

# MECCANO

REAL ENGINEERING IN YOUR PLAY HOURS

### HOW TO BEGIN



Each part of this Outfit is actually a real engineering part in miniature. The only tools required for fitting them together and making the splendid models illustrated in this book are a Spanner and a Screwdriver, both of which you will find in the Outfit.

First choose the model you want to build, and then lay out on the table all the parts detailed

in the "Parts Required" list. Look at the pictures in the list below.

To help you to start building, we will describe how Model O.1, Garden Seat, is made. Begin by bolting to the Flanged Plate the  $5\frac{1}{2}$ " Strips that form the back legs of the seat. Then attach the upper ends of these Strips to two further  $5\frac{1}{2}$ " Strips to form the back. Two  $2\frac{1}{2}$ " strips are then bolted to the front flange of the Plate to form the front legs. The model is completed by fixing two  $2\frac{1}{2}$ "  $\times \frac{1}{2}$ " Double Angle Strips to the back to form arm rests.

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 nut meanwhile being held with a spanner. This method of using a second nut is known as **Lock-nutting**.

A Rod is usually mounted in a support or bearing, such as a hole in a Strip, so that it is free to revolve. The Rod is then said to be **journalled** in the Strip.

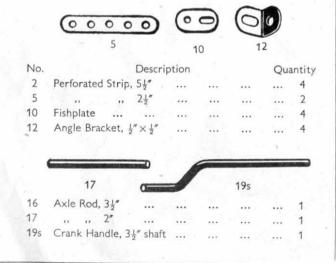
When you have built all the models shown in this Book the fun is not over but is just beginning! Now comes the chance to make use of your own ideas. First of all rebuild some of the models with small changes in construction that may occur to you; then try building simple models entirely of your own design.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

This No. O is the smallest of the Meccano Outfits. In order to build bigger and more attractive models you need a larger Outfit containing a greater number and variety of parts. To convert your Outfit into the next larger one, the No. 1, you need a No. Oa Accessory Outfit. Turn to the back cover of this Book for further details and pictures of some of the fine models you will then be able to build.

If you ever meet with any small difficulty, or if you would like advice on any point in connection with your model-building, write to Information Service, Meccano Ltd., Binns Road,

Liverpool 13.

### CONTENTS OF MECCANO No. O OUTFIT

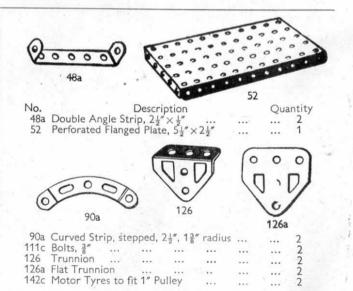


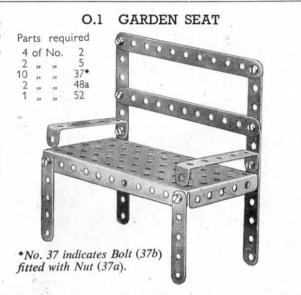






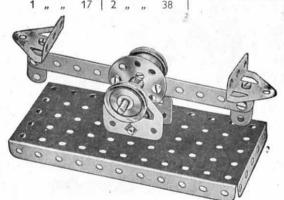
No.		Quantity						
22	Pulley, 1" di	iam.	with bo	ss and	screw	 	2	
24	Bush Whee	1, 1을	diam.			 	1	
34	Spanner					 	1	
35	Spring Clip	***	***			 	4	
36	Screwdriver	٠	***			 	1	
37a	Nuts					 	22	
37b	Bolts, 7/32					 	18	
38	Washers					 	2	



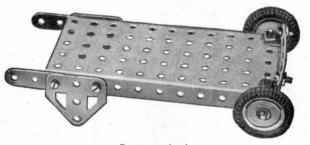


### O.4 COUNTER SCALES

				Part	s rec	uire	d				
1	of	No.	2	2 of	No.	22	1	1	of	No.	52
2	,,	,,	10	1 "	,,	24		2	,,	,,	126
4	,,	,,	12	9 "	**	37		2	,,	,,	126a
1			17	2		38					



### O.2 FLAT TRUCK

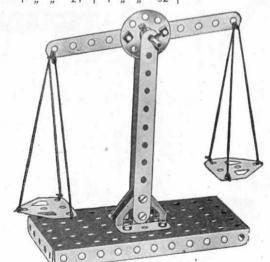


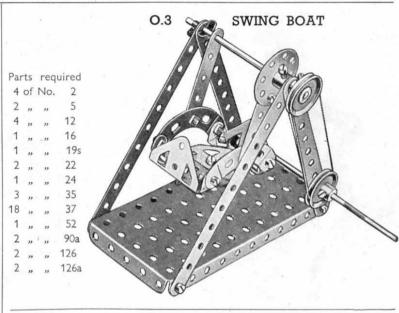
### 

### O.5 SCALES

Parts required

3	of	No.	2 17 24	1 2	of	No.	35	1	2	of	No.	126
1	,,	,,	17	10	,,	,,	37	1	2	"	,,	126
1		144	24	1 1		- 4	52					

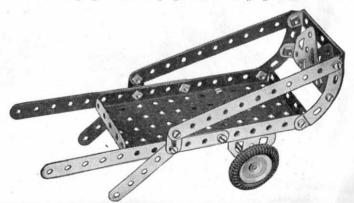


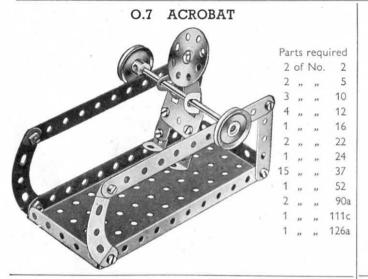


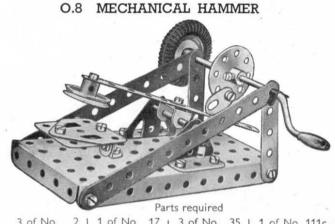
### O.6 COSTER'S BARROW

Parts required

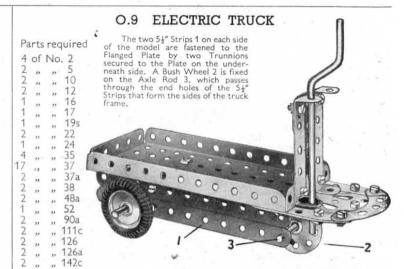
							danca				
4	of	No.	2	1 2	of	No.	22	2	of	No.	90a
2	22	"	5	16	"	,,	37	2	,,	,,	126
2	,,	"	10	2	22	,,,	48a	2	,,	**	126a
1	22	**	16	1	**	**	52	2	,,	,,	142c



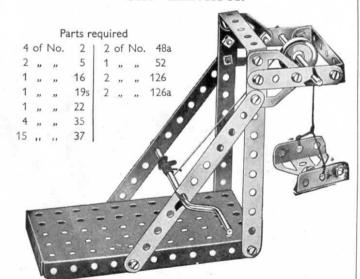


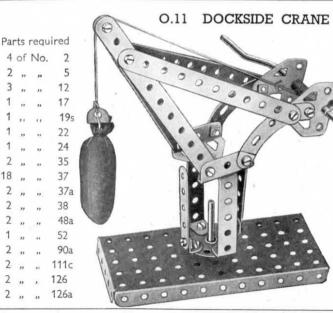


			-				Par	rts r	eq	uired					- 7
3	of	No.	2	1	of	No.	17	3	of	No.	35	1	of	No.	111c
2	,,	2)	5	1	,,,	,,,	19s	15	,,	,,	37	2	,,	,,	126
1	,,	"	10	2	,,	"	22	1	22	"	38	2	"	,,,	126a
4	,,	,,	12	1	,,	,,,	24	1	"	**	52	1	,,	"	142c



### O.10 ELEVATOR





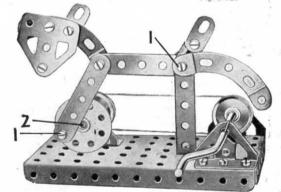
### O.12 BUCKING BRONCHO

Parts required
2 of No. 5
4 " " 10
1 " " 12
1 " " 17
1 " " 19s
2 " " 22
1 " " 24
4 " " 35
15 " " 37
5 " " 37a
1 " " 48a
1 " " 52
2 " " 90a
2 " " 111c
2 " " 126

The Bolts 1 are fitted with locknuts, so that the parts they attach are free to pivot. Bearings for a 2" Rod, the end of which is seen at 2, are provided by a Fishplate 3, bolted to an Angle Bracket 4, and a Trupnion 5.



Fig () 12a











### MECCANO MAGAZINE

The happiest and most successful boys are those who take a keen interest in the world around them. The 'MECCANO MAGAZINE' is the ideal paper for these boys. Month by month its pages are filled with attractively-written articles, splendidly illustrated from actual photographs.

The subjects include Engineering in all its branches, Railways, Road Transport, Aeroplanes and Shipping. Inventions and Scientific Discoveries are described in simple language. Everything is dealt with in an attractive and straightforward style, and with an accuracy that has won for the Magazine the enthusiastic approval of the engineering, technical and scientific world. Special sections are devoted to Model-building with Meccano, and to the operation of realistic Miniature Railways; and Stamp Collecting articles are another important feature. Competitions of all kinds, and of a variety to suit every reader, are announced each month.

The 'MECCANO MAGAZINE' is on sale at all bookstalls, newsagents and Meccano dealers, price 9d. It is best to place a regular order with your Meccano dealer or newsagent, to make sure that you do not miss any copies.

If you prefer to have each issue sent direct, all that is necessary is to fill in the order form below and to send this to the Editor at the address given, with a Postal Order to cover the cost, which is 11/- for a year, or 5/6 for six months, inclusive of postage in each case.

#### ORDERING THE 'M.M' OVERSEAS

Readers Overseas also may order the 'MECCANO MAGAZINE' from Meccano dealers and newsagents. The price and subscription rates are as above, except in the countries noted below.

In AUSTRALIA the price per copy is 1/3, and the subscription rates are 18/- for a year, and 9/- for six months.

In CANADA the price per copy is 12c, and the subscription rates are \$1.40 for a year, and 70c. for six months.

In the UNITED STATES the price per copy is 15c. The subscription rates are \$2.00 a year and \$1.00 for six months.

For other details and information Meccano enthusiasts living in Canada, Australia, New Zealand, South Africa or the United States should write to the Meccano agents in their countries. Their addresses are as follows:

CANADA: Meccano Ltd, 675 King Street West, Toronto.

AUSTRALIA: E. G. Page and Co. (Sales) Pty. Ltd. (P.O. Box 1832), Danks Building, 324 Pitt St., Sydney, N.S.W.

NEW ZEALAND: Models Ltd, (P.O. Box 129), 53 Fort Street, Auckland, C.1.

SOUTH AFRICA: Arthur E. Harris, (P.O. Box 1199), 142 Market Street, Johannesburg.
UNITED STATES: H. Hudson Dobson, 200 Fifth Avenue, New York 10, New York.

## MECCANO

### ORDER FORM

To the Editor,
Meccano Magazine,
Binns Road, Liverpool 13.

I enclose Postal Order for Please post the
'Meccano Magazine' for months, beginning with
the issue.

Name in block letters

Address



### WHAT THE GUILD MEANS

The Meccano Guild is an organization for boys, started at the request of boys, and as far as possible conducted by boys. In joining the Guild, a Meccano boy becomes a member of a great brotherhood of world-wide extent. Wherever he happens to be, even in strange countries, he will know that he has met a friend whenever he sees the little triangular badge of membership. The Meccano Guild is bringing together Meccano boys all over the world, and helping them to get the best out of life. At its head — guiding and controlling and taking a personal interest in this great movement — is the President, Mr Roland G. Hornby, son of the inventor of Meccano.

### HOW TO JOIN THE MECCANO GUILD

Any owner of a Meccano Outfit, no matter what its size, may become a member. All he has to do is to fill in the official application form on the back of this leaflet, have his signature witnessed, and send the form to Headquarters with a postal order (not stamps) for the necessary amount in payment for the official badge, which he will wear in his buttonhole.

The price of the badge for boys living in the British Isles is 1/-. For those living overseas it is 1/6 (30 cents in Canada).

Applicants living in Canada, Australia, New Zealand or South Africa should write to the Meccano agents in their countries. Their addresses are as follows: CANADA: Meccano Ltd, 675 King Street West, Toronto.

AUSTRALIA: E. G. Page & Co. (Sales) Pty. Ltd (P.O. Box 1832), Danks Building, 324 Pitt Street, Sydney, N.S.W.

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SOUTH AFRICA: Arthur E. Harris (P.O Box 1199), 142 Market Street, Johannesburg.

Their Badges and certificates are then forwarded without delay, while their application forms are sent to Headquarters at Liverpool.

Applicants living in any other country overseas should forward their forms, preferably with a British postal order or a money order (not stamps) for 1/6, direct to the Secretary, the Meccano Guild, Binns Road, Liverpool, 13.

Guild members are eligible for the Correspondence Club, by which they are placed in touch with other members in various parts of the world. Full particulars and enrolment forms can be obtained from the Secretary.

The Secretary will send also, on request, full details of the Guild Recruiting Campaign, and of the Medallion awarded to members who are successful in obtaining recruits, together with particulars of the Meccano clubs founded and established by enthusiastic Meccano boys. A special booklet, 'How to run a Meccano Club' will be sent post free to any member on receipt of 2d. in stamps.

APPLICATION FOR MEMBERSHIP OF THE

### MECCANO GUILD

Headquarters: BINNS ROAD, LIVERPOOL 13



I possess a Meccano Outfit, and I hereby make application for membership of the Meccano Guild.

I approve of the objects of the Guild, and I promise on my honour

- (1) To conform to the rules and regulations of the Meccano Guild.
- (2) To promote its objects by my own example: to be helpful to others; to be clean in thought and habit; to be determined to learn and make progress.
- (3) To wear the Meccano Guild Badge on all possible occasions.
- (4) To recognize and acknowledge all other Members wearing the Guild Badge, and to render them help in case of need.

I enclose 1/- for the Guild Badge (Great Britain).
I enclose 1/6 for the Guild Badge (Overseas).
I enclose 30c. for the Guild Badge (Canada).

Strike out line not applicable (See other side).

Name of Applicant (BLOCK CAPITALS PLEASE)

Address

Date Age

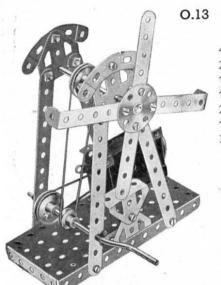
Witness

Address

The witness should be the Parent, Guardian, Employer, Schoolmaster or Church Minister, and should state which when signing.

### THE THREE GREAT OBJECTS OF THE GUILD

- To make every boy's life brighter and happier.
- To foster clean-mindedness, truthfulness, ambition and initiative in boys.
- To encourage boys in their hobbies, and especially in the development of their knowledge of mechanical and engineering principles.

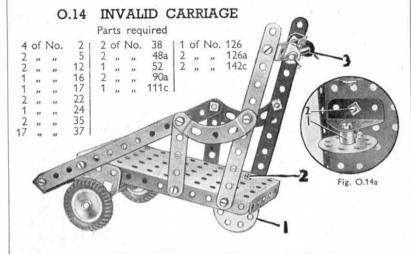


### O.13 WINDMILL

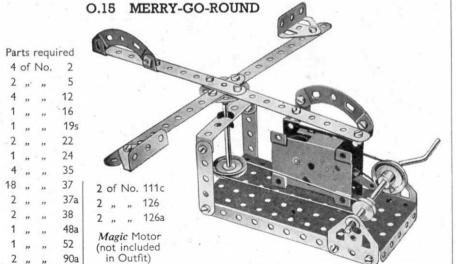
		: F	arts re	quir	ed		
4	of	No.	2	18	of	No.	37
2	,,	,,	5	2	,,	33	38
1	,,	,,	16	2	,,	,,	48a
1	,,	"	19s	1	,,	,,	52
2	,,	,,	22	2	"	"	90a
1	,,	,,	24	2	,,	' ,,	126
3	,,	,,	35	2	,,	,,	126a
	- 201		A REST				27. 14

### Magic Motor (not included in Outfit)

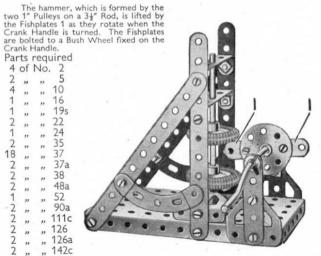
A Driving Band connects the pulley of the Magic Motor to a 1" Pulley fastened on the Crank Handle. The Crank Handle arries also a ½" Pulley, which is connected by a second Driving Band with a further 1" Pulley fixed to the 3½" Rod on which the sails are mounted. The 3½" Rod is held in place by Spring Clips, one behind the Bush Wheel, and one on its rear end. If a Motor is not used the ½" Pulley (supplied with Motor) is replaced by a 1" Pulley.



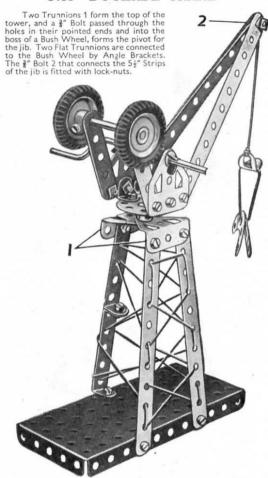
The Bush Wheel 1 is locked on a \( \frac{3}{4}\)" Bolt journalled in a Trunnion attached to the Flanged Plate by the Bolt 2. (See Fig. O.14a). The handlebar 3 is held by Spring Clips in two Angle Brackets bolted to the 2\( \frac{1}{2}\)" \( \frac{1}{4}\)". Double Angle Strip.



### O.16 DROP HAMMER

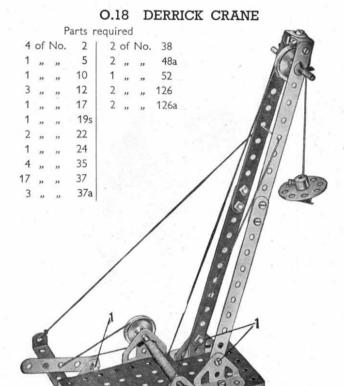


### O.17 DOCKSIDE CRANE

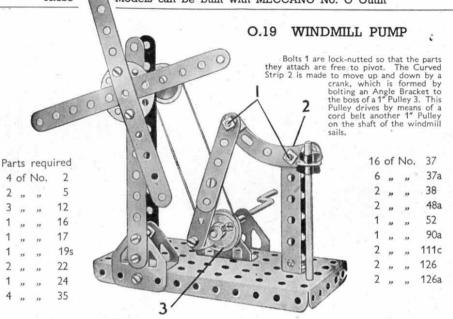


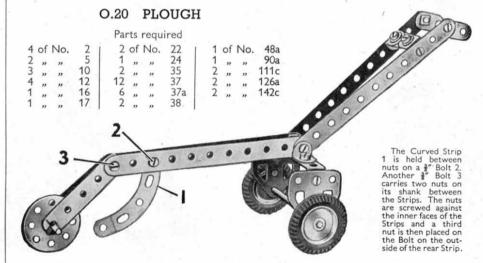
	1000	-						
ı	1	of	No.	24	1	of	No.	
l	2	,,	,,,	35	2	,,	,,	
l	15	,,	,,	37	2	,,	,,,	

Parts required



The construction of the model is commenced by bolting the Trunnions and Flat Trunnions that support the jib and Crank Handle respectively to the  $54^{\prime\prime} \times 24^{\prime\prime}$  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  $2\frac{1}{2}^{\prime\prime}$  Strip and is fastened to a Fishplate bolted to the Flanged Plate. Bolts 1 are lock-nutted. A length of cord is fastened to the lever and then passed round the 1" Pulleys on the Crank Handle.

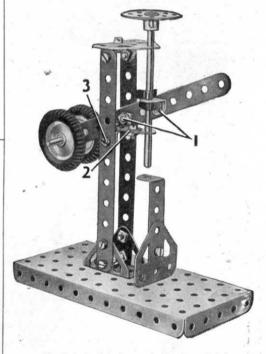




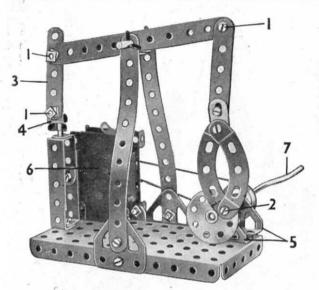
### O.21 PUNCHING MACHINE

### Parts required

3	of	No.	2	2 0	of No	. 22	1	of	No.	52
2	,,	,,,	10	1	,, ,,	24	2	,,	,,,	126
			12			37				126a
1	,,	,,	16	- 2	,, ,,	37a				142c
1								1		



The Bolts 1 are lock-nutted. The lower bearing for the punch consists of two Fishplates 2, which are bofted together. One of them is then attached to an Angle Bracket that is fixed to one of the vertical 5½" Strips by the Bolt 3.



### O.22 BEAM ENGINE

				Pa	rts	requ	ired				
4	of	No.	2	1	of	No.	19s	2	of	No.	38
2	,,	,,,	5	1	,,	,, .	22	2	,,	,,	48a
3	,,	,,	10	1	,,	,,,	24	1	,,	"	52
4	,,	,,	12	4	**	"	35	2	,,	,,,	90a
1	,,	,,	16	15	,,	,,	37	2	,,	,,,	111c
1	,,	,,	17	6	,,	,,	37a	2	,,	,,	126
				. 2	of	No	126a.				

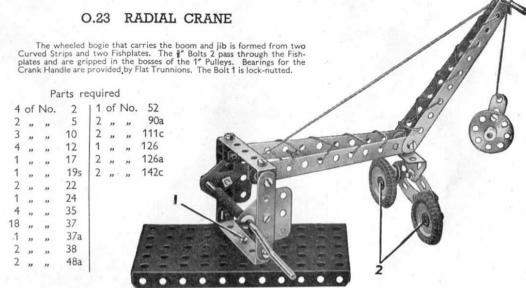
### Magic Motor (not included in Outfit)

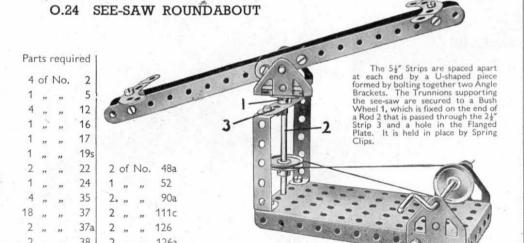
The Bolts 1 are lock-nutted. The Curved Strips must be free to pivot on the Bolt 2. The Strip 3 also must be freely pivoted to the Angle

Bracket 4.

The Trunnions 5 are each raised from the Flanged Plate by a Washer on each of the bolts that hold them in place.

The *Magic* Motor 6 is attached to the Flanged Plate by two Fishplates, and the Pulley on its shaft is connected by cord to a 1" Pulley on the Crank



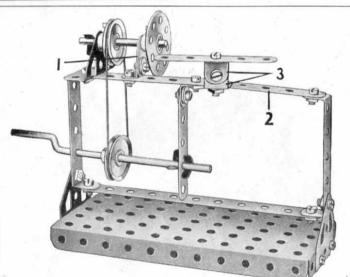


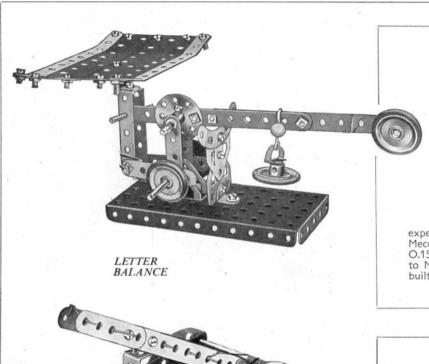
### O.25 LATHE

### Parts required

2	of	No.	21	1	of	No.	24
2	,,	,,	5	3	,,	,,	35
2	,,	,,,	10	18	,,	,,	37
4	,,,	,,	12	2	,,	,,	38
1	,,,	,,	17	2	,,	,,	48a
1	,,	,,	19s	1	,,	,,	52
2	,,,	,,	22	1	,,	,,	126
		2	of N	0. 1	26	а	

The inner support or the lathe spindle consists of a Fishplate 1 botted to an Angle Bracket fixed to the  $5\frac{1}{2}$ " Strip that forms the lathe bed. The tool rest is a 2½" Strip that is supported by two Angle Brackets 3 bolted together to form a Ushaped piece.

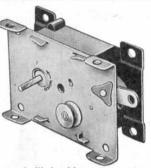




FIRE

**ENGINE** 

### 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 of Models O.13, O.15 and O.22 show how the Magic Motor can be fitted to No. O Outfit models. Fit the model you have just built with one of these wonderful Motors.

The Magic Motor is not included in the Outfit.

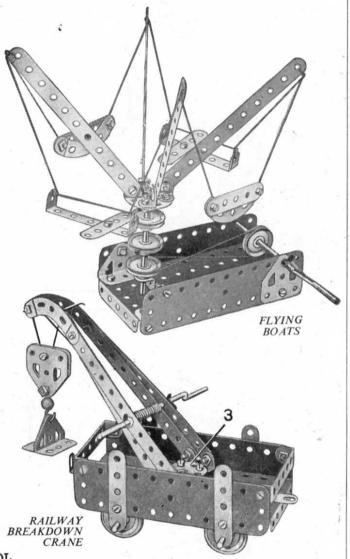


When you have built all the models shown in this Book, and others of your own invention, you should get from your Dealer a No. Oa Accessory Outfit. This will convert your No. O Outfit into a No. 1 Outfit.

With this larger Outfit you will be able to build a new set of bigger and more interesting models. Some of these models are illustrated on this page.

The model-building possibilities of Meccano are unlimited. For each complete Outfit there is an Accessory Outfit that converts it into the one next larger. By means of these Accessory Outfits you can gradually build up your Outfit to a No. 10, which will provide you with the full resources of the wonderful Meccano system.

Every Outfit has its own Book of Instructions.



MADE IN ENGLAND BY MECCANO LTD., LIVERPOOL