

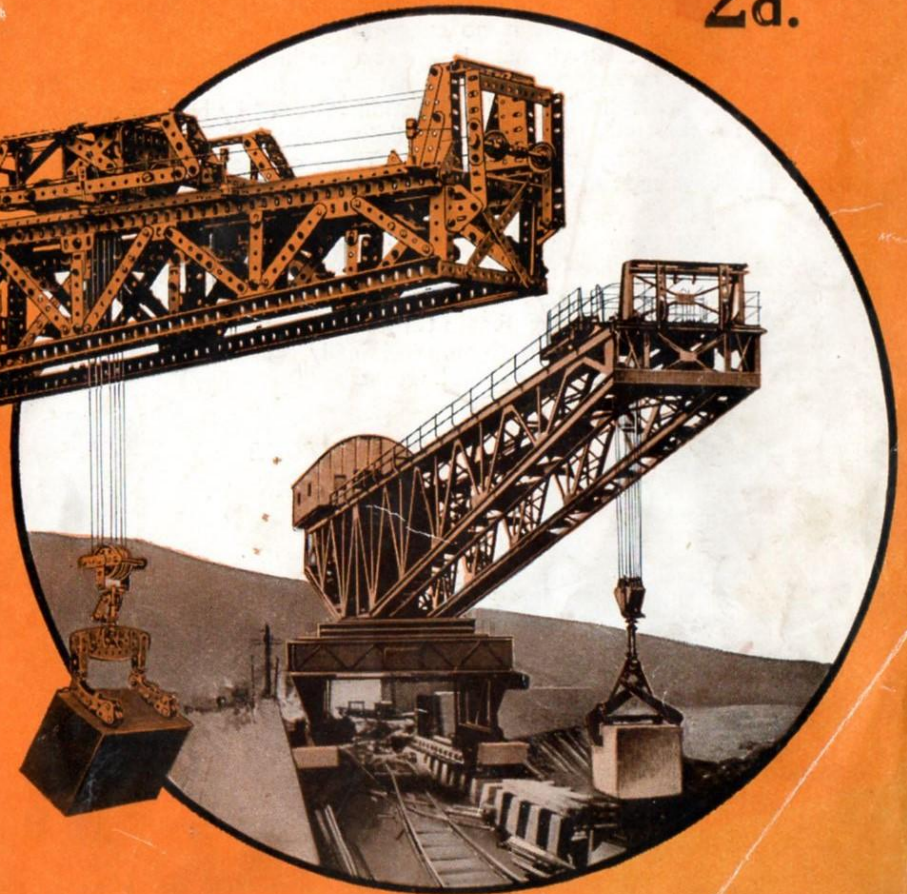
MECCANO

HORNBY'S ORIGINAL SYSTEM — FIRST PATENTED 1901

INSTRUCTIONS FOR ACCESSORY OUTFIT Da

PRICE

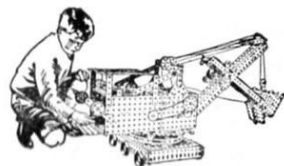
2d.



35Da

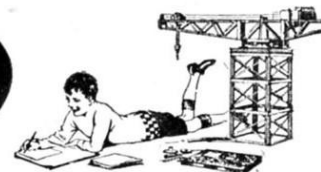
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MECCANO

HORNBY'S ORIGINAL SYSTEM — FIRST PATENTED 1901



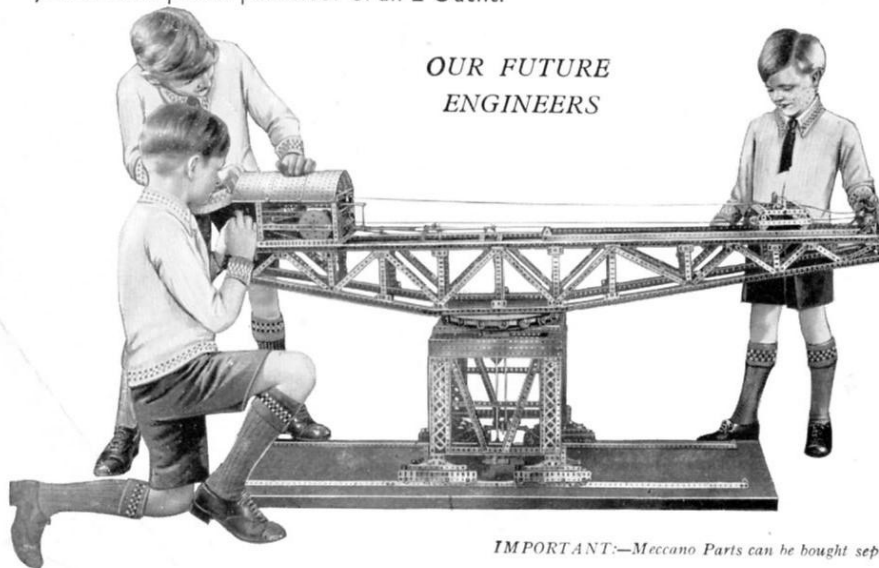
REAL ENGINEERING IN MINIATURE

The Meccano Accessory Outfit Da converts your Outfit D into an E, and enables you to build the additional models illustrated in this Manual. As a Meccano enthusiast you will realise that our examples do not exhaust the scope of your Outfit. It is no exaggeration to say that the possibilities of Meccano are limitless—there is always something new that you can invent and build, and most models can be constructed in many alternative ways. In addition to the fascination and satisfaction obtained by building new models, you can enter them in the model-building competitions that are a regular feature of the "Meccano Magazine." These competitions are open to all Meccano boys and valuable prizes are offered in each class.

HOW TO PROGRESS

When you desire to make further progress and to build bigger and better models, it is only necessary for you to purchase an Accessory Outfit Ea which will convert your E into an F. In turn, an Accessory Outfit Fa will convert your F into a G, and so you go on, until finally your ambition is realised and you are the proud possessor of an L Outfit.

OUR FUTURE ENGINEERS



IMPORTANT:—Meccano Parts can be bought separately at any time in any quantity from your Meccano dealer

ELECTRIC LIGHTING OF MECCANO MODELS

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

THE "MECCANO MAGAZINE"

The "Meccano Magazine" is essential to the full enjoyment of the Meccano hobby. A section of it is devoted to the Editor's replies to his readers' enquiries; the progress of Meccano Clubs throughout the world is reported; and full details are given of the latest model-building achievements. In addition, a wealth of informative articles on all subjects of interest to boys is included in every issue. The publishing date is the first of each month. If you are not already a reader of the "Meccano Magazine" write to the Editor for full particulars, or order a copy from your Meccano dealer or newsagent.

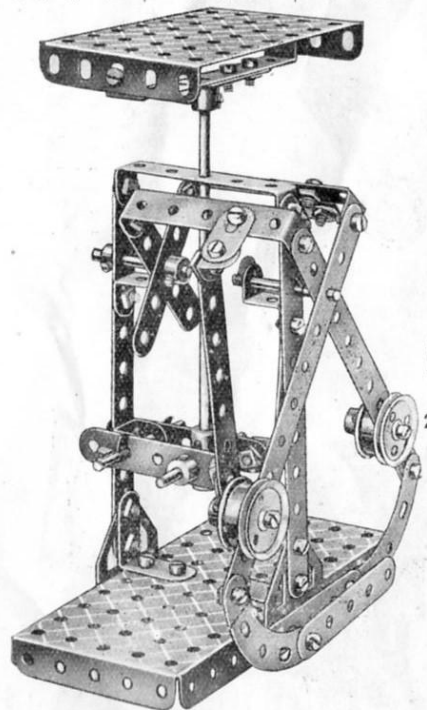
MECCANO SERVICE

The service of Meccano does not end with selling an Outfit and an Instruction Manual. When you want to know something more about engineering than is now shown in our books, or when you strike a tough problem of any kind, write to us. We receive over 200 letters from boys every day, all the year round. Some write to us because they are in difficulty, others because they want advice on their work or pleasures, or about the choice of a career. Others, again, write to us just because they like to do so and we are glad to know that they regard us as their friends.

Although all kinds of queries are put to us on all manner of subjects, the main interest is, of course, engineering. The wonderful knowledge of engineering matters possessed by our staff of experts is unique. This vast store of knowledge, gained only by many years of hard-earned experience, is at your service. *We want the Meccano boy of to-day to be the famous engineer of to-morrow.*

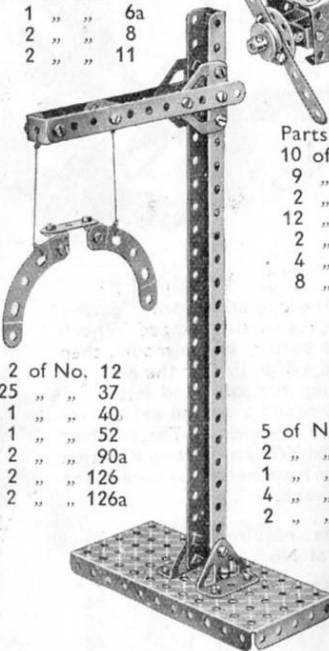
E1. Letter Balance

Parts required		
4 of No. 2	2 of No. 18a	1 of No. 53
2 " " 3	2 " " 20b	4 " " 59
5 " " 5	2 " " 22a	1 " " 62
2 " " 10	4 " " 35	1 " " 63
1 " " 11	37 " " 37	2 " " 90a
4 " " 12	6 " " 37a	2 " " 111
1 " " 12a	2 " " 48a	4 " " 111a
2 " " 15	1 " " 48b	2 " " 125
2 " " 17	1 " " 52	2 " " 126



E2. Railway Gauge

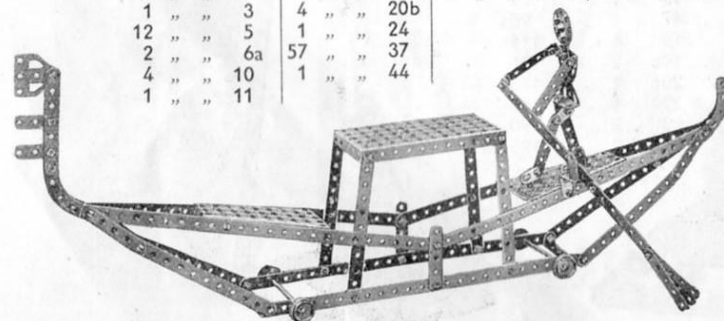
Parts required		
2 of No. 2		
1 " " 6a		
2 " " 8		
2 " " 11		



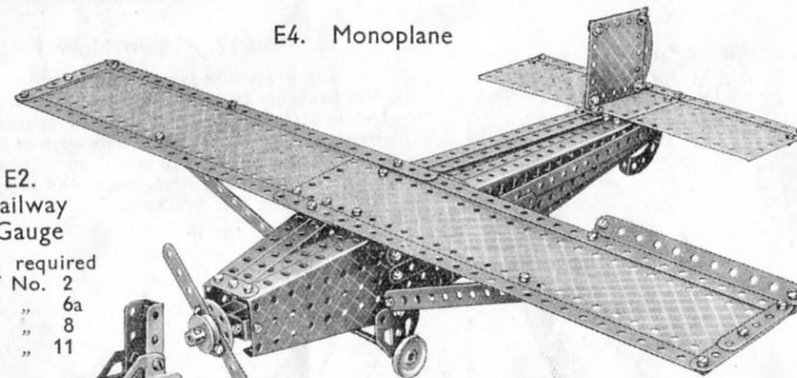
2 of No. 12	
25 " " 37	
1 " " 40	
1 " " 52	
2 " " 90a	
2 " " 126	
2 " " 126a	

E3. Gondola

Parts required		
6 of No. 1	5 of No. 12	2 of No. 48a
10 " " 2	1 " " 12a	1 " " 52
1 " " 3	2 " " 16	2 " " 54a
12 " " 5	4 " " 20b	4 of No. 90a
2 " " 6a	1 " " 24	1 " " 126
4 " " 10	57 " " 37	2 " " 126a
1 " " 11	1 " " 44	



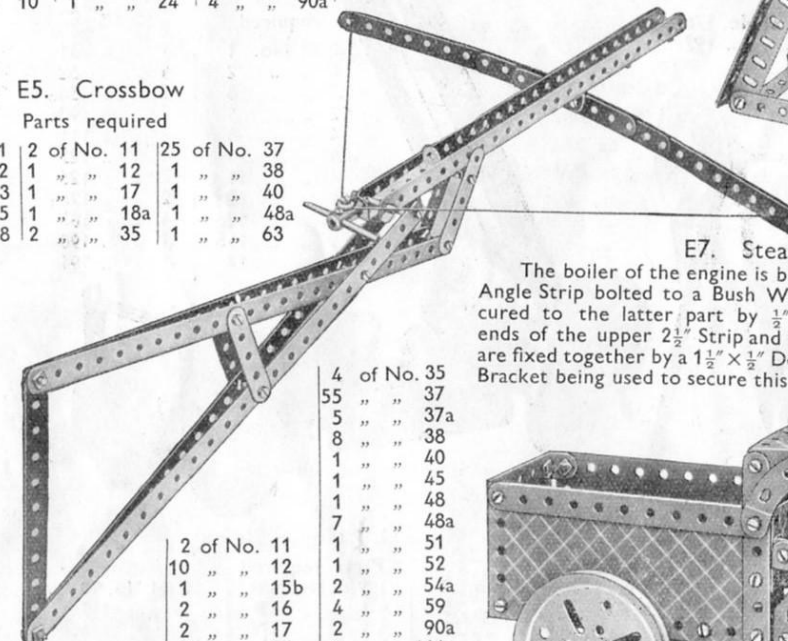
E4. Monoplane



Parts required		
10 of No. 1	6 of No. 12	65 of No. 37
9 " " 2	4 " " 12c	8 " " 37a
2 " " 3	1 " " 13	7 " " 38
12 " " 5	1 " " 16	1 " " 45
2 " " 6a	2 " " 20b	1 " " 48
4 " " 8	2 " " 22	1 " " 48a
8 " " 10	1 " " 23	2 " " 54a
	1 " " 24	4 " " 90a

E5. Crossbow

Parts required		
5 of No. 1	2 of No. 11	25 of No. 37
2 " " 2	1 " " 12	1 " " 38
1 " " 3	1 " " 17	1 " " 40
4 " " 5	1 " " 18a	1 " " 48a
2 " " 8	2 " " 35	1 " " 63

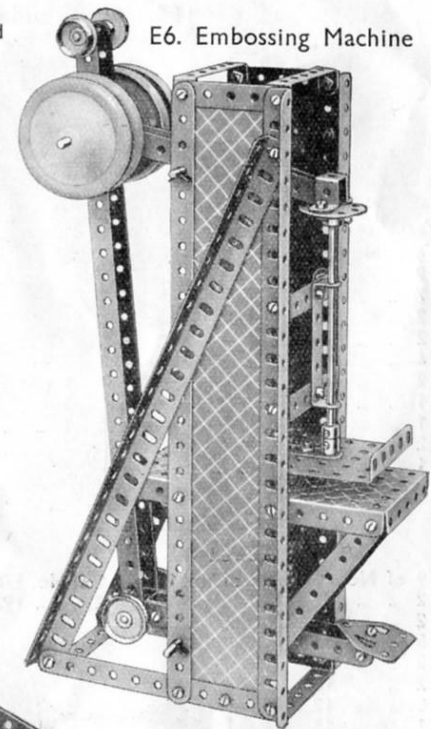


Parts required		
2 of No. 2	2 of No. 11	4 of No. 35
11 " " 3	10 " " 12	55 " " 37
2 " " 5	1 " " 15b	5 " " 37a
2 " " 6a	2 " " 16	8 " " 38
2 " " 10	2 " " 17	1 " " 40
	1 " " 18a	1 " " 45
	2 " " 19b	1 " " 48
	4 " " 20b	7 " " 48a
	1 " " 22	1 " " 51
	1 " " 22a	1 " " 52
	1 " " 23	2 " " 54a
	1 " " 24	4 " " 59
		2 " " 90a
		4 " " 111c
		1 " " 125
		2 " " 126a
		2 " " 186
		2 " " 187
		1 " " 190
		2 " " 195

Parts required

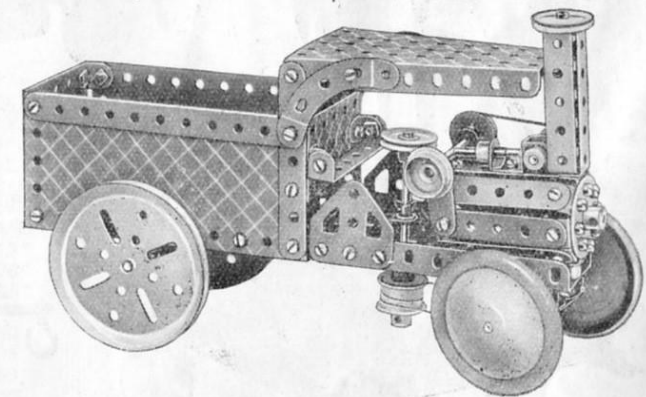
4 of No. 1	
8 " " 2	
2 " " 5	
4 " " 8	
3 " " 11	
1 " " 15	
3 " " 16	
2 " " 18a	
2 " " 20b	
2 " " 22	
1 " " 24	
8 " " 35	
37 " " 37	
6 " " 38	
1 " " 45	
7 " " 48a	
1 " " 52	
1 " " 53	
3 " " 59	
1 " " 62	
1 " " 126a	
4 " " 187	
2 " " 197	

E6. Embossing Machine

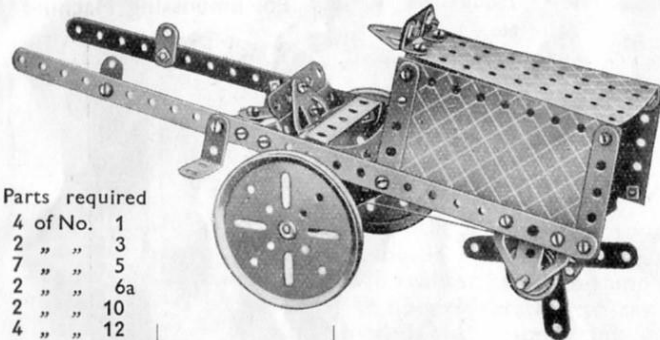


E7. Steam Lorry

The boiler of the engine is built up from one $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip bolted to a Bush Wheel, and seven $2\frac{1}{2}''$ Strips are secured to the latter part by $\frac{1}{2}'' \times \frac{1}{2}''$ Angle Brackets. The inner ends of the upper $2\frac{1}{2}''$ Strip and lower $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip are fixed together by a $1\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip, a $\frac{1}{2}'' \times \frac{1}{2}''$ Angle Bracket being used to secure this part to the floor of the cab.



E8. Hay Tedder



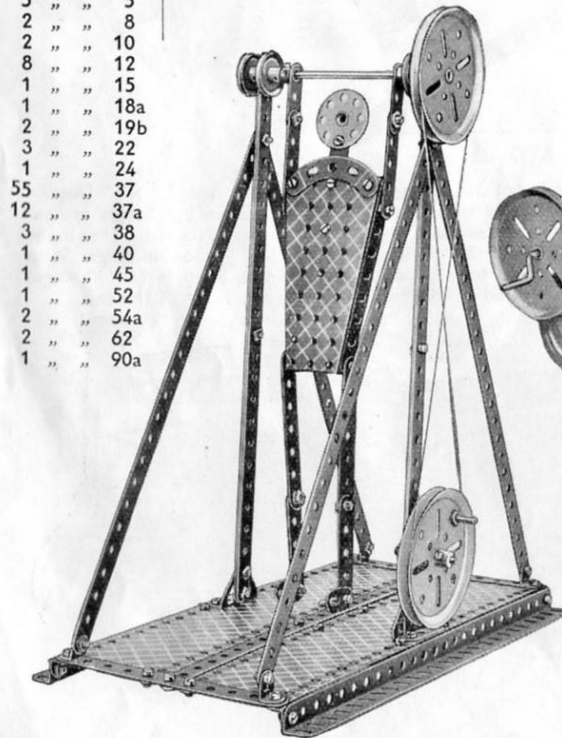
Parts required

4 of No. 1			
2 " " 3			
7 " " 5			
2 " " 6a			
2 " " 10			
4 " " 12			
2 " " 12a			
1 " " 15d			
1 " " 16			
2 " " 19b			
1 " " 20b			
3 of No. 22	1 of No. 40	6 of No. 111c	
1 " " 24	3 " " 48a	2 " " 126	
30 " " 37	1 " " 54a	2 " " 126a	
6 " " 37a	4 " " 59	2 " " 191	
8 " " 38	3 " " 90a		

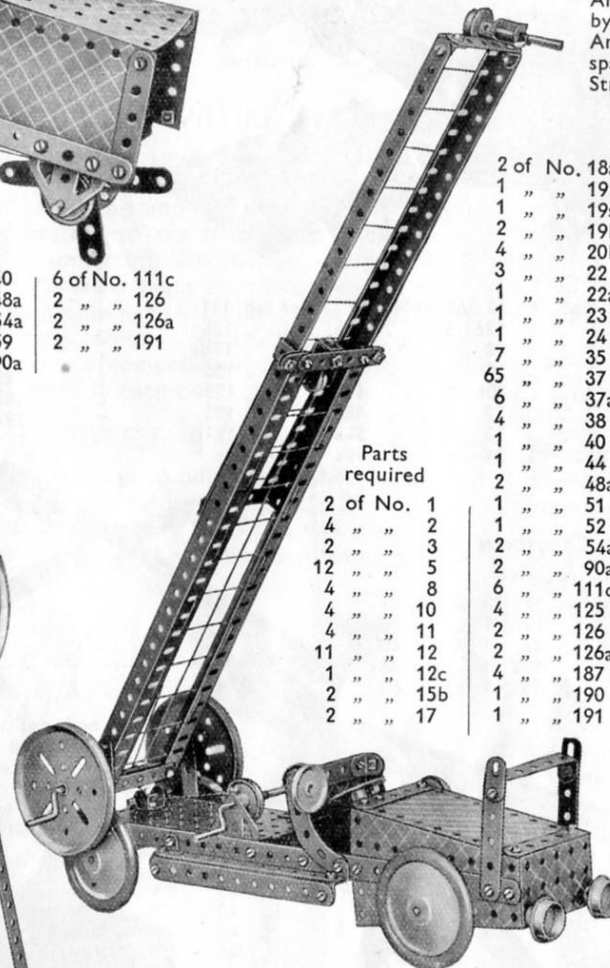
E9. Acrobat

Parts required

9 of No. 1	6 of No. 111c	1 of No. 176
2 " " 2	1 " " 115	2 " " 197
2 " " 3	2 " " 126	
5 " " 5		
2 " " 8		
2 " " 10		
8 " " 12		
1 " " 15		
1 " " 18a		
2 " " 19b		
3 " " 22		
1 " " 24		
55 " " 37		
12 " " 37a		
3 " " 38		
1 " " 40		
1 " " 45		
1 " " 52		
2 " " 54a		
2 " " 62		
1 " " 90a		



E10. Fire Engine

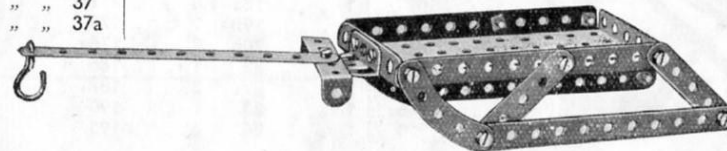


Parts required

2 of No. 1	
4 " " 2	
2 " " 3	
12 " " 5	
4 " " 8	
4 " " 10	
4 " " 11	
11 " " 12	
1 " " 12c	
2 " " 15b	
2 " " 17	

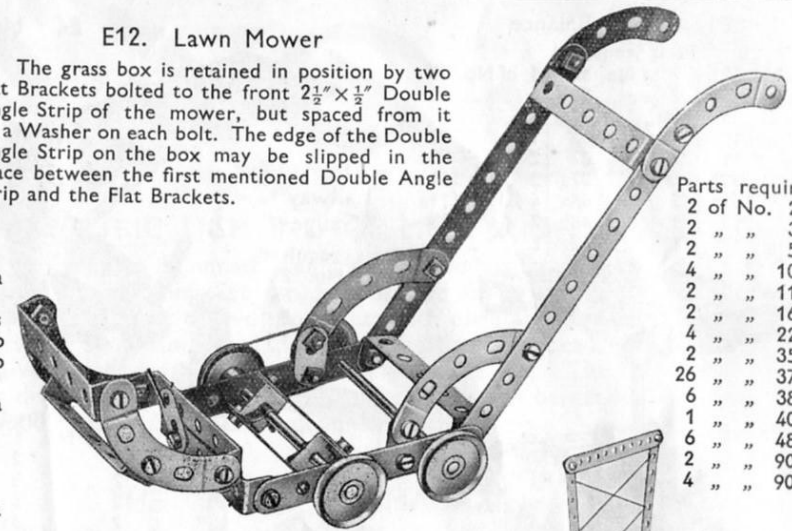
E11. Horse Sleigh

3 of No. 2	1 of No. 48a	2 of No. 90
4 " " 5	1 " " 52	1 " " 111c
1 " " 23	1 " " 57c	1 " " 126
12 " " 37		
2 " " 37a		



E12. Lawn Mower

The grass box is retained in position by two Flat Brackets bolted to the front $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip of the mower, but spaced from it by a Washer on each bolt. The edge of the Double Angle Strip on the box may be slipped in the space between the first mentioned Double Angle Strip and the Flat Brackets.



Parts required

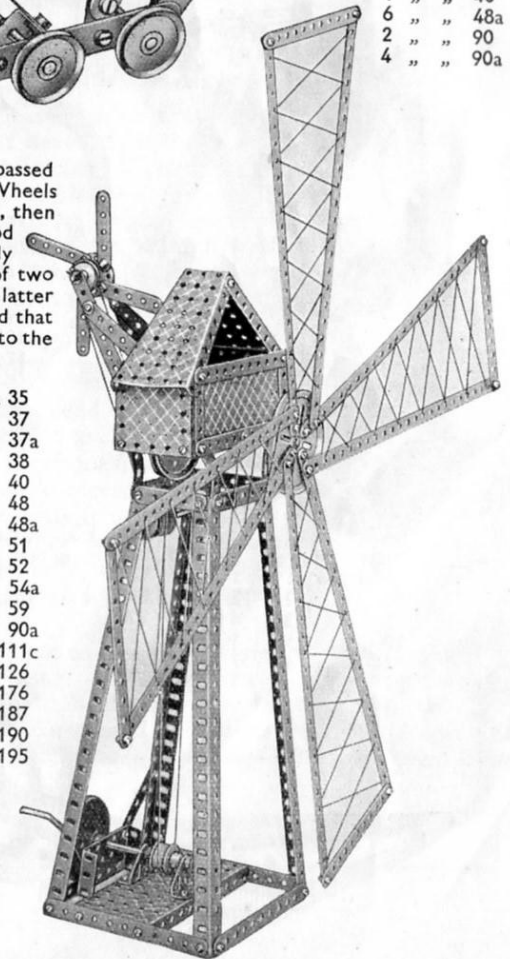
2 of No. 2	
2 " " 3	
2 " " 5	
4 " " 10	
2 " " 11	
2 " " 16	
4 " " 22	
2 " " 35	
26 " " 37	
6 " " 38	
1 " " 40	
6 " " 48a	
2 " " 90	
4 " " 90a	

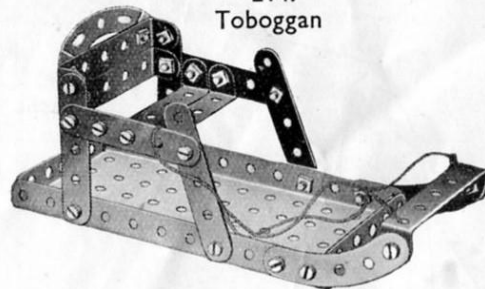
E13. Windmill

The operating cord is passed twice round the Flanged Wheels at the bottom of the model, then round a 3" Pulley on the Rod carrying the sails, and lastly twice round a second set of two Flanged Wheels. These latter Flanged Wheels rotate a Rod that in turn is connected by cord to the wind vane.

Parts required

8 of No. 1	70 of No. 35
14 " " 2	4 " " 37
2 " " 3	4 " " 37a
2 " " 4	9 " " 38
12 " " 5	1 " " 40
4 " " 8	1 " " 48
2 " " 12	2 " " 48a
1 " " 15	1 " " 51
1 " " 15b	1 " " 52
1 " " 16	2 " " 54a
1 " " 17	4 " " 59
1 " " 19	4 " " 90a
2 " " 19b	4 " " 111c
4 " " 20b	2 " " 126
2 " " 22	1 " " 176
1 " " 23	2 " " 187
1 " " 24	2 " " 190
	2 " " 195



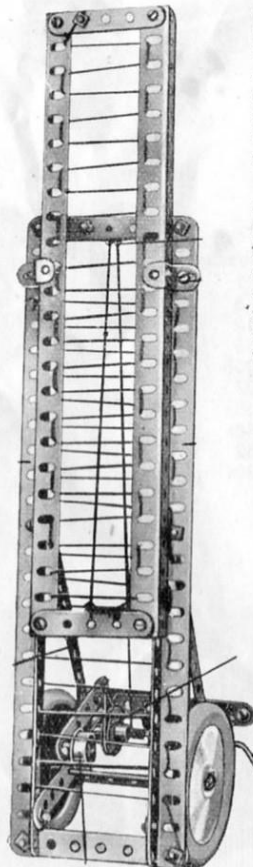
E14.
Toboggan

Parts required		
6 of No. 5	5 of No. 48a	2 of No. 90
22 " " 37	1 " " 52	1 " " 90a
1 " " 40		

E15. Fire Escape

The moving portion of the escape slides on the $12\frac{1}{2}$ " Angle Girders of the fixed ladder and is guided by two $\frac{1}{2}$ " Reversed Angle Brackets. The cord for extending the ladder passes over a $\frac{1}{2}$ " loose Pulley and is wound on the Crank Handle at the base of the model.

A 3" Strip, weighted with a $\frac{3}{4}$ " Flanged Wheel, is pivoted to the $5\frac{1}{2}$ " Strip forming one side of the escape truck, and a short length of cord is passed round the 1" Pulley on the hoisting shaft, and tied to the Strip.

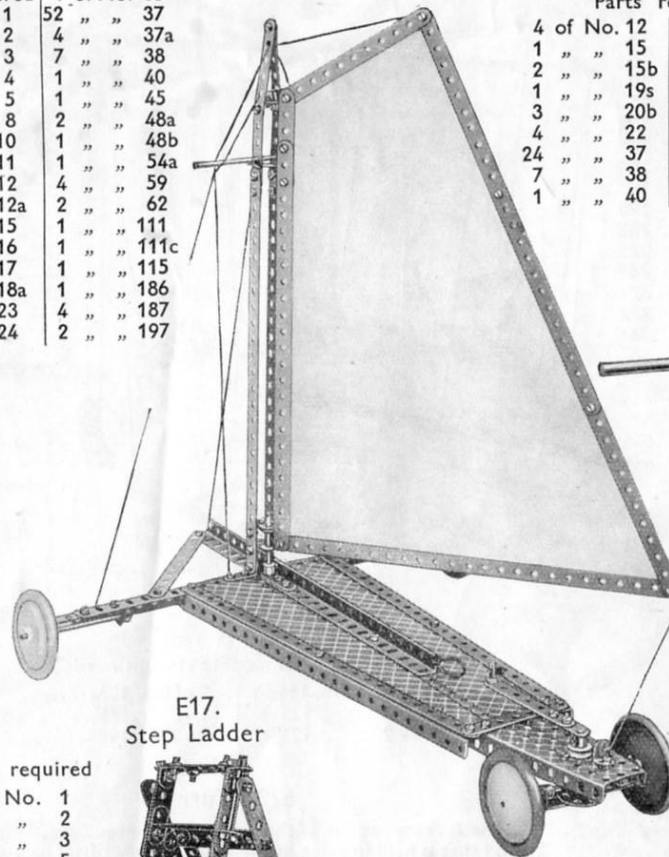


Parts required

4 of No. 2
3 " " 3
1 " " 4
2 " " 5
4 " " 8
3 " " 12
1 " " 16
1 " " 19s
1 " " 20b
1 " " 22
1 " " 23
26 " " 37
6 " " 37a
5 " " 38
2 " " 40
2 " " 48a
3 " " 59
5 " " 111c
2 " " 125
1 " " 126a
2 " " 187

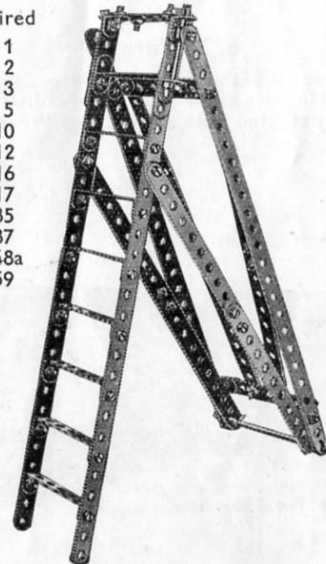
E16. Land Yacht

Parts required		4 of No. 35	
8 of No. 1	52	" "	37
5 " " 2	4	" "	37a
2 " " 3	7	" "	38
1 " " 4	1	" "	40
2 " " 5	1	" "	45
4 " " 8	2	" "	48a
2 " " 10	1	" "	48b
4 " " 11	1	" "	54a
6 " " 12	4	" "	59
1 " " 12a	2	" "	62
1 " " 15	1	" "	111
2 " " 16	1	" "	111c
2 " " 17	1	" "	115
2 " " 18a	1	" "	186
1 " " 23	4	" "	187
1 " " 24	2	" "	197

E17.
Step Ladder

Parts required

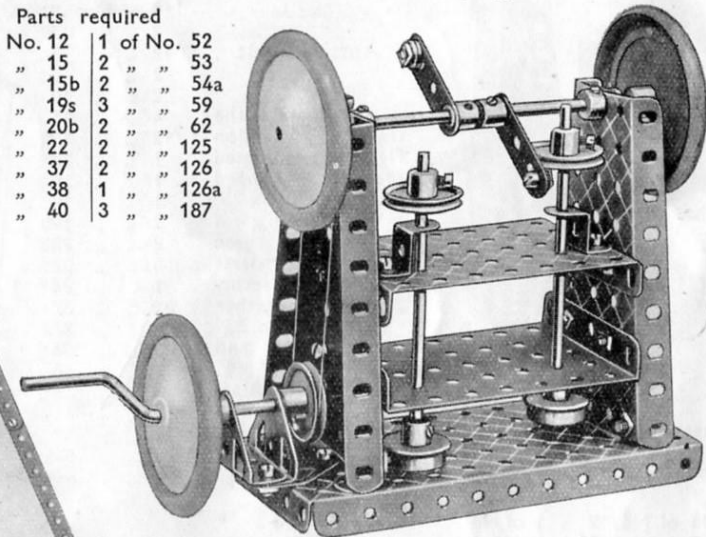
4 of No. 1
8 " " 2
2 " " 3
3 " " 5
2 " " 10
10 " " 12
1 " " 16
2 " " 17
10 " " 35
38 " " 37
8 " " 48a
2 " " 59



Parts required		6 of No. 37a	
4 of No. 1	12	" "	38
13 " " 2	1	" "	45
4 " " 5	6	" "	48a
4 " " 8	1	" "	52
2 " " 10	2	" "	54a
4 " " 11	4	" "	59
1 " " 12a	5	" "	111c
2 " " 15	1	" "	115
1 " " 15a	1	" "	176
1 " " 16	1	" "	186
1 " " 19b	2	" "	187
4 " " 20b	2	" "	190
4 " " 22	2	" "	191
1 " " 24	2	" "	195
64 " " 37	2	" "	197

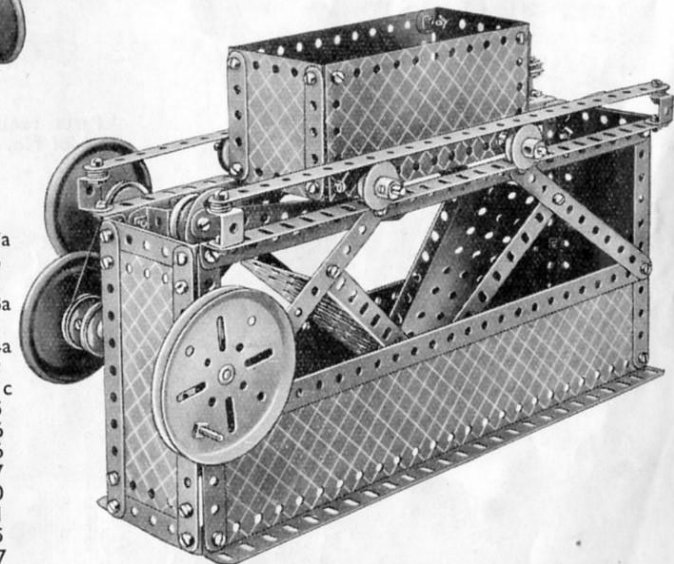
E18. Stamping Mill

Parts required		1 of No. 52	
4 of No. 12	1	" "	53
1 " " 15	2	" "	54a
2 " " 15b	2	" "	59
1 " " 19s	3	" "	62
3 " " 20b	2	" "	125
4 " " 22	2	" "	126
24 " " 37	2	" "	126a
7 " " 38	1	" "	187
1 " " 40	3	" "	



E19. Sifter

The truck is vibrated by a $5\frac{1}{2}$ " Strip attached to the under side of this section of the model by a 1" x 1" Angle Bracket and to a Bush Wheel by a lock-nutted bolt. This Bush Wheel is operated through a Driving Band from a 3" Pulley carrying a Threaded Pin, shown in the illustration.



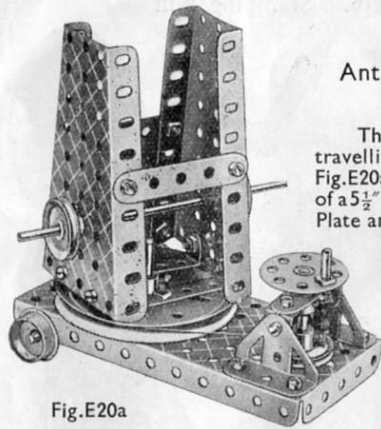


Fig. E20a

E20.

Anti Aircraft Gun

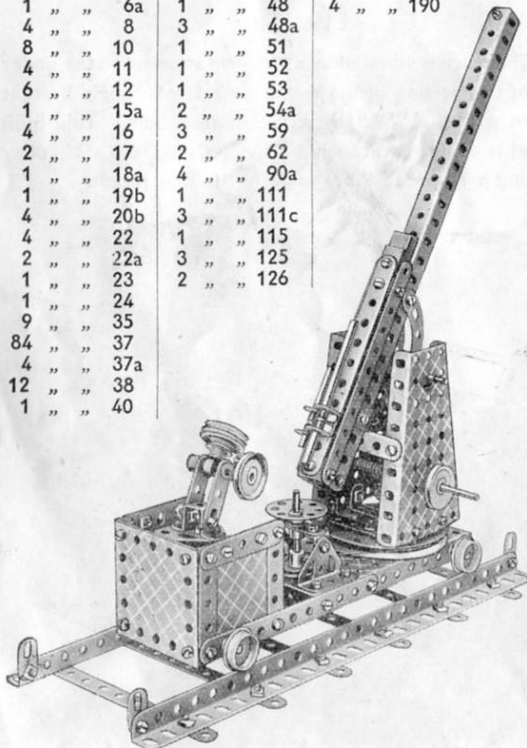
The base of the travelling portion Fig. E20a is composed of a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate and a $3\frac{1}{2}'' \times 2\frac{1}{2}''$

Flanged Plate, these two parts being secured together by two $5\frac{1}{2}''$ Strips and two $\frac{1}{2}'' \times \frac{1}{2}''$ Angle Brackets. The

searchlight is pivoted to its platform by a $\frac{3}{8}''$ bolt, lock-nutted in place, and the gun is free to swivel on a 3" Pulley.

Parts required

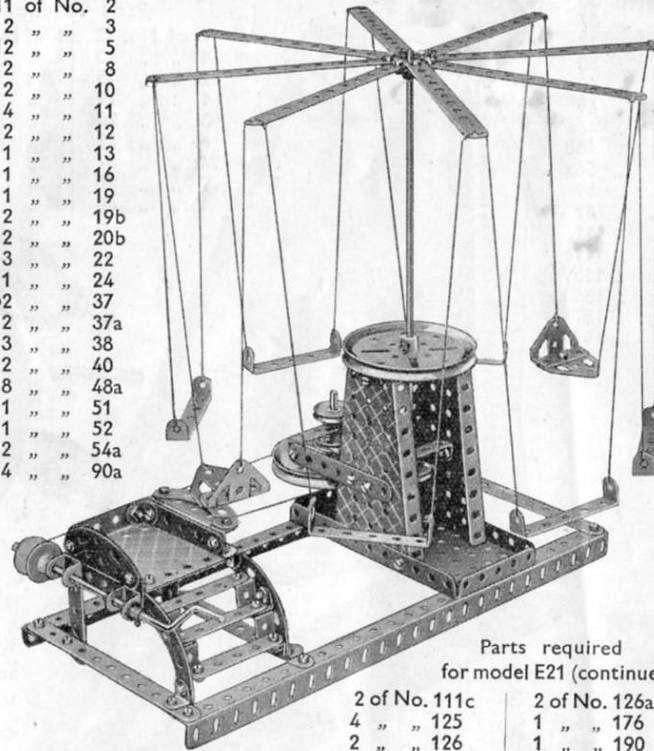
11 of No. 2	1 of No. 44	1 of No. 126a
9 " " 5	1 " " 45	1 " " 176
1 " " 6a	1 " " 48	4 " " 190
4 " " 8	3 " " 48a	
8 " " 10	1 " " 51	
4 " " 11	1 " " 52	
6 " " 12	1 " " 53	
1 " " 15a	2 " " 54a	
4 " " 16	3 " " 59	
2 " " 17	2 " " 62	
1 " " 18a	4 " " 90a	
1 " " 19b	1 " " 111	
4 " " 20b	3 " " 111c	
4 " " 22	1 " " 115	
2 " " 22a	3 " " 125	
1 " " 23	2 " " 126	
1 " " 24		
9 " " 35		
84 " " 37		
4 " " 37a		
12 " " 38		
1 " " 40		



Parts required

11 of No. 2	2
12 " " 3	5
2 " " 8	10
2 " " 11	11
4 " " 12	12
12 " " 13	13
1 " " 16	16
1 " " 19	19
2 " " 19b	19b
2 " " 20b	20b
3 " " 22	22
1 " " 24	24
62 " " 37	37
2 " " 37a	37a
3 " " 38	38
2 " " 40	40
8 " " 48a	48a
1 " " 51	51
1 " " 52	52
2 " " 54a	54a
4 " " 90a	90a

E21. Roundabout

Parts required
for model E21 (continued)

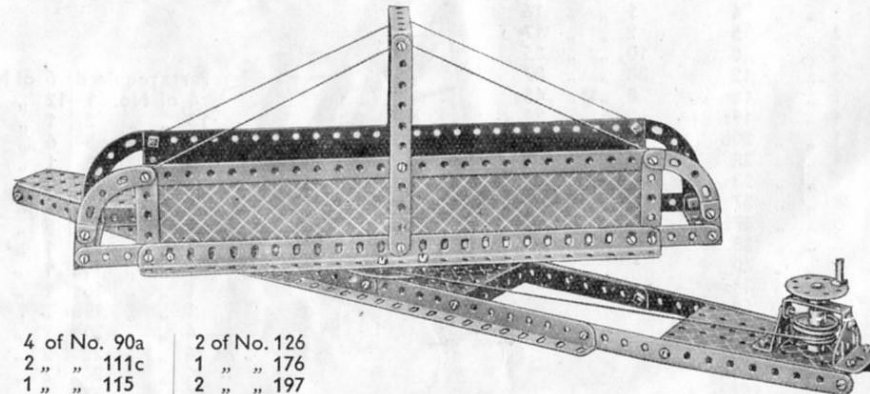
2 of No. 111c	2 of No. 126a
4 " " 125	1 " " 176
2 " " 126	1 " " 190

E22. Turntable

The turning section of the model is mounted on a 3" Pulley carried on a 2" Rod that is held in place by a 1" fast Pulley secured below the base of the model. Turning is effected from a $\frac{3}{4}''$ Flanged Wheel and 1" fast Pulley as shown.

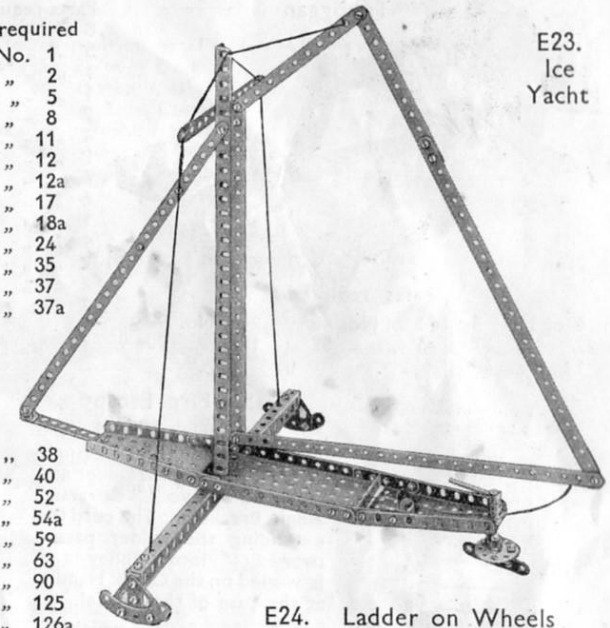
Parts required

6 of No. 1	2
2 " " 2	3
2 " " 3	5
8 " " 5	8
4 " " 8	10
4 " " 10	17
1 " " 17	18a
1 " " 18a	19b
1 " " 19b	20b
1 " " 20b	22
2 " " 22	24
1 " " 24	37
54 " " 37	37a
2 " " 37a	38
8 " " 38	40
1 " " 40	48
1 " " 48	48a
5 " " 48a	52
1 " " 52	115
2 " " 54a	126
4 of No. 90a	2 of No. 126
2 " " 111c	1 " " 176
1 " " 115	2 " " 197



Parts required

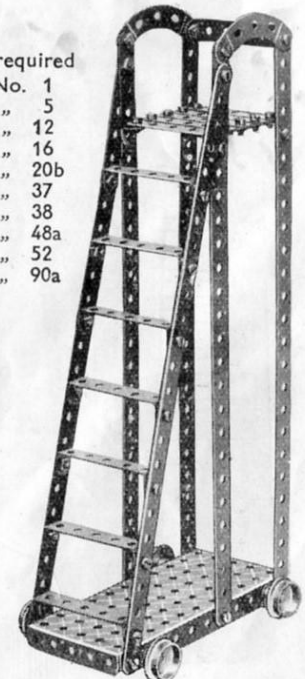
4 of No. 1	2
5 " " 2	5
5 " " 5	8
4 " " 8	11
1 " " 11	12
3 " " 12	12a
2 " " 12a	17
2 " " 17	18a
1 " " 18a	24
1 " " 24	35
2 " " 35	37
54 " " 37	37a
1 " " 37a	
2 " " 38	
1 " " 40	
1 " " 52	
2 " " 54a	
1 " " 59	
1 " " 63	
2 " " 90	
1 " " 125	
2 " " 126a	

E23.
Ice
Yacht

E24. Ladder on Wheels

Parts required

6 of No. 1	5
7 " " 5	12
4 " " 12	16
2 " " 16	20b
4 " " 20b	37
40 " " 37	38
4 " " 38	48a
8 " " 48a	52
1 " " 52	90a
4 " " 90a	



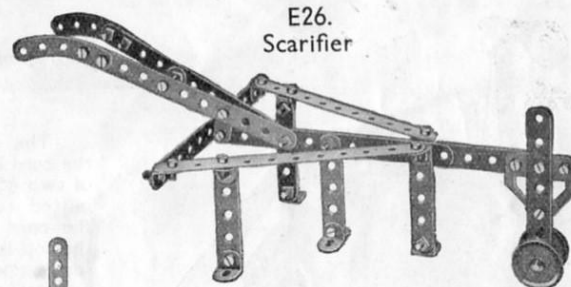
These Models can be built with **MECCANO** Outfit E (or Outfits D and Da)



E25.
Drafting Machine

Parts required

4 of No. 1	2 of No. 5
3 " " 2	1 " " 24
1 " " 4	15 " " 37
	1 of No. 52



E26.
Scarifier

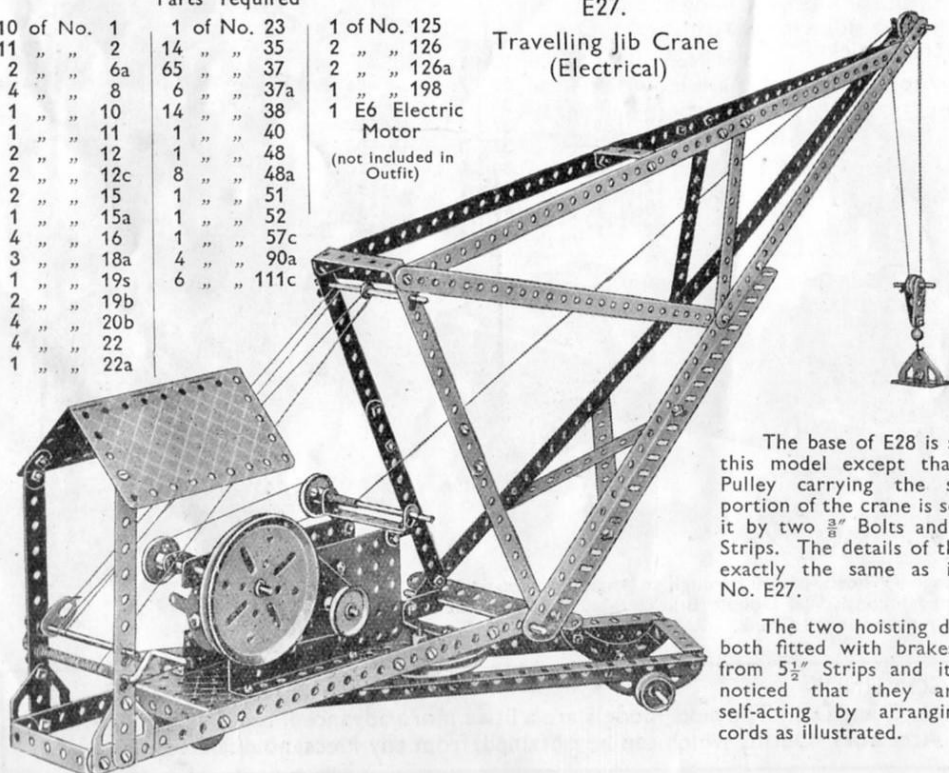
Parts required

7 of No. 2	1 of No. 18a
1 " " 3	2 " " 22
4 " " 5	29 " " 37
1 " " 10	2 " " 38
1 " " 11	2 " " 90
11 " " 12	1 " " 126a

Parts required

10 of No. 1	1 of No. 23	1 of No. 125
11 " " 6a	14 " " 35	2 " " 126
2 " " 8	65 " " 37	2 " " 126a
4 " " 10	6 " " 37a	1 " " 198
1 " " 11	14 " " 38	1 E6 Electric Motor
1 " " 12	1 " " 40	(not included in Outfit)
2 " " 12c	1 " " 48	
2 " " 15	8 " " 48a	
1 " " 15a	1 " " 51	
4 " " 18a	1 " " 52	
1 " " 19s	1 " " 57c	
2 " " 19b	4 " " 90a	
4 " " 20b	6 " " 111c	
4 " " 22		
1 " " 22a		

E27.
Travelling Jib Crane
(Electrical)



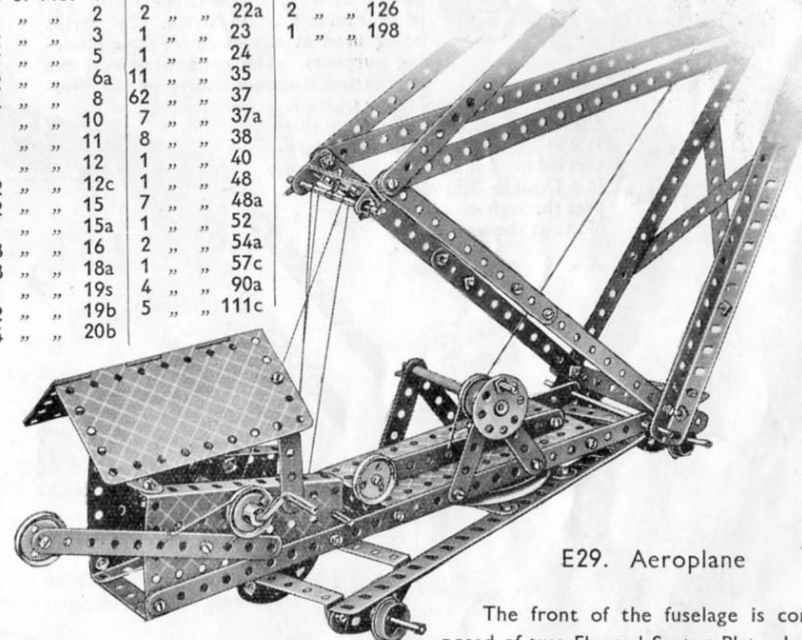
The base of E28 is similar to this model except that the 3" Pulley carrying the swivelling portion of the crane is secured to it by two $\frac{3}{8}$ " Bolts and two $3\frac{1}{2}$ " Strips. The details of the jib are exactly the same as in Model No. E27.

The two hoisting drums are both fitted with brakes formed from $5\frac{1}{2}$ " Strips and it will be noticed that they are made self-acting by arranging their cords as illustrated.

E28. Travelling Jib Crane (Hand)

Parts required

10 of No. 1	4 of No. 22	1 of No. 115
11 " " 2	2 " " 22a	2 " " 126
2 " " 3	1 " " 23	1 " " 198
7 " " 5	1 " " 24	
2 " " 6a	11 " " 35	
4 " " 8	62 " " 37	
1 " " 10	7 " " 37a	
1 " " 11	8 " " 38	
1 " " 12	1 " " 40	
2 " " 12c	1 " " 48	
2 " " 15	7 " " 48a	
1 " " 15a	1 " " 52	
3 " " 16	2 " " 54a	
3 " " 18a	1 " " 57c	
1 " " 19s	4 " " 90a	
2 " " 19b	5 " " 111c	
4 " " 20b		

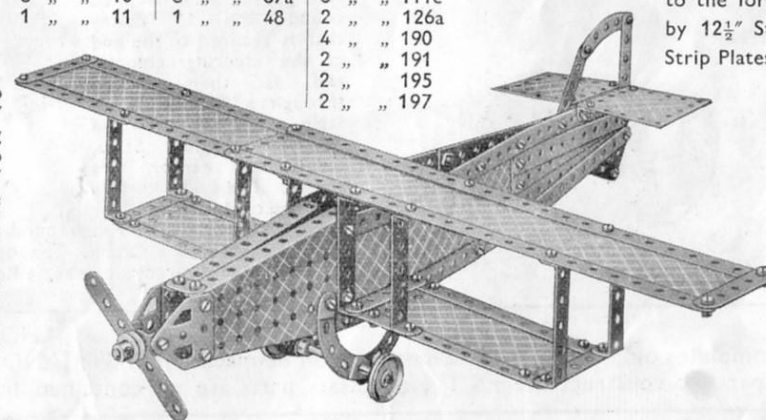


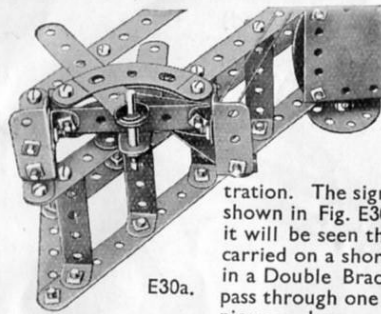
E29. Aeroplane

The front of the fuselage is composed of two Flanged Sector Plates held together at the fore part by two Flat Trunnions and a Double Bracket, the latter part forming a mounting for the propeller. The rear of the fuselage consists of eight $5\frac{1}{2}$ " Strips held together as shown, and when complete is attached to the fore section by $12\frac{1}{2}$ " Strips and Strip Plates.

Parts required

6 of No. 1	6 of No. 12	8 of No. 48a
14 " " 2	1 " " 16	2 " " 54a
2 " " 3	2 " " 22	3 " " 59
2 " " 4	1 " " 23	2 " " 90
12 " " 5	2 " " 35	4 " " 90a
1 " " 6a	76 " " 37	1 " " 111
3 " " 10	8 " " 37a	6 " " 111c
1 " " 11	1 " " 48	2 " " 126a
		4 " " 190
		2 " " 191
		2 " " 195
		2 " " 197



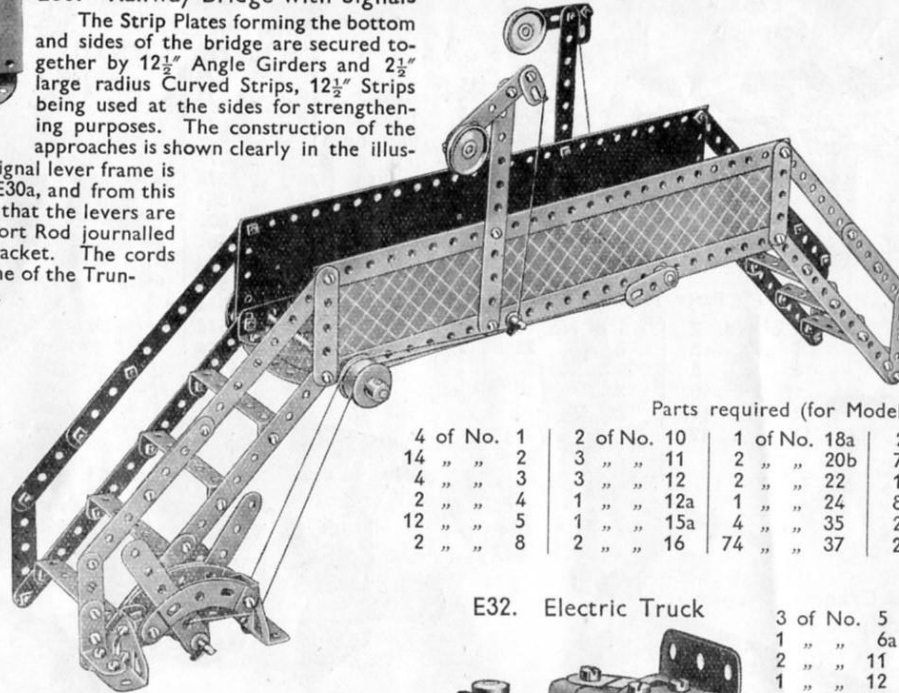


E30a.

E30. Railway Bridge with Signals

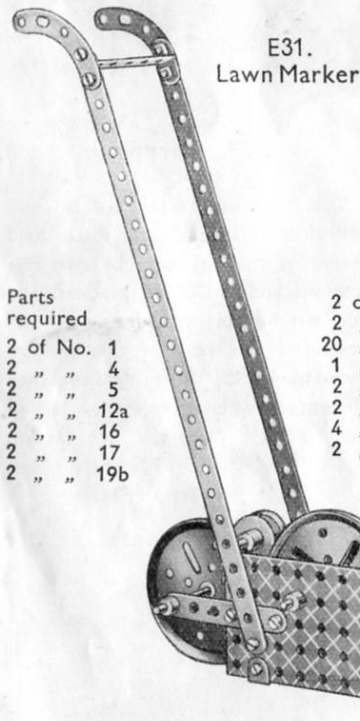
The Strip Plates forming the bottom and sides of the bridge are secured together by $12\frac{1}{2}$ " Angle Girders and $2\frac{1}{2}$ " large radius Curved Strips, $12\frac{1}{2}$ " Strips being used at the sides for strengthening purposes. The construction of the approaches is shown clearly in the illustration.

The signal lever frame is shown in Fig. E30a, and from this it will be seen that the levers are carried on a short Rod journalled in a Double Bracket. The cords pass through one of the Trunnions as shown.



Parts required (for Model E30)

4 of No. 1	2 of No. 10	1 of No. 18a	2 of No. 37a	4 of No. 90a
14 " " 2	3 " " 11	2 " " 20b	7 " " 38	2 " " 111c
4 " " 3	3 " " 12	2 " " 22	1 " " 40	2 " " 126
2 " " 4	1 " " 12a	1 " " 24	8 " " 48a	1 " " 190
12 " " 5	1 " " 15a	4 " " 35	2 " " 62	2 " " 195
2 " " 8	2 " " 16	74 " " 37	2 " " 90	2 " " 197

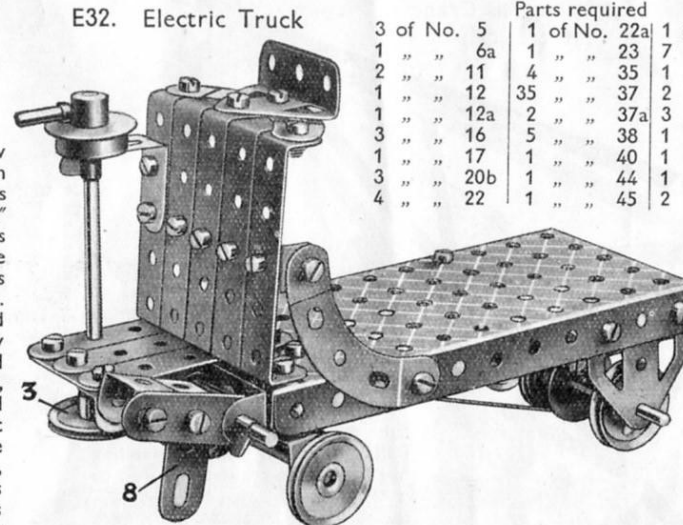
E31.
Lawn Marker

Parts required

2 of No. 1
2 " " 4
2 " " 5
2 " " 12a
2 " " 16
2 " " 17
2 " " 19b

2 of No. 20b
2 " " 22
20 " " 37
1 " " 38
2 " " 48a
2 " " 53
4 " " 59
2 " " 90a

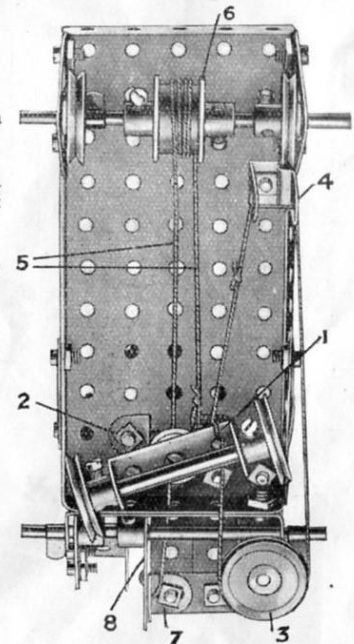
An underneath view of the truck is shown in Fig. E32a. The front axle is journalled in a $1\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip that is free to turn on a Double Bent Strip, from which it is spaced by a $\frac{1}{2}$ " loose Pulley. A length of cord is wrapped round the 1" Pulley that is secured to the end of the steering column, and is then passed through a Cranked Bent Strip and secured to the Double Angle Strip, mentioned earlier, as shown. The brake cord is attached to the Double Bent Strip, wrapped several times round two $\frac{3}{8}$ " Flanged Wheels, passed through an Angle Bracket, and is finally attached to a Crank. The operating pedal consists of Double Brackets bolted to another Crank that is secured to the same Rod as the first mentioned Crank.



E32. Electric Truck

Parts required

3 of No. 5	1 of No. 22a	1 of No. 48
1 " " 6a	1 " " 23	7 " " 48a
2 " " 11	4 " " 35	1 " " 52
1 " " 12	35 " " 37	2 " " 62
1 " " 12a	2 " " 37a	3 " " 90a
3 " " 16	5 " " 38	1 " " 111c
1 " " 17	1 " " 40	1 " " 115
3 " " 20b	1 " " 44	1 " " 126
4 " " 22	1 " " 45	2 " " 126a



E32a.

E33. Spinning Top

The drum on which the cord is wound consists of two $\frac{3}{8}$ " Flanged Wheels butted together. While the cord is being pulled, the top is held steadily on some smooth surface by means of the handle shown above. The handle is then lifted off, allowing the top to spin freely.

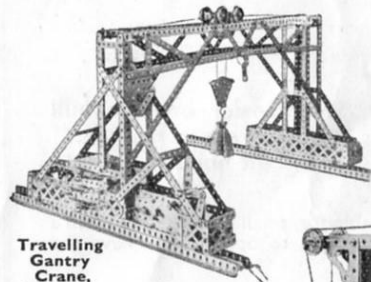
Parts required

1 of No. 2
1 " " 16
2 " " 19b
2 " " 20b
2 " " 37
1 " " 40
1 " " 62

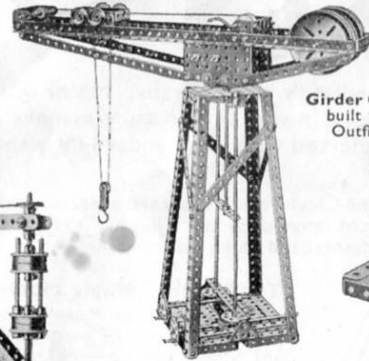
HOW TO CONTINUE

This completes our examples of models that can be made with MECCANO Outfit E (or D and Da). The next models are a little more advanced, requiring a number of extra parts to construct them. The necessary parts are all contained in an Ea Accessory Outfit, which can be obtained from any Meccano dealer.

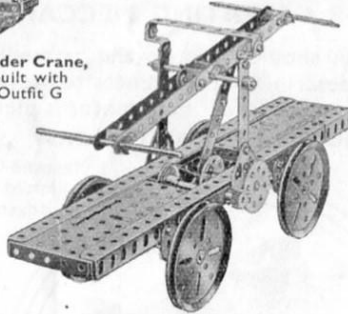
Build Bigger and Better Models



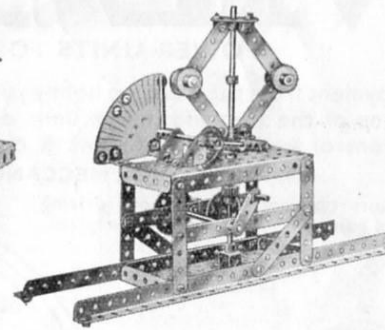
Travelling
Gantry
Crane,
built with
Outfit L



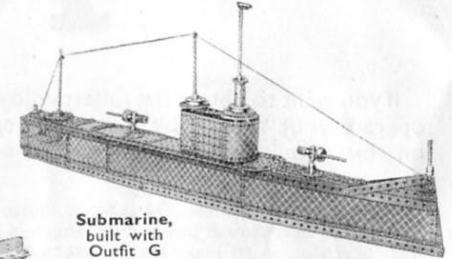
Girder Crane,
built with
Outfit G



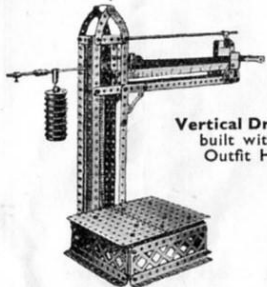
Hand Trolley,
built with Outfit F



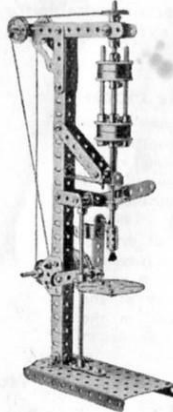
Speed Indicator,
built with Outfit G



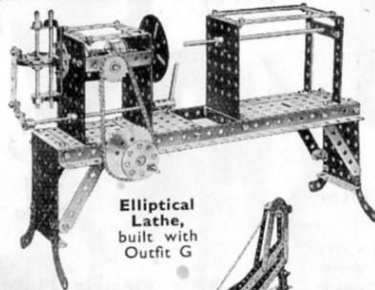
Submarine,
built with
Outfit G



Vertical Drill,
built with
Outfit H

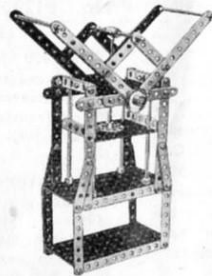


Platform Scales,
built with Outfit K

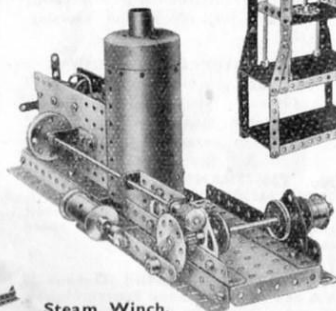


Elliptical
Lathe,
built with
Outfit G

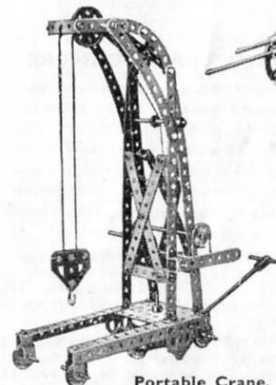
Bale Press,
built with
Outfit G



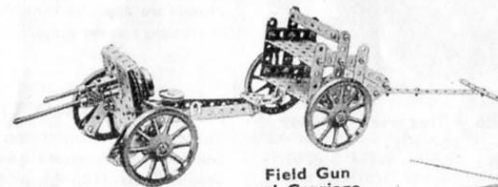
Automatic
Weighing
Crane,
built with
Outfit K



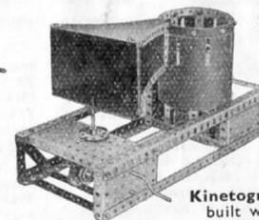
Steam Winch,
built with
Outfit G



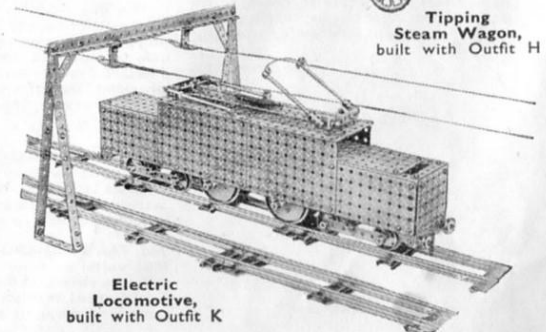
Portable Crane,
built with Outfit K



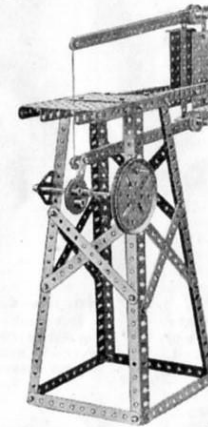
Field Gun
and Carriage,
built with Outfit H



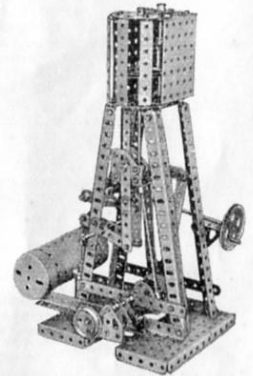
Kinetograph,
built with
Outfit F



Electric
Locomotive,
built with Outfit K



Fret Saw,
built with Outfit H



Vertical
Marine Engine,
built with Outfit H



Tipping
Steam Wagon,
built with Outfit H

Keep adding to your Outfit

The more Meccano parts you have, the bigger and better the models you are able to build. Keen and enthusiastic model-builders keep adding to their Outfits, until they are able to build all the wonderful models shown in the Meccano Manuals.

The model-building possibilities of the Meccano System are limitless. All the fine models illustrated on this and the opposite page are examples of the types you will be able to build as your Outfit develops.

You can purchase separate Meccano parts as you require them, or, if you prefer, you can purchase Accessory Outfits that connect all the main Outfits.

MECCANO

POWER UNITS FOR OPERATING MECCANO MODELS

If you want to obtain the fullest enjoyment from the Meccano hobby you should operate your models by means of one of the Meccano power units described on this page. You push over the control lever of the clockwork or electric

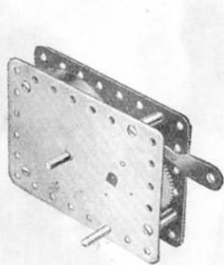
motor and immediately your Crane, Motor Car, Ship Coaler or Windmill commences to work in exactly the same manner as its prototype in real life.

Each motor is pierced with the standard Meccano equidistant holes.

MECCANO CLOCKWORK MOTORS

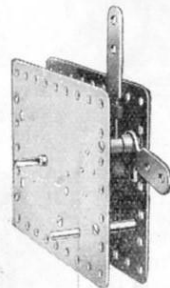
These are the finest Clockwork motors obtainable for model driving. They have exceptional power and length of run and their gears are cut with such precision as to make them perfectly smooth and steady in operation.

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.



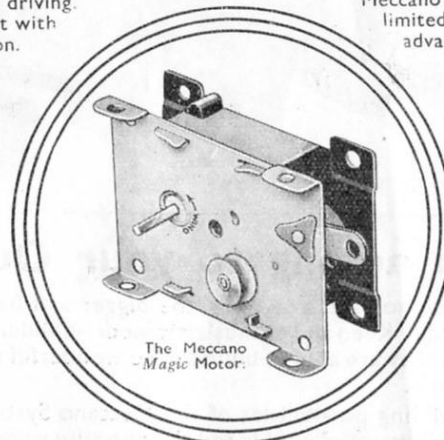
No. 1 Clockwork Motor

An efficient and long-running Motor fitted with a brake lever by means of which it may be started and stopped. It is non-reversing.



No. 1a Clockwork Motor

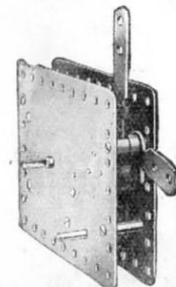
This Motor is more powerful than the No. 1 Motor and is fitted with reversing motion. It has brake and reverse levers.



The Meccano
Magic Motor

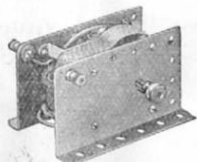
The Meccano Magic Motor

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 $\frac{1}{2}$ " Pulley Wheel and three pairs of driving bands of different lengths. It is capable of driving all the Meccano A and B Outfit models, and many of the lighter models illustrated in the Manuals of the C, D and E Outfits.



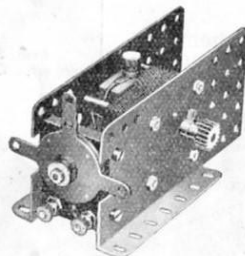
No. 2 Clockwork Motor

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



**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.

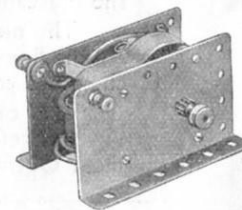


**No. E6 Electric Motor
(6-volt)**

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.

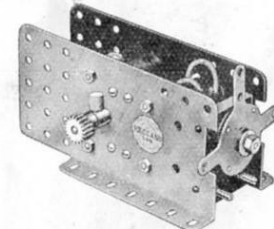
MECCANO ELECTRIC MOTORS

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. 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. 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.

Resistance Controllers

These Controllers enable the speed of Meccano 6-volt and 20-volt Motors and Hornby 6-volt and 20-volt Electric Trains to be regulated as desired.



No. T20a Transformer

No. T20a TRANSFORMER (Output 35 VA at 20/3½ volts) for 20-volt Electric Motors. Has two separate circuits at 20 volts, one controlled by a 5-stud speed regulator; and a third circuit at 3½ volts for lighting up to 14 lamps.

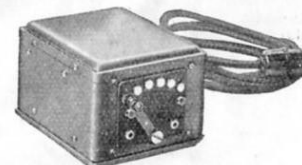
No. T6a TRANSFORMER (Output 40 VA at 9/3½ volts) for 6-volt Electric Motors. Has two separate circuits at 9 volts, one controlled by a 5-stud speed regulator; and a third circuit at 3½ volts for lighting up to 18 lamps.

No. T20m TRANSFORMER (Output 20 VA at 20 volts) for 20-volt Electric Motors. This is similar to the No. T20 Transformer, but is not fitted with speed regulator.

No. T6m TRANSFORMER (Output 25 VA at 9 volts) for 6-volt Electric Motors. This is similar to the No. T6 Transformer, but is not fitted with speed regulator.

No. T20 TRANSFORMER (Output 20 VA at 20 volts) for 20-volt Electric Motors. Provided with one 20-volt circuit controlled by a 5-stud speed regulator.

No. T6 TRANSFORMER (Output 25 VA at 9 volts) for 6-volt Electric Motors. Provided with one 9-volt circuit controlled by a 5-stud speed regulator.



No. T20 Transformer

Ask your dealer for a complete price list.

LIST OF MECCANO PARTS

No.	Description.	No.	Description.	No.	Description.	No.	Description.	No.	Description.
1	Perforated Strips, 12 $\frac{1}{2}$ "	28	Contrate Wheels, 1 $\frac{1}{2}$ " diam.	73	Flat Plates, 3" x 1 $\frac{1}{2}$ "	120	Buffers	164	Chimney Adaptors
1a	" " 9"	29	" " " 26 teeth	76	Triangular Plates, 2 $\frac{1}{2}$ "	120a	Spring Buffers	165	Swivel Bearings
1b	" " 7"	30	Bevel Gears, $\frac{1}{8}$ " 26 teeth	77	" " " 1"	120b	Compression Springs	166	End
2	" " 5"	30a	" " " 16 (Can only be	78	Screwed Rods, 11"	121	Train Couplings	167	Gearod Roller Bearings
2a	" " 4"	30c	" " " 1 $\frac{1}{2}$, 48 (used together)	79	" " " 8"	122	Miniature Loaded Sacks	167a	Roller Races, geared, 192 teeth
3	" " 3"	31	Gear Wheels, 1 $\frac{1}{2}$, 38 teeth	79a	" " " 6"	123	Cone Pulley	167b	Ring Frames for Rollers
4	" " 3"	32	Worms	80	" " " 5"	124	Reversed Angle Brackets, 1"	167c	Pinions for Roller Bearings, 16 teeth
5	" " 2 $\frac{1}{2}$ "	34	Spanners	80a	" " " 3 $\frac{1}{2}$ "	125	" " " 1"	168	Ball Bearing, 4" diam.
6	" " 2"	34b	Box Spanners	80b	" " " 4 $\frac{1}{2}$ "	126	Trunnions	168a	" Races, flanged disc
6a	" " 1 $\frac{1}{2}$ "	35	Spring Clips	81	" " " 2"	127	Simple Bell Cranks	168b	" " toothed
7	Angle Girders, 24 $\frac{1}{2}$ "	36	Screwdrivers	82	" " " 1"	128	Boss Bell Cranks	168c	" Casing, complete with balls
7a	" " 18"	36a	" Extra Long	89	5 $\frac{1}{2}$ " Curved Strips, 10" radius	129	Rack Segments, 3" diam.	169	Digger Buckets
8	" " 12"	36b	" Special...	89a	" " " cranked, 1 $\frac{1}{2}$ "	130	Eccentrics, Triple Throw	170	Eccentrics, $\frac{1}{2}$ " throw
8a	" " 9"	37	Nuts and Bolts, 7/32"	89b	radius, 4 to circle	131	Dredger Buckets	171	Socket Couplings
8b	" " 7"	37a	Nuts	90	4" Curved Strips, cranked, 4 $\frac{1}{2}$ "	132	Flywheels, 2 $\frac{1}{2}$ " diam.	172	Pendulum Connections
9	" " 5"	37b	Bolts, 7/32"	90	radius, 8 to circle	133	Corner Brackets, 1 $\frac{1}{2}$ "	173	Rail Adaptors
9a	" " 4"	38	Washers	90a	2 $\frac{1}{2}$ " Curved Strips, 2 $\frac{1}{2}$ " radius	133a	" " 1"	174	Grease Cups
9b	" " 3"	40	Hanks of Cord	90a	2 $\frac{1}{2}$ " " " cranked, 1 $\frac{1}{2}$ "	134	Crank Shanks, 1" stroke	175	Flexible Coupling Units
9c	" " 3"	41	Propeller Blades	94	radius, 4 to circle	135	Theodolite Protractors	176	Anchoring Springs for Cord
9d	" " 2 $\frac{1}{2}$ "	43	Spring	94	Sprocket Chain, 40" length	136	Handrail Supports	177	Shafting Standards, large
9e	" " 2"	44	Cranked Bent Strips	95	" " " 28 1 $\frac{1}{2}$ "	136a	" Couplings	178	" " small
9f	" " 1 $\frac{1}{2}$ "	45	Double	95b	" " " 56 3"	137	Wheel Flanges	179	Rod Sockets
10	Flat Brackets	46	Double Angle Strips, 2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	96	" " " 18 1"	138	Ships' Funnels	180	Toothed Gear Rings, 3 $\frac{1}{2}$ " diam.
11	Double Brackets	47	" " " 2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	96a	" " " 14 3"	*138a-z	" Raked	(133 external teeth; 95 internal teeth)	
12	Angle Brackets, 1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	47a	" " " 3" x 1 $\frac{1}{2}$ "	97	Braced Girders, 3 $\frac{1}{2}$ " long	139	Flanged Brackets (right)	181	Bobbins
12a	" " 1" x 1"	48	" " " 3" x 1 $\frac{1}{2}$ "	97a	" " " 3"	139a	" (left)	182	Insulating Bushes, 6BA
12b	" " 1" x 1"	48a	" " " 1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	98	" " " 2"	140	Universal Couplings	183	Lamp Holders
12c	Obtuse Angle Brackets, 1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	48a	" " " 1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	99	" " " 12"	141	Wire Lines (for suspending clock weights)	184a	Lamps, 2 $\frac{1}{2}$ " volt
13	Axle Rods, 11"	48b	" " " 2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	99a	" " " 9"	142	Rubber Rings, 3" rim	184b	" 3"
13a	" " 8"	48c	" " " 3 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	99b	" " " 7"	142a	Motor Tyres (to fit 2" diam. rims)	184c	" 6"
14	" " 6"	48d	" " " 4 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	100	" " " 5"	142b	" " " 3"	184d	" 10"
15	" " 5"	50a	Eye Pieces, with boss	100a	" " " 4"	142c	" " " 1"	184e	" 20"
15a	" " 4"	51	Flanged Plates, 2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	101	Healds, for looms	142d	" " " 1 $\frac{1}{2}$ "	185	Steering Wheels, 1 $\frac{1}{2}$ " diam.
15b	" " 4"	52	" " " 5 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	102	Single Bent Strips	143	Circular Girders, 5 $\frac{1}{2}$ " diam.	186	Driving Bands
16	" " 3"	52a	Flat Plates, 5 $\frac{1}{2}$ " x 3 $\frac{1}{2}$ "	103	Flat Girders, 5 $\frac{1}{2}$ " long	144	Dog Clutches	187	Road Wheels
16a	" " 2 $\frac{1}{2}$ "	53	Perforated Flanged Plates, 3 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	103a	" " " 9 $\frac{1}{2}$ "	145	Circular Strips, 7 $\frac{1}{2}$ " diam. overall	188	Flexible Plates, 2 $\frac{1}{2}$ " x 1"
16b	" " 3"	53a	Flat Plates, 4 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	103b	" " " 12 $\frac{1}{2}$ "	146	" Plates, 6"	189	" " 5 $\frac{1}{2}$ " x 1"
17	" " 2"	54a	Flanged Sector Plates, 4 $\frac{1}{2}$ " long	103c	" " " 4 $\frac{1}{2}$ "	146a	" " 4"	190	" " 2 $\frac{1}{2}$ " x 2"
18a	" " 1"	55	Perforated Strips, slotted, 5 $\frac{1}{2}$ " long	103d	" " " 3"	147	Pawls, with Pivot Bolt and nuts	191	" " 4 $\frac{1}{2}$ " x 2"
18b	" " 1"	55a	" " " 2"	103e	" " " 3"	147a	Pawls	192	" " 5 $\frac{1}{2}$ " x 2"
19	Crank Handles, large, 5"	57	Hooks	103f	" " " 2 $\frac{1}{2}$ "	147b	Pivot Bolt with 2 nuts	193	Strip Plates, 2 $\frac{1}{2}$ " x 2"
19a	" " small, 3 $\frac{1}{2}$ "	57a	" Scientific	103g	" " " 2"	147c	Pawl without boss	194	" " 3 $\frac{1}{2}$ " x 2"
19b	Wheels, 3" diam., with set screws	57b	" Loaded, large	103h	" " " 1"	148	Ratchet Wheels	195	" " 5 $\frac{1}{2}$ " x 2"
20	Flanged Wheels, 1 $\frac{1}{2}$ " diam.	57c	" small	103k	" " " 7 $\frac{1}{2}$ "	149	Collecting Shoes for Electric Locos	196	" " 9 $\frac{1}{2}$ " x 2"
20a	" " " " "	58	Spring Cord	104	Shuttles, for looms	150	Crane Grabs	197	" " 12 $\frac{1}{2}$ " x 2"
20b	" " " " "	58a	Coupling Screws for Spring Cord	105	Reed Hooks, for looms	151	Pulley Blocks, Single Sheave	198	Hinged Flat Plates, 4 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "
19b 3" dia., with centre boss & set screw		58b	Hooks for Spring Cord	106	Wood Rollers	152	" " Two	201	Lamps with Flex
19c 6" " " " " "		59	Collars with Grub Screws	106a	Sand Rollers	153	" " Three	202	Angle Brackets (for Headlamps)
20a 2" " " " " "		61	Windmill Sails	107	Tables for designing machines	154a	Corner Angle Brackets, $\frac{1}{2}$ " (right hand)	203	Headlamps
21 1 $\frac{1}{2}$ " " " " " "		62	Cranks	108	Architraves	154b	Corner Angle Brackets, $\frac{1}{2}$ " (left hand)	204	Headlamp Nuts
22 1 $\frac{1}{2}$ " " " " " "		62a	Threaded Cranks	109	Face Plates, 2 $\frac{1}{2}$ " diam.	155	Rubber Rings, $\frac{1}{8}$ " (for 1" Pulleys)	205	Glasses (Green, Plain or Red)
22a 1 $\frac{1}{2}$ " " " " " "		62b	Double Arm Cranks	110	Rack Strips, 3 $\frac{1}{2}$ "	156	Pointers, (with boss) 2 $\frac{1}{2}$ " overall	206	Lampshades
23 1 $\frac{1}{2}$ " " " " " "		63	Couplings	110a	" " " 6 $\frac{1}{2}$ "	157	Fans, 2" diam.	207	Lamp Bases
23a 1 $\frac{1}{2}$ " " " " " "		63a	Octagonal Couplings	111	Bolts, $\frac{1}{8}$ "	158a	Signal Arms, Home	208	Battery Tags and Studs
24 Bush Wheels		63b	Strip Couplings	111a	" " " 1"	158b	" Distant	208a	Washers for Battery Studs
25 Pinion Wheels, 1 $\frac{1}{2}$ " diam., face		63c	Threaded Couplings	113	Girder Frames	160	Channel Bearings, 1 $\frac{1}{2}$ " x 1" x $\frac{1}{2}$ "	210	Nuts
25a " " " " " "		64	" Bosses	114	Hinges	161	Girder Brackets, 2" x 1" x $\frac{1}{2}$ "	211a	Helical Gear, $\frac{1}{8}$ " (Can only be
25b " " " " " "		65	Centre Forks	115	Threaded Pins	162	Boiler, complete, with ends	211b	" " 1 $\frac{1}{2}$ " (used together)
26 " " " " " "		66	Weights, 50 grammes	116	Fork Pieces, large	162a	" ends		
26a " " " " " "		67	" 25	116a	" " small	162b	" without ends		
26b " " " " " "		68	Wood screws, $\frac{1}{2}$ "	117	Steel Balls, $\frac{1}{8}$ " diam.	163	Sleeve Pieces		
27 50 teeth to gear with 2 pinion		69	Set Screws	118	Hub Discs, 5 $\frac{1}{2}$ "				
27a 57 " " " " " "		69a	Grub Screws, 5/32"						
27b 133 " " " " " "		69b	" 7/32"						
27c 95 " " " " " "		70	Flat Plates, 5 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "						
		72	" " 2 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "						

* The series includes 26 Funnels in the correct designs and colours of leading shipping companies.

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