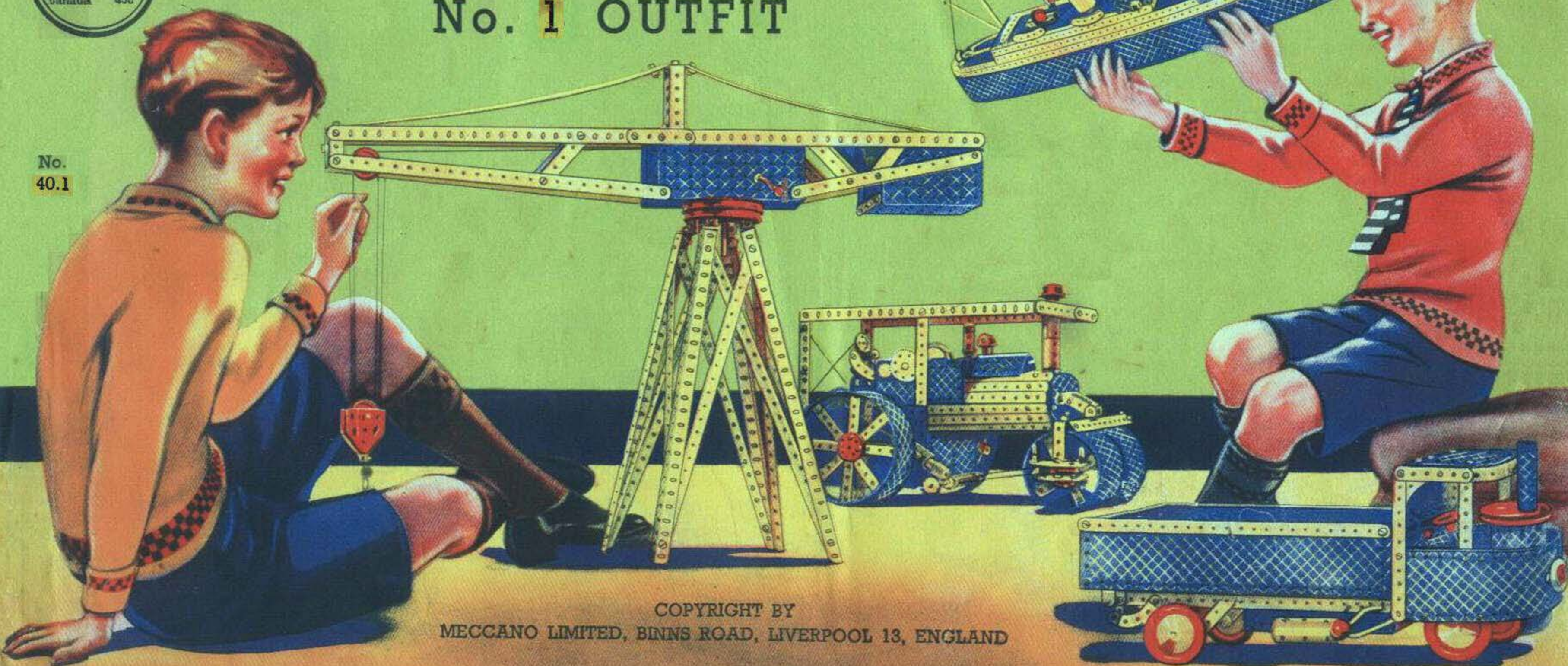


# MECCANO

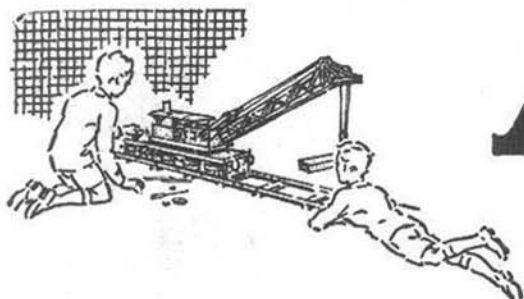
## INSTRUCTIONS FOR No. 1 OUTFIT

Prices  
Great Britain 1/3  
Australia 2/6  
New Zealand 2/-  
South Africa 2/6  
Canada 45c

No.  
40.1

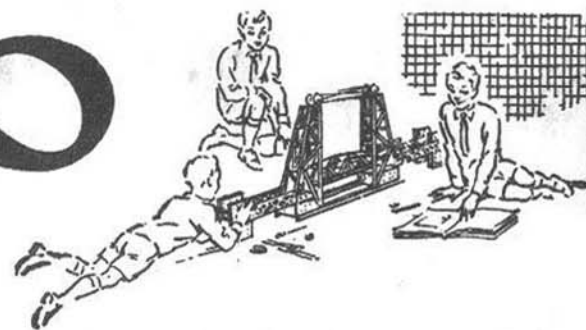


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# MECCANO

*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, Aeroplanes, Machine Tools, Locomotives—in fact everything that interests boys. A screwdriver and a spanner, both of which are provided in each Outfit, are the only tools necessary.

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

## HOW TO BUILD UP YOUR OUTFIT

Meccano is sold in 11 different Outfits, ranging from No. 0 to No. 10. Each Outfit from No. 1 upwards can be converted into the one next larger by the purchase of an Accessory Outfit. Thus Meccano No. 1 Outfit can be converted into No. 2 Outfit by adding to it a No. 1a Accessory Outfit. No. 2a Outfit would then convert it into a No. 3, and so on. In this way, no matter with which Outfit you begin, you can build it up by degrees until you have a No. 10 Outfit.

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

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

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

## THE "MECCANO MAGAZINE"

The "Meccano Magazine" is published specially for Meccano boys. Every month it describes and illustrates new Meccano models for Outfits of all sizes, and deals with suggestions from readers for new Meccano parts and for new methods of using the existing parts.

There are model-building competitions specially

planned to give an equal chance to the owners of small and large Outfits. In addition, there are splendid articles on such subjects as Railways, Famous Engineers and Inventors, Electricity, Chemistry, Bridges, Cranes and Aeroplanes, and special sections dealing with the latest Engineering, Aviation and Shipping News. Other pages deal with Stamp Collecting, and Books of interest to boys; and a feature of outstanding popularity is the section devoted to short articles from readers.

If you are not already a reader write to the Editor for full particulars, or order a copy from your Meccano dealer, or from any newsagent.

## THE MECCANO GUILD

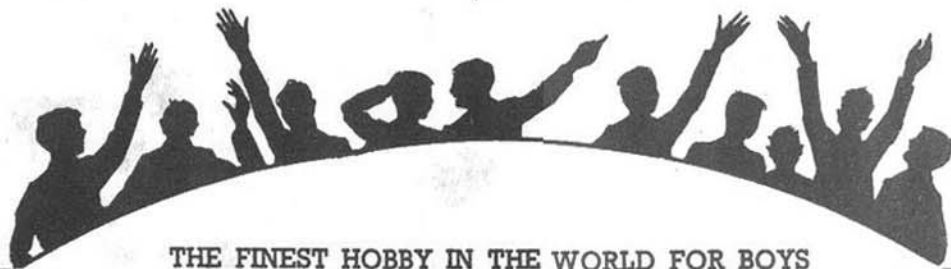
Every owner of a Meccano Outfit should join the Meccano Guild. This is a world-wide organisation, started at the request of Meccano boys. Its primary object is to bring boys together and to make them feel that they are all members of a great brotherhood, each trying to help others to get the very best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

Clubs founded and established under the guidance of the Guild Secretary provide Meccano boys with opportunities of enjoying to the utmost the fun of model-building. Each has its Leader, Secretary, Treasurer and other officials. With the exception of the Leader, all the officials are boys, and as far as possible the proceedings of the clubs are conducted by boys.

## MECCANO SERVICE

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

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



THE FINEST HOBBY IN THE WORLD FOR BOYS

# HOW TO COMMENCE THE FUN

## THE MOST FASCINATING OF ALL HOBBIES

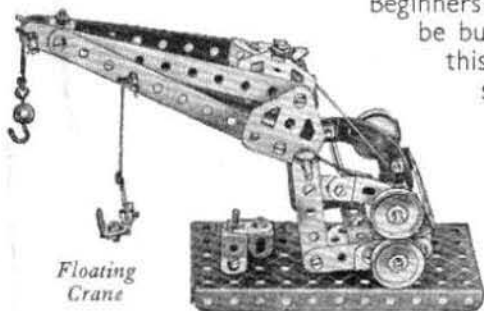
Meccano model-building is the most fascinating of all hobbies, because it never becomes dull. There is always something new to be done. First of all there is the fun of building a new model, and watching it take shape as part after part is added. Then, when the model is complete, comes the thrill of 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.

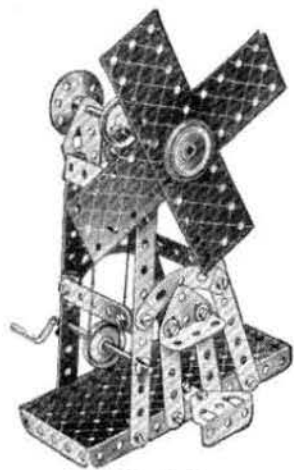
## A FEW USEFUL HINTS

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

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



Floating Crane



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.

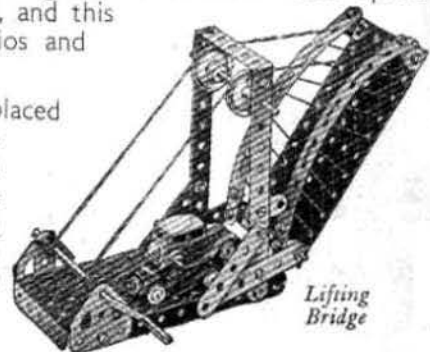
## MOTORS AND GEARING

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.

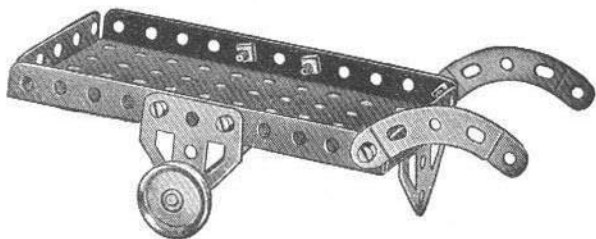
The Electric Motors have the advantage of giving long continuous runs. Their speed is much higher than that of the Clockwork Motors, and this makes it possible to employ higher reduction ratios and thus obtain greater power.

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

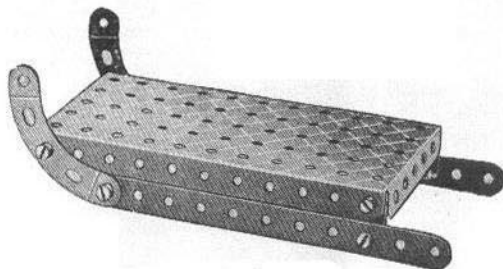
## O.1 HAND CART



Parts required

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

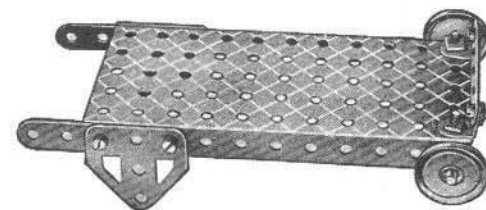
## O.2 SLEDGE



Parts required

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

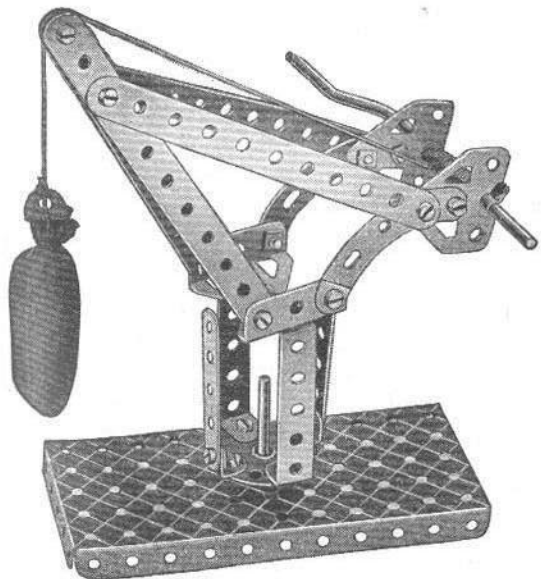
## O.3 FLAT TRUCK



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



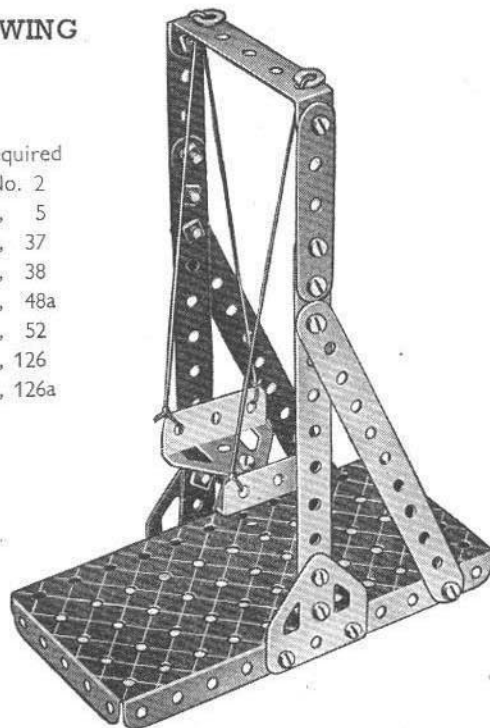
Parts required

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

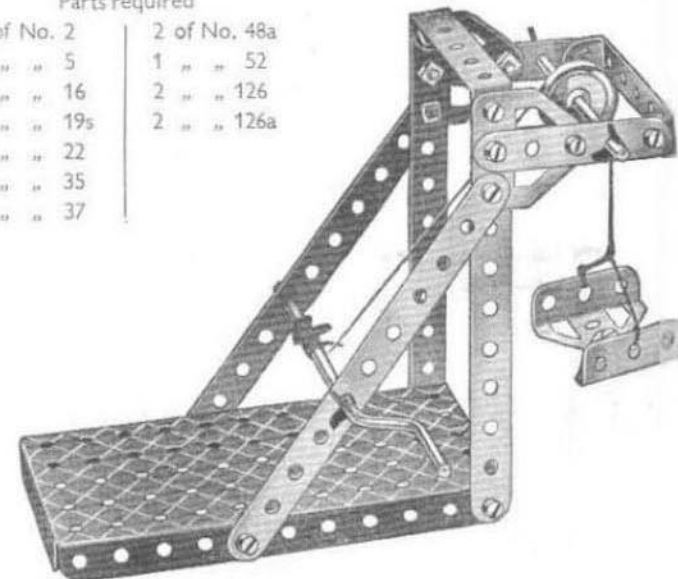
4 of No. 2
2 " " 5
18 " " 37
2 " " 38
1 " " 48a
1 " " 52
2 " " 126
2 " " 126a



## 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	

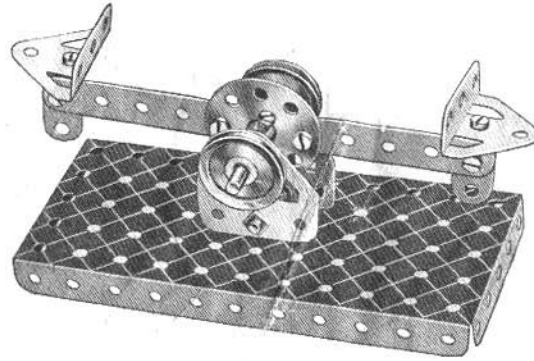


### O.7 GARDEN SEAT



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

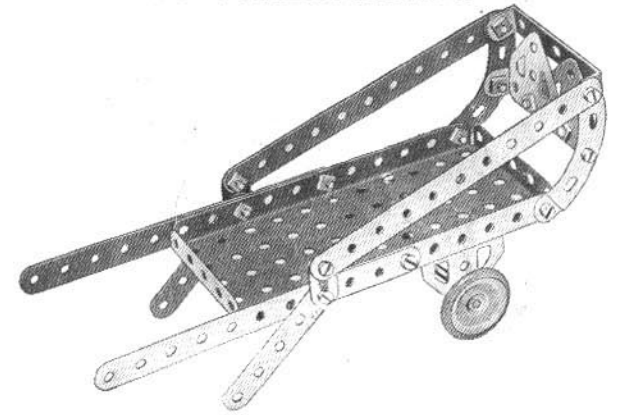
### O.8 COUNTER SCALES



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 COSTER'S BARROW



Parts required

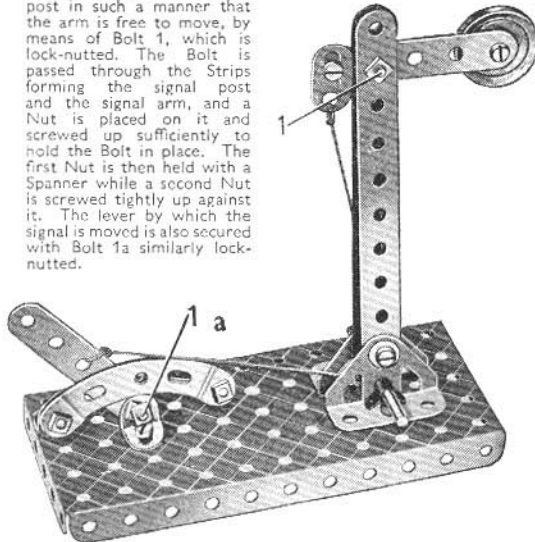
- |            |             |              |
|------------|-------------|--------------|
| 4 of No. 2 | 2 of No. 22 | 2 of No. 90a |
| 2 " " 5    | 16 " " 37   | 2 " " 126    |
| 2 " " 10   | 2 " " 48a   | 2 " " 126a   |
| 1 " " 16   | 1 " " 52    | 2 " " 155a   |

### 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

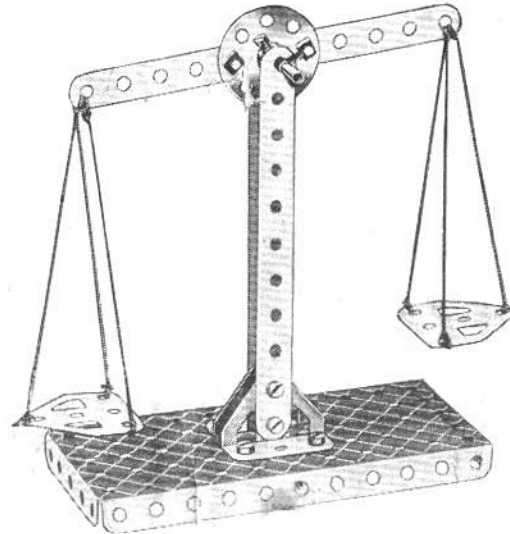
Fix the signal arm to the post in such a manner that the arm is free to move, by means of Bolt 1, which is lock-nutted. The Bolt is passed through the Strips forming the signal post and the signal arm, and a Nut is placed on it and screwed up sufficiently to hold the Bolt in place. The first Nut is then 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

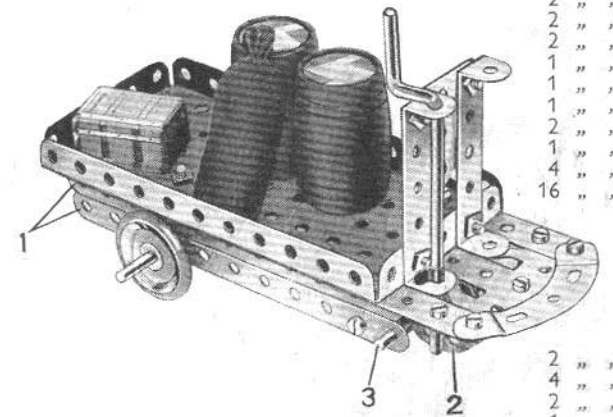
- 3 of No. 2
- 1 " " 17
- 1 " " 24
- 2 " " 35
- 10 " " 37
- 1 " " 52
- 2 " " 126
- 2 " " 126a



### O.12 ELECTRIC TRUCK

Parts required

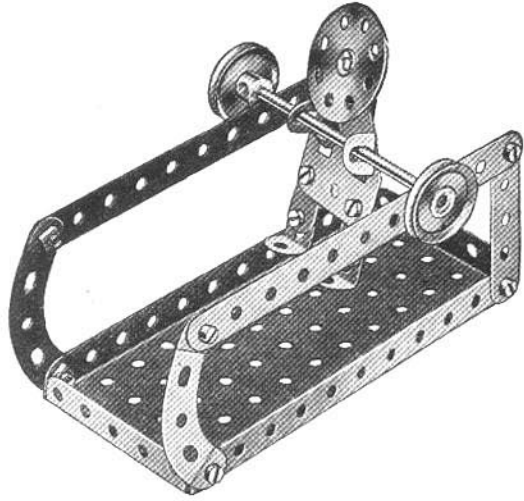
- 4 of No. 2
- 2 " " 5
- 2 " " 10
- 2 " " 12
- 1 " " 16
- 1 " " 17
- 1 " " 19s
- 2 " " 22
- 1 " " 24
- 4 " " 35
- 16 " " 37



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

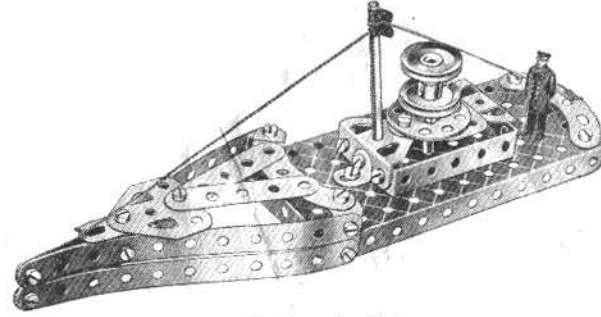
O.13 ACROBAT



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

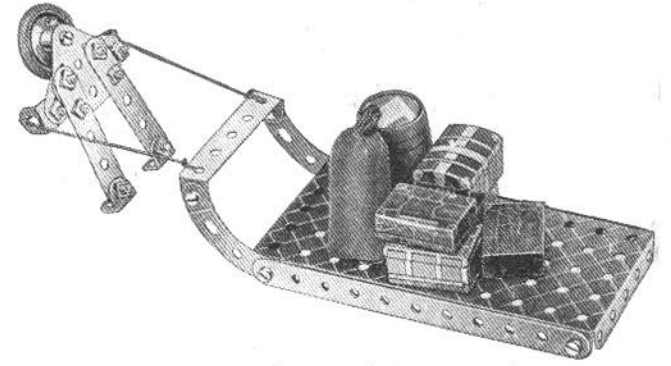
O.14 BATTLESHIP



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		

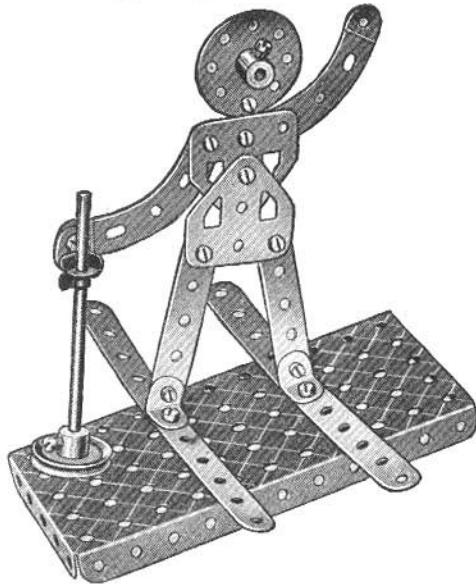
O.15 ESKIMO BOY AND SLEDGE



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

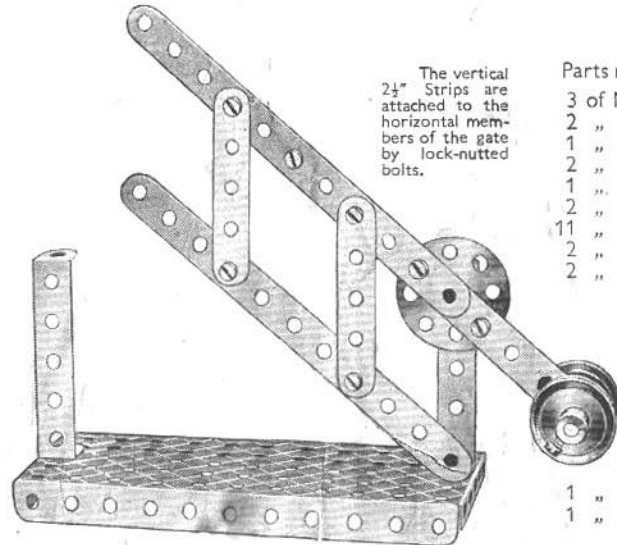
O.16 SKIER



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

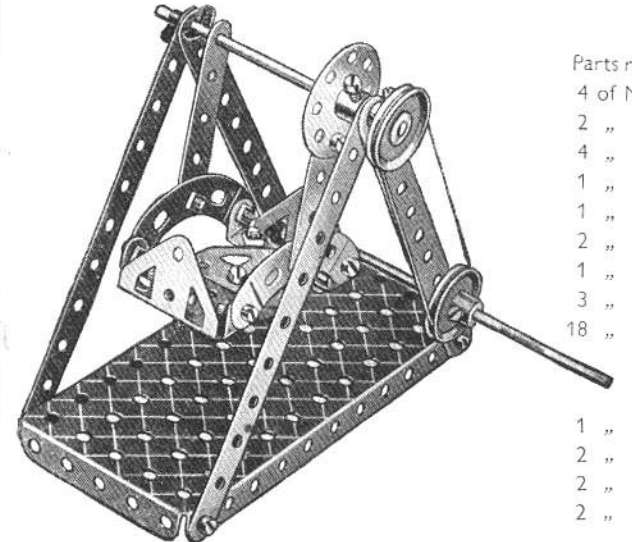


The vertical 24" Strips are attached to the horizontal members of the gate by lock-nutted bolts.

Parts required

3	of No. 2
2	" " 5
1	" " 17
2	" " 22
1	" " 24
2	" " 35
11	" " 37
2	" " 37a
2	" " 48a
1	" " 52
1	" " 111c

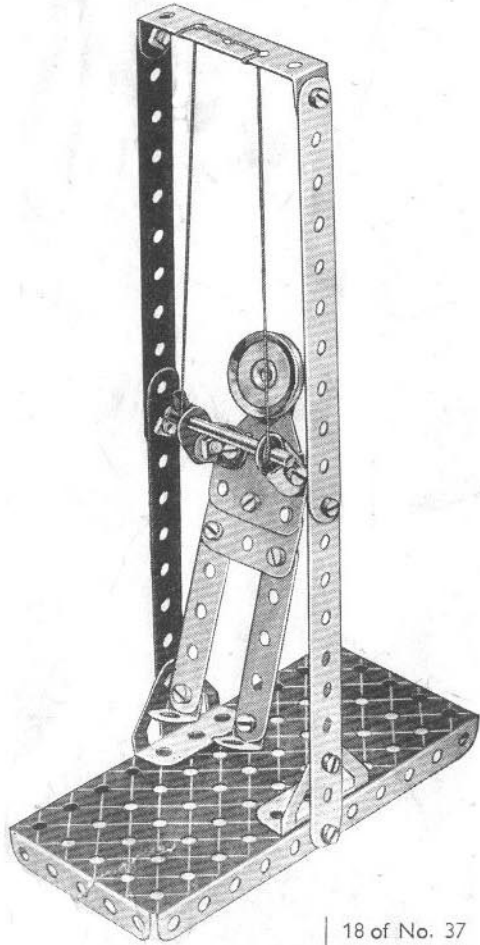
O.18 SWING BOAT



Parts required

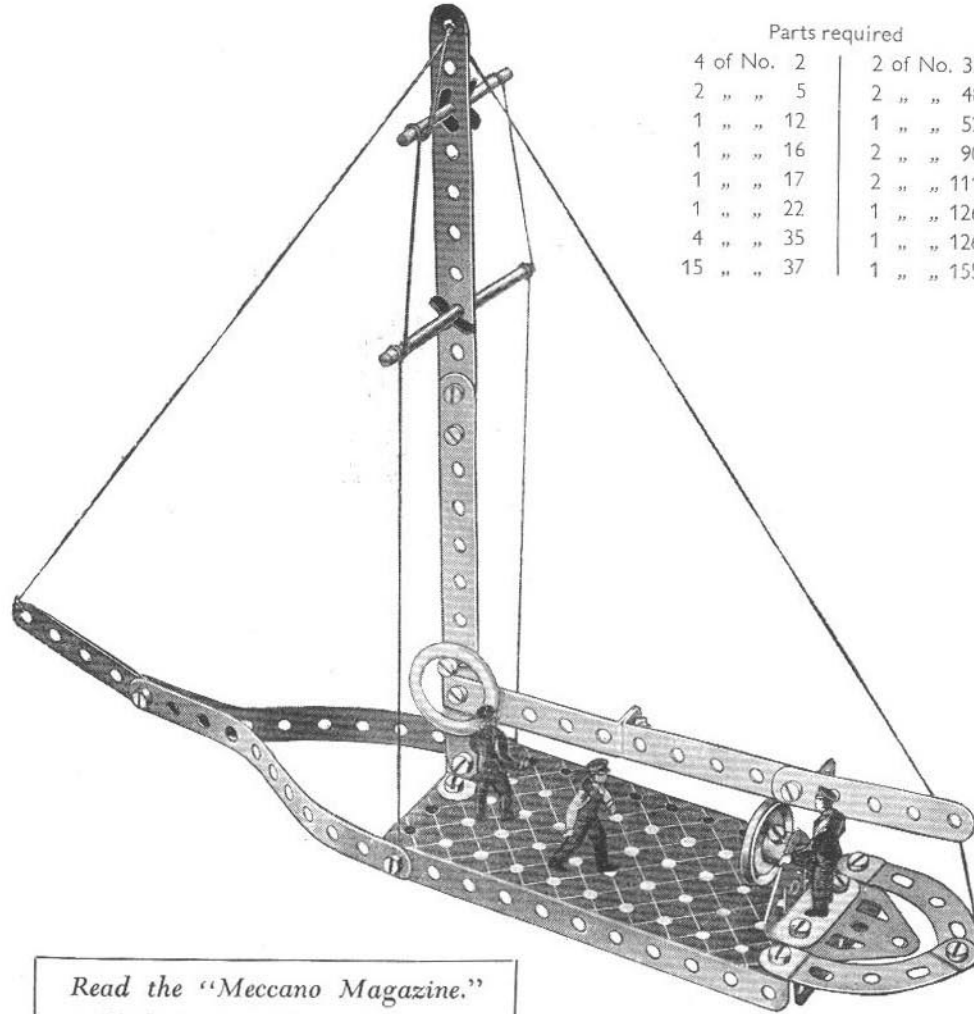
4	of No. 2
2	" " 5
4	" " 12
1	" " 16
1	" " 19s
2	" " 22
1	" " 24
3	" " 35
18	" " 37
1	" " 52
2	" " 90a
2	" " 126
2	" " 126a

O.19 TRAPEZE ARTIST



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

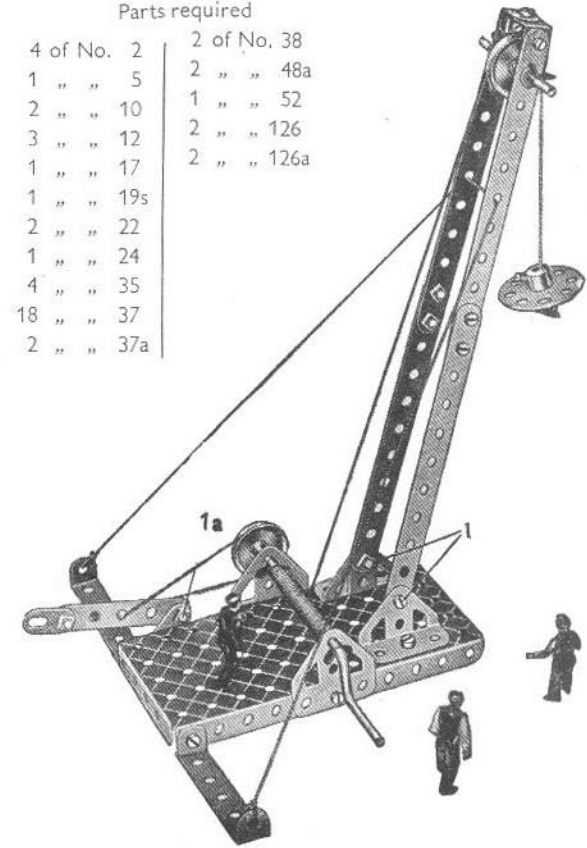
O.20 SAILING BOAT



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.*

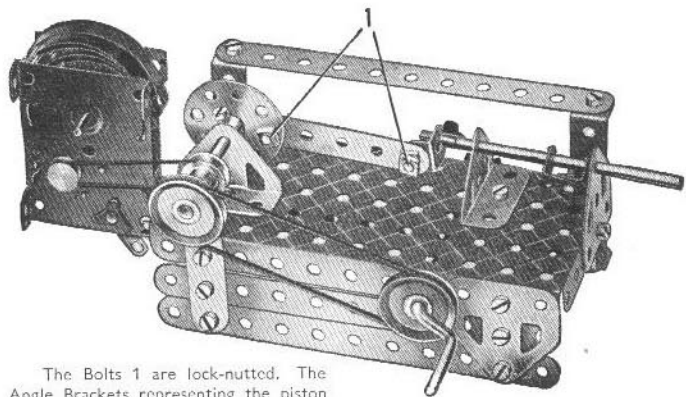
O.21 DERRICK CRANE



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" x 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.

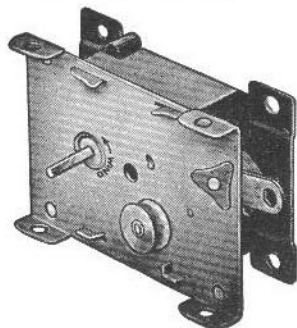
## Parts required

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*

## 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!

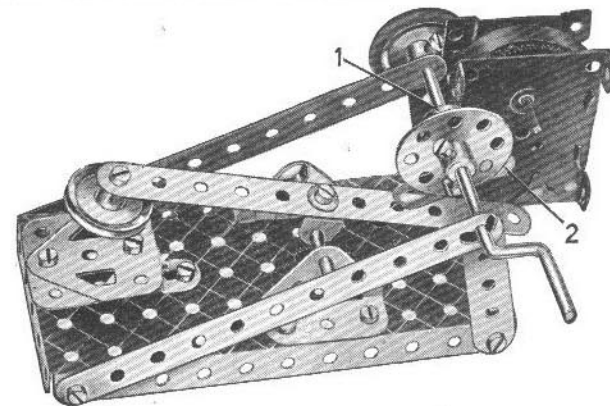
## Parts required

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*

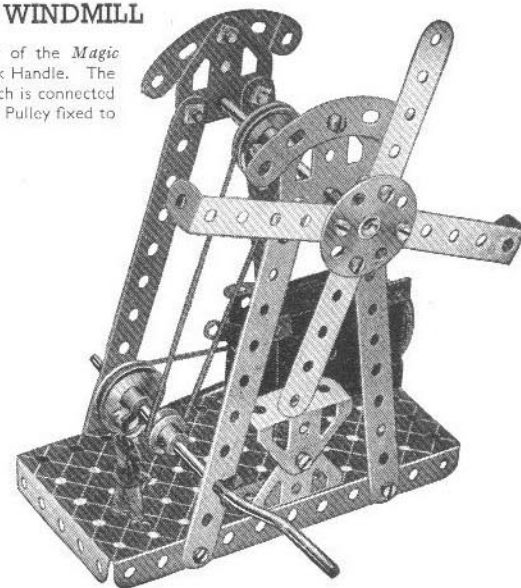
## O.25 WINDMILL

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

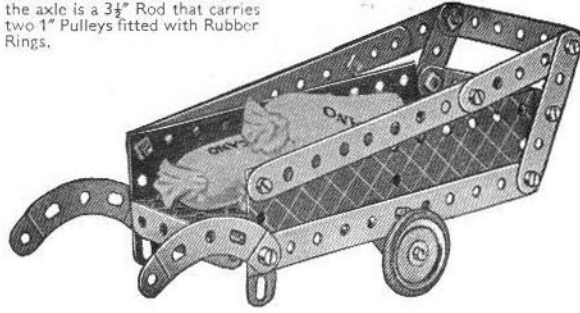
*Magic Motor*





### 1.1 PORTER'S TRUCK

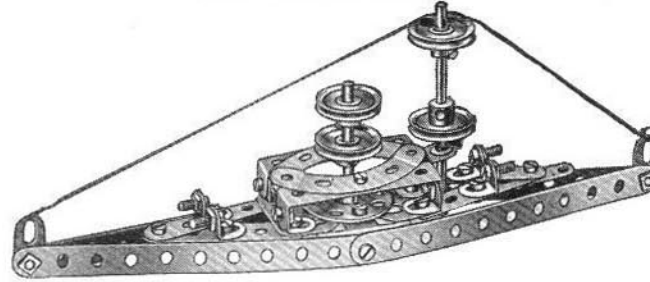
The bearings for the axle are Flat Trunnions fastened on the insides of the Flexible Plates, and the axle is a 3 1/4" Rod that carries two 1" Pulleys fitted with Rubber Rings.



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

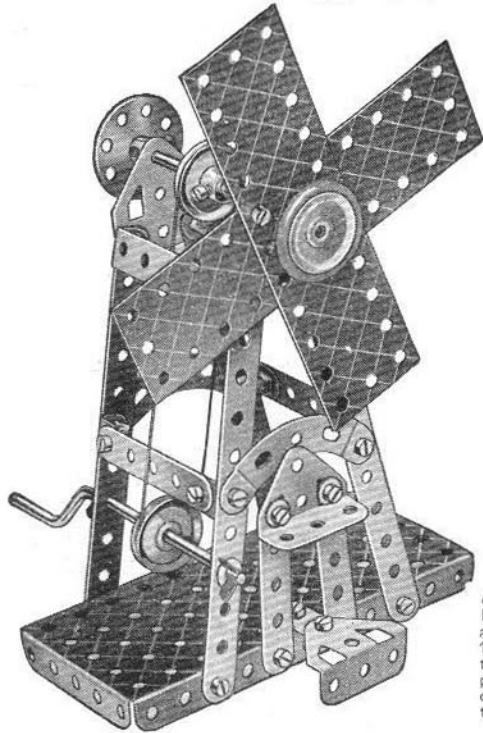
### 1.2 BATTLESHIP



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

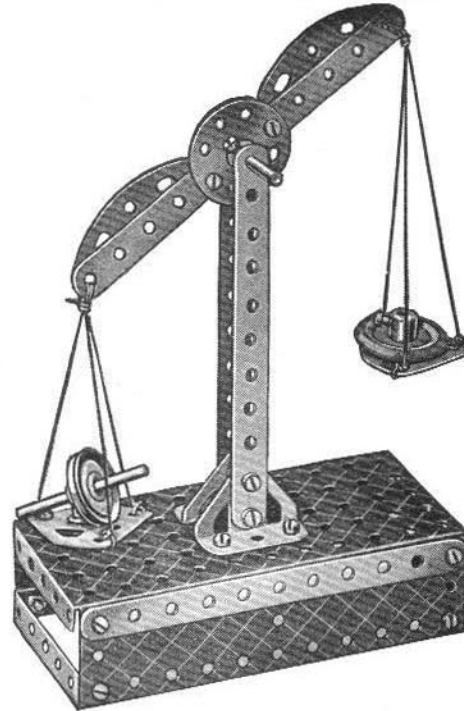


The sails are gripped on the 3 1/4" Rod by the 1" Pulley (with Rubber Ring) at the front and another 1" Pulley at the back of the sails. The Pulleys are pressed against the faces of the sails and locked on the Rod.

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

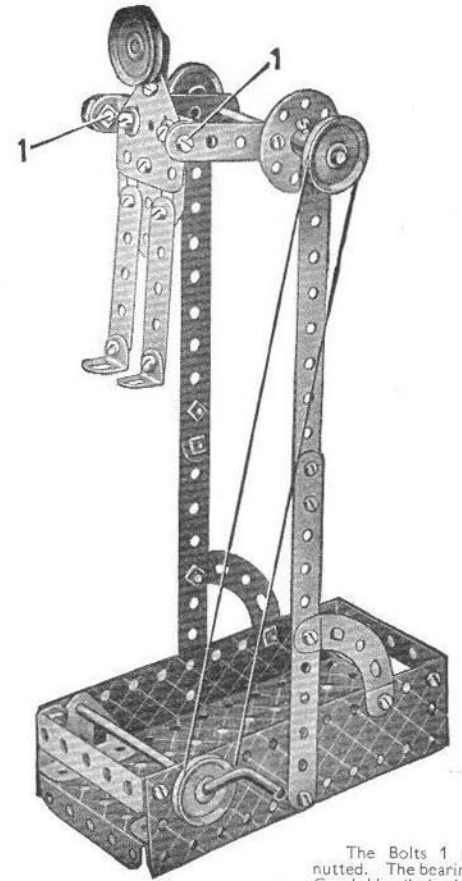
### 1.4 SCALES



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

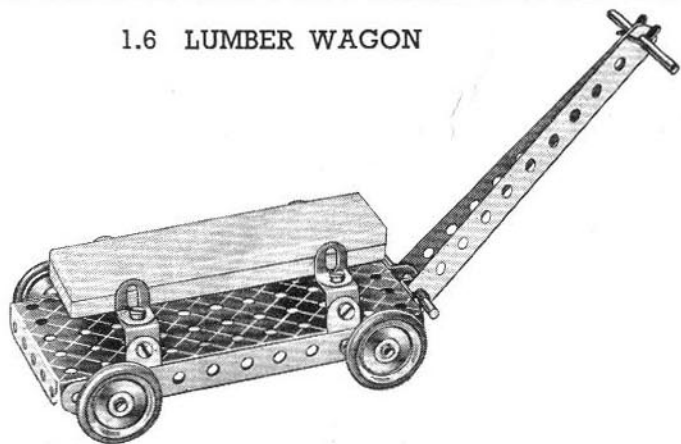


The Bolts 1 are lock-nutted. The bearings for the Crank Handle in the Flexible Plates are reinforced by Trunnions bolted to the Flanged Plate.

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	

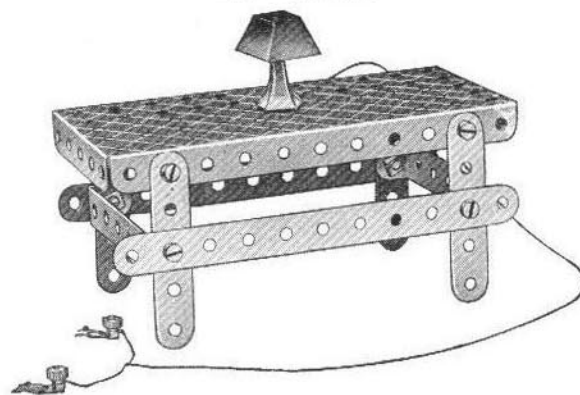
## 1.6 LUMBER WAGON



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

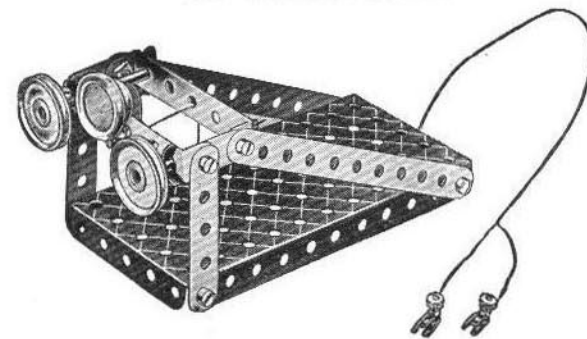


Parts required

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

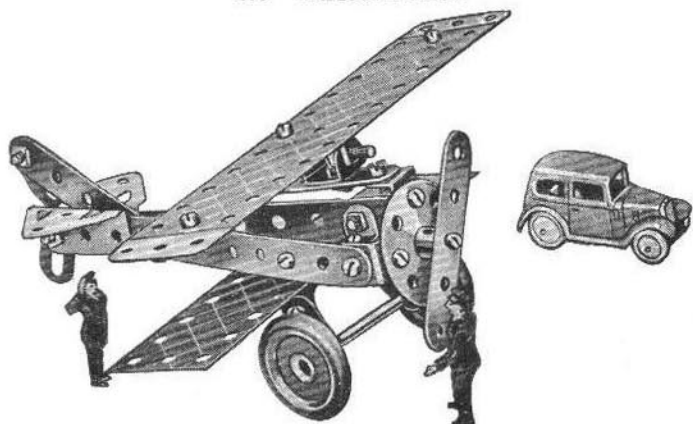


Parts required

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 Spot light from a Meccano Lighting Set.

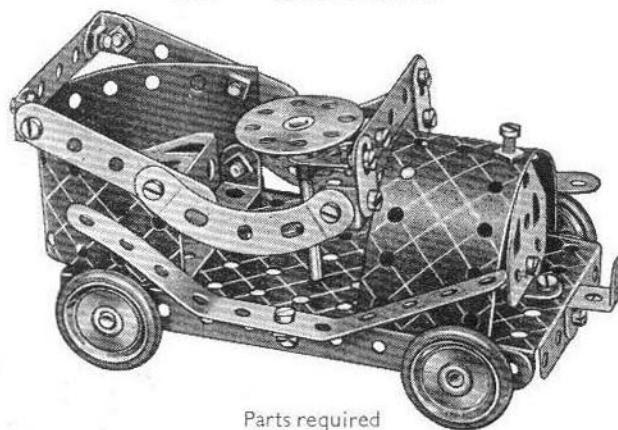
## 1.9 AEROPLANE



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

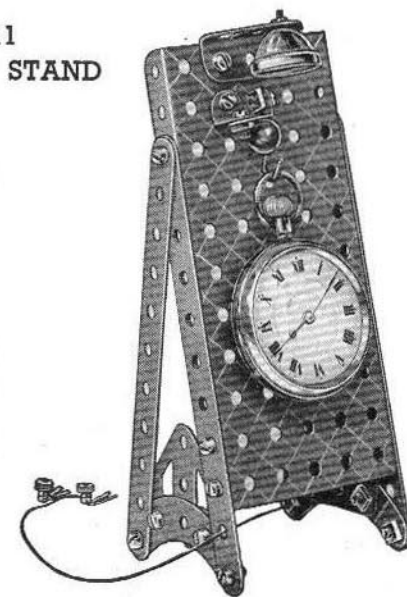
4 of No. 2	1 of No. 17	3 of No. 37a	1 of No. 125
4 " " 5	4 " " 22	2 " " 48a	2 " " 126
3 " " 10	1 " " 24	1 " " 52	1 " " 126a
7 " " 12	1 " " 35	2 " " 90a	4 " " 155a
2 " " 16	24 " " 37	2 " " 111c	2 " " 189

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

## 1.11 WATCH STAND

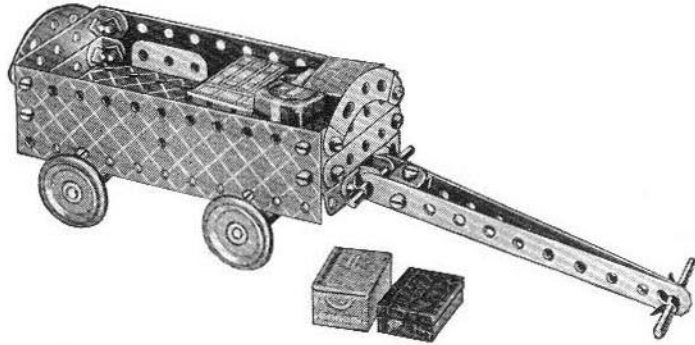
Parts required

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.

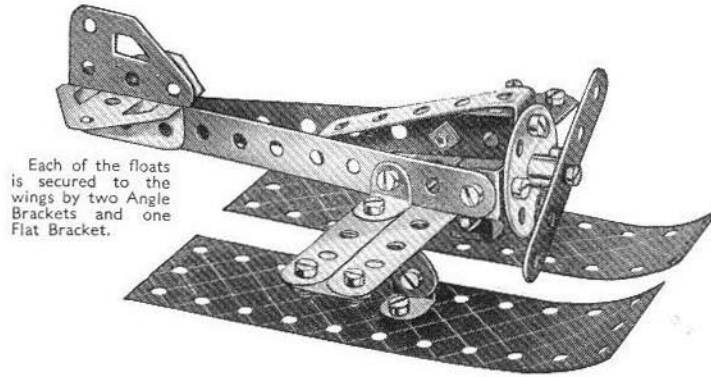
1.12 BAGGAGE TRUCK



Parts required

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

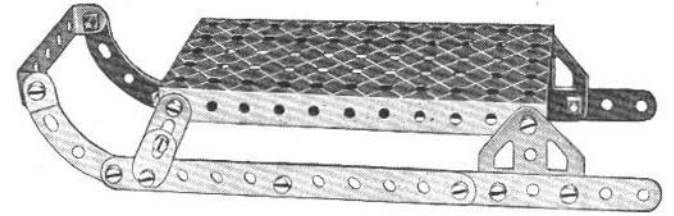


Each of the floats is secured to the wings by two Angle Brackets and one Flat Bracket.

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

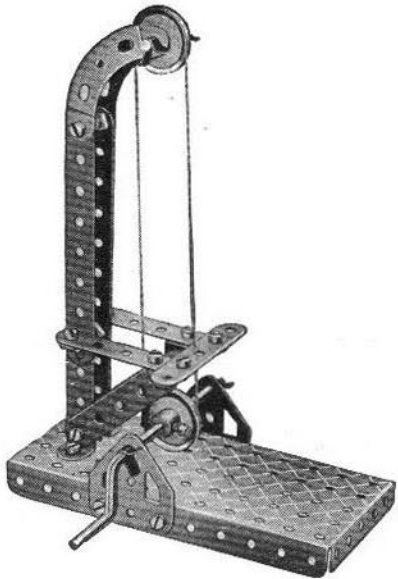
1.14 SLEDGE



Parts required

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

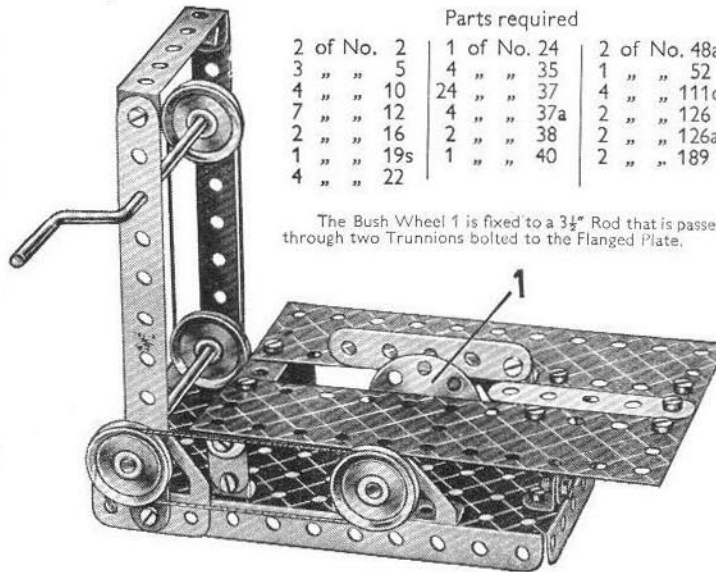
1.15 BAND SAW



Parts required

2 of No. 2
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

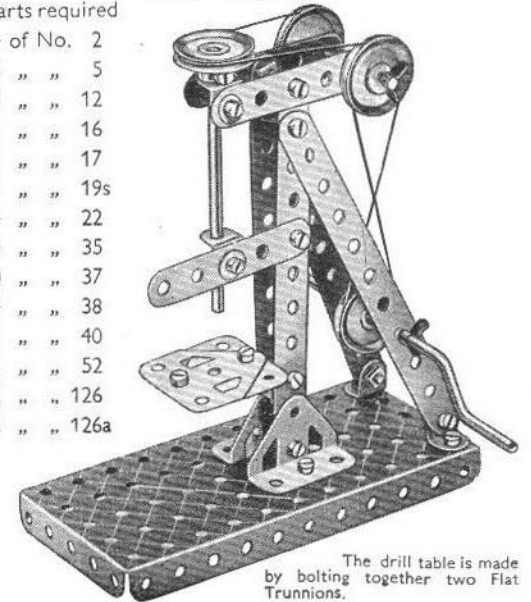
2 of No. 2	1 of No. 24	2 of No. 48a
3 " " 5	4 " " 35	1 " " 52
4 " " 10	24 " " 37	4 " " 111c
7 " " 12	4 " " 37a	2 " " 126
2 " " 16	2 " " 38	2 " " 126a
1 " " 19s	1 " " 40	2 " " 189
4 " " 22		

The Bush Wheel 1 is fixed to a 3/4" Rod that is passed through two Trunnions bolted to the Flanged Plate.

1.17 DRILL

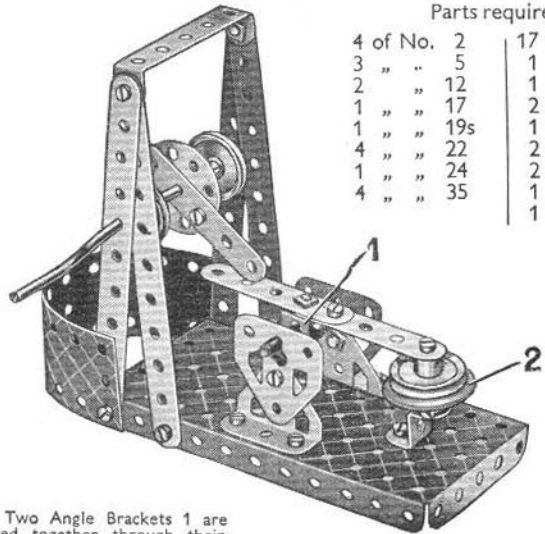
Parts required

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.

### 1.18 TRIP HAMMER

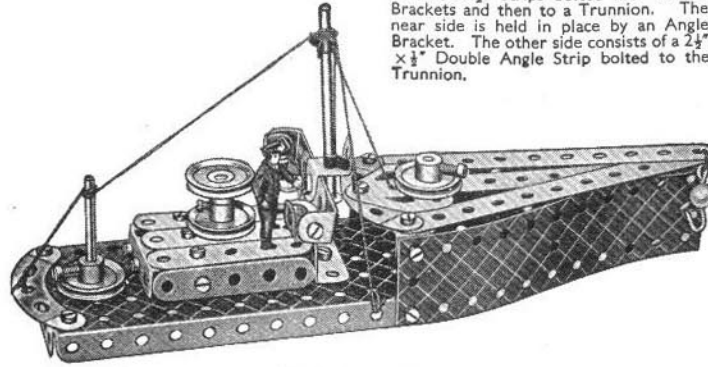


Parts required

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



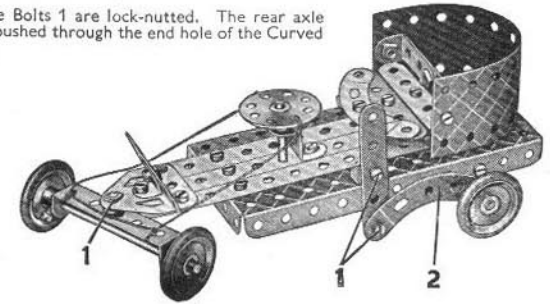
The top of the deck-house consists of three 2½" Strips bolted first to Flat Brackets and then to a Trunnion. The rear side is held in place by an Angle Bracket. The other side consists of a 2½" x ½" Double Angle Strip bolted to the Trunnion.

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.

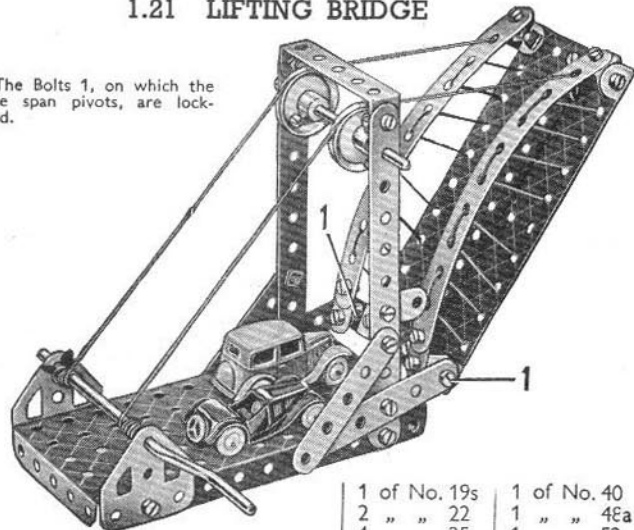


Parts required

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

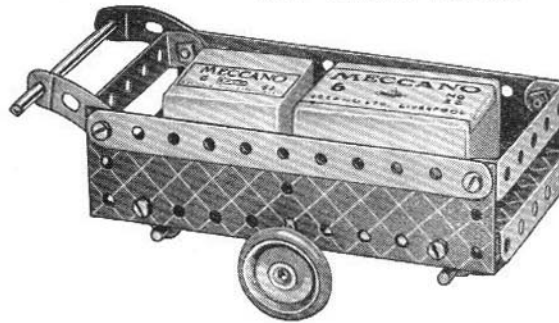
### 1.21 LIFTING BRIDGE

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



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

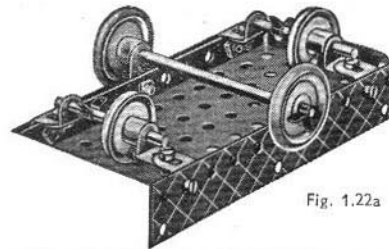
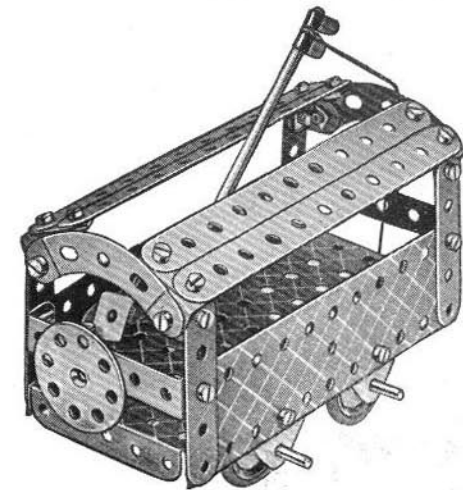


Fig. 1.22a

### 1.23 TROLLEY BUS

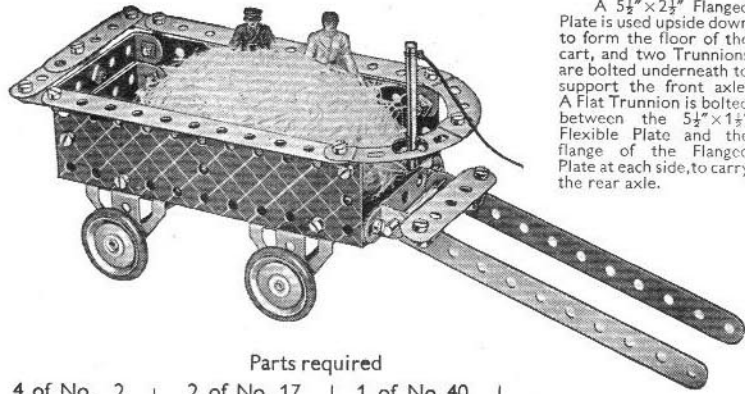


Parts required

4 of No. 2
4 " " 5
8 " " 10
4 " " 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

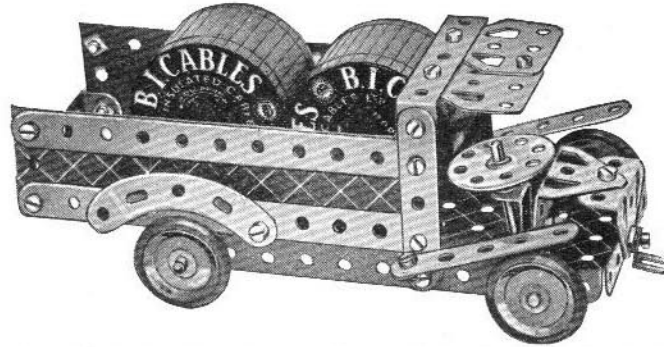


A 5 1/2" x 2 1/2" Flanged Plate is used upside down to form the floor of the cart, and two Trunnions are bolted underneath to support the front axle. A Flat Trunnion is bolted between the 5 1/2" x 1 1/2" Flexible Plate and the flange of the Flanged Plate at each side, to carry the rear axle.

#### 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

### 1.25 MOTOR LORRY

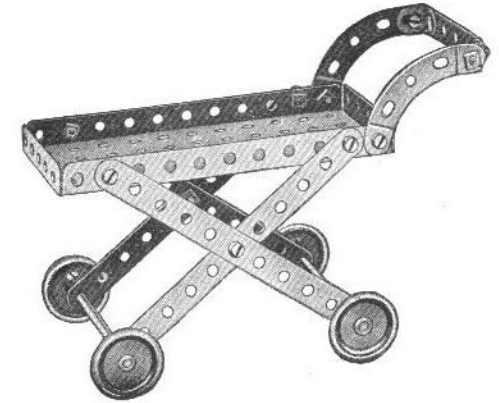


The 2 1/2" Curved Strips representing the rear mudguards are each fastened to the sides by a 3/8" Bolt and Nut, with a Spring Clip between the mudguards and the 5 1/2" Strip to form a distance piece.

#### 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	

### 1.26 HOSPITAL TROLLEY

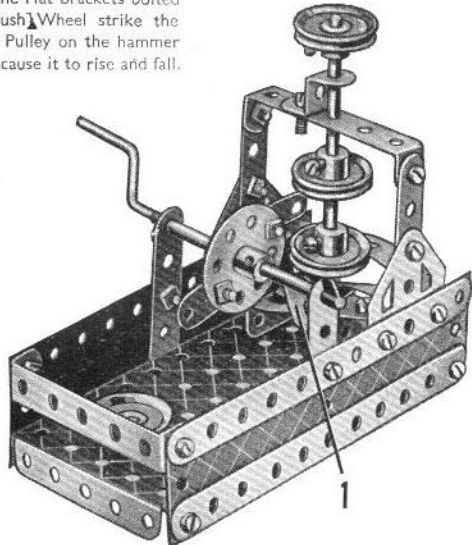


#### Parts required

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

### 1.27 STAMPING MILL

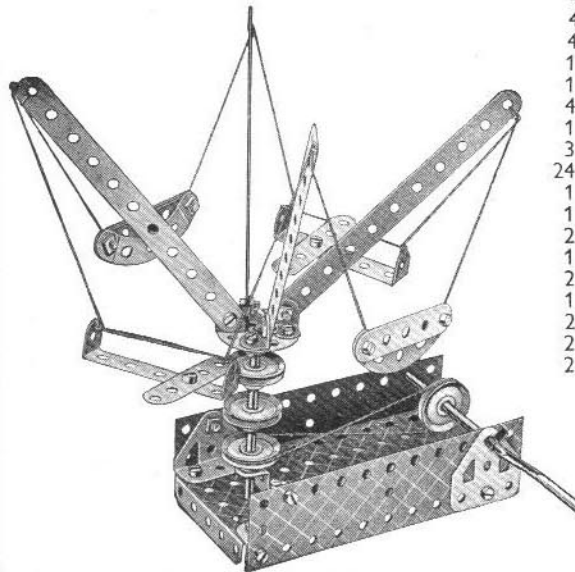
The anvil 1 is made up of two Trunnions bolted together. When the Crank Handle is rotated, the Flat Brackets bolted to the Bush Wheel strike the centre 1" Pulley on the hammer shaft and cause it to rise and fall.



#### 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

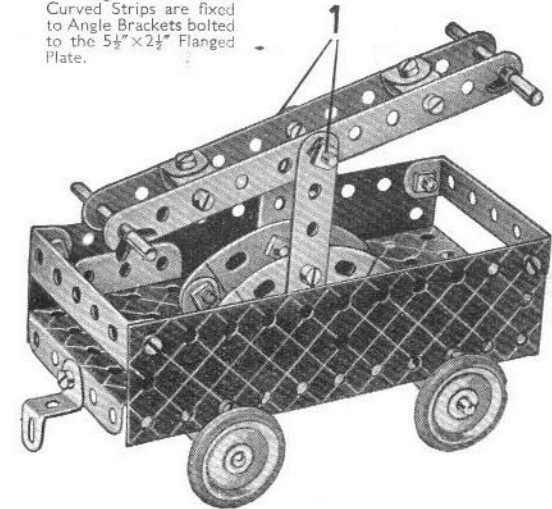


#### Parts required

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

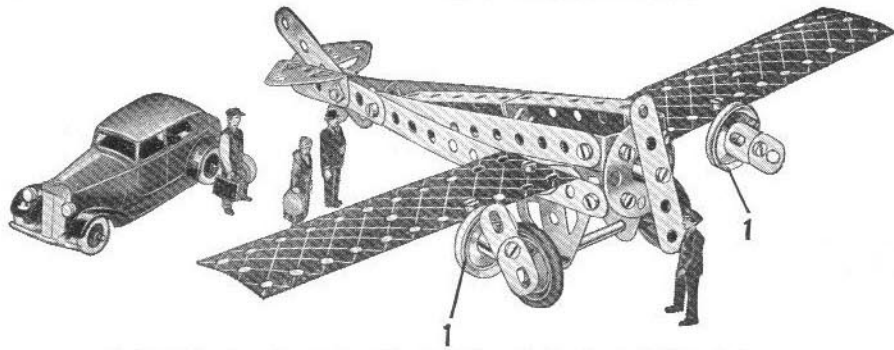
The Bolts 1 on which the 5 1/2" Strips are pivoted, are lock-nutted. The 2 1/2" small radius Curved Strips are fixed to Angle Brackets bolted to the 5 1/2" x 2 1/2" Flanged Plate.



#### 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



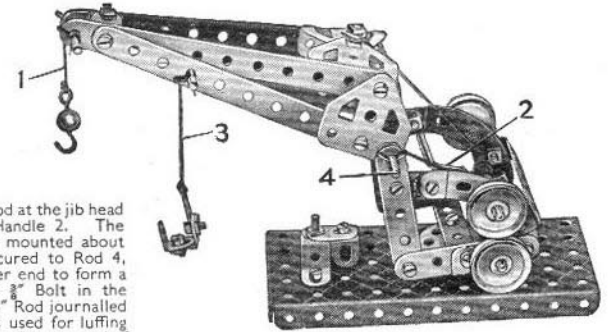
The fast Pulleys 1 are fixed to Angle Brackets fastened to the wing by  $\frac{3}{8}$ " Bolts, which are passed through the Angle Brackets, and held in the bosses of the Pulleys. The set screws of the Pulleys hold also a second Bolt on which the propellers are mounted.

## 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

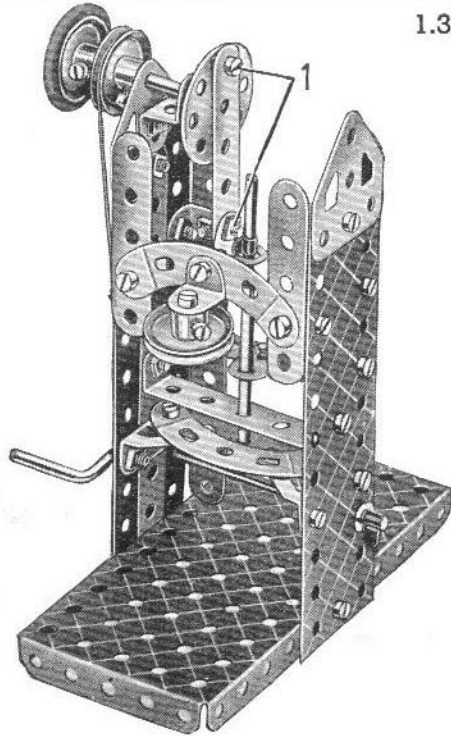
## 1.31 FLOATING CRANE

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



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

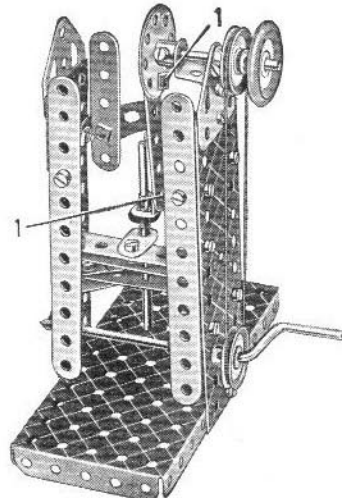
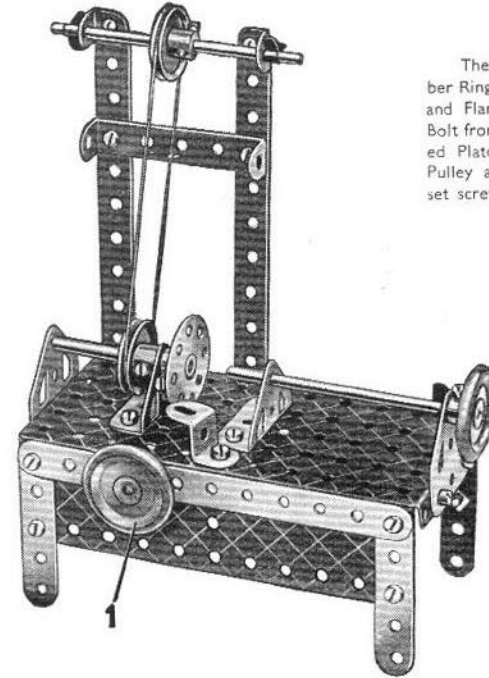


Fig. 1.32a

## 1.33 LATHE

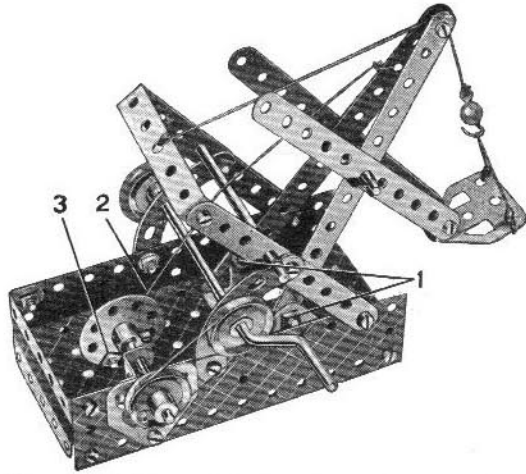


The 1" fast Pulley with Rubber Ring 1 is secured to the Strip and Flanged Plate by passing a Bolt from the inside of the Flanged Plate into the boss of the Pulley and then tightening the set screw.

## 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



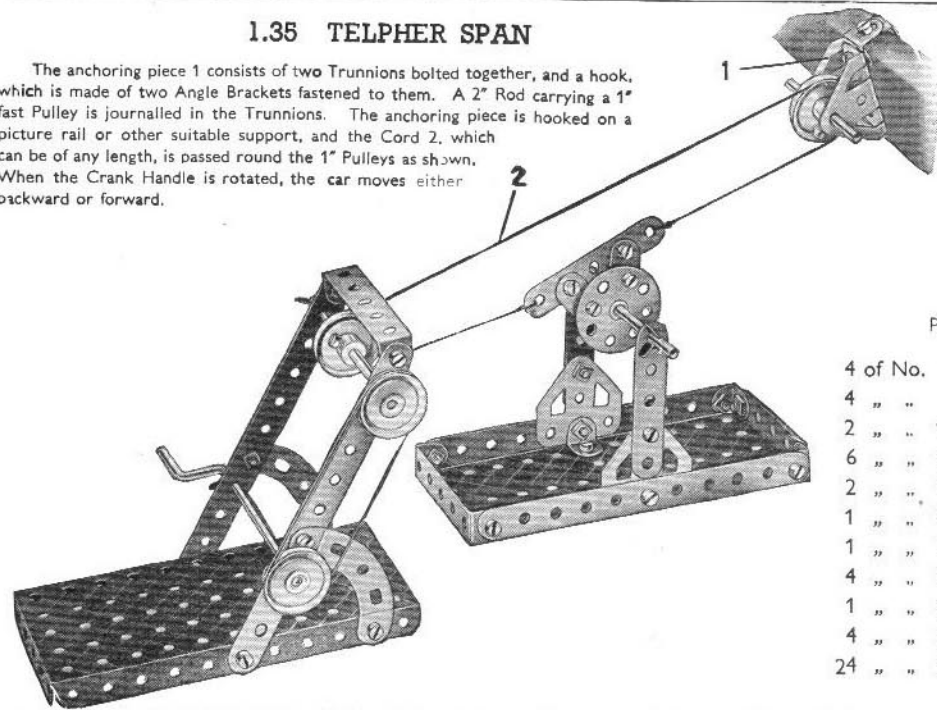
The Bolts 1, on which the jib pivots, are lock-nutted. The shovel arm is pivoted on a 2" Rod and the shovel is supported by a Cord that passes over the  $\frac{3}{8}$ " Bolt at the jib head and is fastened to a  $2\frac{1}{2}$ " x  $\frac{1}{2}$ " Double Angle Strip as shown. The Cord 2 is fastened to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

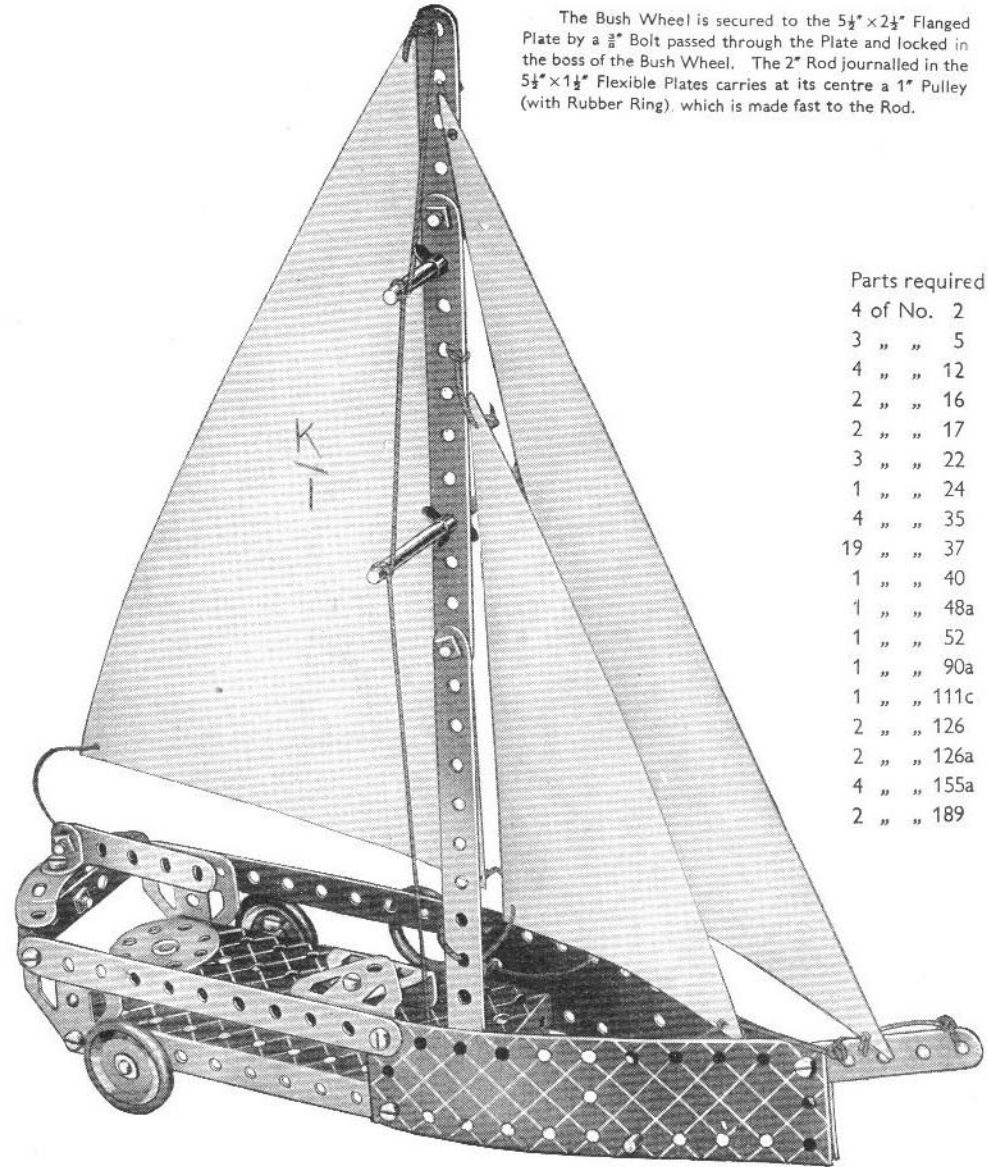
The anchoring piece 1 consists of two Trunnions bolted together, and a hook, which is made of two Angle Brackets fastened to them. A 2" Rod carrying a 1" fast Pulley is journalled in the Trunnions. The anchoring piece is hooked on a picture rail or other suitable support, and the Cord 2, which can be 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		Parts required	
4 of No.	2	4 of No.	37a
4 "	5	4 "	38
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		

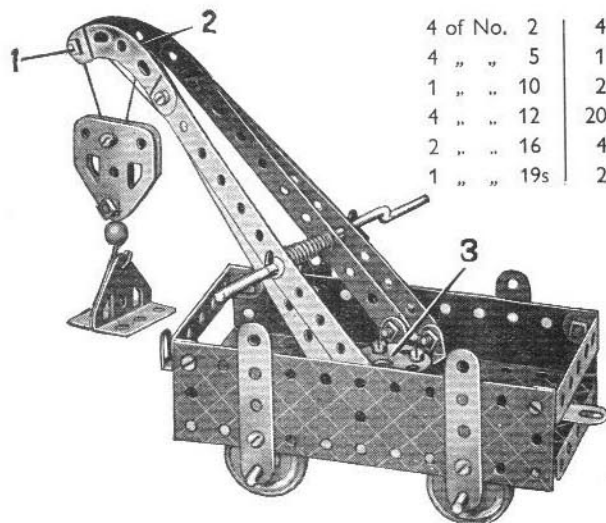
### 1.36 LAND YACHT

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.	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

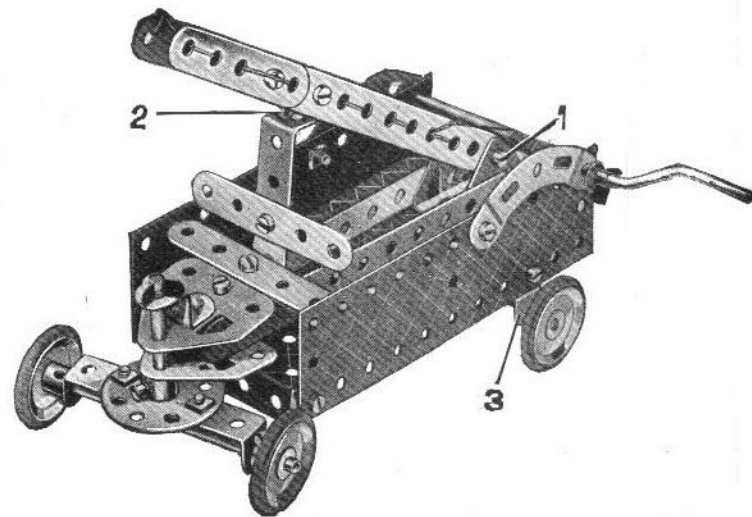


## Parts required

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  $\frac{3}{8}$ " 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

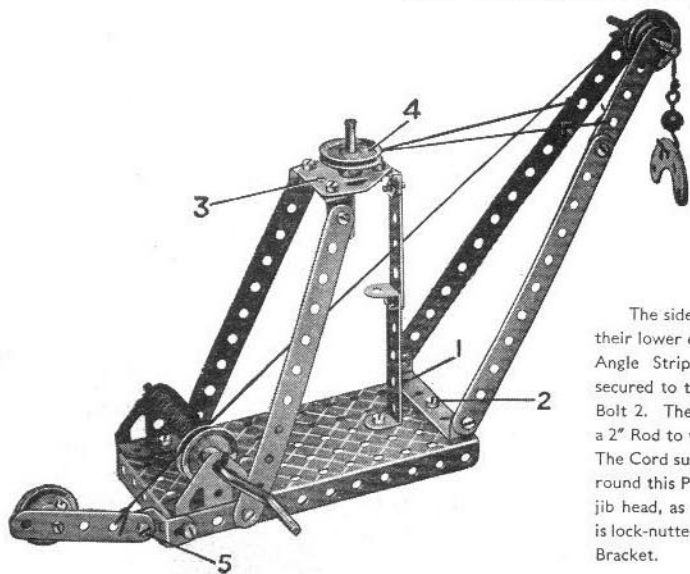


## Parts required

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

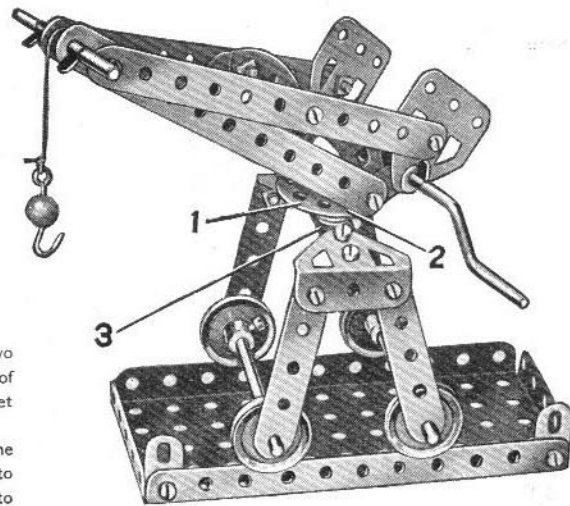


## Parts required

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

## 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 through 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.

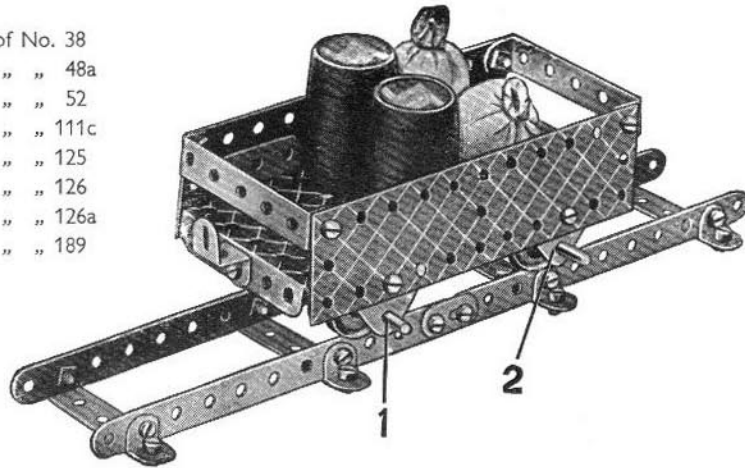


### 1.41 RAILWAY TRUCK

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

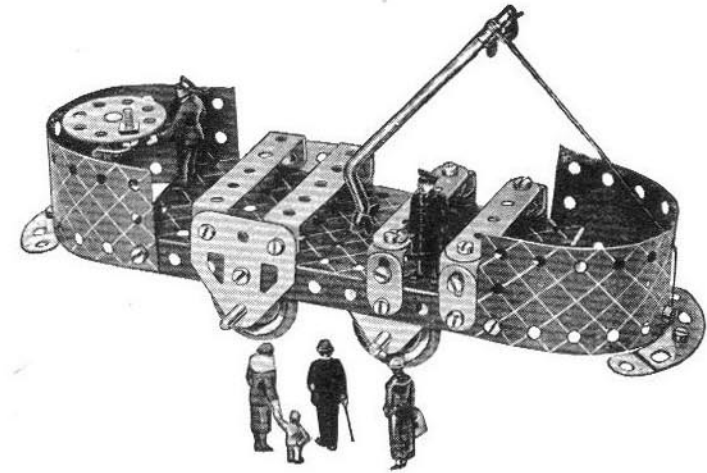
The axle bearings 1 are Flat Trunnions and Trunnions are used for the bearings 2, which fit underneath the Flanged Plate in the manner shown in the underneath view of the model Side Tipping Wagon (1.46).



### 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



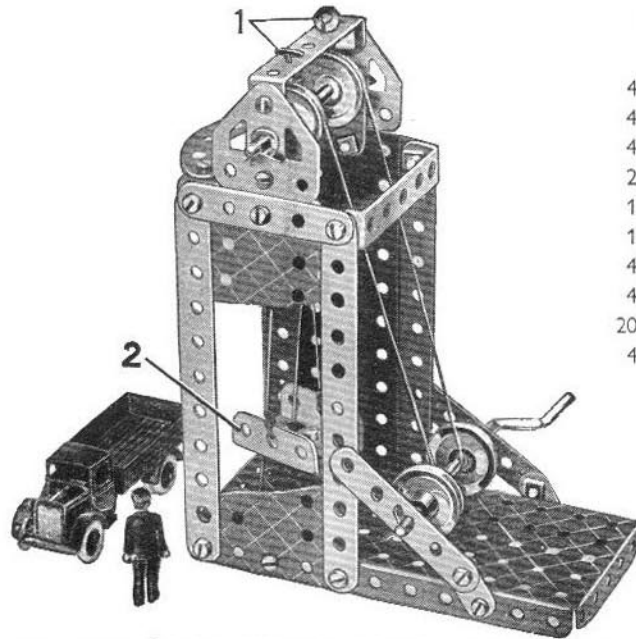
### 1.43 PITHEAD GEAR

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.



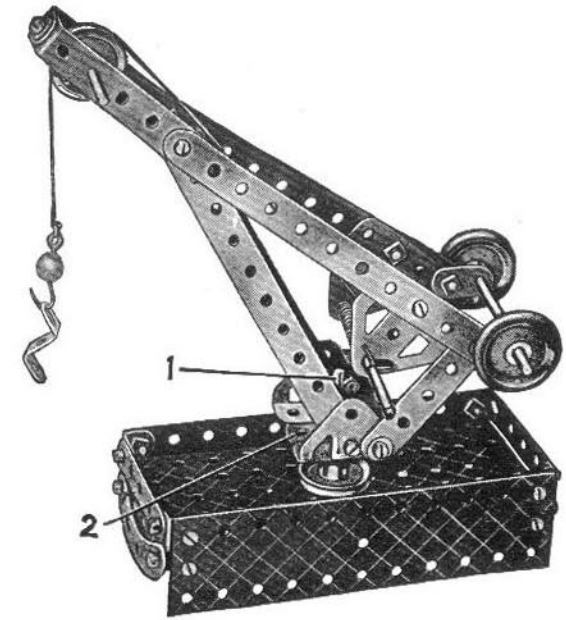
### 1.44 DOCKSIDE CRANE

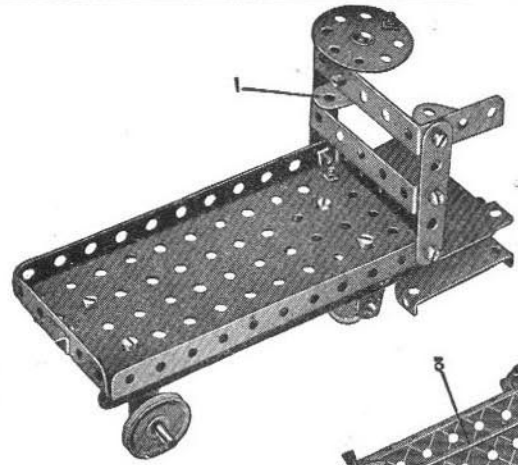
Parts required

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 1/4" x 1/2" Double Angle Strips, in which a 2" Rod is journaled.





The steering wheel, a Bush Wheel, is secured to the Reversed Angle Bracket 1 by means of a  $\frac{3}{8}$ " 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  $5\frac{1}{2}$ " Strips 2 and 3.

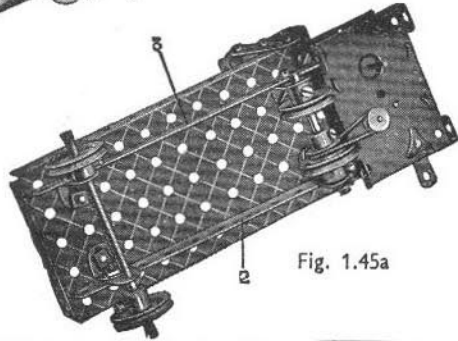


Fig. 1.45a

## 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>

## 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	

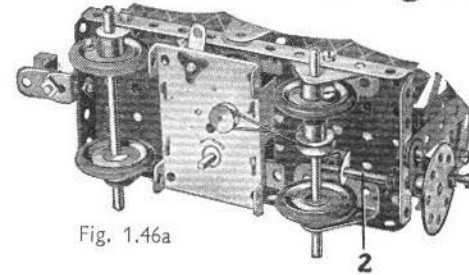
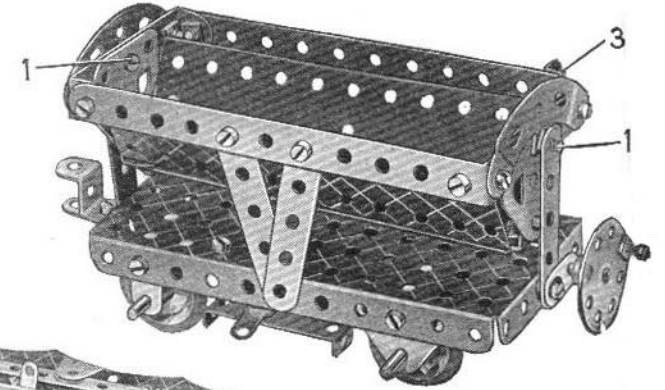
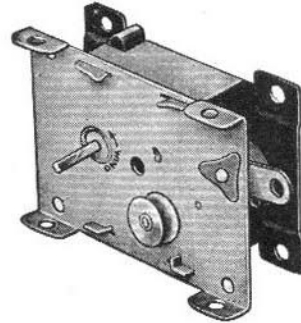


Fig. 1.46a

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!

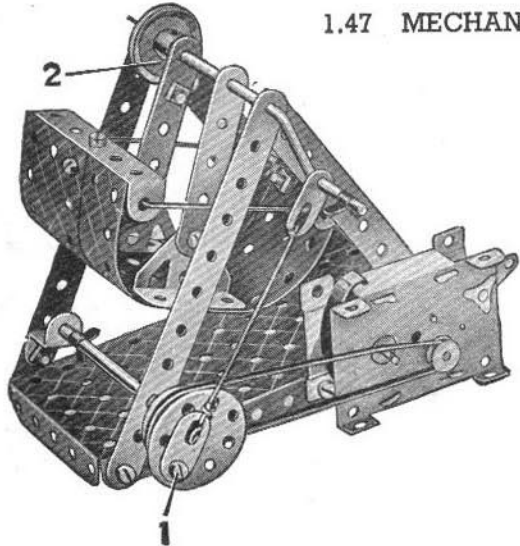
The left-hand  $2\frac{1}{2}$ " Strip that supports the swing is connected to the Crank Handle by passing the set screw of the 1" Pulley Wheel 2 through the hole in an Angle Bracket bolted to the Strip and then into the boss of the Pulley. Bolt 1 on the Bush Wheel is fitted with lock-nuts.

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 " " 5
2 " " 10
3 " " 12
1 " " 16
1 " " 19s
2 " " 22
1 " " 24
4 " " 35
15 " " 37
2 " " 37a
4 " " 38
1 " " 40
2 " " 48a
1 " " 52
1 " " 111c
1 " " 125
2 " " 126
2 " " 189
1 <i>Magic Motor</i>

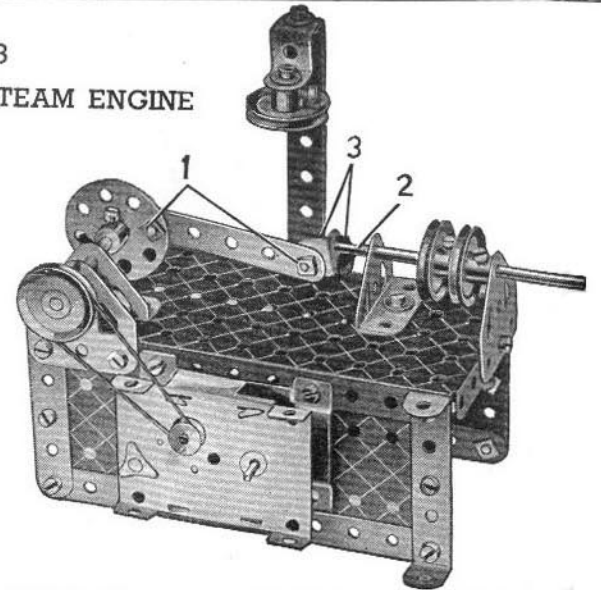


## 1.48

## HORIZONTAL STEAM ENGINE

## Parts required

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



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,

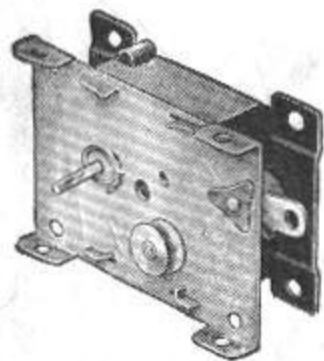
Motor Car, Ship Coaler or Windmill commences to work in exactly the same manner as its prototype in real life.

Each Motor is pierced with the standard Meccano equidistant holes.

## MECCANO CLOCKWORK MOTORS

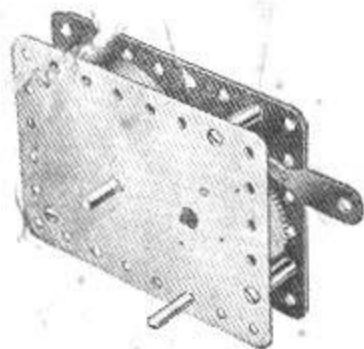
These are the finest clockwork motors obtainable for model driving. They have exceptional power and length of run and their gears are cut with such precision as to make them perfectly smooth and steady in operation.

Meccano Clockwork Motors are especially 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.



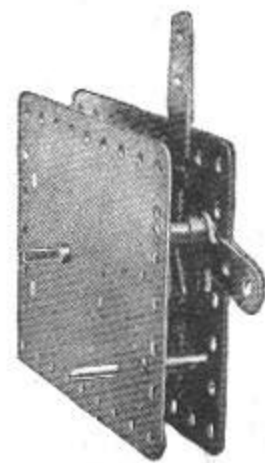
### THE MECCANO MAGIC MOTOR

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 *Magic* Motor is supplied with a separate  $\frac{1}{2}$ " fast Pulley and three pairs of Driving Bands of different lengths. It is capable of driving all light models built with the smaller Outfits.



### 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

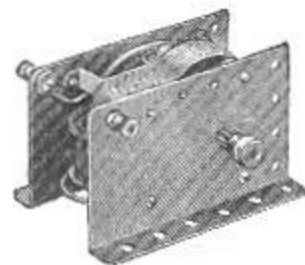
This Motor is more powerful than the No. 1 Motor and is fitted with reversing motion. It has brake and reverse levers.

### 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.

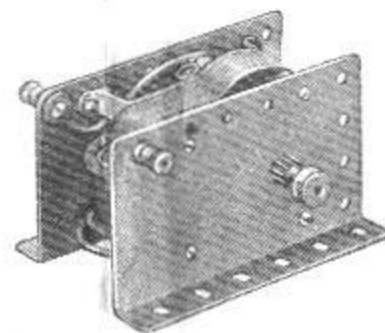
## MECCANO ELECTRIC MOTORS

The four Meccano Electric Motors shown here have been designed specially to provide smooth-running power units for the operation of Meccano models. The 6-volt Motors may be operated through a Meccano Transformer direct from the mains, providing that the supply is alternating current, or from a 6-volt accumulator. The 20-volt Motors are operated through a 20-volt Transformer from alternating current supply mains.



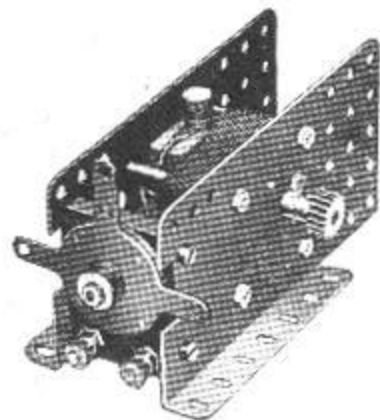
### No. E1 Electric Motor (6 volt)

This is a highly efficient Motor (non-reversing) that will give excellent service. It can be operated through a 9-volt Meccano Transformer from the mains, providing that the supply is alternating current, or from a 6-volt accumulator.



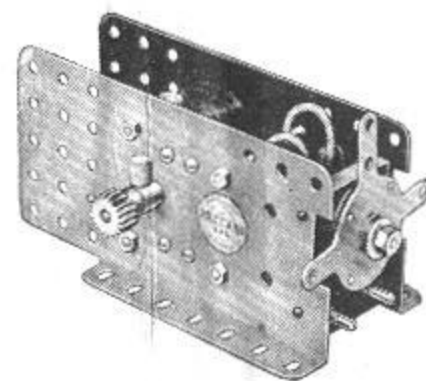
### No. E120 Electric Motor (20 volt)

The E120 Electric Motor is a very reliable and smooth-running power unit. It is operated through a Meccano 20-volt 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 9-volt Meccano Transformer from the mains, providing that the supply is alternating current, or from a 6-volt accumulator.



### 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 20-volt 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.

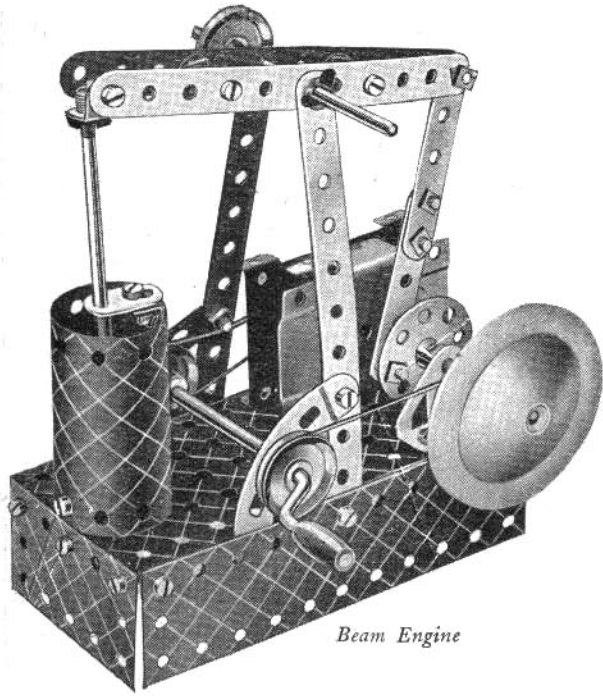
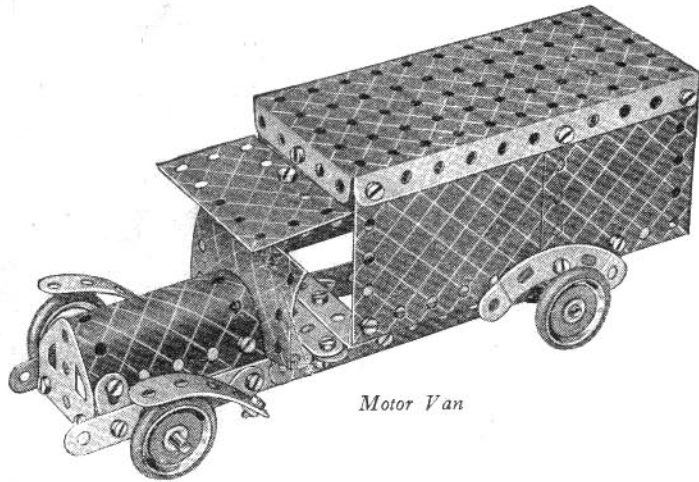
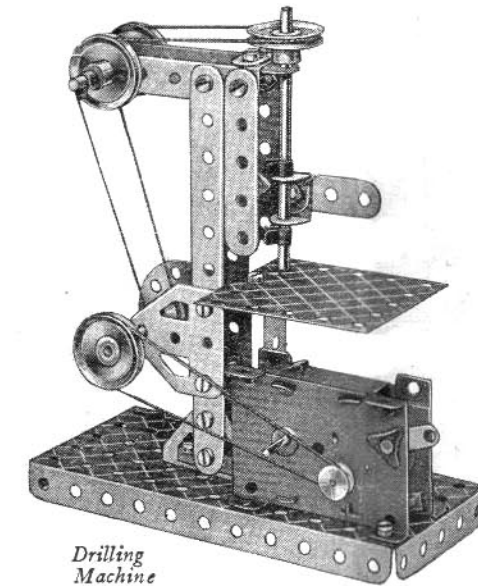
**No. T6 TRANSFORMER** (Output 25 VA at 9 volts). Has one 9-volt circuit and is fitted with a 5-stud speed regulator.

**No. 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.

Ask your dealer for the latest Meccano Price List

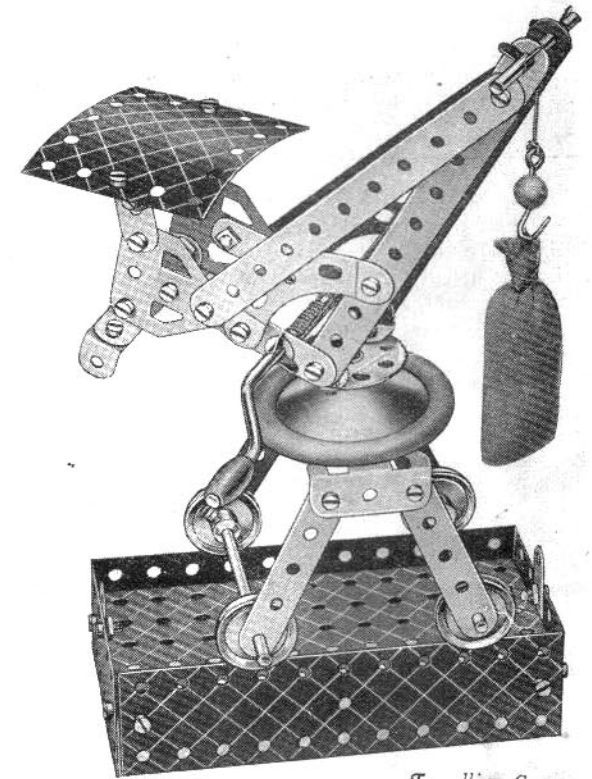
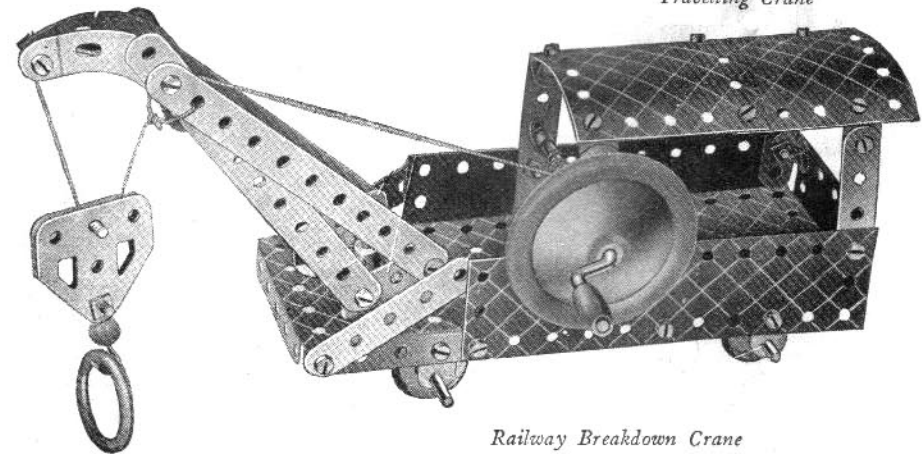
*Beam Engine**Motor Van**Drilling Machine*

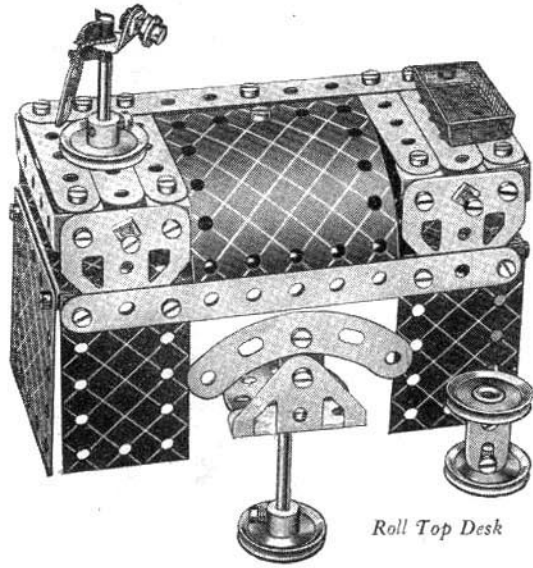
### BUILD BIGGER AND BETTER MODELS

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.

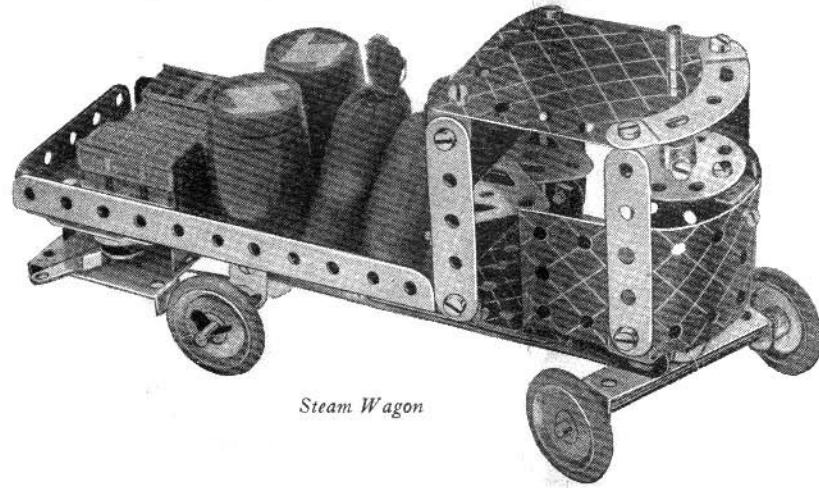
If you prefer to do so, you can build up and develop your Outfit quite easily by adding various parts to it from time to time. The model-building possibilities of the Meccano System are limitless, and the more Meccano parts you have the bigger and better the models you will be able to build.

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

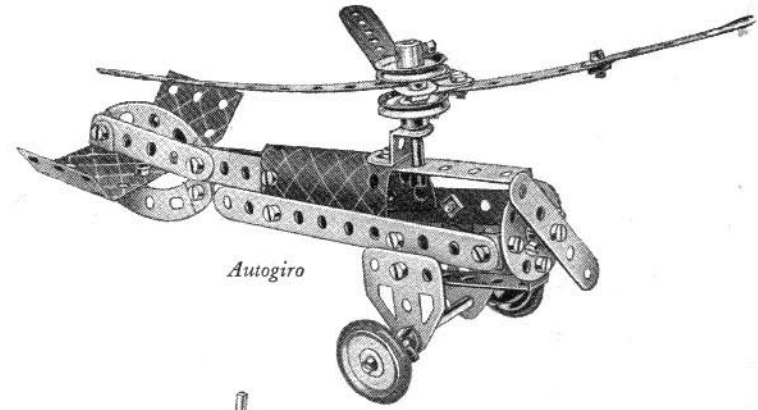
*Travelling Crane**Railway Breakdown Crane*



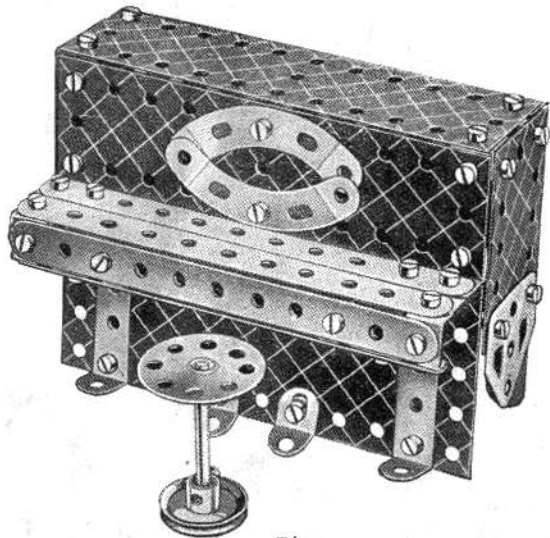
*Roll Top Desk*



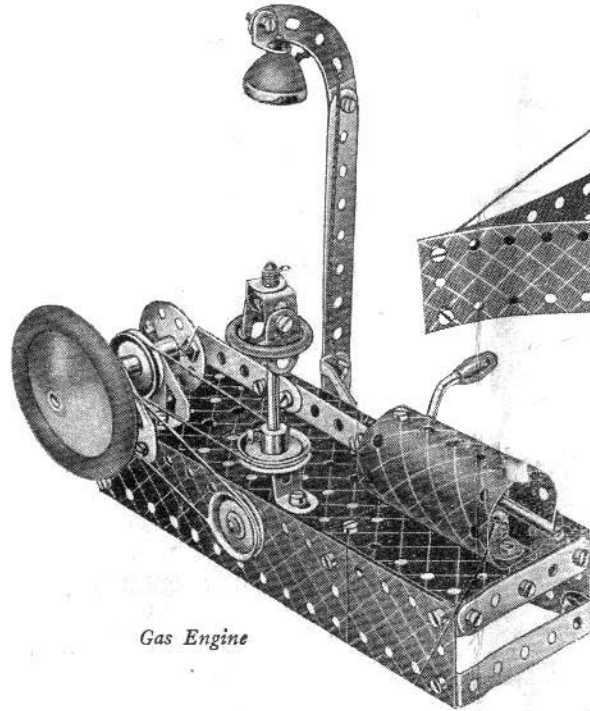
*Steam Wagon*



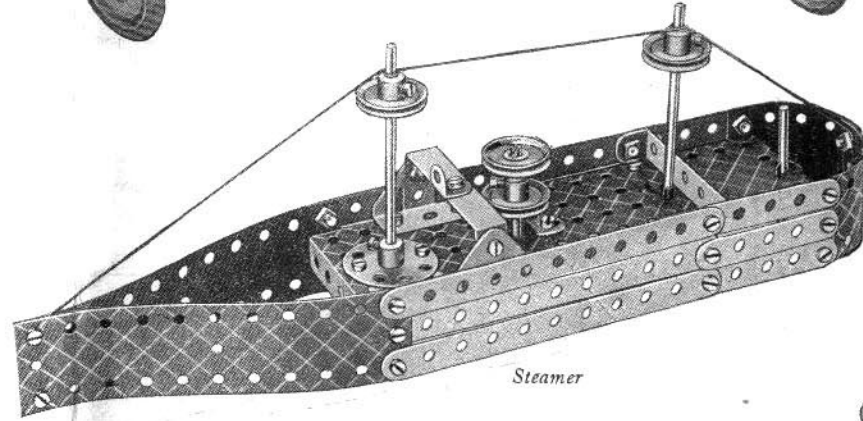
*Autogiro*



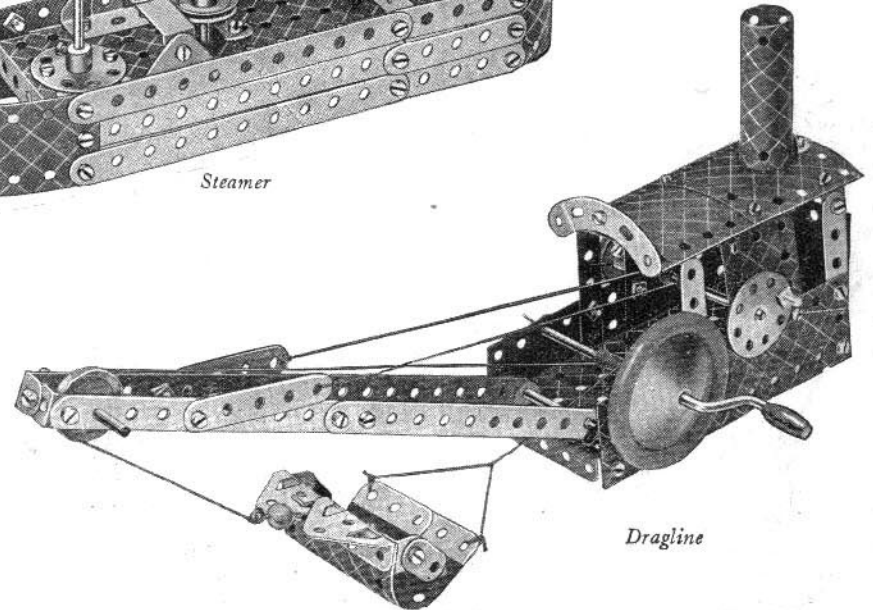
*Piano*



*Gas Engine*



*Steamer*



*Dragline*

# MECCANO PARTS

**3**  
Perforated Strips

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

**9b**  
Angle Girders

7.	24 1/2"	9a.	4 1/2"
7a.	18 1/2"	9b.	3 1/2"
8.	12 1/2"	9c.	2 1/2"
8a.	9 1/2"	9d.	2 1/2"
8b.	7 1/2"	9e.	2 1/2"
9.	5 1/2"	9f.	1 1/2"

**10**  
Flat Brackets

**11**  
Double Brackets

**12**  
Angle Brackets, 1/2" x 1/2"

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

**13**  
Axle Rods

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

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

19h.	5"	without	..
19s.	3 1/2"	without	..

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

**20**  
Flanged Wheels, 1 1/2" diam.

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

**19c**  
Pulley Wheels

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

**24**  
Bush Wheels

**26b**  
Pinion Wheels, .. diam., .. face

No.	25.	25a.	..	..	..
	25b.	..	..	..	..
	26.	..	..	..	..
	26a.	..	..	..	..
	26b.	..	..	..	..

**27**  
Gear Wheels

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

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

**29**  
.. .. .

**30**  
Bevel Gears, 7", 26 teeth

30a.	.. .. . 16 .. Can only be used together
30c.	.. .. . 1 1/2", 48 ..

**31**  
Gear Wheels, 1", 38 teeth

**32**  
Worms

**34**  
Spanners

**34b**  
Box Spanners

**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, 7/64" .. .. . box of 50

**37g.**  
.. .. . box of 144

**38.**  
Washers .. .. . pkt. of 20

**38s.**  
.. .. . box of 60

**40.**  
Hanks of Cord

**41**  
Propeller Blades

**43**  
Springs

**44**  
Cranked Bent Strips

**45**  
Double ..

**46**  
Double Angle Strips, 2 1/2" x 1"

47.	.. .. . 2 1/2" x 1"
47a.	.. .. . 3 1/2" x 1"
48.	.. .. . 1 1/2" x 1"
48a.	.. .. . 2 1/2" x 1"
48b.	.. .. . 3 1/2" x 1"
48c.	.. .. . 4 1/2" x 1"
48d.	.. .. . 5 1/2" x 1"

**50a.**  
Eye Pieces, with boss

**51**  
Flanged Plates, 2 1/2" x 1 1/2"

**52**  
Flat Plates, 5 1/2" x 2 1/2"

**52a.**  
.. .. . 5 1/2" x 3 1/2"

**53**  
Flanged Plates, 3 1/2" x 2 1/2"

**53a.**  
Flat Plates, 4 1/2" x 2 1/2"

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

**55**  
Perforated Strips, slotted, 5 1/2" long

**55a.**  
.. .. . 2" long

**57**  
Hooks

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

**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**  
Crank

**62a.**  
Threaded Cranks

**62b.**  
Double Arm Cranks

**63**  
Couplings

**63a.**  
Octagonal Couplings

**63b.**  
Strip Couplings

**63c.**  
Threaded Couplings

**64**  
Threaded Bosses

**65**  
Centre Forks

**66 & 67**  
Weights, 50 grammes

**67.**  
.. 25

**68**  
Woodscrews, 1/2"

**69**  
Set Screws

**69a.**  
Grub Screws, ..

**69b.**  
.. .. .

**69c.**  
.. .. .

**70**  
Flat Plates, 5 1/2" x 2 1/2"

**72**  
.. .. . 2 1/2" x 2 1/2"

**73**  
.. .. . 3" x 1 1/2"

**76**  
Triangular Plates, 2 1/2"

**77**  
.. .. . 1"

**80a**  
Screwed Rods

78.	11 1/2"	80b.	4 1/2"
79.	8"	80c.	3 1/2"
79a.	6"	81.	2"
80.	5"	82.	1"
80a.	3 1/2"		

**89**  
5 1/2" Curved Strips, 10" radius

**89a.**  
3 1/2" .. .. . cranked, 1 1/2" radius

**89b.**  
4" Curved Strips, cranked, 4 1/2" radius, 8 to circle

**90.**  
2 1/2" Curved Strips, 2 3/8" radius

**90a.**  
2 1/2" .. .. . cranked, 1 1/2" radius, 4 to circle

**94**  
Sprocket Chain, per 10" length

**95**  
.. .. . Wheels, 36 teeth, 2" diam.

95a.	.. .. . 28 .. 1 1/2"
95b.	.. .. . 56 .. 3 1/2"
96.	.. .. . 18 .. 1"
96a.	.. .. . 14 .. 1 1/2"

**99**  
Braced Girders

No.	97.	3 1/2" long	No.	99a.	9 1/2" long
	97a.	3 1/2" ..		99b.	7 1/2" ..
	98.	2 1/2" ..		100.	5 1/2" ..
	99.	12 1/2" ..		100a.	4 1/2" ..

**101**  
Healds, for looms

**102**  
Single Bent Strips

**103d**  
Flat Girders

103.	5 1/2" long	103e.	3" long
103a.	9 1/2" ..	103f.	2 1/2" ..
103b.	12 ..	103g.	2" ..
103c.	4 1/2" ..	103h.	1 1/2" ..
103d.	3 1/2" ..	103k.	7 1/2" ..

**104**  
Shuttles, for looms

**105**  
Reed Hooks, for looms

**106**  
Wood Rollers

**106a.**  
Sand Rollers

**107**  
Tables for designing machines

**108**  
Architraves

**109**  
Face Plates, 2 1/2" diam.

**110**  
Rack Strips, 3 1/2" long

**110a.**  
Bolts, 3/8" .. 6 1/2"

**111.**  
.. 1/2" .. 111c. Bolts, 3/8"

**111a.**  
.. 1/2" .. 111d. .. 1 1/2"

**113**  
Girder Frames

**114**  
Hinges

**115**  
Threaded Pins

**116.**  
Fork Pieces, Large

**116a.**  
.. .. . Small

**117.**  
Steel Balls, 3/8" diam.

**118**  
Hub Discs, 5 1/2" diam.



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