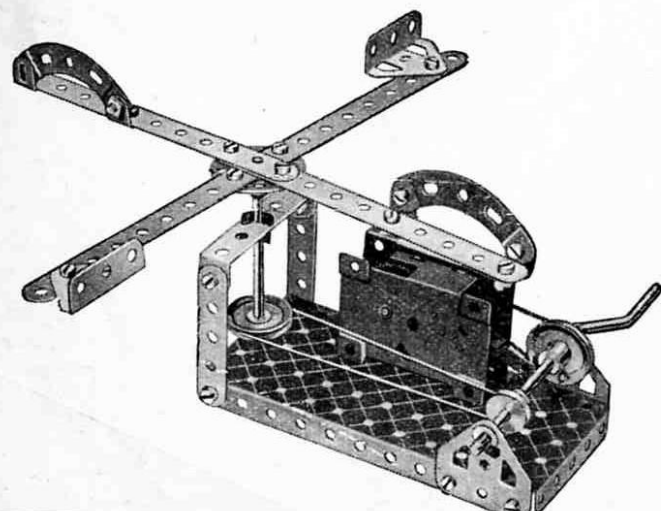
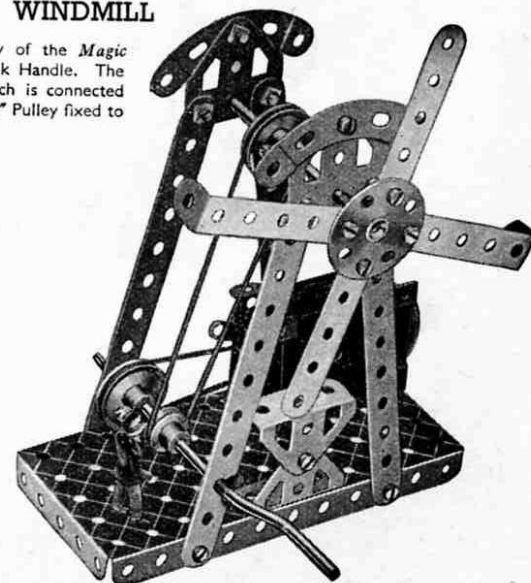
Magic Motor

## 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  $\frac{1}{2}$ " Pulley, which is connected by a second Driving Band with a further 1" Pulley fixed to the Rod on which the sails are mounted.

## 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

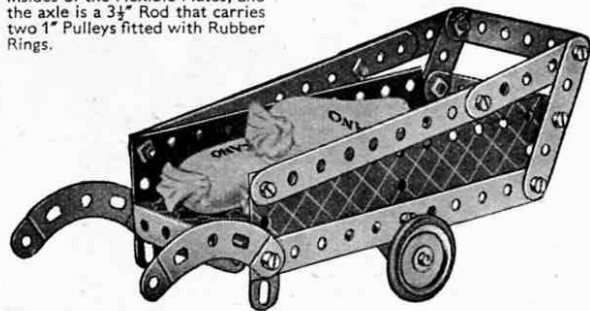


## O.24 MERRY-GO-ROUND



## 1.1 PORTER'S TRUCK

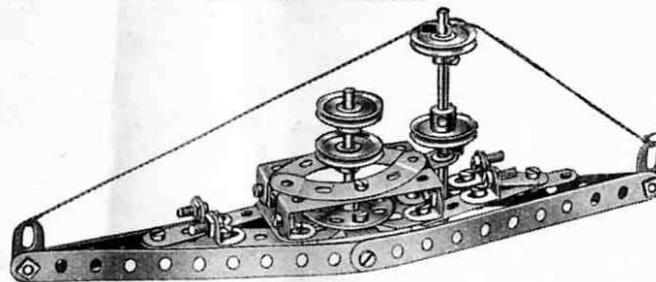
The bearings for the axle are Flat Trunnions fastened on the insides of the Flexible Plates, and the axle is a  $3\frac{1}{2}$ " Rod that carries two 1" Pulleys fitted with Rubber Rings.



## 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

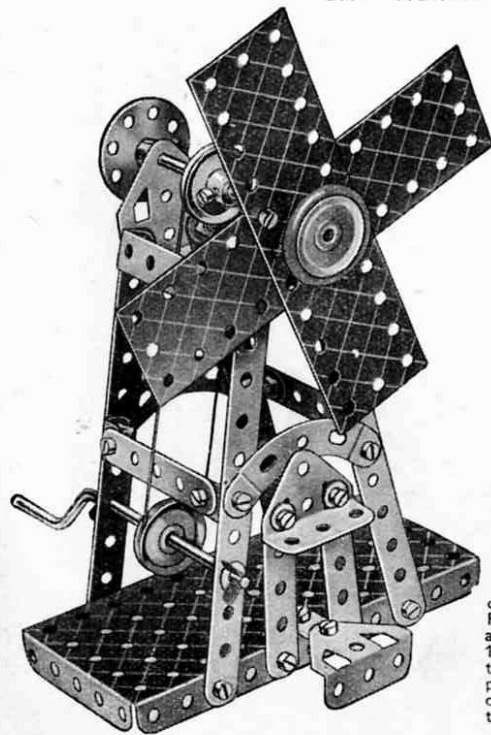
## 1.2 BATTLESHIP



## 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

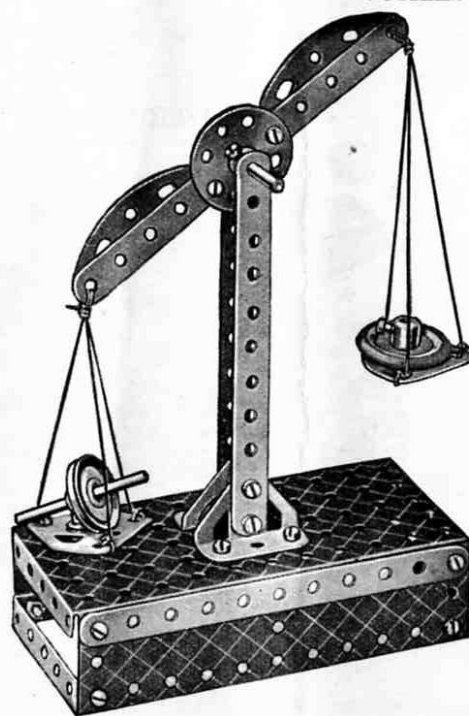


## Parts required

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  $3\frac{1}{2}$ " 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.

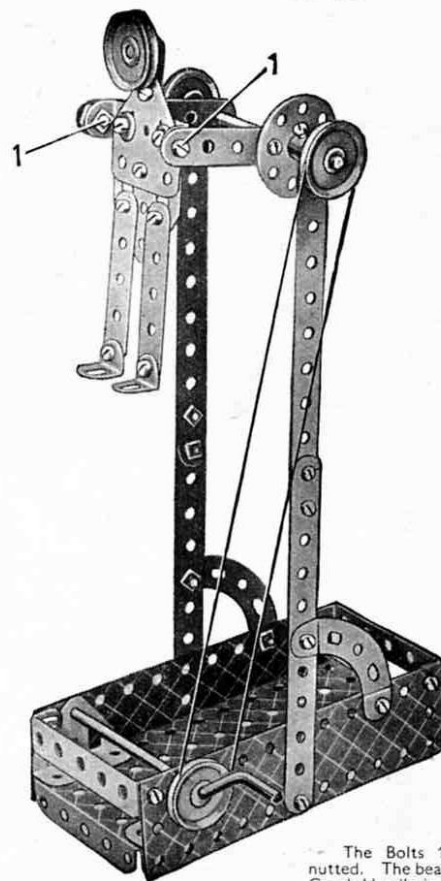
## 1.4 SCALES



## 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	

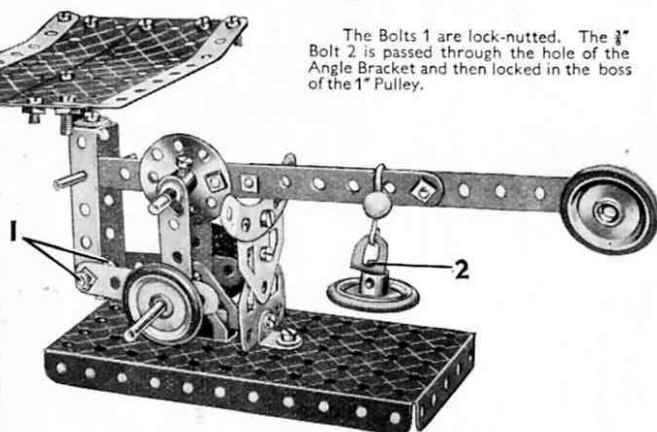
## 1.6 LETTER BALANCE

The Bolts 1 are lock-nutted. The  $\frac{3}{4}$ " Bolt 2 is passed through the hole of the Angle Bracket and then locked in the boss of the 1" Pulley.

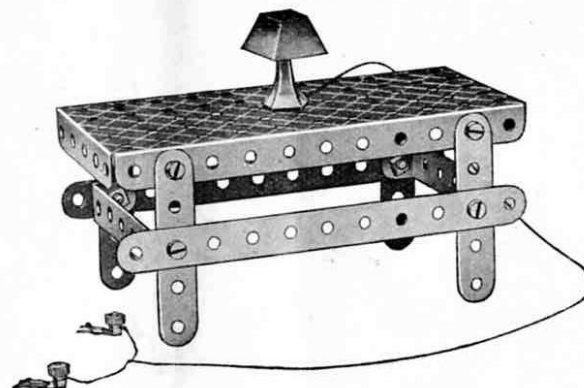
## Parts required

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

1 of No. 52	4 of No. 111c	2 of No. 126a
1 " " 57c	1 " " 125	4 " " 155a
1 " " 90a	2 " " 126	2 " " 189



## 1.7 TABLE

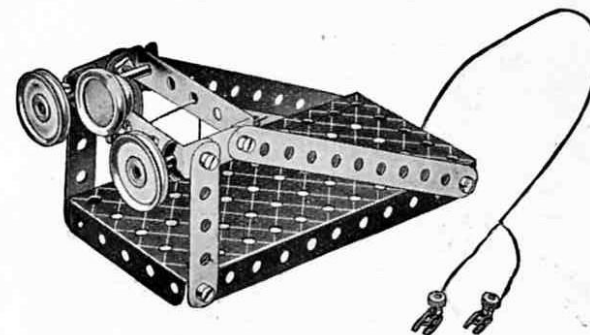


## Parts required

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

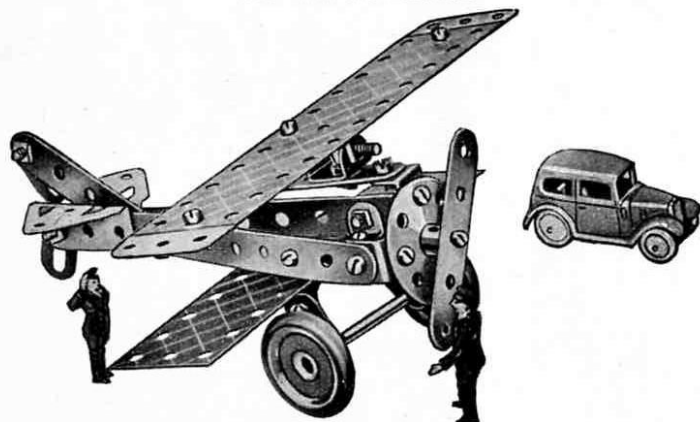


## Parts required

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.

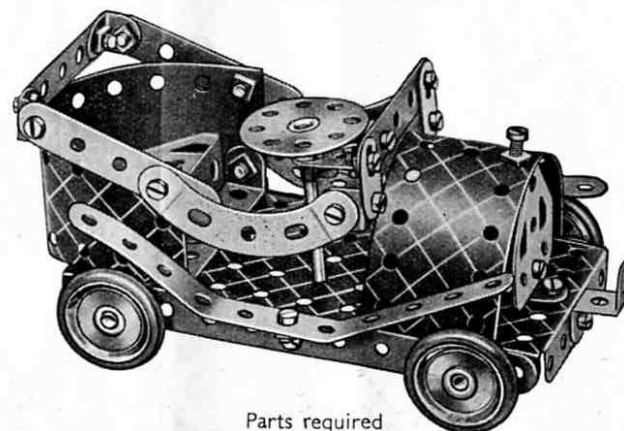
## 1.9 AEROPLANE



## 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

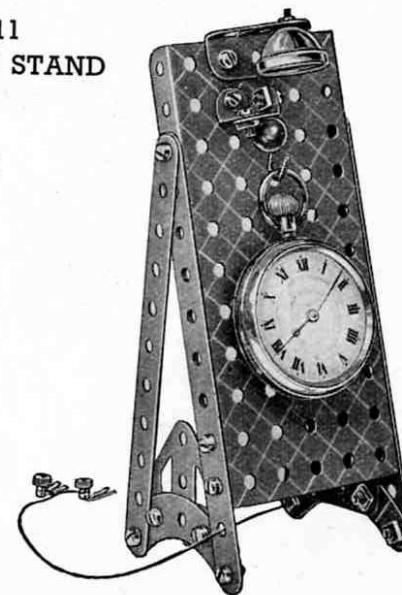
4 of No. 2	1 of No. 17	3 of No. 37a	1 of No. 125
4 " " 5	4 " " 22	2 " " 48a	2 " " 126
3 " " 10	1 " " 24	1 " " 52	1 " " 126a
7 " " 12	1 " " 35	2 " " 90a	4 " " 155a
2 " " 16	24 " " 37	2 " " 111c	2 " " 189

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

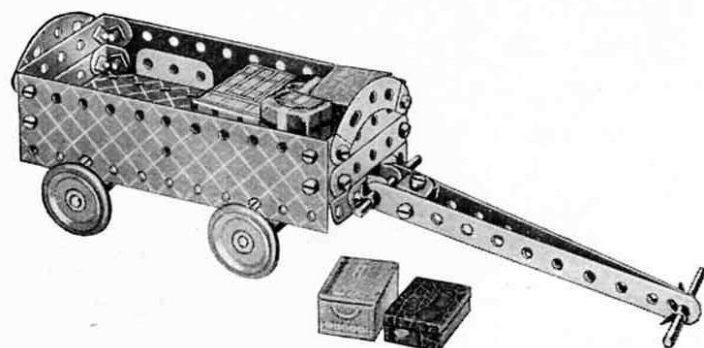


A good example of the use of the Meccano Lighting Set.



These Models can be built with MECCANO No. 1 Outfit

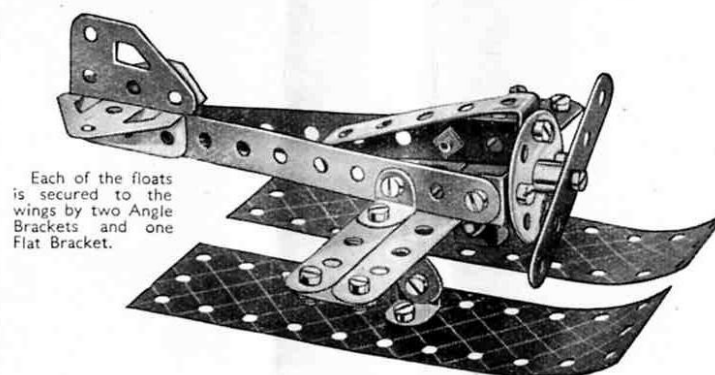
## 1.12 BAGGAGE TRUCK



Parts required

2 of No. 2	4 of No. 35	2 of No. 90a
2 " " 5	24 " " 37	1 " " 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



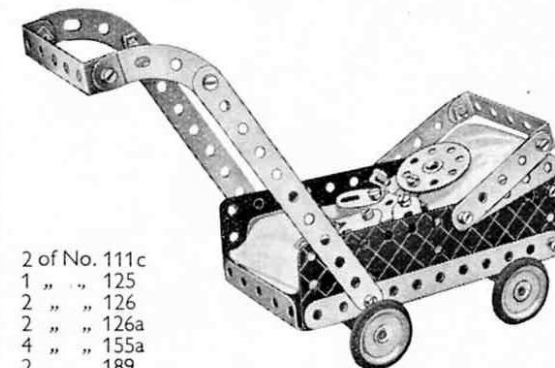
Each of the floats is secured to the wings by two Angle Brackets and one Flat Bracket.

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 CHILD'S PRAM

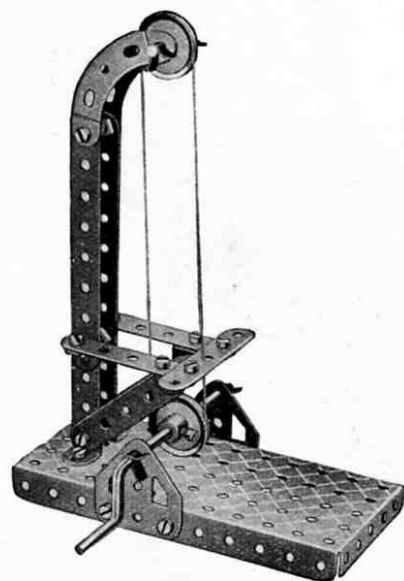
Flat Trunnions bolted between the Flexible Plates and the Flanged Plate provide bearings for the rear axle. Angle Brackets bolted under the Flanged Plate form the bearings for the front axle. The body of the "baby" consists of two Trunnions, and its arms and legs are Flat Brackets. Its head is fixed in place by a Reversed Angle Bracket.



Parts required

4 of No. 2	2 of No. 111c
4 " " 5	1 " " 125
4 " " 10	2 " " 126
4 " " 12	2 " " 126a
2 " " 16	4 " " 155a
4 " " 22	2 " " 189
1 " " 24	
24 " " 37a	
22 " " 37b	
4 " " 38	
2 " " 48a	
1 " " 52	
2 " " 90a	

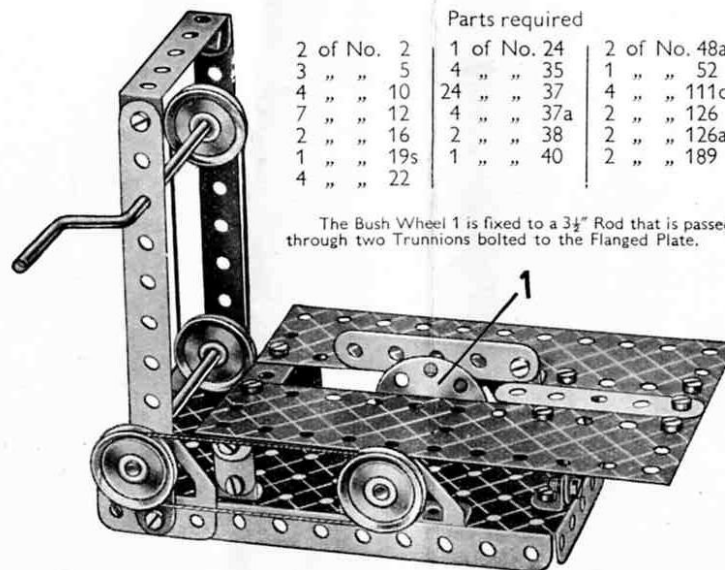
## 1.15 BAND SAW



Parts required

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

## 1.16 CIRCULAR SAW



Parts required

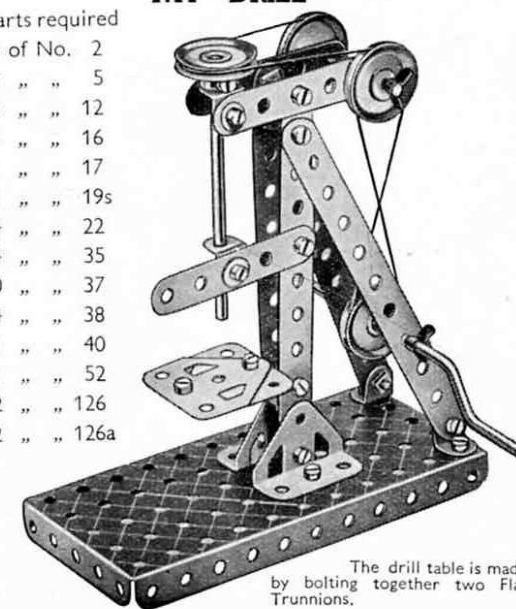
2 of No. 2	1 of No. 24	2 of No. 48a
3 " " 5	4 " " 35	1 " " 52
4 " " 10	24 " " 37	4 " " 111c
7 " " 12	4 " " 37a	2 " " 126
2 " " 16	2 " " 38	2 " " 126a
1 " " 19s	1 " " 40	2 " " 189
4 " " 22		

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



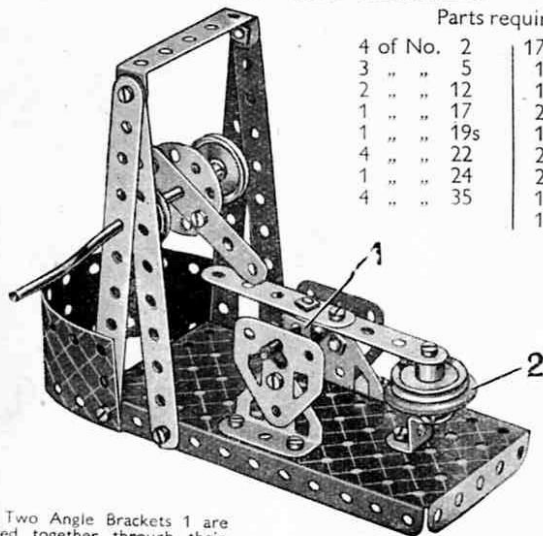
The drill table is made by bolting together two Flat Trunnions.

These Models can be built with MECCANO No. 1 Outfit

### 1.18 TRIP HAMMER

Parts required

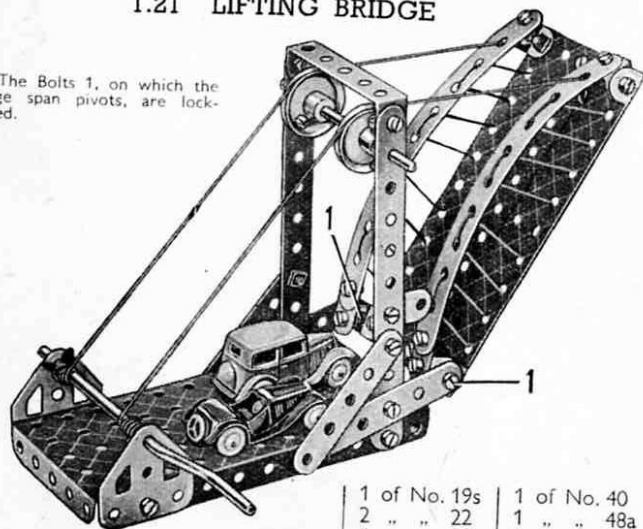
4 of No. 2	17 of No. 37
3 " " 5	1 " " 48a
2 " " 12	1 " " 52
1 " " 17	2 " " 111c
1 " " 19s	1 " " 125
4 " " 22	2 " " 126
1 " " 24	2 " " 126a
4 " " 35	1 " " 155a
	1 " " 189



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.

### 1.21 LIFTING BRIDGE

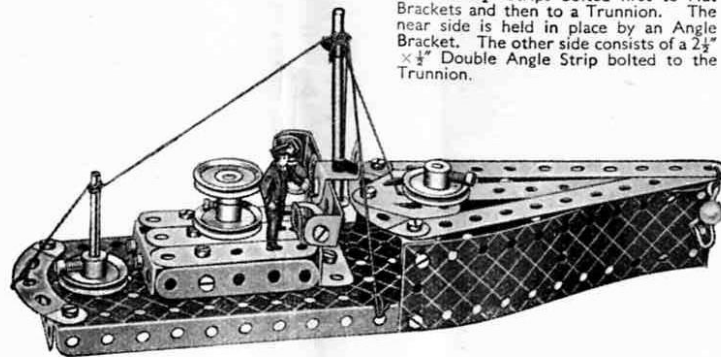
The Bolts 1, on which the bridge span pivots, are lock-nutted.



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

### 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 rear side is held in place by an Angle Bracket. The other side consists of a 2½" × ½" Double Angle Strip bolted to the Trunnion.



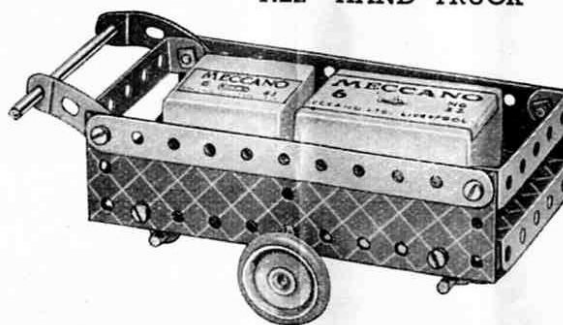
Parts required

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	

### 1.22 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 bearings for 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.

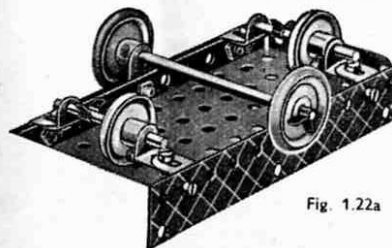
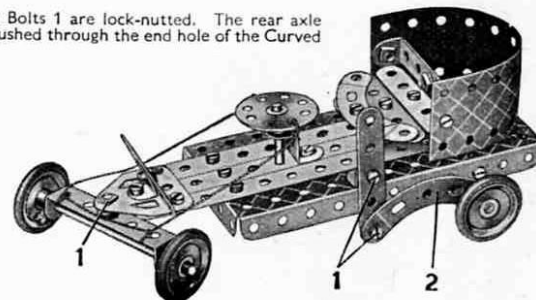


Fig. 1.22a

### 1.20 COASTER

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



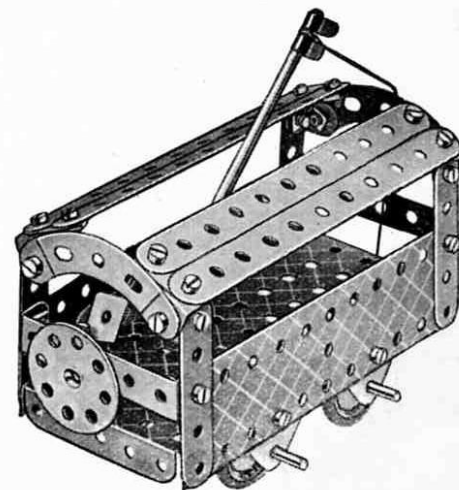
Parts required

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

### 1.23 TROLLEY BUS

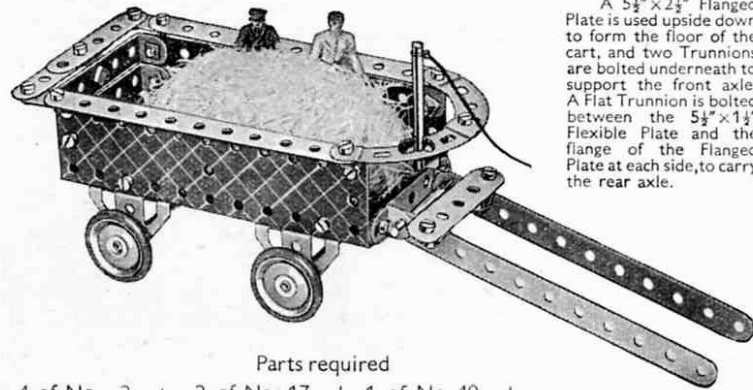
Parts required

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



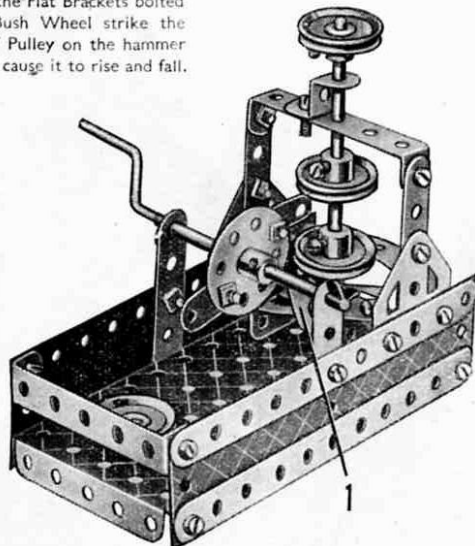
A  $5\frac{1}{2}'' \times 2\frac{1}{2}''$  Flanged Plate is used upside down to form the floor of the cart, and two Trunnions are bolted underneath to support the front axle. A Flat Trunnion is bolted between the  $5\frac{1}{2}'' \times 1\frac{1}{2}''$  Flexible Plate and the flange of the Flanged Plate at each side, to carry the rear axle.

## Parts required

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

## 1.27 STAMPING MILL

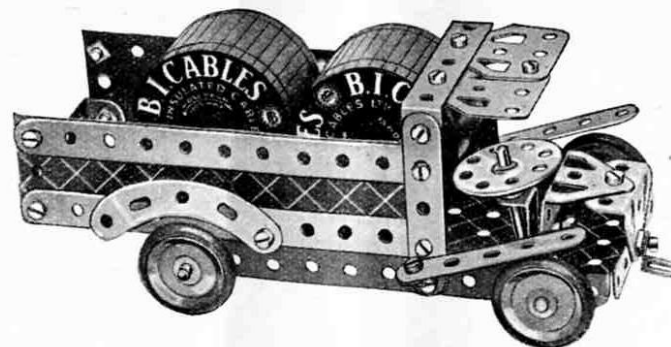
The anvil 1 is made up of two Trunnions bolted together. When the Crank Handle is rotated, the Flat Brackets bolted to the Bush Wheel strike the centre 1" Pulley on the hammer shaft and cause it to rise and fall.



## 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	

## 1.25 MOTOR LORRY

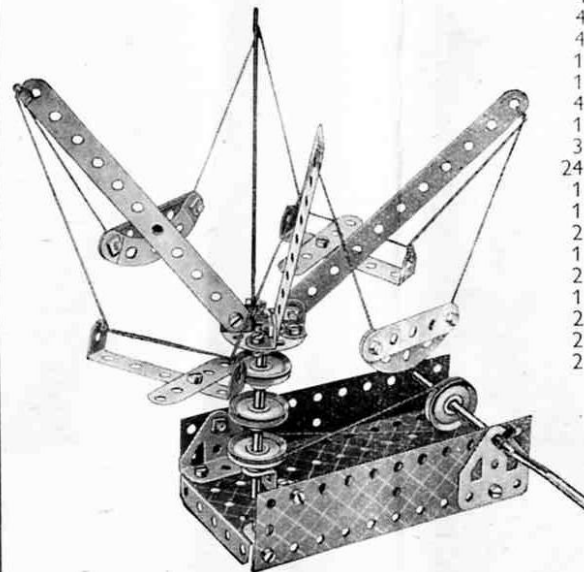


The  $2\frac{1}{2}''$  Curved Strips representing the rear mudguards are each fastened to the sides by a  $\frac{3}{8}''$  Bolt and Nut, with a Spring Clip between the mudguards and the  $5\frac{1}{2}''$  Strip to form a distance piece.

## 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	

## 1.28 FLYING BOATS



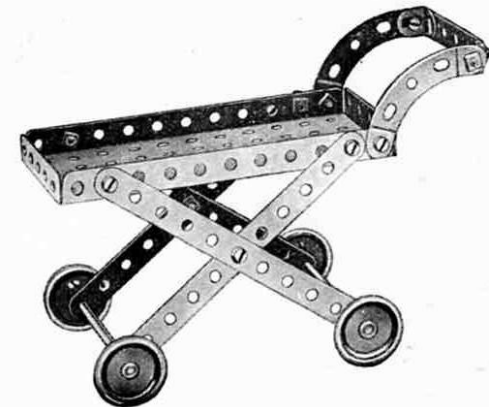
## Parts required

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	

## 1.26 HOSPITAL TROLLEY

## Parts required

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

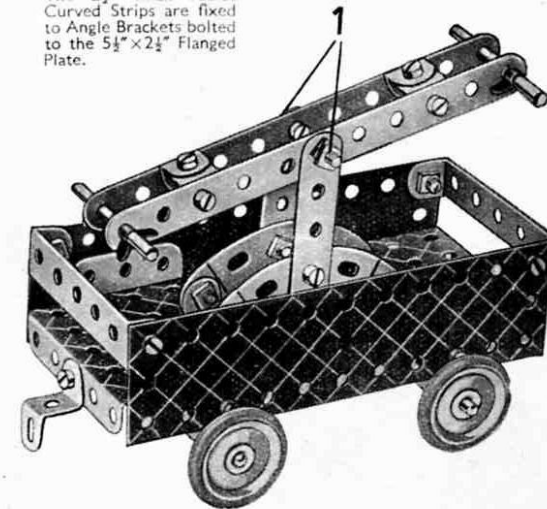


## 1.29 HAND CAR

The Bolts 1, on which the  $5\frac{1}{2}''$  Strips are pivoted, are lock-nutted. The  $2\frac{1}{2}''$  small radius Curved Strips are fixed to Angle Brackets bolted to the  $5\frac{1}{2}'' \times 2\frac{1}{2}''$  Flanged Plate.

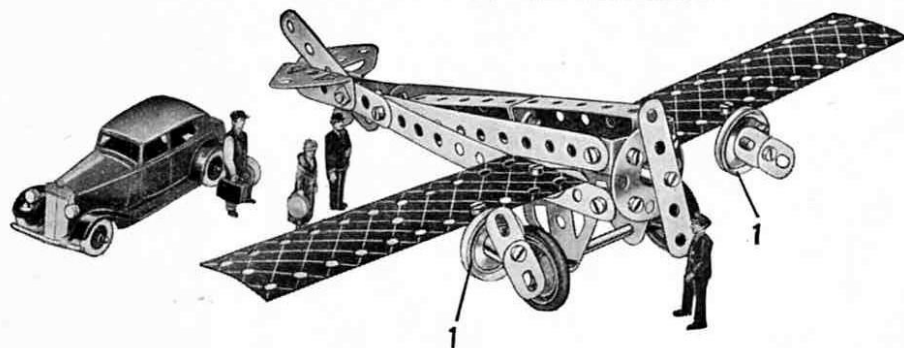
## Parts required

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  $\frac{3}{8}$ " 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

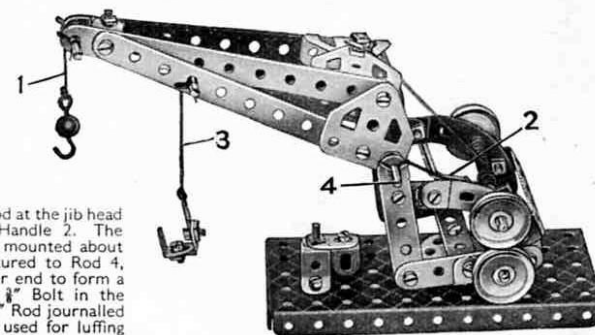
4 of No.	2
4 "	5
4 "	10
8 "	12
1 "	16
4 "	22
1 "	24
2 "	35
20 "	37
3 "	37a
2 "	48a
1 "	57c
4 "	111c
2 "	126
2 "	126a
2 "	155a
2 "	189

## 1.31 FLOATING CRANE

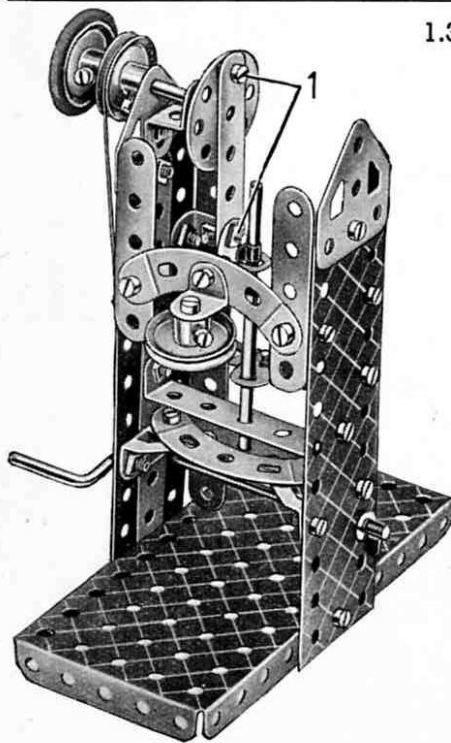
## Parts required

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  $\frac{1}{2}$ " Rod in the Trunnions is taken around the  $\frac{3}{4}$ " Rod journaled 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  $2\frac{1}{2}$ " Strip has a  $4\frac{1}{2}$ " Rod in its elongated hole, where it is held by means of two Spring Clips.

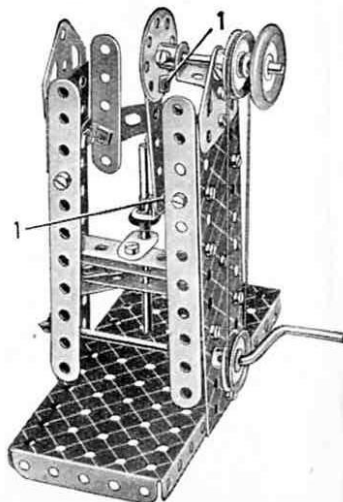
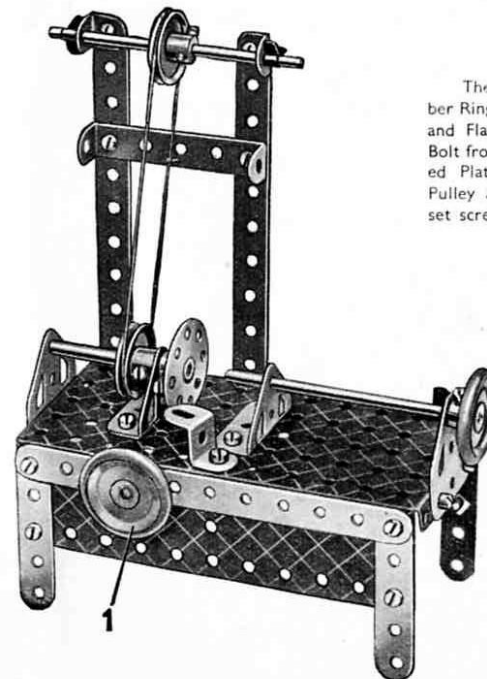


Fig. 1.32a

## 1.33 LATHE

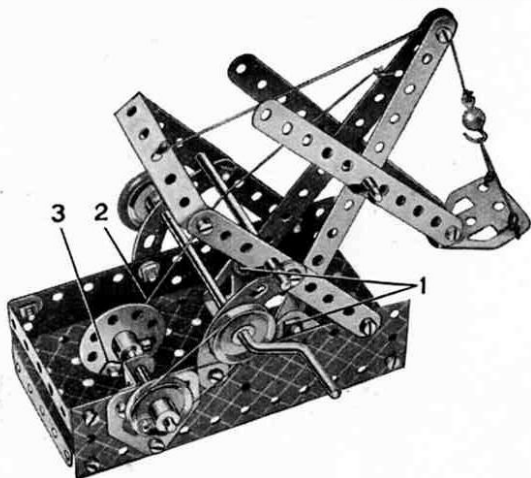


The 1" fast Pulley with Rubber Ring 1 is secured to the Strip and Flanged Plate by passing a Bolt from the inside of the Flanged Plate into the boss of the Pulley and then tightening the set screw.

## 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



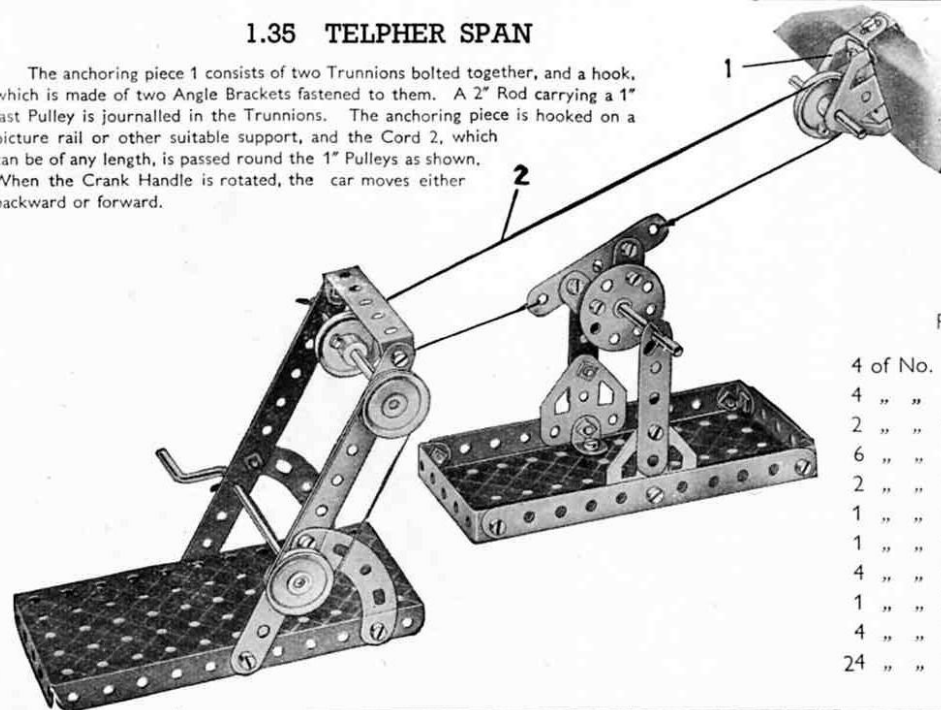
The Bolts 1, on which the jib pivots, are lock-nutted. The shovel arm is pivoted on a 2" Rod and the shovel is supported by a Cord that passes over the  $\frac{3}{8}$ " Bolt at the jib head and is fastened to a  $2\frac{1}{2}$ " x  $\frac{1}{2}$ " Double Angle Strip as shown. The Cord 2 is fastened to the jib and then passes over a  $3\frac{1}{2}$ " Rod journalled in the holes above the  $2\frac{1}{2}$ " Curved Strips, and is attached to a 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.

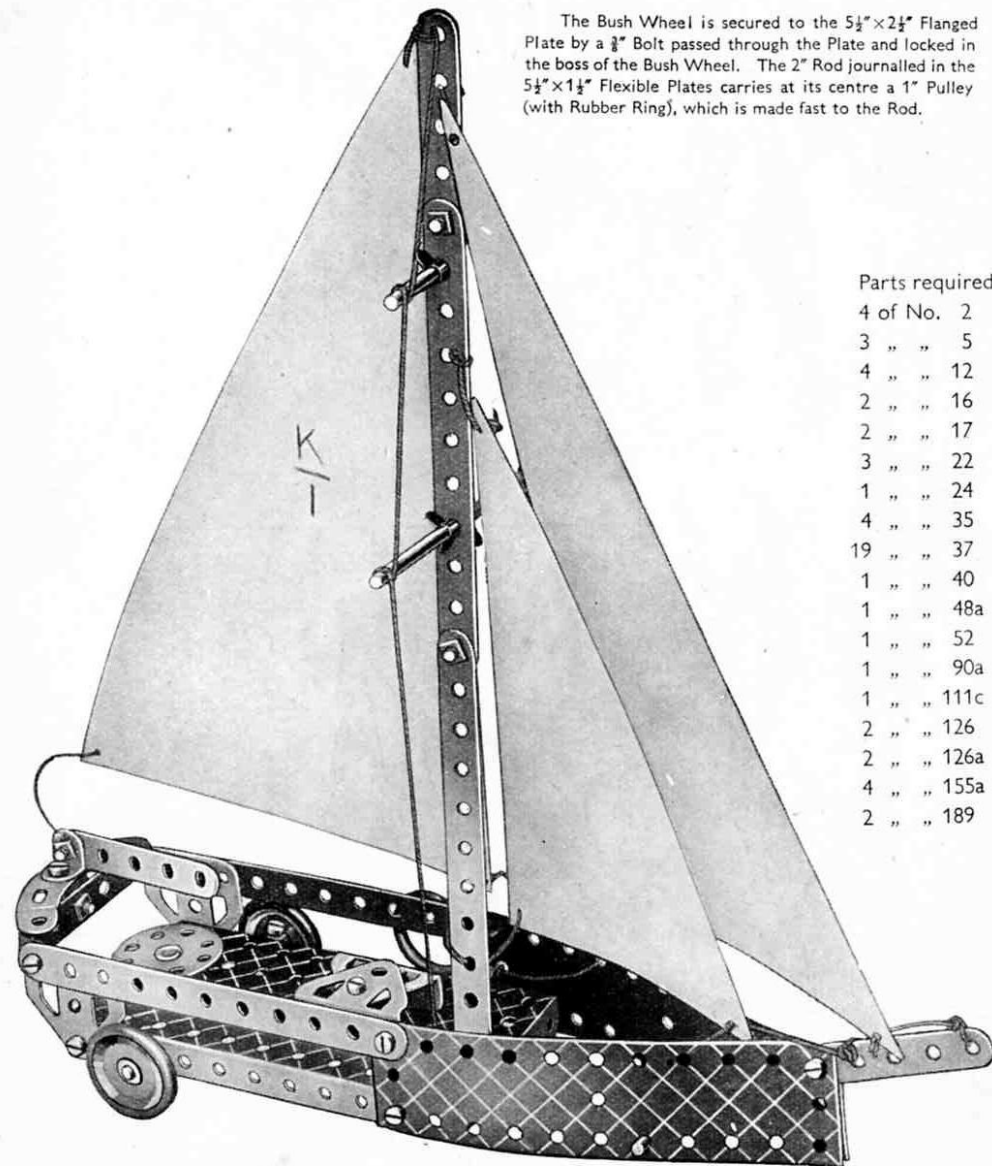


## Parts required

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

## 1.36 LAND YACHT

The Bush Wheel is secured to the  $5\frac{1}{2}$ " x  $2\frac{1}{2}$ " Flanged Plate by a  $\frac{3}{8}$ " Bolt passed through the Plate and locked in the boss of the Bush Wheel. The 2" Rod journalled in the  $5\frac{1}{2}$ " x  $1\frac{1}{2}$ " Flexible Plates carries at its centre a 1" Pulley (with Rubber Ring), which is made fast to the Rod.

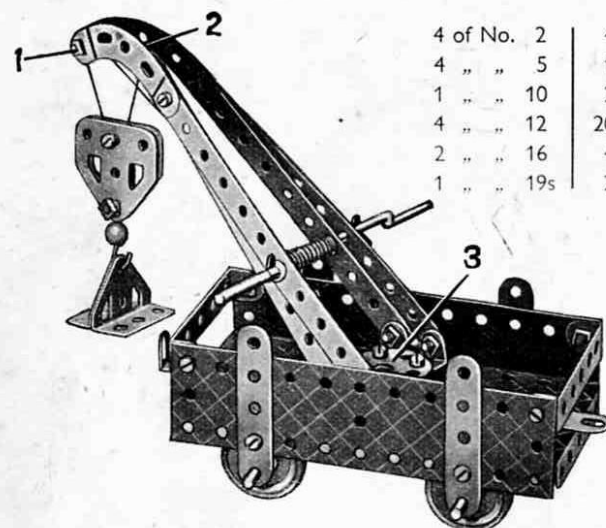


## Parts required

4 of No.	
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	

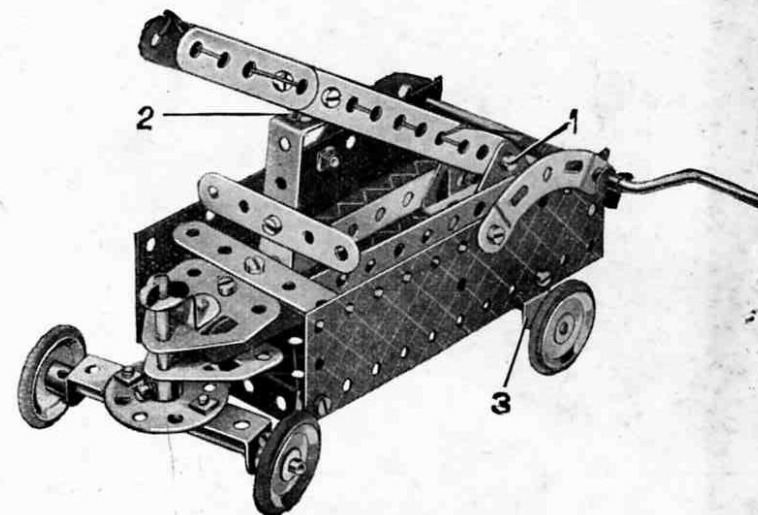
The hoisting cord is secured to the Crank Handle, and then led over the  $\frac{3}{8}$ " Bolt 1. It is then passed through the pulley block and fastened to the jib at 2. The jib is attached to the Bush Wheel 3 by means of Angle Brackets and the complete unit is pivoted as follows. A  $\frac{3}{8}$ " Bolt is passed through the  $5\frac{1}{2}$ "  $\times$   $2\frac{1}{2}$ " Flanged Plate, and is secured in the boss of the Bush Wheel by its set screw.

## 1.38 FIRE ENGINE

## Parts required

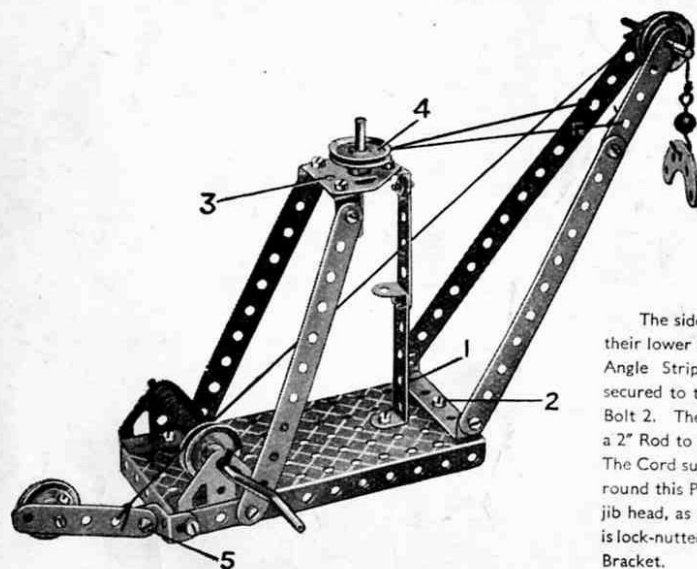
4 of No. 2	2 of No. 38
4 " " 5	1 " " 40
3 " " 10	2 " " 48a
5 " " 12	1 " " 52
2 " " 16	2 " " 90a
1 " " 17	2 " " 111c
1 " " 19s	1 " " 125
4 " " 22	2 " " 126
1 " " 24	2 " " 126a
4 " " 35	4 " " 155a
24 " " 37	2 " " 189
4 " " 37a	

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



The sides of the jib are bolted at their lower ends to a  $2\frac{1}{2}$ "  $\times$   $\frac{1}{2}$ " 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.

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

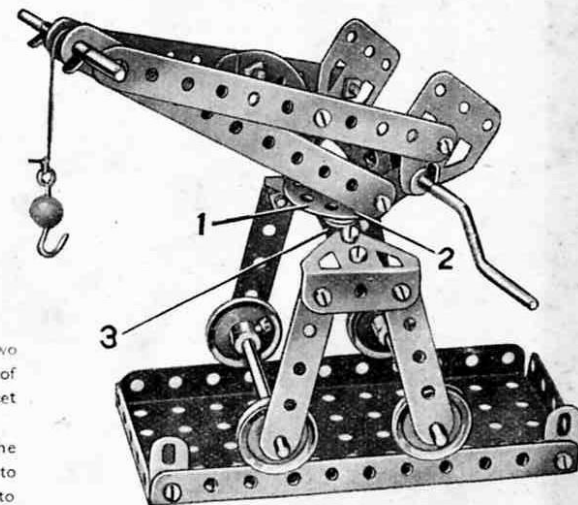
## 1.40 TRAVELLING CRANE

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

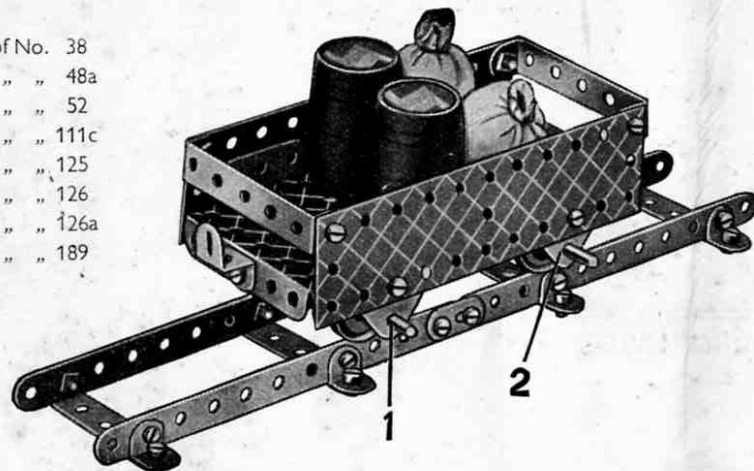




## 1.41 RAILWAY TRUCK

## 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

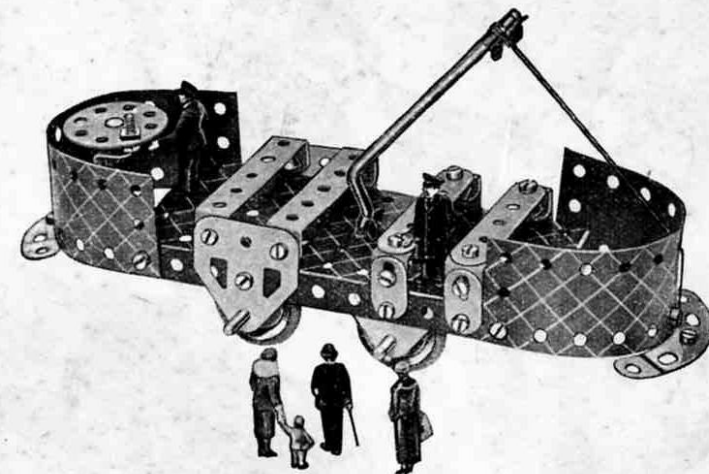


The axle bearings 1 are Flat Trunnions and Trunnions are used for the bearings 2, which fit underneath the Flanged Plate in the manner shown in the underneath view of the model Side Tipping Wagon (1.46).

## 1.42 OPEN TRAMCAR

## Parts required

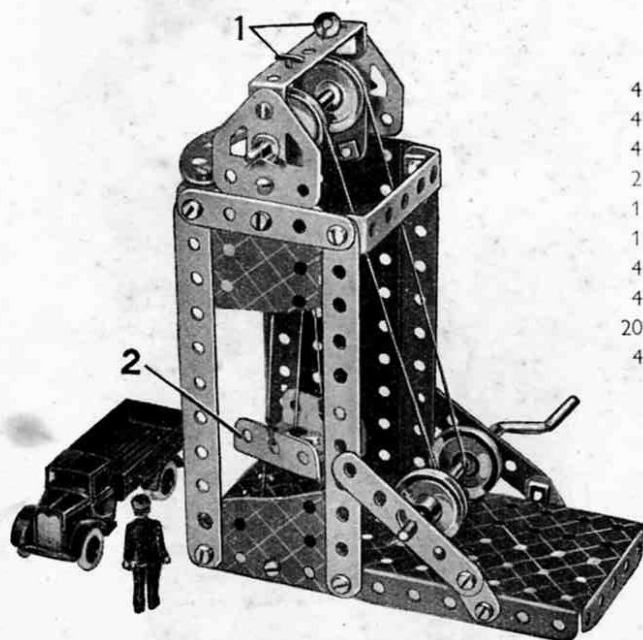
2 of No. 5	1 of No. 40
4 " " 10	2 " " 48a
7 " " 12	1 " " 52
2 " " 16	2 " " 90a
1 " " 19s	4 " " 111c
4 " " 22	1 " " 125
1 " " 24	2 " " 126
4 " " 35	2 " " 126a
24 " " 37	4 " " 155a
3 " " 37a	2 " " 189



## 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.

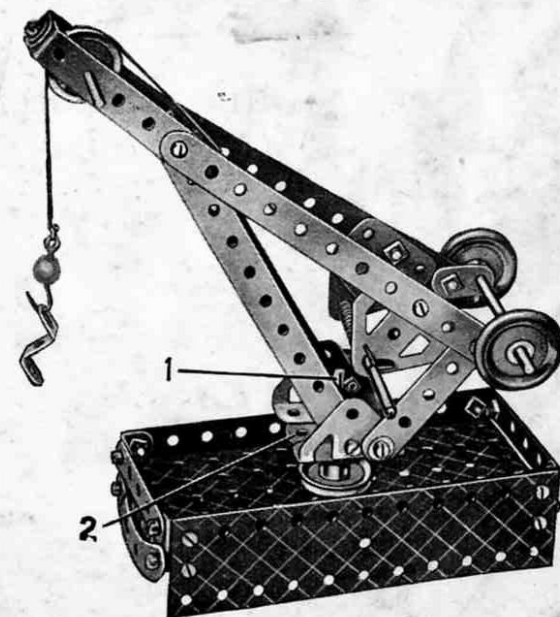
## 1.44 DOCKSIDE CRANE

## 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 5 1/2" Strips that form the jib are extended at the head by 2 1/2" x 1/2" Double Angle Strips, in which a 2" Rod is journaled.

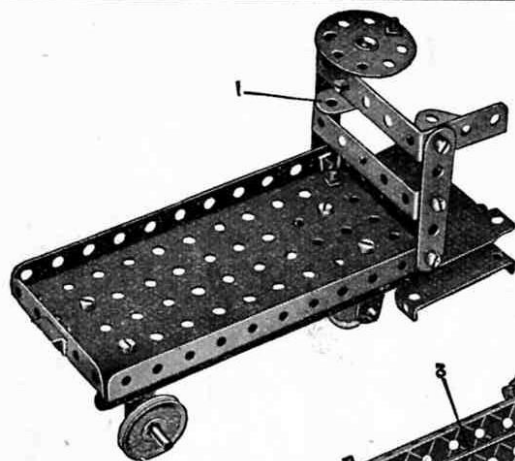


MECCANO No. 1 Outfit Models fitted with the *Magic Motor*

## 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 <i>Magic Motor</i>



The steering wheel, a Bush Wheel, is secured to the Reversed Angle Bracket 1 by means of a  $\frac{1}{4}$ " Bolt. Fig. 1.45a shows how the *Magic Motor* is mounted to drive the front wheels. The front wheel axle is journaled in two Flat Brackets bolted to the  $5\frac{1}{2}$ " Strips 2 and 3.

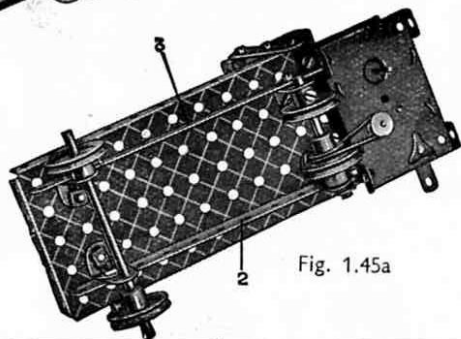


Fig. 1.45a

## 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 <i>Magic Motor</i>
24 " " 37	
4 " " 37a	
3 " " 38	
2 " " 48a	
1 " " 52	

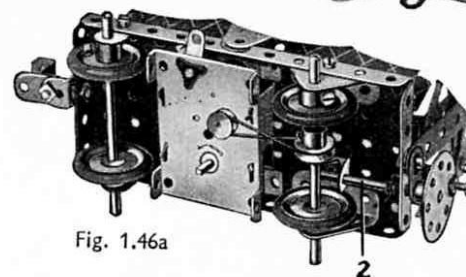
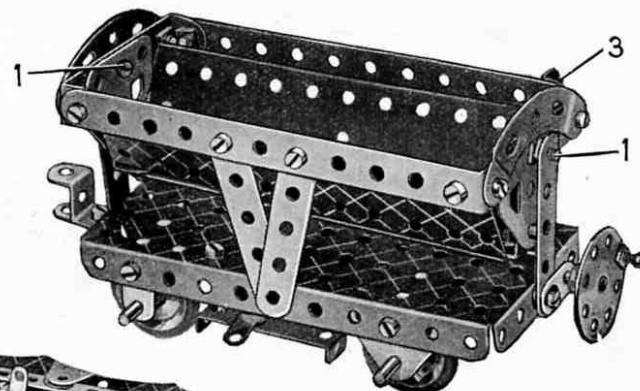
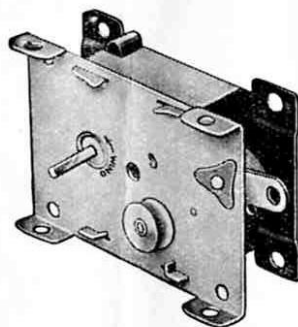


Fig. 1.46a

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!

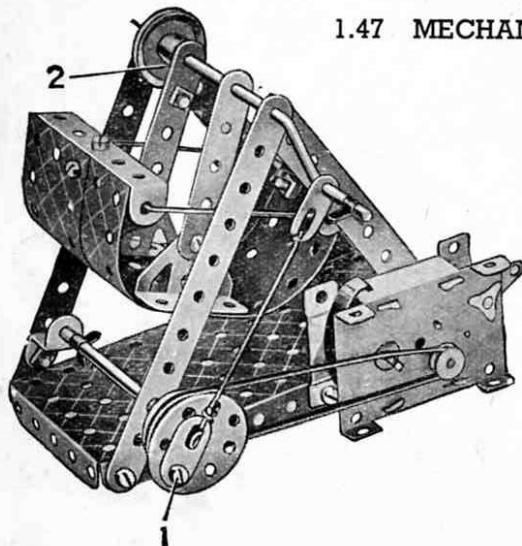
The left-hand  $2\frac{1}{2}$ " Strip that supports the swing is connected to the Crank Handle by passing the set screw of the 1" Pulley Wheel 2 through the hole in an Angle Bracket bolted to the Strip and then into the boss of the Pulley. Bolt 1 on the Bush Wheel is fitted with lock-nuts.

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  $5\frac{1}{2}$ " x  $2\frac{1}{2}$ " Flanged Plate. The pulley of the Motor is connected to a 1in. fast Pulley on the crankshaft of the engine by a Driving Band.

## 1.47 MECHANICAL SWING

Parts required

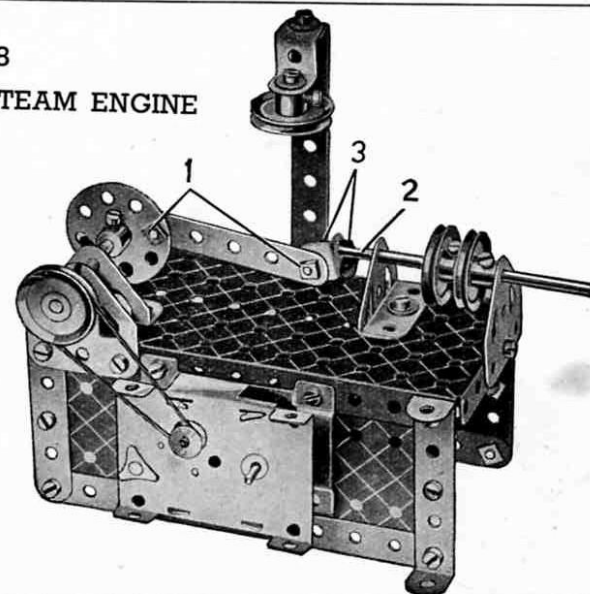
4 of No. 2	2 of No. 2
2 " " 5	2 " " 5
2 " " 10	2 " " 10
3 " " 12	3 " " 12
1 " " 16	1 " " 16
1 " " 19s	1 " " 19s
2 " " 22	2 " " 22
1 " " 24	1 " " 24
4 " " 35	4 " " 35
15 " " 37	15 " " 37
2 " " 37a	2 " " 37a
4 " " 38	4 " " 38
1 " " 40	1 " " 40
2 " " 48a	2 " " 48a
1 " " 52	1 " " 52
1 " " 111c	1 " " 111c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



## 1.48 HORIZONTAL STEAM ENGINE

Parts required

3 of No. 2	2 of No. 2
4 " " 5	4 " " 5
2 " " 12	2 " " 12
1 " " 16	1 " " 16
1 " " 17	1 " " 17
4 " " 22	4 " " 22
1 " " 24	1 " " 24
4 " " 35	4 " " 35
24 " " 37	24 " " 37
2 " " 37a	2 " " 37a
3 " " 38	3 " " 38
1 " " 38a	1 " " 38a
1 " " 52	1 " " 52
1 " " 111c	1 " " 111c
1 " " 125	1 " " 125
2 " " 126	2 " " 126
2 " " 126a	2 " " 126a
2 " " 189	2 " " 189
1 <i>Magic Motor</i>	1 <i>Magic Motor</i>



# 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

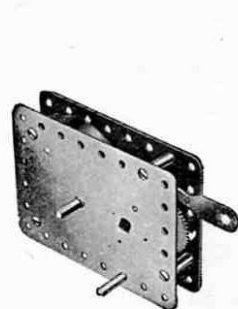
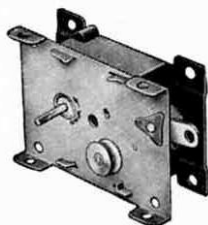
These are the finest clockwork motors obtainable for model driving. They have exceptional power and length of run and their gears are cut with such precision as to make them perfectly smooth and steady in operation.

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

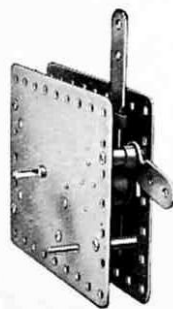
The Meccano Magic Motor is well designed and strongly constructed and is fitted with a powerful spring giving a long and steady run. It is non-reversing. Each Motor is supplied with a separate  $\frac{1}{4}$ " fast Pulley and three pairs of Driving Bands of different lengths.

A Magic Motor is the best power unit for driving small models built from Outfits Nos. 0 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 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

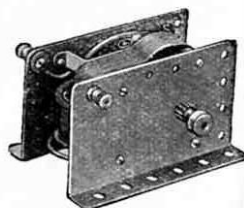
This Motor is more powerful than the No. 1 Motor and is fitted with reversing motion. It has brake and reverse levers.

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.

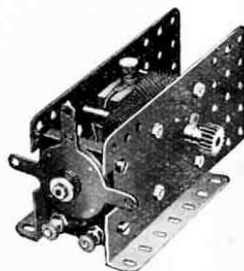


No. E1 Electric Motor (6 volt)

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.

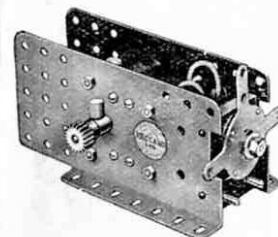


No. EO6 Electric Motor (6 volt)

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. T20M TRANSFORMER (Output 20 VA 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.

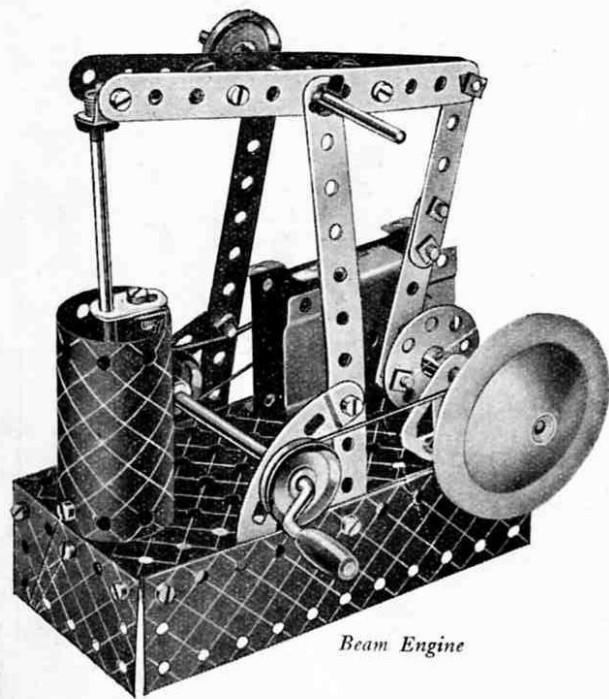
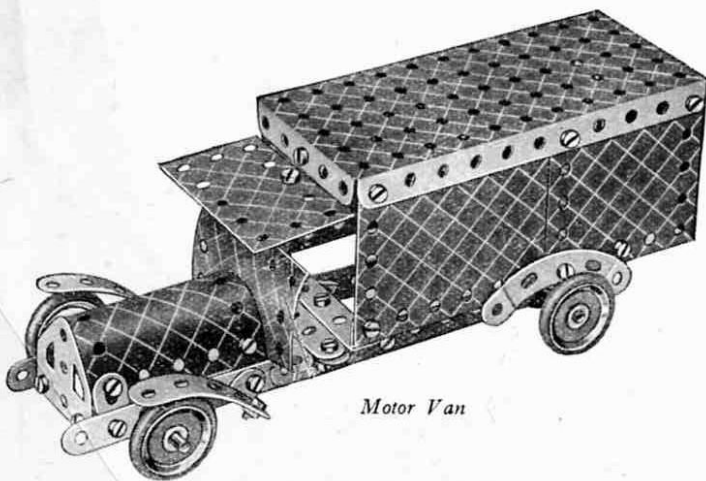
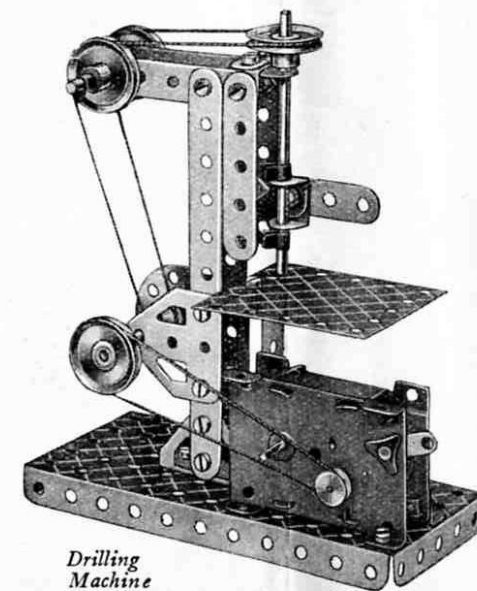
No. T6 TRANSFORMER (Output 25 VA at 9 volts). Has one 9-volt circuit and is fitted with a 5-stud speed regulator.

No. T6MT 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.



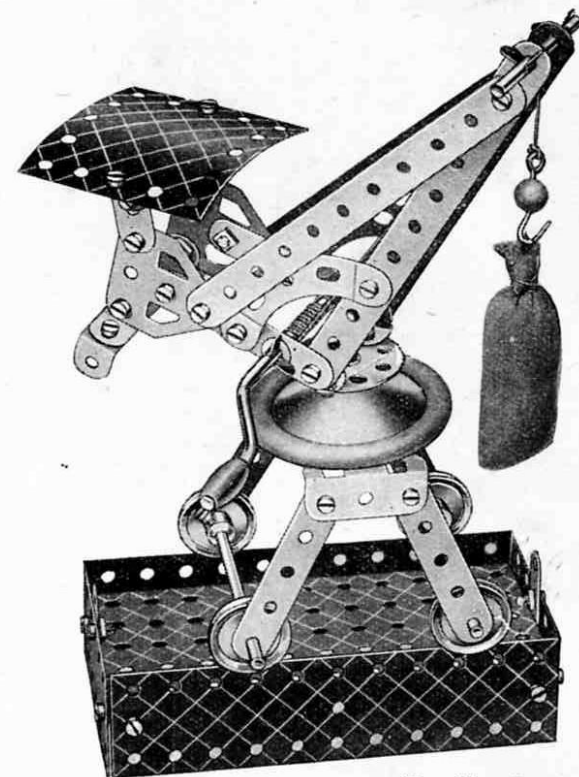
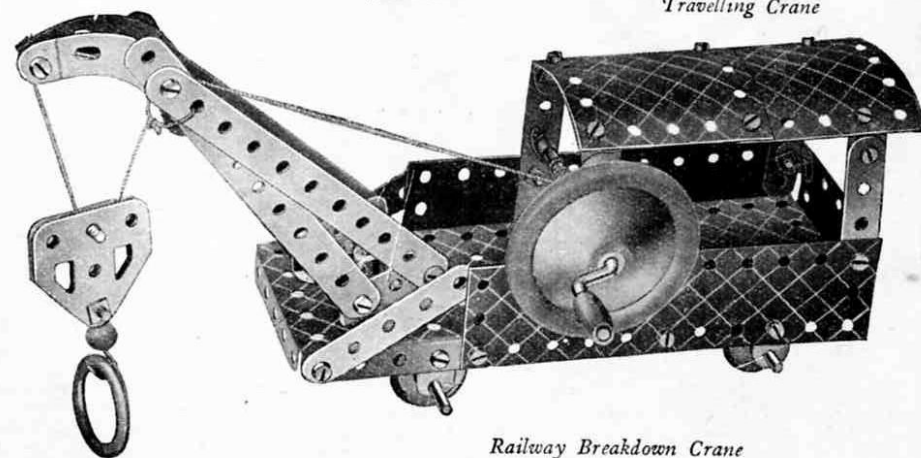
*Beam Engine**Motor Van**Drilling Machine*

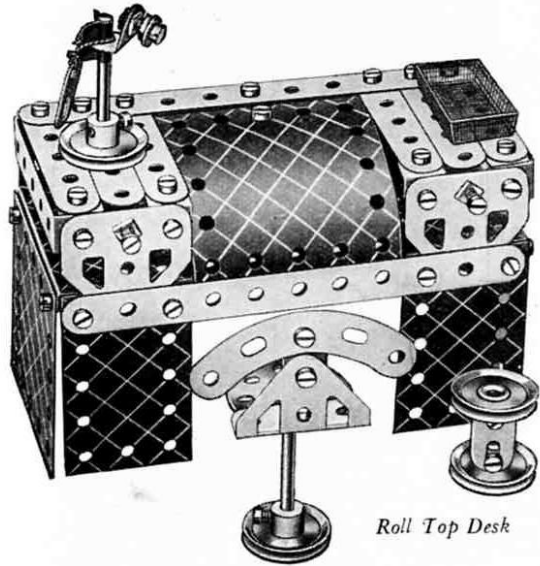
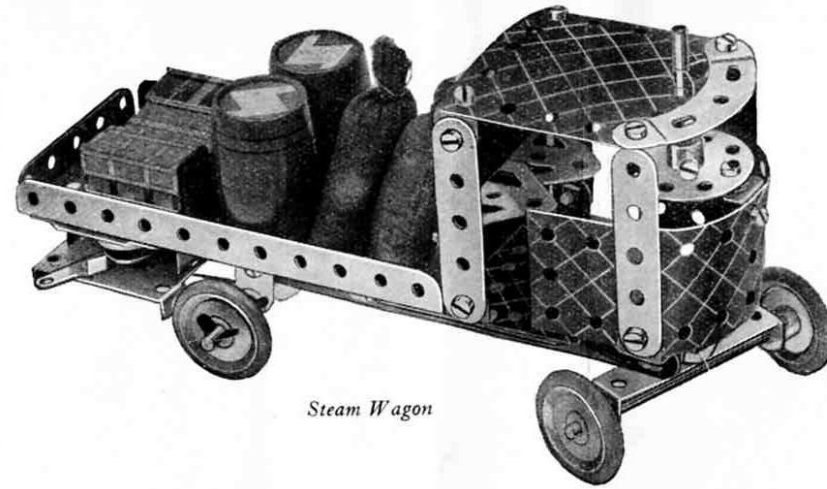
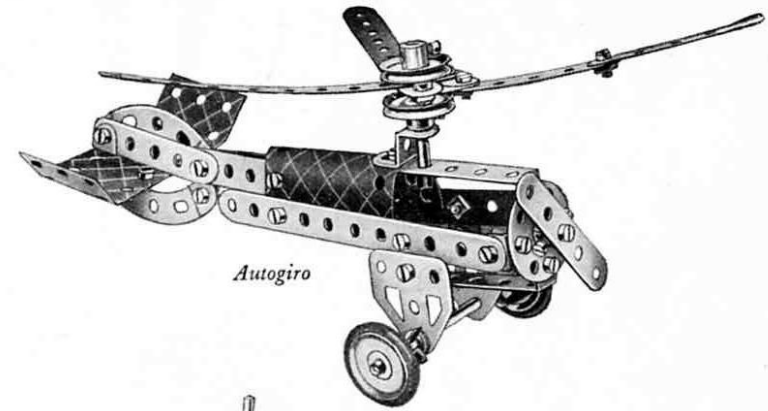
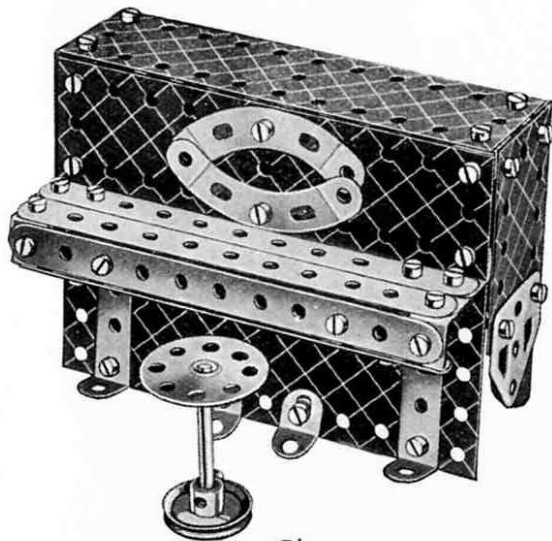
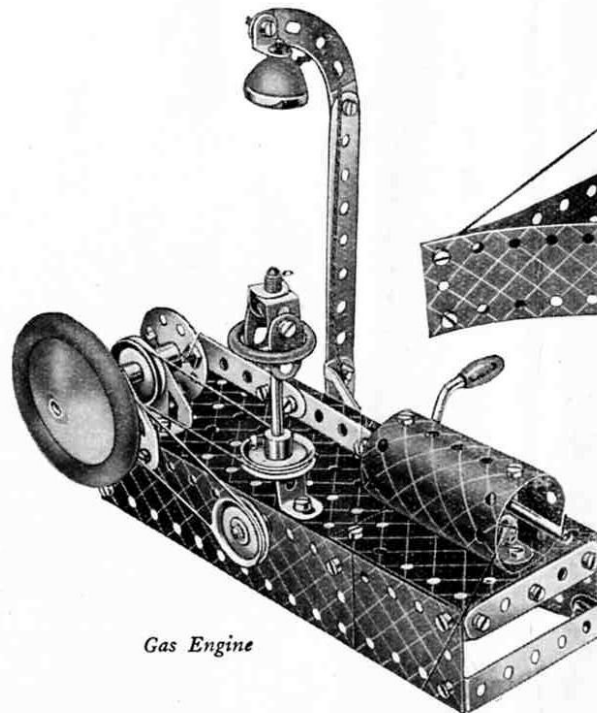
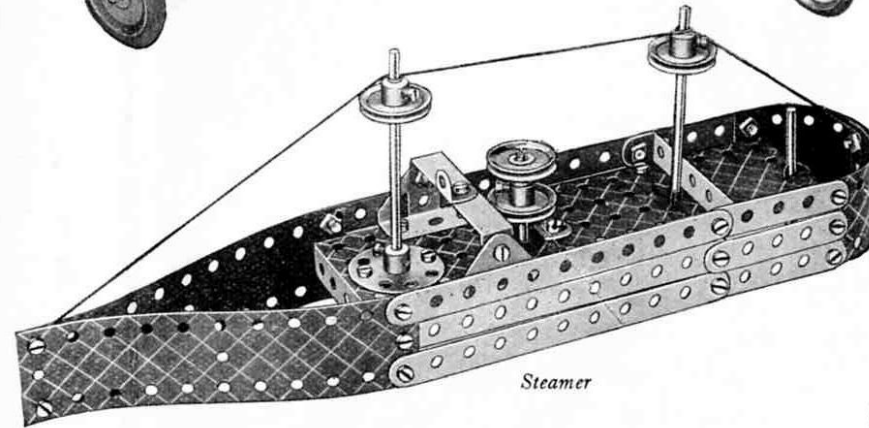
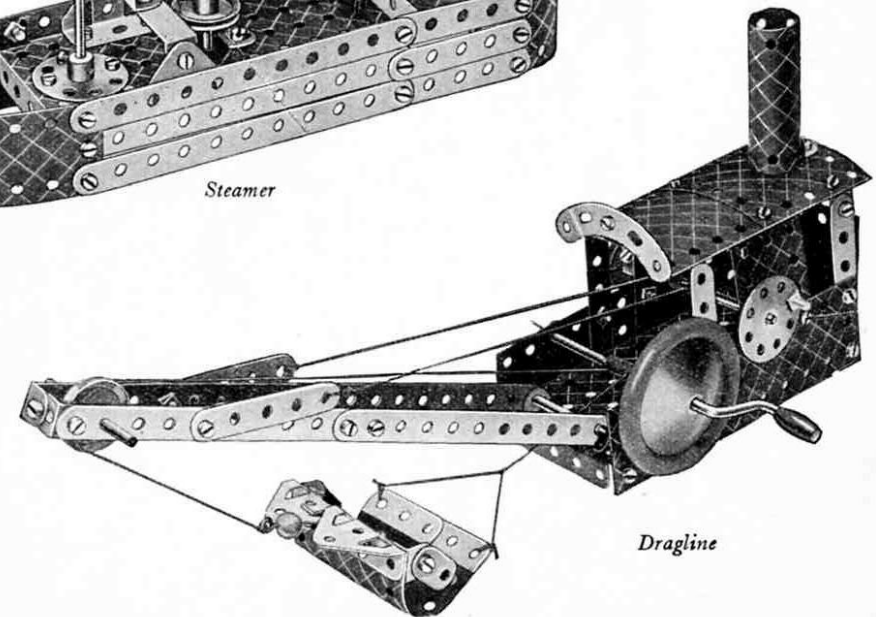
### BUILD BIGGER AND BETTER MODELS

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. 1a Accessory Outfit containing all the parts required to convert your No. 1 into a No. 2 Outfit. You will then be able to build the full range of No. 2 Outfit models, a selection of which is illustrated on this page and opposite.

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.

*Travelling Crane**Railway Breakdown Crane*

*Roll Top Desk**Steam Wagon**Autogiro**Piano**Gas Engine**Steamer**Dragline*

## MECCANO PARTS

3 Perforated Strips	
No.	No.
1. 12"	3. 3"
1a. 9"	4. 5"
1b. 7"	5. 7"
2. 5"	6. 11"
2a. 4"	6a. 11"

9 <sup>a</sup> Angle Girders	
No.	No.
7. 24"	9a. 4 1/2"
7a. 18"	9b. 3 1/2"
8. 12"	9c. 3"
8a. 9"	9d. 2 1/2"
8b. 7"	9e. 2"
9. 5 1/2"	9f. 1 1/2"

10 Flat Brackets	
No.	No.
10. 1 1/2" x 1 1/2"	11. 1 1/2" x 1 1/2"
11. 1 1/2" x 1 1/2"	12. 1 1/2" x 1 1/2"
12a. 1 1/2" x 1 1/2"	12b. 1 1/2" x 1 1/2"
12c. 1 1/2" x 1 1/2"	12c. 1 1/2" x 1 1/2"

13 Axle Rods	
No.	No.
13. 11 1/2"	16. 3 1/2"
13a. 8"	16a. 2 1/2"
14. 6 1/2"	16b. 3"
15. 5 1/2"	17. 2"
15a. 4 1/2"	18a. 1"
15b. 4"	18b. 1"

19 <sup>h</sup> Crank Handles, 3 1/2" with Erind grip	
No.	No.
19. 3 1/2" with Erind grip	19h. 3 1/2" without
19s. 3 1/2" without	19s. 3 1/2" without

19a. Wheels, 3" diam., with set-screws	
No.	No.
19a. 3" diam., with set-screws	20. Flanged Wheels, 1 1/2" diam.
20b. 1 1/2" diam.	20b. 1 1/2" diam.

19c. Pulley Wheels	
No.	No.
19c. 3" diam. with centre boss & set-screw	21. 1 1/2" diam.
20a. 2" diam.	22. 1 1/2" diam.
21. 1 1/2" diam.	22a. 1 1/2" diam.
22. 1 1/2" diam.	22a. 1 1/2" diam.
23. 1 1/2" diam.	23. 1 1/2" diam.

19b. 3" diam. with centre boss & set-screw	
No.	No.
19b. 3" diam. with centre boss & set-screw	20a. 2" diam.
20a. 2" diam.	21. 1 1/2" diam.
21. 1 1/2" diam.	22. 1 1/2" diam.
22. 1 1/2" diam.	22a. 1 1/2" diam.
23. 1 1/2" diam.	23. 1 1/2" diam.

24. Bush Wheels	
No.	No.
24. Bush Wheels	24. Bush Wheels

26 <sup>a</sup> Pinion Wheels, 1" diam., 1" face	
No.	No.
25. 1" diam., 1" face	25a. 1" diam., 1" face
25b. 1" diam., 1" face	25b. 1" diam., 1" face
26. 1" diam., 1" face	26a. 1" diam., 1" face
26b. 1" diam., 1" face	26b. 1" diam., 1" face

27. Gear Wheels	
No.	No.
27. 50 teeth, to gear with 3" pinion	27a. 57
27b. 133	27b. 133
27c. 95	27c. 95

28. Contrate Wheels, 1 1/2" diam.	
No.	No.
28. Contrate Wheels, 1 1/2" diam.	29. 1 1/2" diam.

30. Bevel Gears, 2 1/2", 26 teeth	
No.	No.
30. Bevel Gears, 2 1/2", 26 teeth	30a. 1 1/2", 16 teeth
30a. 1 1/2", 16 teeth	30c. 1 1/2", 48 teeth
30c. 1 1/2", 48 teeth	30c. 1 1/2", 48 teeth

31. Gear Wheels, 1", 38 teeth	
No.	No.
31. Gear Wheels, 1", 38 teeth	32. Worms

34. Spanners	
No.	No.
34. Spanners	34b. Box Spanners

35. Spring Clips	
No.	No.
35. Spring Clips	35. Spring Clips

36. Screwdrivers	
No.	No.
36. Screwdrivers	36a. Extra Long
36a. Extra Long	36b. Special
36b. Special	36b. Special

37. Nuts and Bolts, 1/2"	
No.	No.
37. Nuts and Bolts, 1/2"	37a. 1/2" box of 12
37a. 1/2" box of 12	37b. 1/2" box of 50
37b. 1/2" box of 50	37c. 1/2" box of 50
37c. 1/2" box of 50	37d. 1/2" box of 144
37d. 1/2" box of 144	37e. 1/2" pkt. of 20
37e. 1/2" pkt. of 20	37f. 1/2" box of 60

38. Washers	
No.	No.
38. Washers	38. Washers

39. Hanks of Cord	
No.	No.
39. Hanks of Cord	39. Hanks of Cord

40. Propeller Blades	
No.	No.
40. Propeller Blades	40. Propeller Blades

41. Windmill Sails	
No.	No.
41. Windmill Sails	41. Windmill Sails

43. Springs	
No.	No.
43. Springs	43. Springs

44. Cranked Bent Strips	
No.	No.
44. Cranked Bent Strips	44. Cranked Bent Strips

45. Double Angle Strips, 2 1/2" x 1"	
No.	No.
45. Double Angle Strips, 2 1/2" x 1"	45. Double Angle Strips, 2 1/2" x 1"

50a. Eye Pieces, with boss	
No.	No.
50a. Eye Pieces, with boss	50a. Eye Pieces, with boss

51. Flanged Plates, 2 1/2" x 1"	
No.	No.
51. Flanged Plates, 2 1/2" x 1"	51. Flanged Plates, 2 1/2" x 1"

52a. Flat Plates, 2 1/2" x 3"	
No.	No.
52a. Flat Plates, 2 1/2" x 3"	52a. Flat Plates, 2 1/2" x 3"

53a. Flat Plates, 4 1/2" x 2 1/2"	
No.	No.
53a. Flat Plates, 4 1/2" x 2 1/2"	53a. Flat Plates, 4 1/2" x 2 1/2"

54a. Flanged Sector Plates, 4 1/2" long	
No.	No.
54a. Flanged Sector Plates, 4 1/2" long	54a. Flanged Sector Plates, 4 1/2" long

55. Perforated Strips, slotted, 5 1/2" long	
No.	No.
55. Perforated Strips, slotted, 5 1/2" long	55a. 2" long
55a. 2" long	55a. 2" long

57. Hooks	
No.	No.
57. Hooks	57. Hooks

58. Spring Cord, 40" length	
No.	No.
58. Spring Cord, 40" length	58a. Coupling Screws for Spring Cord
58a. Coupling Screws for Spring Cord	58b. Hooks for Spring Cord
58b. Hooks for Spring Cord	58b. Hooks for Spring Cord

59. Collars, with grub-screws	
No.	No.
59. Collars, with grub-screws	59. Collars, with grub-screws

61. Windmill Sails	
No.	No.
61. Windmill Sails	61. Windmill Sails

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

63. Couplings	
No.	No.
63. Couplings	63a. Octagonal Couplings
63a. Octagonal Couplings	63b. Strip Couplings
63b. Strip Couplings	63c. Threaded Couplings
63c. Threaded Couplings	63c. Threaded Couplings

64. Threaded Bosses	
No.	No.
64. Threaded Bosses	64. Threaded Bosses

65. Centre Forks	
No.	No.
65. Centre Forks	65. Centre Forks

66 & 67. Weights, 50 grammes	
No.	No.
66 & 67. Weights, 50 grammes	66 & 67. Weights, 50 grammes

68. Woodscrews, 1/2"	
No.	No.
68. Woodscrews, 1/2"	68. Woodscrews, 1/2"

69. Set Screws	
No.	No.
69. Set Screws	69a. Grub Screws
69a. Grub Screws	69b. 3/8"
69b. 3/8"	69c. 1/4"

70. Flat Plates, 5 1/2" x 2 1/2"	
No.	No.
70. Flat Plates, 5 1/2" x 2 1/2"	70. Flat Plates, 5 1/2" x 2 1/2"

71. Triangular Plates, 2 1/2"	
No.	No.
71. Triangular Plates, 2 1/2"	71. Triangular Plates, 2 1/2"

72. Flat Plates, 5 1/2" x 2 1/2"	
No.	No.
72. Flat Plates, 5 1/2" x 2 1/2"	72. Flat Plates, 5 1/2" x 2 1/2"

73. Triangular Plates, 2 1/2"	
No.	No.
73. Triangular Plates, 2 1/2"	73. Triangular Plates, 2 1/2"

76. Flat Plates, 5 1/2" x 2 1/2"	
No.	No.
76. Flat Plates, 5 1/2" x 2 1/2"	76. Flat Plates, 5 1/2" x 2 1/2"

77. Triangular Plates, 2 1/2"	
No.	No.
77. Triangular Plates, 2 1/2"	77. Triangular Plates, 2 1/2"

80 <sup>a</sup> . Screwed Rods	
No.	No.
80 <sup>a</sup> . Screwed Rods	80b. 4 1/2"
80b. 4 1/2"	80c. 3 1/2"
80c. 3 1/2"	81. 2"
81. 2"	82. 1"
82. 1"	82. 1"

89. 5 1/2" Curved Strips, 10" radius	
No.	No.
89. 5 1/2" Curved Strips, 10" radius	89a. 3 1/2" radius
89a. 3 1/2" radius	89b. 4" Curved Strips, cranked, 4 1/2" radius, 8 to circle
89b. 4" Curved Strips, cranked, 4 1/2" radius, 8 to circle	90. 2 1/2" Curved Strips, 2 1/2" radius
90. 2 1/2" Curved Strips, 2 1/2" radius	90a. 2 1/2" radius, 4 to circle
90a. 2 1/2" radius, 4 to circle	90a. 2 1/2" radius, 4 to circle

94. Sprocket Chain, per 40" length	
No.	No.
94. Sprocket Chain, per 40" length	95. 28 " 1 1/2" diam.
95. 28 " 1 1/2" diam.	95b. 56 " 3 1/2" diam.
95b. 56 " 3 1/2" diam.	96. 18 " 1" diam.
96. 18 " 1" diam.	96a. 14 " 3/4" diam.

99. Braced Girders	
No.	No.
99. Braced Girders	99a. 9 1/2" long
99a. 9 1/2" long	99b. 7 1/2" long
99b. 7 1/2" long	100. 5 1/2" long
100. 5 1/2" long	100a. 4 1/2" long
100a. 4 1/2" long	100a. 4 1/2" long

101. Healds, for looms	
No.	No.
101. Healds, for looms	102. Single Bent Strips

103 <sup>d</sup> . Flat Girders	
No.	No.
103 <sup>d</sup> . Flat Girders	103e. 3" long
103e. 3" long	103f. 2 1/2" long
103f. 2 1/2" long	103g. 2" long
103g. 2" long	103h. 1 1/2" long
103h. 1 1/2" long	103k. 7 1/2" long

104. Shuttles, for looms	
No.	No.
104. Shuttles, for looms	105. Reed Hooks, for looms

106. Wood Rollers	
No.	No.
106. Wood Rollers	106a. Sand Rollers
106a. Sand Rollers	107. Tables for designing machines

108. Architraves	
No.	No.
108. Architraves	109. Face Plates, 2 1/2" diam.

110. Rack Strips, 3 1/2" long	
No.	No.
110. Rack Strips, 3 1/2" long	110a. 6 1/2" long
110a. 6 1/2" long	111. Bolts, 3/8"
111. Bolts, 3/8"	111c. Bolts, 1/2"
111c. Bolts, 1/2"	111d. Bolts, 1 1/2"

113. Girder Frames	
No.	No.
113. Girder Frames	114. Hinges
114. Hinges	115. Threaded Pins
115. Threaded Pins	116. Fork Pieces, Large
116. Fork Pieces, Large	116a. Small
116a. Small	117. Steel Balls, 1/2" diam.

118. Hub Discs, 5 1/2" diam.	
No.	No.
118. Hub Discs, 5 1/2" diam.	118. Hub Discs, 5 1/2" diam.



## MECCANO PARTS

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



121. Train Couplings  
122. Miniature Loaded Sacks



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



126. Trunnions  
126a. Flat Trunnions



127. Simple Bell Cranks  
128. Boss Bell Cranks



129. Rack Segments, 3" diam.



130. Eccentrics, Triple Throw



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



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



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



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



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



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



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



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



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



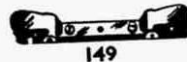
144. Dog Clutches



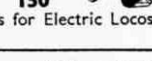
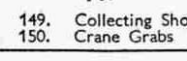
145. Circular Strips, 7 1/2" diam. overall  
146. " Plates, 6" " "  
146a. " " 4" " "



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



149. Collecting Shoes for Electric Locos  
150. Crane Grabs



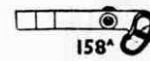
- No. 151. Pulley Blocks, Single Sheave  
152. " " Two " "  
153. " " Three " "



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



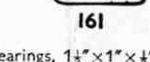
156. Pointers (with boss), 2 1/2" overall



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



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



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



165. Swivel Bearings  
166. End " "



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



183. Lamp Holders  
184a. 2 1/2-volt Lamps  
184b. 3 1/2 " " "

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



169. Digger Buckets



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



172. Pendulum Connections  
173. Rail Adaptors



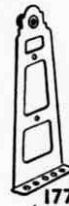
174. Grease Cups



175. Flexible Coupling Units



176. Anchoring Springs for Cord



177. Shafting Standards, Large  
178. " " Small  
179. Rod Sockets " "  
180. Toothed Gear Rings, 3 1/2" diam.  
181. Bobbins  
182. Insulating Bushes  
182a. Insulating Washers



183. Lamp Holders  
184a. 2 1/2-volt Lamps  
184b. 3 1/2 " " "

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



192. Flexible Plates.  
197. Strip Plates.

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



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



201. Lamps with Flex (3 1/2 volts)  
202. Angle Brackets (for Headlamps)  
203. Headlamps  
203a. Headlamp Rims  
203b. " Bodies  
204. " Nuts  
205. " Glasses  
206. Lampshades  
207. Lamp Bases  
207a. Lamp with Standard and Flex  
208. Battery Tags and Studs  
208a. Washers for Battery Studs  
210. Nuts for Battery Studs

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

212. Rod and Strip Connectors  
213. Rod Connectors



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



216. Cylinders, 2 1/2"



- 217a. Discs, 1 1/2"  
217b. Discs 3/4"

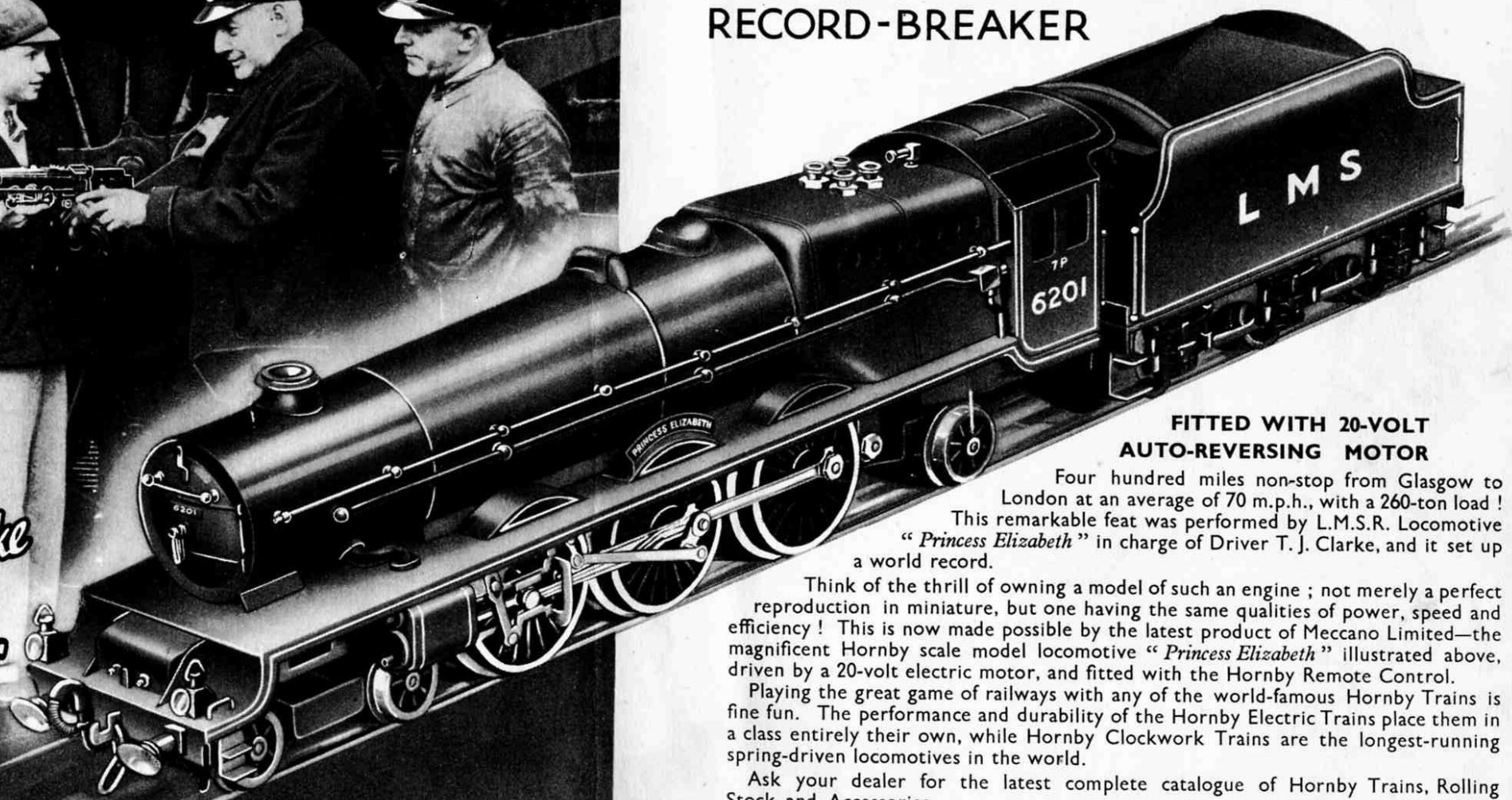


PRINCESS ELIZABETH

HORNBY SCALE MODEL OF  
*"Princess Elizabeth"*—  
 MIGHTY L.M.S.R. WORLD  
 RECORD-BREAKER

*Driver Clarke  
 says  
 "It's fine!"*

# HORNBY TRAINS



**FITTED WITH 20-VOLT  
 AUTO-REVERSING MOTOR**

Four hundred miles non-stop from Glasgow to London at an average of 70 m.p.h., with a 260-ton load!

This remarkable feat was performed by L.M.S.R. Locomotive *"Princess Elizabeth"* in charge of Driver T. J. Clarke, and it set up a world record.

Think of the thrill of owning a model of such an engine; not merely a perfect reproduction in miniature, but one having the same qualities of power, speed and efficiency! This is now made possible by the latest product of Meccano Limited—the magnificent Hornby scale model locomotive *"Princess Elizabeth"* illustrated above, driven by a 20-volt electric motor, and fitted with the Hornby Remote Control.

Playing the great game of railways with any of the world-famous Hornby Trains is fine fun. The performance and durability of the Hornby Electric Trains place them in a class entirely their own, while Hornby Clockwork Trains are the longest-running spring-driven locomotives in the world.

Ask your dealer for the latest complete catalogue of Hornby Trains, Rolling Stock and Accessories.

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