

# MECCANO

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

HORNBY'S ORIGINAL SYSTEM—FIRST PATENTED 1901



# INSTRUCTIONS

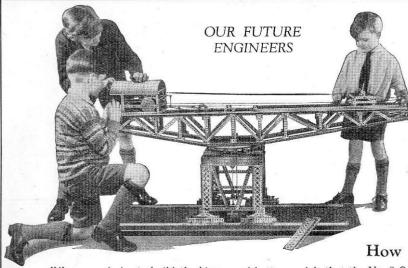


FOR BUILDING No. 2 OUTFIT MODELS

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No. 31.1A

ENGLISH EDITION



## MECCANO

#### Real Engineering in Miniature

The Meccano No. 1A Accessory Outfit converts your No. 1 Outfit into a No. 2, 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. 3 Outfit makes, it is only necessary for you to purchase a No. 2A Accessory Outfit. In turn, a No. 3A Accessory Outfit will convert your equipment into a No. 4, 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.

Every keen and inventive Meccano model-builder should possess copies of the special Manuals "How to use Meccano Parts" and "Meccano Standard Mechanisms." In the former the principal uses of Meccano parts are outlined, while the latter shows a large number of real engineering mechanisms, built of Meccano parts, that can be incorporated in various models. You can obtain copies of these Manuals from your dealer, or direct from Meccano Ltd., Liverpool. A complete list showing the contents of each Meccano Outfit and Accessory Outfit will be supplied on application to Meccano Limited, Liverpool.

#### 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.

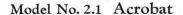
#### Meccano Service

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

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

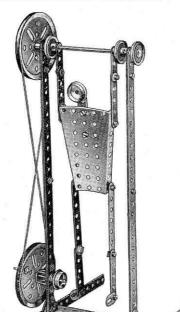
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IMPORTANT:-Meccano Parts may be bought separately at any time in any quantity from your Meccano dealer.

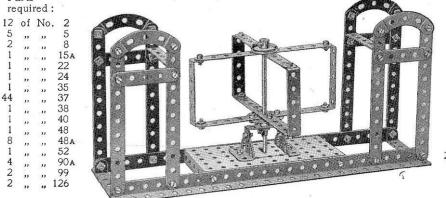


Parts

required:



#### Model No. 2.2 Turnstile



#### Model No. 2.3 Coal Sifter

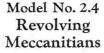
The  $5\frac{1}{2}''$  Strip 1 is pivoted to the Angle Bracket 2 by a bolt and two Nuts. The Angle Bracket in turn is bolted to the Flanged Plate, which is suspended in such a way that it is free to swing to and fro. The other end of the  $5\frac{1}{2}''$  Strip is pivoted to the Bush Wheel 3.

#### Parts required:

4	of	No	. 1	28	of	No.	37	
2	,,	,,	3	6	,,	,,	37A	
5	,,	,,	5	5	,,	,,	38	
2 5 2 2	"	,,	8	1	,,	,,	40	
2	,,	,,	-10	1	,,	,,	45	
1	,,	,,	. 15	1	,,	"	52	
2	,,	,,	19в	1	,,	"	54	
1 2 2 3	,,	,,	20в	2	,,	,,	62	
3	,,	,,	22	1	,,	,,	115	
		me i	2 of 1	Vo.	126			



2824111221246	,,	"	3 5
8	,,	,,	5
2	255	558	6A
4	"	,,	8
1		,,	12
-	,,		
1	,,	"	16
1	,,	,,	17
2	,,	,,	19в. (
2			22
1	,,	***	24
2		**	35
2	,,	,,	00
54	"	**	35 37
6			37A



1	of	No.	1	1	of	No.	38
	,,	,,	5	1	,,	,,	52
	,,	,,	10	2 2	,,	,,	111c
	,,	,,	12	2	,,	,,	126a
	,,	,,	16				
	,,	,,	17	-		1	
	,,	"	19s				
	,,	"	22			107	10%
	,,	,,	24	8	1		10/0/
	,,	,,	35	ê	A	7	7.9A.
	**	11	37	1		1	170

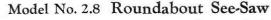


#### Model No. 2.5 Easel

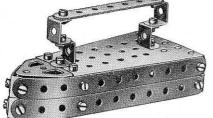
#### Model No. 2.6 Smoothing Iron

#### Parts required:

4	of	No.	2	20	of	No.	37	
2	,,	"	3	2	,,	"	38	
6	,,	"	10	1	,,	"	48A	
4	,,	"	11	2	,,	,,	54	
2			12	1 1			1264	

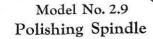


				Pa	rts	requ	ired:				
2	of	No.	6A	2	of	No.	19в	6	of	No.	48 A
4	,,	,,	8	1	"	**	24	2	,,	,,	54
4	"		10	2	,,	,,	35	2	,,	22	90 A
4	,,	,,	12	34	,,	,,	37	4	,,	,,	111c
1	,,	13	16	4	,,	,,	37A	2	,,	"	126
1	,,	,,	18A	6	,,	,,	38	2	,	341	126a
				1 1			48				



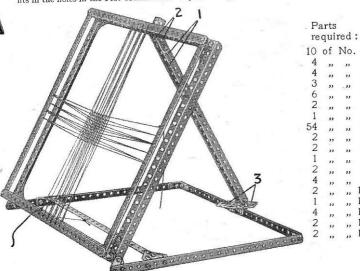
#### Model No. 2.7 Mat Frame

The Strips 1 are hinged to the frame in the following manner. Two Cranks 2 with their bosses facing inward are bolted to the Strips 1 and two Angle Brackets are secured to the frame. A Rod is then pushed through the holes in the Angle Brackets and secured in the bosses of the Cranks. A Double Bracket fastened to the ends of the Strips 1 carries a Threaded Pin, which fits in the holes in the Flat Trunnions 3. By removing this Pin, the frame may be folded flat.



18A

37

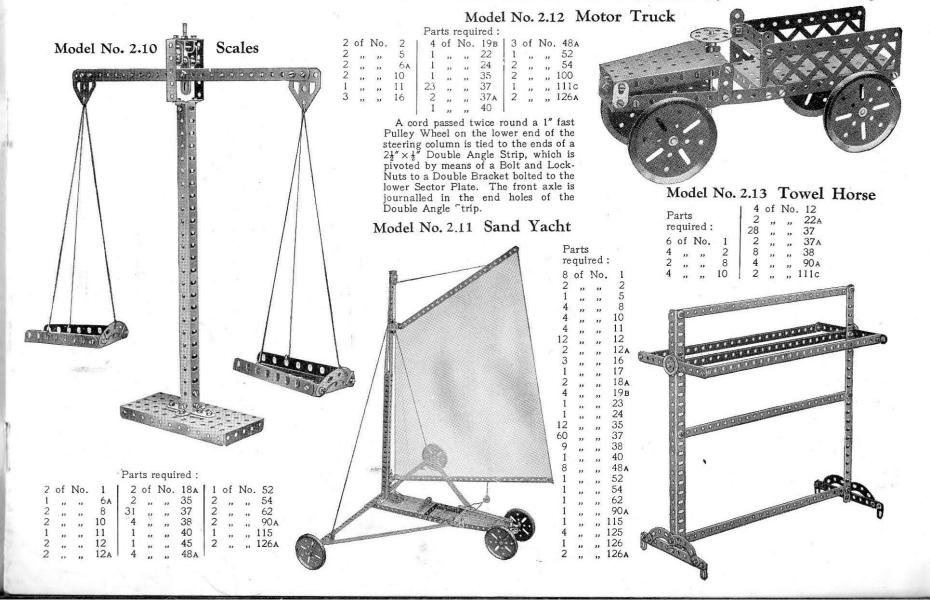


Parts required:

4 of No. 12
1 , , 16
2 , , 22
1 , , 24
2 , , 35
20 , , 37
3 , , 48A
1 , , 52
2 , , 54
2 , , 126

re	qui	red:	
5	of	No.	1
3	,,	"	2
2	,,	"	3
3	,,	"	5
4	"	,,	12
2	,,	"	12A
1	"	"	15A
19	"	"	22 37
19	"	"	20

Parts

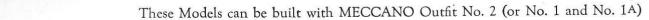


Plates, and by two further

23" Strips that are

to the ends of the lower Angle Girders of the fuse-

mounted on the axle of the running wheels and bolted



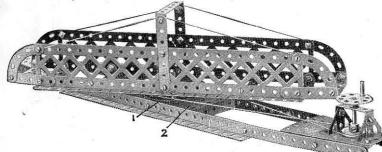
### Model No. 2.14 Monoplane

The nose of the fuselage, which is formed by the two Sector Plates, is secured to the fuselage proper by means of two 2½" Strips bolted to the top rear corners of the

6

#### Model No. 2.15 Turntable

The two sides of the revolving portion are joined in the middle by two pairs of  $2\frac{1}{2}$ " Strips, each pair being overlapped three holes and bolted to the 3" Pulley Wheel 1. An Axle Rod secured in the latter is journalled in the bottom plate 2 and retained in position by a 1" fast Pulley Wheel beneath the plate.



Parts
required:
4 of No. 1
2 " " 3
8 " " 5
4 " " 8
1 " " 17
1 " " 18A
1 " " 19B
3 " " 22
1 " " 24
45 " " 37
4 " " 37
4 " " 37
4 " " 48
7 " 48
1 " 52
2 " " 54
4 " " 90
4 " " 111c

#### Model No. 2.16 Elevator

The construction of this model is fairly clear in the illustration, but it might be pointed out that one side of the framework consists of four 12½" Angle Girders 1 while the opposite side is composed of four 12½" Strips 2.

	3				3	- 5				arts		
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I				1	-	-2			4	of	No.	. 1
- 13		1			9				8 2 8 4 4	,,	,,	2 3 5 8 10
		1			9				2	,,	,,	3
				M	2				8	,,	,,	5
		i		8					4	,,	,,	8
H		1								,,	,,	10
	3	a de la constante de la consta	V 0	0	ш				1	"	, ,,	11
	2	400	МП						12	,,	"	12 16
14		M		* K	,				1	,,	"	16
1		М	Đ.						1	"	,,	18a 19b 19s
									2	"	"	19B
11			Q						1	"	"	195
			H						4	"	"	22 35 37 37 <sub>A</sub>
11			M		М				1	,,	,,	35
	5.1	1	ració						60	,,	,,	3/
		1 15 19-4		⊥Z/N					6	"	,,	3/A
	9	OFFI		1 2 Y		-1			60 6 2 1	"	"	38 40
										"	"	40
7				144		-2			7	"	,,	48A 52 54
				M.	2	Art Santa			1	,,	,,	52
					W.				2	,,	,,	54
					w				1	,,	"	62 90a
A				•	W	A			2	"	"	90A
1	103								2	"	"	99
S.	400			M		10			2 1 2 2 2 6	,,	,,	100 111c
						1.	A		6	"	"	IIIC
		-			1	-		400				
	W.,						• 3	). (				

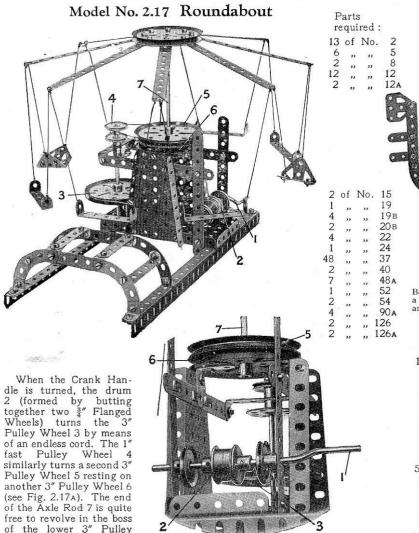


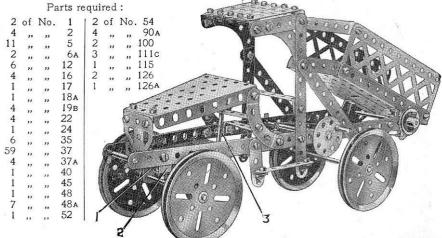
FIG. 2.17A

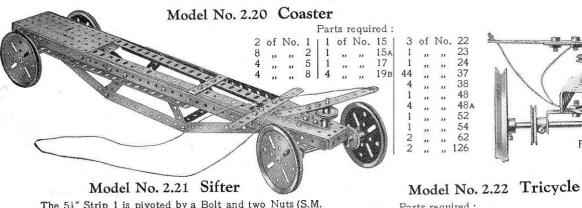
Wheel 6.

Model No. 2.18 Gondola
Parts required:

#### Model No. 2.19 Tipping Motor Wagon

The hont Axle Rod is journalled in a  $2\frac{1}{2}$ "  $\times \frac{1}{2}$ " Double Angle Strip 1 which in turn is bolted to a Double Bent Strip 2. The Double Bent Strip is pivoted to the Sector Plate by a Bolt and two Nuts. Cord passing over a 1" Pulley Wheel attached to the Rod 3 is fastened to the ends of the Double Angle Strip 1, and by rotating another pulley, which represents the steering wheel, the road wheels are deflected.





The  $5\frac{1}{2}$  Strip 1 is pivoted by a Bolt and two Nuts (S.M. 262) to the Bush Wheel and also to a Trunnion bolted to the under-surface of the Flanged Plate 2. The Rod carrying the Bush Wheel is journalled in one of the side girders and through a Double Bent Strip.

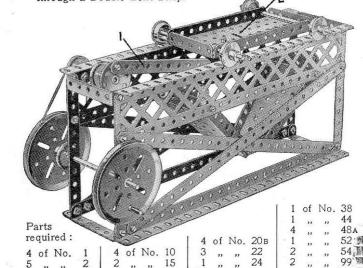
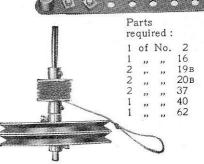


FIG. 2.20A

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		Pa	irts i	equi	irec	1:			
4	of	No.	2	12	of	No.	37A		
6	,,	,,	5	1	,,	"	111c	and the state of the	



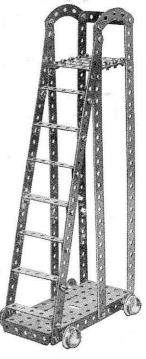
#### Model No. 2.23 Spinning Top

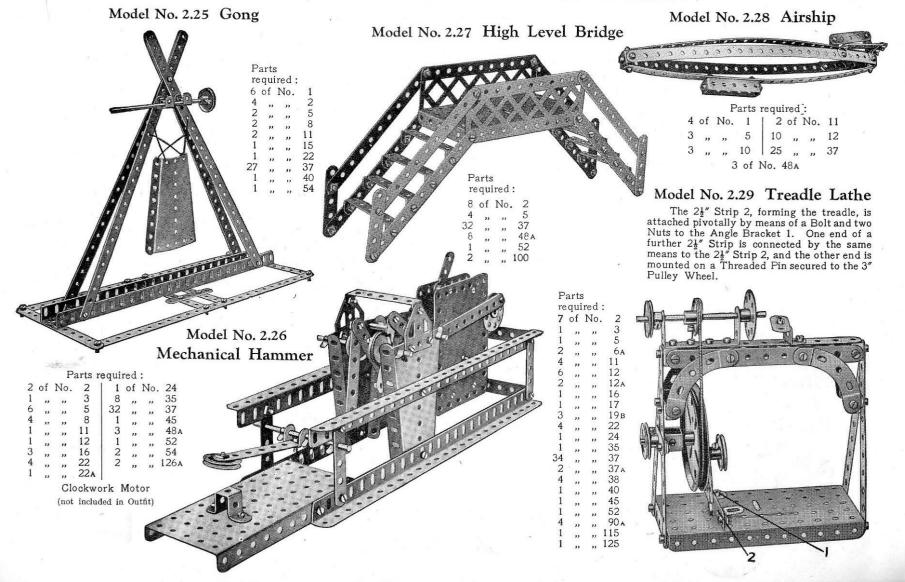


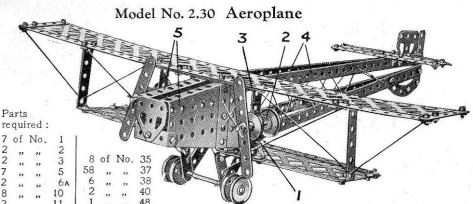
The drum on which the cord is wound consists of two 3" Flanged Wheels butted together. While the cord is being pulled, the top is held steadily on some smooth surface by means of the handle shown above. The handle is then lifted off, allowing the top to spin freely.

Ladder on Wheels Parts required: 6 of No. 1

Model No. 2.24



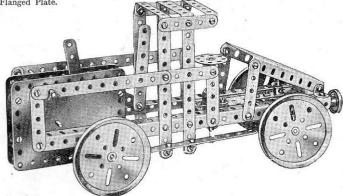




1. Each engine is represented by a  $\S^n$  Flanged Wheel 1 and a 1" fast Pulley Wheel secured to a 2" Rod journalled in a Double Bracket 2, which is bolted to the  $2\S^n \times \S^n$  vertical Double Angle Strip 3. The  $12\S^n$  Strips 4 of the fuselage proper are bolted to the two Sector Plates 5, and also by means of Angle Brackets to the wings. The tail plane consists of two 5½ Strips to which a similar Strip, representing the movable portion of the plane, is attached by means

#### Model No. 2.31 Motor Lorry

The driving spindle of the Clockwork Motor is removed and in its place is inserted a  $3\frac{1}{2}$ " Rod forming the rear axle, the special Pinion inside the Motor being secured to this Rod, of course, instead of to the driving spindle. The steering is operated by a Bush Wheel on a vertical  $3\frac{1}{2}$ " Rod journalled in a Double Bent Strip. Cord is wound round the lower part of this Rod and its ends are secured one to each end of a Double Angle Strip carrying the front axle. A Crank is bolted to this Double Angle Strip and carries a short Rod that is journalled in the boss of a further Crank bolted to the Flanged Plate.



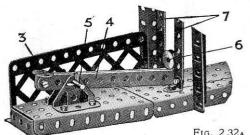
## required: 8 of No. 2

Parts

Clockwork Motor (not included n Outfit)

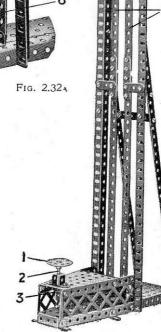
#### Model No. 2.32 Try-Your-Strength Machine

The Bush Wheel 1 is secured to a short Axle Rod 2, the lower end of which rests on a pair of Angle Brackets 3 bolted to the ends of four 53" Strips 4. The Strips 4 are pivoted as shown (Fig. 2.32A) on a 11" Rod 5, and on their opposite ends rests a 12" loose Pulley Wheel 6. When the Bush Wheel 1 is struck, the 51" Strips fling the Pulley Wheel 6 upward, but the wheel is guided by the vertical  $12\frac{1}{2}$  Strips 7. The weight of the Strips 4 then causes the Bush Wheel to resume its original position.

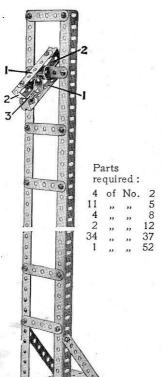


#### Parts required:

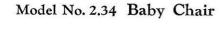
		-		- 1			
6	of	No.	1	2	of	No.	10
6	,,	**	2	10	,,	,,	12
1	,,	,,	2 3 5	2	,,	,,	18A
2 2 4	,,	,,		1	,,	,,	23
2	,,	,,	6A	1	,,	,,	24
4	,,	"	8	3	,,	,,	35
				60	"	,,	37
		A		6	,,	,,	37A
	,		4 .	4	"	,,	38
1			16	1	. ,,	"	45
al .	1	/ ,		1	,,	"	48
MA.				1	,,	"	48A
	-	a)	1	1	,,	"	52
g, e	5			2	"	"	54
9				3	,,	"	90 A
				2 3 2 2	"	"	100
			000	2		**	126

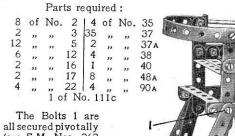


## Model No. 2.33 Performing Meccanitian



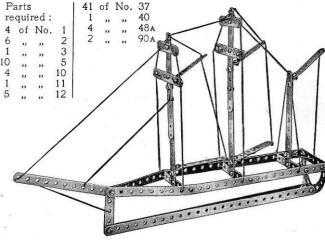
The Meccanitian consists of two  $2\frac{1}{2}$ " Strips 1 to the ends of which two  $5\frac{1}{2}$ " Strips 2, bent as shown, are bolted. The slot 3 should be passed over the top strip of the ladder, when the device will fall "head over heels" to the bottom.



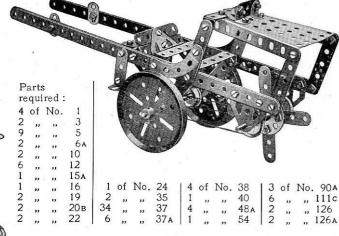


(see S.M. Nos. 262 and 263), and the height of the chair may be adjusted by fitting any hole in the Strip 2 over the shank of a Bolt that is secured in an Angle Bracket bolted to the Double Angle Strip 3.

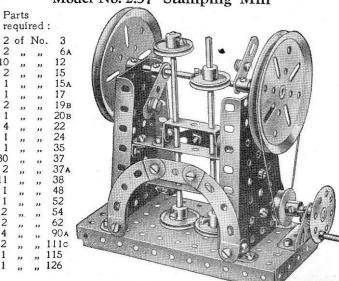
## Model No. 2.35 Square-topsail Schooner

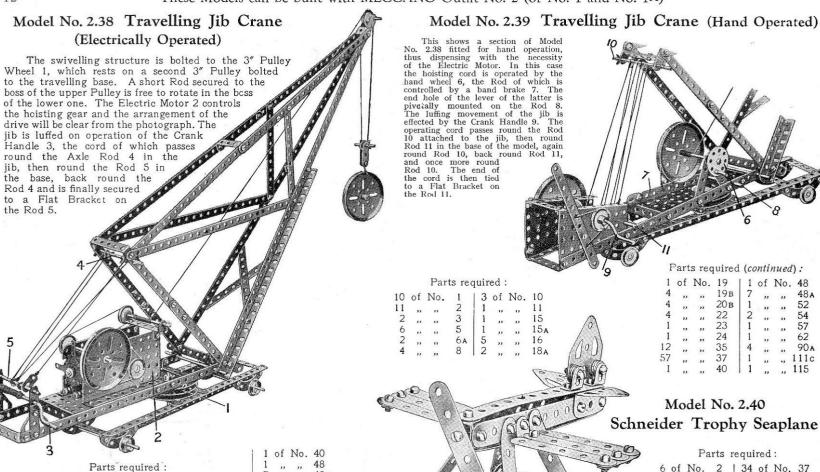


#### Model No. 2.36 Hay Tedder



Model No. 2.37 Stamping Mill





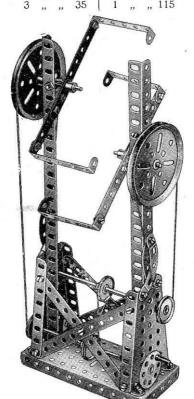
				ired :				4.4	1 ,, ,, 48 7 ., ,, 48 <sub>A</sub>	6	of	No.	2	34	of	Ν
3 5 5 8 9	2 o 2 1 2 1 2 1 4	f No.	, , ,	12 15 15 16 17 18 19 19	4 1 1 14 60 6 14	of ""	"	20 B 22 23 24 35 37 37 A 38	1 ,, 52 1 ,, 57 4 ,, 90A 5 ,, 111c 2 ,, 126A Electric Motor (not included in Outfit)	12 2 12	"	"	6A 11 12 of 1	6 2 2 No. 1	.26	A
		**	,													

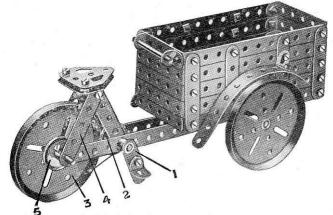
3 " " 37A 6 " " 38 2 " " 111c 2 " " 126

#### Model No. 2.41 Candy Puller

#### Model No. 2.42 Carrier Tricycle

		Pa	rts re	quire	ea:			
6	of	No.	2	36	of	No.	37	
2	,,	,,	8	4	,,	,,	38	
6	,,	,,	12	1	,,	,,	40	
2	,,	,,	15	4	,,	,,	48 A	
2 2 2 4	,,	"	17	1	,,	,,	52	
2	,,	,,	19в	2	,,,	,,	54	
4	,,	,,	22	2	,,	,,	62	
1	,,	,,	24	4	,,	,,	90A	





Each pedal of the tricycle consists of an Angle Bracket pivotally attached to a Crank 1 by means of a Bolt and two Nuts (see S.M. No. 262). The Cranks are secured to a 1½" Axle Rod carrying a 1" fast Pulley Wheel 2. A cord passes round this Pulley and around the 3" Pulley Wheel 3, which is spaced away from the 2½" Strips 4 by a 1" fast Pulley Wheel 5. The Double Bracket 6 (Fig. 2.42A) is attached pivotally to the lower framework by a Bolt and Lock-Nuts (S.M. 263).

P	arts	3	
re	qui	red	:
12	of	No.	. 2
12	,,,	,,	5
2	"	,,	11
6	"	,,	12
1	,,	,,	16
1	,,	,,	17
2	,,	"	18A
3	"	"	19в
2	,,	,,	22
45	"	,,	37
5	,,	"	37A
1	"	. , ,	40
8	"	"	48 A
1	"	"	52
2	"	,,	62
3	"	,,	111c
2	"	"	126A

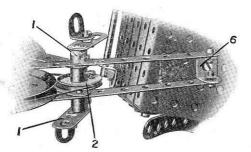
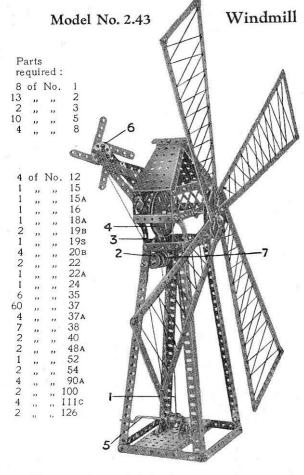
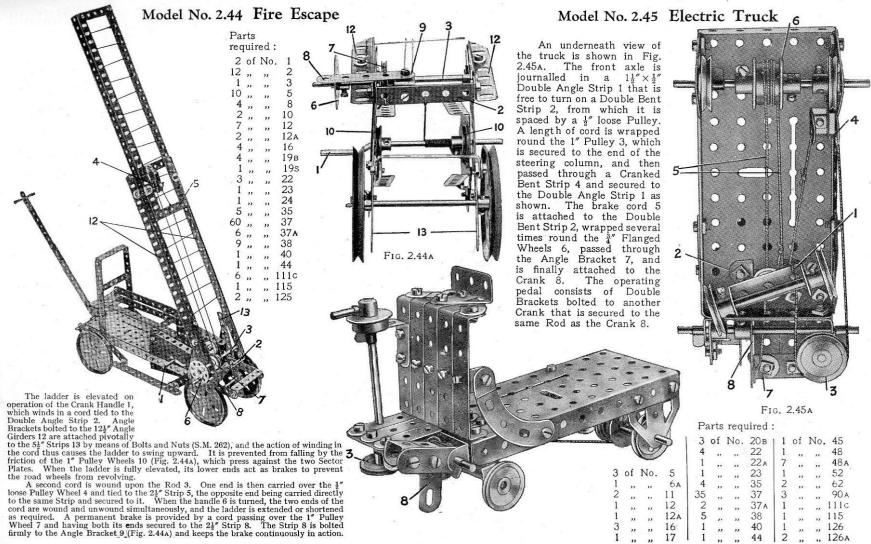


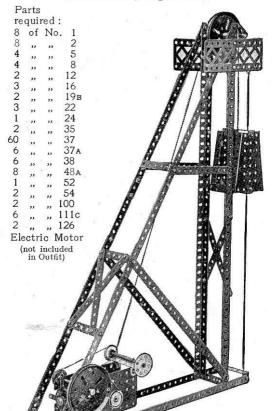
FIG 2.42A



The operating cord 1 is given a complete turn round the pair of  $\frac{3}{4}''$  Flanged Wheels 2. It is then led round the 1" Loose Pulley 3, over the 3" Pulley 4, then down and round the  $\frac{3}{4}''$  Flanged Wheels secured to the Crank Handle 5. The vane 6 is rotated by a cord which passes round a 1" fixed Pulley 7 secured to the shaft of the Flanged Wheels 2.



### Model No. 2.46 Pit Head Gear (Electrically Operated)



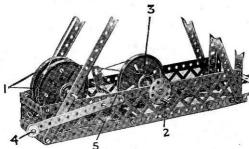
#### Model No. 2.48 Steam Lorry

				Pa	arts	requ	iired:				
2	of	No.	3	4	of	No.	20B	1	of	No.	52
10	,,	,,	5	3	,,	,,	22	2	,,	,,	54
2	,,	,,	10	1	,,	,,	22a	1	,,	,,	62
1	,,	,,	11	1	,,	,,	24	3	"	,,	90 a
3	,,	,,	12	5	,,	"	35	2	,,		100
3	,,	,,	16	60	,,	,,	37	4	,,		111c
1	,,	"	17	5	,,	,,	37a	1	,,		125
1	,,	"	18a	1	,,	,,	45	2	,,	,,	126a
2	,,	"	19в	8	,,	,,	48a				

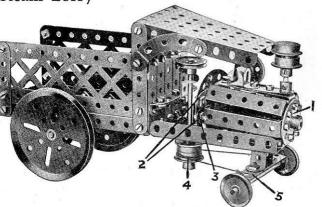
## Model No. 2.47 Pit Head Gear (Hand Operated)

Parts 1	required	

6	of	No.	1	4	of	No.	22	2	of	No.	54
7	,,	"	2	1	,,	,,	23	2	,,	,,	62
3	,,	,,	5	1	,,	,,	24	2	,,	,,	99
4	,,	,,	8	3	,,	,,	35	2	,,	,,	100
4	,,	,,	11	60	,,	,,	37	6	,,		111c
6	,,	,,	12	6	,,	,,	37A	1	,,	,,	115
4	,,	,,	16	8	"	,,	48A	2	,,		126A
4	,,	,,	19в	1	,,	,,	52				



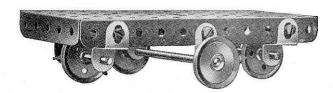
This is an alternative construction of the base of Model No. 2.46, and shows how the Electric Motor may be dispensed with if necessary. Two 3" Pulley Wheels 1 are bolted together by four Double Brackets to form a drum on which the hoisting cord is wound. The cage is raised or lowered on operation of the handle 2, which is connected to the winding drum by an ordinary belt drive. The cage is prevented from overhauling by a hand brake that acts on the groove of a third 3" Pulley Wheel 3. The brake normally is applied by the weight of the ½" loose Pulley Wheel 4, which is secured to the end of a 5½" Strip that is bolted to the crank 5.



The boiler of the engine is built up of  $2\frac{1}{2}'' \times \frac{1}{2}''$  Double Angle Strips bolted to the Bush Wheel 1, and to two  $2\frac{1}{2}''$  Strips 2, which are joined together by Flat Brackets 3. A  $2\frac{1}{2}''$  Curved Strip (small radius) is bolted to the upper Strip 2. A cord is passed completely round two  $\frac{3}{4}''$  Flanged Wheels 4 secured to the steering column, and its ends are tied to the  $2\frac{1}{2}'' \times \frac{1}{2}''$  Double Angle Strip 5. The Double Bent Strip bolted to the Strip 5 is pivoted by a bolt and two nuts to the Sector Plate.

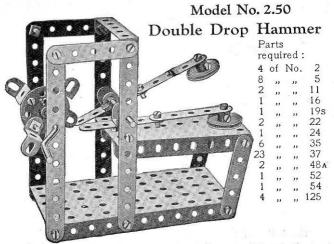
#### Model No. 2.49 Revolving Truck

#### Parts required:



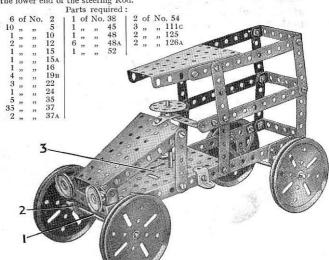
and-pulley brakes 16.

#### These Models can be built with MECCANO Outfit No. 2 (or No. 1 and No. 1A)

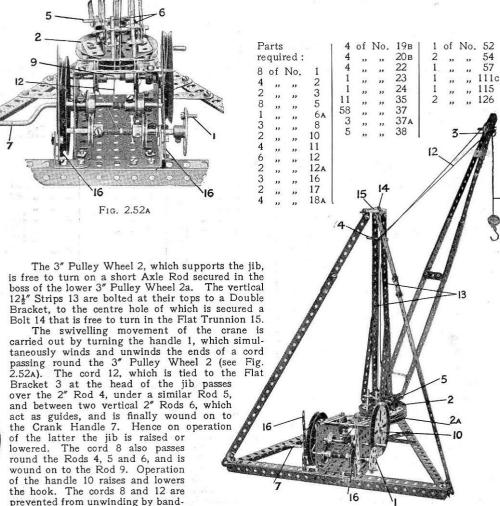


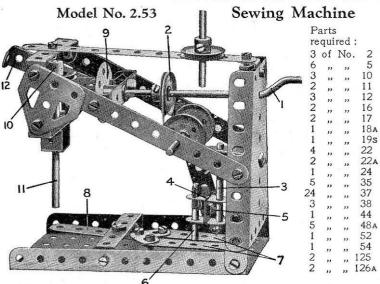
#### Model No. 2.51 Motor Van

The Axle Rod 1 is journalled in a  $2\frac{1}{2}'' \times \frac{1}{2}''$  Double Angle Strip 2. The latter is bolted to a Double Bent Strip that is pivoted to the Flanged Plate 3 by a Bolt and two Nuts. Steering is effected by a cord attached to the ends of the Double Angle Strip 2 and passed round a 1" Pulley Wheel fastened to the lower end of the steering Rod.



#### Model No. 2.52 Derrick



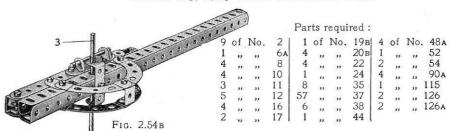


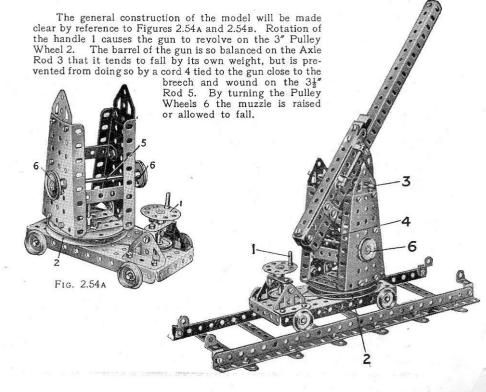
The handle 1 carries a 1" Pulley 2, which drives by means of a cord a similar Pulley on a 2" Rod 3 journalled in a Cranked Bent Strip bolted to the Sector Plate. Two Double Brackets 4 are secured together by a Bolt 5, the shank of which presses very tightly on the Rod 3. This locks the Double Brackets in position, and they revolve with the Rod 3. The outer Double Bracket carries a 1½" Rod 6, the end of which lies between two Strips 7, arranged at a short distance apart from each other and bolted to two Flat Brackets. These are secured to a further Strip 8 bolted pivotally to a transverse Double Angle Strip. As the shaft 3 rotates, the Rod 6 slides between the Strips 7 and so rocks the Strip 8 from side to side to represent the shuttle.

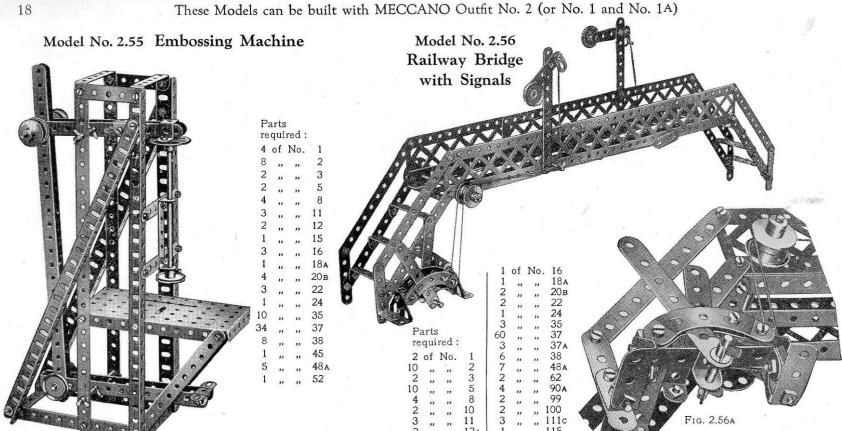
The Bush Wheel 9 carries two Angle Brackets placed together in the form of a Double Bracket, with their elongated holes overlapping, and in such a position that an imaginary line drawn through their opposite round holes, would cross the centre of the Bush Wheel. A Flat Bracket is bolted to the inner Angle Bracket in a line with the Crank Handle and forms a lever which engages 1" Pulley 10 mounted on a vertical sliding Rod 11. This Rod is journalled in a Double Angle Strip bolted between the lower holes of the two Flat Trunnions and is further supported by two ½" Reversed Angle Brackets secured to the Angle Strip. As the Bush Wheel rotates, the Flat Bracket imparts to the Rod 11 a movement corresponding to the action of the needle.

The outer Angle Bracket on the Bush Wheel strikes once in every revolution the end of a Double Angle Strip 12. This is pivotally mounted by a Bolt passed through its second hole from the Bush Wheel end to the centre hole of the Flat Trunnion on that side of the model. The resulting movement of the Strip 12 represents the apparatus that pays out the cotton from the reel.

#### Model No. 2.54 Anti-Aircraft Gun







#### HOW TO CONTINUE

This completes our examples of models that may be made with MECCANO Outfit No. 2 (or No. 1 and No. 1A). The next models are a little more advanced, requiring a number of extra parts to construct them. necessary parts are all contained in a No. 2A Accessory Outfit, the price of which may be obtained from any Meccano dealer.

## MECCANO

#### 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 main (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 main. 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

(6-volt, 20 amps.)

The Meccano Accumulator 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. The controller is connected in series with the motor and accumulator, or with the motor and transformer if a transformer is used as the source of power. It will not regulate the speed of a high-voltage motor connected to the main.



## 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 - Reversing

On actual test this powerful steam unit has lifted over 56 lbs. Operation of the reversing lever enables the trankshaft, which is

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. A special Manual of Instructions is supplied with each engine.

#### 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. The supply voltage and frequency must be specified when ordering.

#### 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. An efficient governor controls the powerful spring that is fitted on the motor, and ensures a long steady run at each winding. Brake and reverse levers enable the motor to be stopped, started and reversed, as required.

Delivery Van, built with Outfit No. 5.

Portable Crane.

built with

Outfit No. 6.

Submarine,

built with Outfit No. 4. Gantry Crane,

built with

Outfit No. 5.