

MECCANO

TRADE MARKS 296321, 501113, 76, 12633, 10274, 55/13476, 569/13, 884/25, 2913, 80, 124, 336, 4174, 91637, 83171, 157149, 32822, 200639, 209733, 214061, 214062, 12892, 29094, 33316, 1818, 16737, 383/13, 5848, 50204, 10/12258, 22826, 18982, 20063/925, 9048, 5549, 2189, 16900, 72286, 2389, 41812, 5403, 7315, 18066, 139420, 494933-4-5-6, 29041, 26877, 6595, 404718, 410379, 55096, 12240, 41234, 8223, 1855

HORNBY'S ORIGINAL SYSTEM—FIRST PATENTED 1901

INSTRUCTIONS

FOR BUILDING No. 1 OUTFIT MODELS



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No. 32.OA

ENGLISH EDITION

MECCANO

REAL ENGINEERING IN MINIATURE

The Meccano 0A Accessory Outfit converts your No. 0 Outfit into a No. 1, and enables you to build the splendid models illustrated in this Manual. As a Meccano enthusiast, you will realise that our examples do not exhaust the possibilities 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.

HOW TO PROGRESS

When you desire to build the bigger and better models that the No. 2 Outfit makes, it is only necessary for you to purchase a No. 1A Accessory Outfit. In turn, a No. 2A Accessory Outfit will convert your equipment into No. 3, and so on. As you progress by these easy stages, you will obtain an increasing variety of perfectly-made engineering parts—Gear Wheels, Pulleys, Worms, Couplings, Cranks and many others—until ultimately you attain the ambition of every Meccano enthusiast and possess a No. 7 Outfit.

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 from any newsagent.

CONTENTS OF No. 1 OUTFIT

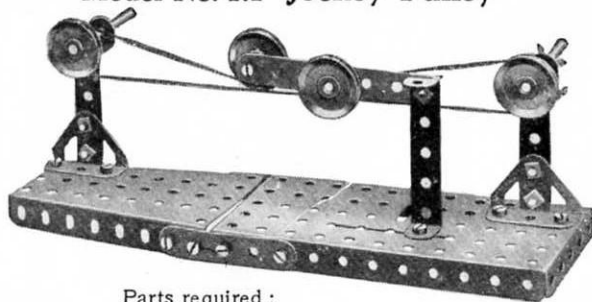
(No. 0 and No. 0A Outfits Combined)

No.	Quantity.	No.	Quantity.	No.	Quantity.
1. Perforated Strips, $12\frac{1}{2}"$..	4	19b. Pulley Wheels, 3" ..	4	44. Cranked Bent Strips ..	1
2. " " $5\frac{1}{2}"$..	8	22. " " 1" (fast) ..	4	48. Double Angle Strips, $1\frac{1}{2}" \times \frac{1}{2}"$..	1
3. " " $3\frac{1}{2}"$..	1	23. " " $\frac{1}{2}"$ (loose) ..	1	48A. " " $2\frac{1}{2}" \times \frac{1}{2}"$..	6
5. " " $2\frac{1}{2}"$..	9	24. Bush Wheels ..	1	52. Perforated Flanged Plates, $5\frac{1}{2}" \times 2\frac{1}{2}"$..	1
10. Flat Brackets ..	5	34. Spanners ..	1	54. " " Sector Plates ..	2
11. Double Brackets ..	2	35. Spring Clips ..	8	57c. Hooks (Loaded) Small ..	1
12. Angle Brackets, $\frac{1}{2}" \times \frac{1}{2}"$..	8	36. Screw Drivers ..	1	90A. Curved Strips, $2\frac{1}{2}"$, $2\frac{3}{4}"$ radius ..	4
16. Axle Rods, $3\frac{1}{2}"$..	3	37. Nuts and Bolts, 7/32" ..	36	100. Braced Girders, $5\frac{1}{2}"$..	2
17. " " 2" ..	2	37A. Nuts ..	6	111c. Bolts, $\frac{3}{8}"$..	6
18A. " " $1\frac{1}{2}"$..	2	38. Washers ..	8	125. Reversed Angle Brackets, $\frac{1}{2}"$..	2
19s. Crane Handles ($3\frac{1}{2}"$ shaft) ..	1	40. Hanks of Cord ..	1	126. Trunnions ..	2
				126A. Flat Trunnions ..	2
				Instruction Manual ..	

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

1

Model No. 1.1 Jockey Pulley

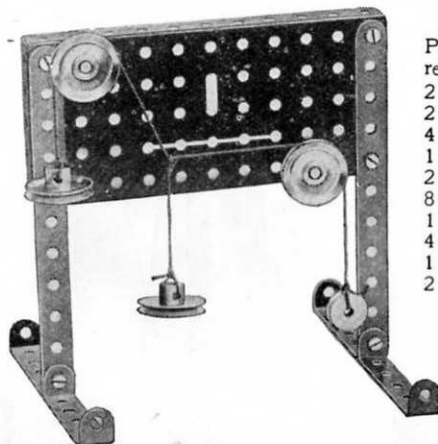


Parts required :

1 of No. 3	2 of No. 35	1 of No. 52
4 " " 5	20 " " 37	1 " " 54
2 " " 17	1 " " 37A	2 " " 111c
4 " " 22	1 " " 40	2 " " 126
	1 " " 48A	

The weight of the pivoted $3\frac{1}{2}$ " Strip, augmented by the 1" fast Pulley Wheel, causes the jockey pulley to press on the belt. Hence the latter is kept always taut.

Model No. 1.2 Triangle of Forces



Parts required :

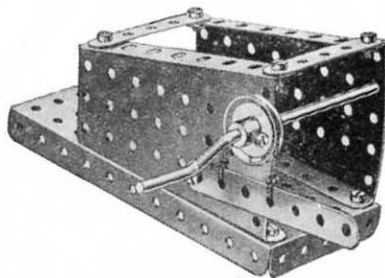
2 of No. 2	
2 " " 18A	
4 " " 22	
1 " " 23	
2 " " 35	
8 " " 37	
1 " " 40	
4 " " 48A	
1 " " 52	
2 " " 125	

The suspended weights represent three forces acting on a central point. If a triangle is drawn with its sides respectively parallel to the three converging cords, i.e., parallel to the directions of the three forces, the lengths of the sides will be found to be proportional to the respective magnitudes of the forces.

Parts required :

2 of No. 2	3 of No. 22
1 " " 5	1 " " 35
1 " " 16	11 " " 37
1 " " 17	1 " " 40
1 " " 18A	1 " " 44
2 " " 19B	1 " " 48
1 " " 19s	5 " " 48A
	1 of No. 52

Model No. 1.3 Band Brake



Parts required :

1 of No. 3	
2 " " 5	
1 " " 19s	
1 " " 22	
1 " " 35	
9 " " 37	
1 " " 37A	
1 " " 40	
1 " " 52	
2 " " 54	

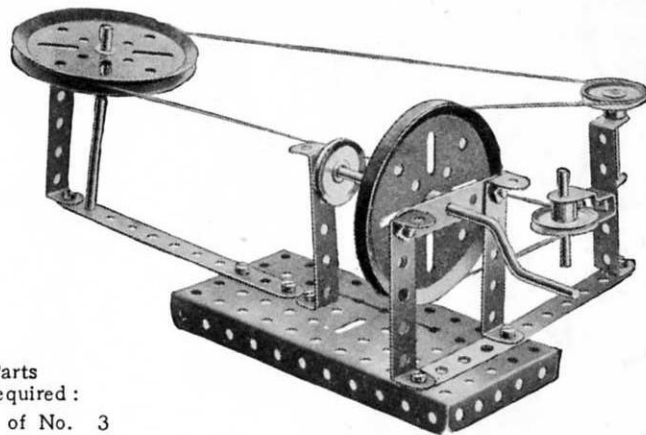
Model No. 1.4 "H" Girder

Parts required :

6 of No. 2	
2 " " 10	
8 " " 12	
12 " " 37	



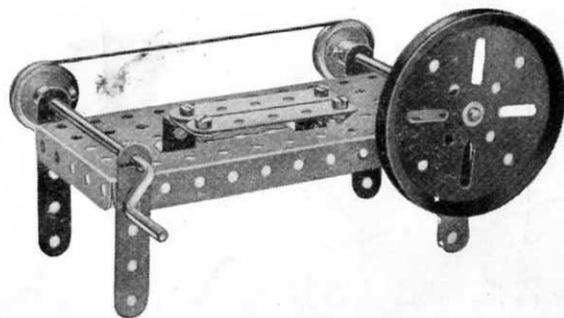
Model No. 1.5 Belt Gear Right-angle Drive Transmission



Model No. 1.6 Bacon Slicer

Parts required :

6 of No. 5	2 of No. 22
2 " " 10	1 " " 35
1 " " 16	10 " " 37
1 " " 19B	1 " " 40
1 " " 19s	1 " " 52
	2 of No. 125

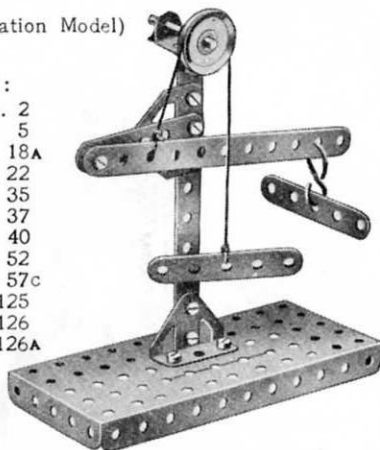


These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.7 Lever of the Second Order

(Demonstration Model)

Parts
required :
2 of No. 2
4 " " 5
1 " " 18A
1 " " 22
1 " " 35
11 " " 37
1 " " 40
1 " " 52
1 " " 57c
1 " " 125
1 " " 126
1 " " 126A

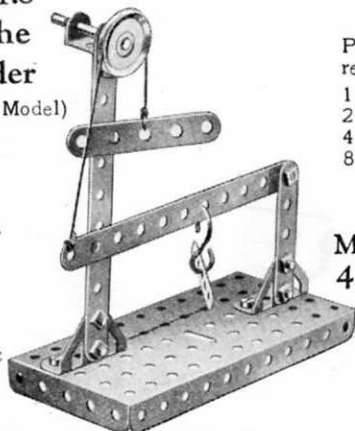


The fulcrum is at one end, the power at the other and the load lies between the two.

Model No. 1.8 Lever of the Third Order

(Demonstration Model)

Parts
required :
2 of No. 2
4 " " 5
1 " " 18A
1 " " 22
1 " " 35
10 " " 37
1 " " 40
1 " " 52
1 " " 57c
1 " " 125
2 " " 126

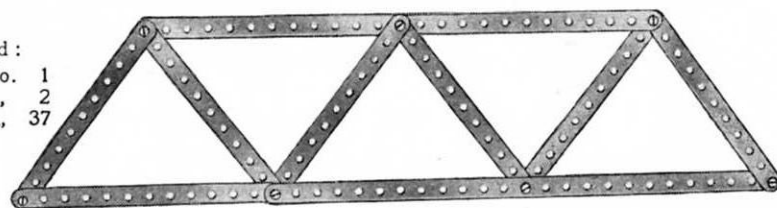


The fulcrum is at one end, the load at the other and the power lies between the two.

Model No. 1.9 Compound Triangulated Truss

Parts
required :

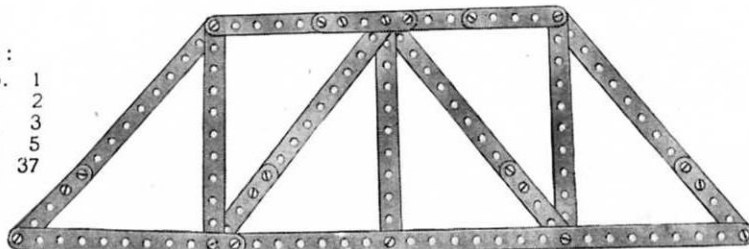
2 of No. 1
7 " " 2
7 " " 37



Model No. 1.10 Howe Truss

Parts
required :

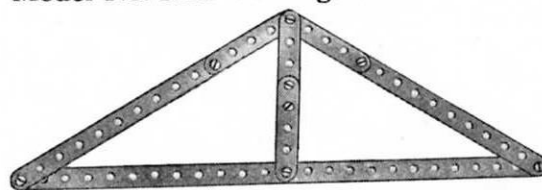
1 of No. 1
8 " " 2
1 " " 3
7 " " 5
21 " " 37



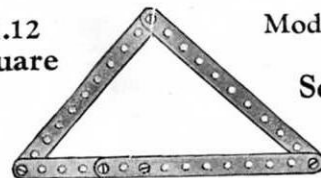
Model No. 1.11 Triangulated Truss

Parts
required :

1 of No. 1
2 " " 2
4 " " 5
8 " " 37

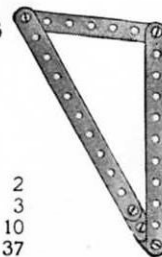


Model No. 1.12 45° Set-Square



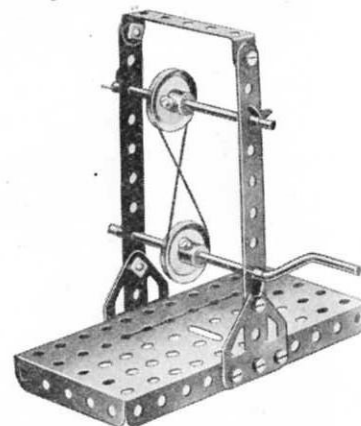
Parts required :
3 of No. 2 | 1 of No. 3
5 of No. 37

Model No. 1.13 60° Set-Square



Parts
required :
2 of No. 2
1 " " 3
2 " " 10
5 " " 37

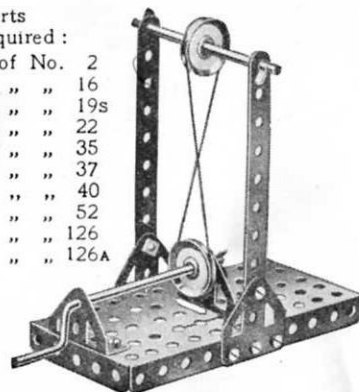
Model No. 1.14 Belt Gear For Reversing Motion of Driven Shaft



Parts required :
2 of No. 2 | 10 of No. 37
1 " " 16 | 1 " " 40
1 " " 19s | 1 " " 48A
2 " " 22 | 1 " " 52
4 " " 35 | 2 " " 126A

Model No. 1.15 Belt Gear For Driving Shafts at Right Angles

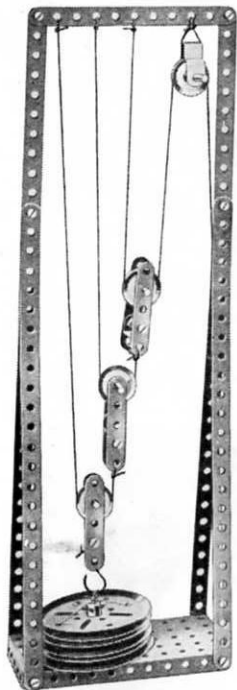
Parts
required :
2 of No. 2
1 " " 16
1 " " 19s
2 " " 22
3 " " 35
12 " " 37
1 " " 40
1 " " 52
2 " " 126
2 " " 126A



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.16 Pulley Block

Demonstration Model:
1 Fixed and 3 Movable Sheaves.
Theoretical Mechanical advantage: 8 to 1



Parts required :

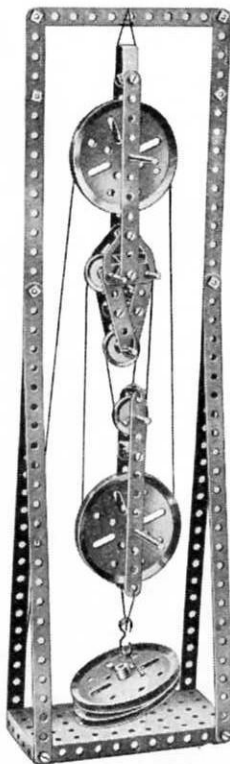
4 of No. 1	3 of No. 19B
3 " " 2	4 " " 22
6 " " 5	15 " " 37
2 " " 11	1 " " 40
2 " " 12	1 " " 44
2 " " 17	1 " " 52
2 " " 18A	1 " " 57c

Model No. 1.17 Pulley Block

Demonstration Model:
3 Fixed and 2 Movable Sheaves.
Theoretical Mechanical advantage: 5 to 1

Parts required :

4 of No. 1	4 of No. 19B
7 " " 2	4 " " 22
6 " " 5	6 " " 35
2 " " 10	22 " " 37
2 " " 12	1 " " 40
2 " " 16	1 " " 44
2 " " 17	1 " " 52
2 " " 18A	1 " " 57c
2 of No. 126A	



Model No. 1.18 Pulley Block

Demonstration Model:
1 Fixed Sheave and 2 Suspended Blocks.
Theoretical Mechanical advantage: 4 to 1



Parts required :

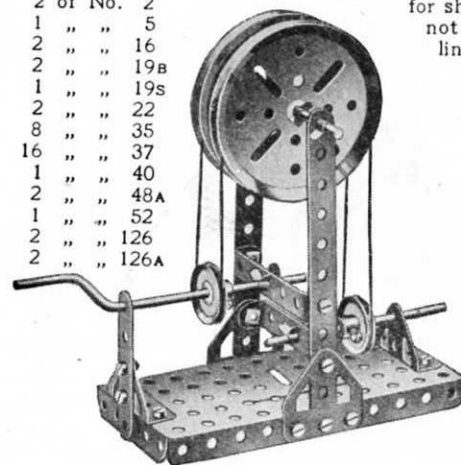
4 of No. 1	4 of No. 19B
1 " " 3	3 " " 22
4 " " 5	10 " " 37
2 " " 11	1 " " 40
1 " " 17	1 " " 44
2 " " 18A	1 " " 52
1 of No. 57c	

Model No. 1.19 Belt Gear

Parts required :

2 of No. 2	2
1 " " 5	5
2 " " 16	16
2 " " 19B	19B
1 " " 19s	19s
2 " " 22	22
8 " " 35	35
16 " " 37	37
1 " " 40	40
2 " " 48A	48A
1 " " 52	52
2 " " 126	126
2 " " 126A	126A

Drive Transmission
for shafts
not in
line

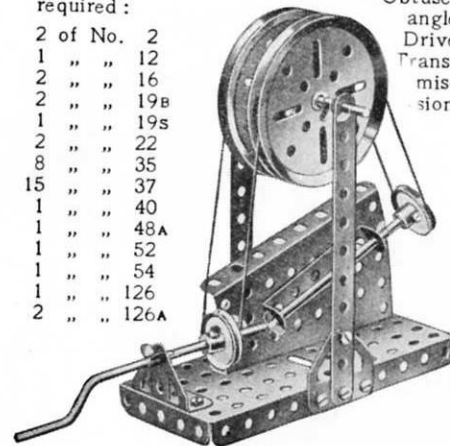


Model No. 1.20 Belt Gear

Parts required :

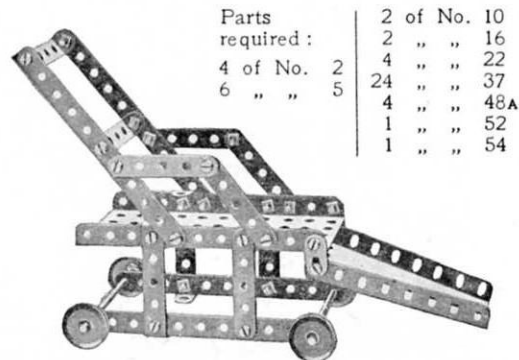
2 of No. 2	2
1 " " 12	12
2 " " 16	16
2 " " 19B	19B
1 " " 19s	19s
2 " " 22	22
8 " " 35	35
15 " " 37	37
1 " " 40	40
1 " " 48A	48A
1 " " 52	52
1 " " 54	54
1 " " 126	126
2 " " 126A	126A

Obtuse-angle
Drive Trans-
mission



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.21 Invalid Chair



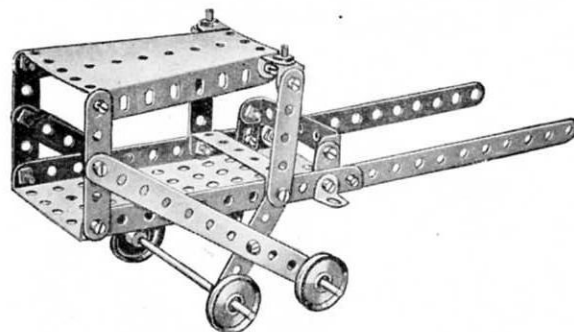
Parts required:	2 of No. 10
	2 " " 16
4 of No. 2	4 " " 22
6 " " 5	24 " " 37
	4 " " 48A
	1 " " 52
	1 " " 54

Model No. 1.22 Letter Balance

6 of No. 2	4 of No. 22	2 of No. 48A
3 " " 5	1 " " 24	1 " " 52
1 " " 10	26 " " 37	2 " " 111c
1 " " 12	4 " " 37A	2 " " 126
2 " " 18A	2 " " 38	2 " " 126A
1 " " 19B	1 " " 44	

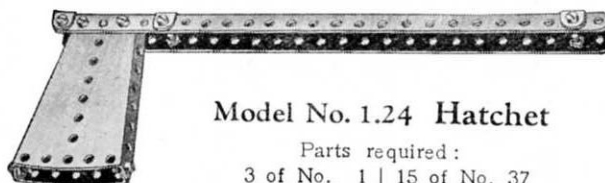


Model No. 1.23 Ticca Gharry



Parts required:

4 of No. 2	6 of No. 12	22 of No. 37
6 " " 5	2 " " 16	1 " " 52
2 " " 10	4 " " 22	1 " " 54



Model No. 1.24 Hatchet

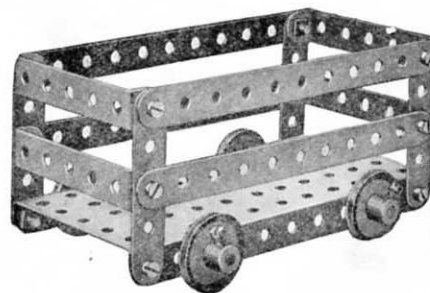
Parts required:

3 of No. 1	15 of No. 37
6 " " 12	2 " " 54

Model No. 1.25 Truck with Sides

Parts required:

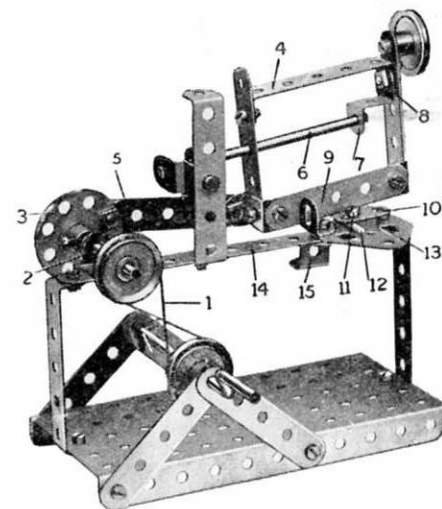
4 of No. 2
4 " " 5
2 " " 16
4 " " 22
12 " " 37
4 " " 48A
1 " " 52



Model No. 1.26 Mechanical Saw

Parts required:

1 of No. 2	1 of No. 17	4 of No. 38
8 " " 5	1 " " 19s	1 " " 40
1 " " 10	3 " " 22	1 " " 44
1 " " 11	1 " " 24	4 " " 48A
4 " " 12	3 " " 35	1 " " 52
1 " " 16	22 " " 37	2 " " 125
		1 " " 126A

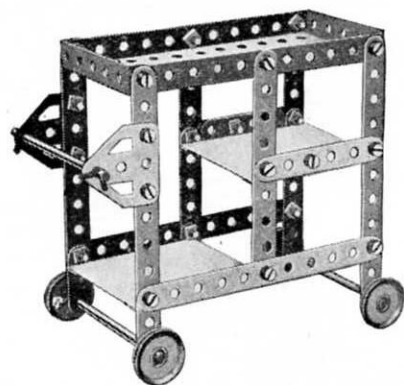


The Strip 9 represents the saw. The Crank Handle drives, through a belt 1, a short Rod journalled in a Double Bracket 2 and carrying a Bush Wheel 3. The latter imparts a reciprocating motion to the saw frame 4 through a 2 1/2" Strip 5 loosely mounted on Bolts secured to the Bush Wheel and to an Angle Bracket bolted to the saw frame. This frame slides on a 3 1/2" Rod 6, which acts as a guide, passing through the frame and supported in a Reversed Angle Bracket 7. A Washer is placed on the Bolt 8 behind the Bracket 7. A vice to secure the objects in position for cutting consists of a Flat Bracket 10 mounted on a Bolt 11, a few turns of which causes the Flat Bracket to grip the object 12. The Bolt 11 enters a Nut held between the Flat Trunnion 13 and 5 1/2" Strip 14, which are spaced apart for the purpose by Washers placed on the two Bolts holding the Trunnion in position. The saw frame rests on the stop 15 when not in use. A 1" Pulley secured to the top of the frame acts as a weight and helps to steady the saw.

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

5

Model No. 1.27 Dinner Wagon

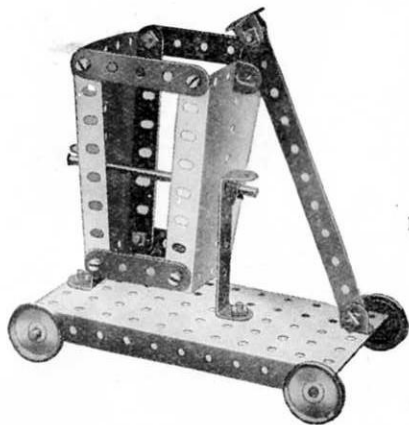


Parts required :

6 of No.	2
8 " "	5
4 " "	12
3 " "	16
4 " "	22
2 " "	35
22 " "	37
2 " "	48A
1 " "	52
2 " "	126A

The two lower platforms are constructed out of pieces of ordinary cardboard, their outer edges resting on 2½" Double Angle Strips and their inner edges on Angle Brackets.

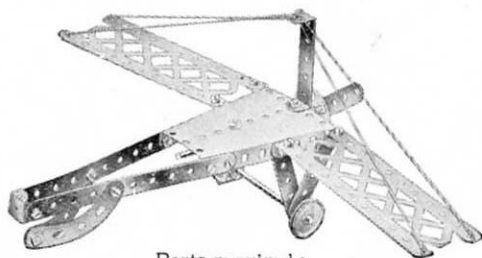
Model No. 1.28 Tip Wagon



Parts required :

1 of No.	2
4 " "	5
5 " "	12
3 " "	16
4 " "	22
2 " "	35
14 " "	37
2 " "	48A
1 " "	52
2 " "	54

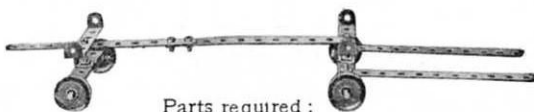
Model No. 1.29 Aeroplane



Parts required :

2 of No.	2	2 of No.	16	1 of No.	48A
5 " "	5	2 " "	22	1 " "	54
1 " "	11	1 " "	24	2 " "	90A
6 " "	12	21 " "	37	2 " "	100
		1 " "	40		

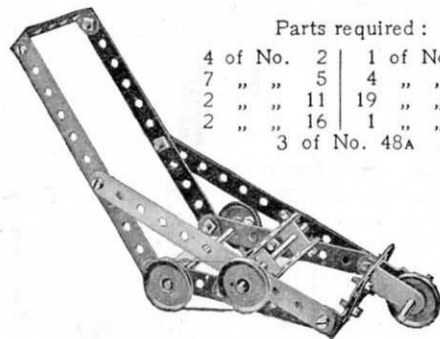
Model No. 1.30 Timber Drag



Parts required :

4 of No.	2	2 of No.	16	8 of No.	37
2 " "	11	4 " "	22	4 " "	48A

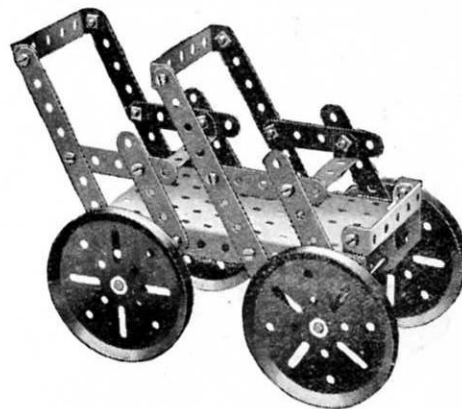
Model No. 1.31 Lawn Mower



Parts required :

4 of No.	2	1 of No.	17
7 " "	5	4 " "	22
2 " "	11	19 " "	37
2 " "	16	1 " "	44
		3 of No.	48A

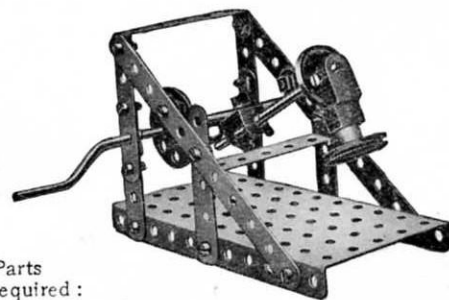
Model No. 1.32 Tandem Car



Parts required :

4 of No.	2	4 of No.	19B
8 " "	5	26 " "	37
2 " "	12	5 " "	48A
2 " "	16	1 " "	52
		2 of No.	126A

Model No. 1.33 Mechanical Hammer

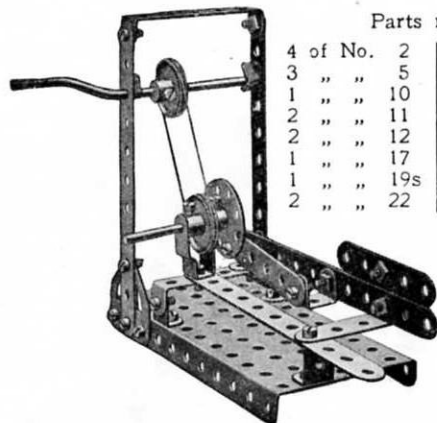


Parts required :

2 of No.	2	1 of No.	19S	18 of No.	37
6 " "	5	2 " "	22	1 " "	44
1 " "	11	1 " "	24	3 " "	48A
1 " "	12	4 " "	35	1 " "	52
1 " "	16				

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

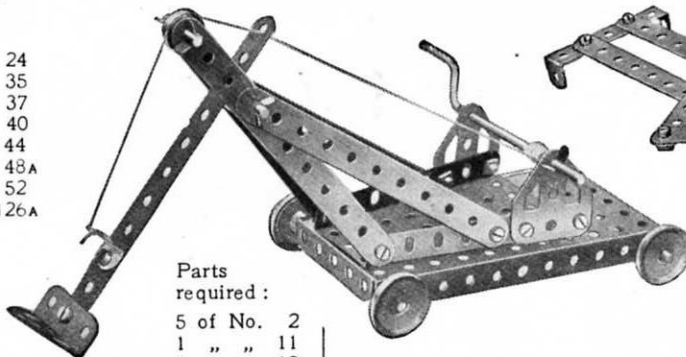
Model No. 1.34 Sawing Machine



Parts required :

4 of No. 2	1 of No. 24
3 " " 5	2 " " 35
1 " " 10	22 " " 37
2 " " 11	1 " " 40
2 " " 12	1 " " 44
1 " " 17	2 " " 48A
1 " " 19s	1 " " 52
2 " " 22	2 " " 126A

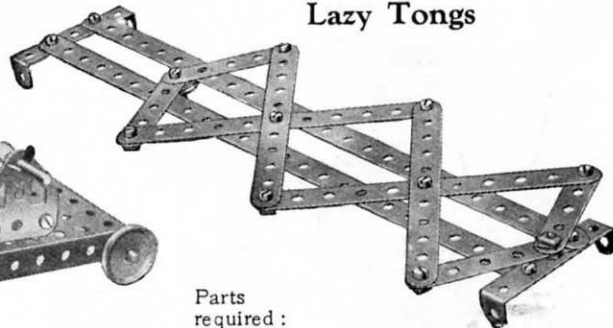
Model No. 1.36 Steam Shovel



Parts required :

5 of No. 2	6 of No. 35	1 of No. 52
1 " " 11	12 " " 37	1 " " 54
1 " " 12	2 " " 37A	1 " " 111c
2 " " 16	2 " " 38	1 " " 126
2 " " 18A	1 " " 40	2 " " 126A
1 " " 19s		
4 " " 22		
1 " " 23		

**Model No. 1.38
Lazy Tongs**



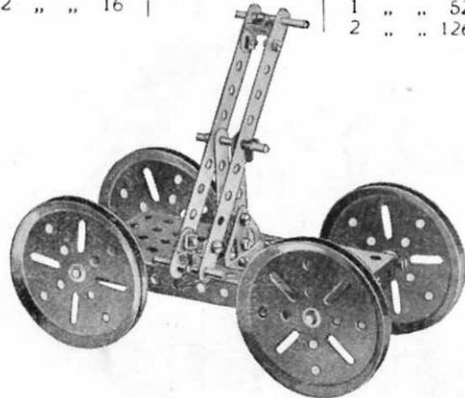
Parts required :

2 of No. 1	12 of No. 37
4 " " 2	10 " " 37A
4 " " 5	2 " " 48A
1 " " 23	2 " " 111c

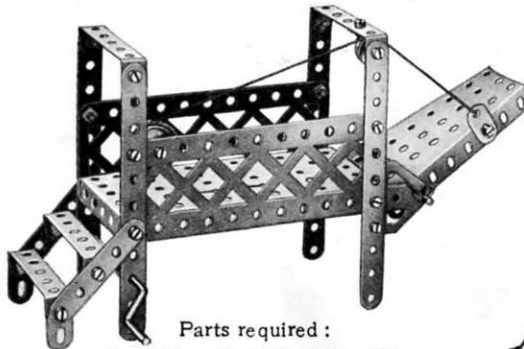
**Model No. 1.35
Manual Fire Engine**

Parts required :

2 of No. 2	2 of No. 17	6 of No. 35
2 " " 5	1 " " 18A	12 " " 37
2 " " 11	4 " " 19B	2 " " 38
2 " " 16		1 " " 52
		2 " " 126



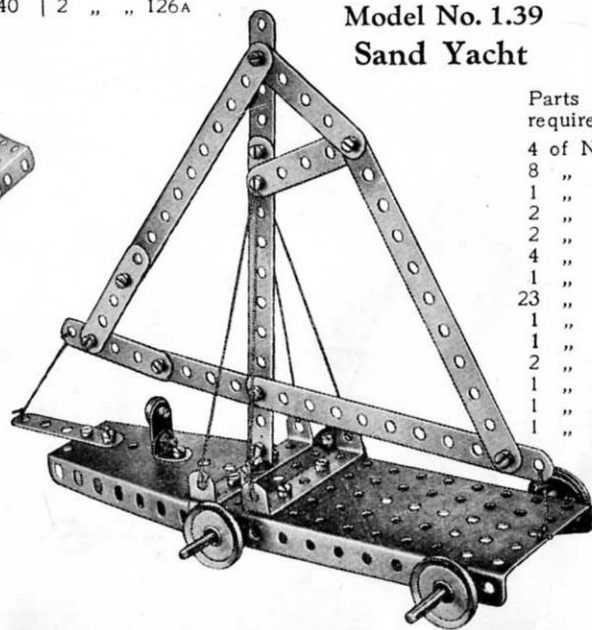
Model No. 1.37 Gangway



Parts required :

4 of No. 2	22 of No. 37
2 " " 5	1 " " 40
3 " " 10	4 " " 48A
1 " " 12	1 " " 52
1 " " 16	1 " " 54
1 " " 22	2 " " 100
1 " " 23	1 " " 111c
4 " " 35	2 " " 126A

**Model No. 1.39
Sand Yacht**



Parts required :

4 of No. 2	
8 " " 5	
1 " " 10	
2 " " 12	
2 " " 16	
4 " " 22	
1 " " 23	
23 " " 37	
1 " " 37A	
1 " " 40	
2 " " 48A	
1 " " 52	
1 " " 54	
1 " " 111c	

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

7

Model No. 1.40

Horseman



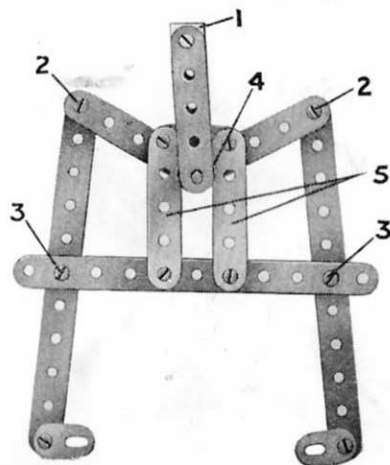
Parts
required :

2 of No.	2
7 " "	5
3 " "	10
2 " "	12
2 " "	16
4 " "	22
1 " "	24
17 " "	37
1 " "	52
1 " "	54
2 " "	90A
1 " "	126A

Model No. 1.41

Friction Grip Tongs

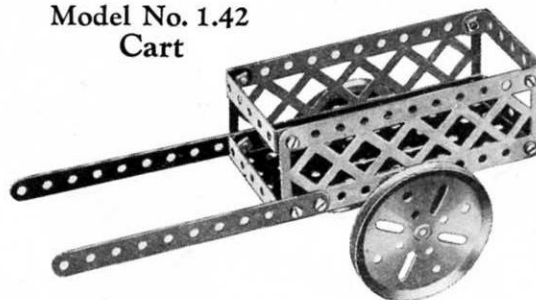
The hoisting cord is attached to the Double Bracket 1. The joints 2, 3 are lock-nutted, so that when the grip is raised the $\frac{1}{2}$ " loose Pulley Wheel 4 slides upward between the $2\frac{1}{2}$ " Strips 5, and the grip closes upon the block of wood or other material placed between its jaws.



Parts
required :

3 of No.	2
8 " "	5
4 " "	10
1 " "	11
1 " "	23
2 " "	35
12 " "	37

Model No. 1.42
Cart



Parts required :

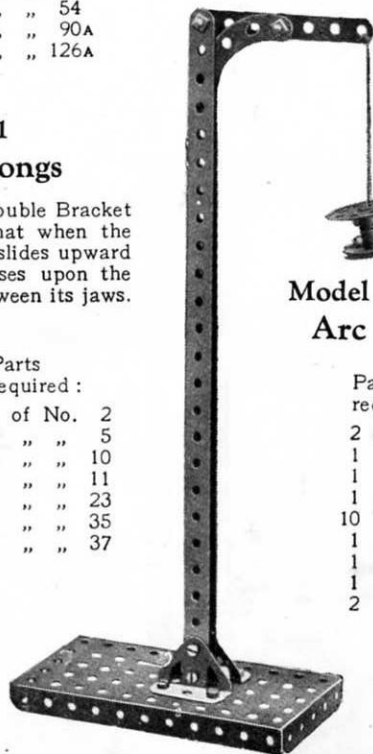
2 of No.	2	2 of No.	48A
1 " "	16	1 " "	52
2 " "	19B	2 " "	100
14 " "	37	2 " "	126A

Model No. 1.43
Arc Lamp

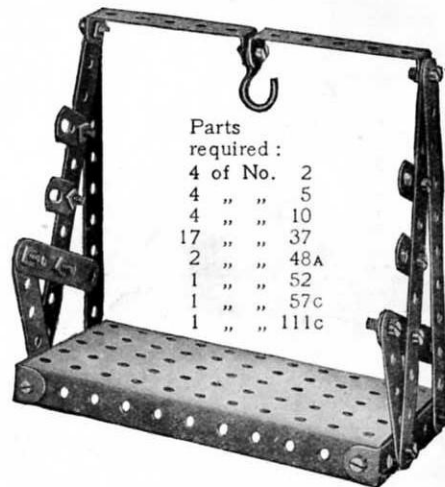


Parts
required :

2 of No.	1
1 " "	3
1 " "	22
1 " "	24
10 " "	37
1 " "	40
1 " "	52
1 " "	90A
2 " "	126



Model No. 1.44 Pen Rack



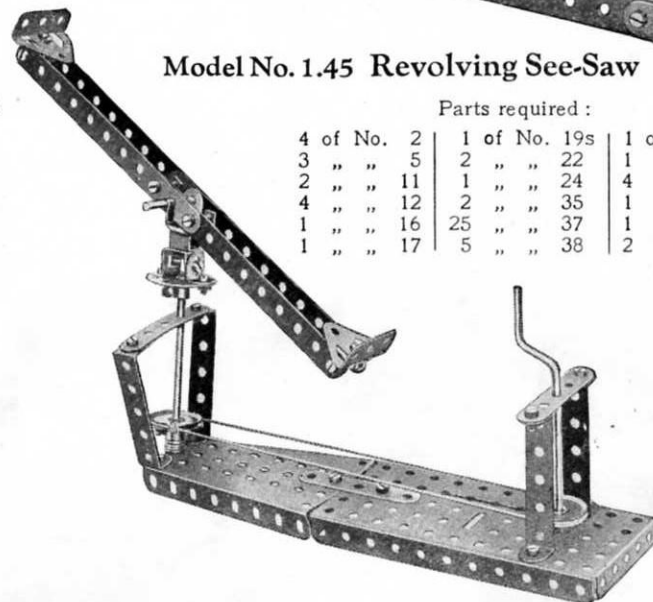
Parts
required :

4 of No.	2
4 " "	5
4 " "	10
17 " "	37
2 " "	48A
1 " "	52
1 " "	57c
1 " "	111c

Model No. 1.45 Revolving See-Saw

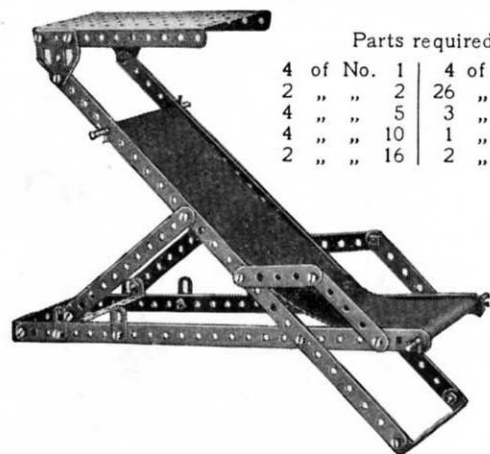
Parts required :

4 of No.	2	1 of No.	19s	1 of No.	40
3 " "	5	2 " "	22	1 " "	44
2 " "	11	1 " "	24	4 " "	48A
4 " "	12	2 " "	35	1 " "	52
1 " "	16	25 " "	37	1 " "	54
1 " "	17	5 " "	38	2 " "	126



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

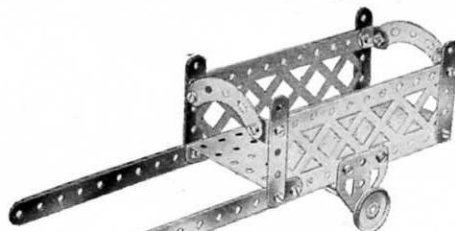
Model No. 1.46 Deck Chair



Parts required :

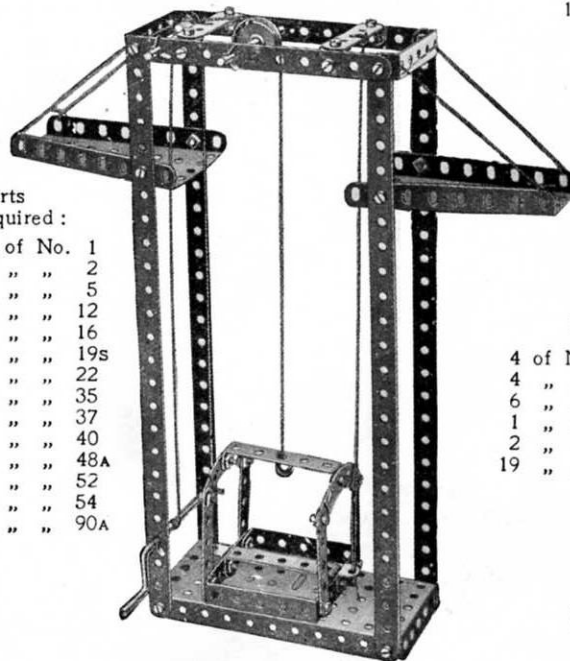
4 of No. 1	4 of No. 35
2 " " 2	26 " " 37
4 " " 5	3 " " 48A
4 " " 10	1 " " 52
2 " " 16	2 " " 126A

Model No. 1.48 Luggage Cart



Parts required :	4 of No. 5	18 of No. 37
	4 " " 12	1 " " 52
	1 " " 16	2 " " 90A
2 of No. 2	2 " " 22	2 " " 100
		2 " " 126A

Model No. 1.49 Elevator



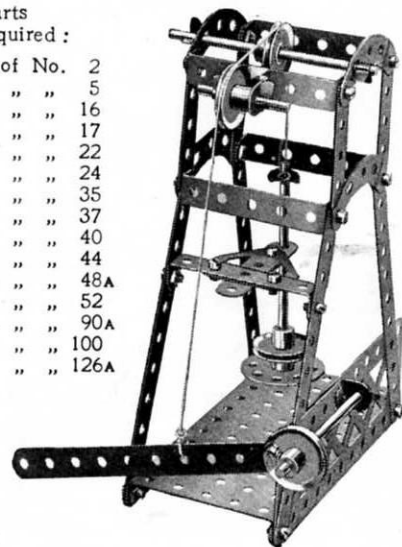
Parts required :

4 of No. 1	2
2 " " 2	5
6 " " 5	12
6 " " 12	16
1 " " 16	19s
1 " " 19s	22
1 " " 22	35
5 " " 35	37
32 " " 37	40
1 " " 40	48A
6 " " 48A	52
1 " " 52	54
2 " " 54	90A
2 " " 90A	

Model No. 1.50 Mechanical Stamp

Parts required :

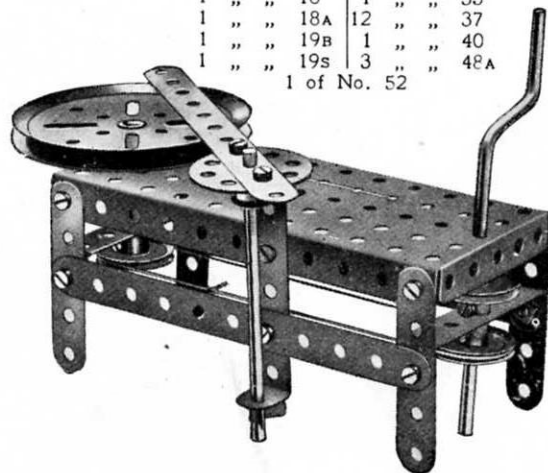
5 of No. 2	5
5 " " 5	16
3 " " 16	17
1 " " 17	22
4 " " 22	24
1 " " 24	35
6 " " 35	37
20 " " 37	40
1 " " 40	44
1 " " 44	48A
6 " " 48A	52
1 " " 52	90A
4 " " 90A	100
1 " " 100	126A
1 " " 126A	



Model No. 1.47 Potter's Wheel

Parts required :

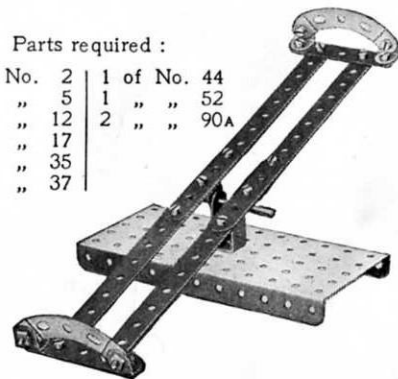
3 of No. 2	3 of No. 22
4 " " 5	1 " " 24
1 " " 16	1 " " 35
1 " " 18A	12 " " 37
1 " " 19B	1 " " 40
1 " " 19s	3 " " 48A
1 of No. 52	



Model No. 1.51 See-Saw

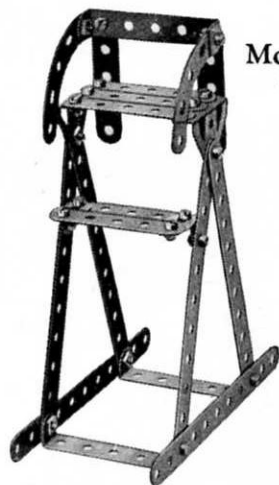
Parts required :

4 of No. 2	1 of No. 44
4 " " 5	1 " " 52
6 " " 12	2 " " 90A
1 " " 17	
2 " " 35	
19 " " 37	



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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Model No. 1.52
Umpire's
Seat

Parts
required :

6 of No.	2
7 " "	5
2 " "	10
4 " "	12
24 " "	37
3 " "	48A
2 " "	90A
2 " "	126



Model No. 1.54
Fly Boats

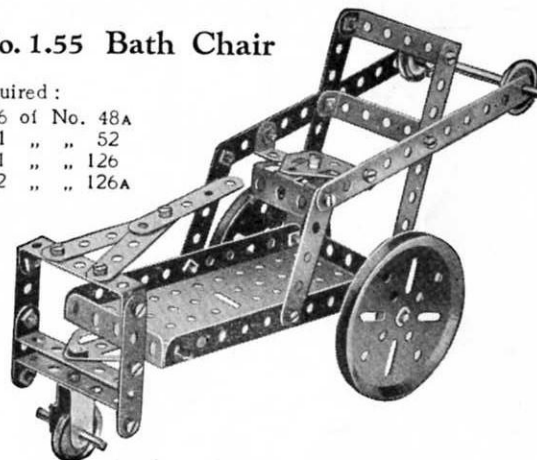
Parts required :

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

Model No. 1.55 Bath Chair

Parts required :

4 of No.	2	6 of No.	48A
7 " "	5	1 " "	52
2 " "	16	1 " "	126
1 " "	18A	2 " "	126A
2 " "	19B		
3 " "	22		
24 " "	37		
1 " "	37A		
1 " "	44		



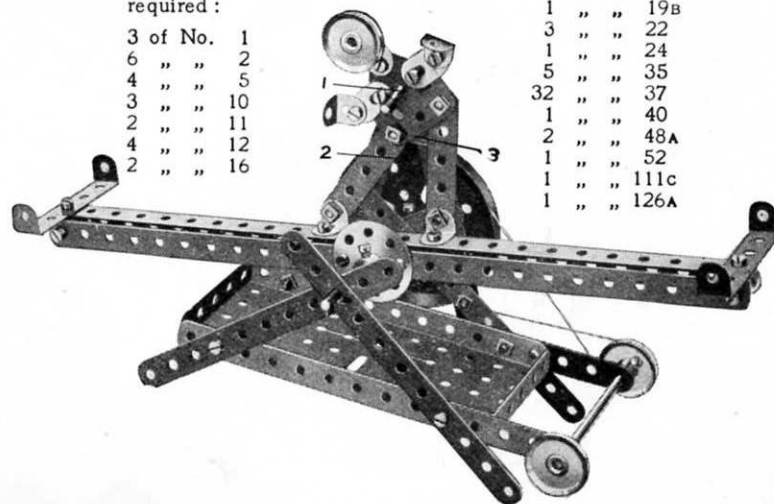
Model No. 1.56 Acrobat on See-Saw

The 1" Rod 1 is journalled in the end holes of two 5½" Strips 2 and in the Flat Trunnion 3 which joins them. It is held in position by two Spring Clips, placed on either side of the 5½" Strips 2.

Parts
required :

3 of No.	1
6 " "	2
4 " "	5
3 " "	10
2 " "	11
4 " "	12
2 " "	16

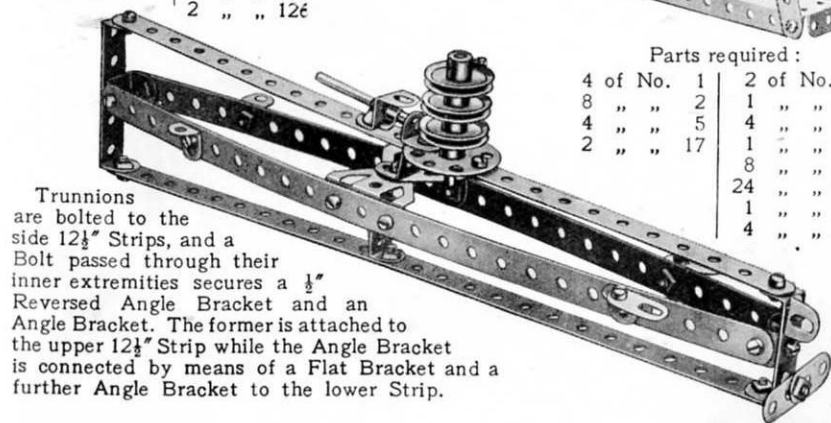
1 of No.	18A
1 " "	19B
3 " "	22
1 " "	24
5 " "	35
32 " "	37
1 " "	40
2 " "	48A
1 " "	52
1 " "	111c
1 " "	126A



Model No. 1.53 Submarine

Parts required :

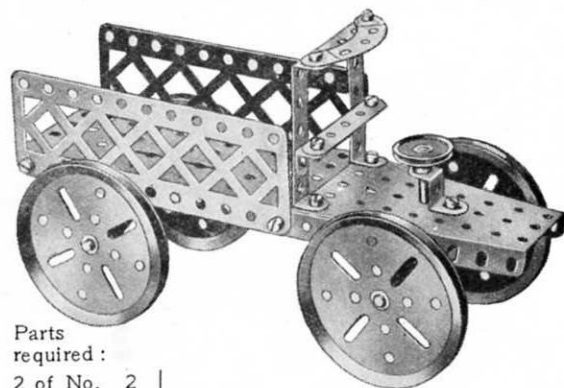
4 of No.	1	2 of No.	35
5 " "	10	28 " "	37
2 " "	11	3 " "	37A
8 " "	12	2 " "	38
2 " "	17	1 " "	48
3 " "	22	1 " "	48A
1 " "	24	2 " "	125
		2 " "	126



Trunnions are bolted to the side 12½" Strips, and a Bolt passed through their inner extremities secures a ½" Reversed Angle Bracket and an Angle Bracket. The former is attached to the upper 12½" Strip while the Angle Bracket is connected by means of a Flat Bracket and a further Angle Bracket to the lower Strip.

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.57 Motor Lorry



Parts
required :

2 of No. 2		
2 " " 5		
2 " " 12	25 of No. 37	1 of No. 90A
2 " " 16	2 " " 38	2 " " 100
1 " " 18A	3 " " 48A	2 " " 125
4 " " 19B	1 " " 52	2 " " 126A
1 " " 24	1 " " 54	

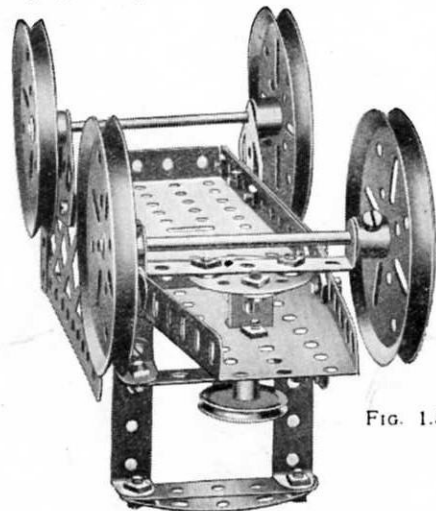
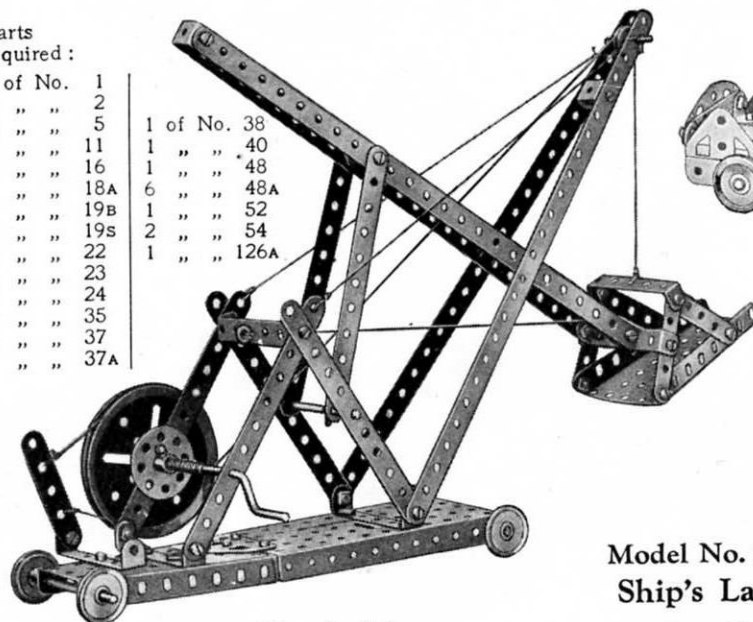


Fig. 1.57A

Model No. 1.58 Mechanical Shovel

Parts
required :

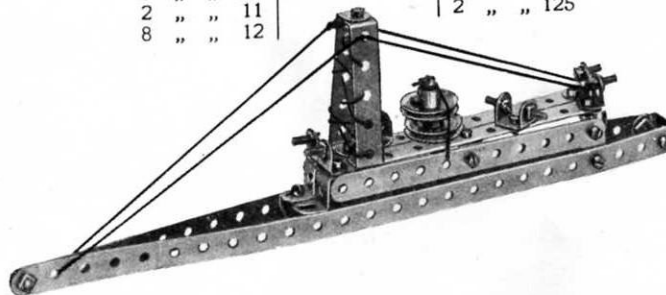
4 of No. 1		
6 " " 2		
5 " " 5		
2 " " 11	1 of No. 38	
3 " " 16	1 " " 40	
1 " " 18A	1 " " 48	
1 " " 19B	6 " " 48A	
1 " " 19S	1 " " 52	
4 " " 22	2 " " 54	
1 " " 23	1 " " 126A	
1 " " 24		
6 " " 35		
35 " " 37		
1 " " 37A		



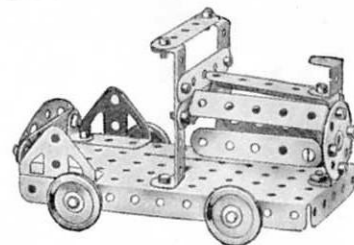
Model No. 1.59 Battleship

Parts
required :

2 of No. 1	2 of No. 22	1 of No. 40
4 " " 2	26 " " 37	2 " " 48A
5 " " 10	6 " " 37A	6 " " 111c
2 " " 11		2 " " 125
8 " " 12		



Model No. 1.60 Locomotive



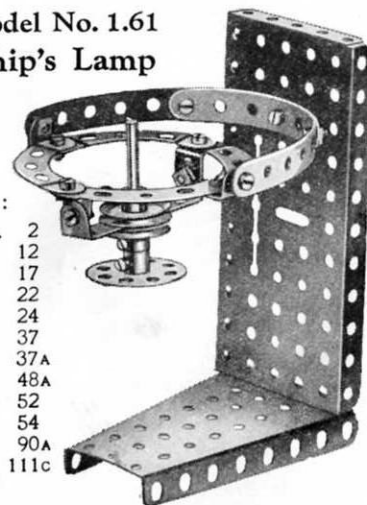
Parts
required :

7 of No. 5	
1 " " 11	
6 " " 12	
2 " " 16	
4 " " 22	
1 " " 24	
24 " " 37	
4 " " 48A	
1 " " 52	
1 " " 90A	
2 " " 126	

Model No. 1.61 Ship's Lamp

Parts
required :

2 of No. 2	
4 " " 12	
1 " " 17	
2 " " 22	
1 " " 24	
11 " " 37	
4 " " 37A	
1 " " 48A	
1 " " 52	
1 " " 54	
4 " " 90A	
2 " " 111c	



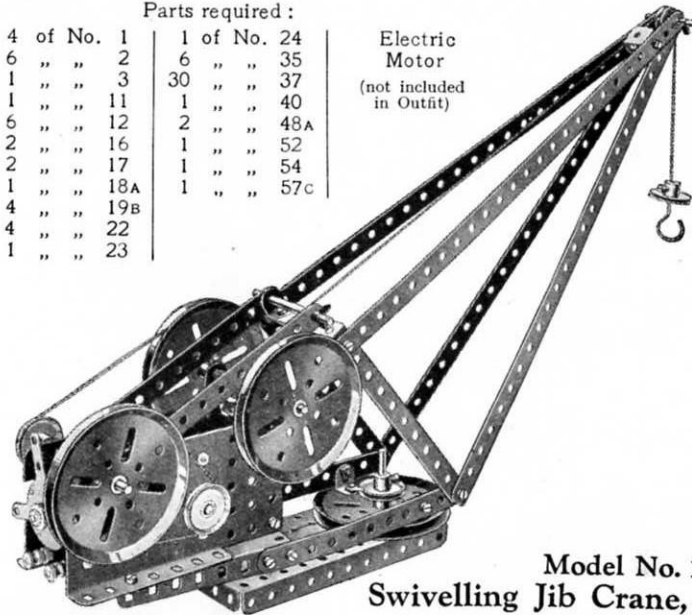
These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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Model No. 1.62 Swivelling Jib Crane, Electric

Parts required :

4 of No. 1	1 of No. 24	Electric Motor (not included in Outfit)
6 " " 2	6 " " 35	
1 " " 3	30 " " 37	
1 " " 11	1 " " 40	
6 " " 12	2 " " 48A	
2 " " 16	1 " " 52	
2 " " 17	1 " " 54	
1 " " 18A	1 " " 57C	
4 " " 19B		
4 " " 22		
1 " " 23		



Model No. 1.64 Overhead Crane

Parts required :

4 of No. 2	2
4 " " 5	5
2 " " 10	10
4 " " 12	12
1 " " 16	16
1 " " 18A	18A
1 " " 19S	19S
4 " " 22	22
1 " " 23	23
1 " " 24	24
2 " " 35	35
25 " " 37	37
1 " " 38	38
1 " " 40	40
6 " " 48A	48A
1 " " 57C	57C
4 " " 90A	90A
2 " " 100	100

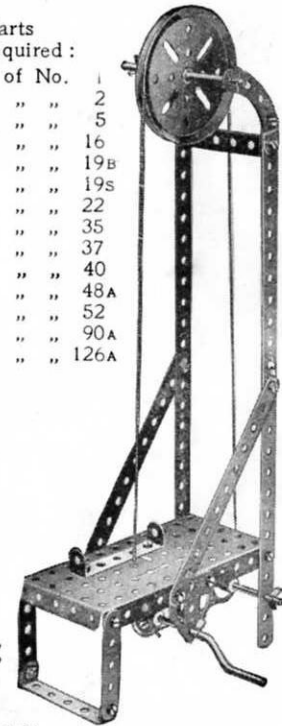


Model No. 1.66

Band Saw

Parts required :

2 of No. 1	1
2 " " 2	2
2 " " 5	5
2 " " 16	16
1 " " 19B	19B
1 " " 19S	19S
2 " " 22	22
6 " " 35	35
18 " " 37	37
1 " " 40	40
3 " " 48A	48A
1 " " 52	52
2 " " 90A	90A
2 " " 126A	126A

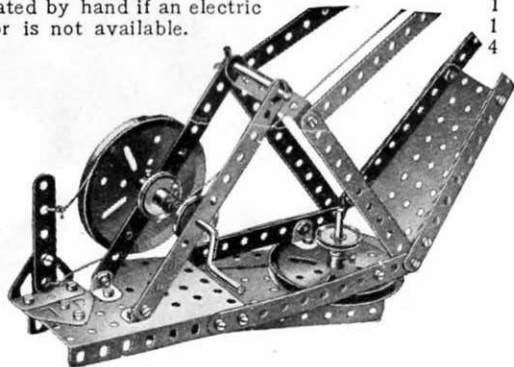


Model No. 1.63 Swivelling Jib Crane, Hand Operated

Parts required :

4 of No. 1	2 of No. 17
6 " " 2	1 " " 18A
1 " " 5	2 " " 19B
1 " " 11	1 " " 19S
4 " " 12	4 " " 22
	1 " " 23
	1 " " 24
	4 " " 35
	32 " " 37
	4 " " 38
	1 " " 40
	1 " " 48
	1 " " 48A
	1 " " 52
	2 " " 54
	1 " " 57C
	1 " " 126
	1 " " 126A

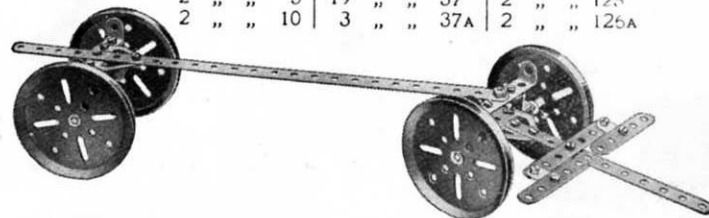
This illustrates an alternative construction of the base of Model No. 1.62, and is intended to show how the model may be operated by hand if an electric motor is not available.



Model No. 1.65 Timber Drag

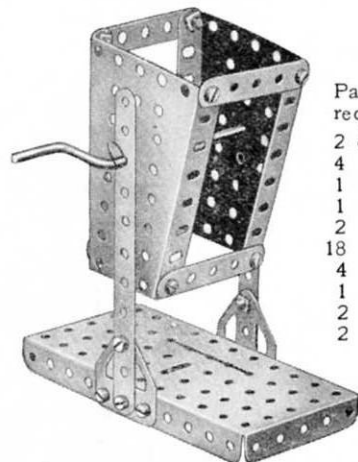
Parts required :

1 of No. 1	2 of No. 11	4 of No. 48A
1 " " 2	2 " " 16	3 " " 111C
1 " " 3	4 " " 19B	2 " " 125
2 " " 5	19 " " 37	2 " " 126A
2 " " 10	3 " " 37A	



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

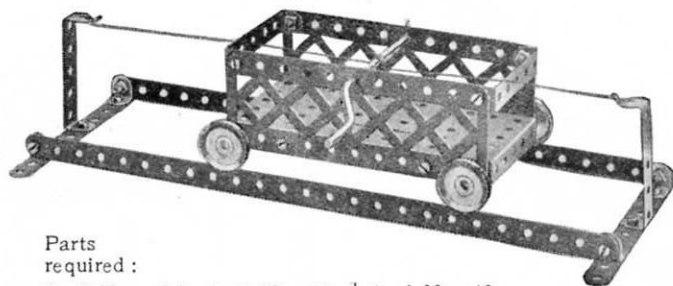
Model No. 1.67 Butter Churn



Parts
required :

2 of No.	2
4 " "	5
1 " "	19s
1 " "	24
2 " "	35
18 " "	37
4 " "	38
1 " "	52
2 " "	54
2 " "	126A

Model No. 1.69 Cable Railway



Parts
required :

2 of No.	1	1 of No.	19s	1 of No.	40
2 " "	2	4 " "	22	4 " "	48A
4 " "	12	2 " "	35	1 " "	52
2 " "	16	18 " "	37	2 " "	100

Model No. 1.72 Man and Boy



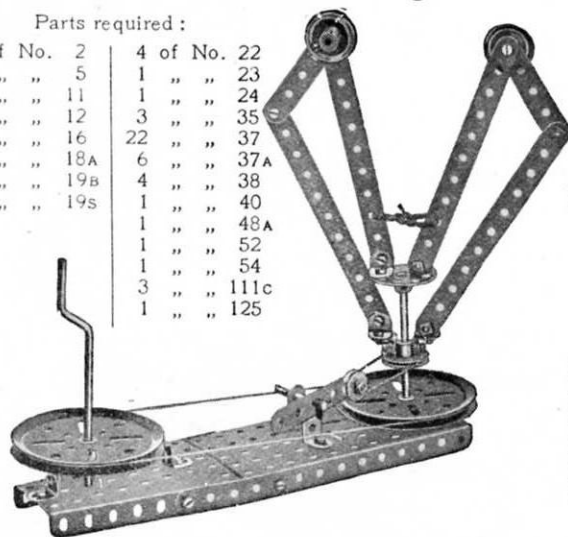
Parts
required :

4 of No.	2
1 " "	3
1 " "	5
5 " "	10
1 " "	11
8 " "	12
1 " "	22
1 " "	24
26 " "	37
1 " "	52
2 " "	54
1 " "	90A
2 " "	125
1 " "	126A

Model No. 1.68 Inverted Centrifugal Governor

Parts required :

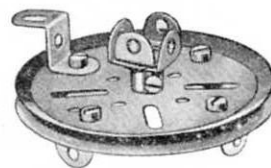
4 of No.	2	4 of No.	22
5 " "	5	1 " "	23
1 " "	11	1 " "	24
8 " "	12	3 " "	35
1 " "	16	22 " "	37
1 " "	18A	6 " "	37A
1 " "	19B	4 " "	38
1 " "	19s	1 " "	40
		1 " "	48A
		1 " "	52
		1 " "	54
		3 " "	111c
		1 " "	125



Model No. 1.70 Candle Stick

Parts
required :

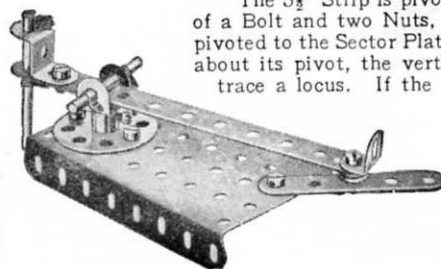
2 of No.	11
4 " "	12
1 " "	19B
4 " "	37
1 " "	111c
1 " "	125



Model No. 1.71 Machine for Tracing a Locus

Parts required :

1 of No.	2	4 of No.	35
1 " "	5	4 " "	37
1 " "	11	3 " "	37A
1 " "	12	4 " "	38
1 " "	17	1 " "	54
1 " "	18A	2 " "	111c
1 " "	24	1 " "	125



The $5\frac{1}{2}$ " Strip is pivoted to the $2\frac{1}{2}$ " Strip by means of a Bolt and two Nuts, and the $2\frac{1}{2}$ " Strip is similarly pivoted to the Sector Plate. By revolving the $2\frac{1}{2}$ " Strip about its pivot, the vertical $1\frac{1}{2}$ " Rod can be made to trace a locus. If the positions of the $1\frac{1}{2}$ " Rod and the $5\frac{1}{2}$ " Strip are altered, several different loci may be traced. Machines of this type are of advantage in assisting in the design of engine connecting rods.

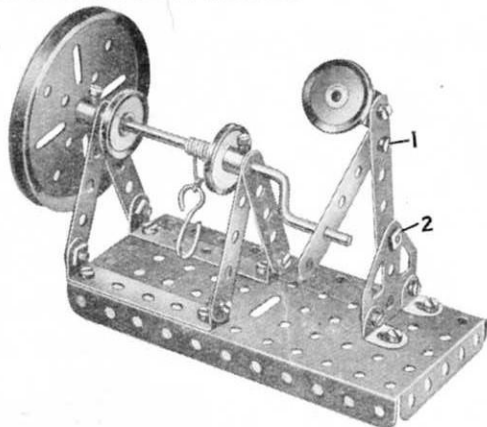
These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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Model No. 1.73 Windlass

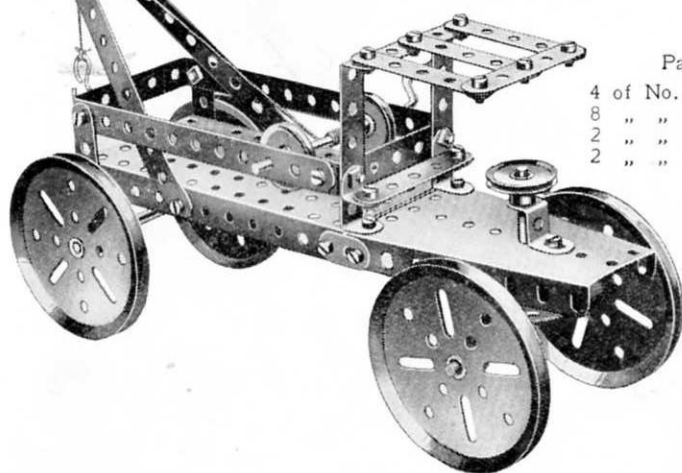
Parts
required :

6	of No.	5
3	" "	12
1	" "	19B
1	" "	19S
3	" "	22
15	" "	37
4	" "	37A
1	" "	40
2	" "	48A
1	" "	52
1	" "	57c
3	" "	111c
1	" "	126A



The figure at the right of the model is arranged to work to and fro when the Crank Handle is rotated. The Bolts 1 and 2 are both secured by two nuts as in Standard Mechanism No. 262.

Model No. 1.74 Lorry Crane

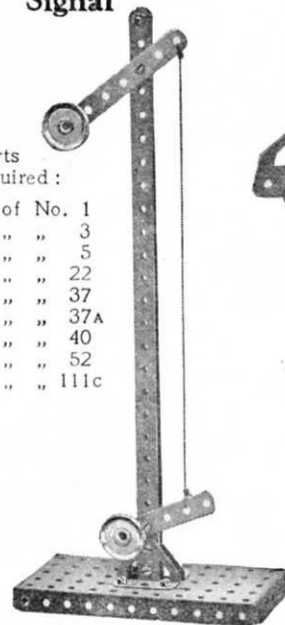


Parts required :		
4	of No.	2
8	" "	5
2	" "	10
2	" "	12
2	of No.	16
1	" "	17
1	" "	18A
4	" "	19B
1	" "	19S
3	" "	22
1	" "	23
1	" "	24
3	" "	35
29	" "	37
1	" "	40
1	" "	44
5	" "	48A
1	" "	52
1	" "	54
1	" "	57c
2	" "	125

Model No. 1.75 Signal

Parts
required :

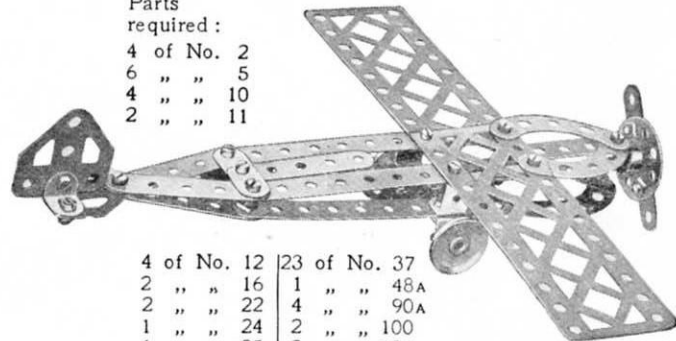
2	of No.	1
1	" "	3
1	" "	5
2	" "	22
11	" "	37
2	" "	37A
1	" "	40
1	" "	52
2	" "	111c



Model No. 1.76 Aeroplane

Parts
required :

4	of No.	2
6	" "	5
4	" "	10
2	" "	11

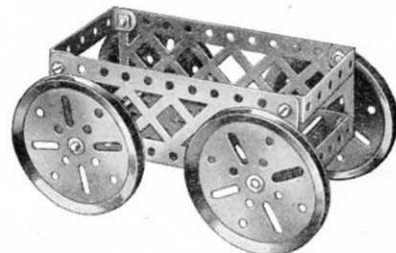


4	of No.	12
2	" "	16
2	" "	22
1	" "	24
1	" "	35
23	of No.	37
1	" "	48A
4	" "	90A
2	" "	100
2	" "	126A

Model No. 1.77 Truck

Parts
required :

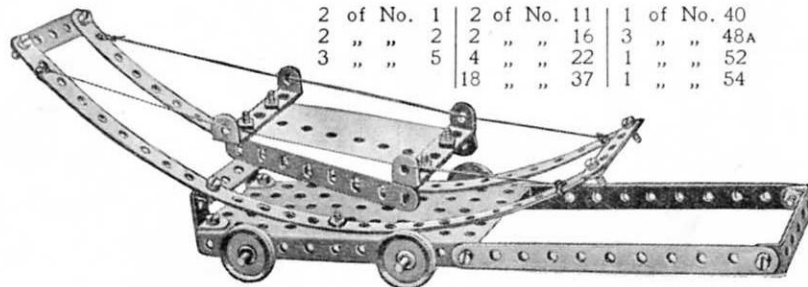
2	of No.	16
4	" "	19B
8	" "	37
2	" "	48A
1	" "	52
2	" "	100



Model No. 1.78 Mountain Transport

Parts required :

2	of No.	1
2	" "	2
3	" "	5
2	of No.	11
2	" "	16
4	" "	22
18	" "	37
1	of No.	40
3	" "	48A
1	" "	52
1	" "	54



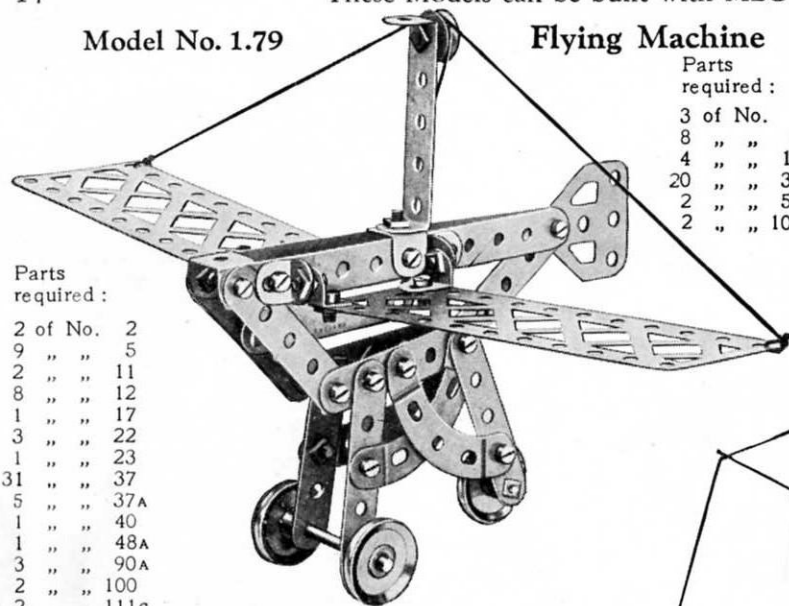
These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.79

Flying Machine

Parts
required :

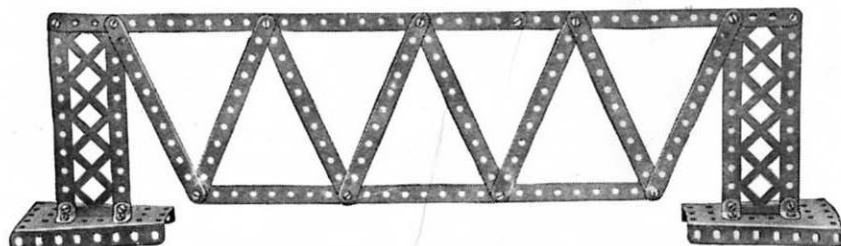
2	of No.	2
9	" "	5
2	" "	11
8	" "	12
1	" "	17
3	" "	22
1	" "	23
31	" "	37
5	" "	37A
1	" "	40
1	" "	48A
3	" "	90A
2	" "	100
2	" "	111c
1	" "	126A



Parts
required :

3	of No.	1
8	" "	2
4	" "	12
20	" "	37
2	" "	54
2	" "	100

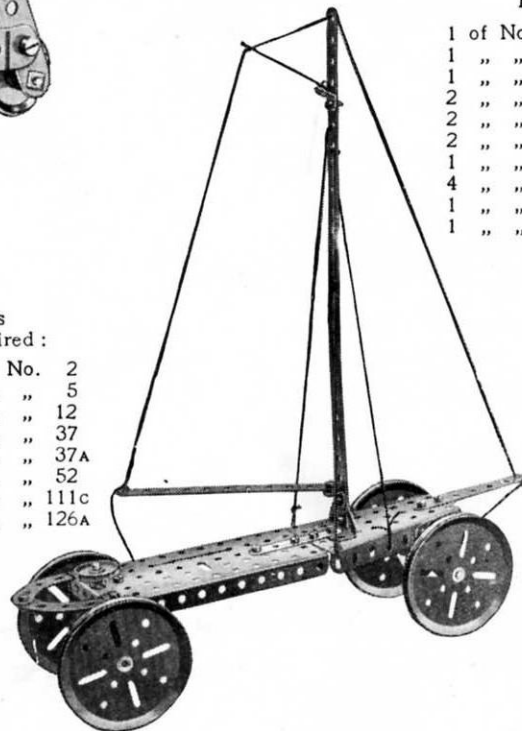
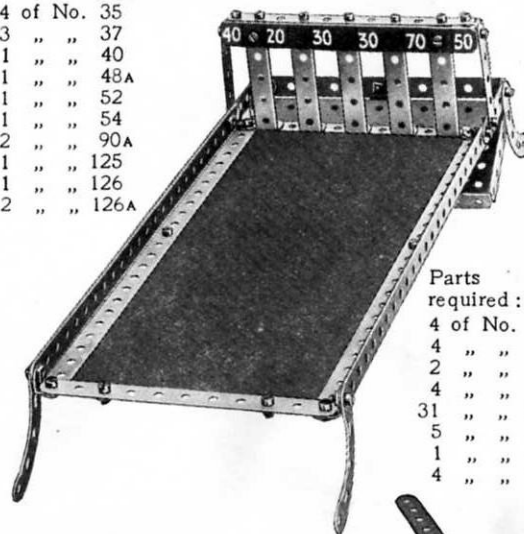
Model No. 1.81 Inverted Truss



Model No. 1.82 Sand Yacht

Parts required :

1	of No.	1	4	of No.	35
1	" "	2	23	" "	37
1	" "	3	1	" "	40
2	" "	5	1	" "	48A
2	" "	12	1	" "	52
2	" "	16	1	" "	54
1	" "	18A	2	" "	90A
4	" "	19B	1	" "	125
1	" "	22	1	" "	126
1	" "	24	2	" "	126A

Model No. 1.83
Box Ball Alley

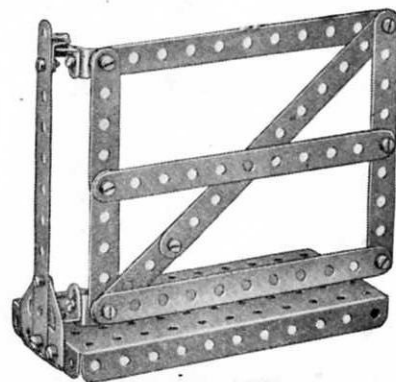
Parts
required :

4	of No.	1
4	" "	2
2	" "	5
4	" "	10
31	" "	37
5	" "	48A
1	" "	52
4	" "	90A

Model No. 1.80 Gate

Parts
required :

6	of No.	2
4	" "	5
5	" "	12
13	" "	37
4	" "	37A
1	" "	52
2	" "	111c
1	" "	126A



Model No. 1.84 Rake

Parts required :

1	of No.	2	4	of No.	10
2	" "	5	1	" "	12
6 of No. 37					



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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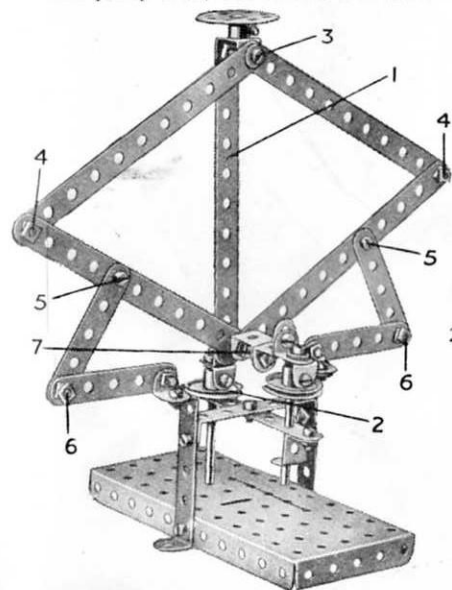
Model No. 1.85 Bow Girder



Parts required:
2 of No. 1 | 6 of No. 37
4 " " 12 | 1 " " 40
2 of No. 54

Model No. 1.86 Double-Action Pump

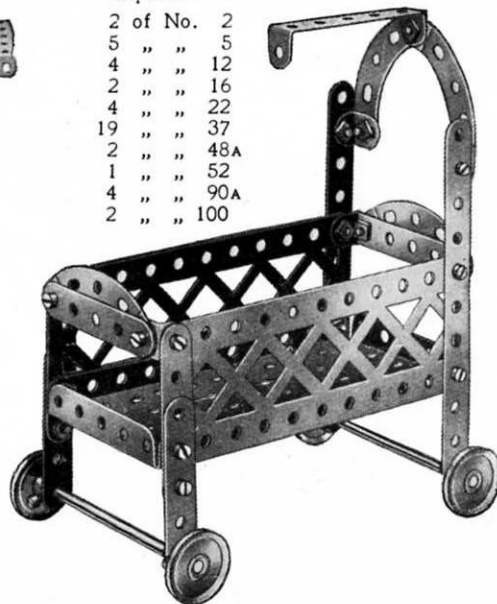
The $5\frac{1}{2}$ " Strip 1 is attached to the 1" Pulley Wheel 2 by means of two Angle Brackets, through the lower of which passes the Set-Screw that secures the Pulley to its 2" Rod. Two Washers are placed beneath the head of the Bolt joining the Angle Brackets in order to prevent its shank from binding on the boss of the Pulley 2. The joints 3, 4, 5, 6, 7, are all lock-nutted, the remainder of the joints being quite rigid. When the Strip 1 descends, together with the first pump, the incidental distortion of the parallelogram 3, 4, 7, 4 causes the second pump to rise. Similarly, when the first pump rises, the second descends.



Parts required:
5 of No. 2
1 " " 3
4 " " 5
2 " " 11
6 " " 12
2 " " 17
2 " " 22
1 " " 24
21 " " 37
6 " " 37A
4 " " 38
3 " " 48A
1 " " 52
6 " " 111c
2 " " 125

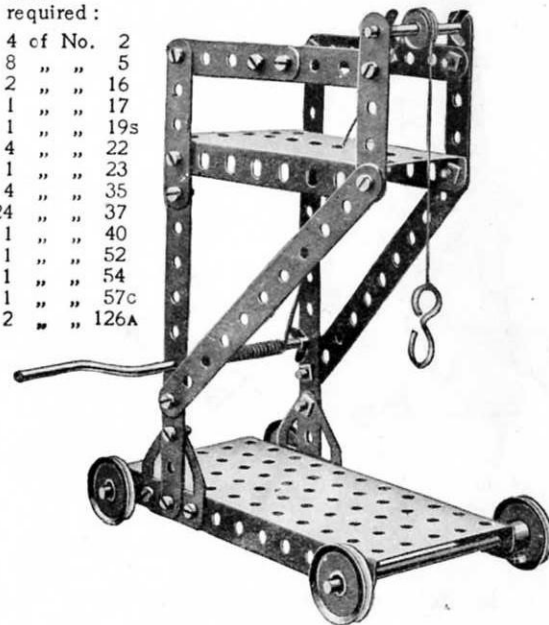
Model No. 1.87 Cot on Wheels

Parts required:
2 of No. 2
5 " " 5
4 " " 12
2 " " 16
4 " " 22
19 " " 37
2 " " 48A
1 " " 52
4 " " 90A
2 " " 100



Model No. 1.88 Tower Wagon

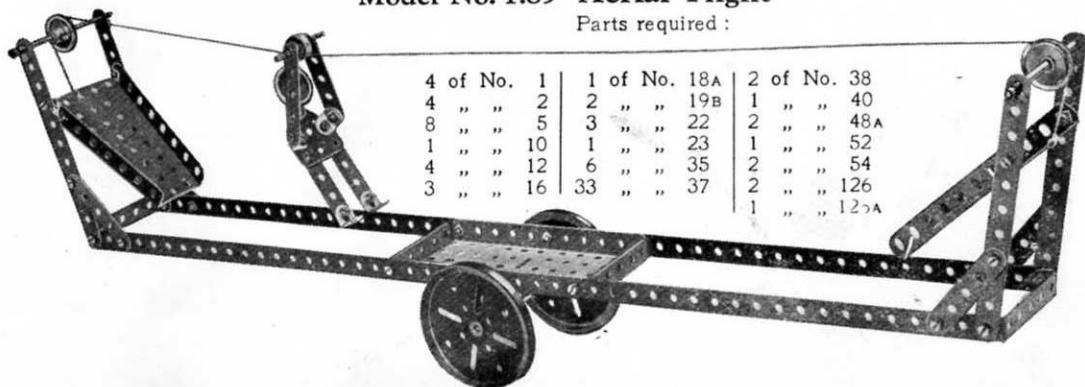
Parts required:
4 of No. 2
8 " " 5
2 " " 16
1 " " 17
1 " " 19s
4 " " 22
1 " " 23
4 " " 35
24 " " 37
1 " " 40
1 " " 52
1 " " 54
1 " " 57c
2 " " 126A



Model No. 1.89 Aerial Flight

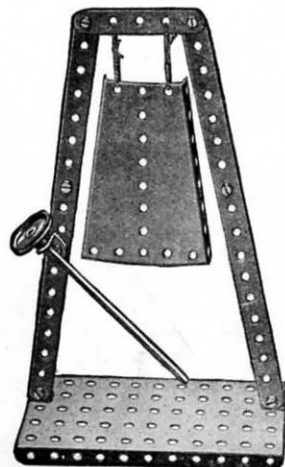
Parts required:

4 of No. 1	1 of No. 18A	2 of No. 38
4 " " 2	2 " " 19B	1 " " 40
8 " " 5	3 " " 22	2 " " 48A
1 " " 10	1 " " 23	1 " " 52
4 " " 12	6 " " 35	2 " " 54
3 " " 16	33 " " 37	2 " " 126
		1 " " 126A



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.90 Gong



Begin to build this model by making the platform from a Flanged Plate and 12 1/2 inch Strips. The drive from the Pulley on the Crank Handle is taken to a 1 inch Pulley, fast on the vertical 2 inch Rod, another similar Pulley being secured to this Rod beneath the Plate.

The arms are formed of four 5 1/2 inch Strips bolted to a Bush Wheel fast on the 2 inch Rod.

Parts required:

4 of No. 1	3 of No. 22
4 " " 2	1 " " 24
6 " " 5	6 " " 35
4 " " 10	22 " " 37
2 " " 16	1 " " 40
1 " " 17	4 " " 48A
1 " " 19s	1 " " 52
2 of No. 54	

Parts required:

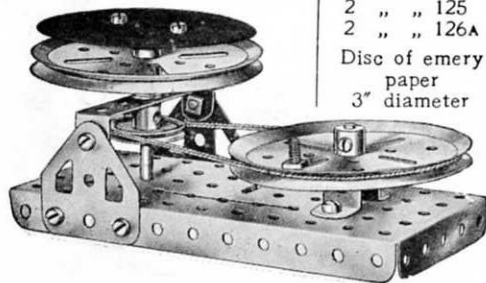
4 of No. 2	1 of No. 22
1 " " 5	9 " " 37
3 " " 12	1 " " 40
1 " " 16	1 " " 52
1 of No. 54	

Model No. 1.91 Emery Wheel

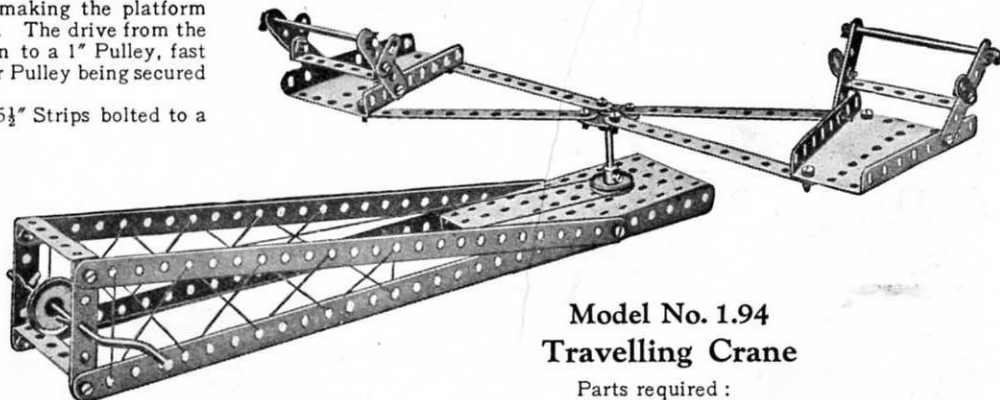
Parts required:

1 of No. 17	1 of No. 22	10 of No. 37
1 " " 18A	1 " " 24	1 " " 40
2 " " 19B	2 " " 35	1 " " 48A
		1 " " 52
		1 " " 111c
		2 " " 125
		2 " " 126A

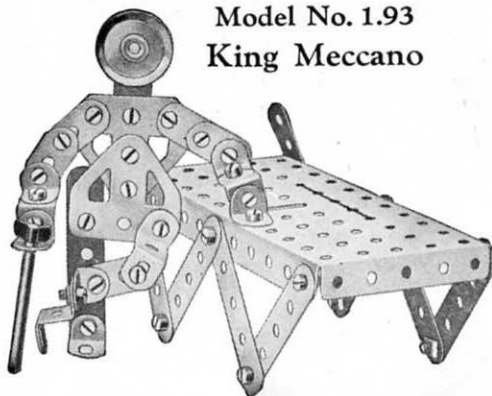
Disc of emery
paper
3 inch diameter



Model No. 1.92 Roundabout



Model No. 1.93 King Meccano



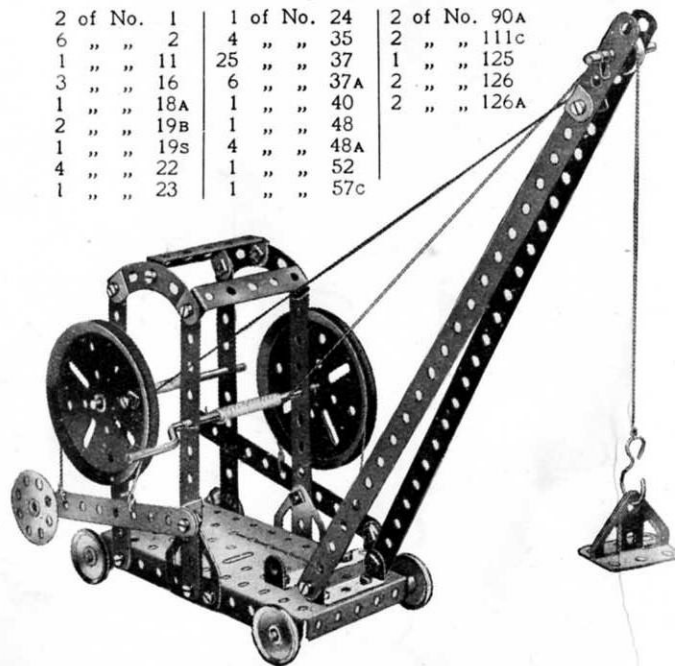
Parts required

1 of No. 3	1 of No. 35
9 " " 5	30 " " 37
5 " " 10	1 " " 52
8 " " 12	1 " " 111c
1 " " 17	2 " " 125
1 " " 22	2 " " 126A

Model No. 1.94 Travelling Crane

Parts required:

2 of No. 1	1 of No. 24	2 of No. 90A
6 " " 2	4 " " 35	2 " " 111c
1 " " 11	25 " " 37	1 " " 125
3 " " 16	6 " " 37A	2 " " 126
1 " " 18A	1 " " 40	2 " " 126A
2 " " 19B	1 " " 48	
1 " " 19s	4 " " 48A	
4 " " 22	1 " " 52	
1 " " 23	1 " " 57c	



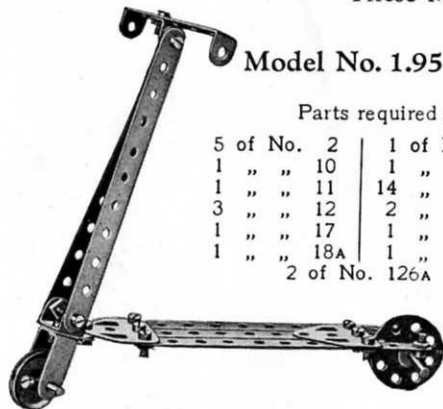
These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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Model No. 1.95 Scooter

Parts required :

5 of No. 2	1 of No. 22
1 " " 10	1 " " 24
1 " " 11	14 " " 37
3 " " 12	2 " " 38
1 " " 17	1 " " 44
1 " " 18A	1 " " 48A
2 of No. 126A	

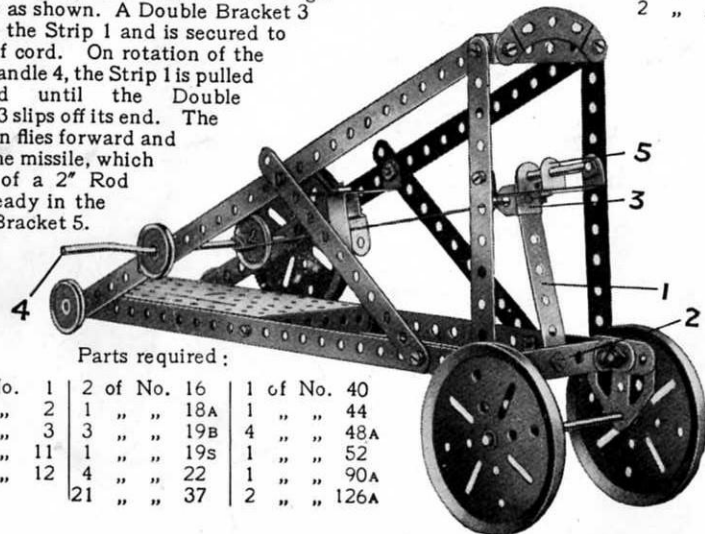


Model No. 1.96 Ballista

This is a model of an ancient engine of war, resembling the crossbow. The 3 1/2" Strip 1 is bolted firmly to the Double Angle Strip 2, which is prevented from turning by the addition of Angle Brackets as shown. A Double Bracket 3 slides on the Strip 1 and is secured to a piece of cord. On rotation of the Crank Handle 4, the Strip 1 is pulled backward until the Double Bracket 3 slips off its end. The Strip then flies forward and strikes the missile, which consists of a 2" Rod placed ready in the Double Bracket 5.

Parts required :

4 of No. 1	2 of No. 16	1 of No. 40
4 " " 2	1 " " 18A	1 " " 44
1 " " 3	3 " " 19B	4 " " 48A
2 " " 11	1 " " 19S	1 " " 52
2 " " 12	4 " " 22	1 " " 90A
	21 " " 37	2 " " 126A

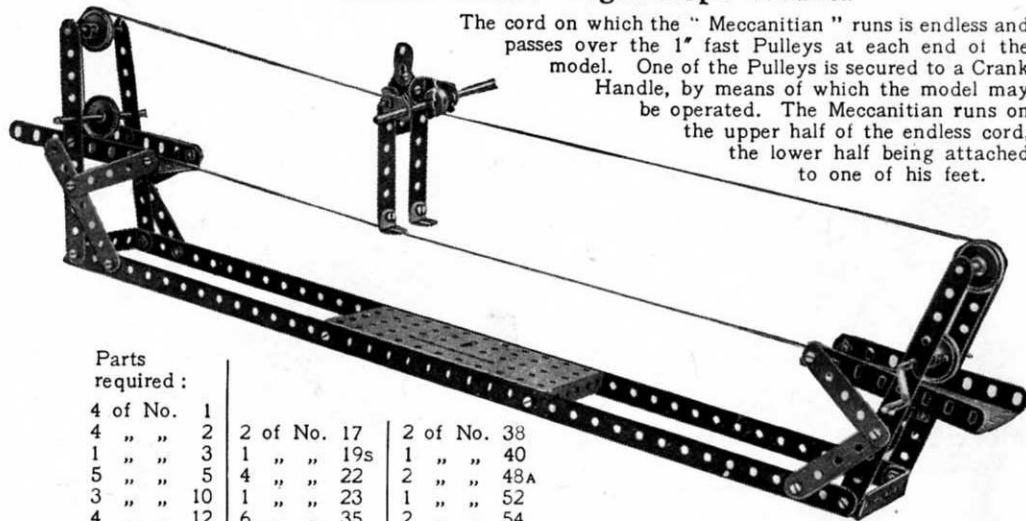


Model No. 1.97 Tight-Rope Walker

The cord on which the "Meccanitian" runs is endless and passes over the 1" fast Pulleys at each end of the model. One of the Pulleys is secured to a Crank Handle, by means of which the model may be operated. The Meccanitian runs on the upper half of the endless cord, the lower half being attached to one of his feet.

Parts required :

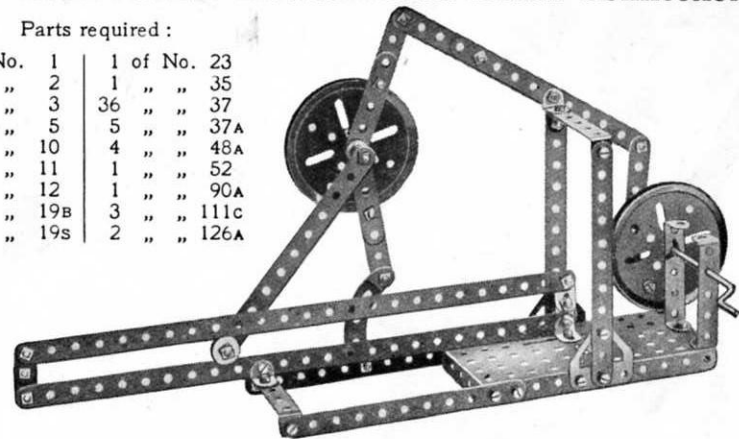
4 of No. 1	2 of No. 17	2 of No. 38
4 " " 2	1 " " 19S	1 " " 40
1 " " 3	4 " " 22	2 " " 48A
5 " " 5	1 " " 23	1 " " 52
3 " " 10	6 " " 35	2 " " 54
4 " " 12	34 " " 37	1 " " 126A
2 " " 16		

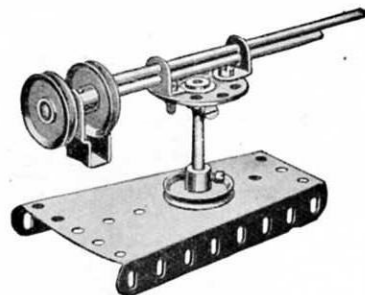


Model No. 1.98 Double-Action Piston Connection

Parts required :

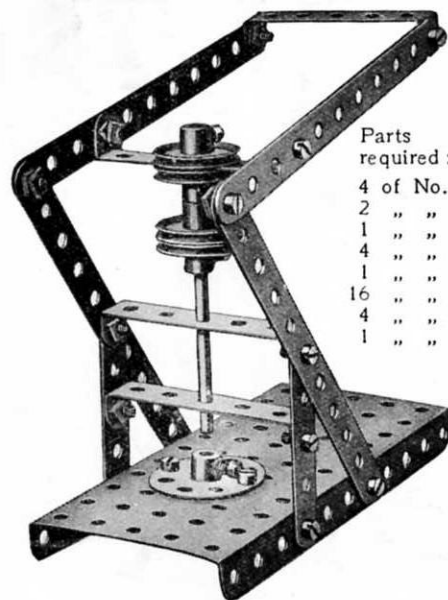
2 of No. 1	1 of No. 23
6 " " 2	1 " " 35
1 " " 3	36 " " 37
5 " " 5	5 " " 37A
4 " " 10	4 " " 48A
2 " " 11	1 " " 52
3 " " 12	1 " " 90A
2 " " 19B	3 " " 111c
1 " " 19S	2 " " 126A



Model No. 1.99 Quick-Firing Gun

Parts required :

2 of No. 12	1 of No. 24
2 " " 16	2 " " 37
1 " " 17	1 " " 44
4 " " 22	1 " " 54

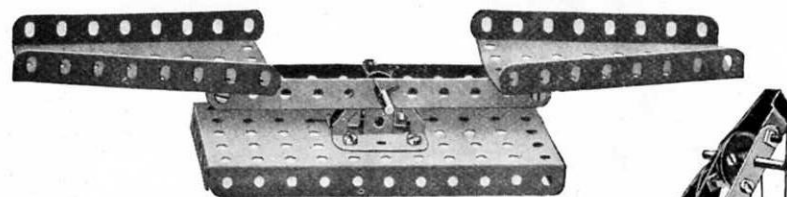
Model No. 1.100 Punching Machine

Parts required :

4 of No. 2
2 " " 5
1 " " 16
4 " " 22
1 " " 24
16 " " 37
4 " " 48A
1 " " 52

Parts required :

2 of No. 2
2 " " 11
1 " " 18A
2 " " 35
8 " " 37
1 " " 52
2 " " 54
2 " " 126

Model No. 1.101 Scales**Model No. 1.103 Swivelling Crane**

Parts required :

4 of No. 2	1 of No. 52
7 " " 5	1 " " 54
2 " " 12	1 " " 57C
2 " " 17	2 " " 126A
1 " " 19s	
4 " " 22	
1 " " 23	
2 " " 35	
21 " " 37	
3 " " 38	
1 " " 40	
1 " " 44	
1 " " 48A	



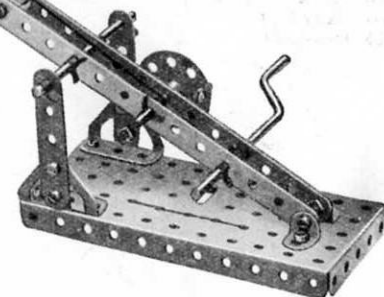
The Sector Plate of the crane in the above model is pivoted to the base with a fast Pulley above and below.

Model No. 1.102 Extended Ash Tip

Parts required :

4 of No. 1	2 of No. 18A	2 of No. 48A
5 " " 2	1 " " 19s	1 " " 52
7 " " 5	4 " " 22	6 " " 111C
2 " " 11	1 " " 24	2 " " 125
8 " " 12	5 " " 35	2 " " 126
1 " " 16	36 " " 37	2 " " 126A
2 " " 17	1 " " 40	

The trolley is operated by means of a cord that is wound round the $1\frac{1}{2}$ " Axle Rod carrying the Bush Wheel, both ends of the cord being secured to the trolley. The bucket is suspended from a cord that winds on to the Crank Handle, and it is tipped by lowering it until a short cord that is attached to the bottom of the bucket and to the trolley, becomes taut. Further lowering causes the bucket to swing over.



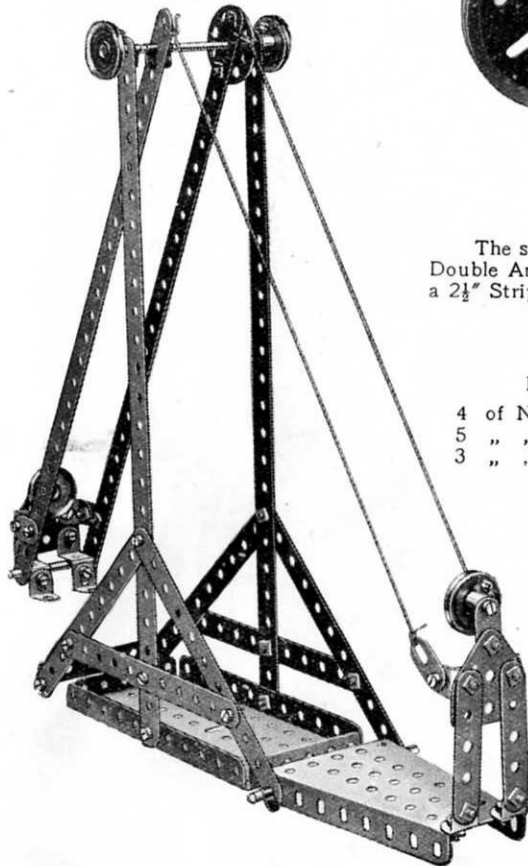
These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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Model No. 1.104 Boy on Swing

Parts required :

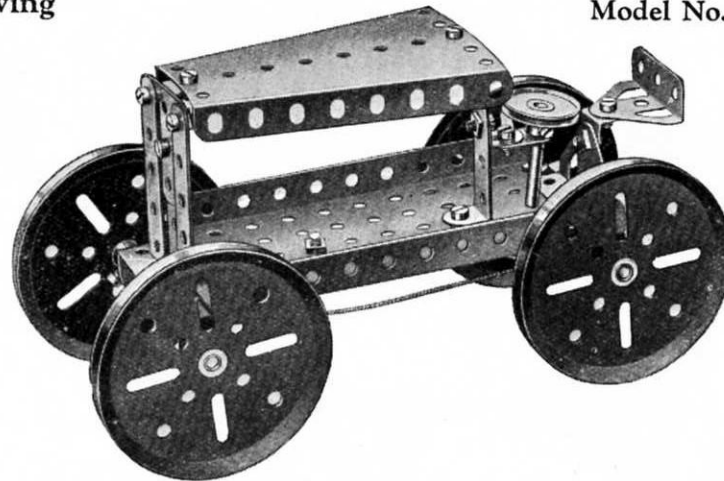
4 of No. 1	1 of No. 24
6 " " 2	7 " " 35
2 " " 5	35 " " 37
5 " " 10	1 " " 40
8 " " 12	1 " " 48A
2 " " 16	1 " " 52
1 " " 17	1 " " 54
4 " " 22	2 " " 125
2 of No. 126A	



Model No. 1.105 Motor Tractor

Parts required :

3 of No. 5	
1 " " 10	
2 " " 12	
2 " " 16	
1 " " 18A	
4 " " 19B	
1 " " 22	
1 " " 24	
15 " " 37	
2 " " 37A	
6 " " 38	
1 " " 40	
4 " " 48A	
1 " " 52	
1 " " 54	
1 " " 111c	
2 " " 126	
1 " " 126A	



The steering gear is shown in Fig. 1.105A. The front wheels are carried in a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip 1, which is mounted pivotally by a Bolt and two Nuts (S.M. 262) to a $2\frac{1}{2}''$ Strip 2 secured to the $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flanged Plate.

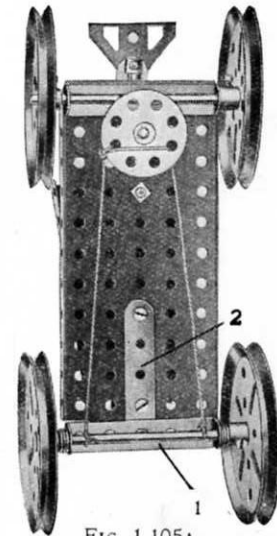
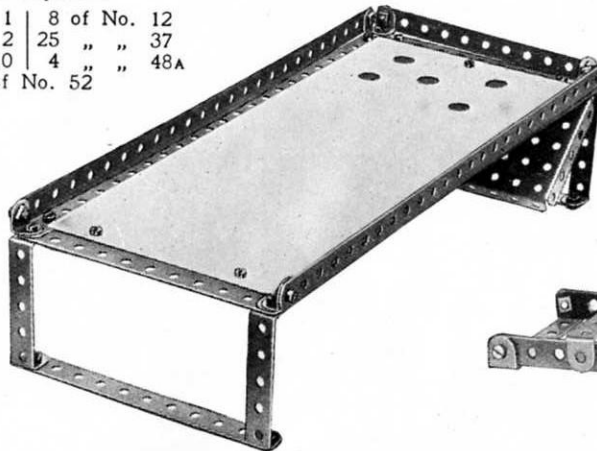


FIG. 1.105A

Model No. 1.106 Bagatelle Table

Parts required :

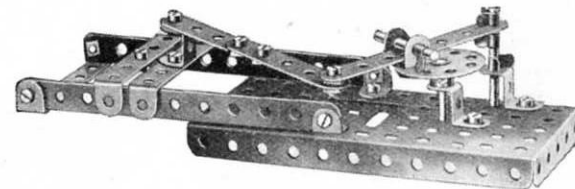
4 of No. 1	8 of No. 12
5 " " 2	25 " " 37
3 " " 10	4 " " 48A
1 of No. 52	



Model No. 1.107 Quick Return Device

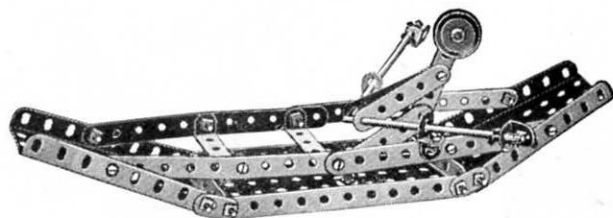
Parts required :

2 of No. 2	1 of No. 24
1 " " 3	6 " " 35
2 " " 5	15 " " 37
2 " " 11	2 " " 37A
2 " " 12	3 " " 48A
1 " " 17	1 " " 52
2 " " 18A	2 " " 125



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

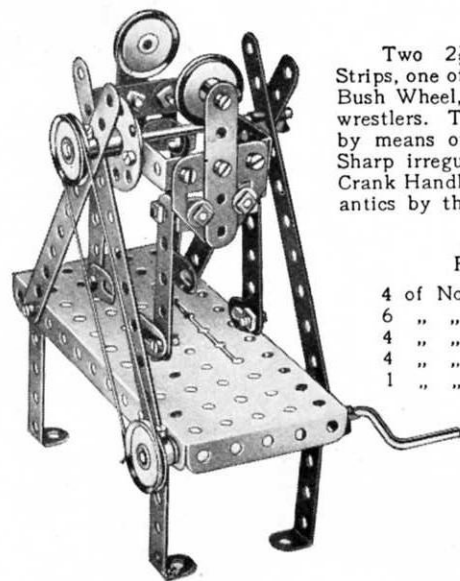
Model No. 1.108 Rowing Boat



Parts required:

4 of No. 2	4 of No. 35
4 " " 5	24 " " 37
4 " " 10	3 " " 48A
7 " " 12	1 " " 52
2 " " 16	2 " " 54
1 " " 22	1 " " 111c

Model No. 1.109 The Wrestlers



Two $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips, one of which is bolted to the Bush Wheel, form the arms of the wrestlers. The legs are all pivoted by means of Bolts and lock-nuts. Sharp irregular movements of the Crank Handle will result in amusing antics by the wrestlers.

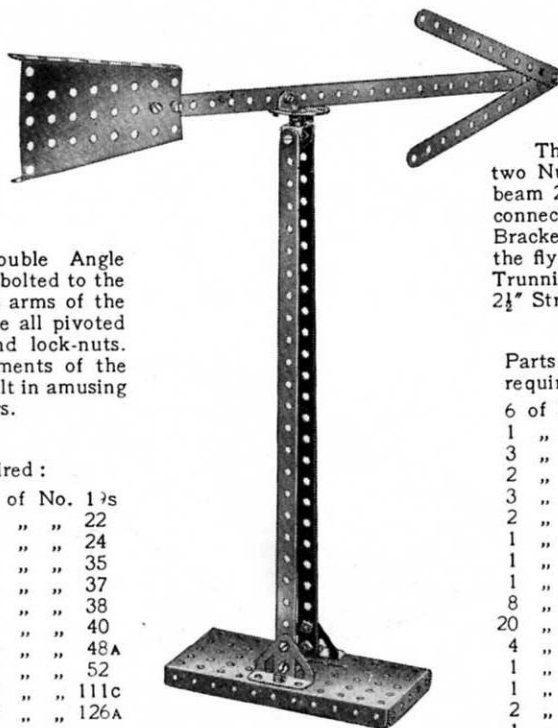
Parts required:

4 of No. 2	1 of No. 17s
6 " " 5	4 " " 22
4 " " 10	1 " " 24
4 " " 12	3 " " 35
1 " " 16	24 " " 37
	5 " " 38
	1 " " 40
	6 " " 48A
	1 " " 52
	2 " " 111c
	2 " " 126A

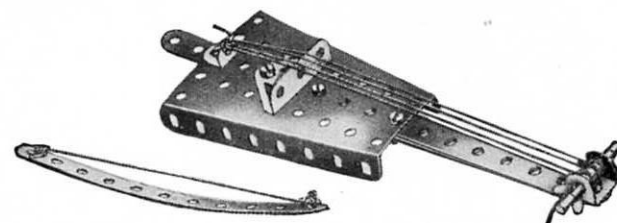
Model No. 1.110 Weather Vane

Parts required:

3 of No. 1	14 of No. 37
2 " " 2	1 " " 52
1 " " 11	1 " " 54
2 " " 12	1 " " 111c
1 " " 24	2 " " 126



Model No. 1.111 Violin and Bow



Parts required:

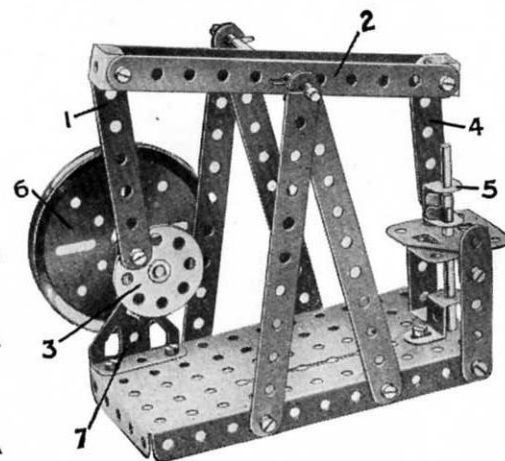
4 of No. 2	1 of No. 12	1 of No. 40
1 " " 5	1 " " 18A	1 " " 54
1 " " 11	2 " " 35	1 " " 126
	5 " " 37	

Model No. 1.112 Beam Engine

The connecting Strip 1 is attached pivotally by a Bolt and two Nuts (Standard Mechanism No. 262) to one end of the beam 2 and to the Bush Wheel 3. The Strip 4 is similarly connected to the other end of the beam 2 and to the Double Bracket 5 attached to the piston rod. The short rod carrying the flywheel 6 is journaled in a $2\frac{1}{2}''$ Strip supported by the Trunnion 7 and in a Reversed Angle Bracket bolted to the $2\frac{1}{2}''$ Strip.

Parts required:

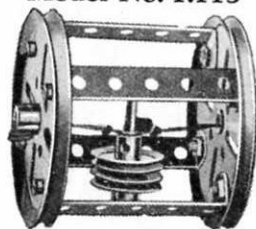
6 of No. 2	2
1 " " 3	3
3 " " 5	5
2 " " 11	11
3 " " 12	12
2 " " 16	16
1 " " 17	17
1 " " 19B	19B
1 " " 24	24
8 " " 35	35
20 " " 37	37
4 " " 37A	37A
1 " " 48	48
1 " " 52	52
2 " " 125	125
1 " " 126	126
2 " " 126A	126A



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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Model No. 1.113 Cum Bak



Parts
required :

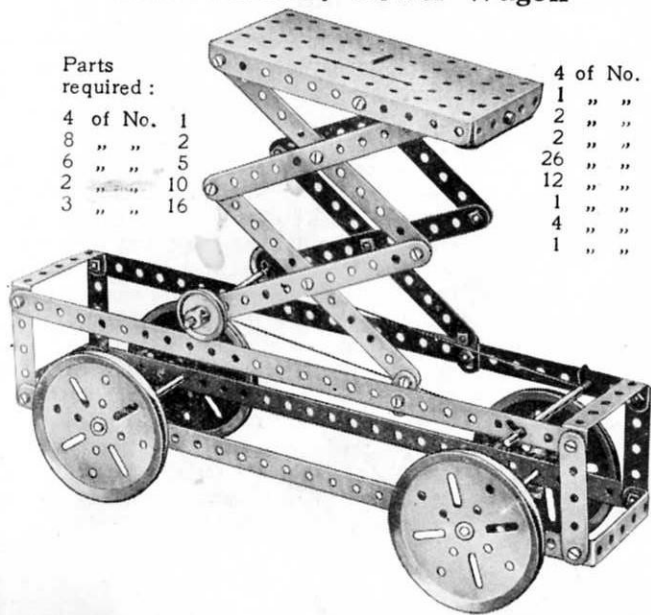
1	of No.	18A
2	" "	19B
2	" "	22
1	" "	23
1	" "	35
8	" "	37
4	" "	48A

A short length of elastic is doubled and stretched between the centres of the 3" Pulley Wheels. A weight, consisting of two 1" fast Pulley Wheels and a 1½" Rod, is suspended from it in the middle of the drum. When the Cum Bak is rolled along any smooth level surface, the elastic becomes twisted and stores up sufficient energy to return the drum to its starting point. If the mechanism is concealed by a thin cardboard covering, the model will cause much amusement by its mystifying behaviour.

Model No. 1.114 Tower Wagon

Parts
required :

4	of No.	1
8	" "	2
6	" "	5
2	" "	10
3	" "	16



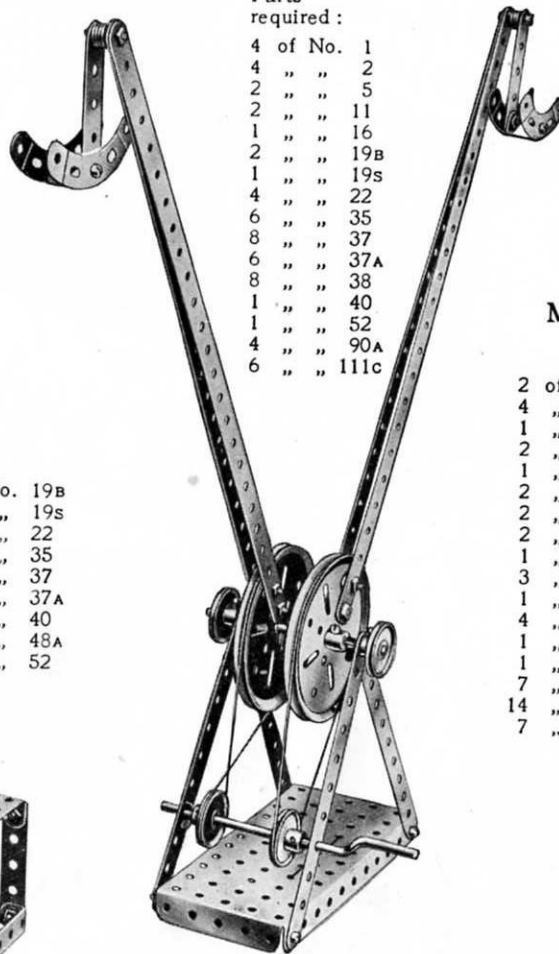
4	of No.	19B
1	" "	19S
2	" "	22
2	" "	35
26	" "	37
12	" "	37A
1	" "	40
4	" "	48A
1	" "	52

Model No. 1.115

Flip Flap

Parts
required :

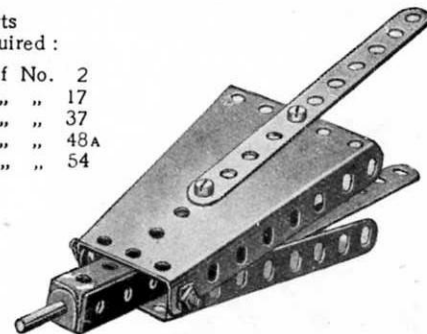
4	of No.	1
4	" "	2
2	" "	5
2	" "	11
1	" "	16
2	" "	19B
1	" "	19S
4	" "	22
6	" "	35
8	" "	37
6	" "	37A
8	" "	38
1	" "	40
1	" "	52
4	" "	90A
6	" "	111c



Model No. 1.116 Bellows

Parts
required :

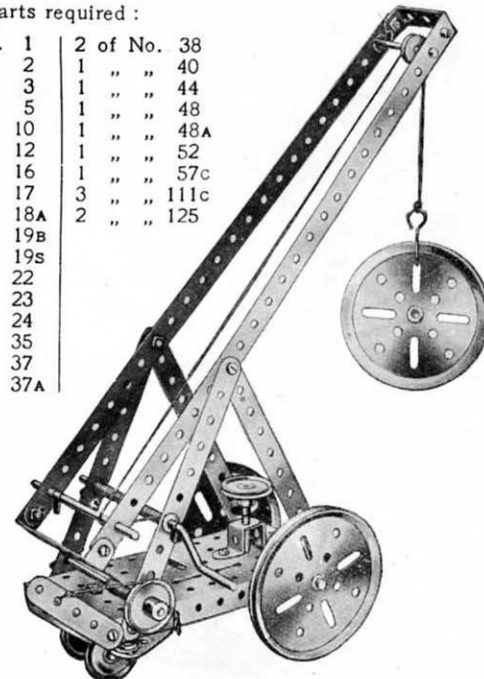
2	of No.	2
1	" "	17
9	" "	37
4	" "	48A
2	" "	54



Model No. 1.117 Mobile Crane

Parts required :

2	of No.	1	2	of No.	38
4	" "	2	1	" "	40
1	" "	3	1	" "	44
2	" "	5	1	" "	48
1	" "	10	1	" "	48A
2	" "	12	1	" "	52
2	" "	16	1	" "	57c
2	" "	17	3	" "	111c
1	" "	18A	2	" "	125
3	" "	19B			
1	" "	19S			
4	" "	22			
1	" "	23			
1	" "	24			
7	" "	35			
14	" "	37			
7	" "	37A			

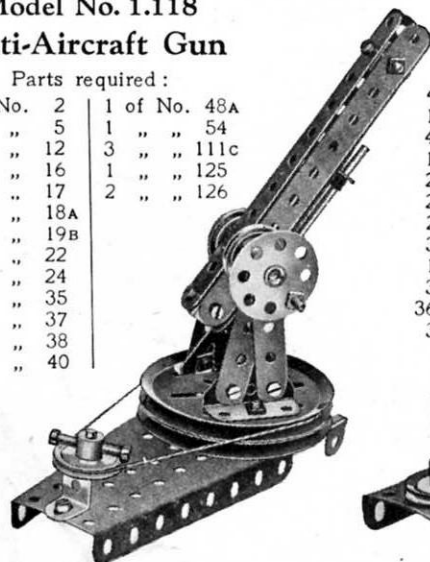


These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.118 Anti-Aircraft Gun

Parts required:

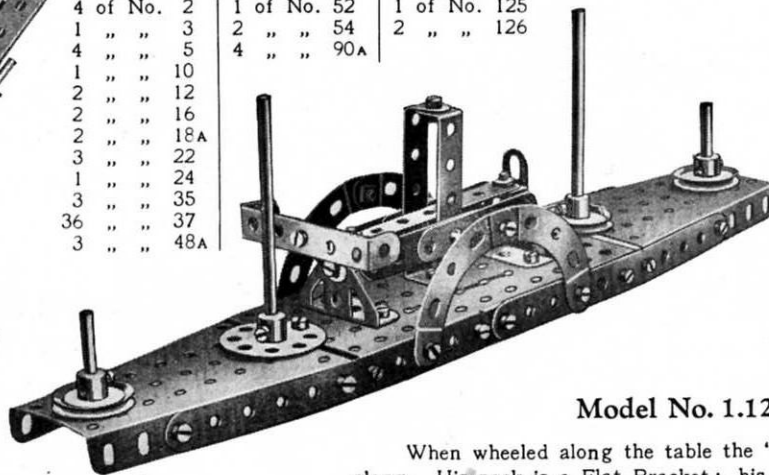
4 of No. 2	1 of No. 48A
4 " " 5	1 " " 54
8 " " 12	3 " " 111c
1 " " 16	1 " " 125
1 " " 17	2 " " 126
2 " " 18A	
2 " " 19B	
3 " " 22	
1 " " 24	
4 " " 35	
18 " " 37	
2 " " 38	
1 " " 40	



Model No. 1.120 Paddle Steamer

Parts required:

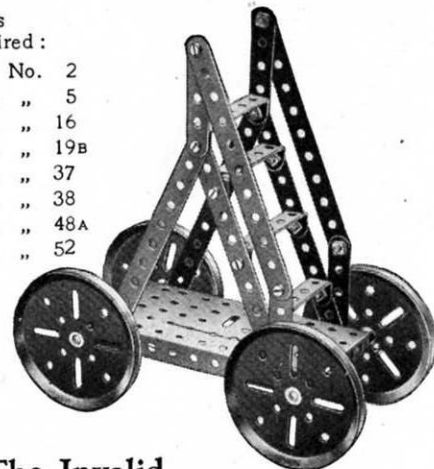
4 of No. 2	1 of No. 52	1 of No. 125
1 " " 3	2 " " 54	2 " " 126
4 " " 5	4 " " 90A	
1 " " 10		
2 " " 12		
2 " " 16		
2 " " 18A		
3 " " 22		
1 " " 24		
3 " " 35		
36 " " 37		
3 " " 48A		



Model No. 1.121 Ladder on Wheels

Parts required:

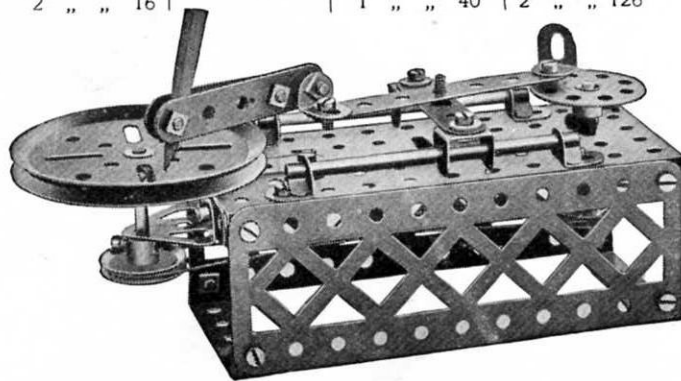
6 of No. 2
4 " " 5
2 " " 16
4 " " 19B
16 " " 37
8 " " 38
4 " " 48A
1 " " 52



Model No. 1.119 Meccanograph

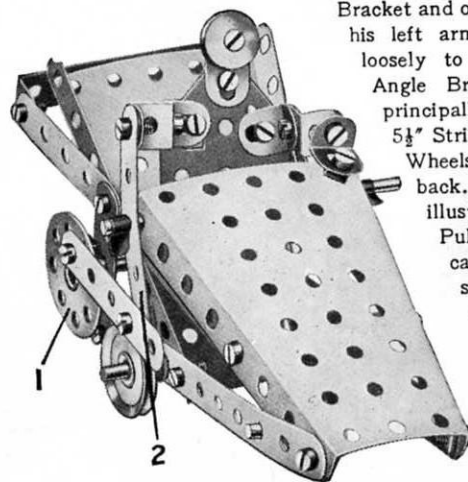
Parts required:

1 of No. 3	2 of No. 17	5 of No. 35	2 of No. 48A
4 " " 5	1 " " 19B	21 " " 37	1 " " 52
2 " " 11	2 " " 22	2 " " 37A	2 " " 100
6 " " 12	1 " " 24	2 " " 38	3 " " 111c
2 " " 16		1 " " 40	2 " " 126



Parts required:

4 of No. 2
6 " " 5
1 " " 10
4 " " 12
3 " " 16
1 " " 17
4 " " 22
1 " " 23
1 " " 24
4 " " 35
24 " " 37
4 " " 37A
3 " " 38
2 " " 48A
2 " " 54
1 " " 125
1 " " 126A



Model No. 1.122 The Invalid

When wheeled along the table the "invalid" appears to push himself energetically along. His neck is a Flat Bracket: his right (or propelling) arm consists of one Angle Bracket and one $\frac{1}{2}$ " Reversed Angle Bracket, and his left arm—the hand of which is bolted loosely to the chair—is formed by three Angle Brackets. The chair is composed principally of two Sector Plates and four $5\frac{1}{2}$ " Strips, and it runs on three 1" Pulley Wheels—one in front and two at the back. One of these (not visible in the illustration) drives by cord another 1" Pulley Wheel, the shaft of which also carries a Bush Wheel 1. As will be seen, a $2\frac{1}{2}$ " Strip is pivoted at one end to this Bush Wheel and at the other end to a second $2\frac{1}{2}$ " Strip 2, which, rocking about an axle journaled through its centre hole, is again pivoted to the invalid's hands.

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

23

Model No. 1.123 Bow and Arrow

Parts required :
1 of No. 1 | 1 of No. 16
1 of No. 40

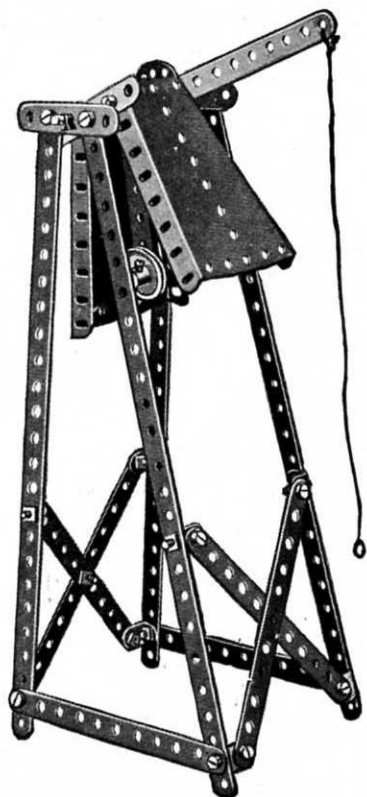
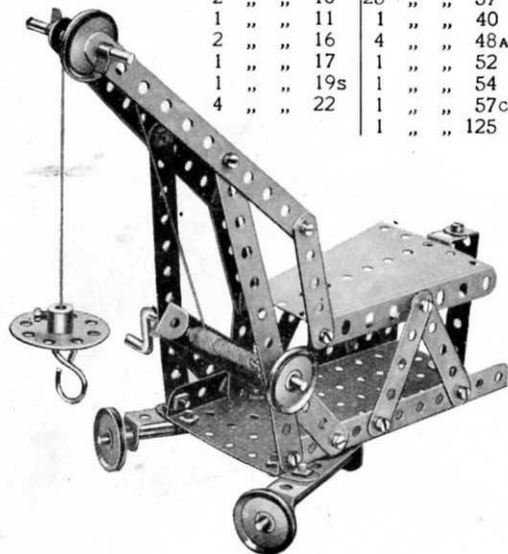


Model No. 1.124 Rotating Crane

The running wheels of this crane are journaled in Double Angle Strips bolted to the base plate and secured at an angle by means of Flat Brackets. The rear of the Base Plate is supported on a Double Bracket. The jib is bolted loosely to the supporting 5½" Strips and is connected by 2½" Strips to the Sector Plate which pivots about its supporting bolts. By moving this Sector Plate the elevation of the jib may be altered as desired. The movement is controlled by a Double Angle Strip mounted on the Crank Handle and connected pivotally to the plate by means of a 2½" Strip. A Reversed Angle Bracket bolted to an upright Double Angle Strip in the rear of the model serves to restrict the movement of the Sector Plate.

Parts required :

4 of No. 2	1 of No. 24
9 " " 5	5 " " 35
2 " " 10	25 " " 37
1 " " 11	1 " " 40
2 " " 16	4 " " 48A
1 " " 17	1 " " 52
1 " " 19s	1 " " 54
4 " " 22	1 " " 57c
	1 " " 125



Model No. 1.125 Fire Alarm

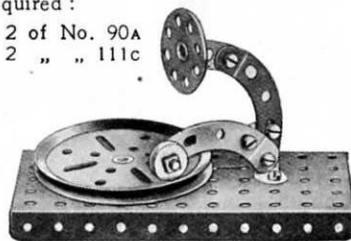
Parts required :

4 of No. 1
7 " " 2
1 " " 3
3 " " 5
8 " " 12
1 " " 16
1 " " 22
1 " " 24
4 " " 35
27 " " 37
2 " " 54

Model No. 1.126 Gramophone

Parts required :

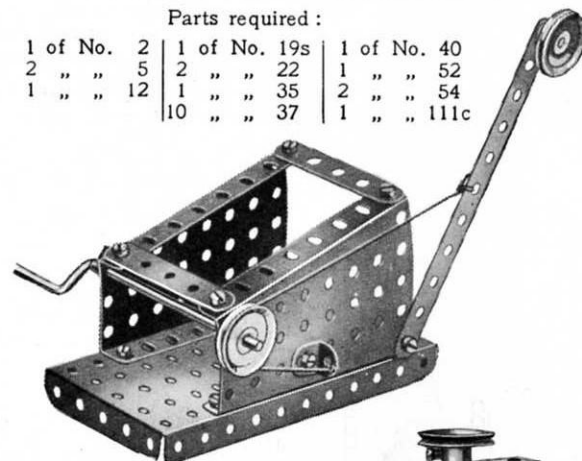
2 of No. 10	2 of No. 90A
1 " " 12	2 " " 111c
1 " " 19B	
1 " " 23	
1 " " 24	
6 " " 37	
1 " " 38	
1 " " 52	



Model No. 1.127 Band Brake

Parts required :

1 of No. 2	1 of No. 19s	1 of No. 40
2 " " 5	2 " " 22	1 " " 52
1 " " 12	1 " " 35	2 " " 54
	10 " " 37	1 " " 111c

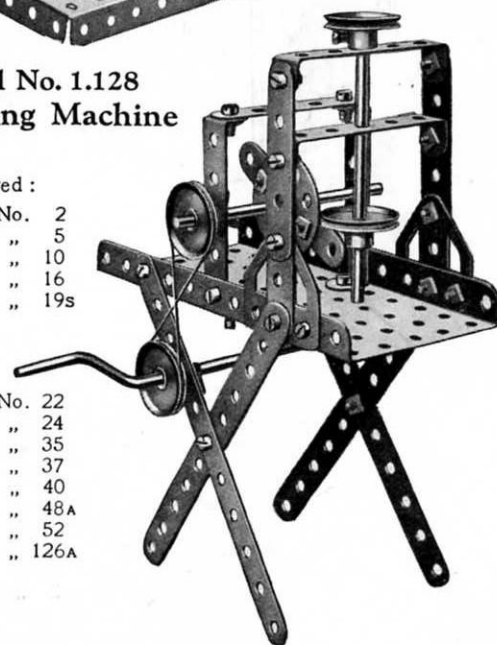


Model No. 1.128 Stamping Machine

Parts required :

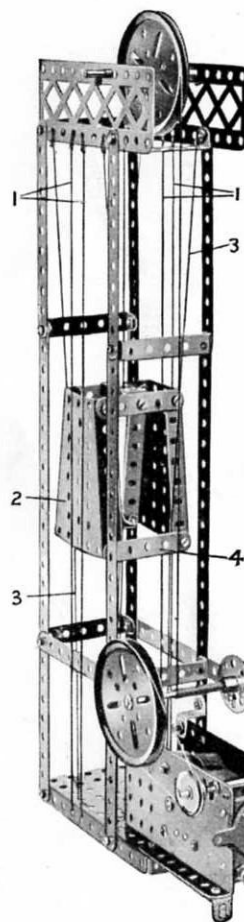
4 of No. 2
5 " " 5
2 " " 10
2 " " 16
1 " " 19s

4 of No. 22
1 " " 24
2 " " 35
22 " " 37
1 " " 40
4 " " 48A
1 " " 52
2 " " 126A



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.129 Electric Elevator



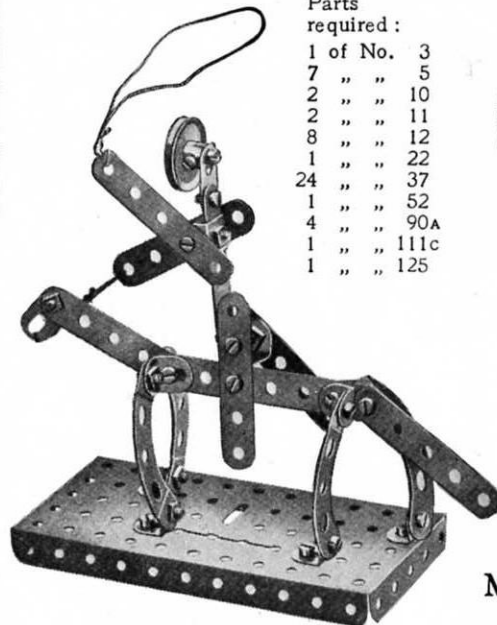
Two pairs of cords 1 are stretched tightly on each side of the lift shaft to guide the cage 2 and two other cords 3 are secured at the top and bottom of the shaft and passed behind 2½" Strips 4 bolted to the cage. The drive from the motor is transmitted to the 3" Pulley Wheel 5 by means of a cord passed round a 1" Pulley on the motor armature.

Parts required :

4 of No. 1	34 of No. 37
6 " " 2	1 " " 38
4 " " 5	1 " " 40
2 " " 12	1 " " 48
3 " " 16	6 " " 48A
3 " " 19B	1 " " 52
4 " " 22	2 " " 54
1 " " 24	2 " " 100
3 " " 35	2 " " 125

Electric Motor
(not included in Outfit)

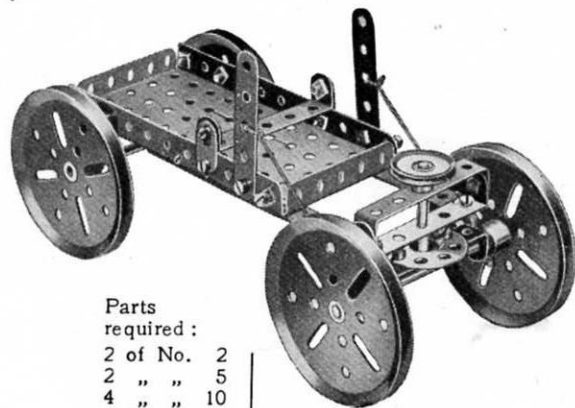
Model No. 1.130 Mounted Cowboy



Parts required :

1 of No. 3
7 " " 5
2 " " 10
2 " " 11
8 " " 12
1 " " 22
24 " " 37
1 " " 52
4 " " 90A
1 " " 111c
1 " " 125

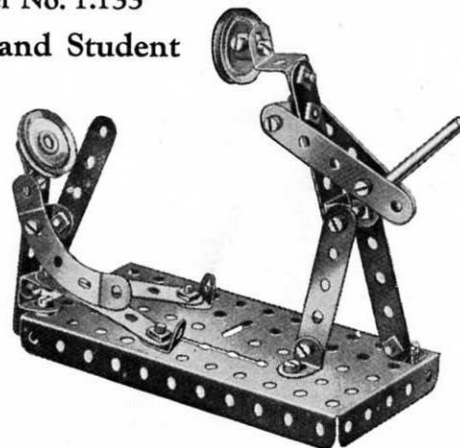
Model No. 1.132 Coaster



Parts required :

2 of No. 2	1 of No. 40
2 " " 5	4 " " 48A
4 " " 10	1 " " 52
2 " " 16	2 " " 126A
1 " " 18A	
4 " " 19B	22 of No. 37
1 " " 22	2 " " 37A
1 " " 24	6 " " 38

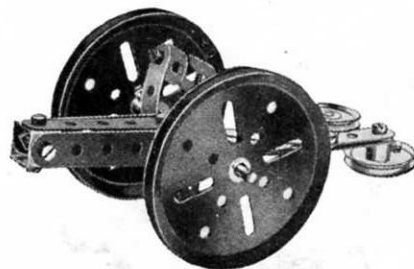
Model No. 1.133 Master and Student



Parts required :

9 of No. 5
1 " " 10
2 " " 11
8 " " 12
2 " " 22
20 " " 37
3 " " 37A
1 " " 52
1 " " 90A
4 " " 111c
1 " " 125

Model No. 1.131 Howitzer

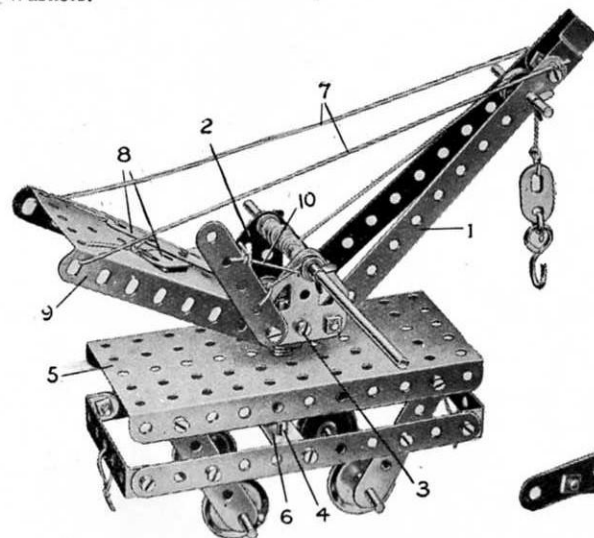


Parts required :

2 of No. 2
6 " " 5
4 " " 10
2 " " 11
4 " " 12
1 " " 16
2 " " 19B
2 " " 22
2 " " 35
14 " " 37
2 " " 38
2 " " 111c
2 " " 125

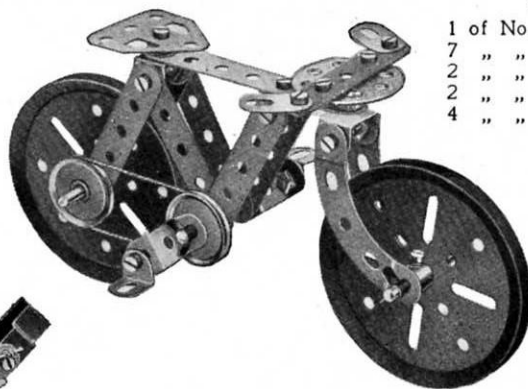
Model No. 1.134 Travelling Crane

The jib 1 is pivoted to the Flat Trunnions 2, which are bolted at 3 to Angle Brackets secured to a Bush Wheel. The latter is nipped to a 2" Rod 4 passing through the Plate 5 and further supported in a Double Angle Strip 6. A Washer and Spring Clip mounted on the Rod 4 below the Strip 6 secure the crane to the carriage. The jib is supported by means of cords 7 tied to 2½" Strips 8, the holes of which engage the shank of a bolt passed through the Sector Plate 9, and its elevation may be altered by inserting this bolt in different holes in the Strips 8. The cord 10 of the brake lever is wound once round the Crank Handle, between two Washers.



Parts required :

4 of No. 2	1 of No. 19s	1 of No. 40
7 " " 5	4 " " 22	1 " " 44
1 " " 10	1 " " 23	3 " " 48A
2 " " 12	1 " " 24	1 " " 52
2 " " 16	5 " " 35	1 " " 54
2 " " 17	27 " " 37	1 " " 57C
	6 " " 38	2 " " 126A

Model No. 1.135 Bicycle

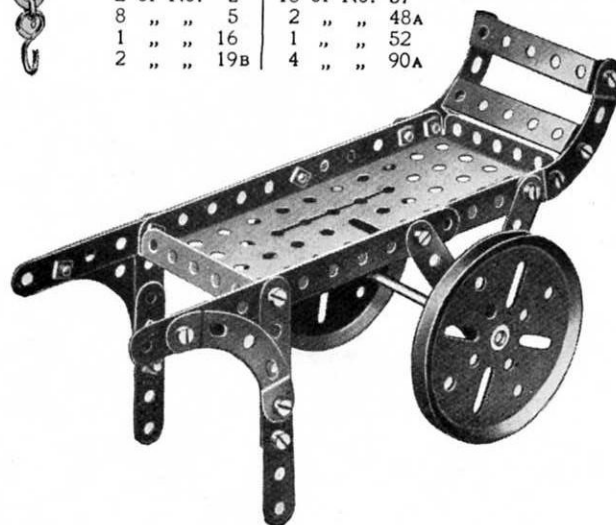
Parts required :

1 of No. 3	2 of No. 17
7 " " 5	1 " " 18A
2 " " 10	2 " " 19B
2 " " 11	2 " " 22
4 " " 12	1 " " 24
	4 " " 35
	13 " " 37
	4 " " 37A
	3 " " 38
	1 " " 40
	2 " " 90A
	4 " " 111c
	2 " " 125
	1 " " 126A

Model No. 1.136 Luggage Truck

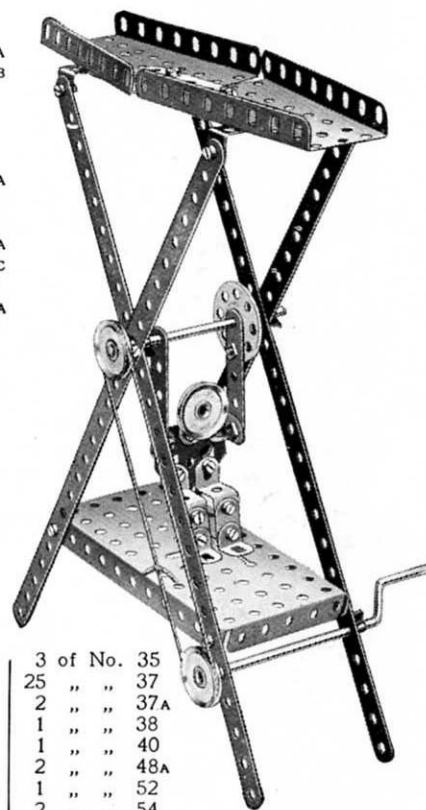
Parts required :

2 of No. 2	18 of No. 37
8 " " 5	2 " " 48A
1 " " 16	1 " " 52
2 " " 19B	4 " " 90A



Parts required :

4 of No. 1	3 of No. 35
3 " " 5	25 " " 37
3 " " 10	2 " " 37A
4 " " 12	1 " " 38
1 " " 16	1 " " 40
1 " " 19s	2 " " 48A
3 " " 22	1 " " 52
1 " " 24	2 " " 54
	1 " " 126A

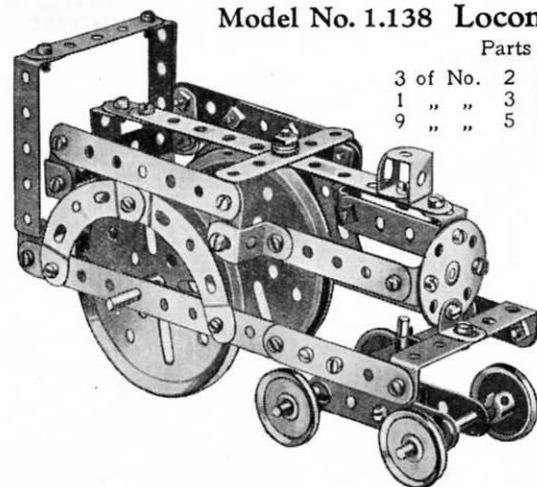


One of the 2½" Strips representing the arms of the gymnast is bolted to a Bush Wheel secured on a 3½" Rod. When the Crank Handle is rotated the gymnast turns complete somersaults in a very amusing manner. The gymnast's "arms" must be pivoted to the Angle Brackets forming his shoulders by means of Bolts and Lock-Nuts.

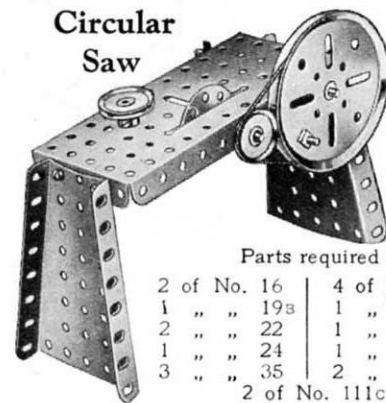
Model No. 1.138 Locomotive

Parts required:

3 of No. 2	5 of No. 10
1 " " 3	2 " " 11
9 " " 5	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



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. 1.139**Circular Saw**

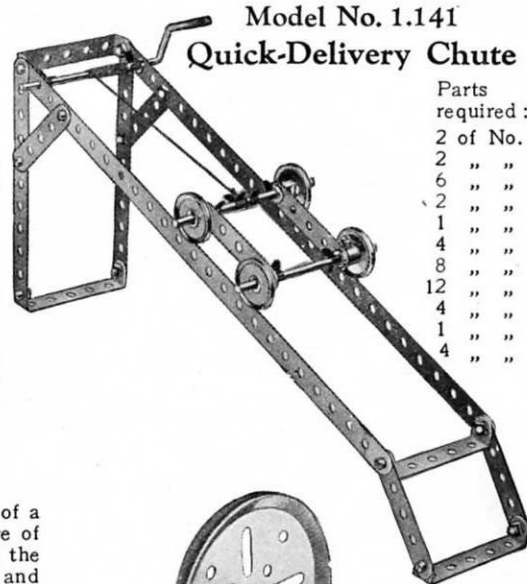
Parts required:

2 of No. 16	4 of No. 37
1 " " 19B	1 " " 37A
2 " " 22	1 " " 40
1 " " 24	1 " " 52
3 " " 35	2 " " 54
2 of No. 111c	

Model No. 1.141 Quick-Delivery Chute

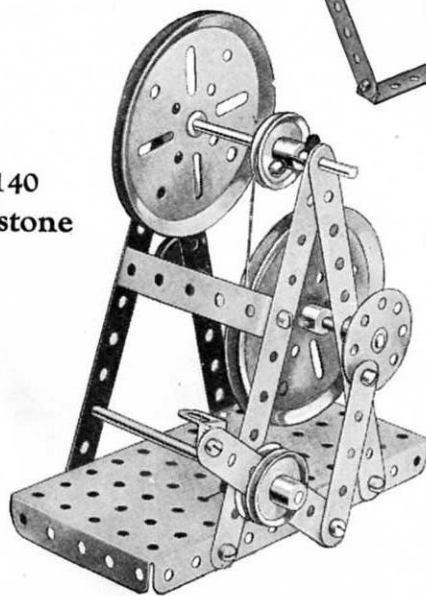
Parts required:

2 of No. 1	
2 " " 2	
6 " " 5	
2 " " 16	
1 " " 19s	
4 " " 22	
8 " " 35	
12 " " 37	
4 " " 38	
1 " " 40	
4 " " 48A	

**Model No. 1.140 Treadle Grindstone**

Parts required:

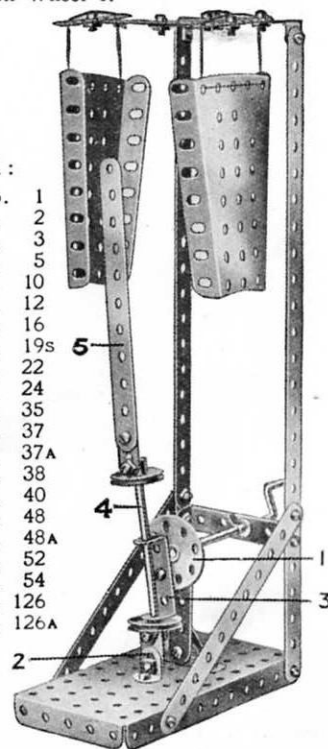
4 of No. 2	
1 " " 3	
1 " " 5	
1 " " 12	
3 " " 16	
2 " " 19B	
4 " " 22	
1 " " 24	
2 " " 35	
9 " " 37	
2 " " 37A	
1 " " 40	
1 " " 48A	
1 " " 52	

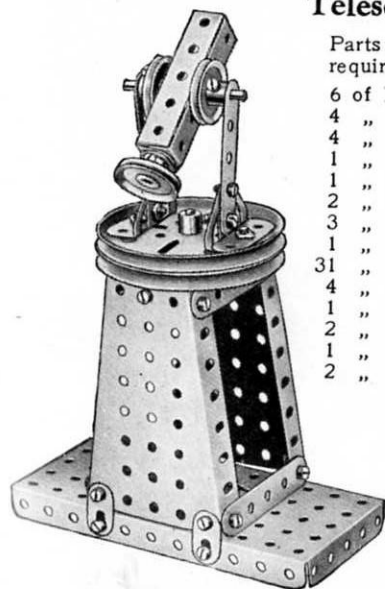
**Model No. 1.142 Mechanical Gong**

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

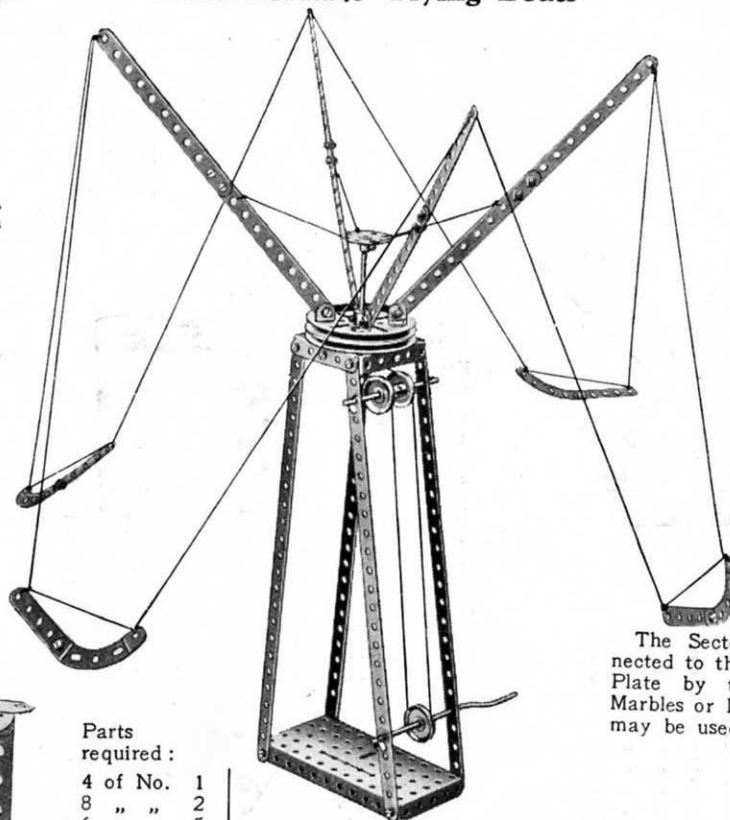
Parts required:

2 of No. 1	
4 " " 2	
1 " " 3	
4 " " 5	
2 " " 10	
1 " " 12	
1 " " 16	
1 " " 19s	
2 " " 22	
1 " " 24	
2 " " 35	
26 " " 37	
1 " " 37A	
2 " " 38	
1 " " 40	
1 " " 48	
2 " " 48A	
1 " " 52	
2 " " 54	
1 " " 126	
1 " " 126A	



Model No. 1.143**Telescope**Parts
required :

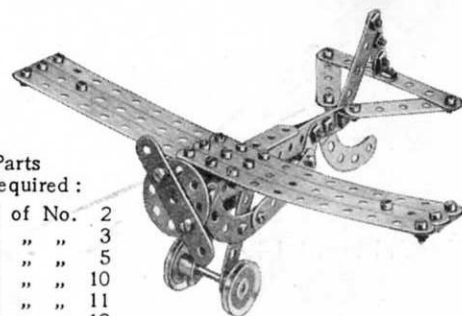
6 of No.	5
4 " "	10
4 " "	12
1 " "	17
1 " "	18A
2 " "	19B
3 " "	22
1 " "	35
31 " "	37
4 " "	48A
1 " "	52
2 " "	54
1 " "	111c
2 " "	126

Model No. 1.145 Flying BoatsParts
required :

4 of No.	1
8 " "	2
6 " "	5
8 " "	12
2 " "	16
2 " "	19B
1 " "	19S

4 of No.	22
1 " "	24
4 " "	35
36 " "	37

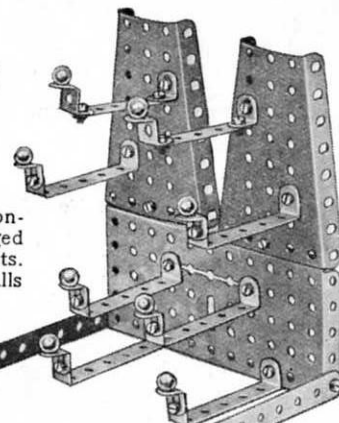
1 of No.	40
3 " "	48A
4 " "	90A

Model No. 1.146 AeroplaneParts
required :

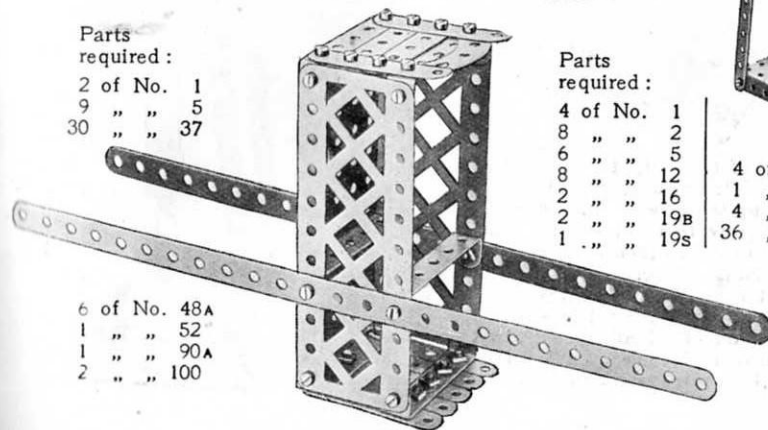
8 of No.	2
1 " "	3
9 " "	5
4 " "	10
2 " "	11
5 " "	12
1 " "	16
1 " "	18A
2 " "	22
1 " "	24
1 " "	35
36 " "	37
3 " "	90A
6 " "	111c
2 " "	126A

**Model No. 1.147
Coco-nut Shy**

The Sector Plates are connected to the $5\frac{1}{2} \times 2\frac{1}{2}$ " Flanged Plate by two Flat Brackets. Marbles or Meccano Steel Balls may be used for coco-nuts.

**Model No. 1.144 Sedan Chair**Parts
required :

2 of No.	1
9 " "	5
30 " "	37



6 of No.	48A
1 " "	52
1 " "	90A
2 " "	100

Parts required :

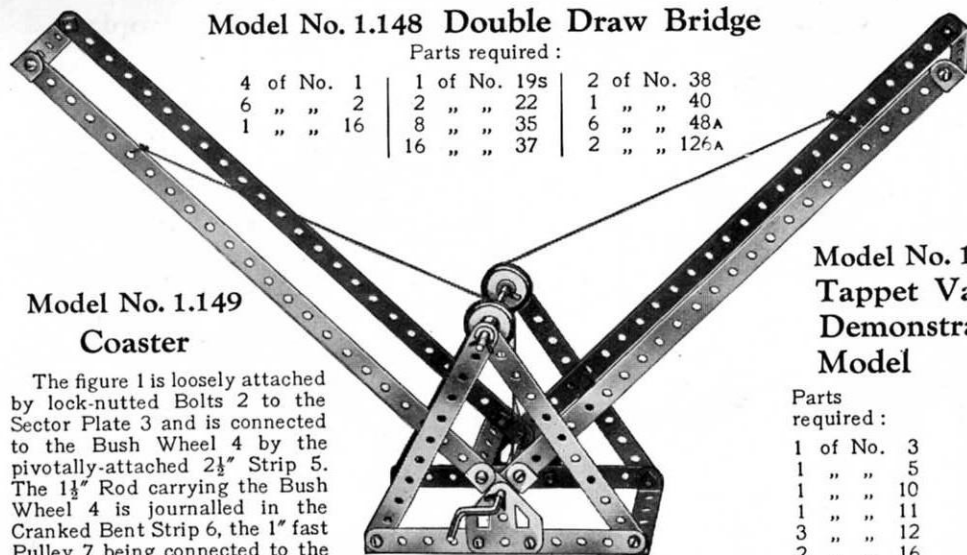
2 of No.	1	8 of No.	12
1 " "	2	26 " "	37
3 " "	5	6 " "	48A
2 " "	10	1 " "	52
2 " "	11	2 " "	54

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.148 Double Draw Bridge

Parts required :

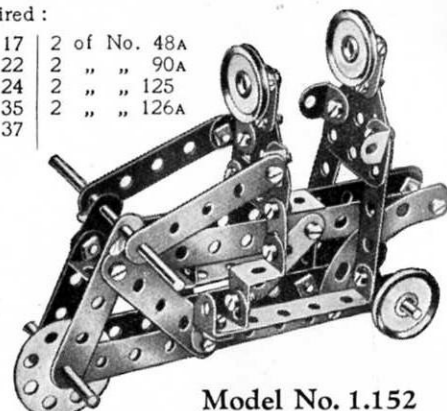
4 of No. 1	1 of No. 19s	2 of No. 38
6 " " 2	2 " " 22	1 " " 40
1 " " 16	8 " " 35	6 " " 48A
	16 " " 37	2 " " 126A



Model No. 1.151 Motor Cyclist and Pillion Rider

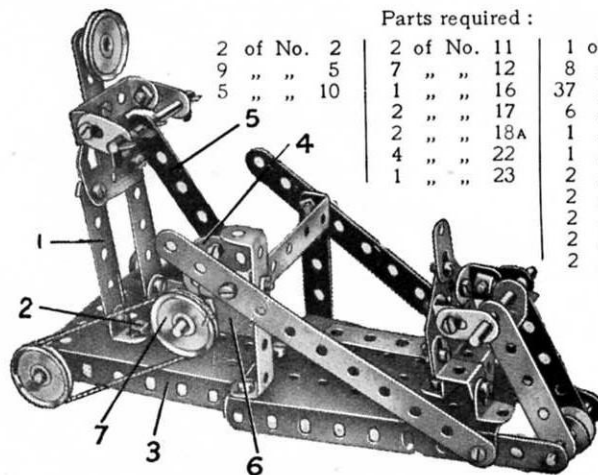
Parts required :

4 of No. 2	2 of No. 17	2 of No. 48A
9 " " 5	4 " " 22	2 " " 90A
4 " " 10	1 " " 24	2 " " 125
2 " " 11	2 " " 35	2 " " 126A
8 " " 12	30 " " 37	
1 " " 16		



Model No. 1.149 Coaster

The figure 1 is loosely attached by lock-nutted Bolts 2 to the Sector Plate 3 and is connected to the Bush Wheel 4 by the pivotally-attached 2 1/2" Strip 5. The 1 1/2" Rod carrying the Bush Wheel 4 is journaled in the Cranked Bent Strip 6, the 1" fast Pulley 7 being connected to the road wheel by a cord as shown.



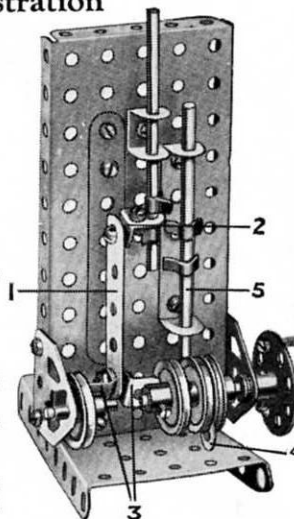
Parts required :

2 of No. 2	2 of No. 11	1 of No. 24
9 " " 5	7 " " 12	8 " " 35
5 " " 10	1 " " 16	37 " " 37
	2 " " 17	6 " " 37A
	2 " " 18A	1 " " 40
	4 " " 22	1 " " 48
	1 " " 23	2 " " 48A
		2 " " 54
		2 " " 111c
		2 " " 125
		2 " " 126A

Model No. 1.150 Tappet Valve Demonstration Model

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	



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 3 are each secured rigidly to the boss of a Pulley Wheel and are connected to each other by a 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.

Model No. 1.152 Chinese Windlass

Parts required :

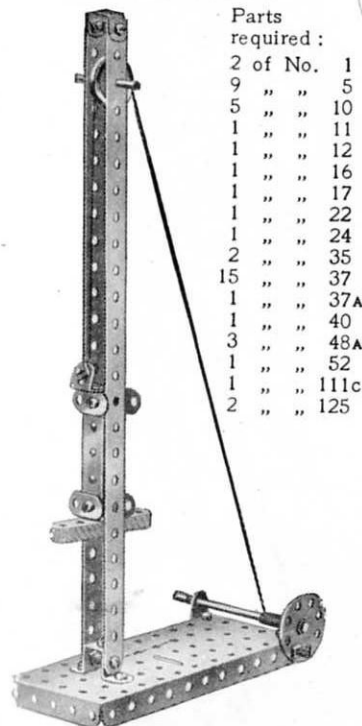
4 of No. 1	
1 " " 3	
1 " " 18A	
3 " " 19B	
1 " " 19s	
3 " " 22	
1 " " 23	
1 " " 24	
8 " " 37	
1 " " 40	
1 " " 44	
2 " " 48A	
1 " " 52	
1 " " 57c	



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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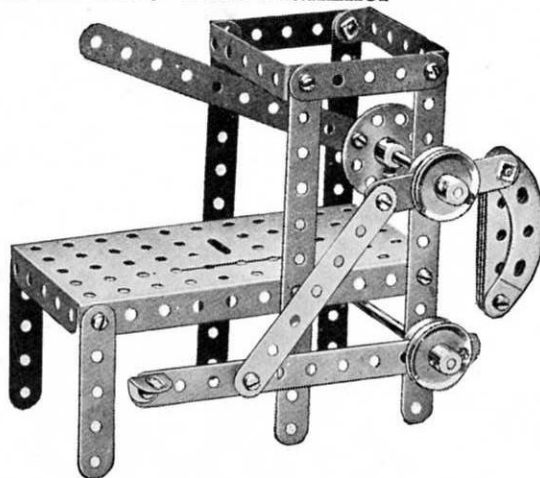
Model No. 1.153 Pile Driver



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.

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
1 "	40
3 "	48A
1 "	52
1 "	111c
2 "	125

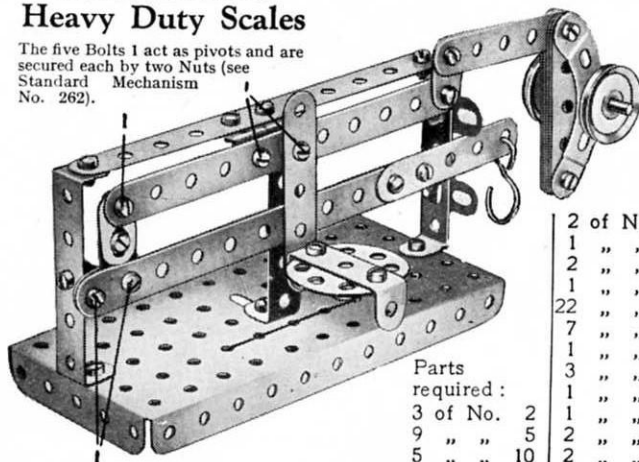
Parts required :	
6 of No.	2
1 "	3
9 "	5
1 "	12
2 "	16
4 "	22
1 "	24
2 "	35
15 "	37
4 "	37A
2 "	38
2 "	48A
1 "	52
4 "	90A
2 "	111c



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

Model No. 1.155 Heavy Duty Scales

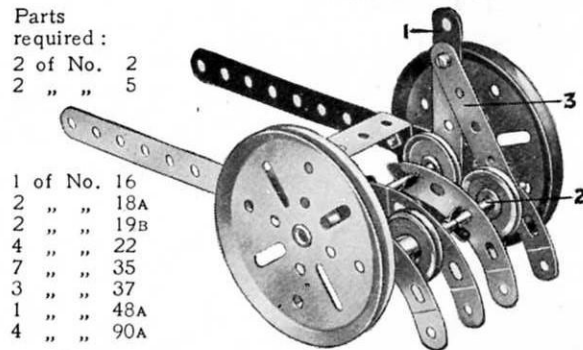
The five Bolts 1 act as pivots and are secured each by two Nuts (see Standard Mechanism No. 262).



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 "	57c
2 "	90A
2 "	111c

Model No. 1.156 Horse Rake

Parts required :	
2 of No.	2
2 "	5

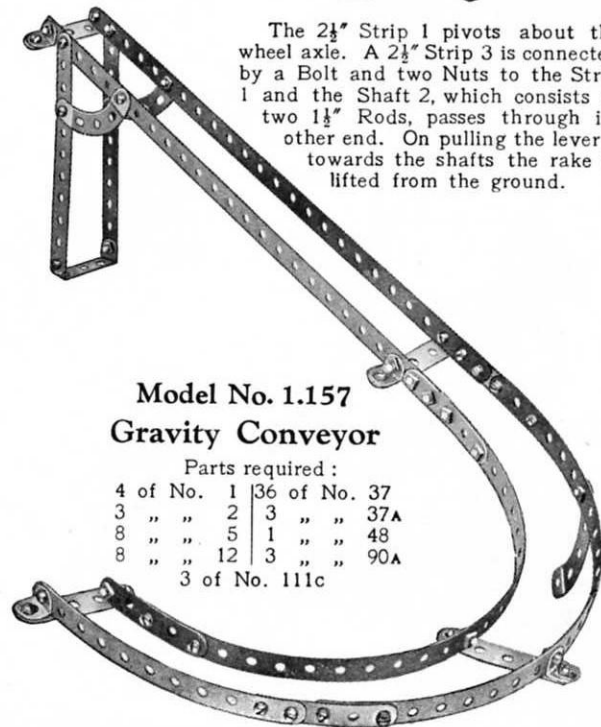


Parts required :	
1 of No.	16
2 "	18A
2 "	19B
4 "	22
7 "	35
3 "	37
1 "	48A
4 "	90A

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 Shaft 2, which consists of two $1\frac{1}{2}$ " Rods, passes through its other end. On pulling the lever 1 towards the shafts the rake is lifted from the ground.

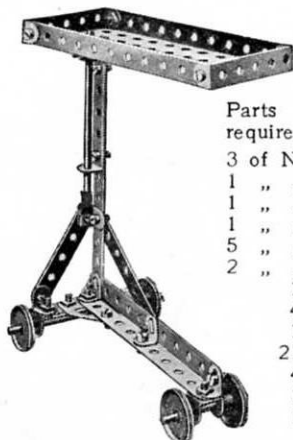
Model No. 1.157 Gravity Conveyor

Parts required :	
4 of No.	1
3 "	2
8 "	5
8 "	12
3 of No.	111c
36 of No.	37
3 "	37A
1 "	48
3 "	90A



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.158 Bed Table



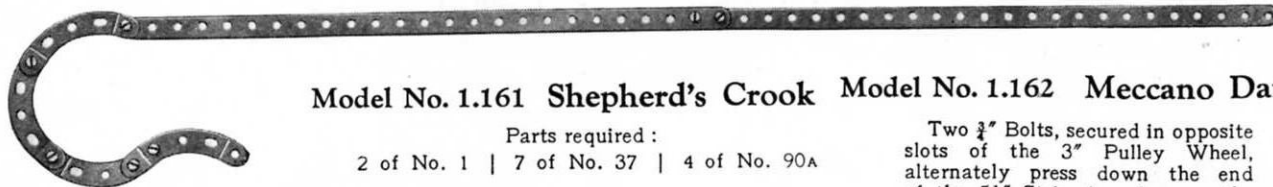
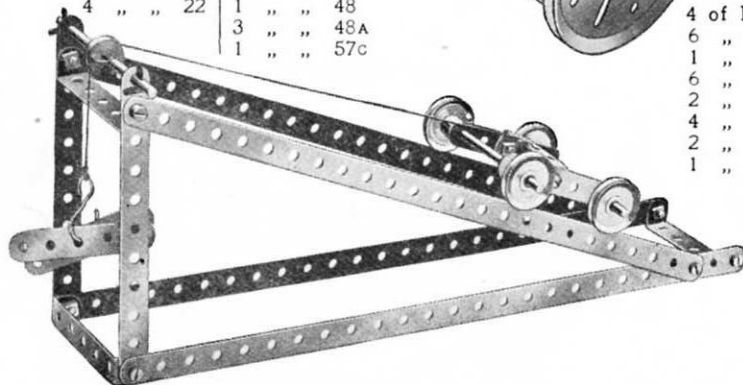
Parts
required :

3 of No.	2
1 " "	3
1 " "	5
1 " "	11
5 " "	12
2 " "	16
1 of No.	17
4 " "	22
1 " "	24
21 " "	37
4 " "	48A
1 " "	52
1 " "	126A

Model No. 1.159 Inclined Plane

Parts required :

4 of No.	1	1 of No.	23
2 " "	2	4 " "	35
6 " "	5	10 " "	37
3 " "	16	1 " "	40
4 " "	22	1 " "	48
		3 " "	48A
		1 " "	57c

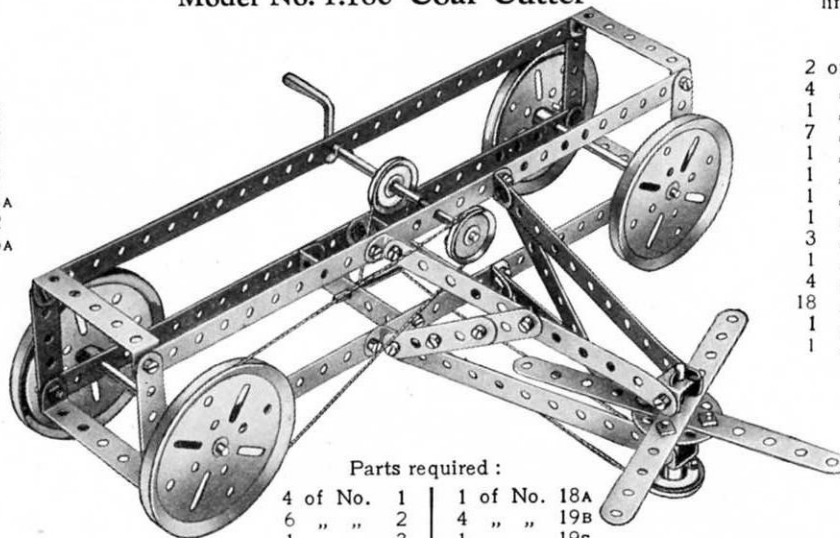


Model No. 1.161 Shepherd's Crook Model No. 1.162 Meccano Dancer

Parts required :

2 of No. 1 | 7 of No. 37 | 4 of No. 90A

Model No. 1.160 Coal Cutter



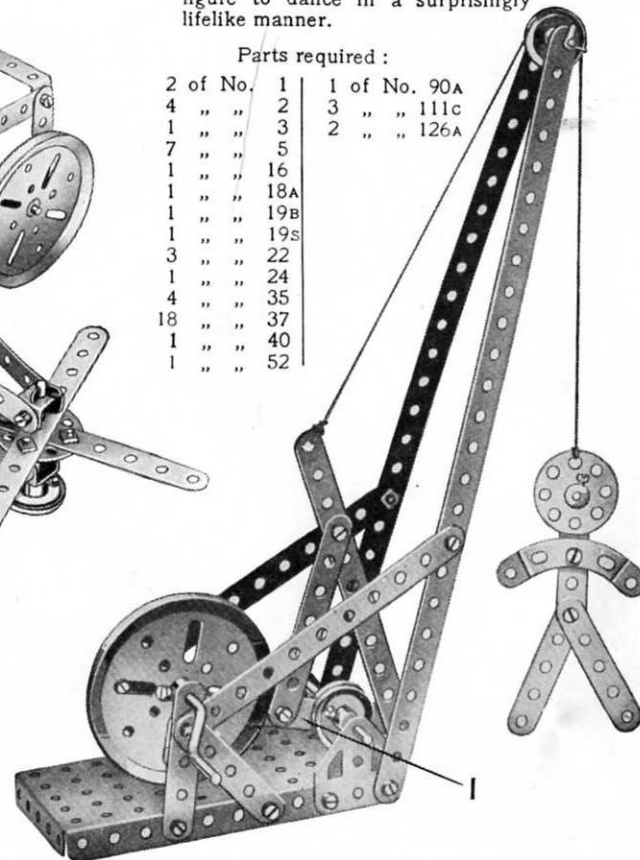
Parts required :

4 of No.	1	1 of No.	18A
6 " "	2	4 " "	19B
1 " "	3	1 " "	19s
6 " "	5	3 " "	22
2 " "	11	1 " "	24
4 " "	12	5 " "	35
2 " "	16	32 " "	37
1 " "	17	1 " "	40
		6 of No.	48A

Two $\frac{3}{4}$ " Bolts, secured in opposite slots of the 3" Pulley Wheel, alternately press down the end of the $5\frac{1}{2}$ " Strip 1 and cause the figure to dance in a surprisingly lifelike manner.

Parts required :

2 of No.	1	1 of No.	90A
4 " "	2	3 " "	111c
1 " "	3	2 " "	126A
7 " "	5		
1 " "	16		
1 " "	18A		
1 " "	19B		
1 " "	19s		
3 " "	22		
1 " "	24		
4 " "	35		
18 " "	37		
1 " "	40		
1 " "	52		

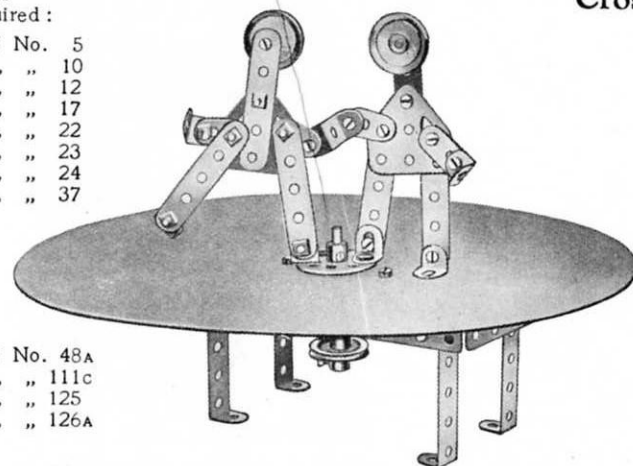


These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.163 Eccentric Dancers

Parts
required :

6 of No.	5
4 " "	10
6 " "	12
1 " "	17
4 " "	22
1 " "	23
1 " "	24
20 " "	37

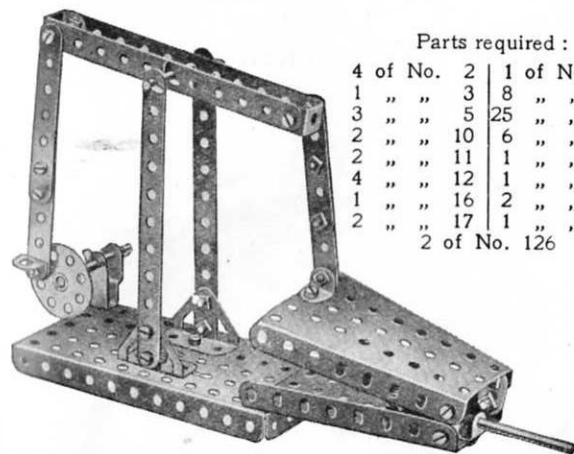


4 of No.	48A
2 " "	111c
1 " "	125
2 " "	126A

Model No. 1.164 Bellows

Parts required :

4 of No.	2	1 of No.	24
1 " "	3	8 " "	35
3 " "	5	25 " "	37
2 " "	10	6 " "	37A
2 " "	11	1 " "	44
4 " "	12	1 " "	52
1 " "	16	2 " "	54
2 " "	17	1 " "	111c
2 of No.		126	

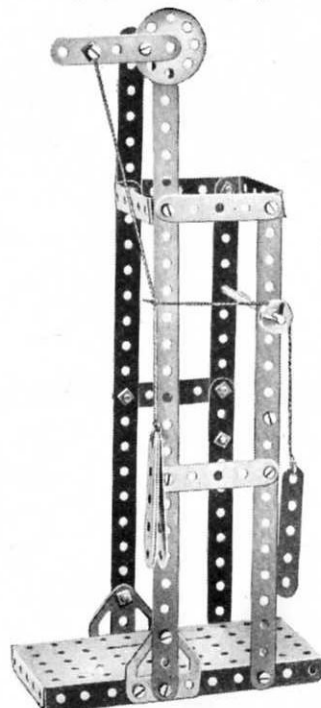


Model No. 1.165

Crosshead Demonstration Model

Parts required :

2 of No.	1	3 of No.	35
4 " "	2	20 " "	37
9 " "	5	1 " "	40
2 " "	16	2 " "	48A
1 " "	23	1 " "	52
1 " "	24	2 " "	126A

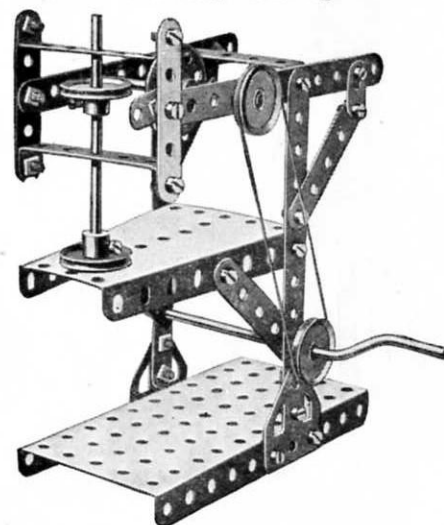


This is an apparatus for determining the forces that act at the crosshead of a reciprocating engine. The upper inclined length of cord represents the connecting rod and the lower, or vertical portion, the piston rod. The pull on the third cord indicates the pressure exerted on the slide bars of the engine due to the angularity of the connecting rod.

Model No. 1.166 Drop Stamp

Parts
required :

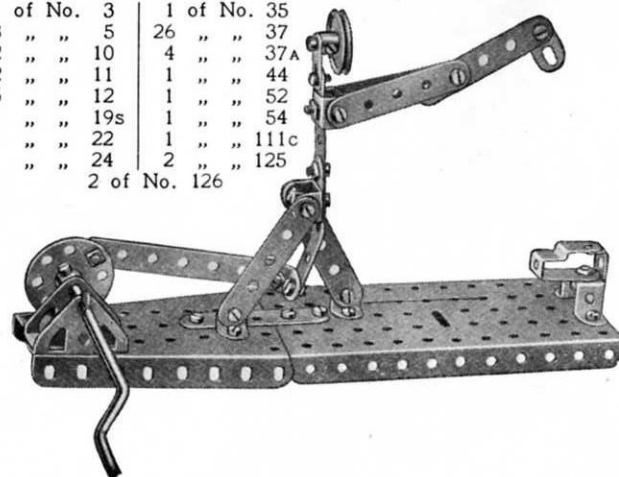
4 of No.	2
6 " "	5
3 " "	10
2 " "	16
1 " "	19s
4 " "	22
1 " "	24
2 " "	35
27 " "	37
1 " "	40
3 " "	48A
1 " "	52
1 " "	54
2 " "	126A



Model No. 1.167 Blacksmith

Parts required :

1 of No.	3	1 of No.	35
8 " "	5	26 " "	37
2 " "	10	4 " "	37A
2 " "	11	1 " "	44
5 " "	12	1 " "	52
1 " "	19s	1 " "	54
1 " "	22	1 " "	111c
1 " "	24	2 " "	125
2 of No.		126	

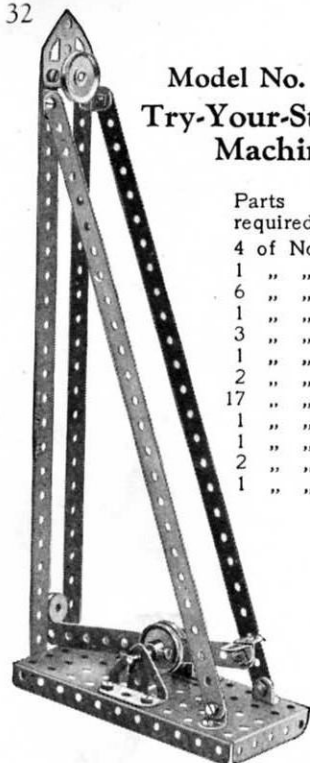


These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.168 Try-Your-Strength Machine

Parts required :

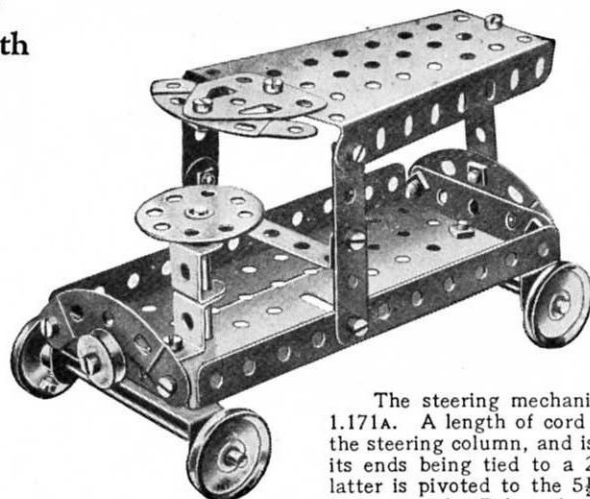
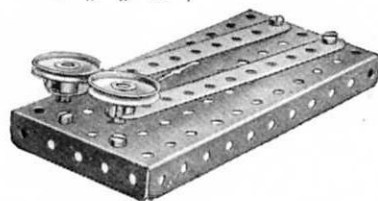
4 of No.	1
1 " "	2
6 " "	12
1 " "	17
3 " "	22
1 " "	23
2 " "	35
17 " "	37
1 " "	52
1 " "	111c
2 " "	126
1 " "	126A



Model No. 1.169 Double Cable Key

Parts required :

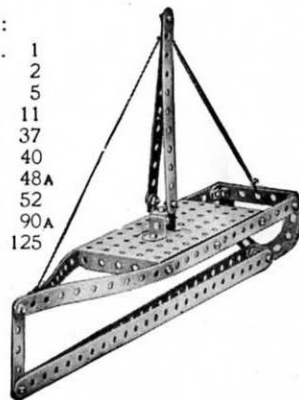
2 of No.	2	1 of No.	52
2 " "	22	2 " "	111c
4 " "	37		



Model No. 1.170 Boat

Parts required :

4 of No.	1
2 " "	2
1 " "	5
2 " "	11
21 " "	37
1 " "	40
1 " "	48A
1 " "	52
2 " "	90A
2 " "	125



Model No. 1.171 Motor Van

Parts required :

3 of No.	5	17 of No.	37
1 " "	11	1 " "	40
1 " "	12	3 " "	48A
2 " "	16	1 " "	52
1 " "	17	1 " "	54
4 " "	22	3 " "	90A
1 " "	23	1 " "	111c
1 " "	24	1 " "	125
1 " "	35	1 " "	126A

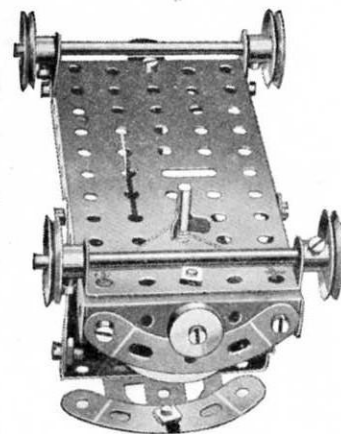


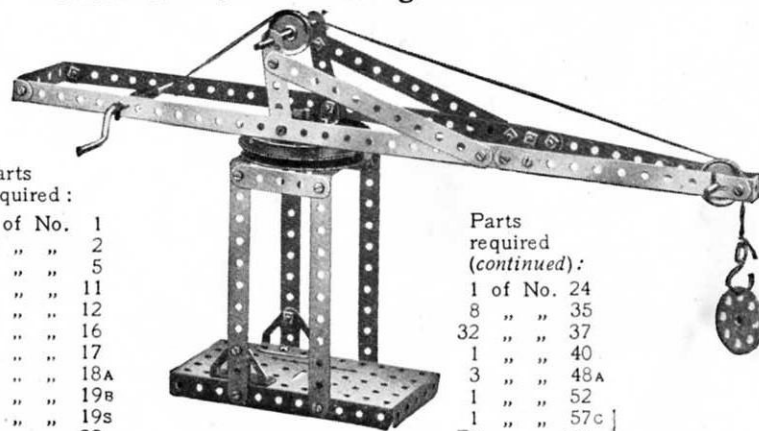
FIG. 1.171A

The steering mechanism is shown more clearly in Fig. 1.171A. A length of cord is given two or three turns round the steering column, and is held in position by a Spring Clip, its ends being tied to a $2\frac{1}{2} \times \frac{1}{2}$ Double Angle Strip. The latter is pivoted to the $5\frac{1}{2} \times 2\frac{1}{2}$ Flanged Plate of the lorry by means of a Bolt and two Nuts (see Standard Mechanisms Manual. Detail No. 262).

Model No. 1.172 Revolving Hammerhead Crane

Parts required :

2 of No.	1
8 " "	2
4 " "	5
1 " "	11
2 " "	12
1 " "	16
1 " "	17
1 " "	18A
2 " "	19B
1 " "	19S
2 " "	22

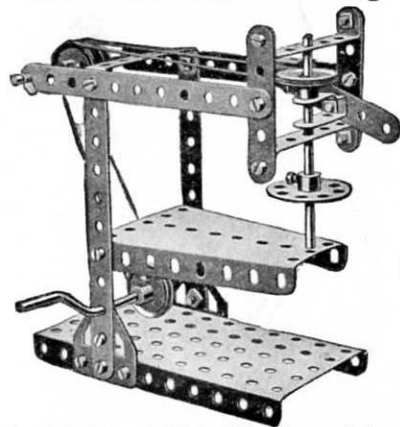


Parts required (continued):

1 of No.	24
8 " "	35
32 " "	37
1 " "	40
3 " "	48A
1 " "	52
1 " "	57c
2 " "	126

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

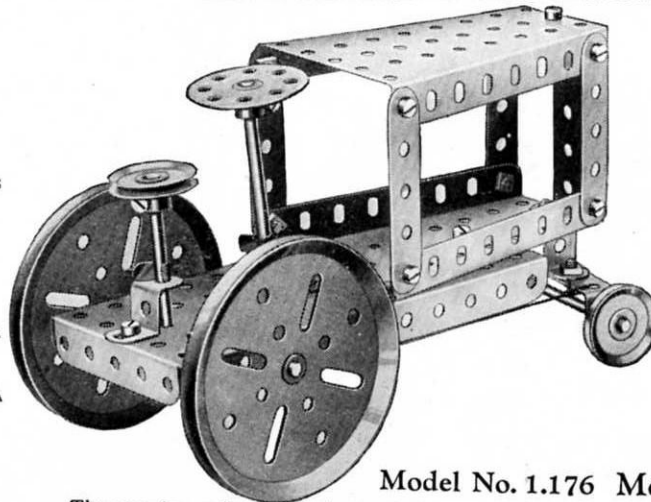
Model No. 1.173 Drilling Machine



Parts required :

4 of No.	2
3 " "	5
1 " "	11
2 " "	16
1 " "	19s
4 " "	22
1 " "	24
4 " "	35
19 " "	37
1 " "	40
1 " "	44
3 " "	48A
1 " "	52
1 " "	54
2 " "	126A

Model No. 1.175 Motor Tractor



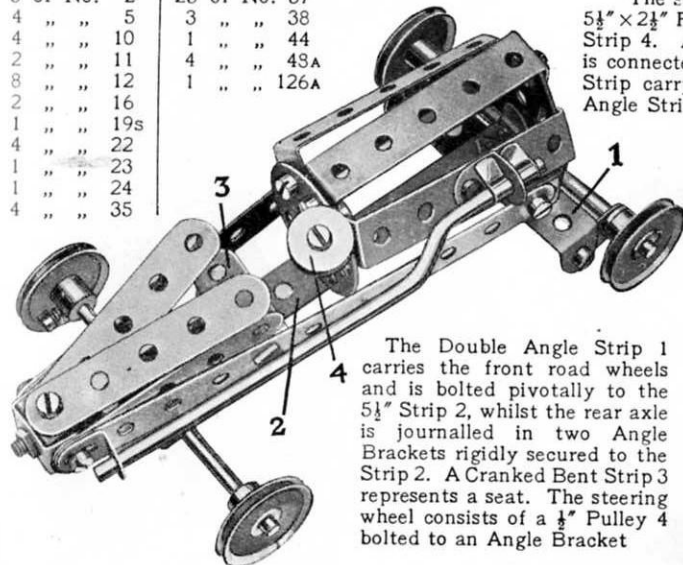
Parts required :

4 of No.	5
1 " "	11
3 " "	16
1 " "	17
2 " "	19B
4 " "	22
1 " "	24
3 " "	35
16 " "	37
1 " "	37A
1 " "	40
2 " "	48A
1 " "	52
2 " "	54
2 " "	125

Model No. 1.174 Racing Motor Car

Parts required :

3 of No.	2	25 of No.	37
4 " "	5	3 " "	38
4 " "	10	1 " "	44
2 " "	11	4 " "	48A
8 " "	12	1 " "	126A
2 " "	16		
1 " "	19s		
4 " "	22		
1 " "	23		
1 " "	24		
4 " "	35		



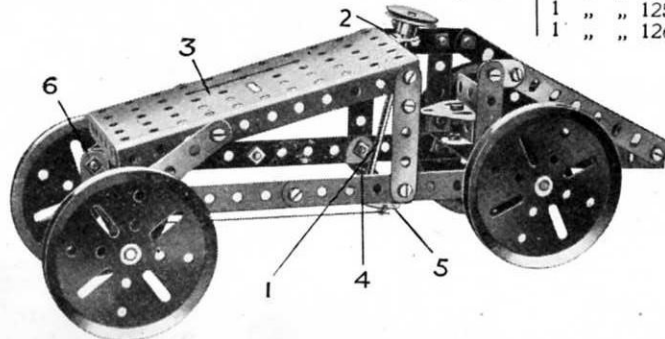
The Double Angle Strip 1 carries the front road wheels and is bolted pivotally to the $5\frac{1}{2}$ " Strip 2, whilst the rear axle is journaled in two Angle Brackets rigidly secured to the Strip 2. A Cranked Bent Strip 3 represents a seat. The steering wheel consists of a $\frac{1}{2}$ " Pulley 4 bolted to an Angle Bracket

Model No. 1.176 Motor Car

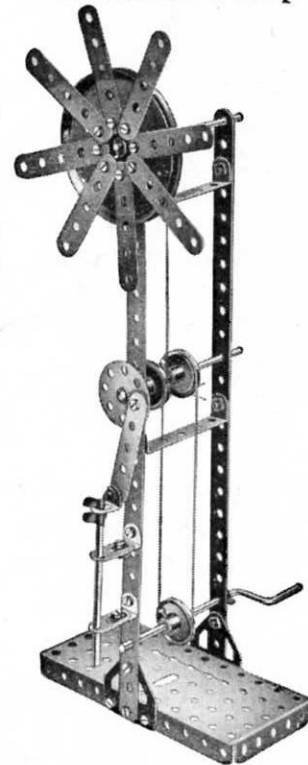
The steering column 1 is journaled in an Angle Bracket 2 bolted to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate 3, and in the second hole of the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip 4. A Bush Wheel 5, secured to the lower end of the steering column, is connected by two short lengths of cord to a second $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip carrying the front axle. The Strip is pivoted to a similar Double Angle Strip 6 by means of a Bolt and Nuts (Standard Mechanism No. 262).

Parts required :

4 of No.	2	3 of No.	16	25 of No.	37	4 of No.	48A
7 " "	5	4 " "	19B	2 " "	37A	1 " "	52
1 " "	10	1 " "	22	4 " "	38	2 " "	54
1 " "	11	1 " "	24	1 " "	40	1 " "	111c
						1 " "	125
						1 " "	126



Model No. 1.177 Windmill Pump

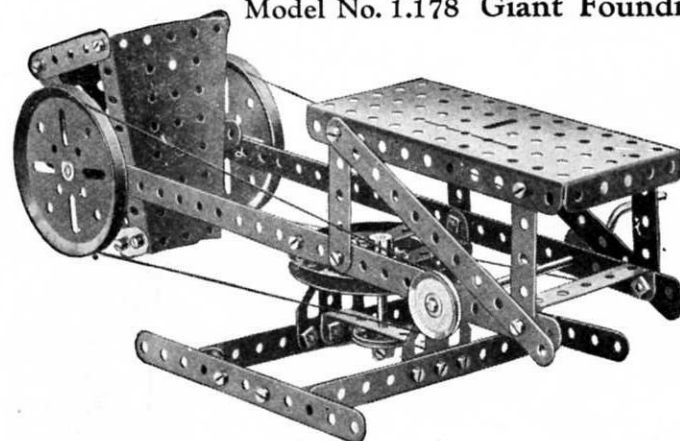


Parts required :

2 of No.	1	4 of No.	35
9 " "	5	24 " "	37
2 " "	10	4 " "	37A
3 " "	12	3 " "	38
3 " "	16	1 " "	40
1 " "	19B	2 " "	48A
1 " "	19s	1 " "	52
4 " "	22	2 " "	111c
1 " "	24	2 " "	126A

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.178 Giant Foundry Ladle

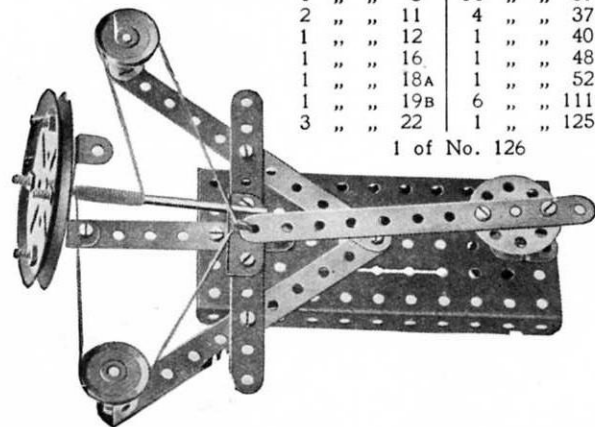


The ladle pivots about a $3\frac{1}{2}$ " Axle Rod carrying a 3" Pulley at each end in addition to a Bush Wheel and a $2\frac{1}{2}$ " Strip. The two latter parts are bolted to the side flanges of the Sector Plates and the Bush Wheel is nipped in position on the Rod. The pivot about which the superstructure turns is shown in Fig. 1.178A.

Model No. 1.179 Boat Steering Gear

Parts required :

4 of No. 2	1 of No. 24
1 " " 3	14 " " 37
2 " " 11	4 " " 37A
1 " " 12	1 " " 40
1 " " 16	1 " " 48A
1 " " 18A	1 " " 52
1 " " 19B	6 " " 111c
3 " " 22	1 " " 125
1 of No. 126	



Parts required :

2 of No. 1	3 of No. 22
6 " " 2	1 " " 24
1 " " 3	36 " " 37
7 " " 5	6 " " 37A
2 " " 10	1 " " 40
2 " " 12	6 " " 48A
1 " " 16	1 " " 52
1 " " 17	2 " " 54
3 " " 19B	6 " " 111c
1 " " 19s	2 " " 126A

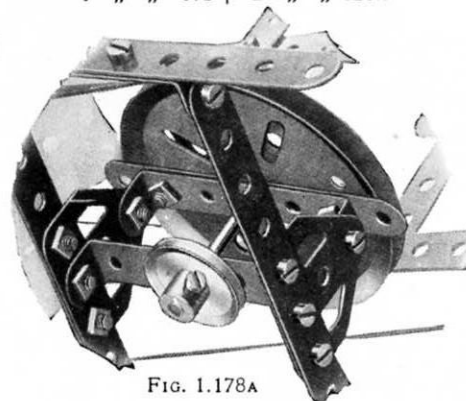


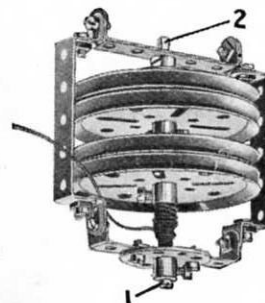
FIG. 1.178A

Model No. 1.180 Gyroscope

The $5/32$ " Bolt 1 is gripped by the Set-Screw of the Bush Wheel. The lower end of the Rod 2 of the gyroscope enters the boss of the Bush Wheel and rests on the shank of the Bolt 1.

Parts required :

4 of No. 12
1 " " 16
4 " " 19B
1 " " 24
10 " " 37
1 " " 40
4 " " 48A



Model No. 1.181

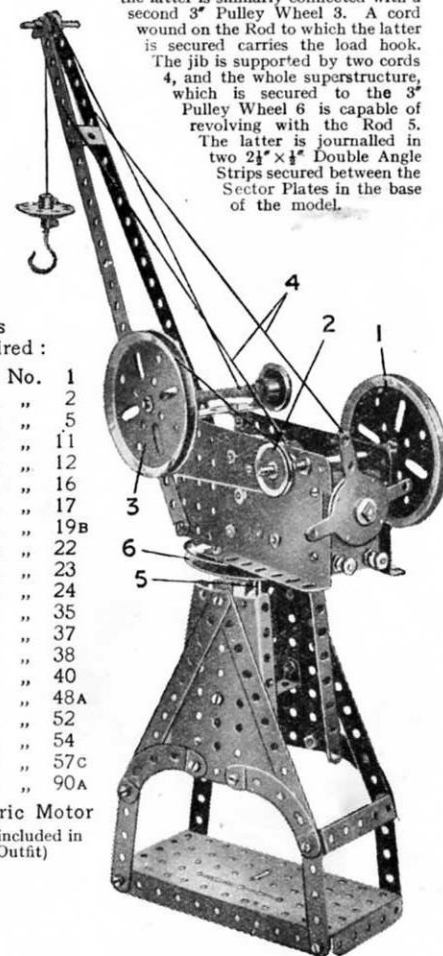
Elevated Jib Crane

A 1" fast Pulley Wheel secured to the armature spindle of the Electric Motor is connected by an endless cord to the 3" Pulley Wheel 1. A 1" fast Pulley 2 on the same Rod as the latter is similarly connected with a second 3" Pulley Wheel 3. A cord wound on the Rod to which the latter is secured carries the load hook. The jib is supported by two cords 4, and the whole superstructure, which is secured to the 3" Pulley Wheel 6 is capable of revolving with the Rod 5. The latter is journaled in two $2\frac{1}{4} \times \frac{1}{4}$ " Double Angle Strips secured between the Sector Plates in the base of the model.

Parts required :

2 of No. 1
4 " " 2
4 " " 5
1 " " 11
2 " " 12
3 " " 16
1 " " 17
3 " " 19B
4 " " 22
1 " " 23
1 " " 24
5 " " 35
26 " " 37
2 " " 38
1 " " 40
5 " " 48A
1 " " 52
2 " " 54
1 " " 57c
4 " " 90A

Electric Motor
(not included in Outfit)



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

35

Model No. 1.182 Telpher Span

Parts required :

2 of No. 1	1 of No. 10	1 of No. 23
2 " " 2	1 " " 11	8 " " 35
4 " " 5	2 " " 12	22 " " 37
	3 " " 16	1 " " 40
	1 " " 18A	1 " " 44
	1 " " 19s	2 " " 48A
	4 " " 22	1 " " 52
		2 " " 54
		1 " " 57c
		2 " " 126A

Model No. 1.183 Ladder on Wheels

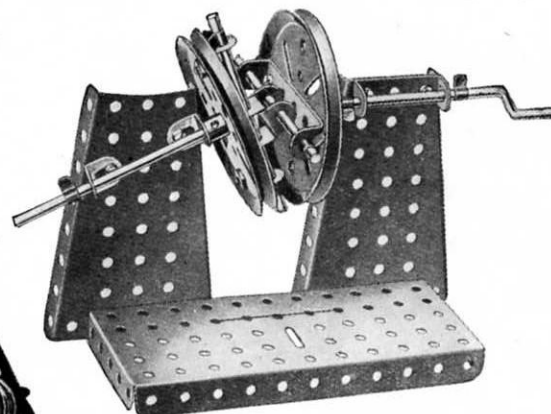
Parts required :

4 of No. 1	16 of No. 37
2 " " 16	6 " " 48A
4 " " 22	1 " " 52



This model will provide many hours of enjoyment. The cords may be made to any length to allow the load to be carried from one side of the room to the other, and, if necessary, a better grip may be obtained by winding the operating cord twice round the Pulley on the Crank Handle. The open sides of the bucket may be closed with cardboard so that it may be loaded with marbles, beads, etc. The bed of the telpher may be screwed on to a solid base with ordinary wood screws to give better support. The pulley bracket, and that securing the cord on which the bucket travels should be screwed in a suitable position on the opposite side of the room.

Model No. 1.184 Hooke's Coupling



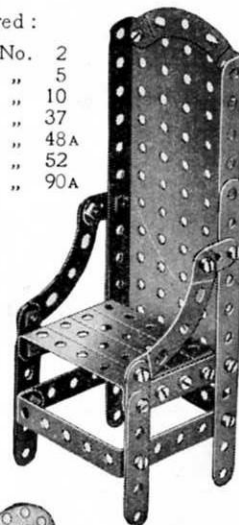
Parts required :

2 of No. 11	7 of No. 35
2 " " 12	12 " " 37
3 " " 16	1 " " 48
2 " " 19B	2 " " 48A
1 " " 19s	1 " " 52
	2 of No. 54

Model No. 1.185 Chair

Parts required :

2 of No. 2	
8 " " 5	
2 " " 10	
22 " " 37	
6 " " 48A	
1 " " 52	
3 " " 90A	

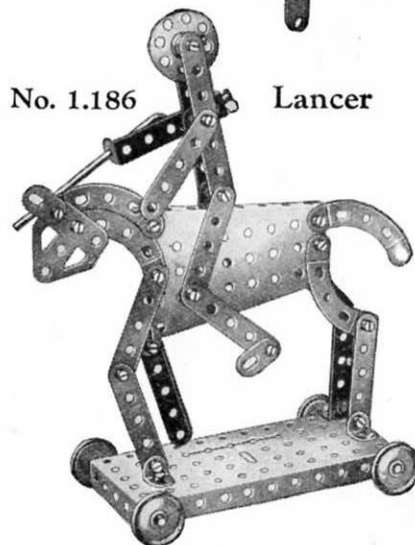


Model No. 1.186

Lancer

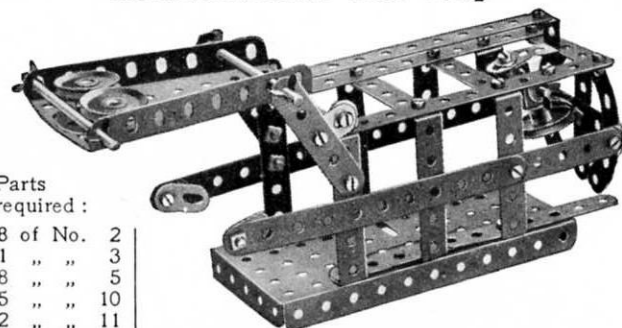
Parts required :

1 of No. 2	
1 " " 3	
9 " " 5	
2 " " 10	
2 " " 11	
5 " " 12	
2 " " 16	
1 " " 19s	
4 " " 22	
1 " " 24	
1 " " 35	
27 " " 37	
1 " " 48A	
1 " " 52	
1 " " 54	
4 " " 90A	
1 " " 126A	



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.187 Rat Trap

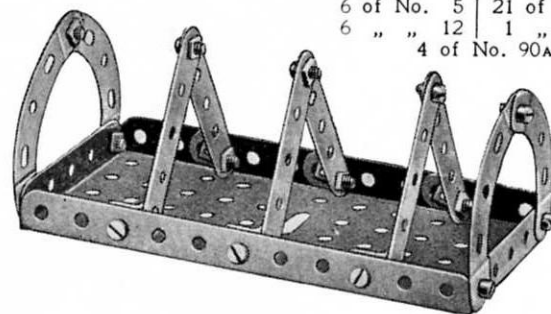


Parts required :

8 of No.	2				
1 " "	3				
8 " "	5				
5 " "	10				
2 " "	11				
6 " "	12	1 of No.	23	1 of No.	38
2 " "	16	1 " "	24	1 " "	48
1 " "	17	8 " "	35	6 " "	48A
3 " "	22	31 " "	37	1 " "	52
				2 " "	90A
				3 " "	111c

The "bait" consists of a 1" fast Pulley and a $\frac{1}{2}$ " loose Pulley suspended by means of a cord from a Double Bracket. The latter is bolted to a $1\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip that is free to turn on a 2" Rod journaled in a pair of Angle Brackets. A Flat Bracket bolted to the Double Bracket engages a second Double Bracket on the end of a $5\frac{1}{2}$ " Strip that is bolted to the door of the cage. If the "bait" is touched, the heavily-weighted door falls into place, and is prevented from re-opening by catches formed from Flat Brackets secured to $5\frac{1}{2}$ " Strips that are bolted to the trap by their extreme ends and act as springs.

Model No. 1.188 Toast Rack



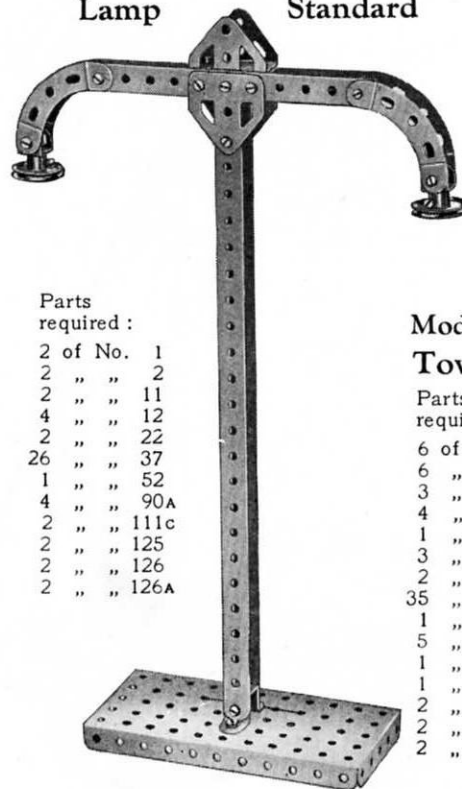
Parts required :

6 of No.	5	21 of No.	37
6 " "	12	1 " "	52
		4 of No.	90A

Parts required :

4 of No.	1
2 " "	11
1 " "	18A
1 " "	22
1 " "	35
7 " "	37
3 " "	37A
2 " "	125

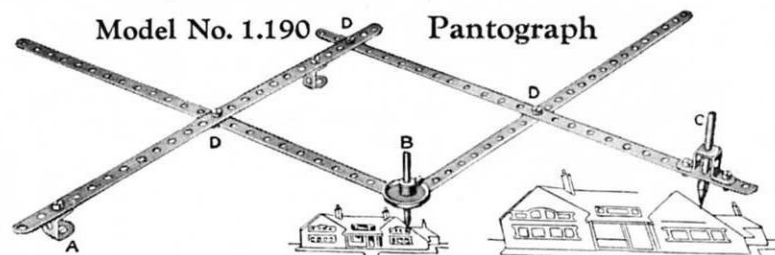
Model No. 1.189 Lamp Standard



Parts required :

2 of No.	1
2 " "	2
2 " "	11
4 " "	12
2 " "	22
26 " "	37
1 " "	52
4 " "	90A
2 " "	111c
2 " "	125
2 " "	126
2 " "	126A

Model No. 1.190 Pantograph



Most boys have heard of the Pantograph but not many have had an opportunity of seeing its principles demonstrated. It is an instrument for copying plans, etc., on the same or on a reduced or enlarged scale.

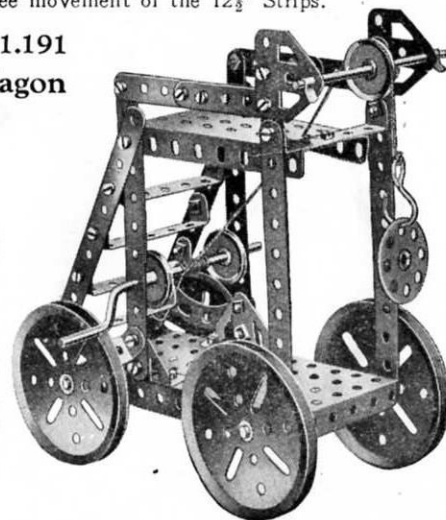
The apparatus is fixed at the point A. If an enlarged sketch is to be made, the point B is traced round the outlines, the writing point C reproducing the sketch on a larger scale. When a reduced drawing is to be made, the point C traces the outline, whilst the point B reproduces the sketch on a smaller scale. The degree of enlargement or reduction varies according to the position in which point C is fixed on the perforated arm.

The bolts at D are fitted with lock-nuts to allow free movement of the $12\frac{1}{2}$ " Strips.

Model No. 1.191 Tower Wagon

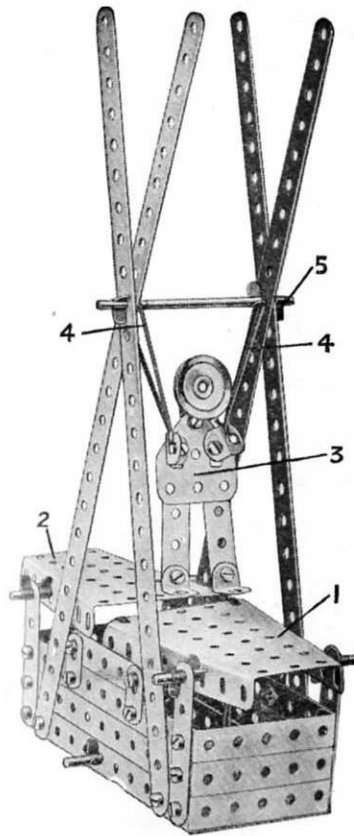
Parts required :

6 of No.	2
6 " "	5
3 " "	16
4 " "	19B
1 " "	19S
3 " "	22
2 " "	35
35 " "	37
1 " "	40
5 " "	48A
1 " "	52
1 " "	57c
2 " "	90A
2 " "	126
2 " "	126A



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.192 A Sudden Appearance



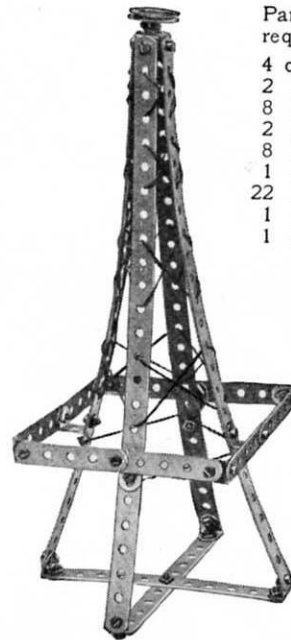
The Sector Plate 1, forming the lid, is carried pivotally on an axle rod that passes through its sides three holes from the end, and the rear Sector Plate 2 is pivoted in a similar manner, excepting that the rod in this case passes through the fourth hole from the end. Pieces of thin elastic are tied to the end holes in each side of the front Sector Plate at its widest end, and are connected to a Rod journalled in the sides of the box. The "Meccanitian" 3 is placed face downward inside the box with his feet towards the far end of the model. The tension of the elastic holding the lid 1 should be sufficient to keep him in this position. On tilting the Plate 1 slightly, however, he will suddenly shoot out of the box, drawn by the elastic bands 4 connected to the $3\frac{1}{2}$ " Axle Rod 5.

Parts required :

4 of No. 1	8 of No. 35
4 " " 2	29 " " 37
8 " " 5	4 " " 48A
5 " " 10	1 " " 52
4 " " 12	2 " " 54
4 " " 16	1 " " 111c
1 " " 22	1 " " 126A

A short length of elastic

Model No. 1.193 Eiffel Tower

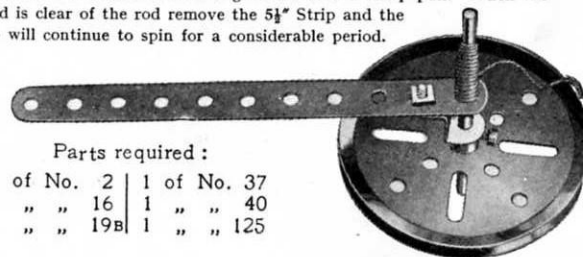


Parts required :

4 of No. 1	
2 " " 2	
8 " " 5	
2 " " 11	
8 " " 12	
1 " " 22	
22 " " 37	
1 " " 40	
1 " " 111c	

Model No. 1.194 Top

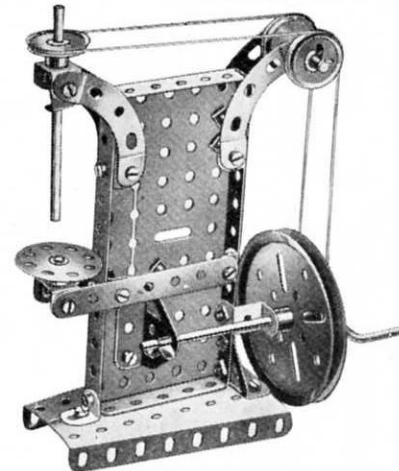
To spin the top wind a length of cord round the rod, as shown, place on a smooth surface and give the cord a sharp pull. When the cord is clear of the rod remove the $5\frac{1}{2}$ " Strip and the top will continue to spin for a considerable period.



Parts required :

1 of No. 2	1 of No. 37
1 " " 16	1 " " 40
1 " " 19B	1 " " 125

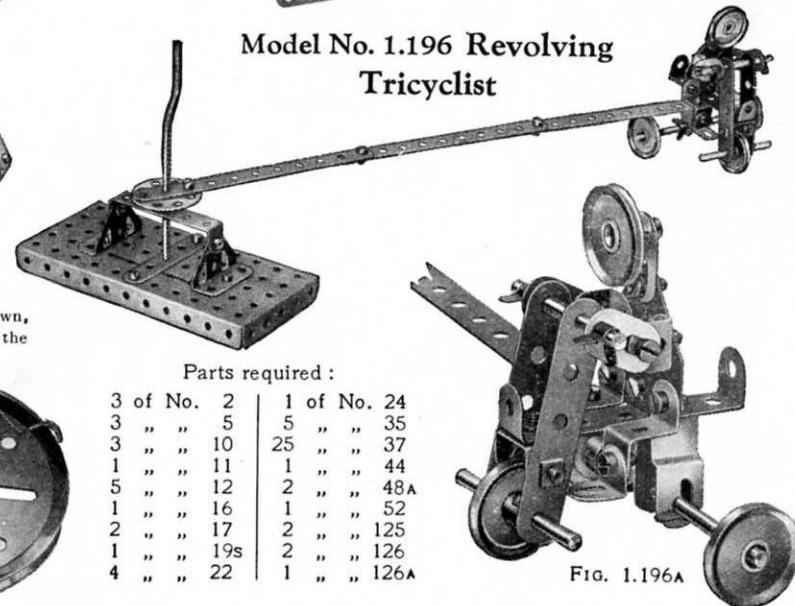
Model No. 1.195 Drill



Parts required :

1 of No. 3	
2 " " 11	
6 " " 12	
1 " " 16	
1 " " 18A	
1 " " 19B	
1 " " 19S	
4 " " 22	
1 " " 24	
2 " " 35	
27 " " 37	
1 " " 40	
1 " " 52	
1 " " 54	
4 " " 90A	
1 " " 125	
2 " " 126	

Model No. 1.196 Revolving Triclyclist



Parts required :

3 of No. 2	1 of No. 24
3 " " 5	5 " " 35
3 " " 10	25 " " 37
1 " " 11	1 " " 44
5 " " 12	2 " " 48A
1 " " 16	1 " " 52
2 " " 17	2 " " 125
1 " " 19S	2 " " 126
4 " " 22	1 " " 126A

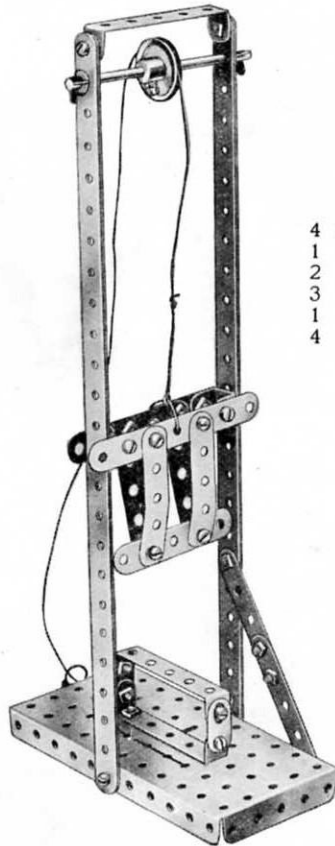
FIG. 1.196A

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

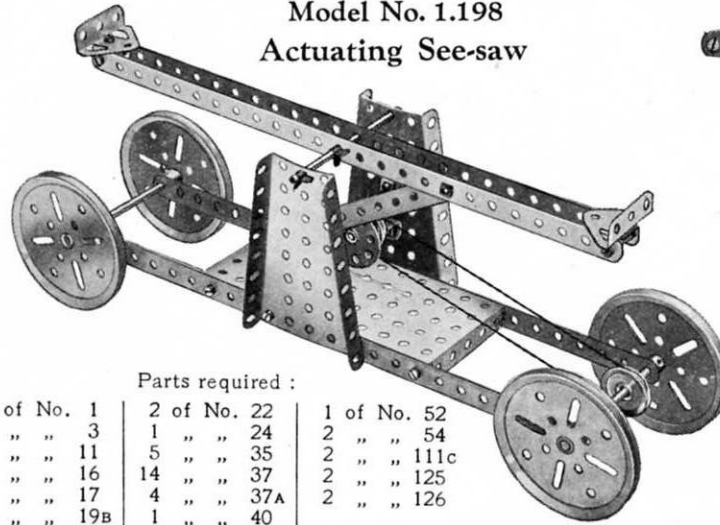
Model No. 1.197 Guillotine

Parts required :

2 of No. 1	1 of No. 22
1 " " 3	2 " " 35
9 " " 5	24 " " 37
2 " " 10	1 " " 40
2 " " 11	3 " " 48A
1 " " 16	1 " " 52



Model No. 1.198 Actuating See-saw

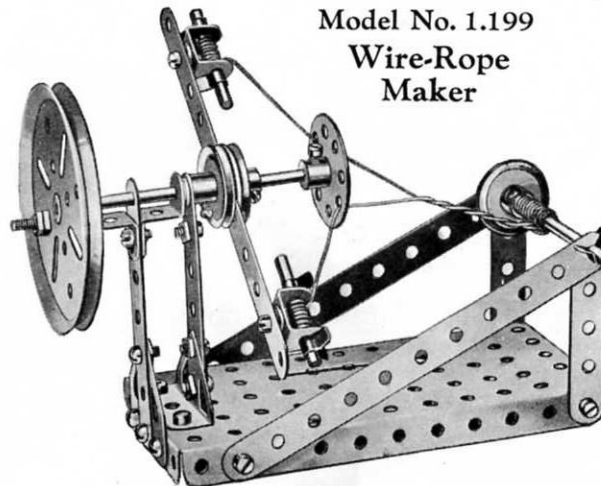


Parts required :

4 of No. 1	2 of No. 22	1 of No. 52
1 " " 3	1 " " 24	2 " " 54
2 " " 11	5 " " 35	2 " " 111c
3 " " 16	14 " " 37	2 " " 125
1 " " 17	4 " " 37A	2 " " 126
4 " " 19B	1 " " 40	

Parts required :

3 of No. 2
1 " " 3
3 " " 5
1 " " 10
2 " " 11
2 " " 16
2 " " 18A
1 " " 19B
3 " " 22
1 " " 24
6 " " 35
16 " " 37
2 " " 37A
1 " " 52
1 " " 111c
2 " " 125
1 " " 126
1 " " 126A



Model No. 1.199 Wire-Rope Maker

Model No. 1.200 Coat Hanger



Parts required :

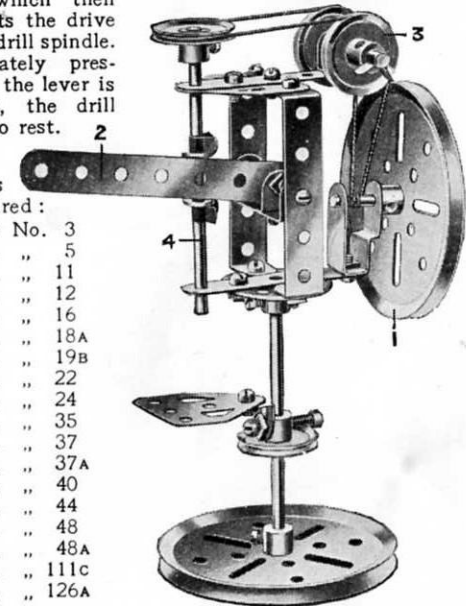
1 of No. 1	2 of No. 5	1 of No. 57c
2 " " 2	6 " " 37	

Model No. 1.201 Automatic Drill

Cord is passed round 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 " " 40
1 " " 44
1 " " 48
2 " " 48A
1 " " 111c
2 " " 126A



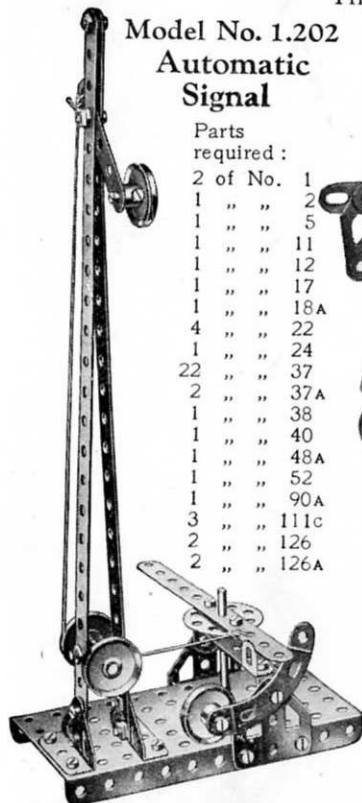
These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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Model No. 1.202

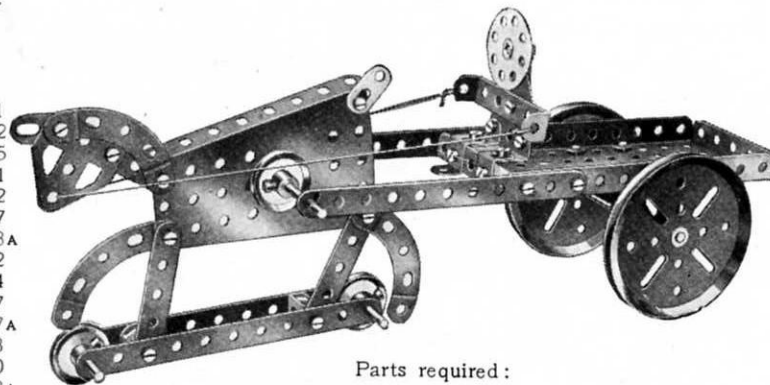
Automatic Signal

Parts required:	
2 of No.	1
1 " "	2
1 " "	5
1 " "	11
1 " "	12
1 " "	17
1 " "	18A
4 " "	22
1 " "	24
22 " "	37
2 " "	37A
1 " "	38
1 " "	40
1 " "	48A
1 " "	52
1 " "	90A
3 " "	111c
2 " "	126
2 " "	126A



The weighted Curved Strip normally holds the end of the $5\frac{1}{2}$ " Strip against an Angle Bracket, allowing the signal arm to fall to the "all clear" position. Any train passing the signal however, strikes the opposite end of the $5\frac{1}{2}$ " Strip, and by means of the cord shown, raises the arm to indicate "danger." The Curved Strip moves to allow the end of the $5\frac{1}{2}$ " Strip to pass over it, and is returned to its original position by reason of its weighted end. The signal then remains at "danger" until the mechanism is re-set.

Model No. 1.203 Horse and Cart



Parts required:

4 of No.	2	2 of No.	16	2 of No.	35	1 of No.	54
3 " "	5	2 " "	18A	26 " "	37	3 " "	90A
3 " "	10	2 " "	19B	1 " "	40	1 " "	111c
2 " "	11	4 " "	22	1 " "	125	2 " "	126
2 " "	12	1 " "	24	1 " "	52	2 " "	126A

Model No. 1.204 Revolving Crane

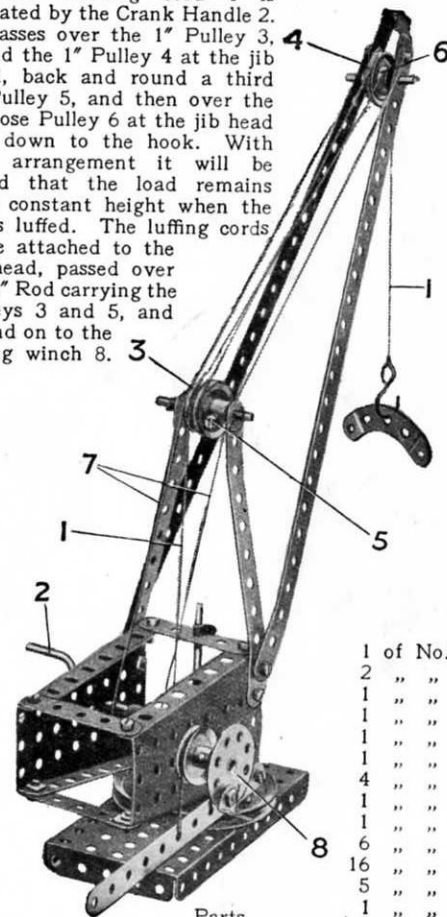


Parts required:

4 of No.	2
7 " "	5
4 " "	12
1 " "	17
1 " "	18A
1 " "	19s
2 " "	22
1 " "	23
1 " "	24
4 " "	35
25 " "	37
1 " "	37A
1 " "	40
1 " "	44
4 " "	48A
1 " "	52
1 " "	54
1 " "	57c
2 " "	90A
2 " "	125
2 " "	126A

Model No. 1.205 Patent Luffing Crane

The hoisting cord 1 is operated by the Crank Handle 2. It passes over the 1" Pulley 3, round the 1" Pulley 4 at the jib head, back and round a third 1" Pulley 5, and then over the $\frac{1}{2}$ " loose Pulley 6 at the jib head and down to the hook. With this arrangement it will be found that the load remains at a constant height when the jib is luffed. The luffing cords 7 are attached to the jib head, passed over the 2" Rod carrying the Pulleys 3 and 5, and wound on to the luffing winch 8.



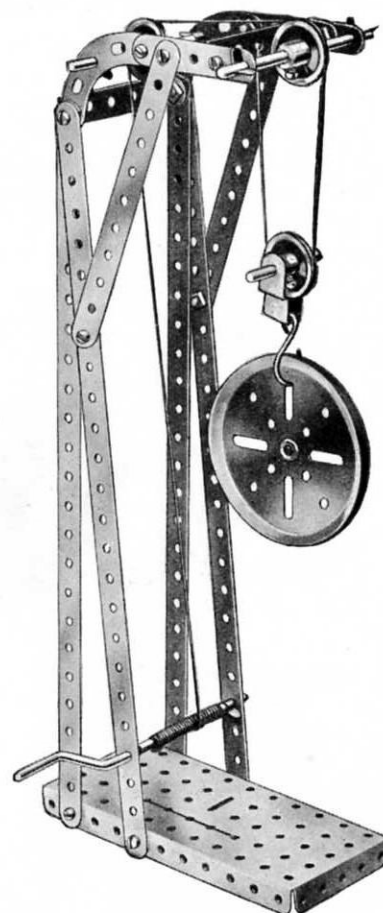
Parts required:

2 of No.	1
3 " "	2
4 " "	5

1 of No.	12
2 " "	16
1 " "	17
1 " "	18A
1 " "	19B
1 " "	19s
4 " "	22
1 " "	23
1 " "	24
6 " "	35
16 " "	37
5 " "	38
1 " "	40
1 " "	44
1 " "	52
2 " "	54
1 " "	57c
2 " "	111c

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

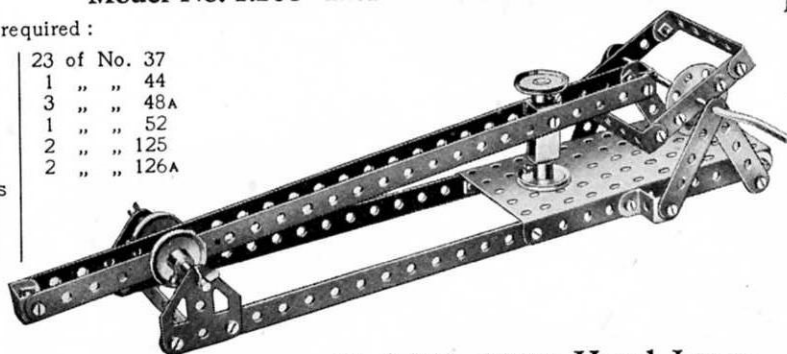
Model No. 1.206 Hoisting Block



Parts required :

4 of No. 1	23 of No. 37
6 " " 5	1 " " 44
2 " " 11	3 " " 48A
2 " " 12	1 " " 52
1 " " 16	2 " " 125
1 " " 17	2 " " 126A
1 " " 19s	
4 " " 22	
1 " " 24	
4 " " 35	

Model No. 1.208 Helve Hammer

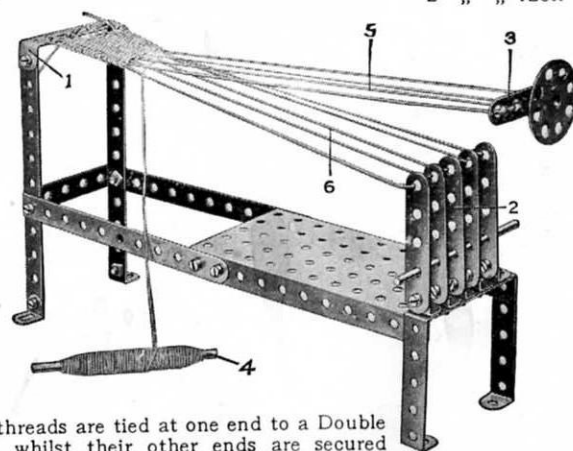


Model No. 1.210 Telescopic Mast

Parts required :

4 of No. 1	5
5 " " 5	11
2 " " 11	12
6 " " 12	18A
1 " " 18A	22
1 " " 22	35
4 " " 35	37
16 " " 37	40
1 " " 40	52
1 " " 52	126A
2 " " 126A	

Model No. 1.209 Hand Loom



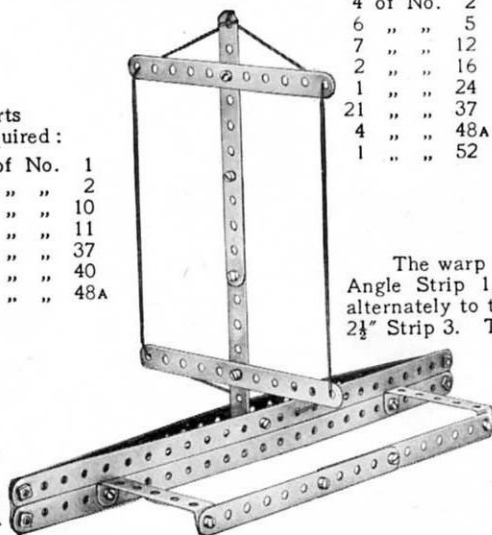
Parts required :

4 of No. 2	2
6 " " 5	5
7 " " 12	12
2 " " 16	16
1 " " 24	24
21 " " 37	37
4 " " 48A	48A
1 " " 52	52

Model No. 1.207 Catamaran

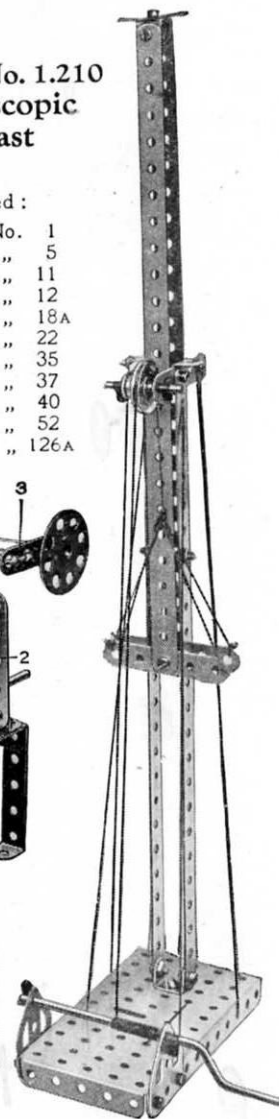
Parts required :

4 of No. 1	1
6 " " 2	2
2 " " 10	10
1 " " 11	11
17 " " 37	37
1 " " 40	40
2 " " 48A	48A



Parts required :	1 of No. 18A	1 of No. 40
4 of No. 1	1 " " 19s	2 " " 48A
2 " " 2	3 " " 22	1 " " 52
2 " " 5	8 " " 35	1 " " 57c
2 " " 16	14 " " 37	2 " " 90A

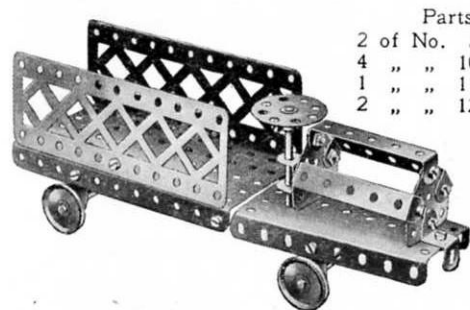
The warp threads are tied at one end to a Double Angle Strip 1, whilst their other ends are secured alternately to the tops of the upright Strips 2, and the $2\frac{1}{2}$ " Strip 3. The "shedding" movement of the warp is obtained by moving the Strip 3 up or down each time the shuttle—a $3\frac{1}{2}$ " Rod 4—is passed between the two layers of warp 5 and 6. Wool or similar material is particularly suited to this apparatus. The strands 6 should be kept very taut, and the weft threads may be closed up with the woven portion by means of an ordinary comb each time the shuttle passes.



These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

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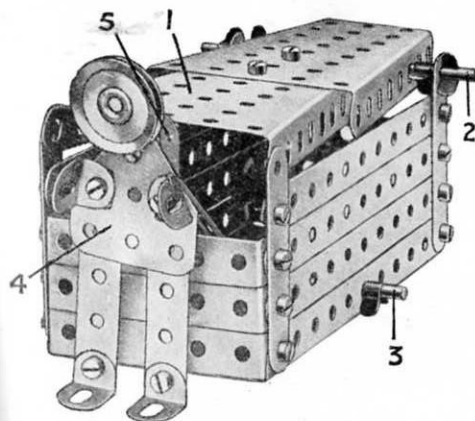
Model No. 1.211 Motor Lorry



Parts required:		
2 of No. 5	2 of No. 16	
4 " " 10	1 " " 17	
1 " " 11	4 " " 22	
2 " " 12	1 " " 24	
	1 " " 35	
	23 " " 37	
	4 " " 48A	
	1 " " 52	
	1 " " 54	
	2 " " 100	
	1 " " 125	
	2 " " 126A	

Model No. 1.212 Disappearing Meccanitian

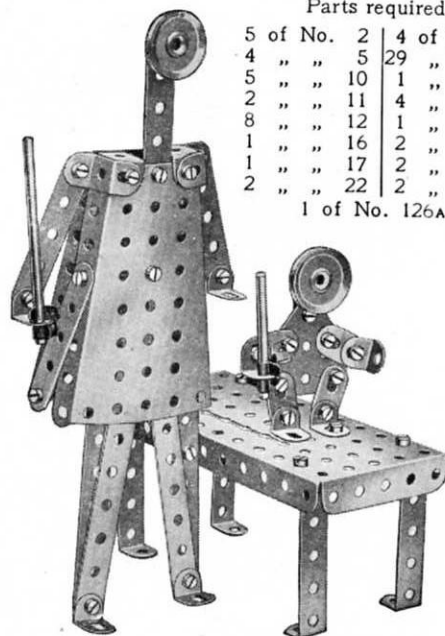
The bottom of the box-like portion of the model consists of a $5\frac{1}{2} \times 2\frac{1}{2}$ " Flanged Plate; three $5\frac{1}{2}$ " Strips bolted to upright $2\frac{1}{2}$ " Strips form each side and each end consists of three $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strips. The lid 1, which is mounted pivotally on an Axle Rod 2, consists of two Sector Plates bolted together. Elastic bands are tied to the sides of these Plates and connected to Rod 3 passed through the bottom of the box. The "Meccanitian" 4 also is connected to this Rod by pieces of elastic. On pressing the end of the rear Sector Plate the lid opens sufficiently to allow the figure to be drawn inside and then snaps back into place. A Cranked Bent Strip 5 is bolted at the back of the figure and rests against the edge of the Sector Plate.



Parts required:		
6 of No. 2	2	
6 " " 5	5	
1 " " 10	10	
4 " " 12	12	
2 " " 16	16	
1 " " 22	22	
6 " " 35	35	
23 " " 37	37	
1 " " 44	44	
4 " " 48A	48A	
1 " " 52	52	
2 " " 54	54	
1 " " 111c	111c	
1 " " 126A	126A	

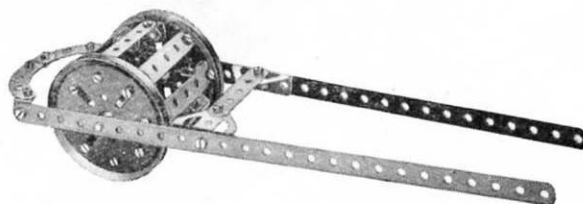
A short length of elastic

Model No. 1.213 Dignity and Impudence



Parts required:		
5 of No. 2	4 of No. 35	
4 " " 5	29 " " 37	
5 " " 10	1 " " 48	
2 " " 11	4 " " 48A	
8 " " 12	1 " " 52	
1 " " 16	2 " " 54	
1 " " 17	2 " " 111c	
2 " " 22	2 " " 125	
1 of No. 126A		

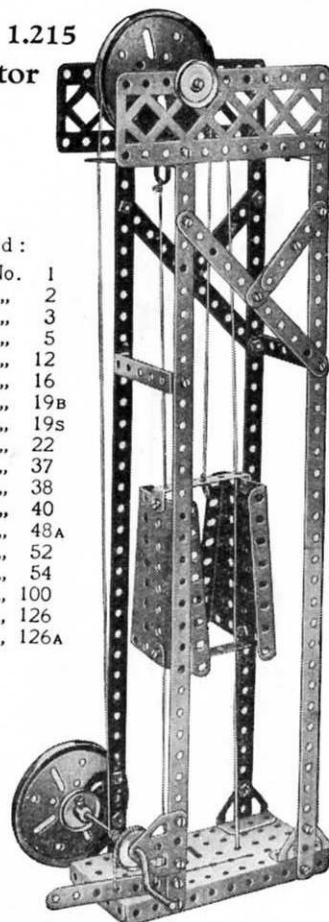
Model No. 1.214 Field Roller



Parts required:		
2 of No. 1	1 of No. 16	6 of No. 48A
3 " " 5	2 " " 19B	2 " " 90A
6 " " 12	30 " " 37	2 " " 126

Model No. 1.215 Elevator

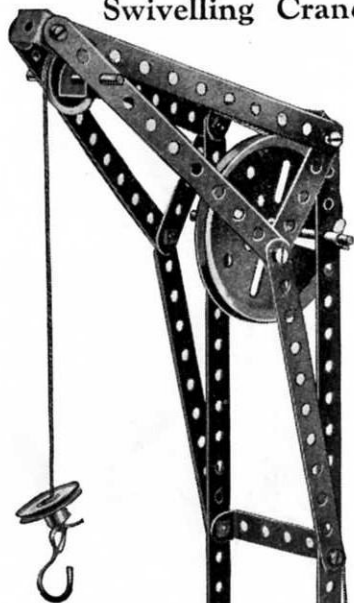
Parts required:		
4 of No. 1	1	
7 " " 2	2	
1 " " 3	3	
4 " " 5	5	
1 " " 12	12	
1 " " 16	16	
2 " " 19B	19B	
1 " " 19s	19s	
4 " " 22	22	
33 " " 37	37	
3 " " 38	38	
1 " " 40	40	
6 " " 48A	48A	
1 " " 52	52	
2 " " 54	54	
2 " " 100	100	
2 " " 126	126	
2 " " 126A	126A	



Two cords stretched between the base plate of the model and the upper structure are passed through holes in the Double Angle Strips of the cage to form guides. A further cord is tied to the upper Double Angle Strip, and after being led over the 3" Pulley at the head of the model is tied to the shaft of a Crank Handle.

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.216
Swivelling Crane



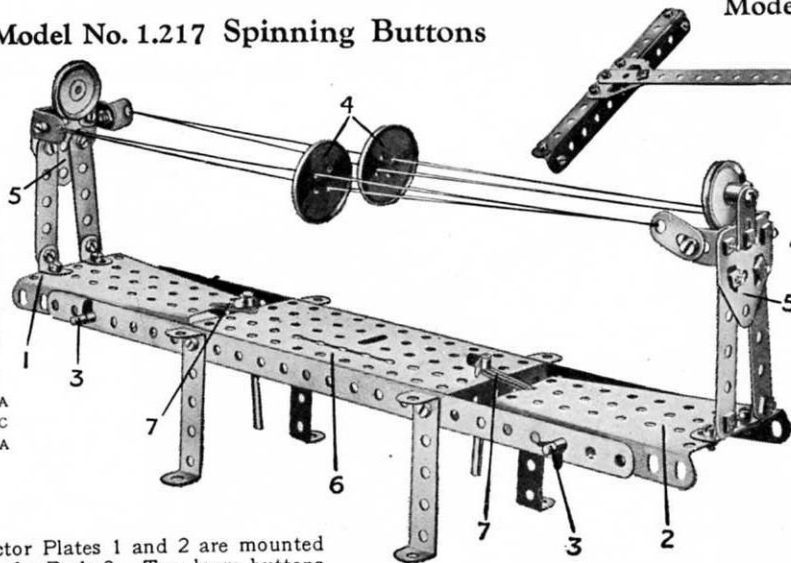
Parts
required :

2 of No. 1		
6 " " 2		
6 " " 5		
2 " " 11		
1 " " 12		
1 " " 16		
1 " " 17		
3 " " 19 ^B		
1 " " 19 ^S		
4 " " 22		
1 " " 24		
2 " " 35		
25 " " 37	2 of No. 48A	1 of No. 57c
1 " " 37A	1 " " 52	2 " " 90A
1 " " 40	2 " " 54	1 " " 111c

Model No. 1.217 Spinning Buttons

Parts
required :

2 of No. 1	
6 " " 5	
4 " " 10	
8 " " 12	
2 " " 16	
2 " " 17	
2 " " 22	
6 " " 35	
28 " " 37	
1 " " 40	
4 " " 48A	
2 " " 111c	
2 " " 126A	

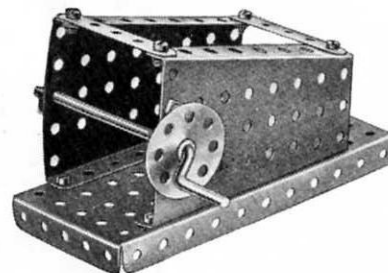


The Sector Plates 1 and 2 are mounted pivotally on the Rods 3. Two large buttons, 4 are placed on lengths of thread or thin elastic stretched between the arms of the Meccanitions 5. Start the model as follows: twist the threads a little with your fingers, pull the Meccanitions outward, then release them sharply. As soon as the buttons are spinning a slight downward touch on the feet of each Meccanition is sufficient to keep them going. The ends of the Sector Plates 1 and 2 are connected to the Flanged Plate 6 by means of pieces of elastic 7.

Model No. 1.218 Safety Catch for Winding Gear

Parts
required :

2 of No. 5	
1 " " 19 ^S	
1 " " 24	
1 " " 35	
8 " " 37	
1 " " 37A	
1 " " 52	
2 " " 54	
1 " " 111c	



Model No. 1.219 Large Rake

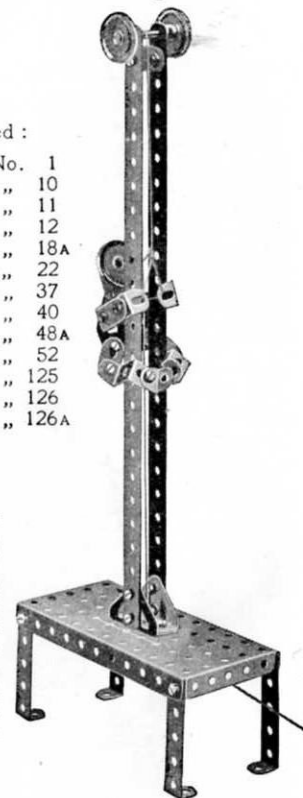
Parts required :

1 of No. 1	2 of No. 12
2 " " 2	8 " " 37
1 of No. 126A	

Model No. 1.220
Man Climbing Pole

Parts
required :

2 of No. 1	
5 " " 10	
1 " " 11	
6 " " 12	
1 " " 18A	
3 " " 22	
26 " " 37	
1 " " 40	
4 " " 48A	
1 " " 52	
2 " " 125	
2 " " 126	
1 " " 126A	

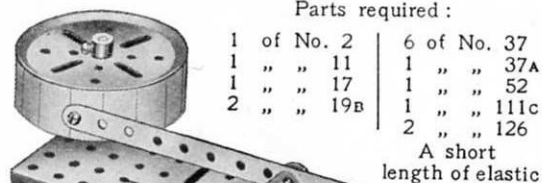


The hoisting cord of a crane, etc., may be wound on the shaft of the Crank Handle. To lock the handle in position, the Bush Wheel should be pushed inward so that one of its holes engages with the shank of a $\frac{3}{8}$ " Bolt projecting from the Sector Plate.

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.221 Seismograph

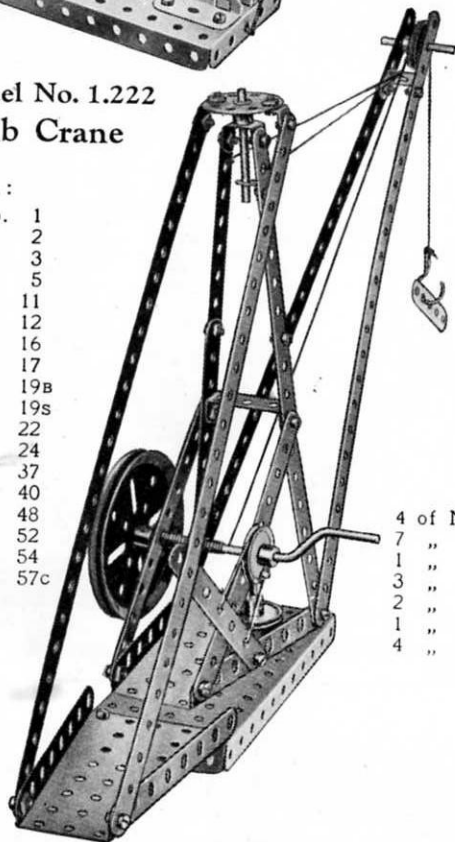
Parts required :



Model No. 1.222 Jib Crane

Parts required :

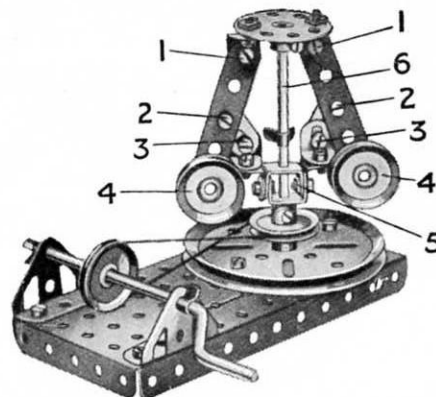
4 of No.	1
6 " "	2
1 " "	3
1 " "	5
2 " "	11
3 " "	12
1 " "	16
2 " "	17
1 " "	19B
1 " "	19s
4 " "	22
1 " "	24
23 " "	37
1 " "	40
1 " "	48
1 " "	52
2 " "	54
1 " "	57c



Model No. 1.223 Centrifugal Governor

Parts required :

2 of No.	5
2 " "	10
2 " "	11
6 " "	12
1 " "	16
1 " "	19B
1 " "	19s
4 " "	22
3 " "	24
3 " "	35
18 " "	37
6 " "	37A
4 " "	38
1 " "	40
2 " "	111c
2 " "	126

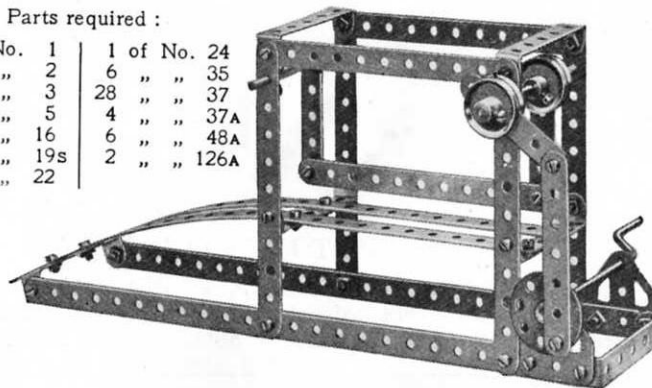


The 3" Pulley Wheel is bolted to the $5\frac{1}{2}" \times 2\frac{1}{2}"$ Flanged Plate as shown, and the Rod 6 is free to rotate in its boss. The Bolts 1, 2, 3, are provided with lock-nuts. When the engine to which the governor is attached works at too great a speed, the 1" fast Pulley Wheels 4 fly outward and lift the two Double Brackets 5. In actual practice this movement is utilised to close the engine valves and so reduce speed.

Model No. 1.224 Stone-Sawing Machine

Parts required :

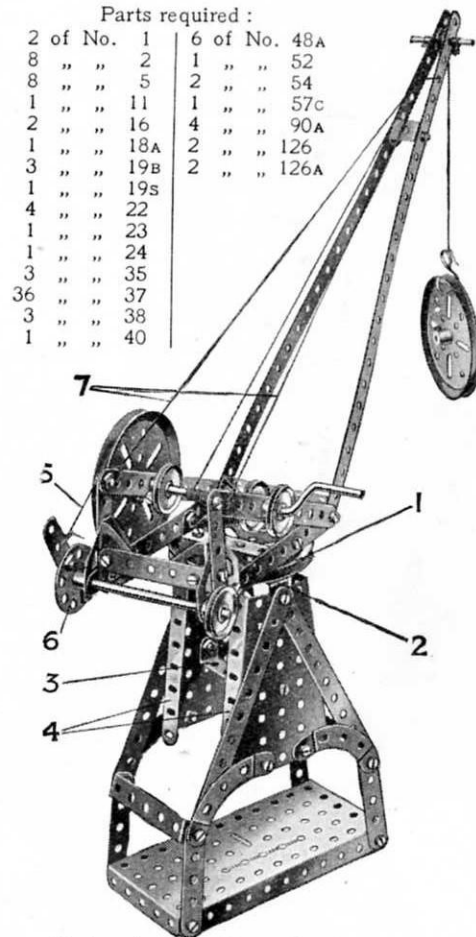
4 of No.	1	1 of No.	24
7 " "	2	6 " "	35
1 " "	3	28 " "	37
3 " "	5	4 " "	37A
2 " "	16	6 " "	48A
1 " "	19s	2 " "	126A
4 " "	22		



Model No. 1.225 Elevated Crane

Parts required :

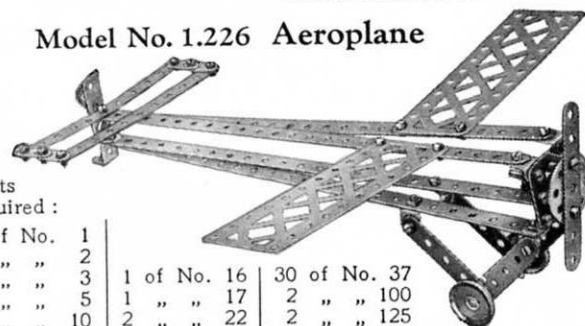
2 of No.	1	6 of No.	48A
8 " "	2	1 " "	52
8 " "	5	2 " "	54
1 " "	11	1 " "	57c
2 " "	16	4 " "	90A
1 " "	18A	2 " "	126
3 " "	19B	2 " "	126A
1 " "	19s		
4 " "	22		
1 " "	23		
1 " "	24		
3 " "	35		
36 " "	37		
3 " "	38		
1 " "	40		



The base of the swivelling portion of the crane consists of a 3" Pulley Wheel 1, which has a $3\frac{1}{2}"$ Axle Rod nipped in its boss. The Rod is journaled in two $2\frac{1}{2}"$ Double Angle Strips 2 and 3 secured between the Sector Plates 4. The brake cord 5 passes round the 3" Pulley as shown, and is tied to one of the holes in the Bush Wheel 6. The cords 7 serve merely to support the weight of the jib.

These Models can be built with MECCANO Outfit No. 1 (or No. 0 and No. 0A)

Model No. 1.226 Aeroplane



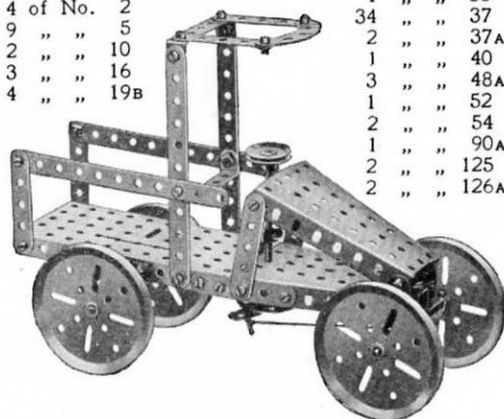
Parts
required :

4 of No. 1	1 of No. 16	30 of No. 37
2 " " 2	1 " " 17	2 " " 100
1 " " 3	2 " " 22	2 " " 125
4 " " 5	1 " " 24	1 " " 126
4 " " 10	1 " " 35	2 " " 126A
1 " " 11		
8 " " 12		

Model No. 1.227 Motor Truck

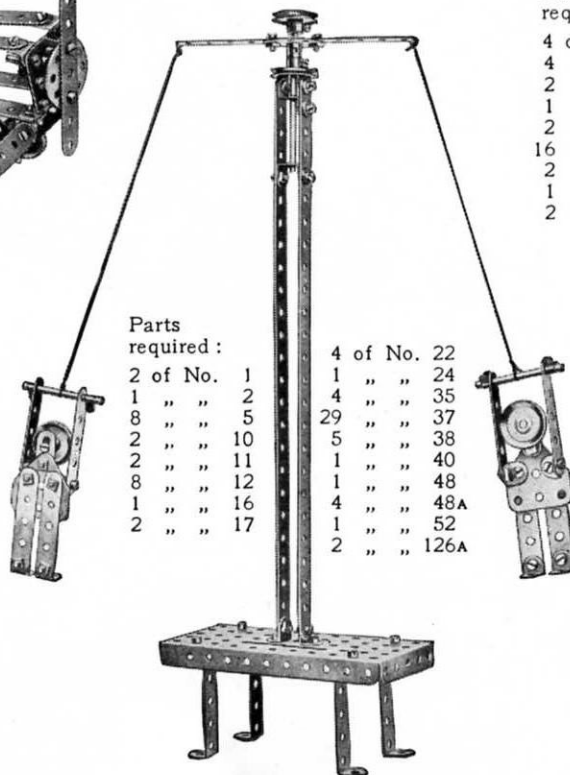
Parts
required :

4 of No. 2
9 " " 5
2 " " 10
3 " " 16
4 " " 19B



1 of No. 22
1 " " 24
1 " " 35
34 " " 37
2 " " 37A
1 " " 40
3 " " 48A
1 " " 52
2 " " 54
1 " " 90A
2 " " 125
2 " " 126A

Model No. 1.228
Revolving Gymnasts



Parts
required :

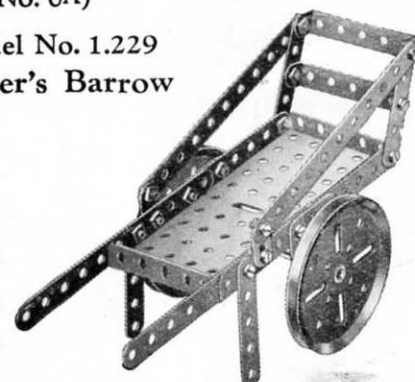
2 of No. 1
1 " " 2
8 " " 5
2 " " 10
2 " " 11
8 " " 12
1 " " 16
2 " " 17

4 of No. 22
1 " " 24
4 " " 35
29 " " 37
5 " " 38
1 " " 40
1 " " 48
4 " " 48A
1 " " 52
2 " " 126A

Model No. 1.229
Coster's Barrow

Parts
required :

4 of No. 2
4 " " 5
2 " " 10
1 " " 16
2 " " 19B
16 " " 37
2 " " 48A
1 " " 52
2 " " 126A

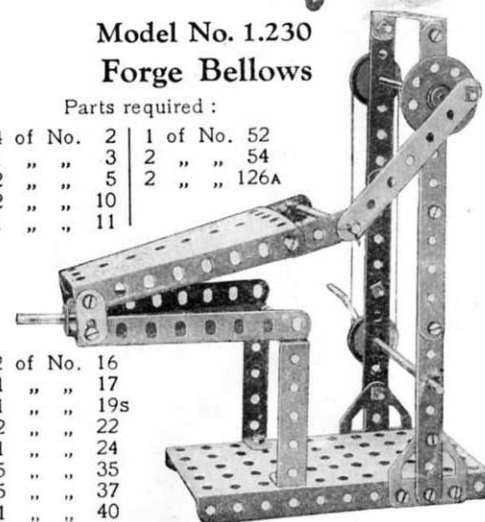


Model No. 1.230
Forge Bellows

Parts required :

4 of No. 2	1 of No. 52
1 " " 3	2 " " 54
2 " " 5	2 " " 126A
2 " " 10	
1 " " 11	

2 of No. 16
1 " " 17
1 " " 19s
2 " " 22
1 " " 24
5 " " 35
25 " " 37
1 " " 40
3 " " 48A

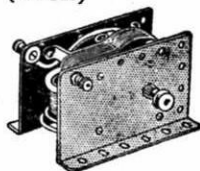
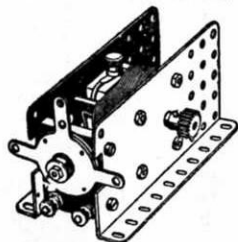


HOW TO CONTINUE

This completes our examples of models that may be made with MECCANO Outfit No. 1 (or No. 0 and No. 0A). The next models are a little more advanced, requiring a number of extra parts to construct them. The necessary parts are all contained in a No. 1A Accessory Outfit, the price of which may be obtained from any Meccano dealer.

MECCANO ELECTRIC MOTOR**No. E. 1 (6-volt)**

This is a highly efficient electric motor (non-reversing) that will give excellent service. A 6-volt Accumulator will operate it, but it may also be driven from the mains (alternating current only) through the Transformer described on this page.

**MECCANO ELECTRIC MOTOR****No. E. 6 (6-volt)**

This powerful and reliable 6-volt Motor may be run from a 6-volt accumulator or, by employing the Transformer described on this page, from the mains. It is fitted with a control mechanism that enables the motor to be started, stopped or reversed as desired.

NOTE.—The above Electric Motors will not run satisfactorily from dry cells.

MECCANO ACCUMULATOR

The Meccano Accumulator (6-volt, 20 amps.), is of substantial construction and is specially recommended for running the Meccano 6-volt Electric Motors.

**MECCANO
RESISTANCE CONTROLLER**

By employing this variable resistance the speed of the Meccano 6-volt Electric Motors may be regulated as desired.

**MECCANO
20-volt ELECTRIC MOTORS****No. 20a—Non-Reversing****No. 20b—Reversing**

These motors are similar in design to the No. E. 6 Motor. They are intended to be run from the mains through a 20-volt Meccano Transformer.

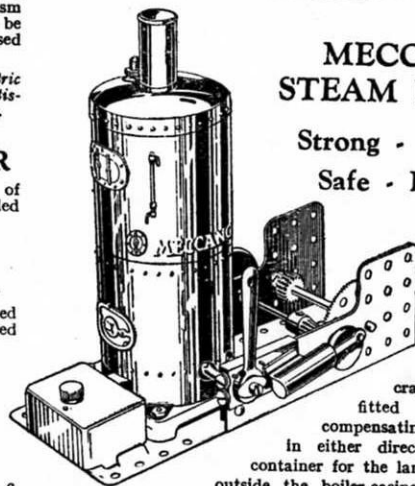
MECCANO

**MOTORS AND
ACCESSORIES**

In order to obtain the fullest possible enjoyment from the Meccano hobby the models should be operated with a Meccano power unit. The side plates and bases are pierced with the standard Meccano equidistant holes, which enable the motors or the steam engine to be built into any Meccano model in the position that is most suitable.

**MECCANO
STEAM ENGINE**

**Strong - Powerful
Safe - Reliable**



On actual test this powerful steam unit has lifted over 56 lbs. Operation of the reversing lever enables the crankshaft, which is fitted with a special compensating flywheel, to run in either direction. The spirit container for the lamp is placed well outside the boiler-casing, eliminating all risk of the spirit becoming heated. There is no danger whatever of the boiler exploding.

TRANSFORMER

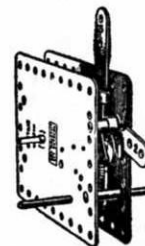
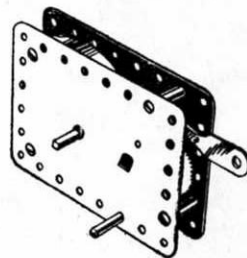
By means of this transformer the Meccano 6-volt Electric Motors may be driven from the main supply (alternating current only). It is available for all standard supply voltages, from 100 to 250 inclusive, at all standard frequencies.

MECCANO**20-volt TRANSFORMERS**

The Meccano 20-volt Transformers have been specially made for use with the Meccano 20-volt Motors. They can be obtained with either 20 watts or 35 watts output, 50 to 60 cycles only.

**MECCANO
CLOCKWORK
MOTOR No. 1
(Non-Reversing)**

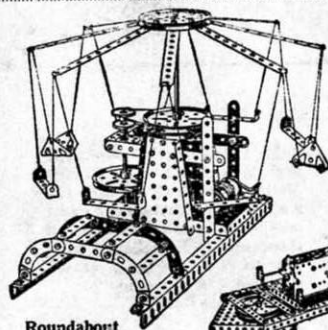
A long-running and highly efficient clockwork motor (non-reversing), fitted with a brake lever by means of which it may be stopped and started, as desired.

**MECCANO
CLOCKWORK
MOTOR No. 2
(Reversing)**

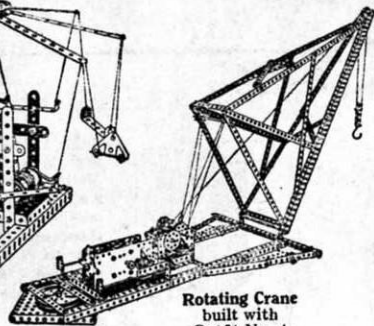
This strongly-built clockwork motor is a compact self-contained power unit. Brake and reverse levers enable the motor to be stopped, started and reversed, as required.

Ask your dealer for a Meccano price list, and keep it by you for reference.

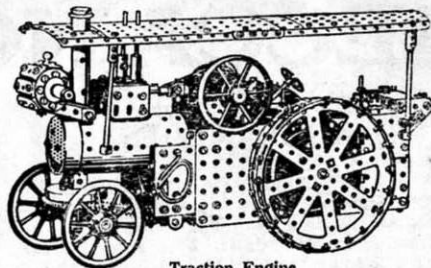
Build Bigger and Better Models



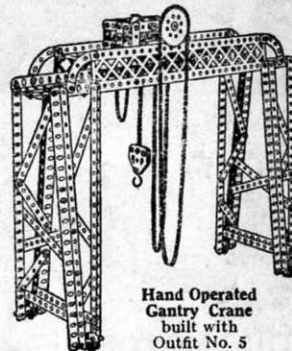
Roundabout
built with
Outfit No. 2



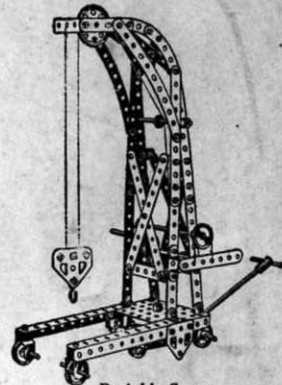
Rotating Crane
built with
Outfit No. 4



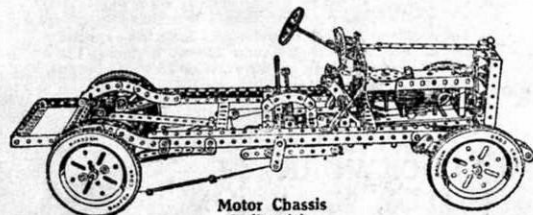
Traction Engine
built with
Outfit No. 7



Hand Operated
Gantry Crane
built with
Outfit No. 5



Portable Crane
built with
Outfit No. 6



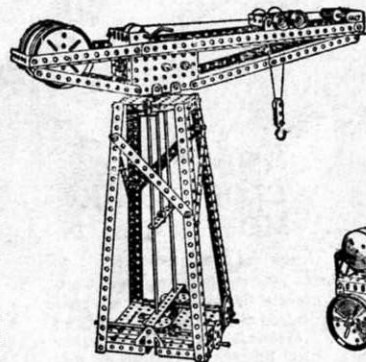
Motor Chassis
built with
Outfit No. 7

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. As your equipment grows bigger and bigger, so will the fun and enjoyment increase.

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

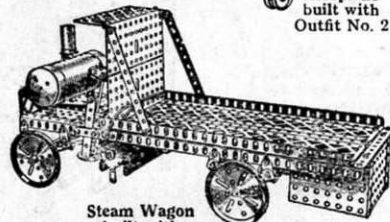
You can purchase separate Meccano parts as you require them, or, if you prefer, you can purchase Accessory Outfits that connect all the main Outfits.



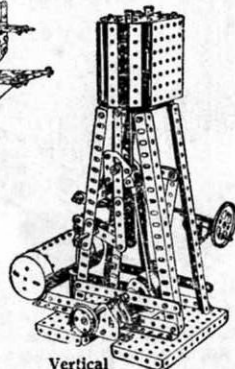
Girder Crane
built with
Outfit No. 4



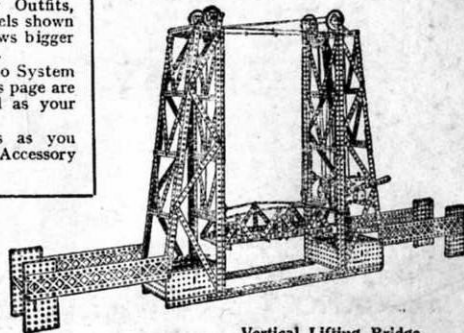
Aeroplane
built with
Outfit No. 2



Steam Wagon
built with
Outfit No. 3



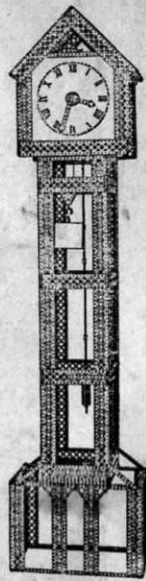
Vertical
Marine Engine
built with
Outfit No. 5



Vertical Lifting Bridge
built with Outfit No. 6



Fire Truck
built with
Outfit No. 3



Grandfather's Clock
built with Outfit No. 7

Ask your dealer or complete illustrated price lists of Meccano Parts and Accessory Outfits and keep them by you for reference.