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SUPPLEMENTARY INSTRUCTION MANUAL

For Outfit

NO. 10

Price 15 Cents

MECCANO COMPANY
INCORPORATED

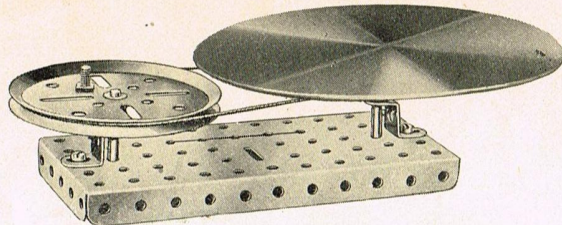
ELIZABETH,

NEW JERSEY

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AMERICAN EDITION

Model No. 1.214 Newton's Disc

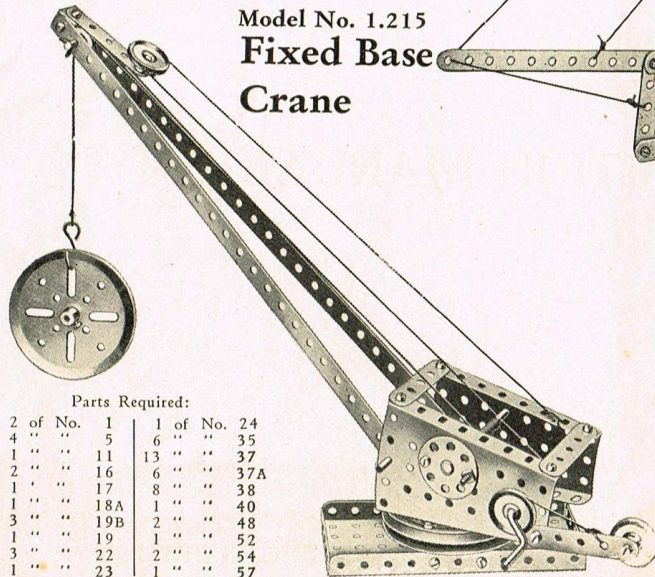


Parts Required:

2 of No. 17	1 of No. 37A
1 " " 19B	1 " " 52
2 " " 22	1 " " 111C
1 " " 24	2 " " 125
2 " " 37	

Model No. 1.215

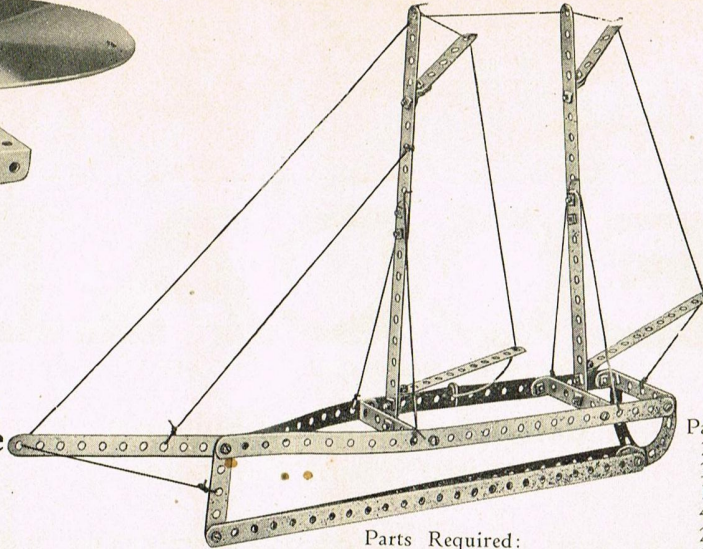
Fixed Base Crane



Parts Required:

2 of No. 1	1 of No. 24
4 " " 5	6 " " 35
1 " " 11	13 " " 37
2 " " 16	6 " " 37A
1 " " 17	8 " " 38
1 " " 18A	1 " " 40
3 " " 19B	2 " " 48
1 " " 19	1 " " 52
3 " " 22	2 " " 54
1 " " 23	1 " " 57

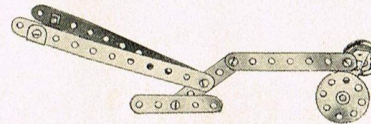
Model No. 1.216 Schooner



Parts Required:

4 of No. 1	4 of No. 12
7 " " 2	27 " " 37
3 " " 5	3 " " 48A
2 " " 11	2 " " 90A

Model No. 1.217 Plough



Parts Required:

2 of No. 2	1 of No. 24
1 " " 3	7 " " 37
2 " " 5	2 " " 48A
1 " " 12	2 " " 111C
1 " " 22	

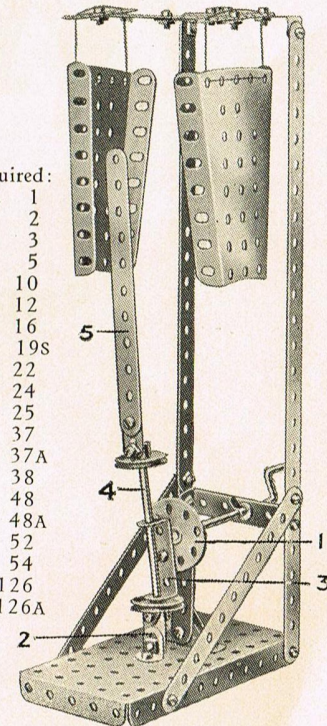
Model No. 1.218

Mechanical Gong

A Flat Bracket is connected pivotally to the base at 2 and is clamped rigidly to a 1" Pulley Wheel secured to the Rod (4). The latter passes through the 1½" Double Angle Strip (3) and carries at its upper end another Pulley to which is rigidly secured the striking arm (5). The Double Angle Strip (3) is pivoted to the Bush Wheel (1).

Parts Required:

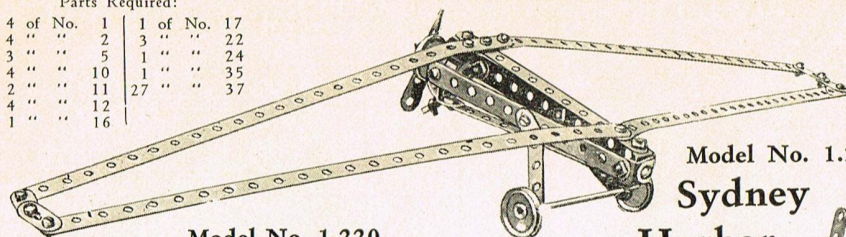
2 of No. 1	
3 " " 2	
1 " " 3	
4 " " 5	
2 " " 10	
1 " " 12	
1 " " 16	
1 " " 19S	
2 " " 22	
1 " " 24	
2 " " 25	
26 " " 37	
1 " " 37A	
2 " " 38	
1 " " 48	
2 " " 48A	
1 " " 52	
2 " " 54	
1 " " 126	
1 " " 126A	



Model No. 1.219 Pterodactyl

Parts Required:

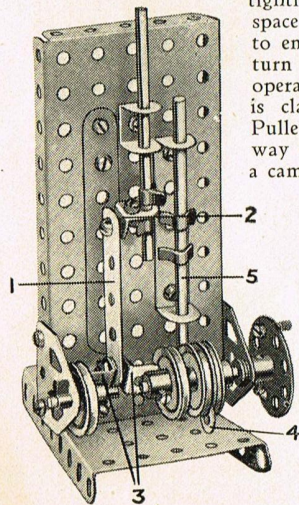
4 of No.	1	1 of No.	17
4 " "	2	3 " "	22
3 " "	5	1 " "	24
4 " "	10	1 " "	35
2 " "	11	27 " "	37
4 " "	12		
1 " "	16		



Model No. 1.220

Tappet Valve Demonstration Model

The upper end of the Strip (1) is connected pivotally by a Bolt and two Nuts to the crosshead Bracket (2). The crankshaft is built up as follows: Two Angle Brackets are each secured rigidly to the boss of a Pulley Wheel and are connected to each other by a $\frac{3}{8}$ " Bolt carrying three Nuts. The Nuts are screwed tightly against the Brackets, sufficient space being left between the inner pair to enable the connecting Strip (1) to turn freely. The valve Rod (5) is operated by the Flat Bracket (4) that is clamped between two further 1" Pulleys on the crankshaft in such a way that its protruding end serves as a cam.

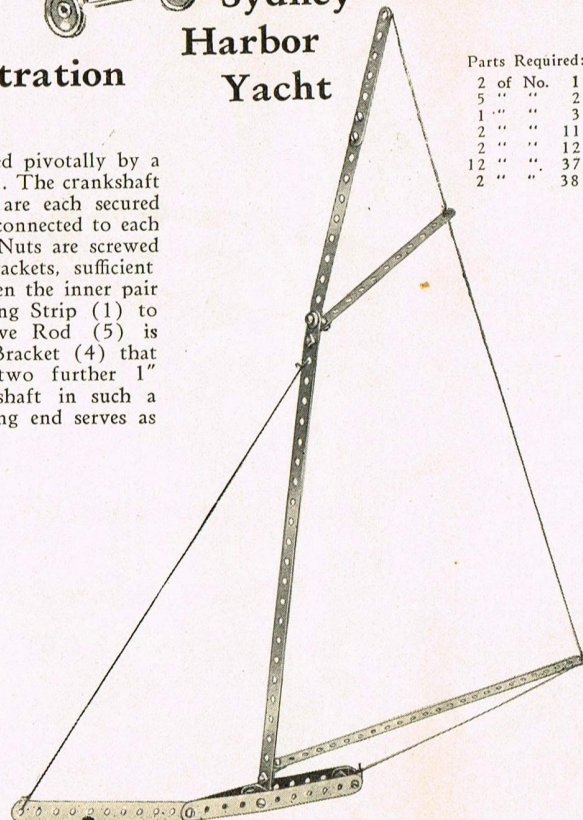


Parts Required:

1 of No.	3
1 " "	5
1 " "	10
1 " "	11
3 " "	12
2 " "	16
1 " "	17
1 " "	18A
4 " "	22
1 " "	24
5 " "	35
15 " "	37
5 " "	37A
4 " "	38
1 " "	48A
1 " "	52
1 " "	54
2 " "	111C
2 " "	126A

Model No. 1.221

Sydney Harbor Yacht



Model No. 1.222

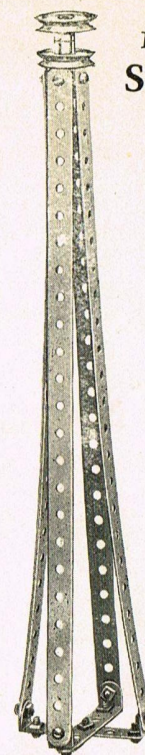
Lighthouse

Parts Required:

4 of No.	1
2 " "	11
1 " "	17
2 " "	22
13 " "	37
2 " "	48A

Parts Required:

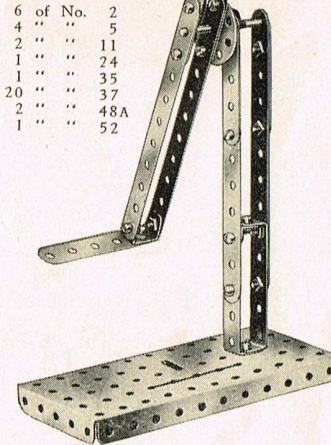
2 of No.	1
5 " "	2
1 " "	3
2 " "	11
2 " "	12
12 " "	37
2 " "	38



Model No. 1.223 Silk Winder

Parts Required:

6 of No.	2
4 " "	5
2 " "	11
1 " "	24
1 " "	35
20 " "	37
2 " "	48A
1 " "	52

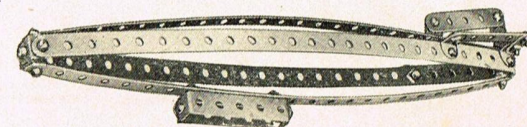


Model No. 1.224

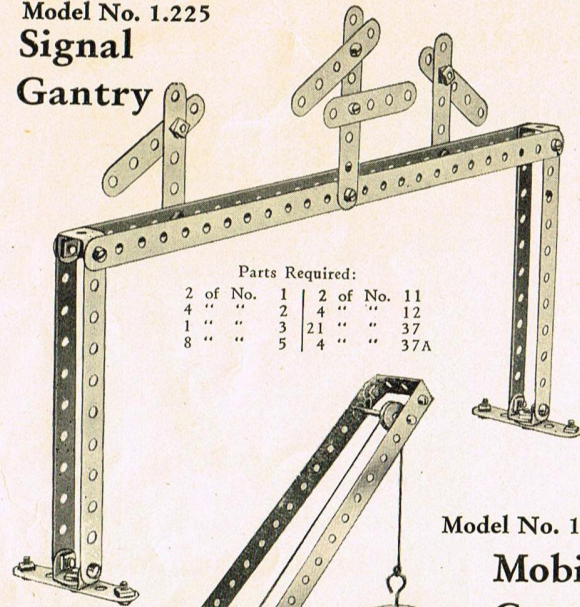
Airship

Parts Required:

4 of No.	1	8 of No.	12
3 " "	5	29 " "	37
3 " "	10	3 " "	48A
2 " "	11	2 " "	125

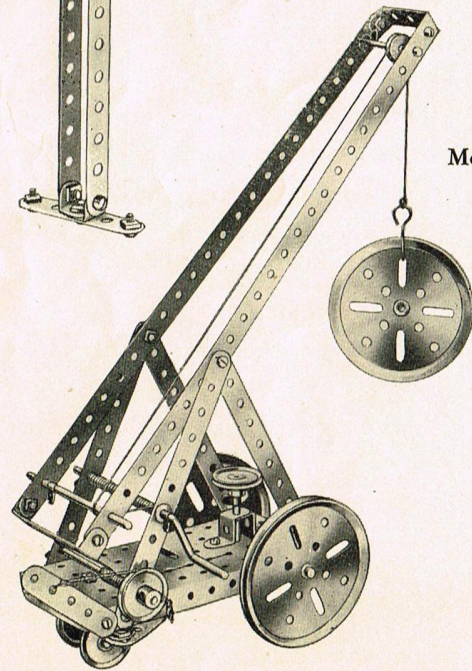


Model No. 1.225
**Signal
Gantry**



Parts Required:

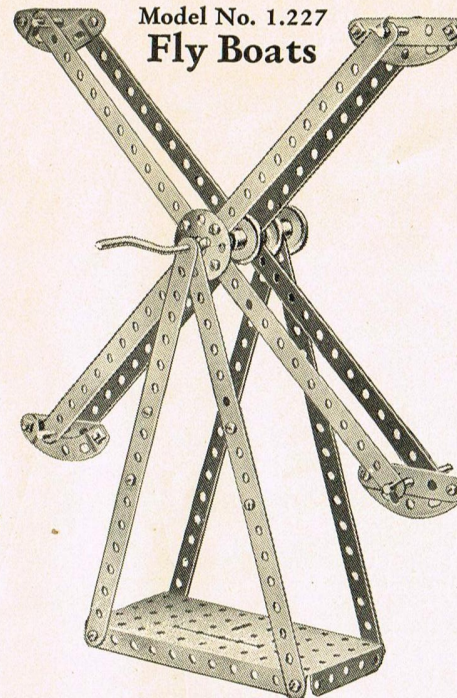
2 of No.	1	2 of No.	11
4 " "	2	4 " "	12
1 " "	3	21 " "	37
8 " "	5	4 " "	37A



Model No. 1.226
**Mobile
Crane**

Parts Required:

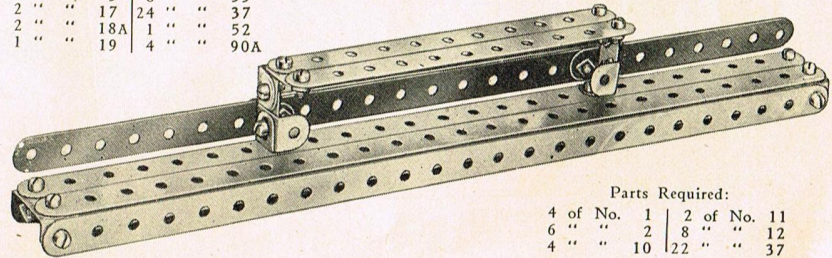
2 of No.	1
4 " "	2
1 " "	3
1 " "	5
1 " "	10
2 " "	12
3 " "	16
2 " "	17
3 " "	19B
1 " "	19
4 " "	22
1 " "	23
8 " "	35
16 " "	37
7 " "	37A
4 " "	38
1 " "	40
1 " "	44
1 " "	48
1 " "	48A
1 " "	52
1 " "	57
2 " "	125



Model No. 1.227
Fly Boats

Parts Required:

4 of No.	1	4 of No.	22
8 " "	2	1 " "	24
4 " "	5	8 " "	35
2 " "	17	24 " "	37
2 " "	18A	1 " "	52
1 " "	19	4 " "	90A



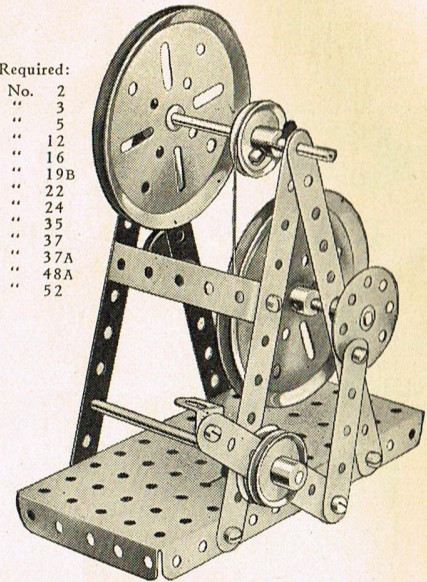
Parts Required:

4 of No.	1	2 of No.	11
6 " "	2	8 " "	12
4 " "	10	22 " "	37

Model No. 1.228
Treadle Grindstone

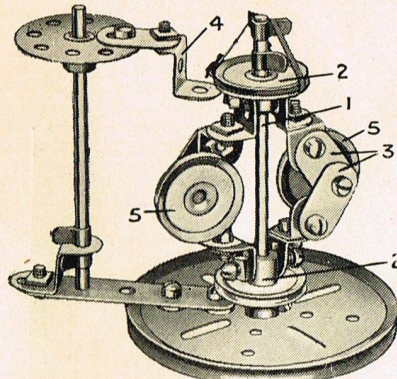
Parts Required:

4 of No.	2
1 " "	3
1 " "	5
1 " "	12
3 " "	16
2 " "	19B
4 " "	22
1 " "	24
2 " "	35
9 " "	37
2 " "	37A
1 " "	48A
1 " "	52



Model No. 1.229 **Way-Side Halt**

Model No. 1.230 Gramophone Governor



Parts Required:

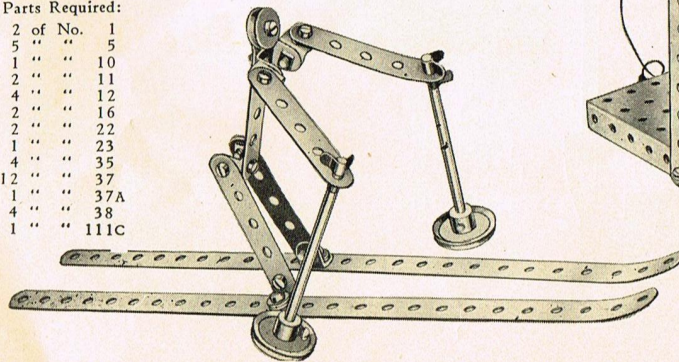
1 of No.	5
5 " "	10
8 " "	12
2 " "	16
1 " "	19B
4 " "	22
1 " "	24
4 " "	35
17 " "	37
4 " "	37A
4 " "	38
2 " "	111C
2 " "	126

The Rod (1), which is free to rotate in the 3 inch Pulley that forms the base, carries two 1-inch Pulleys (2), the upper one being free on the Rod and the lower one fixed. The Flat Brackets (3) are pivotally attached to the Angle Brackets and to the Pulleys (5) forming the governor weights. The upper Pulley (2) is connected to the top of the Rod by a small piece of elastic (not included in the Outfit). The drive is led to the lower Pulley (2), and on the governor reaching a certain speed the upper Pulley presses on the stop (4). The speed can be regulated by adjusting the height of the stop (4).

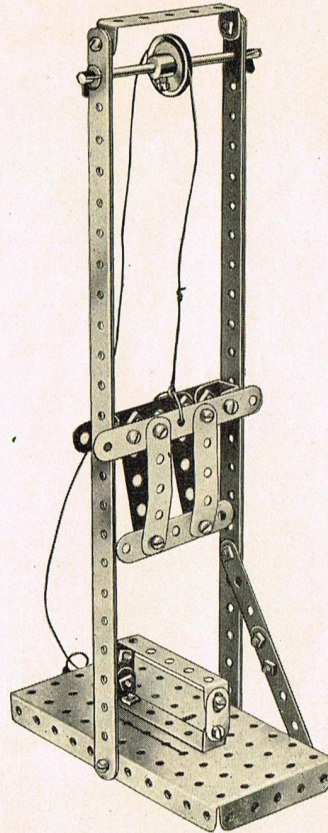
Model No. 1.231 Ski-er

Parts Required:

2 of No.	1
5 " "	5
1 " "	10
2 " "	11
4 " "	12
2 " "	16
2 " "	22
1 " "	23
4 " "	35
12 " "	37
1 " "	37A
4 " "	38
1 " "	111C



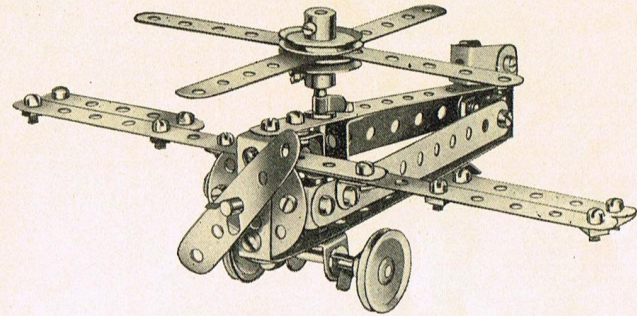
Model No. 1.232 Guillotine



Parts Required:

4 of No.	1	1 of No.	22
1 " "	3	2 " "	35
9 " "	5	24 " "	37
2 " "	10	2 " "	38
2 " "	11	3 " "	48A
1 " "	16	1 " "	52

Model No. 1.233 Helicopter



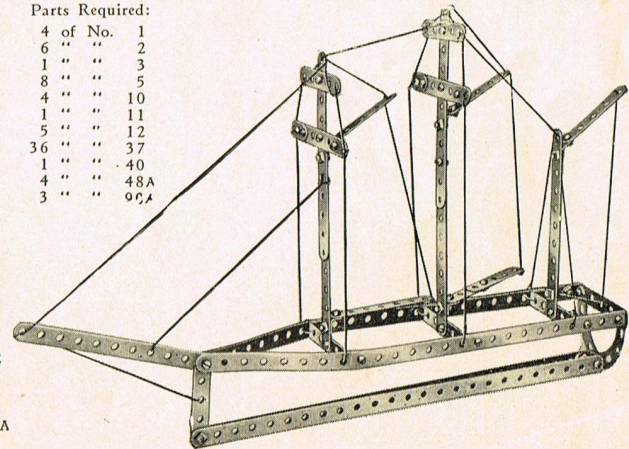
Parts Required:

8 of No.	2	2 of No.	17	5 of No.	38
3 " "	5	4 " "	22	1 " "	44
5 " "	10	1 " "	24	1 " "	48
2 " "	11	5 " "	35	2 " "	125
8 " "	12	31 " "	37		

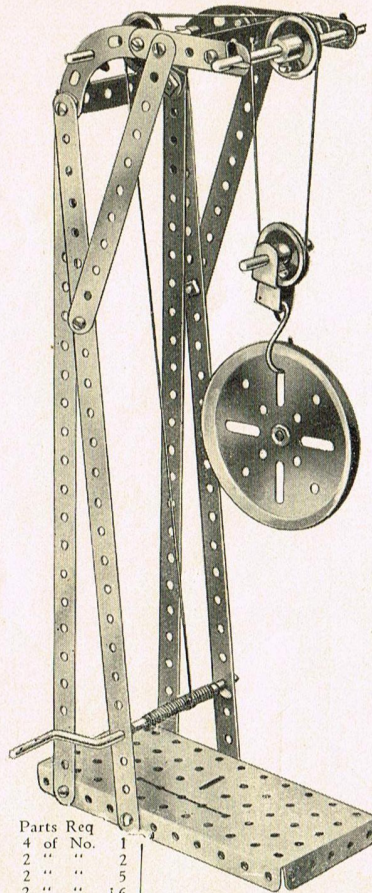
Model No. 1.234 Topsail Schooner

Parts Required:

4 of No.	1
6 " "	2
1 " "	3
8 " "	5
4 " "	10
1 " "	11
5 " "	12
36 " "	37
1 " "	40
4 " "	48A
3 " "	OC/A



Model No. 1.235 Warehouse Crane

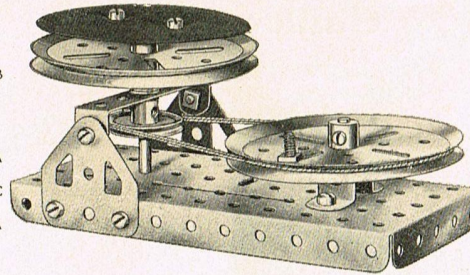


Parts Req						
4 of No.	1					
2 " "	2					
2 " "	5					
2 " "	16					
1 " "	18A	6 of No.	35	2 of No.	48A	
1 " "	19B	14 " "	37	1 " "	52	
1 " "	19	1 " "	40	1 " "	57	
3 " "	22	1 " "	44	2 " "	90A	

Model No. 1.236 Emery Wheel

Parts Required:

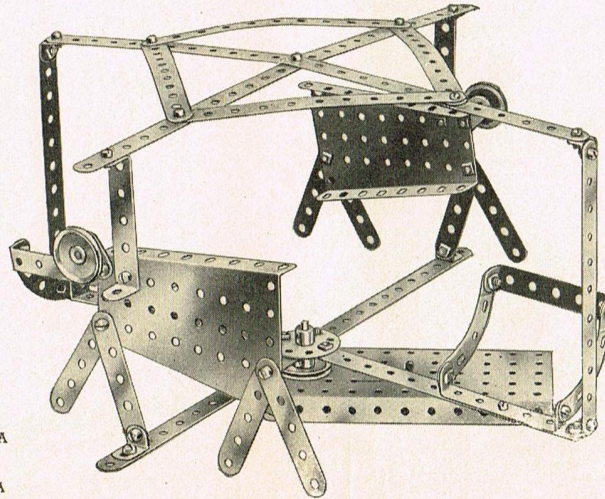
2 of No.	19B
1 " "	22
1 " "	24
1 " "	35
10 " "	37
1 " "	37A
1 " "	52
1 " "	111C
2 " "	125
2 " "	126A



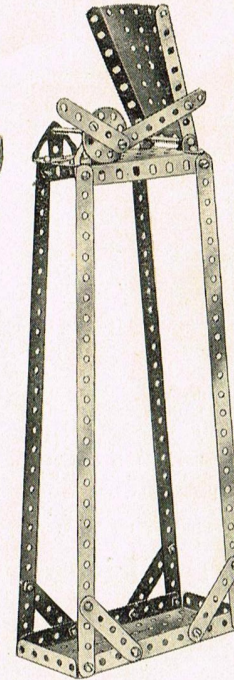
Model No. 1.237 Roundabout

Parts Required:

4 of No.	1	1 of No.	17	6 of No.	48A
4 " "	2	4 " "	22	1 " "	52
8 " "	5	1 " "	24	4 " "	90A
2 " "	10	36 " "	37		
6 " "	12	5 " "	38		



Model No. 1.238 Catapult



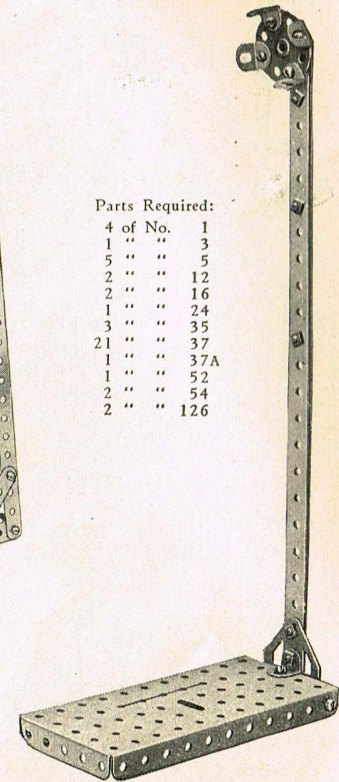
Parts Required:

2 of No.	1
7 " "	12
1 " "	24
15 " "	37
1 " "	52
1 " "	111C

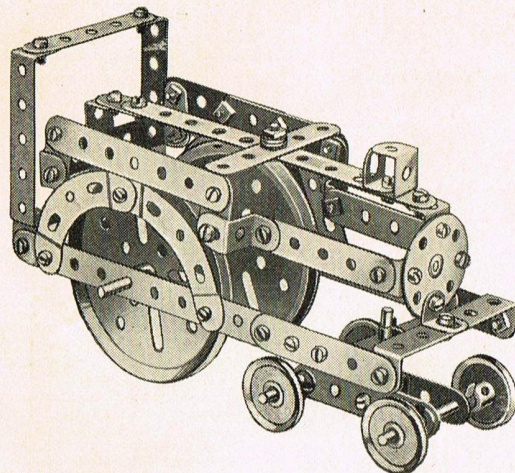
Model No. 1.239 Heliograph

Parts Required:

4 of No.	1
1 " "	3
5 " "	5
2 " "	12
2 " "	16
1 " "	24
3 " "	35
21 " "	37
1 " "	37A
1 " "	52
2 " "	54
2 " "	126



Model No. 1.240 Locomotive



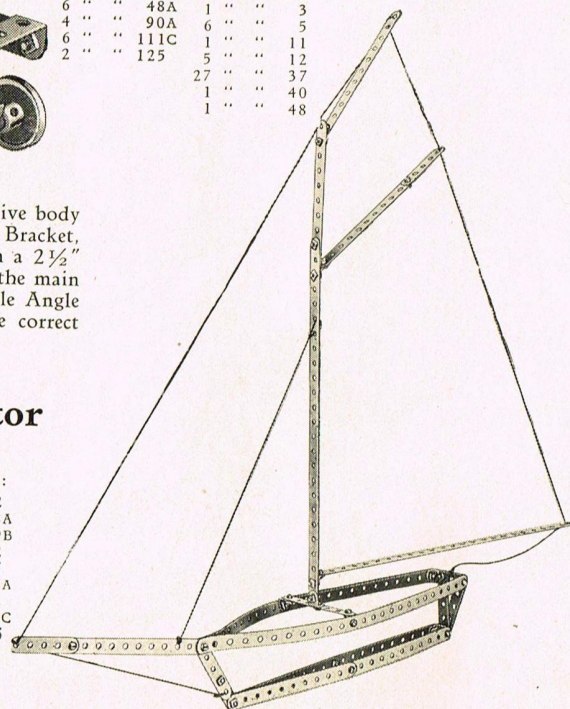
Parts Required:

4 of No.	2
9 " "	5
5 " "	10
2 " "	11
6 " "	12
3 " "	16
1 " "	18A
2 " "	19B
4 " "	22
1 " "	24
8 " "	35
36 " "	37
6 " "	37A
6 " "	38
1 " "	48
6 " "	48A
4 " "	90A
6 " "	111C
2 " "	125

Model No. 1.243 Yacht

Parts Required:

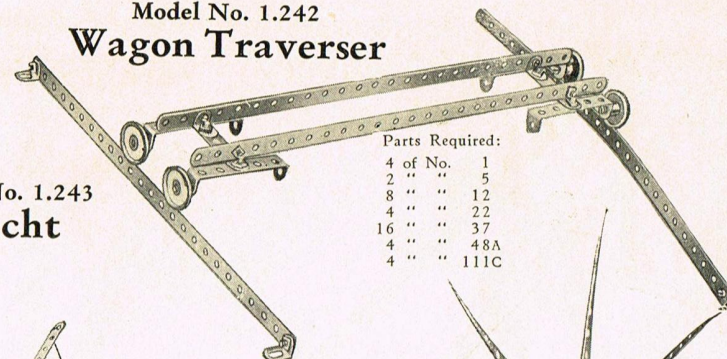
4 of No.	1
8 " "	2
1 " "	3
6 " "	5
1 " "	11
5 " "	12
27 " "	37
1 " "	40
1 " "	48



Model No. 1.242 Wagon Traverser

Parts Required:

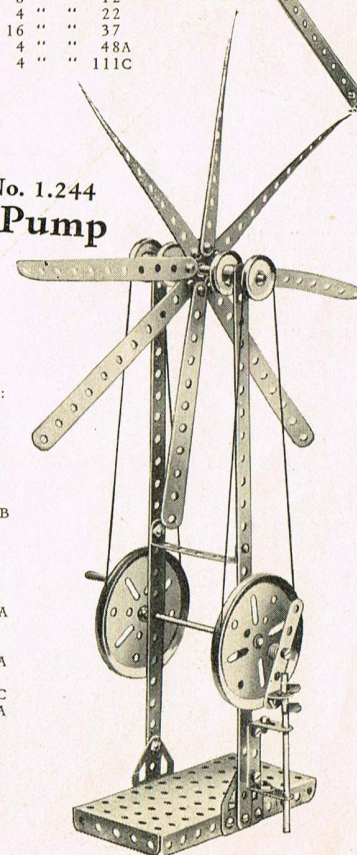
4 of No.	1
2 " "	5
8 " "	12
4 " "	22
16 " "	37
4 " "	48A
4 " "	111C



Model No. 1.244 Wind Pump

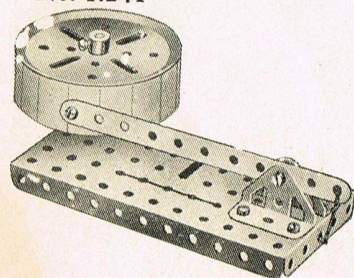
Parts Required:

2 of No.	1
8 " "	2
1 " "	5
2 " "	10
1 " "	12
2 " "	16
2 " "	19B
1 " "	19
4 " "	22
1 " "	24
2 " "	35
19 " "	37
4 " "	37A
8 " "	38
1 " "	48
1 " "	48A
1 " "	52
3 " "	111C
2 " "	126A



The bogie is connected pivotally to the locomotive body by means of a $1\frac{1}{2}$ " Rod journalled in a Double Bracket, which is secured in the centre of the bogie, and in a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip that is secured between the main side frames. Two Spring Clips between the Double Angle Strip and Double Bracket space the bogie at the correct distance.

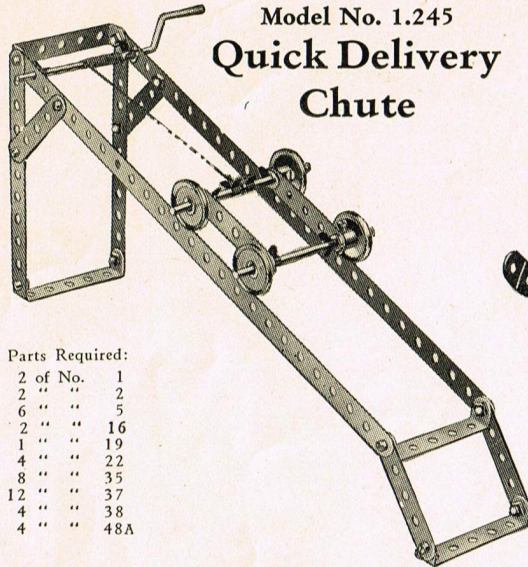
Model No. 1.241 Vibration Indicator



Parts Required:

1 of No.	2
1 " "	18A
3 " "	19B
1 " "	22
5 " "	37
3 " "	37A
1 " "	52
1 " "	111C
2 " "	126

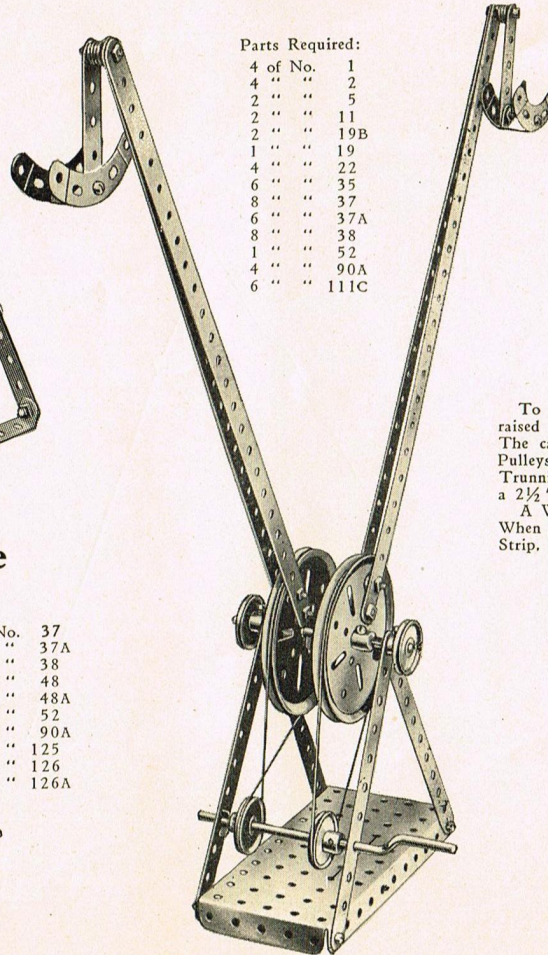
Model No. 1.245 Quick Delivery Chute



Parts Required:

2 of No.	1
2 " "	2
6 " "	5
2 " "	16
1 " "	19
4 " "	22
8 " "	35
12 " "	37
4 " "	38
4 " "	48A

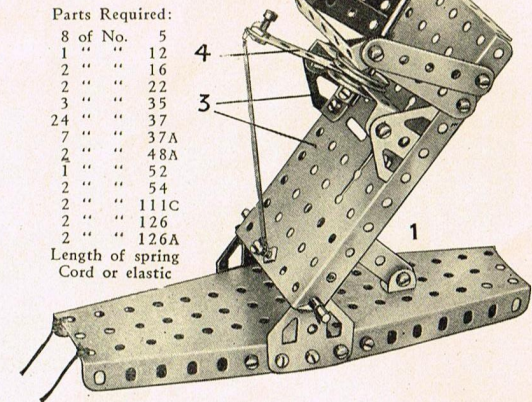
Model No. 1.247 Flip Flap



Parts Required:

4 of No.	1
4 " "	2
2 " "	5
2 " "	11
2 " "	19B
1 " "	19
4 " "	22
6 " "	35
8 " "	37
6 " "	37A
8 " "	38
1 " "	52
4 " "	90A
6 " "	111C

Model No. 1.248 Catapult



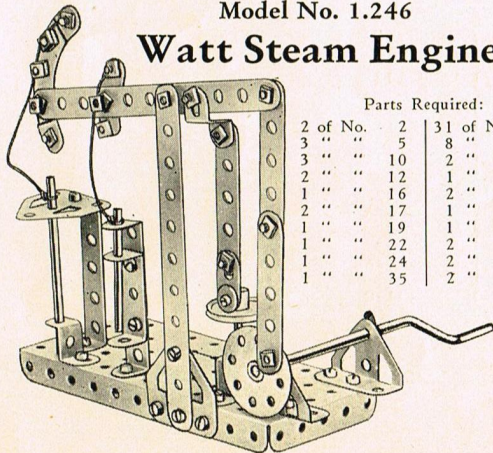
Parts Required:

8 of No.	5
1 " "	12
2 " "	16
2 " "	22
3 " "	35
24 " "	37
7 " "	37A
2 " "	48A
1 " "	52
2 " "	54
2 " "	111C
2 " "	126
2 " "	126A
Length of spring Cord or elastic	

To alter the range of this model the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate is raised or depressed and held in the desired position by the $2\frac{1}{2}$ " Strip (1). The catapult consists of a $3\frac{1}{2}$ " Rod (2) clamped by means of two 1" Pulleys to a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip that is lock-nutted to two Trunnions (3). A length of Spring Cord or elastic is attached at one end to a $2\frac{1}{2}$ " Strip 4, and at the other to the Flanged Plate.

A Washer is placed on the Rod (2) so that it rests on the Spring Clip. When the Rod is depressed, and released so that it hits the Double Angle Strip, the Washer flies through the air for a considerable distance.

Model No. 1.246 Watt Steam Engine



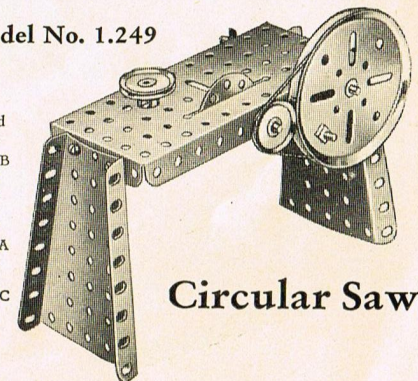
Parts Required:

2 of No.	2	31 of No.	37
3 " "	5	8 " "	37A
3 " "	10	2 " "	38
2 " "	12	1 " "	48
1 " "	16	2 " "	48A
2 " "	17	1 " "	52
1 " "	19	1 " "	90A
1 " "	22	2 " "	125
1 " "	24	2 " "	126
1 " "	35	2 " "	126A

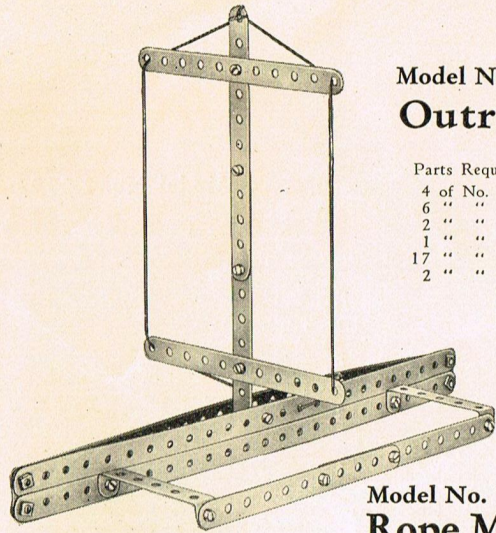
Model No. 1.249

Parts Required

2 of No.	16
1 " "	19B
2 " "	22
1 " "	24
3 " "	35
6 " "	37
1 " "	37A
1 " "	52
2 " "	54
1 " "	111C
2 " "	125



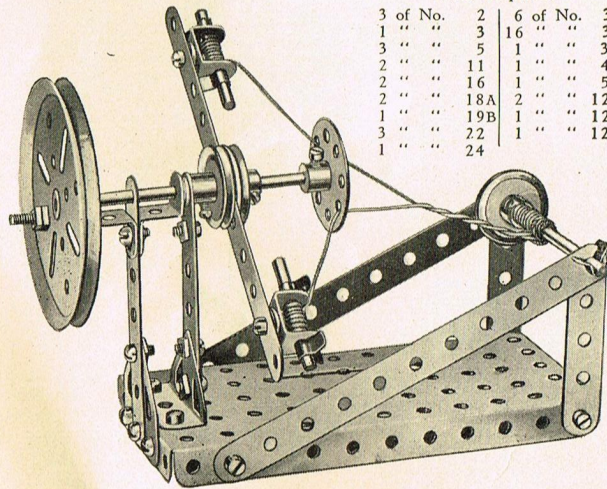
Circular Saw



**Model No. 1.250
Outrigger**

Parts Required:

4 of No.	1
6 " "	2
2 " "	10
1 " "	11
17 " "	37
2 " "	48A

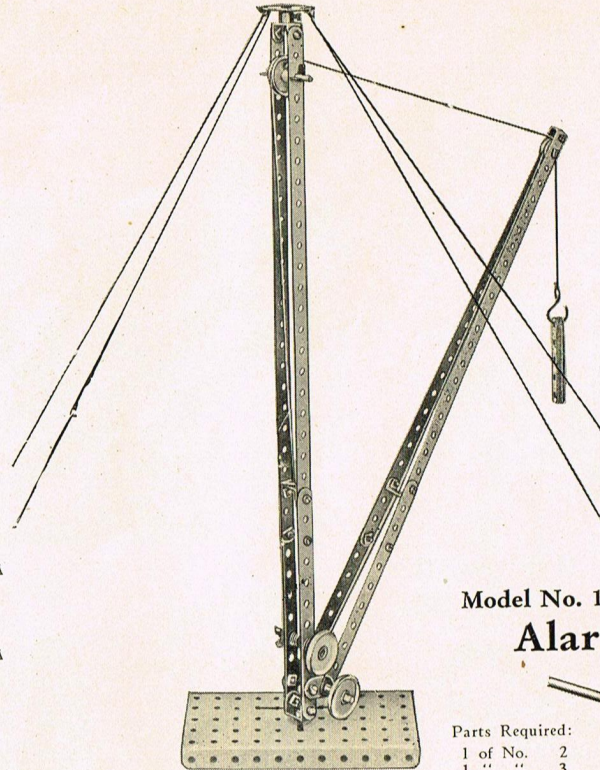


**Model No. 1.251
Rope Maker**

Parts Required:

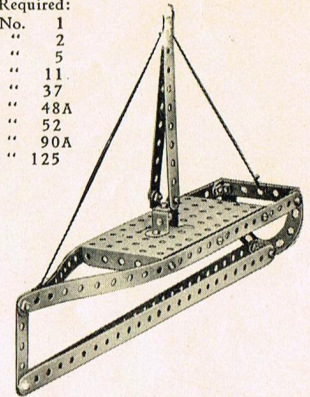
3 of No.	2	6 of No.	35
1 " "	3	16 " "	37
3 " "	5	1 " "	37A
2 " "	11	1 " "	40
2 " "	16	1 " "	52
2 " "	18A	2 " "	125
1 " "	19B	1 " "	126
3 " "	22	1 " "	126A
1 " "	24		

Model No. 1.252 Mast Derrick **Model No. 1.253 Lightship**



Parts Required:

4 of No.	1
2 " "	2
1 " "	5
2 " "	11
21 " "	37
1 " "	48A
1 " "	52
2 " "	90A
2 " "	125



**Model No. 1.254
Alarm**

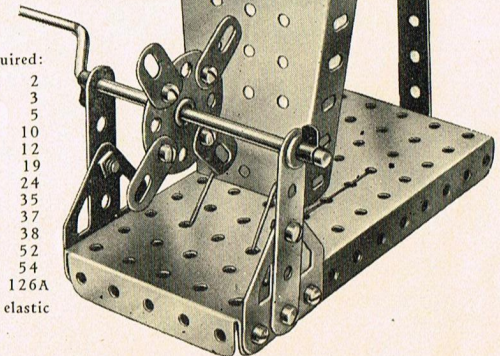
Parts Required:

1 of No.	2
1 " "	3
3 " "	5
4 " "	10
1 " "	12
1 " "	19
1 " "	24
2 " "	35
16 " "	37
2 " "	38
1 " "	52
1 " "	54
2 " "	126A

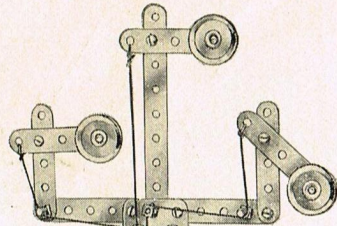
Length of elastic

Parts Required

4 of No.	1	1 of No.	23
4 " "	2	1 " "	24
9 " "	5	5 " "	35
2 " "	10	15 " "	37
2 " "	11	6 " "	37A
4 " "	12	1 " "	40
1 " "	17	1 " "	52
2 " "	18A	1 " "	57
3 " "	22	3 " "	111C

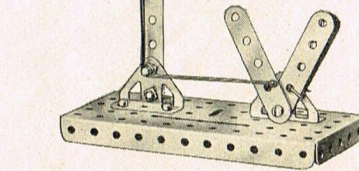


Model No. 1.255 Signal Gantry

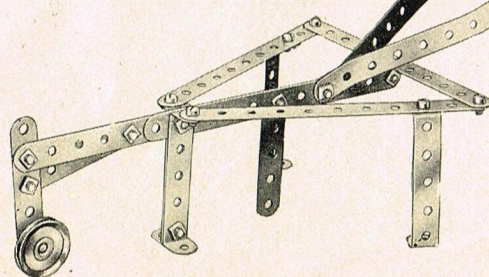


Parts Required:

1 of No.	1
1 " "	2
8 " "	5
3 " "	22
15 " "	37
9 " "	37A
2 " "	38
1 " "	52
6 " "	111C
2 " "	126
1 " "	126A



Model No. 1.256 Scarifier



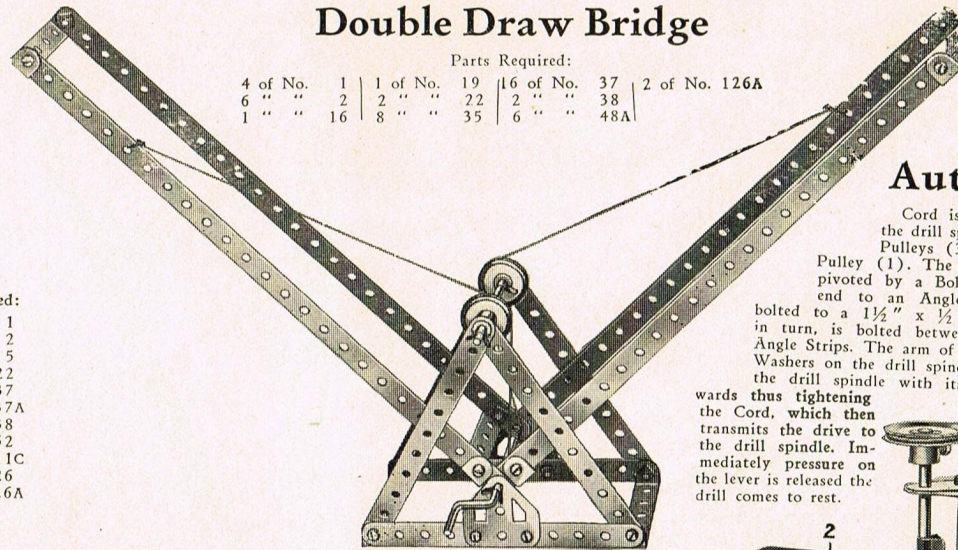
Parts Required

7 of No.	2
3 " "	5
1 " "	12
1 " "	22
19 " "	37
4 " "	48
2 " "	90A
1 " "	111C

Model No. 1.257 Double Draw Bridge

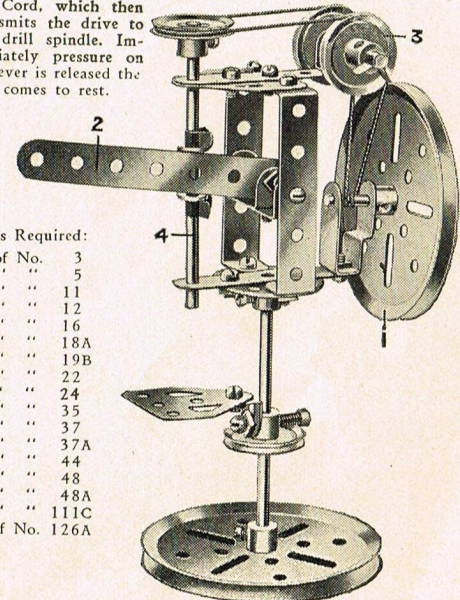
Parts Required:

4 of No.	1	1 of No.	19	16 of No.	37	2 of No.	126A
6 " "	2	2 " "	22	2 " "	38		
1 " "	16	8 " "	35	6 " "	48A		



Model No. 1.259 Automatic Drill

Cord is passed around the Pulley on the drill spindle (4) and thence over the Pulleys (3) and round the shaft of the Pulley (1). The lever (2) (a $3\frac{1}{2}$ " Strip) is pivoted by a Bolt and two Nuts at its inner end to an Angle Bracket, and the latter is bolted to a $1\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip which, in turn, is bolted between the vertical $2\frac{1}{2}$ " Double Angle Strips. The arm of the lever engages between two Washers on the drill spindle, and on pressing the lever, the drill spindle with its 1" Pulley is forced downwards thus tightening the Cord, which then transmits the drive to the drill spindle. Immediately pressure on the lever is released the drill comes to rest.



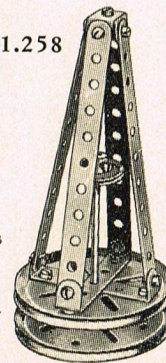
Parts Required:

1 of No.	3
2 " "	5
1 " "	11
2 " "	12
2 " "	16
2 " "	18A
2 " "	19B
4 " "	22
1 " "	24
4 " "	35
16 " "	37
1 " "	37A
1 " "	44
1 " "	48
2 " "	48A
1 " "	111C
2 of No.	126A

Model No. 1.258 Buoy

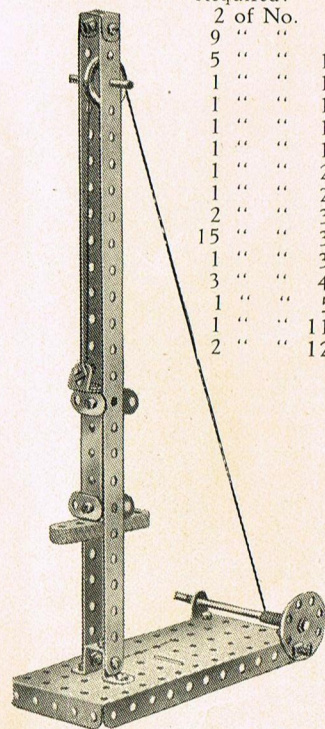
Parts Required

4 of No.	2
2 " "	11
1 " "	16
1 " "	19B
1 " "	22
13 " "	37
2 " "	38
2 " "	48A



Model No. 1.260

Pile Driver



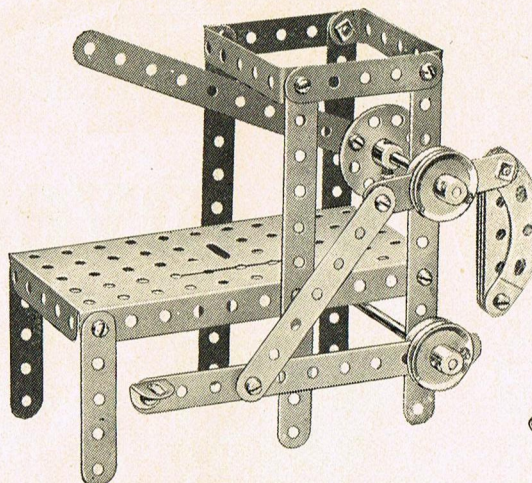
Parts Required:		
2 of No.	1	
9 " "	5	
5 " "	10	
1 " "	11	
1 " "	12	
1 " "	16	
1 " "	17	
1 " "	22	
1 " "	24	
2 " "	35	
15 " "	37	
1 " "	37A	
3 " "	48A	
1 " "	52	
1 " "	111C	
2 " "	125	

The winding cord is passed round the Pulley at the top of the model and is fastened to an Angle Bracket that is hooked under the protruding portion of a Flat Bracket bolted to the top of the driving head. When the Angle Bracket reaches the Pulley at the top it is pushed out a little, thus releasing the driving head.

Model No. 1.261 Foot Hammer

Parts Required:

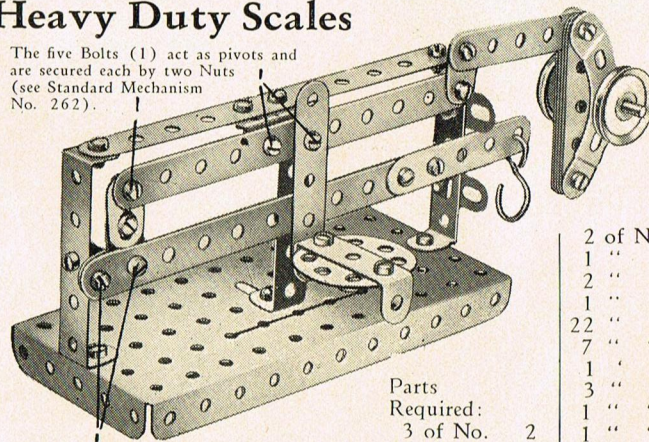
6 of No.	2
1 " "	3
9 " "	5
1 " "	12
2 " "	16
4 " "	22
1 " "	24
2 " "	35
15 " "	37
4 " "	37A
2 " "	38
2 " "	48A
1 " "	52
4 " "	90A



The treadle lever is connected pivotally to a $3\frac{1}{2}$ " Strip by a Bolt and two Nuts. The upper end of the Strip is similarly connected to a $2\frac{1}{4}$ " Strip that is clamped tightly between two Pulleys on the Rod. Pressure on the treadle causes the hammer to descend on the work. When the treadle is released the weight pulls the hammer back to its original position.

Model No. 1.262 Heavy Duty Scales

The five Bolts (1) act as pivots and are secured each by two Nuts (see Standard Mechanism No. 262).

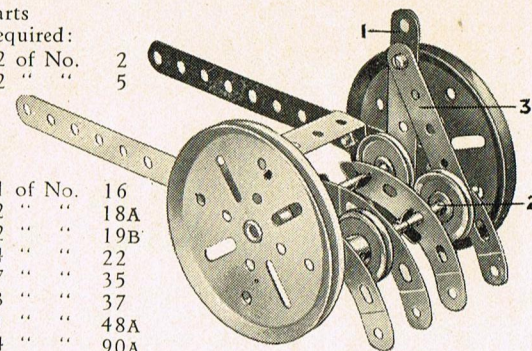


Parts Required:		
3 of No.	2	
9 " "	5	
5 " "	10	
2 of No.	12	
1 " "	18A	
2 " "	22	
1 " "	24	
22 " "	37	
7 " "	37A	
1 " "	48	
3 " "	48A	
1 " "	52	
1 " "	57	
2 " "	90A	
2 " "	111C	

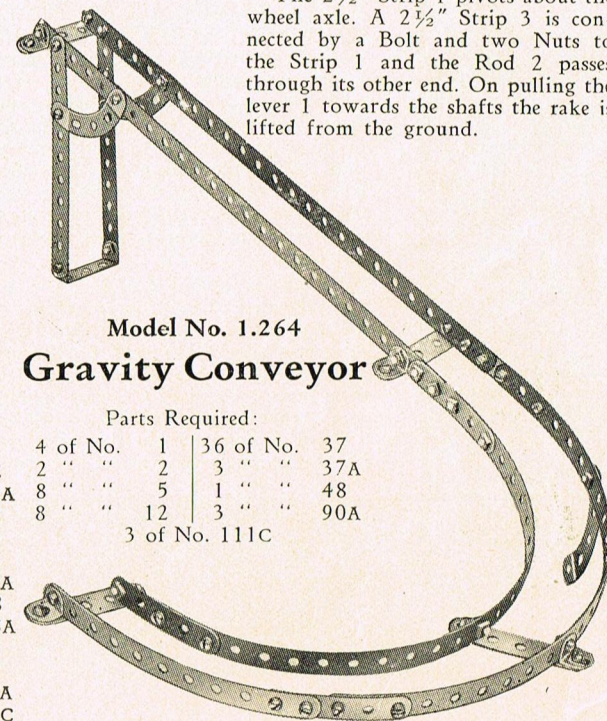
Model No. 1.263 Horse Rake

Parts Required:

2 of No.	2
2 " "	5
1 of No.	16
2 " "	18A
2 " "	19B
4 " "	22
7 " "	35
3 " "	37
1 " "	48A
4 " "	90A



The $2\frac{1}{2}$ " Strip 1 pivots about the wheel axle. A $2\frac{1}{2}$ " Strip 3 is connected by a Bolt and two Nuts to the Strip 1 and the Rod 2 passes through its other end. On pulling the lever 1 towards the shafts the rake is lifted from the ground.

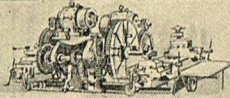


Model No. 1.264

Gravity Conveyor

Parts Required:

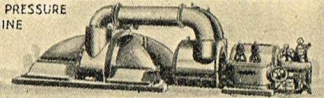
4 of No.	1	36 of No.	37
2 " "	2	3 " "	37A
8 " "	5	1 " "	48
8 " "	12	3 " "	90A
3 of No. 111C			

GIANT
TURNING, BORING
AND
BOSSING LATHE

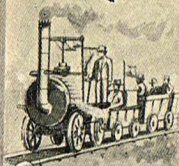
ELECTRIC TRAIN



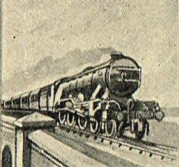
SUBMARINE

HIGH PRESSURE
TURBINE

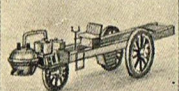
THE FIRST PASSENGER LOCOMOTIVE



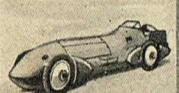
THE FLYING SCOTSMAN



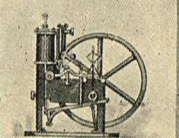
CUGNOT'S ROAD VEHICLE



MODERN RACING CAR



ENGINE OF EARLY STEAMBOAT

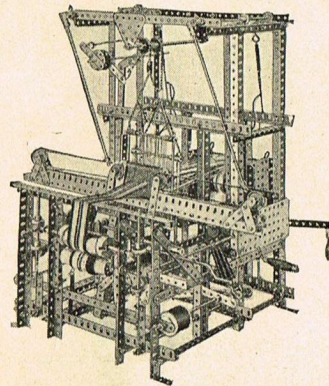


The Joy of Inventing!

INVENTING new models and movements in Meccano is a most fascinating pastime, as every Meccano boy knows. There is nothing in the world comparable with the joy and satisfaction of creating something new.

Never before has there been such a great opportunity for inventors. Every trade, no matter how humble or how elevated it may be, has need of the best machines to enable it to meet competition among the nations of the world. Every little improvement or new method of construction that will allow of lower manufacturing costs is eagerly welcomed.

Before the invention of Meccano, the boy who desired to learn something of the wonders of engineering had to gain his knowledge from text books, and perhaps spend hours of study with very little profit to himself as far as learning was concerned. But Meccano has changed all this, and the boy of to-day can immediately commence to build



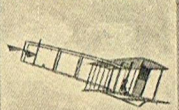
This Meccano Loom Model, made entirely of Meccano parts, actually weaves neckties, hat-bands, etc. *What can't a Meccano boy do when he tries!*

models of practically every known engineering device. Moreover, he can make working models from his own ideas, and all the time he is a real engineer in miniature.

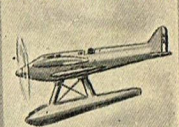
Whenever he uses his Meccano Outfit new ideas come to him. He builds a piece of intricate mechanism and discovers the secrets of its working. He gradually accumulates so much valuable knowledge of mechanics and engineering that he is able to develop new ideas and put them into practice.

Every Meccano boy should try his hand at inventing. Large numbers of new models, suggestions, and bright ideas reach us each day and in order to show Meccano boys what has been done already and to provide ideas for future use, we have included in this book a selection of the most outstanding efforts that have been received recently. Several of the models shown are published for the first time.

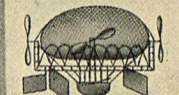
WRIGHT'S GLIDER



'SUPERMARINE NAPIER' SEAPLANE



'AN EARLY 'AEROSTAT'



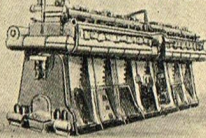
DIRIGIBLE AIRSHIP



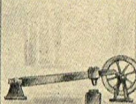
EARLY STEAMBOAT



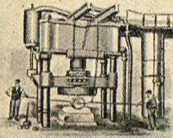
GIANT MARINE ENGINE



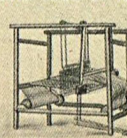
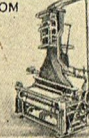
EARLY TRIP HAMMER



1200-TON PRESS



HAND LOOM OF 1825

MODERN
LOOM

H.M.S. NELSON.



Handwritten notes: 1/2, 1/2, 1/2