



# MECCANO



REG. U. S. TRADE MARK 83171  
CANADIAN TRADE MARK 55 Fol. 13476

## MANUAL OF INSTRUCTIONS

This manual is in reality a key by which the really wonderful treasures contained in the various parts of Meccano outfits may be unlocked.

*From Opinion U. S. District Court  
Southern District of Ohio*

**For Outfits Nos. 1, 2 and 3**

**PRICE 35 CENTS**

**MECCANO COMPANY, Inc., New York**

**No. 21**

**AMERICAN EDITION**

# MECCANO

*HORNBY'S ORIGINAL SYSTEM, FIRST PATENTED 1901*

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## *PATENTS AND DESIGNS:*

### UNITED STATES OF AMERICA

810,148	JANUARY 16, 1906	1,166,688	JANUARY 4, 1916	1,289,014	DECEMBER 24, 1918
1,079,245	NOVEMBER 18, 1913	1,196,238	AUGUST 29, 1916	1,293,973	FEBRUARY 11, 1919
1,161,131	NOVEMBER 23, 1915	1,202,388	OCTOBER 24, 1916	1,355,975	OCTOBER 19, 1920

*DESIGN PATENT* 49,308 JULY 4, 1916 *FURTHER PATENTS PENDING*

### CANADA

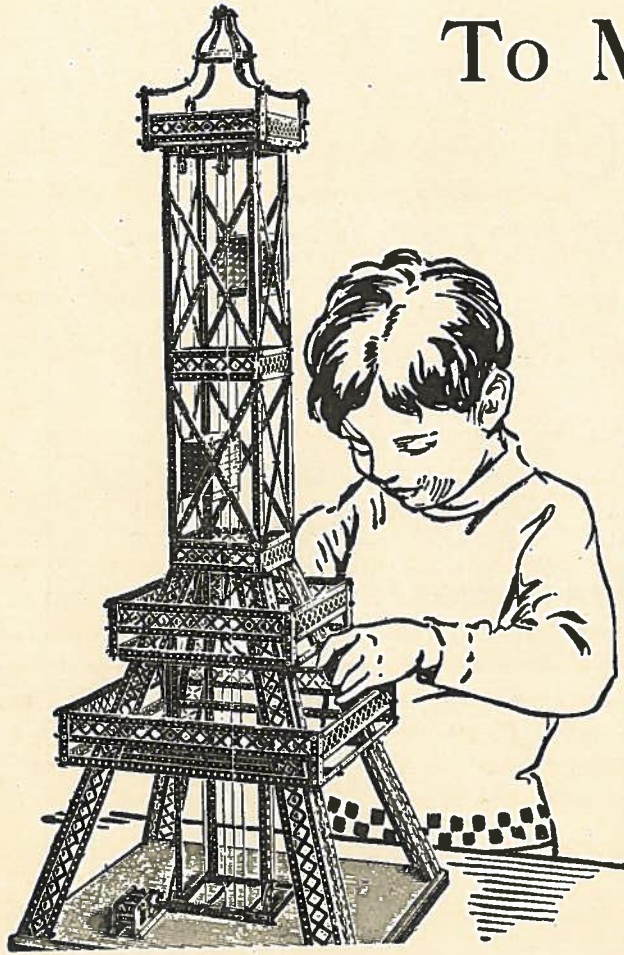
151,243	OCTOBER 21, 1913	156,296	JUNE 16, 1914	158,101	SEPTEMBER 29, 1914
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*FURTHER PATENTS PENDING*

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*PATENTED THROUGHOUT THE WORLD*

# To Meccano Boys



**Y**OUR Meccano Outfit contains a number of accurately made and finished engineering parts, which enable you to duplicate any and every movement known to mechanism.

The value of a constructional system does not lie in the number of parts which it contains, but entirely in the uses to which the various parts can be put. It is a sweeping statement to make, but a perfectly true one, that Meccano will do all and more than all other constructional toys put together, and that no other system will do the same as Meccano. Every other metal constructional toy is an imitation of Meccano, which was the first toy of its kind. *The genius and knowledge and experience are in the Meccano parts.* Each part will fill a hundred different purposes in a perfect manner, and there is no limit to the uses to which they can be applied.

Meccano is sold as a children's toy, to give them fun, interest them, and instruct them in the fascinating wonders of engineering, but every day sees a fresh use for it. Engineers and architects use it for designing models and inventing movements. Professors and teachers in technical schools use it to demonstrate mechanical principles to their students. We have received enthusiastic letters from inventors who have designed practical commercial machines with Meccano parts for weaving and other purposes. It is largely used in institutions for the blind for teaching patients, and in very many children's hospitals it brings happiness and relief to thousands of afflicted ones.

## To Meccano Boys—(continued)

There is no hard work attached to building Meccano models. All the work and thought have been put into the parts when they were designed, and all you have to do is to follow the instructions, and screw the parts together.

Bright boys are inventing new Meccano models every day, and sending them in to win prizes in our big competitions. Further editions of this Manual will be issued from time to time, in order to keep pace with the new models, and you should ask your dealer, or ourselves, if you have any difficulty, to keep you up to date with these, so that you may miss none of the pleasures of Meccano.

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### IMPORTANT NOTICE

In some of the models throughout this manual we have made use of the Meccano Braced Girder, large wheels, sprocket wheels and chain, etc., which are only supplied in the Inventor's Accessory Outfit, or as separate parts. We have employed these parts, as they improve the appearance and working of the models, and they also form a suggestion for the use of the Inventor's Accessory Outfit; but in every case the same models may be effectively built with the parts contained in the regular Meccano outfits.

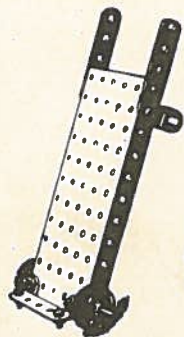
### MECCANO PRIZE CONTESTS

Each year there is a big Meccano Prize Competition, in which we offer big prizes in money and new Meccano Outfits to clever boys who are able to design new models. Send your own ideas in, and get your share of the prize money. Be sure to ask your dealer for full particulars and entry forms. If you have any difficulty send us a postcard, and we will see that you get what you want. There are no entrance fees or restrictions of any kind.

MECCANO COMPANY, INC.

Masonic Bldg., New York

# Types of Trucks and Luggage Carts

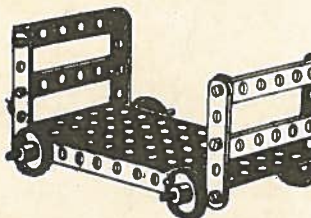


Model  
No. 1

Parts Required:

3 of No. 5	1 of No. 15A
2 " " 10	2 " " 22
2 " " 12	8 " " 37
	1 of No. 52

Model No. 2

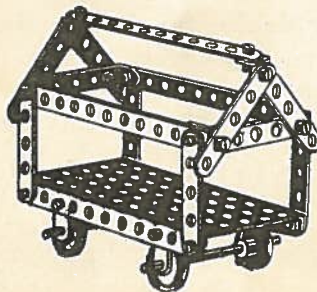


Parts

Required:

4 of No. 5
4 " " 60
2 " " 15A
4 " " 22
12 " " 37
1 " " 52

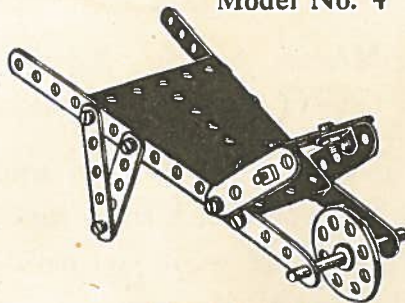
Model No. 3



Parts  
Required:

3 of No. 2
8 " " 5
2 " " 60
4 " " 10
2 " " 12
2 " " 15A
4 " " 22
20 " " 37
1 " " 52

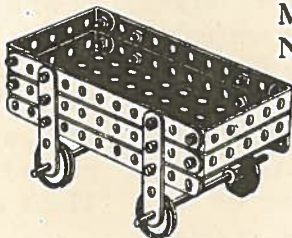
Model No. 4



Parts Required:

2 of No. 2	1 of No. 24
9 " " 5	2 " " 35
2 " " 12	14 " " 37
1 " " 17	1 " " 54

Model  
No. 5



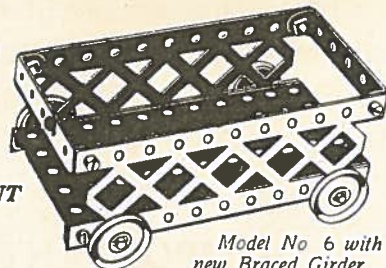
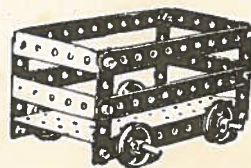
Parts Required:

4 of No. 2	4 of No. 22
4 " " 5	20 " " 37
4 " " 60	1 " " 52
2 " " 15A	

Model  
No. 6

Parts  
Required:

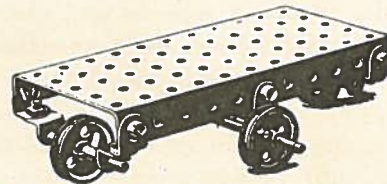
4 of No. 2
4 " " 5
4 " " 60
2 " " 15A
4 " " 22
12 " " 37
1 " " 52



Model No. 6 with  
new Braced Girder

**SEE  
IMPORTANT  
NOTICE  
on page 3**

Model No. 7



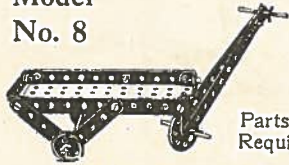
Parts  
Required:

2 of No. 10	2 of No. 22A
8 " " 12	4 " " 35
1 " " 15A	10 " " 37
2 " " 17	1 " " 52
2 " " 22	



Fig. 7A

Model No. 8

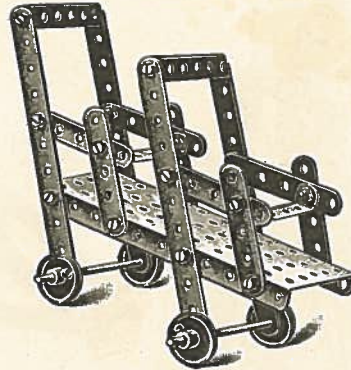


Parts Required :

2 of No. 2	1 of No. 24
4 " " 5	9 " " 37
1 " " 15A	4 " " 35
2 " " 17	1 " " 44
2 " " 22	1 " " 52
2 " " 60	

# Types of Trucks and Luggage Carts (continued)

Model No. 11



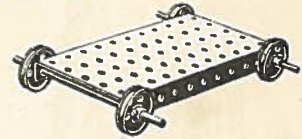
Parts Required :

4 of No. 2
8 " " 5
2 " " 15A
4 " " 22
20 " " 37
1 " " 52
4 " " 60

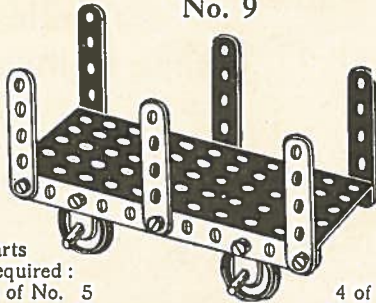
Model No. 13

Parts Required :

2 of No. 15A
4 " " 22
1 " " 52



Model No. 9

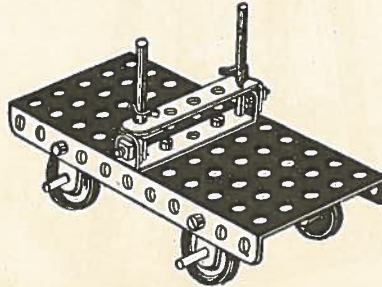


Parts Required :

6 of No. 5
4 " " 10
2 " " 15A

4 of No. 22
10 " " 37
1 " " 52

Model No. 12



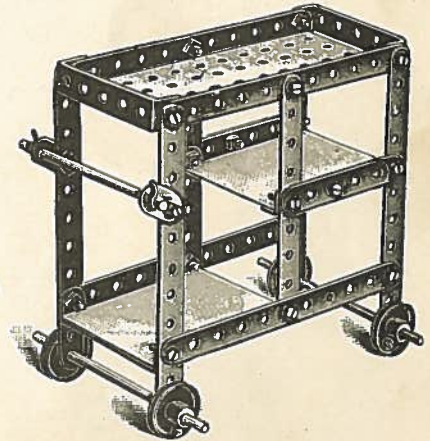
Parts Required

4 of No. 10	4 of No. 22
2 " " 15A	2 " " 35
2 " " 17	8 " " 37
	1 " " 52
	2 " " 60

Model No. 14

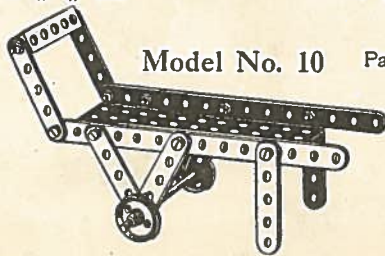
Parts Required :

6 of No. 2
8 " " 5
2 " " 10
4 " " 12
3 " " 15A
4 " " 22
2 " " 35
20 " " 37
1 " " 52
4 " " 60



The two lower platforms are constructed out of pieces of ordinary cardboard, their outer edges resting on 2 1/2" bent strips and their inner edges on angle brackets.

Model No. 10



Parts Required :

2 of No. 2
8 " " 5
1 " " 15A
2 " " 22
10 " " 37
1 " " 52
1 " " 60

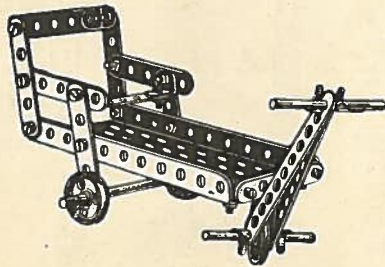
These Models Can be Made with MECCANO Outfit No. 1



Model No. 15

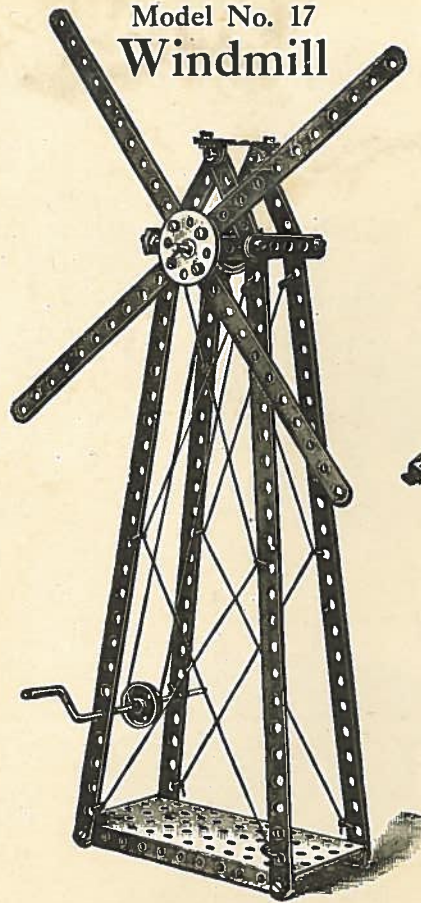
## Swing

Parts	Required:
4 of No. 1	
1 " " 2	
6 " " 5	
4 " " 12	
12 " " 37	
1 " " 52	
3 " " 60	



Model No. 16 Bath Chair

2 of No. 2	4 of No. 35
6 " " 5	14 " " 37
1 " " 15A	1 " " 44
2 " " 17	1 " " 52
3 " " 22	3 " " 60

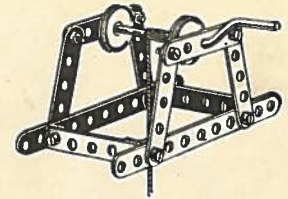


Model No. 17  
Windmill

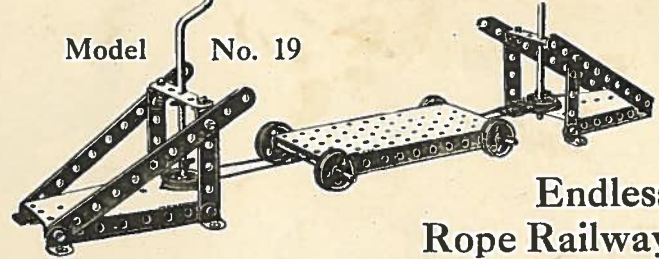
Parts Required:		
4 of No. 1	1 of No. 15A	4 of No. 35
4 " " 2	1 " " 19	20 " " 37
7 " " 5	2 " " 22	1 " " 52
2 " " 12	1 " " 24	2 " " 60

Model No. 18  
Well Windlass

2 of No. 2
8 " " 5
4 " " 12
1 " " 19
2 " " 22
12 " " 37



Model No. 19

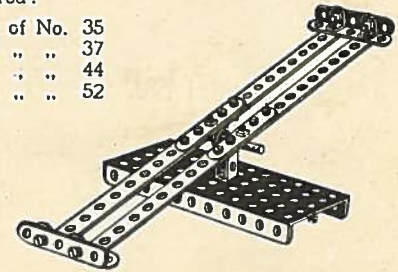


Endless  
Rope Railway

4 of No. 2	1 of No. 19	12 of No. 37
4 " " 5	4 " " 22	1 " " 52
8 " " 12	2 " " 22A	2 " " 54
3 " " 15A	4 " " 35	2 " " 60

Model No. 20 Seesaw

Parts Required:		
4 of No. 2	2 of No. 35	
6 " " 5	19 " " 37	
6 " " 12	1 " " 44	
1 " " 17	1 " " 52	



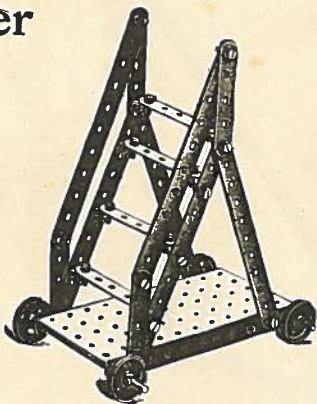
Model No. 21

# Travelling Ladder

Parts

Required:

- 6 of No. 2
- 4 " " 5
- 2 " " 15A
- 4 " " 22
- 16 " " 37
- 1 " " 52
- 4 " " 60



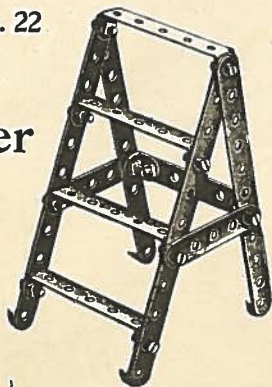
Model No. 22

# Step Ladder

Parts

Required:

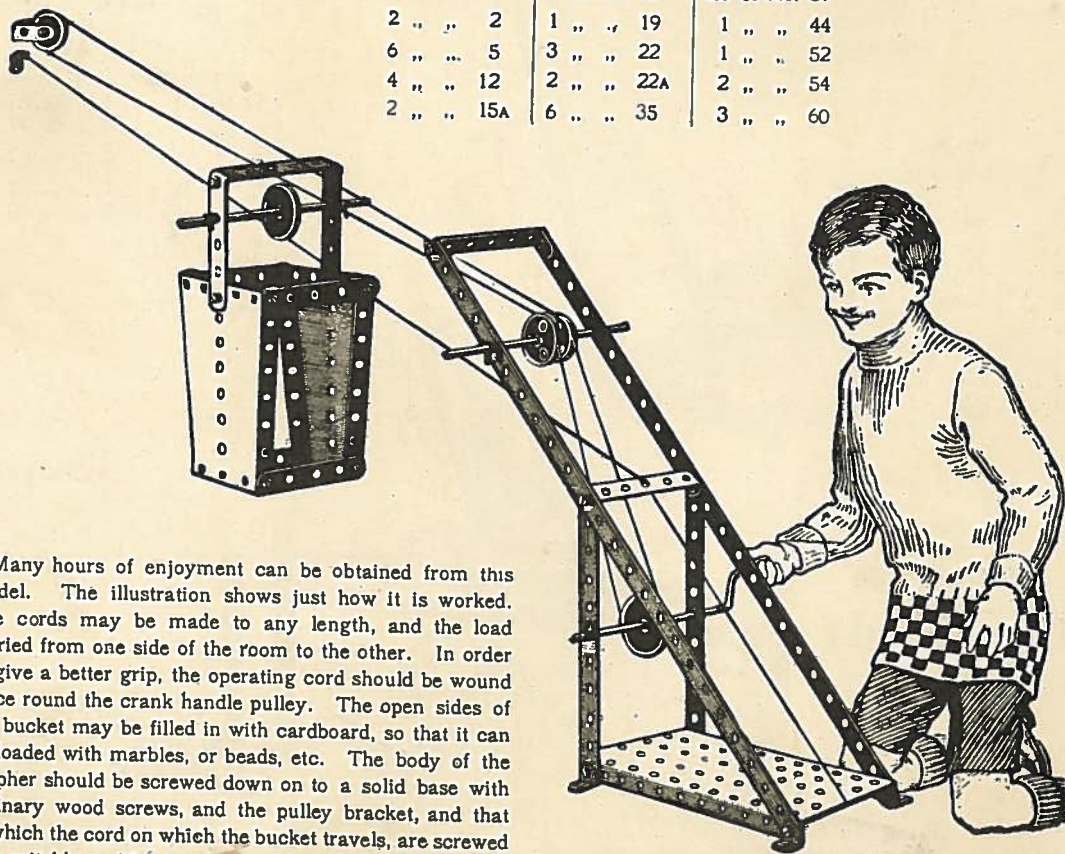
- |            |             |
|------------|-------------|
| 4 of No. 2 | 2 of No. 12 |
| 3 " " 5    | 12 " " 37   |
|            | 4 " " 60    |



# Model No. 23 Telpher Span

Parts Required:

2 of No. 1	1 of No. 17	20 of No. 37
2 " " 2	1 " " 19	1 " " 44
6 " " 5	3 " " 22	1 " " 52
4 " " 12	2 " " 22A	2 " " 54
2 " " 15A	6 " " 35	3 " " 60



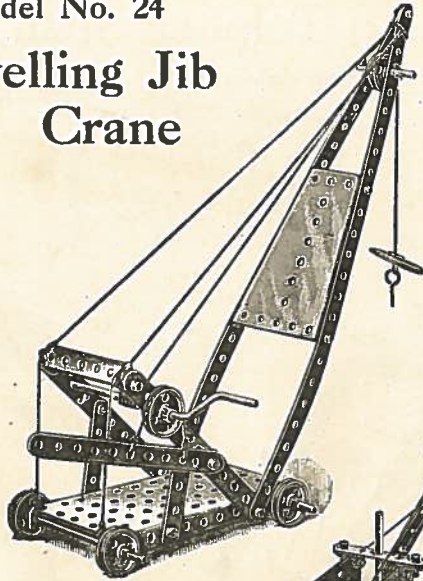
Many hours of enjoyment can be obtained from this model. The illustration shows just how it is worked. The cords may be made to any length, and the load carried from one side of the room to the other. In order to give a better grip, the operating cord should be wound twice round the crank handle pulley. The open sides of the bucket may be filled in with cardboard, so that it can be loaded with marbles, or beads, etc. The body of the Telpher should be screwed down on to a solid base with ordinary wood screws, and the pulley bracket, and that to which the cord on which the bucket travels, are screwed in a suitable position on the opposite side of the room.



## Model No. 24 Travelling Jib Crane

Parts Required:

2 of No.	1
3 " "	2
2 " "	5
2 " "	15A
1 " "	17
1 " "	19
4 " "	22
2 " "	22A
1 " "	24
5 " "	35
15 " "	37
1 " "	52
1 " "	54
1 " "	57
1 " "	60

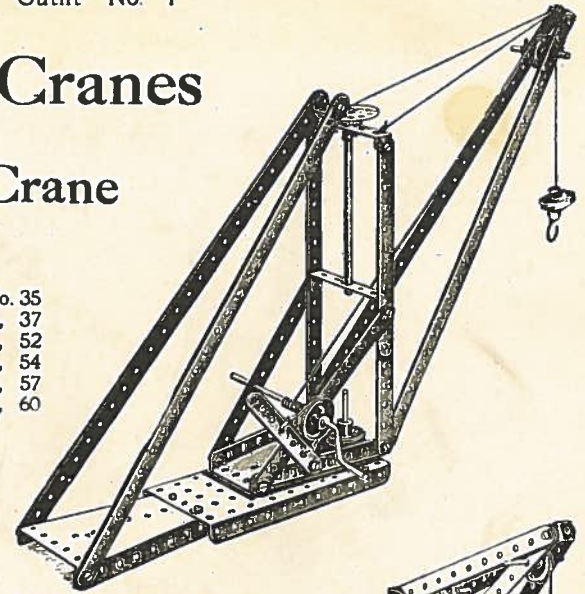


## Types of Cranes

### Model No. 25 Jib Crane

Parts Required:

4 of No.	1	4 of No.	35
6 " "	2	20 " "	37
1 " "	3	1 " "	52
1 " "	11	2 " "	54
2 " "	12	1 " "	57
1 " "	15A	2 " "	60
2 " "	17		
1 " "	19		
4 " "	22		
2 " "	22A		
1 " "	24		



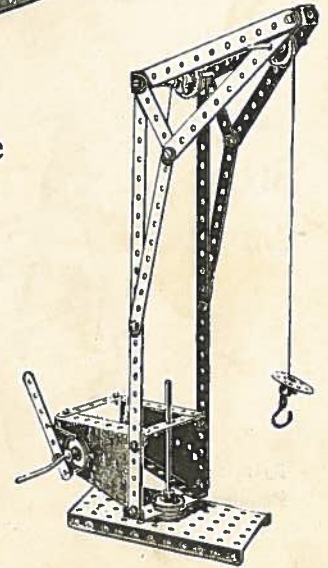
### Model No. 27

### Swivelling Crane

Parts Required:

2 of No.	1	2 of No.	22A
6 " "	2	1 " "	24
1 " "	3	4 " "	35
4 " "	5	18 " "	37
1 " "	11	1 " "	44
1 " "	15A	1 " "	52
2 " "	17	2 " "	54
1 " "	19	1 " "	57
4 " "	22	3 " "	60

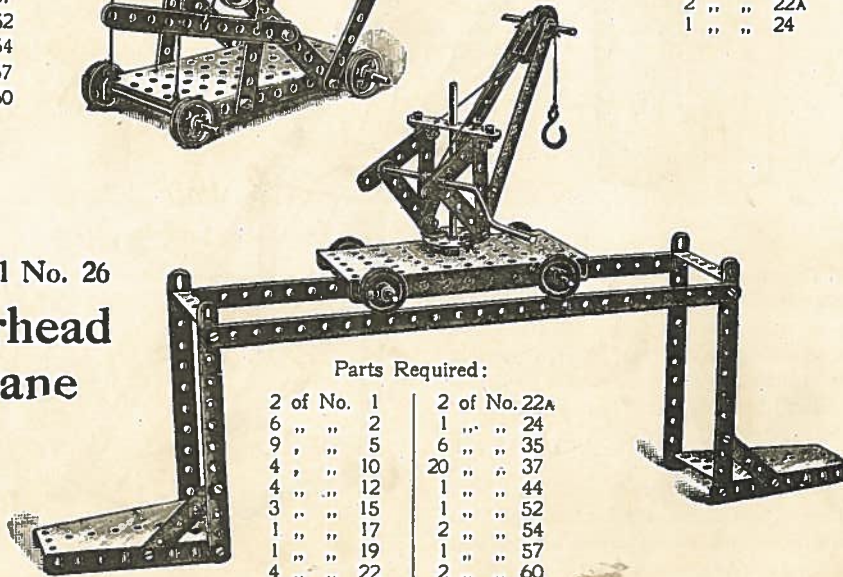
The hoisting cord after passing over the pulley at the end of the jib, passes over a pulley running in a cranked bent strip secured by a nut and bolt to the 2½" bent strip at the back of the jib.



### Model No. 26 Overhead Crane

Parts Required:

2 of No.	1	2 of No.	22A
6 " "	2	1 " "	24
9 " "	5	6 " "	35
4 " "	10	20 " "	37
4 " "	12	1 " "	44
3 " "	15	1 " "	52
1 " "	17	2 " "	54
1 " "	19	1 " "	57
4 " "	22	2 " "	60



Model No. 28

## Swivelling Jib Crane

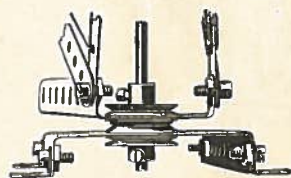
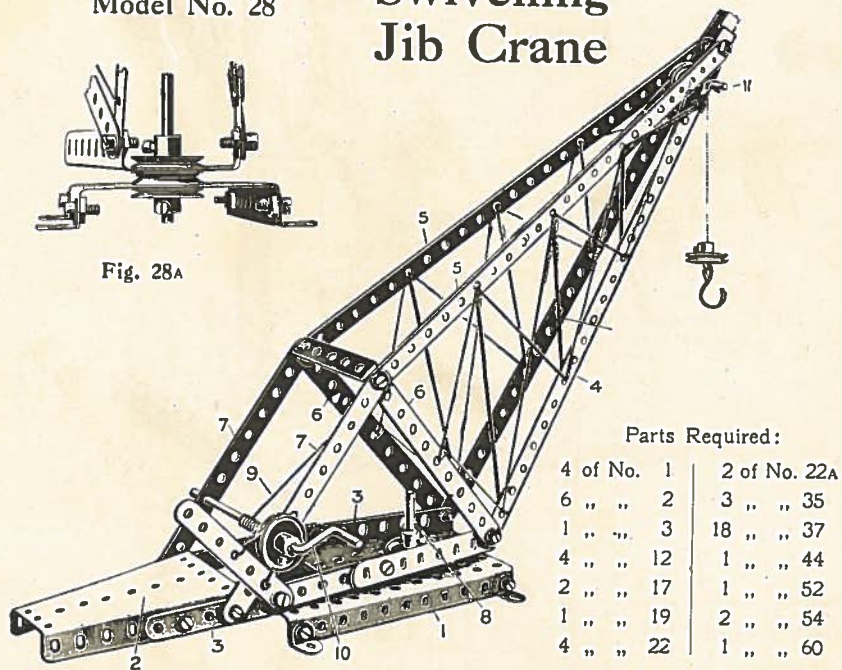


Fig. 28A

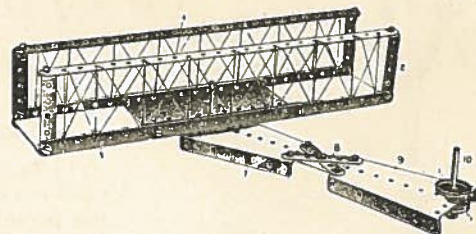


Parts Required:

4 of No. 1	2 of No. 22A
6 " " 2	3 " " 35
1 " " 3	18 " " 37
4 " " 12	1 " " 44
2 " " 17	1 " " 52
1 " " 19	2 " " 54
4 " " 22	1 " " 60

The fixed base of this Crane is a perforated flanged plate 1, and the swivelling base of the Crane is formed by two sector plates 2 and 3. The jib is formed from two  $12\frac{1}{2}$ " strips 4 bolted to the ends of the sector plate 3, two other  $12\frac{1}{2}$ " strips 5 being bolted to the top of the strips 4 and to cross strips 6, the outer ends of these latter strips being stayed by strips 7 bolted to the other sector plate. The upper structure of the Crane swivels about a rod 8, and is secured as shown in Fig. 28A. The winding rope 9 is operated by a crank handle 10 and passes over a pulley in the head of the Crane on a short rod 11.

## Model No. 29 Turntable Gangway



Parts Required:

4 of No. 1	19 of No. 37
2 " " 5	1 " " 52
2 " " 17	2 " " 54
3 " " 22	4 " " 60
1 " " 24	

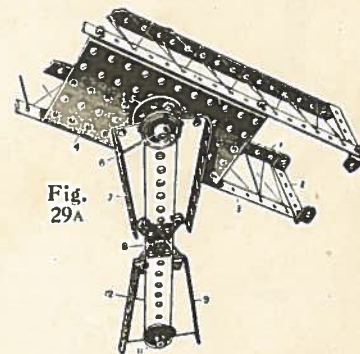
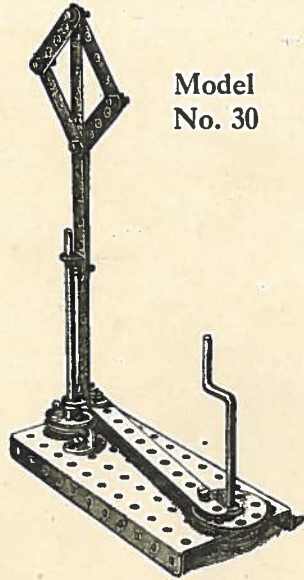


Fig. 29A

The side frames of the gangway are made of  $12\frac{1}{2}$ " strips 1 bolted by means of  $2\frac{1}{2}$ " bent strips 2 to lower strips 3, the strips 3 and 1 being set at right angles to each other, and the side frames being connected by a perforated flanged plate 4. A bush wheel 5 is bolted to the underside of the flanged plate and fitted with a rod on which is mounted a 1" pulley 6, the rod passing through one of the end holes of a sector plate 7. This sector plate 7 is connected by diagonal strips 8 to another sector plate 9, through the end hole of which a rod 10 is threaded carrying two 1" pulleys 11. An operating cord 12 passes from the pulley 11 to the pulley 6. In this way the gangway may be rotated by operating the spindle 10.

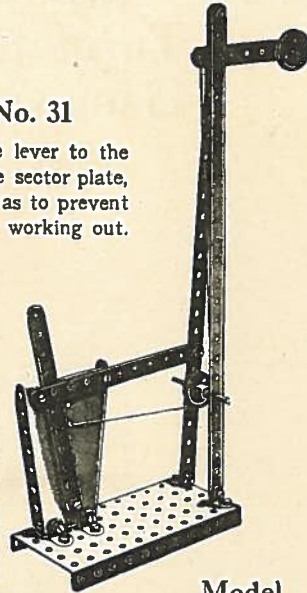
# Types of Railway Signals



Model No. 30

Model No. 31

In fixing the lever to the lower end of the sector plate, lock the nuts, so as to prevent the screw from working out.



Parts Required:

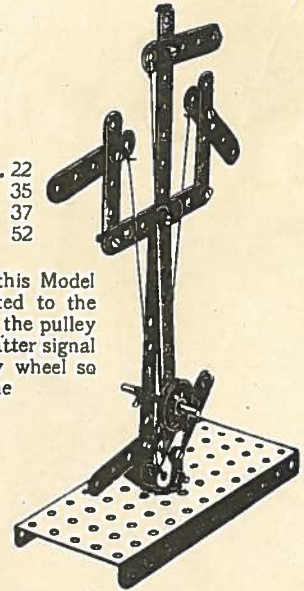
2 of No.	1
2 " "	2
1 " "	3
4 " "	12
1 " "	17
2 " "	22
19 " "	37
2 " "	35
1 " "	52
1 " "	54

Model No. 32

Parts Required:

3 of No.	2	1 of No.	22
9 " "	5	1 " "	35
1 " "	11	16 " "	37
1 " "	17	1 " "	52

The two outside signals of this Model are operated by the levers pivoted to the upright, and the centre signal by the pulley wheel. The cord operating this latter signal is securely tied round the pulley wheel so that when the wheel is turned the signal is raised or lowered.



Parts Required:

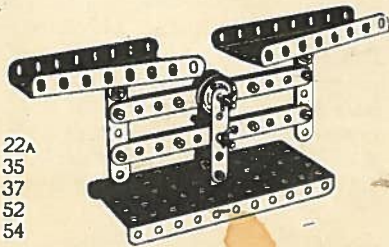
3 of No.	2	3 of No.	22
4 " "	5	1 " "	24
4 " "	12	14 " "	37
1 " "	15A	1 " "	52
1 " "	19		

Model No. 33

## Scales

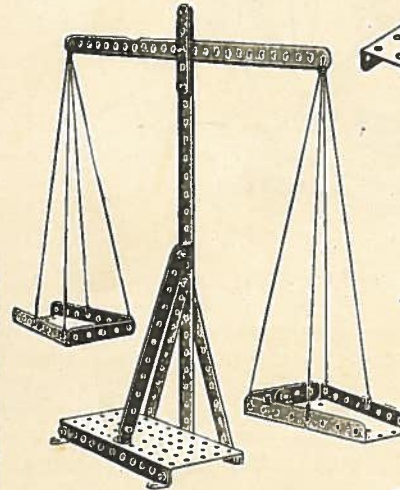
Parts Required:

4 of No.	2	2 of No.	22A
8 " "	5	4 " "	35
1 " "	11	19 " "	37
2 " "	12	1 " "	52
2 " "	17	2 " "	54



Model No. 34

The scale beam of this model is pivoted in a slot at the top of the upright standard. This slot is formed by bolting a 2 1/2 in. strip to the standard, nuts being placed between the strip and the standard before screwing up. These nuts hold the strip and the standard at the required distance apart to give the beam free play.



## Scales

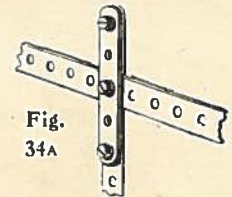


Fig. 34A

Parts Required.

2 of No.	1	19 of No.	37
3 " "	2	1 " "	52
1 " "	5	2 " "	54
4 " "	12	2 " "	60

## Model No. 35 Joy Wheel

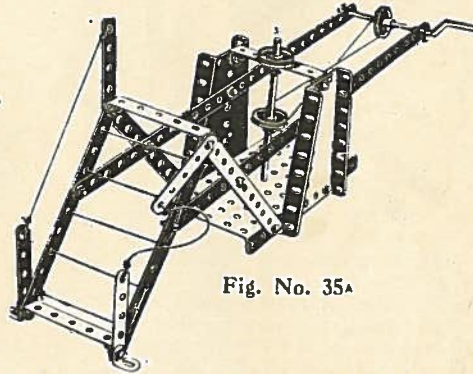
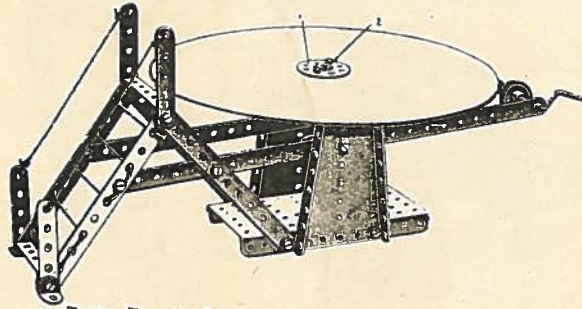


Fig. No. 35A

Parts Required:

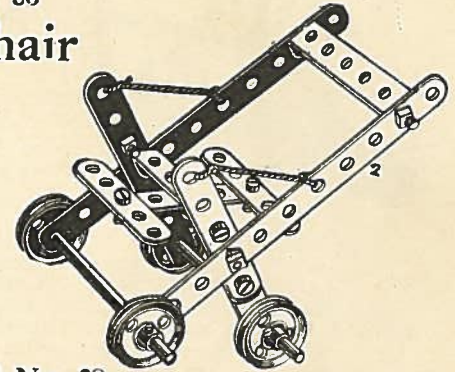
2 of No. 1	3 of No. 22
4 " " 2	1 " " 24
4 " " 5	3 " " 35
2 " " 12	20 " " 37
1 " " 15A	1 " " 52
1 " " 19	2 " " 54
	3 " " 60

The driving mechanism and construction of the framework of this model are clearly brought out in Fig. 35A. Cut out a circular piece of cardboard, 8" in diameter, and in the centre of the disc fix a bush wheel 1 by nuts and bolts 2. The eye of the bush wheel is then threaded over the top of the vertical spindle 3, and secured by its set-screw. The rotating table is cut out of a piece of ordinary cardboard.

## Model No. 36 Go Chair

Parts Required:

2 of No. 2
7 " " 5
2 " " 15A
4 " " 22
13 " " 37
2 " " 60



## Model No. 38

### Cot on Wheels

Parts Required:

4 of No. 2	4 of No 22
6 " " 5	17 " " 37
2 " " 12	3 " " 60

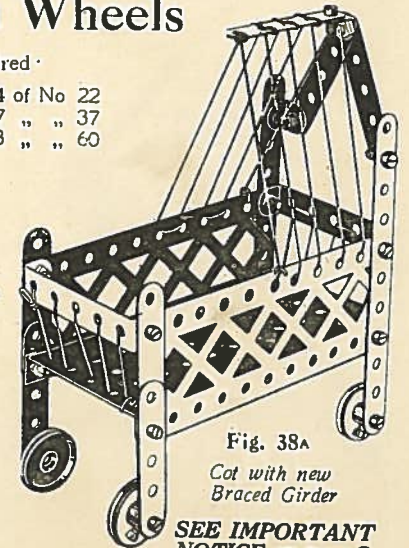


Fig. 38A

Cot with new Braced Girder

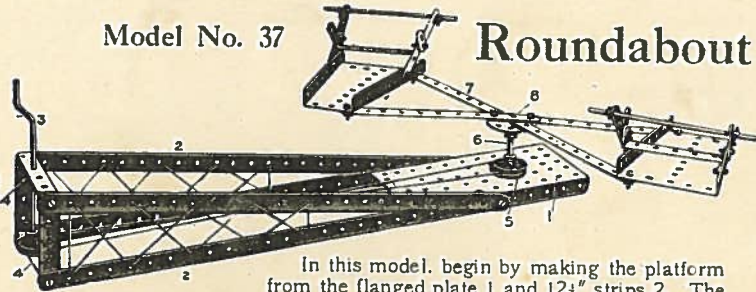
**SEE IMPORTANT NOTICE on page 3**

Parts Required:

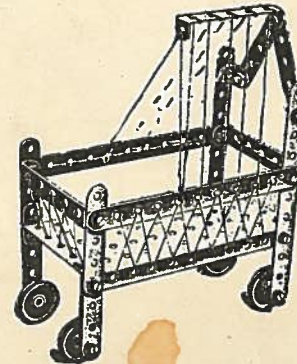
4 of No. 1
4 " " 2
6 " " 5
4 " " 10
2 " " 15A
1 " " 17
1 " " 19
3 " " 22
1 " " 24
5 " " 35
20 " " 37
1 " " 52
2 " " 54
4 " " 60

## Model No. 37

### Roundabout

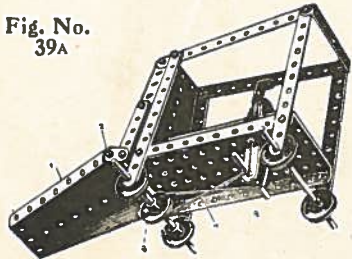


In this model, begin by making the platform from the flanged plate 1 and 12 1/2" strips 2. The bearings of the crank handle 3 are formed in 2 1/2" bent strips 4. The drive from the pulley on the crank is taken to a 1" pulley 5, fast on the spindle 6, another similar pulley being secured to the spindle beneath the flanged plate. The arms 7, formed of four 5 1/2" strips, are bolted to a bush wheel 8 fast on the spindle 6.



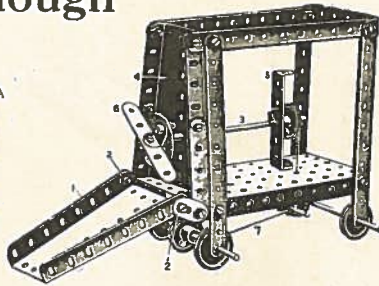
## Model No. 39 Snow Plough

Fig. No. 39A



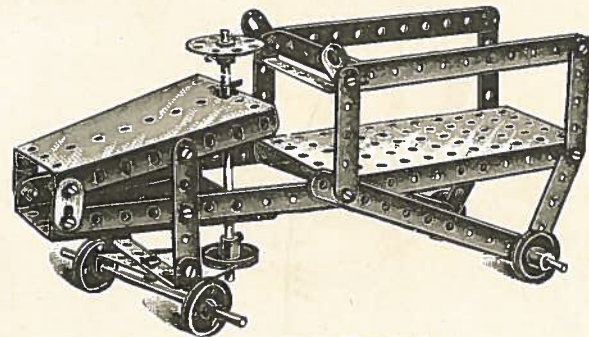
Parts Required:

6 of No.	2	2 of No.	22A
3 "	5	1 "	24
2 "	60	4 "	35
2 "	10	19 "	37
1 "	12	1 "	44
3 "	15A	1 "	52
1 "	17	2 "	54
4 "	22		



The construction of the framework of this Model presents no difficulty. The sector plate 1 forming the plough is loosely pivoted on the bolts 2. The axle 3 is mounted in the front sector plate 4 and the 2 1/2" bent strip 5. A 2 1/2" strip 6 is bolted by angle brackets to a bush wheel on the front of the axle and forms a dispersing propeller for the snow after it rises up the inclined sector plate 1. A continuous cord 7 is passed round a 1" pulley wheel 8 and round a short axle 9 and a 1" pulley wheel on the propeller axle. In this way, as the plough is moved along the track, the propeller is revolved.

## Model No. 40 Motor Cart



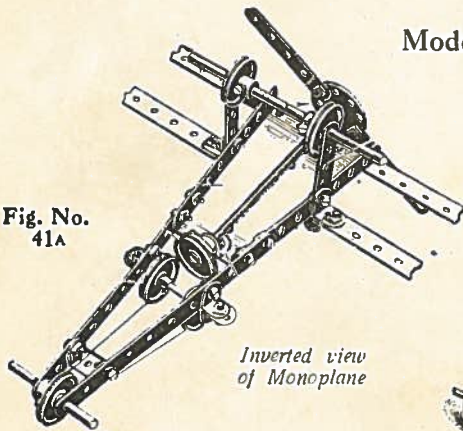
Parts Required:

6 of No.	2	1 of No.	24
8 "	5	3 "	35
4 "	10	20 "	37
3 "	15A	1 "	52
3 "	22	2 "	54
2 "	22A	4 "	60

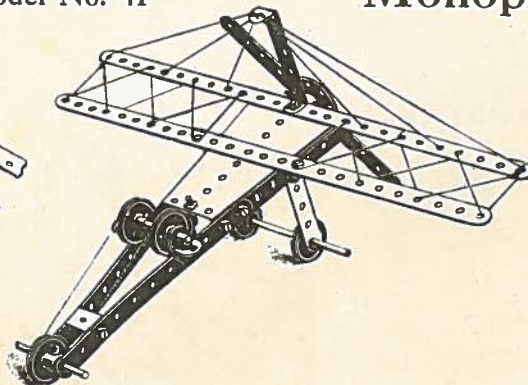
## Model No. 41

## Monoplane

Fig. No. 41A



Inverted view of Monoplane



Parts Required:

2 of No.	1
2 "	2
4 "	5
1 "	11
8 "	12
2 "	15A
1 "	17
4 "	22
2 "	22A
1 "	24
2 "	35
18 "	37
1 "	54
1 "	60

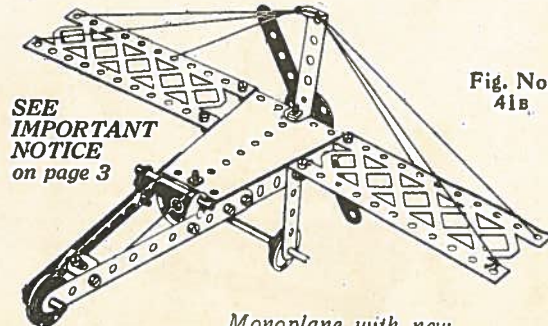
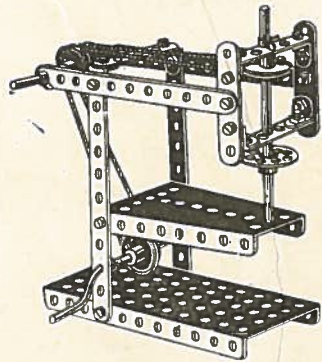


Fig. No. 41B

SEE IMPORTANT NOTICE on page 3

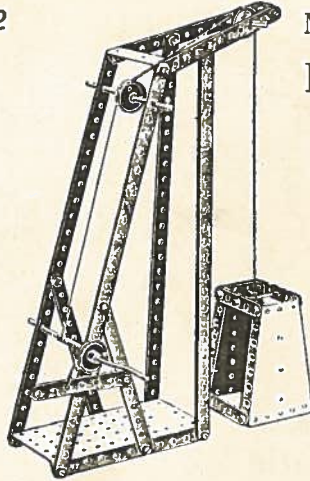
Monoplane with new Meccano Braced Girder



Model No. 42  
**Drilling Machine**

Parts Required

- 4 of No. 2
- 5 " " 5
- 6 " " 12
- 2 " " 15A
- 1 " " 19
- 4 " " 22
- 1 " " 24
- 4 " " 35
- 18 " " 37
- 1 " " 52
- 1 " " 54



Model No. 43  
**Pit Headgear**

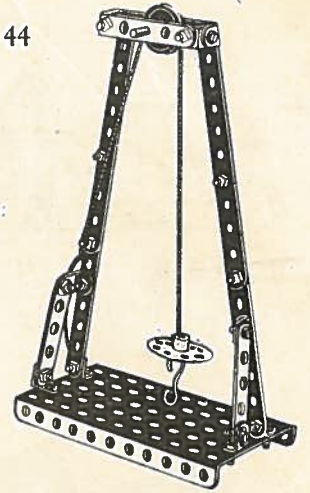
Parts Required:

- 4 of No. 1
- 4 " " 2
- 1 " " 3
- 4 " " 5
- 1 " " 11
- 1 " " 15A
- 1 " " 17
- 1 " " 19
- 3 " " 22
- 2 " " 35
- 24 " " 37
- 1 " " 52
- 2 " " 54

Model No. 44  
**Hoisting Block**

Parts Required:

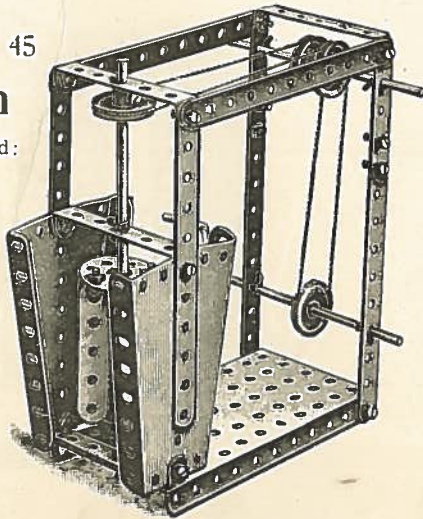
- 4 of No. 2
- 3 " " 5
- 8 " " 12
- 1 " " 17
- 1 " " 22
- 1 " " 24
- 22 " " 37
- 1 " " 52
- 1 " " 57
- 1 " " 60



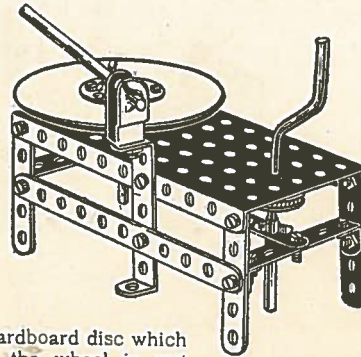
Model No. 45  
**Churn**

Parts Required:

- 6 of No. 2
- 4 " " 5
- 2 " " 12
- 2 " " 15
- 1 " " 19
- 2 " " 22
- 2 " " 22A
- 1 " " 24
- 5 " " 35
- 19 " " 37
- 1 " " 52
- 2 " " 54
- 3 " " 60



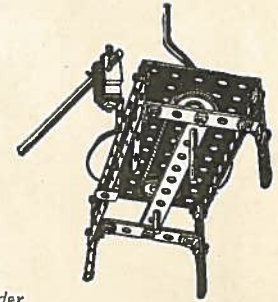
Model No. 46 **Potter's Wheel**



The cardboard disc which forms the wheel is not provided in the outfit.

Parts Required:

- 2 of No. 2
- 4 " " 5
- 1 " " 15A
- 1 " " 17
- 1 " " 19
- 2 " " 22
- 1 " " 24
- 3 " " 35
- 16 " " 37
- 1 " " 44
- 1 " " 52
- 3 " " 60

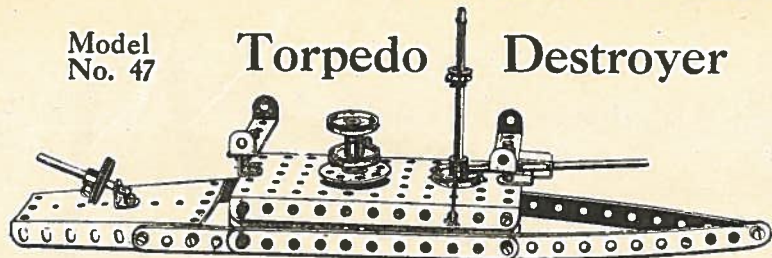


*Under View of Potter's Wheel*

Fig. 46A

Model  
No. 47

## Torpedo Destroyer



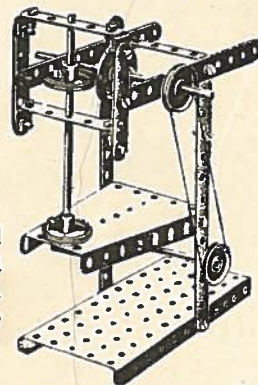
Parts Required:	4 of No. 2	1 of No. 17	19 of No. 37
	2 " " 5	4 " " 22	1 " " 44
	4 " " 10	1 " " 23	1 " " 52
	1 " " 11	1 " " 24	1 " " 54
	1 " " 12	3 " " 35	2 " " 60
	2 " " 15A		

Model  
No. 48

## Drop Stamp

Parts Required:

4 of No. 2	4 of No. 22
7 " " 5	1 " " 24
4 " " 12	2 " " 35
2 " " 15A	20 " " 37
1 " " 19	1 " " 52
	1 " " 60

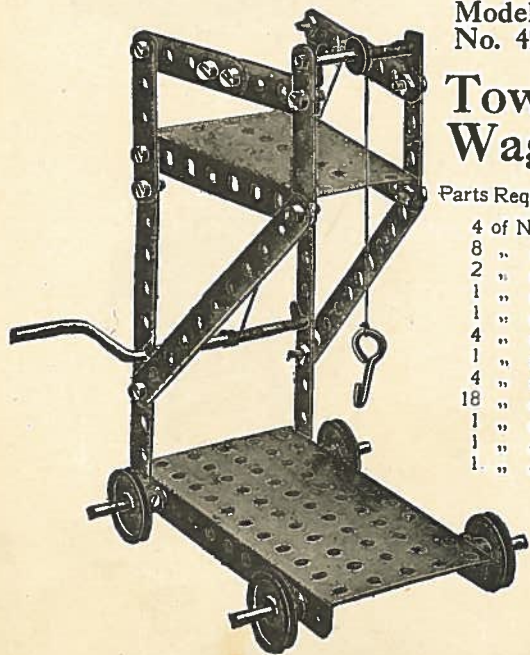
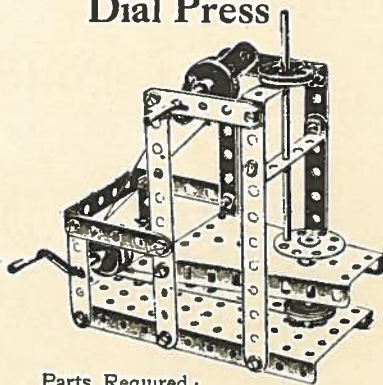


The stamp of this model is raised and dropped by a  $2\frac{1}{2}$ " strip attached to a bush wheel similar to Model No. 55.

Model  
No. 49Tower  
Wagon

Parts Required:

4 of No. 2
8 " " 5
2 " " 15A
1 " " 17
1 " " 19
4 " " 22
1 " " 23
4 " " 35
18 " " 37
1 " " 52
1 " " 54
1 " " 57

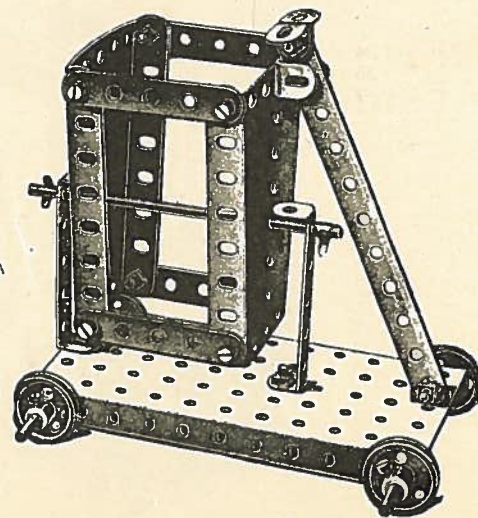
Model No. 50  
Automatic  
Dial Press

Parts Required:

4 of No. 2	2 of No. 22A
7 " " 5	1 " " 24
2 " " 15A	6 " " 35
1 " " 17	18 " " 37
1 " " 19	1 " " 52
4 " " 22	1 " " 54
	3 " " 60

Model  
No. 51Tip  
WagonParts  
Required:

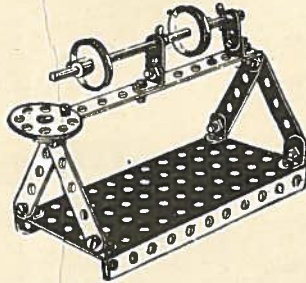
1 of No. 2
4 " " 5
5 " " 12
3 " " 15A
4 " " 22
15 " " 37
2 " " 35
1 " " 52
2 " " 54
2 " " 60



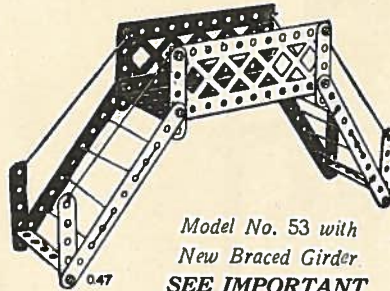
## Model No. 52 Polishing Spindle

Parts  
Required :

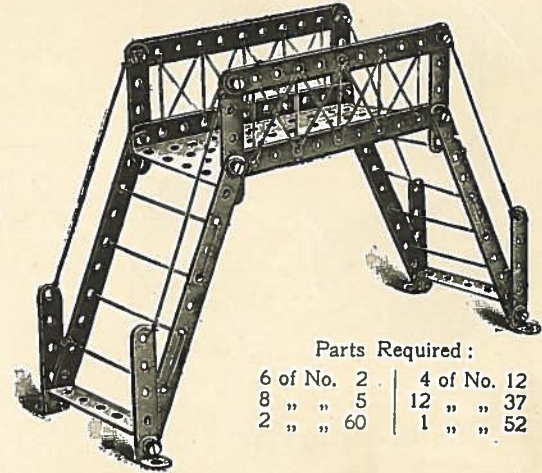
1 of No. 2
4 " " 5
2 " " 10
8 " " 12
1 " " 15A
2 " " 22
1 " " 24
2 " " 35
15 " " 37
1 " " 52



## Model No. 53 High Level Bridge



Model No. 53 with  
New Braced Girder  
**SEE IMPORTANT  
NOTICE on page 3**



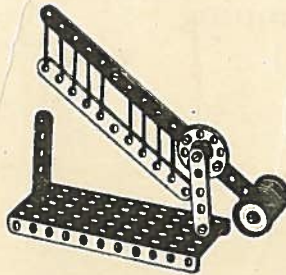
Parts Required :

6 of No. 2	4 of No. 12
8 " " 5	12 " " 37
2 " " 60	1 " " 52

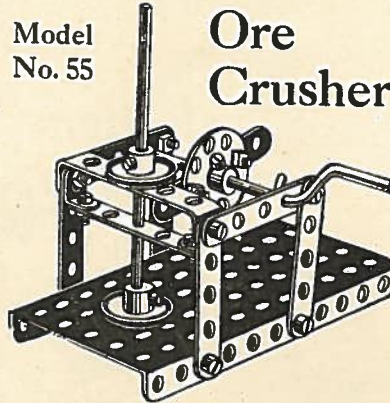
## Model No. 54 Level Crossing

Parts  
Required :

3 of No. 2
2 " " 5
2 " " 12
1 " " 17
4 " " 22
1 " " 24
9 " " 37
1 " " 52



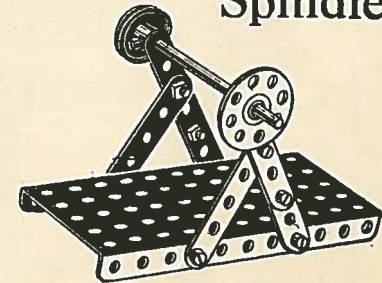
## Model No. 55 Ore Crusher



Parts Required :

8 of No. 5	1 of No. 19	2 of No. 35
2 " " 12	2 " " 22	12 " " 37
1 " " 15A	1 " " 24	1 " " 52
		1 " " 60

## Model No. 56 Buffing Spindle



Parts Required :

6 of No. 5	1 of No. 24
1 " " 15A	8 " " 37
1 " " 22	1 " " 52



Model No. 57

# Metal Saw

Parts Required:

4 of No. 2	1 of No. 19
5 " " 5	2 " " 22
1 " " 10	1 " " 24
8 " " 12	2 " " 35
1 " " 17	23 " " 37
1 of No. 52	
2 " " 60	

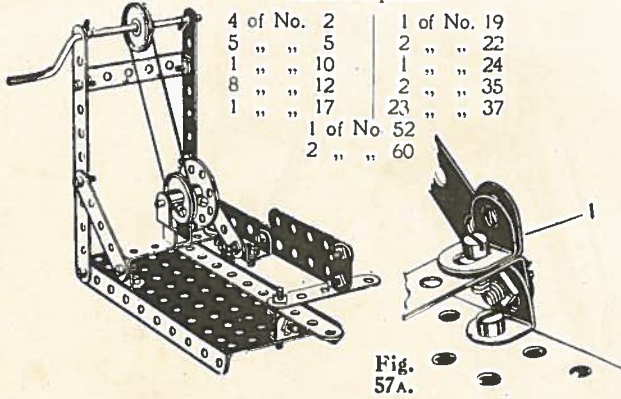


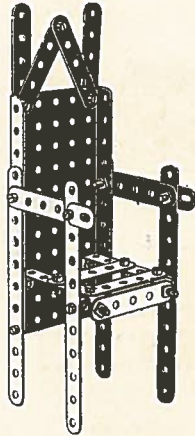
Fig. 57A.

Model No. 58

# Coronation Chair

Parts Required

4 of No. 2
9 " " 5
2 " " 10
2 " " 12
19 " " 37
1 " " 52



Model No. 59 Gangway

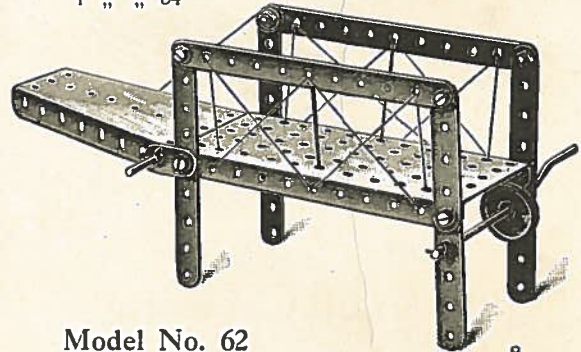
SEE IMPORTANT NOTICE on page 3

Parts Required:

2 of No. 2
8 " " 5
2 " " 10
1 " " 15A
1 " " 19
1 " " 22
1 " " 22A
3 " " 35
8 " " 37
1 " " 52
1 " " 54



With new MECCANO Braced Girder

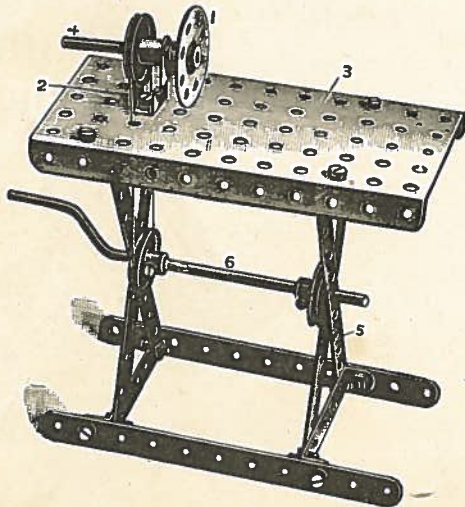


Model No. 60

# Lathe

Parts Required:

6 of No. 2
2 " " 60
4 " " 12
1 " " 17
1 " " 19
3 " " 22
1 " " 24
17 " " 37
1 " " 44
1 " " 52

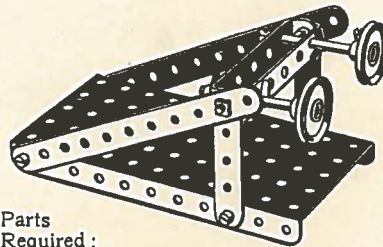


Model No. 61

# Buffers

Parts Required:

2 of No. 2	4 of No. 35
2 " " 5	6 " " 37
2 " " 17	1 " " 52
2 " " 22	2 " " 60

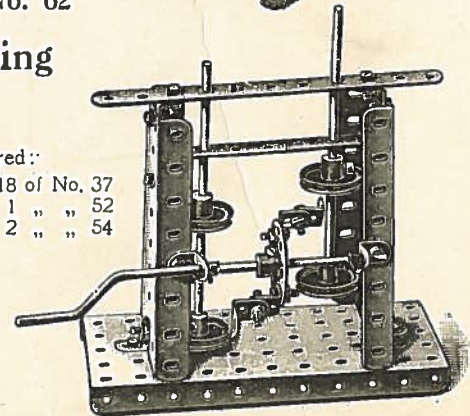


Model No. 62

# Stamping Mill

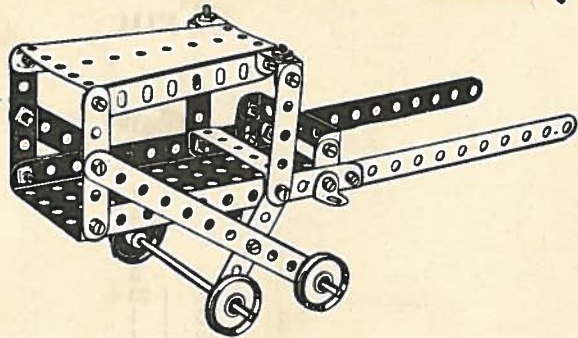
Parts Required:

1 of No. 2	18 of No. 37
1 " " 3	1 " " 52
12 " " 12	2 " " 54
2 " " 15A	
1 " " 19	
4 " " 22	
1 " " 24	
2 " " 35	



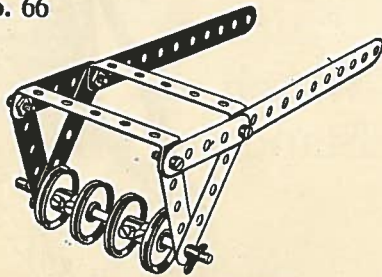
Model No. 63

# Ticca Gharry



Parts Required :	4 of No. 2	4 of No. 22
	6 " " 5	20 " " 37
	2 " " 10	1 " " 52
	6 " " 12	1 " " 54
	2 " " 15A	2 " " 60

Model  
No. 66

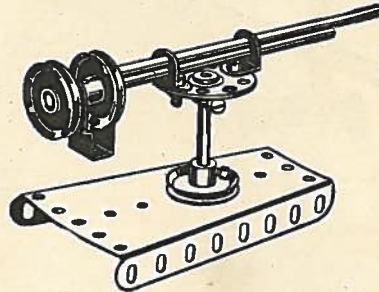


# Furrowing Roller

Parts Required	2 of No. 2	2 of No. 35
	6 " " 5	4 " " 37
	1 " " 15A	2 " " 60
	4 " " 22	

Model No. 64

# Sharpshooter Gun

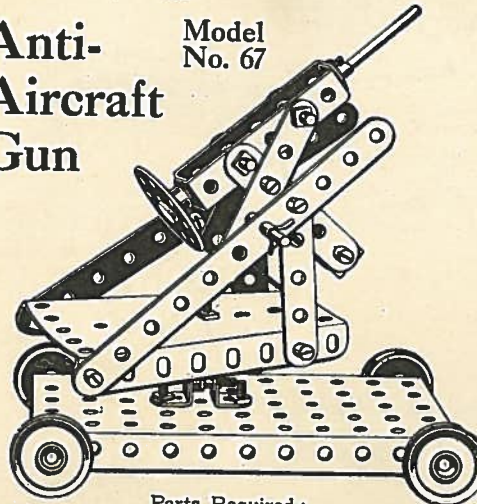


Parts  
Required :

2 of No. 12
2 " " 15A
1 " " 17
4 " " 22
1 " " 24
2 " " 37
1 " " 44
1 " " 54

# Anti- Aircraft Gun

Model  
No. 67

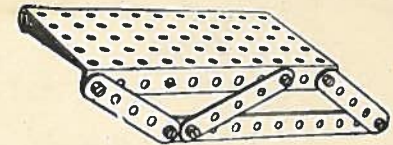


Parts Required :

2 of No. 2	4 of No. 22	1 of No. 44
6 " " 5	1 " " 24	1 " " 52
4 " " 12	5 " " 35	1 " " 54
2 " " 15A	23 " " 37	2 " " 60

Model No. 65

# Sleigh

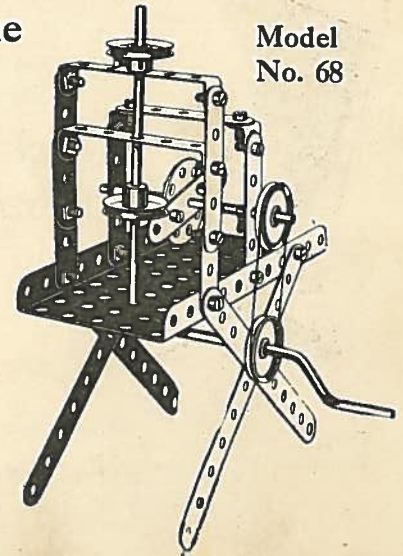


Parts  
Required :

2 of No. 2
6 " " 5
12 " " 37
1 " " 52

# Stamping Machine

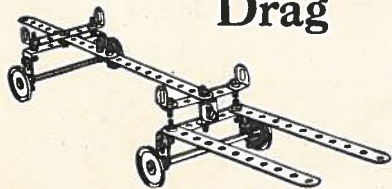
Model  
No. 68



Parts  
Required :

4 of No. 2
8 " " 5
2 " " 12
2 " " 15A
1 " " 19
4 " " 22
1 " " 24
3 " " 35
20 " " 37
1 " " 52
2 " " 60

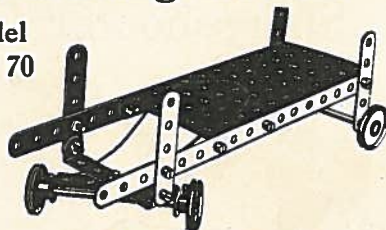
### Model No. 69 Timber Drag



Parts Required:	4 of No. 2	4 of No. 22
	4 " " 10	18 " " 37
	6 " " 12	3 " " 60
	2 " " 15A	

### Steering Truck

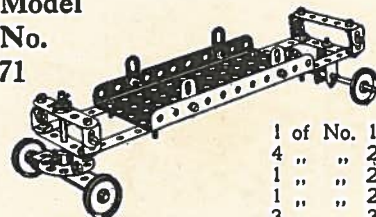
Model No. 70



Parts Required:	2 of No. 2	11 of No. 37
	4 " " 5	1 " " 52
	2 " " 15A	2 " " 60
	4 of No. 22	

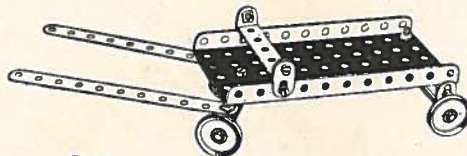
### Boiler Truck

Model No. 71

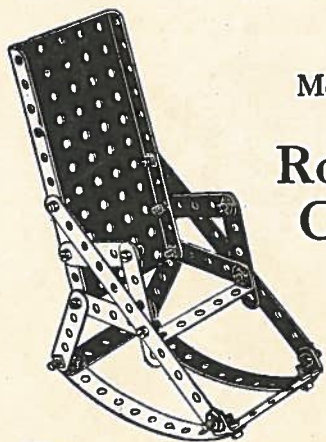


Parts Required:	8 of No. 5	1 of No. 17
	4 " " 10	4 " " 22
	8 " " 12	1 " " 23
	2 " " 15A	1 " " 24
		3 " " 35
		23 " " 37
		1 " " 44
		1 " " 52
		1 " " 60

### Model No. 73 Lurry



Parts Required:	2 of No. 2	13 of No. 37
	4 " " 10	1 " " 24
	2 " " 12	1 " " 52
	2 " " 15A	2 " " 60
	4 of No. 22	



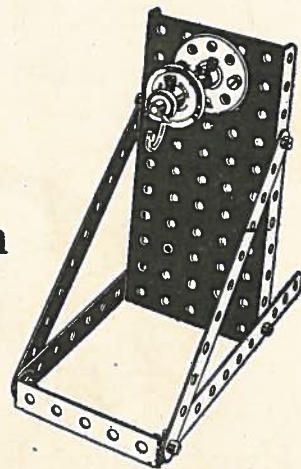
Model No. 72

### Rocking Chair

Parts Required:	4 of No. 2	18 of No. 37
	9 " " 5	1 " " 52
	2 " " 12	1 " " 60

Model No. 74

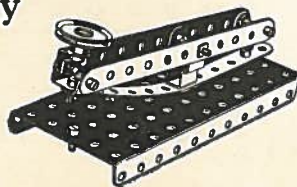
### Watch Stand



Parts Required:	4 of No. 2	1 of No. 35
	1 " " 17	8 " " 37
	1 " " 22	1 " " 52
	1 " " 23	1 " " 57
	1 " " 24	1 " " 60

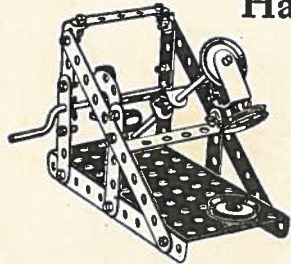
### Model No. 75 Telegraph Code Key

Parts Required:	3 of No. 2	1 of No. 22
	1 " " 10	12 " " 37
	5 " " 12	1 " " 52



Model  
No. 76

## Drop Hammer

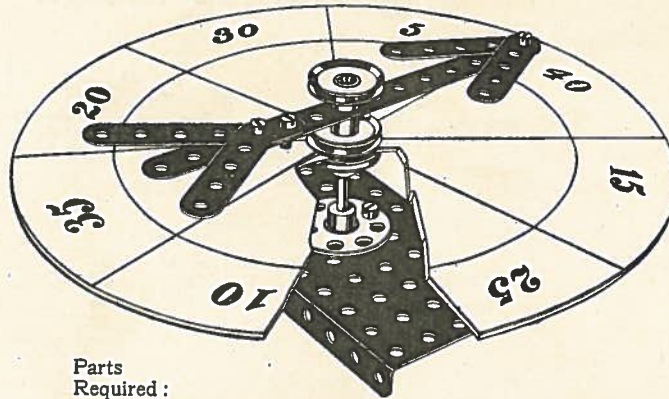


Parts  
Required :

2 of No. 2	3 of No. 22
7 " " 5	1 " " 24
6 " " 12	23 " " 37
1 " " 15A	1 " " 44
1 " " 19	1 " " 52
2 of No. 60	

Model  
No. 77

## Roulette Wheel



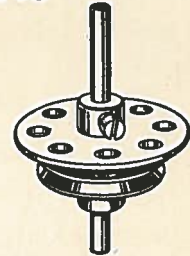
Parts  
Required :

1 of No. 2
5 " " 5
1 " " 15A
3 " " 22
1 " " 24
5 " " 37
1 " " 52

Cut out a circular piece of cardboard and mark as shown to form scoring board. This is clamped between two 1" pulley wheels. The pointer revolves freely on the upright spindle and is held in position by another 1" pulley wheel.

Model  
No. 78

## Spinning Top

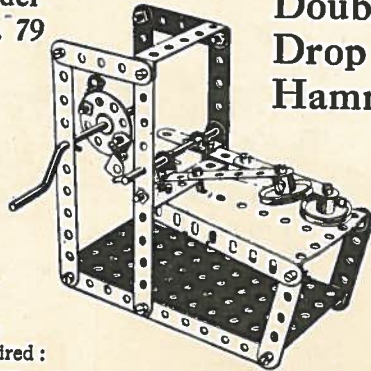


Parts  
Required :

1 of No. 17
1 " " 22
1 " " 24

Model  
No. 79

## Double- Drop Hammer

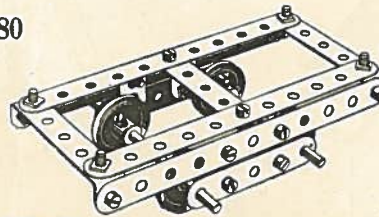


Parts  
Required :

4 of No. 2	1 of No. 19	22 of No. 37.
8 " " 5	2 " " 22	1 " " 52
8 " " 12	1 " " 24	1 " " 54
1 " " 15A	4 " " 35	2 " " 60

Model No. 80

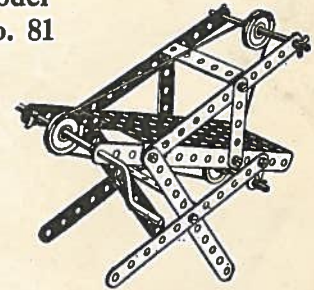
## Bogey Truck



Parts  
Required :

4 of No. 2	4 of No. 22
3 " " 5	18 " " 37
4 " " 10	2 " " 60
2 " " 15A	

Model  
No. 81

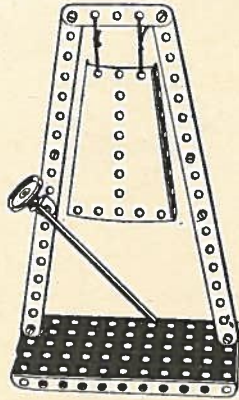


Parts  
Required :

6 of No. 2	3 of No. 22
4 " " 5	6 " " 35
2 " " 10	10 " " 37
2 " " 15A	1 " " 52
1 " " 19	2 " " 60

# Gong

Model No. 82

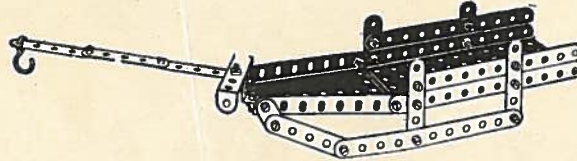


Parts Required:

2 of No. 2
1 " " 5
3 " " 12
1 " " 15A
1 " " 22
10 " " 37
1 " " 52
1 " " 54

# Horse Sleigh

Model No. 83

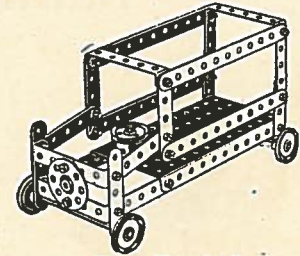


Parts Required:

4 of No. 2	25 of No. 37
9 " " 5	1 " " 52
4 " " 10	1 " " 54
2 " " 12	1 " " 57

Model No. 84

# Motor Van

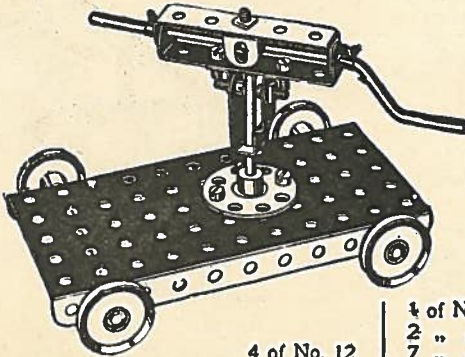


Parts Required:

6 of No. 2	2 of No. 15A	22 of No. 37
1 " " 3	4 " " 22	1 " " 52
9 " " 5	1 " " 22A	4 " " 60
1 " " 11	1 " " 24	

# Rock Drill

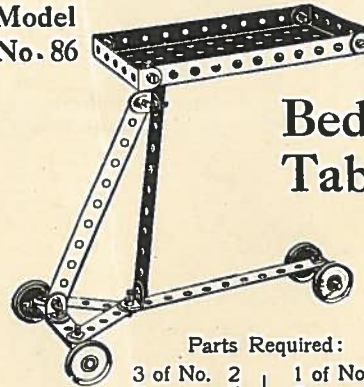
Model No. 85



Parts Required:

4 of No. 12	1 of No. 24
1 " " 15A	2 " " 35
1 " " 19	7 " " 37
1 " " 22	1 " " 44
	1 " " 52
	2 " " 60

Model No. 86



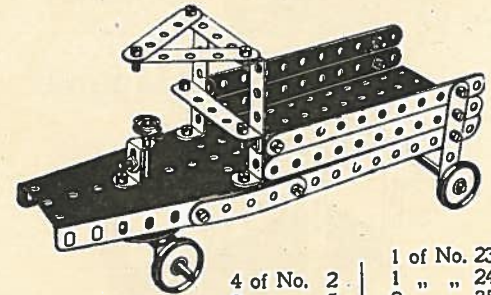
# Bed Table

Parts Required:

3 of No. 2	1 of No. 17
2 " " 5	4 " " 22
1 " " 11	15 " " 37
4 " " 12	1 " " 52
1 " " 15A	3 " " 60

Model No. 87

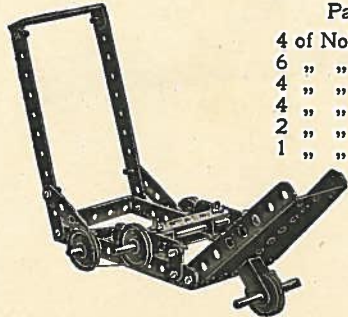
# Motor Lurry



Parts Required:

4 of No. 2	1 of No. 23
8 " " 5	1 " " 24
8 " " 12	2 " " 35
2 " " 15A	25 " " 37
1 " " 17	1 " " 52
4 " " 22	1 " " 54
	2 " " 60

## Model No. 88 Lawn Mower



Parts Required:

4 of No. 2	4 of No. 22
6 " " 5	21 " " 37
4 " " 10	1 " " 44
4 " " 12	1 " " 54
2 " " 15A	2 " " 60
1 " " 17	

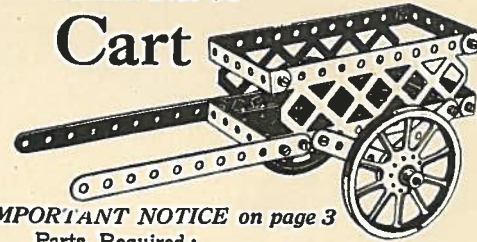
## Model No. 89 Foot Cycle



Parts Required:

5 of No. 2	1 of No. 22
1 " " 5	1 " " 24
4 " " 10	4 " " 35
1 " " 11	15 " " 37
3 " " 12	1 " " 44
2 " " 17	

## Model No. 90 Cart



SEE IMPORTANT NOTICE on page 3

Parts Required:

4 of No. 2	2 of No. 22	2 of No. 59
4 " " 5	15 " " 37	4 " " 60
1 " " 15	1 " " 44	2 " " 100
2 " " 19A	1 " " 52	

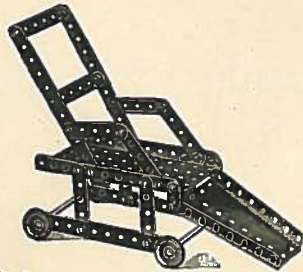
## Model No. 91 Deck Chair



Parts Required:

4 of No. 1	1 of No. 15A
4 " " 2	30 " " 37
1 " " 3	1 " " 52
6 " " 5	2 " " 60
6 " " 12	

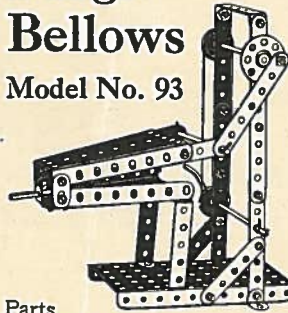
## Model No. 92 Invalid Chair



Parts Required:

4 of No. 2	22 of No. 37
8 " " 5	1 " " 52
2 " " 10	1 " " 54
2 " " 15A	2 " " 60
4 " " 22	

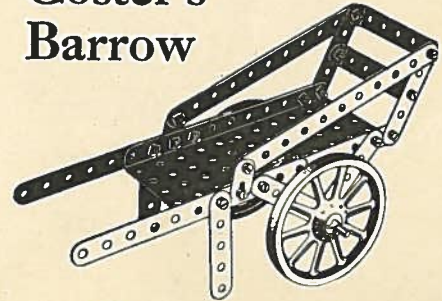
## Forge Bellows Model No. 93



Parts Required:

4 of No. 2	1 of No. 19
1 " " 3	2 " " 22
2 " " 5	1 " " 24
2 " " 10	5 " " 35
1 " " 11	25 " " 37
2 " " 12	1 " " 52
2 " " 15A	2 " " 54
1 " " 17	3 " " 60

## Model No. 94 Coster's Barrow

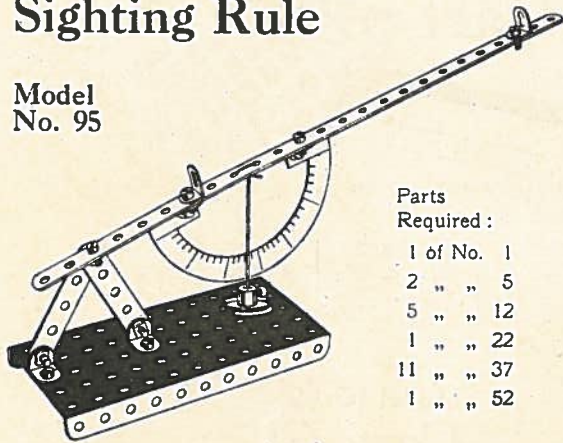


Parts Required:

4 of No. 2	4 of No. 35
8 " " 5	16 " " 37
2 " " 10	1 " " 52
1 " " 15A	2 " " 60
2 " " 19A	

# Sighting Rule

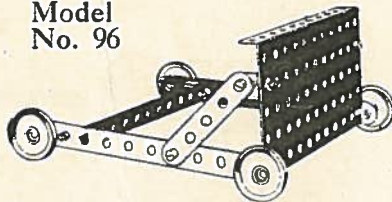
Model No. 95



- Parts Required:
- 1 of No. 1
  - 2 " " 5
  - 5 " " 12
  - 1 " " 22
  - 11 " " 37
  - 1 " " 52

# Devil Wall

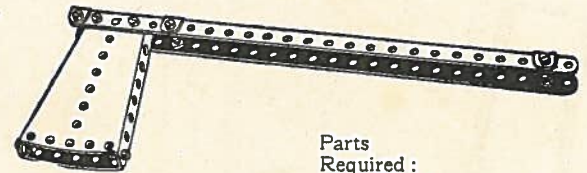
Model No. 96



- Parts Required:
- |            |             |
|------------|-------------|
| 3 of No. 2 | 4 of No. 22 |
| 2 " " 5    | 18 " " 37   |
| 6 " " 12   | 1 " " 52    |

Model No. 97

# Hatchet



- Parts Required:
- 3 of No. 1
  - 6 " " 12
  - 15 " " 37
  - 2 " " 54

Model No. 98

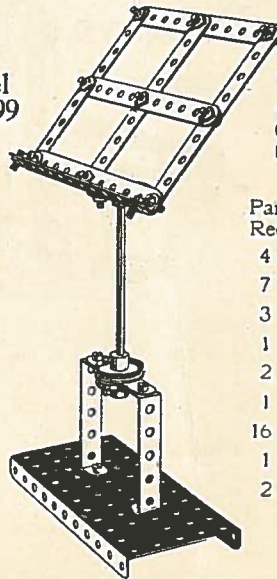
# Mail Bag Hanger



- Parts Required:
- 4 of No. 2
  - 4 " " 12
  - 10 " " 37
  - 1 " " 52
  - 1 " " 57
  - 1 " " 60

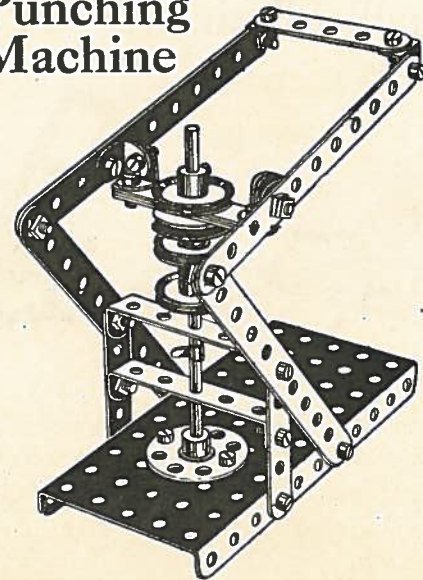
Model No. 99

# Music Stand



- Parts Required:
- 4 of No. 2
  - 7 " " 5
  - 3 " " 12
  - 1 " " 15A
  - 2 " " 22
  - 1 " " 24
  - 16 " " 37
  - 1 " " 52
  - 2 " " 60

# Punching Machine

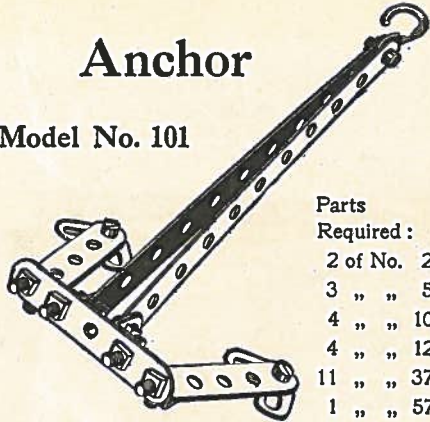


Model No. 100

- Parts Required:
- 4 of No. 2
  - 7 " " 5
  - 6 " " 12
  - 1 " " 15A
  - 4 " " 22
  - 1 " " 24
  - 1 " " 35
  - 22 " " 37
  - 1 " " 52
  - 2 " " 60

# Anchor

Model No. 101



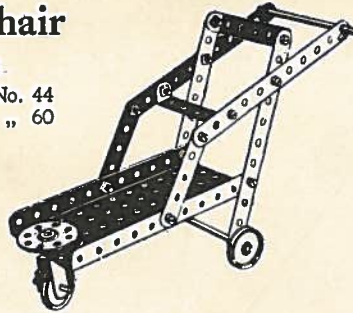
Parts Required:

2 of No. 2
3 " " 5
4 " " 10
4 " " 12
11 " " 37
1 " " 57

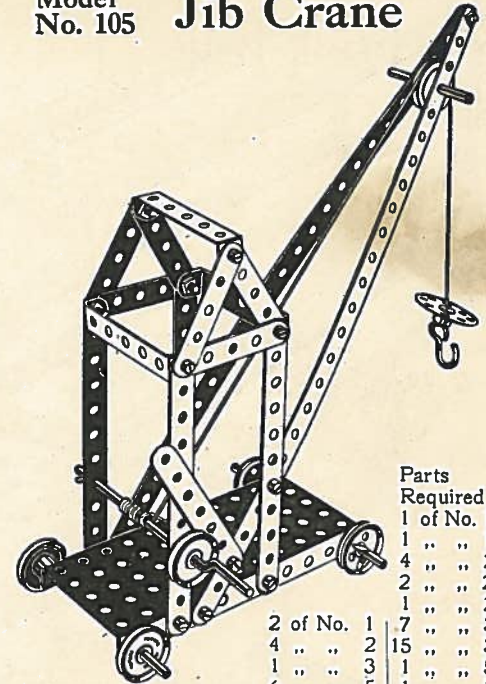
# Model No. 102 Invalid Chair

Parts Required:

4 of No. 2	1 of No. 44
2 " " 5	2 " " 60
2 " " 15A	
1 " " 18	
3 " " 22	
1 " " 24	
2 " " 35	
13 " " 37	



# Model No. 105 Jib Crane



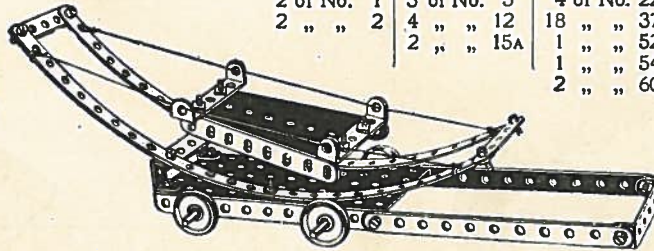
Parts Required:

1 of No. 17
1 " " 19
4 " " 22
2 " " 22A
1 " " 24
7 " " 35
4 " " 2
15 " " 37
1 " " 3
1 " " 52
6 " " 5
1 " " 57
2 " " 15A
3 " " 60

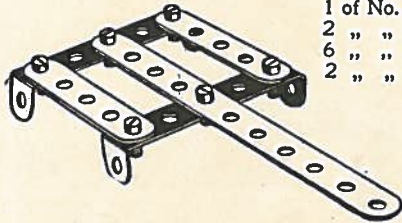
# Model No. 104 Mountain Transport

Parts Required:

2 of No. 1	3 of No. 5	4 of No. 22
2 " " 2	4 " " 12	18 " " 37
	2 " " 15A	1 " " 52
		1 " " 54
		2 " " 60



# Model No. 103 Grill



Parts Required:

1 of No. 2
2 " " 5
6 " " 37
2 " " 60

## HOW TO CONTINUE

This completes the Models which may be made with Meccano Outfit No. 1. 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 cost of which will be found in the Price List at the end of the Manual.



Model No. 106 **Motor  
Van**

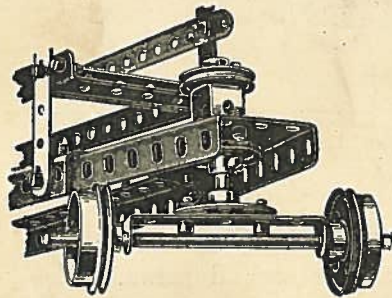
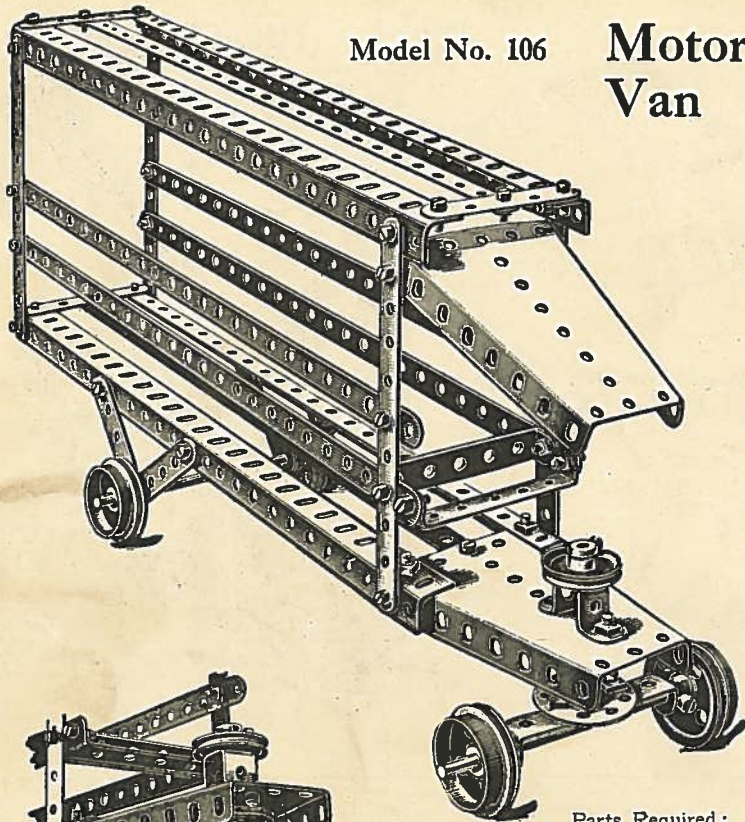


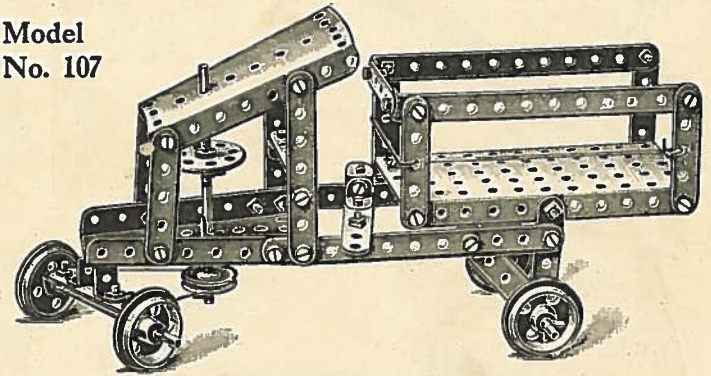
Fig. 106A

## Parts Required :

6 of No. 1	2 of No. 22
4 " " 2	1 " " 24
7 " " 5	40 " " 37
4 " " 8	1 " " 45
1 " " 17	2 " " 54
4 " " 20	3 " " 60
2 " " 15	

**Tipping Motor Wagon**

Model  
No. 107

Parts  
Required :

4 of No. 2	
2 " " 3	
12 " " 5	
5 " " 12	
3 " " 15	
4 " " 20	
1 " " 22	
1 " " 24	
38 " " 37	
1 " " 45	
1 " " 52	
2 " " 54	
3 " " 60	

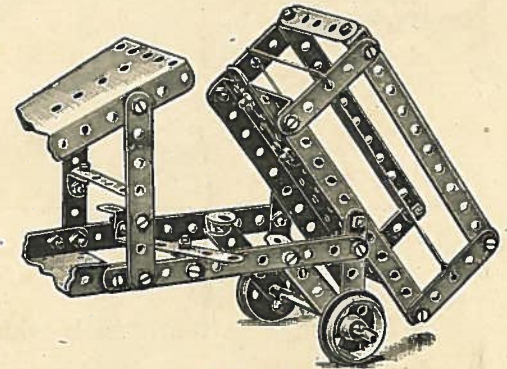
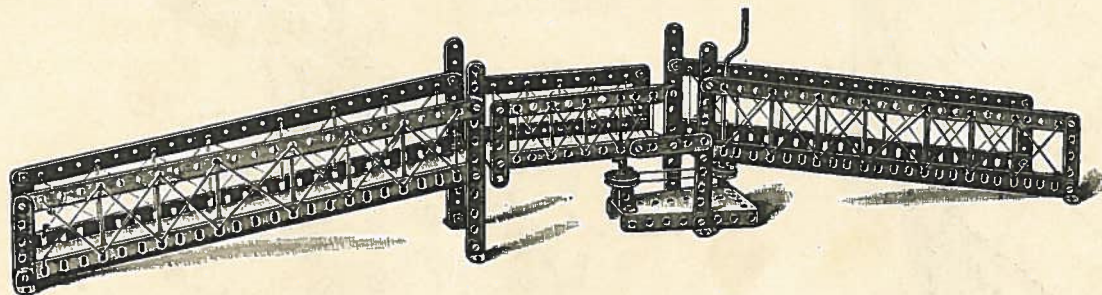


Fig. 107A

# Model No. 108 Swing Bridge

# Ladder on Wheels



Model No. 109

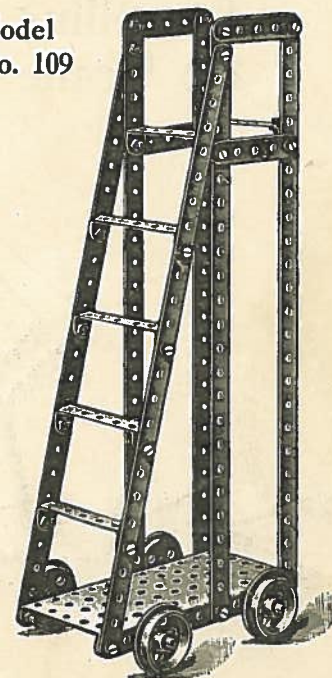
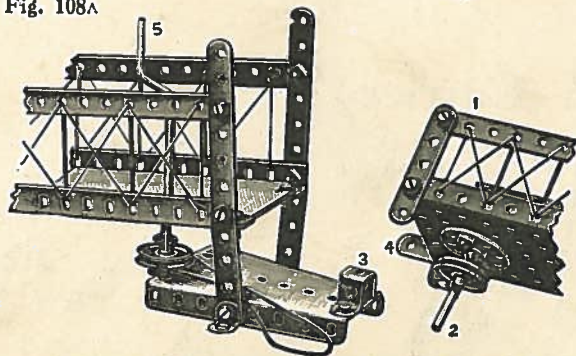


Fig. 108A



Parts Required :

4 of No. 1	1 of No. 24
6 " " 2	1 " " 35
9 " " 5	31 " " 37
4 " " 8	1 " " 45
8 " " 12	1 " " 52
1 " " 17	1 " " 54
1 " " 19	4 " " 60
2 " " 22	

The action for swinging the middle section of the Bridge will be made clearer by the detail Fig. 108A, the middle section 1 being fitted with a spindle 2 journalled in the double bent strip 3; the upper end of the spindle being secured to a bush wheel.

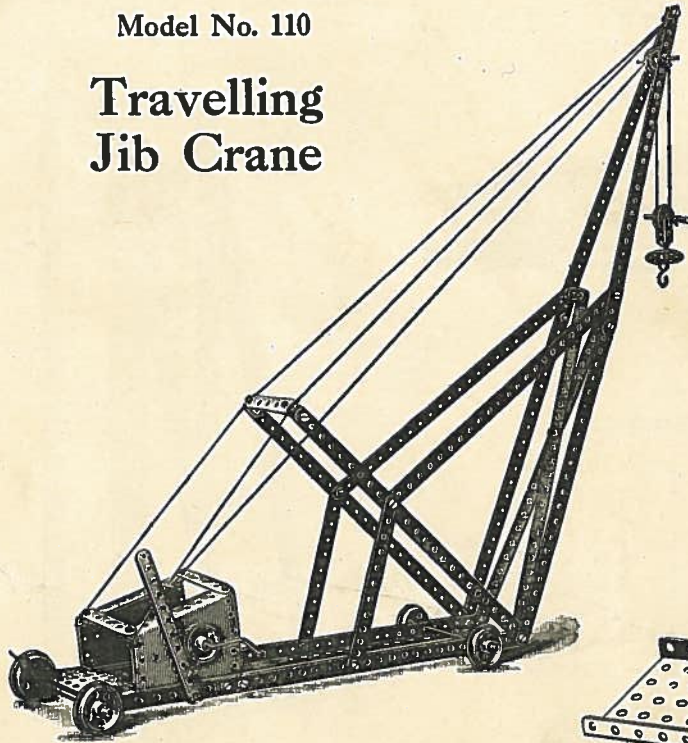
A short strip 4 acts as a stop against the middle section of the Bridge swinging past the central position.

The operating cord passes round pulleys on the spindles 2 and crank handle 5.

Parts Required :

6 of No. 1	24 of No. 37
4 " " 5	1 " " 52
2 " " 15	6 " " 60
4 " " 20	

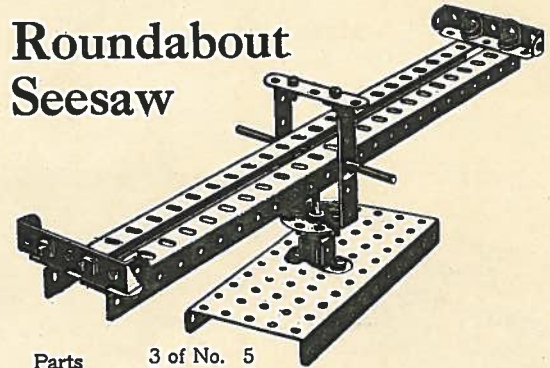
Model No. 110  
**Travelling  
 Jib Crane**



Parts Required:

10 of No. 1	2 of No. 15A	1 of No. 24	35 " " 37
3 " " 2	2 " " 17	1 " " 37	1 " " 57
3 " " 5	1 " " 19	5 " " 35	5 " " 35
1 " " 60	4 " " 20	1 " " 44	1 " " 44
2 " " 8	2 " " 22	1 " " 52	1 " " 52
4 " " 12	1 " " 22A	2 " " 54	2 " " 54

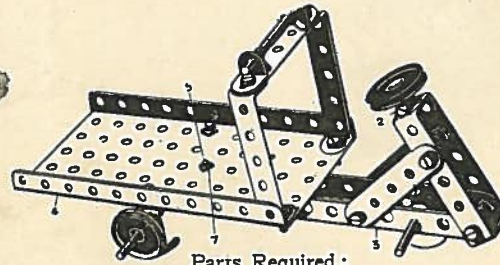
Model No. 111  
**Roundabout  
 Seesaw**



Parts Required:

3 of No. 5	14 of No. 37
2 " " 8	1 " " 45
4 " " 12	1 " " 52
1 " " 15	1 " " 60
1 " " 24	
2 " " 35	

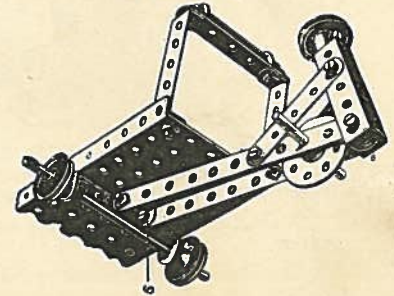
Model No. 112 **Carrier Tricycle**



Parts Required:

2 of No. 2	3 of No. 22
3 " " 5	1 " " 24
1 " " 11	2 " " 35
2 " " 12	16 " " 37
1 " " 15	1 " " 52
2 " " 17	5 " " 60

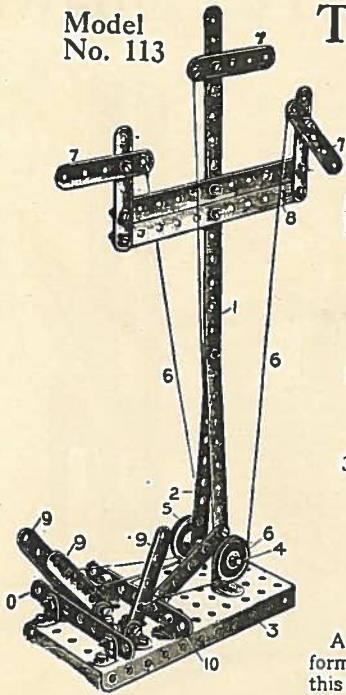
Fig. 112A



## Types of Windmills

Model No. 113

### Three-arm Signal

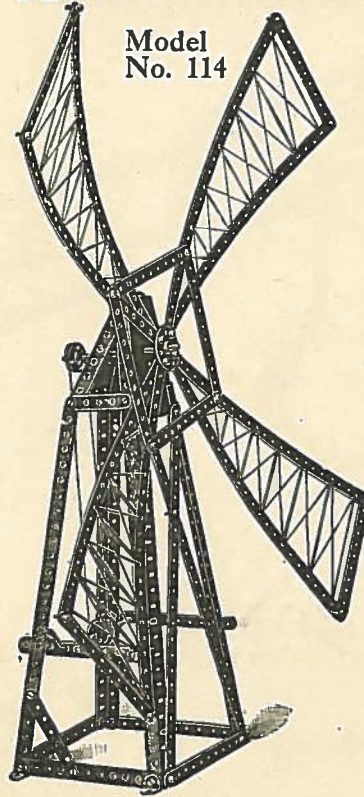


Parts Required:

1 of No.	1
3 " "	2
2 " "	3
9 " "	5
10 " "	12
1 " "	17
2 " "	22
37 " "	37
1 " "	52

A flanged plate forms the base of this model, a 12½" strip 1 being bolted to a 5½" strip 2, the feet of both these strips being connected to the flanged plate 3 by angle brackets. A rod 4 is passed through the lower holes of the strips 1 and 2 and is fitted with guide pulleys 5 leading the actuating cords 6 to the signal arms 7. The cord operating the central arm is run under the rod 4. The signal arms 7 are carried over transverse strips 8. The operating cords 6 are led to three strips 9, pivoted to angle brackets bolted to the flanged plate, and transverse strips 10 are bolted to the perforated plate in the front and rear of the pivoted strips 9 to limit their movement.

Model No. 114

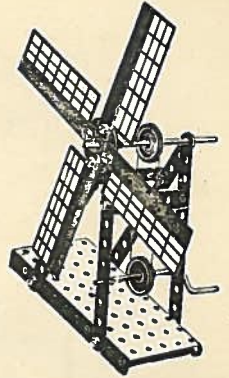


Parts Required:	
10 of No.	1
14 " "	2
2 " "	3
2 " "	5
4 " "	12
4 " "	17
1 " "	15
1 of No.	19
2 " "	22
1 " "	24
4 " "	35
2 " "	54

Model No. 115

Parts Required:

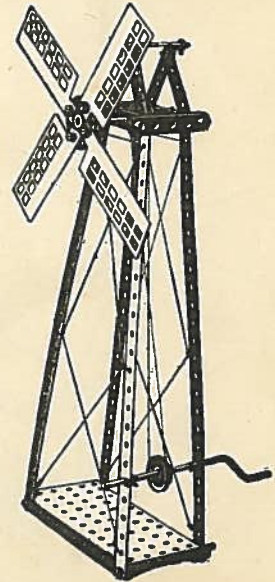
4 of No.	2
2 " "	60
1 " "	15
1 " "	19
2 " "	22
1 " "	24
12 " "	37
3 " "	35
1 " "	52
4 " "	61



Model No. 116

Parts Required:

4 of No.	1
7 " "	5
2 " "	60
2 " "	12
1 " "	15
1 " "	19
2 " "	22
1 " "	24
20 " "	37
4 " "	35
1 " "	52
4 " "	61



## Model No. 117 Monoplane

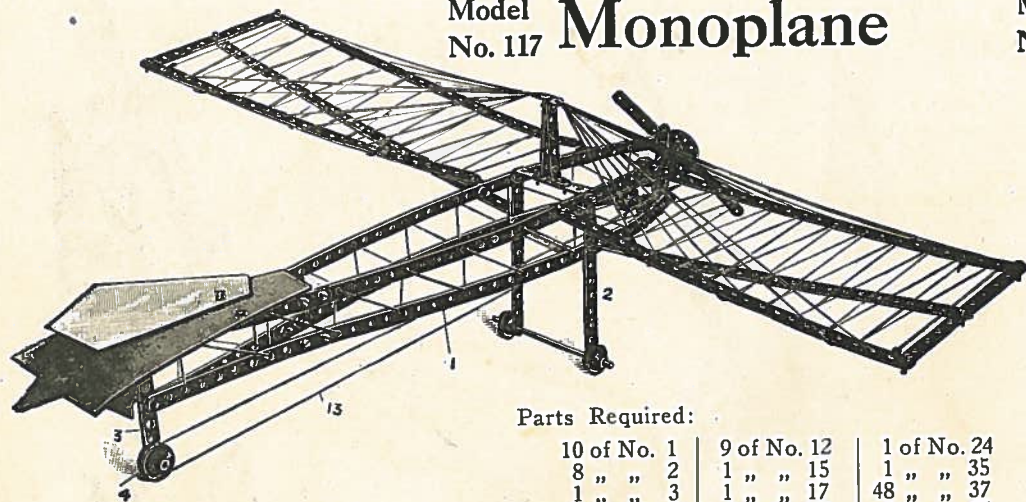
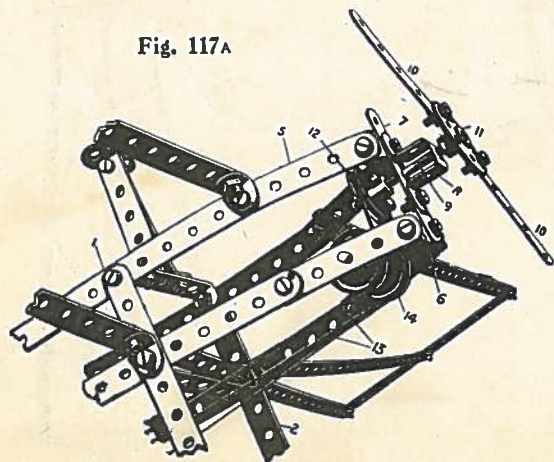


Fig. 117A

### Parts Required:

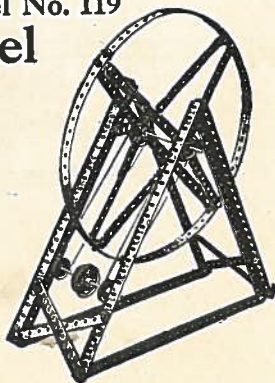
10 of No. 1	9 of No. 12	1 of No. 24
8 " " 2	1 " " 15	1 " " 35
1 " " 3	1 " " 17	48 " " 37
7 " " 5	4 " " 22	1 " " 45
2 " " 11	2 " " 22a	4 " " 60

## Model No. 119 Wheel



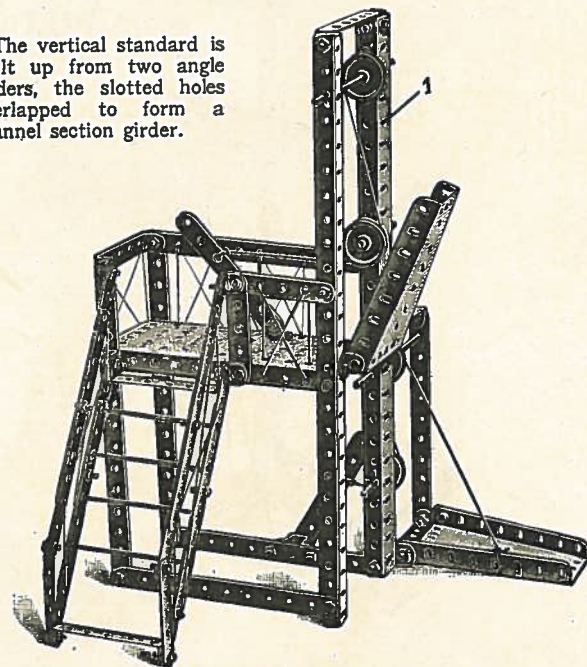
### Parts Required:

5 of No. 1	2
12 " " 2	12
2 " " 5	2
4 " " 8	4
4 " " 11	4
2 " " 15	2
3 " " 20	3
2 " " 22	2
44 " " 37	44



## Model No. 118 Ferry Gangway

The vertical standard is built up from two angle girders, the slotted holes overlapped to form a channel section girder.

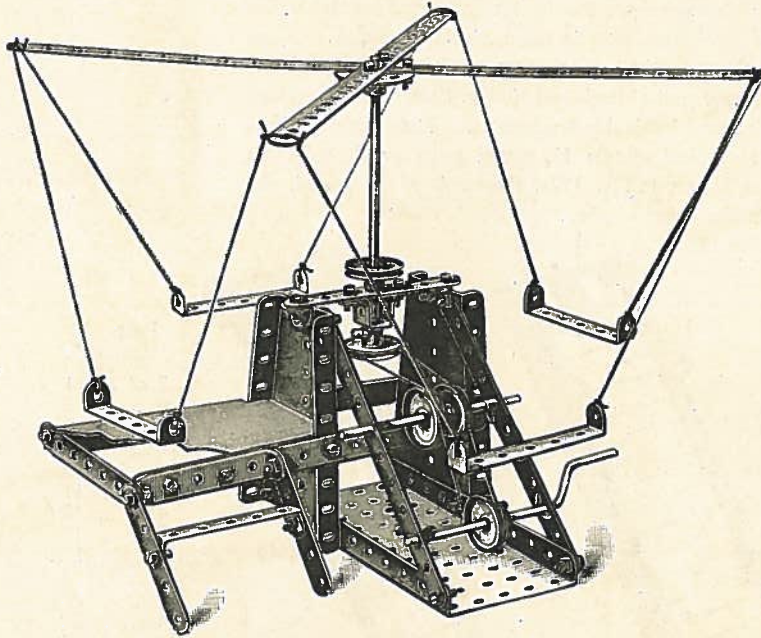


### Parts Required:

14 of No. 2	2 of No. 15	50 of No. 37
2 " " 3	2 " " 17	1 " " 45
6 " " 5	2 " " 22	1 " " 52
3 " " 8	2 " " 22A	2 " " 54
2 " " 10	6 " " 35	6 " " 60
7 " " 12		

Model No. 120

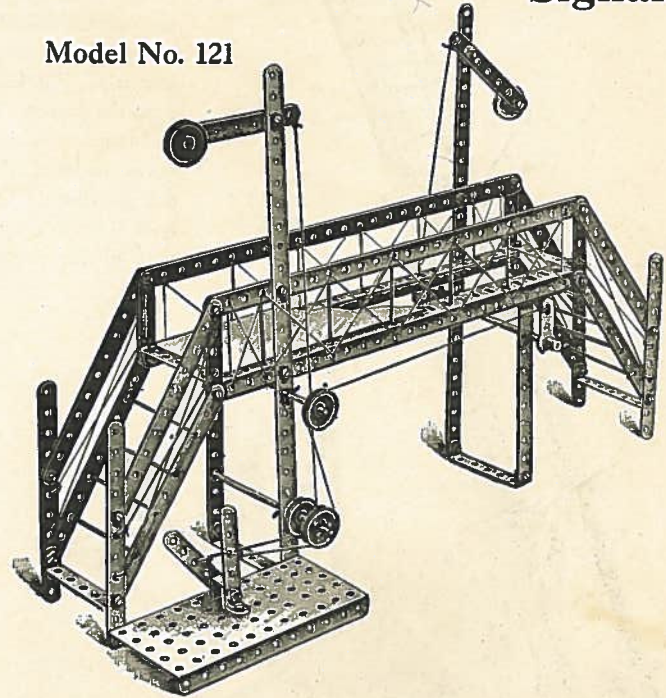
# Roundabout



Parts	2 of No. 1	2 of No. 22A
Required :	4 " " 2	1 " " 24
	2 " " 3	4 " " 35
	4 " " 5	33 " " 37
	3 " " 12	1 " " 45
	1 " " 15	1 " " 52
	1 " " 16	2 " " 54
	1 " " 19	6 " " 60
	3 " " 22	

# Railway Foot Bridge and Signals

Model No. 121



Parts Required.		
4 of No. 1	2 of No. 8	6 of No. 35
14 " " 2	2 " " 22A	1 " " 45
2 " " 3	3 " " 22	4 " " 60
8 " " 5	43 " " 37	2 " " 62
3 " " 15	1 " " 52	

## Model No. 122 Extending Ladder on Running Carriage

The bed of the lower carriage framework 1 is formed by bolting two 12½" strips to the sides of a large flanged plate 2, and two sector plates 3 bolted to the flanged plate by their flanges to form the sides, and a bearing for the spindle 4 carrying the operating cord 5 to raise the ladder from a horizontal position. The strips 6 form a support for the ladder when in this horizontal position. Angle brackets 7, Fig. 122A, form pivots for the lower part 8 of the ladder, and are carried from the supports 9. The upper part of the ladder 10, Fig. 122B, is slidably guided and retained on the lower ladder 8 by double brackets 11. The extension of the ladder is effected by the cranked spindle 12, round a pulley 13, on which and another 14, carried as shown in Fig. 122A, the cord 15 is passed, the ends of which are secured to the lower part of the movable ladder 10.

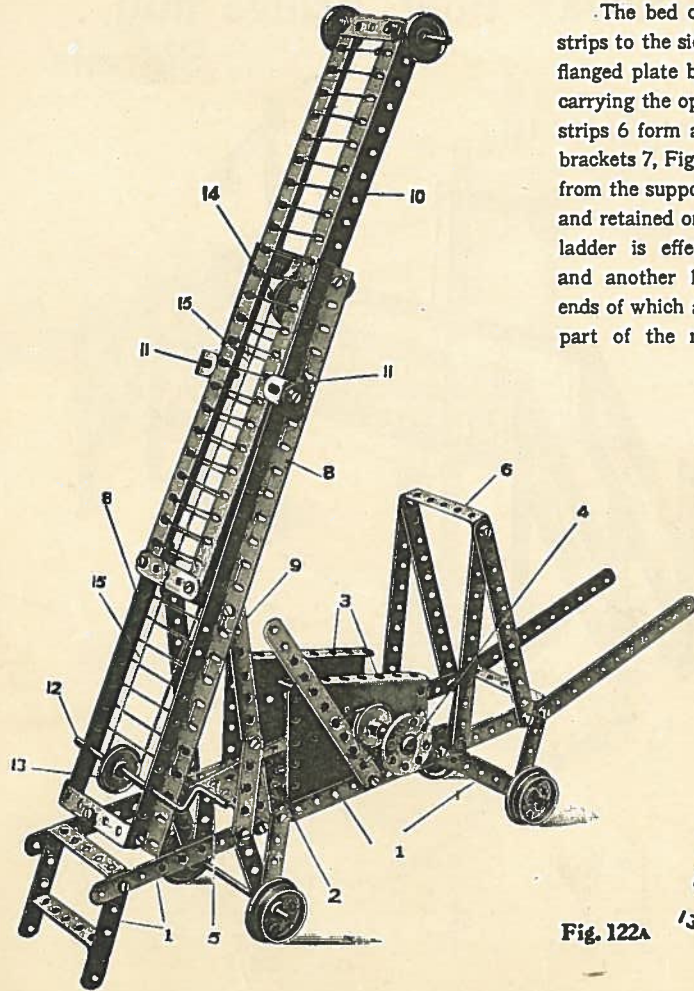


Fig. 122A

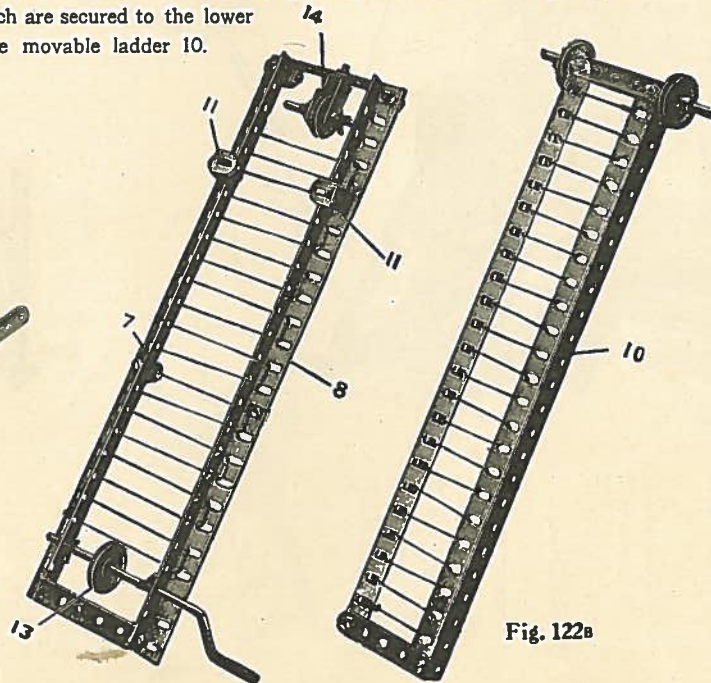
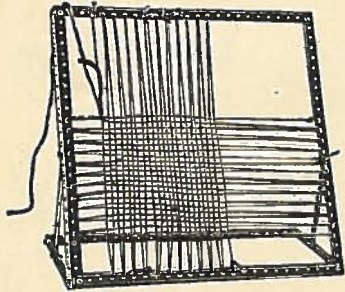


Fig. 122B

### Parts Required:

2	of	No. 1
9	"	" 2
2	"	" 3
12	"	" 5
4	"	" 8
2	"	" 11
4	"	" 12
3	"	" 15
1	"	" 15A
1	"	" 19
4	"	" 20
4	"	" 22
1	"	" 22A
1	"	" 24
6	"	" 35
47	"	" 37
1	"	" 44
1	"	" 52
2	"	" 54
5	"	" 60

### Model No. 123 Mat Frame



	1 of No.	1
Parts Required:	4 "	2
	4 "	8
	2 "	12
	14 "	37

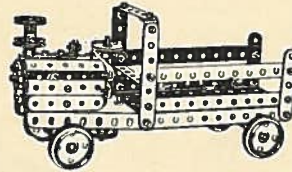
### Model No. 124 Coaster



Parts Required:

2 of No.	2	1 of No.	22
5 "	5	1 "	24
1 "	15	12 "	37
1 "	16	1 "	45
1 "	17	2 "	54
4 "	20	1 "	60

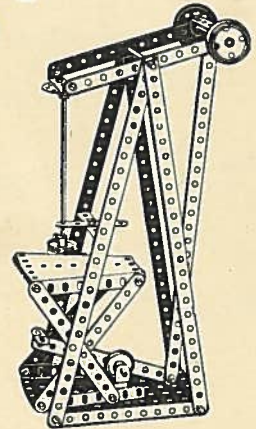
### Model No. 125 Locomotive



Parts Required:

4 of No.	2	1 of No.	16	46 of No.	37
2 "	3	1 "	17	1 "	45
7 "	5	4 "	20	1 "	52
4 "	10	4 "	22	1 "	54
1 "	11	1 "	23	6 "	60
8 "	12	1 "	24	2 "	62
2 "	15A	3 "	35		

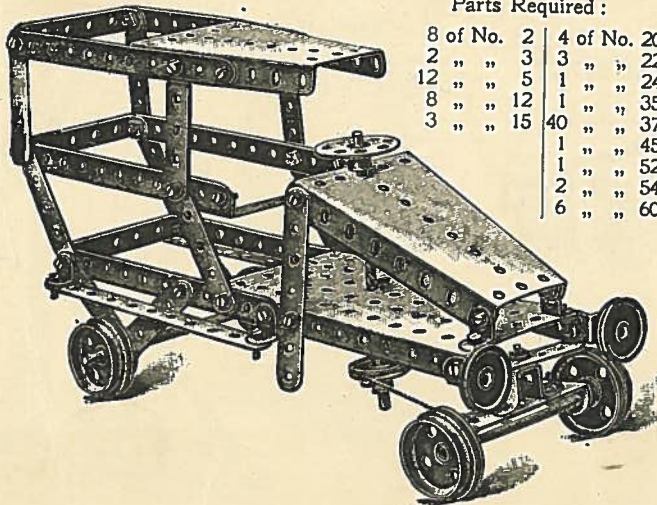
### Model No. 126 Embossing Machine



Parts Required:

5 of No.	1
7 "	2
1 "	5
1 "	15
2 "	15A
1 "	18
2 "	20
2 "	22
1 "	24
4 "	35
23 "	37
1 "	44
1 "	52
2 "	54
3 "	60

### Model No. 127 Motor Van



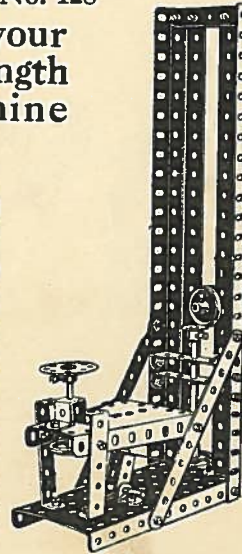
Parts Required:

8 of No.	2	4 of No.	20
2 "	3	3 "	22
12 "	5	1 "	24
8 "	12	1 "	35
3 "	15	40 "	37
		1 "	45
		1 "	52
		2 "	54
		6 "	60

### Model No. 128 Try-your-Strength Machine

Parts Required:

2 of No.	1
3 "	2
2 "	5
2 "	8
4 "	12
1 "	16
2 "	17
1 "	18
4 "	22
1 "	24
29 "	37
1 "	44
1 "	45
1 "	52
1 "	54
4 "	60
1 "	62

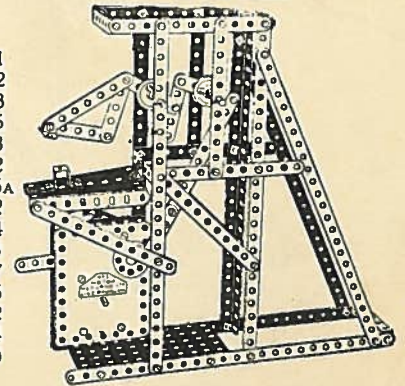


### Model No. 129 Mechanical Hammer

*The Spring Motor is not included in the outfit*

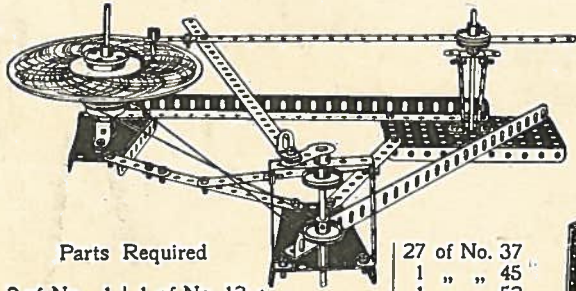
Parts Required:

6 of No.	1
11 "	2
1 "	3
7 "	5
2 "	8
3 "	12
2 "	15A
4 "	22
1 "	24
4 "	35
48 "	37
1 "	45
1 "	52
1 "	54
2 "	60



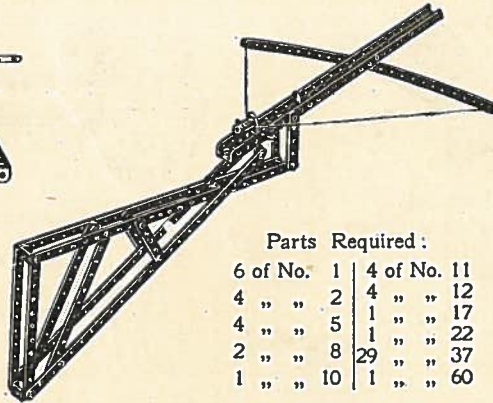


### Model No. 130 Designing Machine



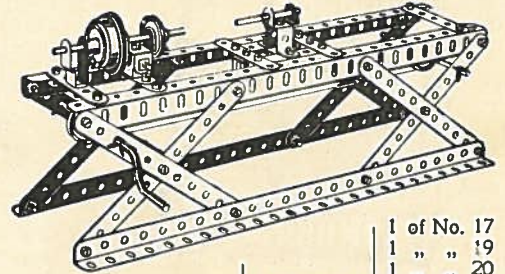
Parts Required		27 of No. 37	
2 of No. 1	1 of No. 12	1 "	" 45
3 " " 2	2 " " 15A	1 "	" 52
2 " " 8	1 " " 16	4 of No. 22	2 " " 54
1 " " 11	1 " " 20	1 " " 24	5 " " 60
		1 " " 35	2 " " 62

### Model No. 131 Crossbow



Parts Required :	
6 of No. 1	4 of No. 11
4 " " 2	4 " " 12
4 " " 5	1 " " 17
2 " " 8	1 " " 22
1 " " 10	29 " " 37
	1 " " 60

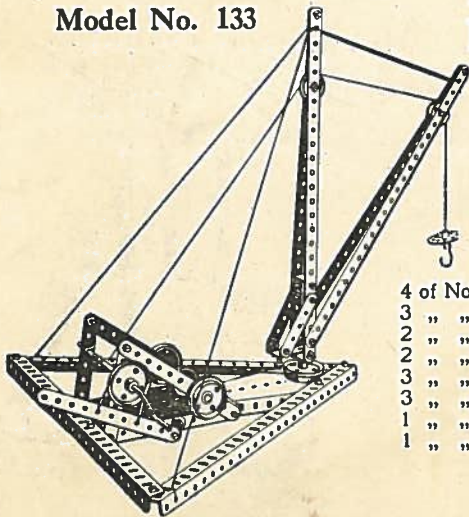
### Model No. 132 Lathe



Parts Required :		1 of No. 17	
3 of No. 8	4 of No. 8	1 " "	19
4 " " 11	6 " " 22	1 " "	20
4 " " 12	41 " " 35	6 " "	37
1 " " 15A	1 " " 44	1 " "	44
1 " " 16	1 " " 45		

### Model No. 133

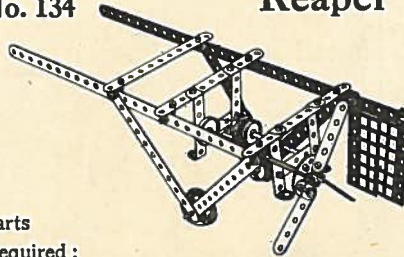
### Dwarf Derrick



Parts Required :	
1 of No. 19	
4 " " 20	
2 " " 22	
2 " " 22A	
1 " " 23	
1 " " 24	
3 of No. 1	1 of No. 35
2 " " 2	4 " " 37
2 " " 3	39 " " 45
2 " " 5	1 " " 47
3 " " 8	1 " " 52
3 " " 11	1 " " 54
1 " " 15A	1 " " 57
1 " " 17	1 " " 62

### Model No. 134

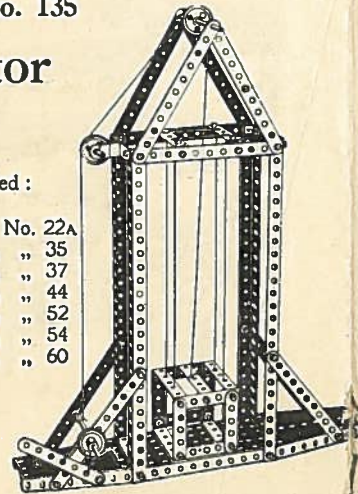
### Potato Reaper



Parts Required :		
2 of No. 1	1 of No. 15A	5 of No. 35
8 " " 2	2 " " 20	31 " " 37
4 " " 5	2 " " 22	4 " " 60
10 " " 12	2 " " 22A	2 " " 61
2 " " 15	1 " " 24	

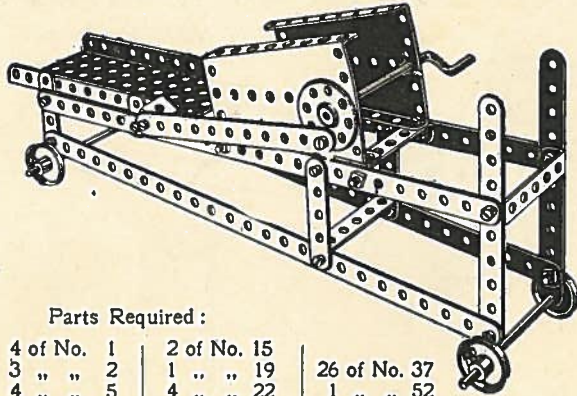
### Model No. 135

### Elevator



Parts Required :	
1 of No. 1	2 of No. 22A
10 " " 2	5 " " 35
1 " " 3	44 " " 37
10 " " 5	1 " " 44
4 " " 8	.1 " " 52
4 " " 12	2 " " 54
1 " " 15A	5 " " 60
1 " " 17	
1 " " 19	
1 " " 22	

Model No. 136 **Maize Sheller**

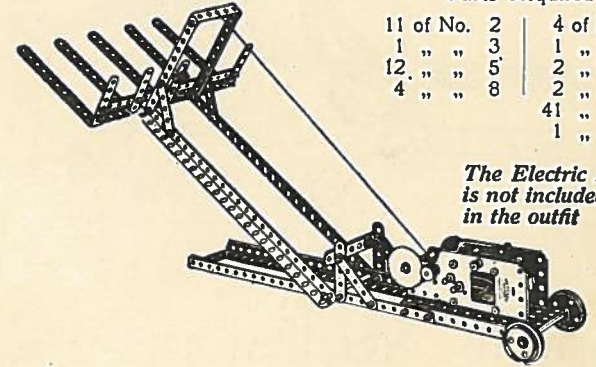


Parts Required:

4 of No. 1	2 of No. 15	26 of No. 37
3 " " 2	1 " " 19	1 " " 52
4 " " 5	4 " " 22	2 " " 54
2 " " 10	1 " " 24	4 " " 60
1 " " 11	2 " " 35	

Model No. 137

**Hay Stacker**



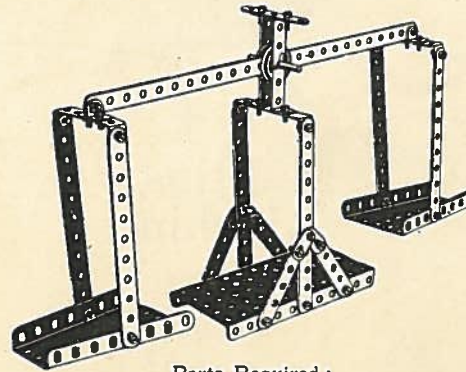
Parts Required

11 of No. 2	4 of No. 12
1 " " 3	1 " " 16
12 " " 5	2 " " 20
4 " " 8	2 " " 35
	41 " " 37
	1 " " 52

*The Electric Motor is not included in the outfit*

Model No. 139

**Beam Scales**

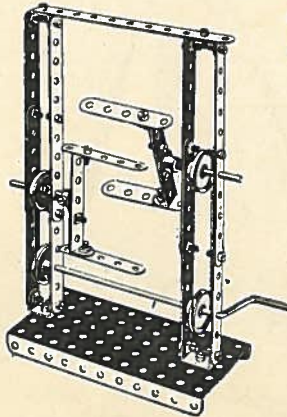


Parts Required:

1 of No. 1	4 of No. 12	32 of No. 37
6 " " 2	1 " " 17	1 " " 52
5 " " 5	2 " " 22A	2 " " 54
4 " " 10	2 " " 35	5 " " 60

Model No. 138

**Candy Puller**

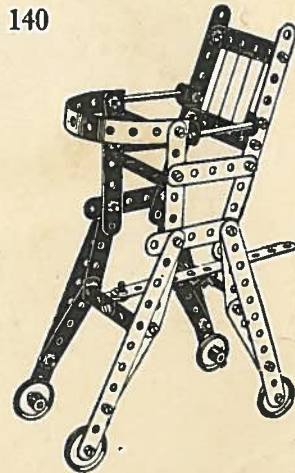


Parts Required:

9 of No. 2
4 " " 5
4 " " 11
2 " " 17
1 " " 19
4 " " 22
2 " " 35
26 " " 37
1 " " 52
2 " " 60
2 " " 62

Model No. 140

**Baby Chair**

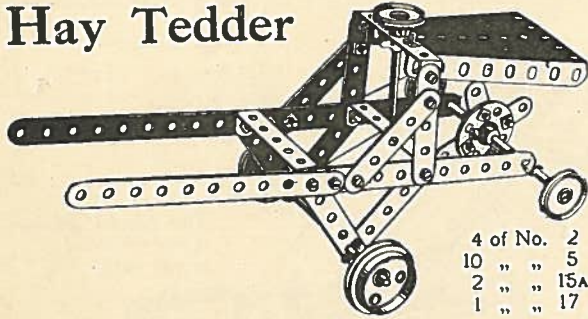


Parts Required:

8 of No. 2
2 " " 3
10 " " 5
6 " " 12
2 " " 17
4 " " 22
32 " " 37
6 " " 60

These Models Can be Made with MECCANO Outfit No. 2, or No. 1 and No. 1A

# Hay Tedder



4 of No. 2  
10 " " 5  
2 " " 15A  
1 " " 17

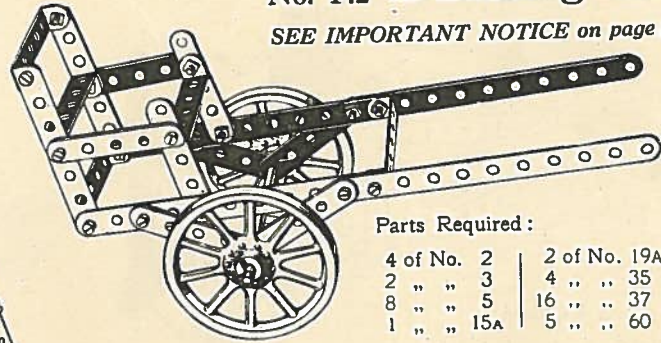
## Model No. 141

Parts Required:

2 of No. 20  
3 " " 22  
1 " " 24  
5 " " 35  
18 " " 37  
1 " " 54  
3 " " 60

# Model No. 142 Ducking Chair

SEE IMPORTANT NOTICE on page 3



Parts Required:

4 of No. 2	2 of No. 19A
2 " " 3	4 " " 35
8 " " 5	16 " " 37
1 " " 15A	5 " " 60

# Model No. 143 Needlework Basket



Parts Required:

4 of No. 1  
6 " " 2  
2 " " 3  
6 " " 5  
12 " " 12  
46 " " 37  
1 " " 52  
3 " " 60

## Model No. 144



# Cutting Machine

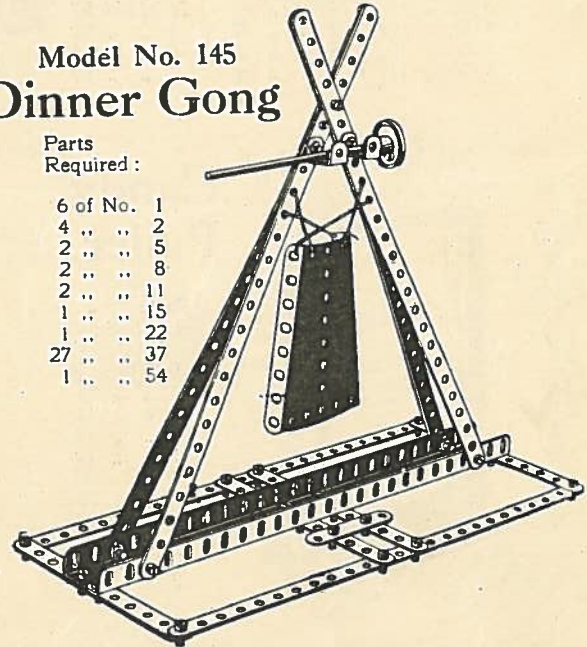
Parts Required:

8 of No. 2  
1 " " 3  
1 " " 5  
4 " " 12  
20 " " 37  
1 " " 52

# Model No. 145 Dinner Gong

Parts Required:

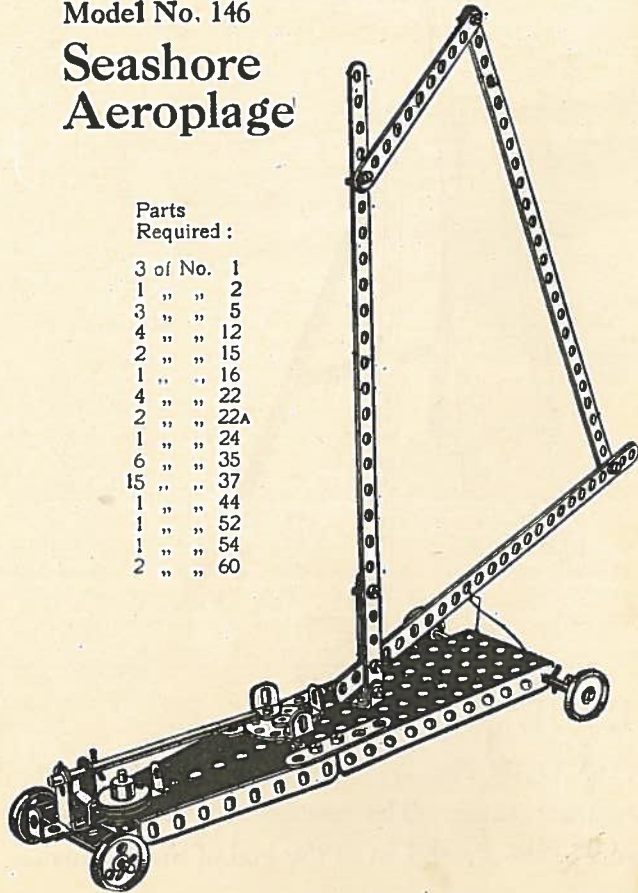
6 of No. 1  
4 " " 2  
2 " " 5  
2 " " 8  
2 " " 11  
1 " " 15  
1 " " 22  
27 " " 37  
1 " " 54



Model No. 146  
**Seashore  
Aeroplage**

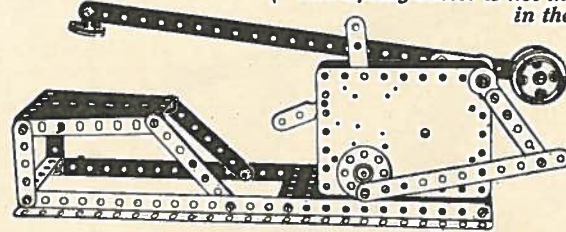
Parts  
Required :

3 of No. 1
1 " " 2
3 " " 5
4 " " 12
2 " " 15
1 " " 16
4 " " 22
2 " " 22A
1 " " 24
6 " " 35
15 " " 37
1 " " 44
1 " " 52
1 " " 54
2 " " 60



Model No. 147 **Mechanical Hammer**

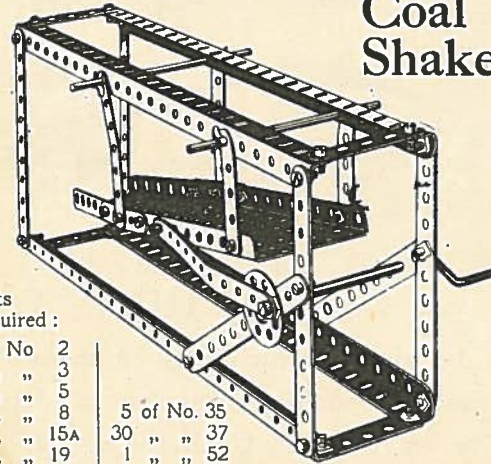
*The Spring Motor is not included  
in the outfit*



1 of No. 1	4 of No. 12	26 of No. 37
1 " " 2	1 " " 17	1 " " 52
2 " " 3	2 " " 20	1 " " 54
2 " " 5	1 " " 22	1 " " 60
2 " " 8	1 " " 24	2 " " 62

Model No. 148

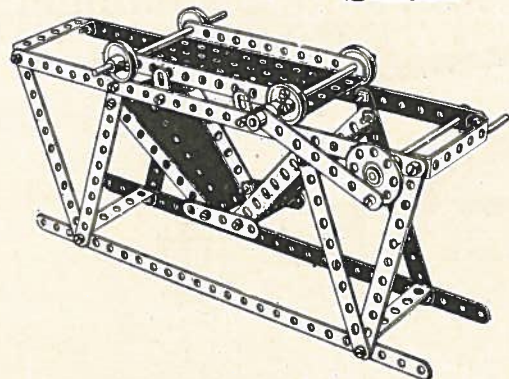
**Coal  
Shaker**



Parts  
Required :

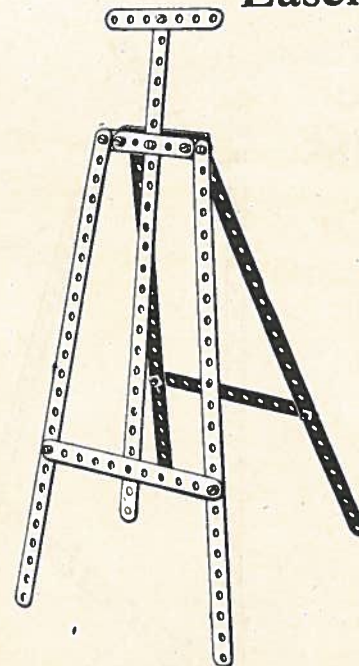
7 of No. 2
2 " " 3
8 " " 5
4 " " 8
2 " " 15A
1 " " 19
1 " " 24
5 of No. 35
30 " " 37
1 " " 52
1 " " 54

Model No. 149 Sifter



- Parts Required :
- 4 of No. 1
  - 6 " " 2
  - 1 " " 3
  - 2 " " 5
  - 4 " " 10
  - 2 " " 15A
  - 1 " " 19
  - 4 " " 22
  - 1 " " 24
  - 4 " " 35
  - 26 " " 37
  - 1 " " 52
  - 2 " " 54
  - 4 " " 60

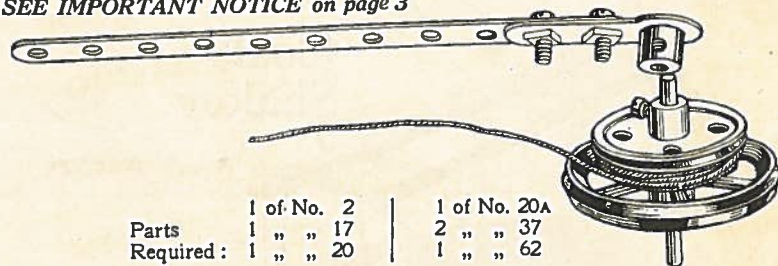
Model No. 151 Easel



- Parts Required :
- 5 of No. 1
  - 2 " " 2
  - 2 " " 3
  - 1 " " 5
  - 2 " " 12
  - 14 " " 37
  - 1 " " 60

Model No. 150 Spinning Top

SEE IMPORTANT NOTICE on page 3

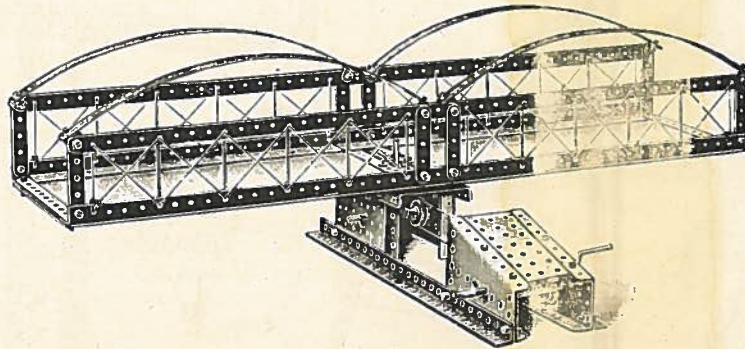


- |            |            |              |
|------------|------------|--------------|
|            | 1 of No. 2 | 1 of No. 20A |
| Parts      | 1 " " 17   | 2 " " 37     |
| Required : | 1 " " 20   | 1 " " 62     |

## HOW TO CONTINUE

This completes the Models which may be made with MECCANO Outfit No. 2. 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. 2A Accessory Outfit, the cost of which will be found in the Price List at the end of the Manual.

## Model No. 152 Swing Bridge



Parts Required :

3 of No. 1	1 of No. 19	60 of No. 37
4 " " 2	2 " " 22	1 " " 52
8 " " 5	1 " " 24	3 " " 53
6 " " 8	1 " " 26	2 " " 54
10 " " 12	1 " " 32	2 " " 59
2 " " 15	3 " " 35	1 " " 60

This is a fine engineering model of the highest value to the young student, and any thought and care expended on its construction will be well repaid.

The base portion containing the perpendicular axle actuated by the worm and pinion should be constructed first. This, as will be seen by the illustration, Fig. 152A, is formed by connecting a small flanged plate to an angle girder three holes from one end and a sector plate at the other end to form one side of the base. The other side is constructed in a similar manner. These two sides are then connected together at one end by a large flanged plate containing the spindle, upon which the bridge swings, and at the other by a small flanged plate. A  $2\frac{1}{2}$ " bent strip is connected to the angle girders to carry the lower portion of the perpendicular axle upon which the bridge swings. A  $\frac{1}{2}$ " pinion is secured to this axle, which is operated by the horizontal spindle upon which is secured a worm wheel. A pulley wheel is also secured to this spindle around which a driving rope passes from the pulley at the other end of the base secured to a crank handle, as shown in the illustration.

The platform is constructed by connecting two angle girders in the third holes. Two  $2\frac{1}{2}$ " strips are attached to these in the centre and one at each end, with two  $12\frac{1}{3}$ " strips along the top. Two  $12\frac{1}{3}$ " strips are curved and connected by four angle brackets to form one side of the bridge. The other side is formed in a similar manner, and both are connected together by  $5\frac{1}{2}$ " strips at the end and in the centre. Attached to the two  $5\frac{1}{2}$ " strips in the centre is a bush wheel upon which the platform rotates.

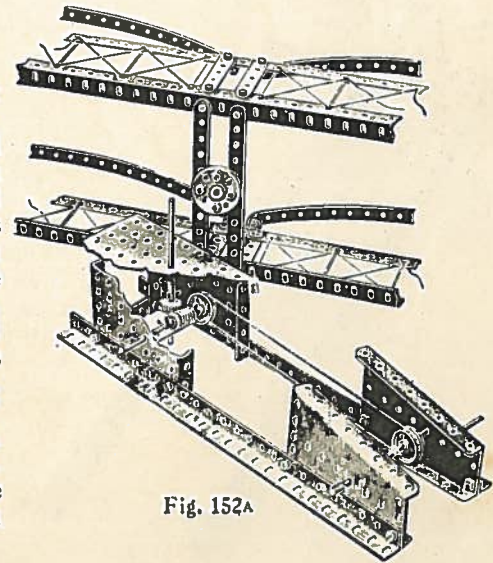


Fig. 152A

# Model No. 153 Cake Walk

Parts Required:

8 of No. 1	1 of No. 32
12 " " 2	8 " " 35
9 " " 5	62 " " 37
6 " " 8	2 " " 52
8 " " 12	2 " " 53
4 " " 15	3 " " 59
2 " " 15A	6 " " 60
1 " " 22	2 " " 62
1 " " 26	

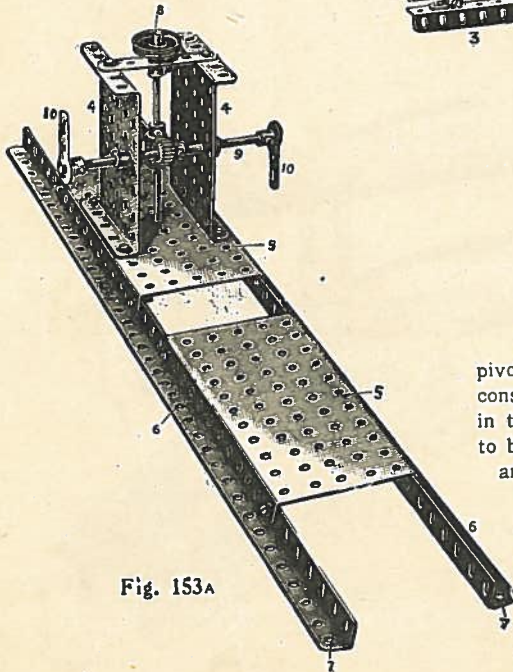
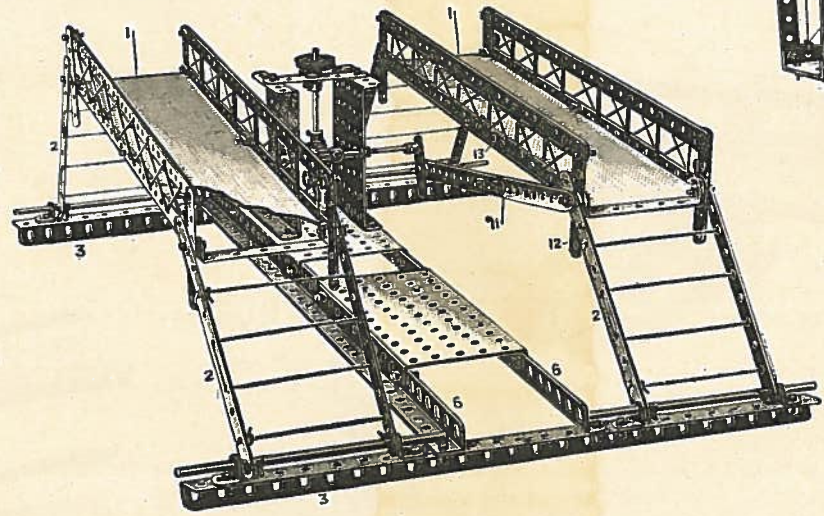
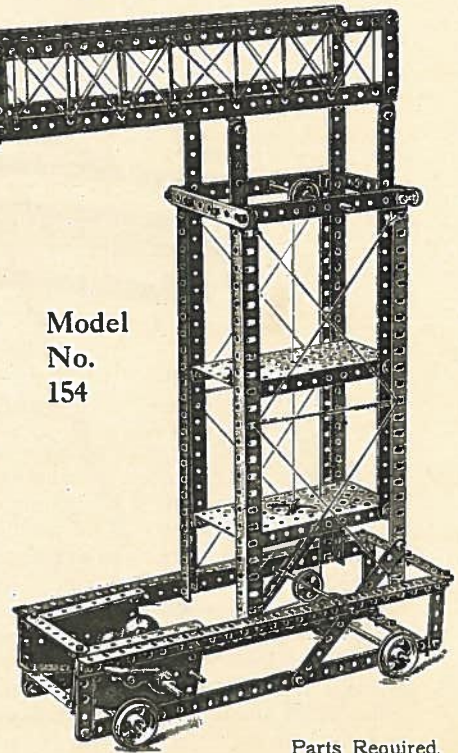


Fig. 153A



This model comprises two side platforms 1 carried upon 5½" strips 2 pivoted to angle brackets bolted to angle girders 3. The gear box, Fig. 153A, consists of small flanged plates 4 bolted to a large flanged plate 5, which in turn is bolted to angle girders 6 overlapped 14 holes. It is necessary to bolt the flanges to the flanged plate 5 outside the vertical parts of the angle girders 6 so that the end holes 7 shall register with the holes in the angle girders 3. The platforms 1 are rocked from a vertical shaft 8 gearing with a shaft 9 by a worm and pinion, the ends of the shaft 9 being fitted with cranks 10 pivotally bolted to connecting rods 11 formed of two 5½" strips overlapped two holes. The strips 11 are also pivotally bolted to the end strips 2, a vertical 2½" strip 12, and the lower end hole of the lower strip 13 of each side platform, so as to give free rocking movement.

# Tower Wagon



Model No. 154

Parts Required,

8 of No. 1	4 of No. 15	1 of No. 33
4 " " 2	1 " " 15A	6 " " 35
6 " " 3	1 " " 19	69 " " 37
2 " " 4	4 " " 20	2 " " 52
11 " " 5	2 " " 22	2 " " 54
8 " " 8	2 " " 26	2 " " 60
14 " " 12	1 " " 27A	

## Model No. 155 Level Crossing Gate

Parts Required.		
9 of No. 2	6 of No. 8	4 of No. 22
4 " " 3	15 " " 12	54 " " 37
2 " " 4	4 " " 15	2 " " 52
6 " " 5		4 " " 60

This Model, if constructed with care, is a most admirable one, as the gates are opened simultaneously by the operation of one lever.

To construct it, commence by taking two angle girders and connecting them together in the second hole from each end with a  $3\frac{1}{2}$ " strip placed perpendicularly between them to form the supports of one pair of gates as shown in Fig. 155. The supports for the other pair of gates are arranged in a similar manner. These two structures are connected by two other angle girders and two flanged plates, as shown in the illustration.

The gates are formed by connecting two  $5\frac{1}{2}$ " strips with a  $2\frac{1}{2}$ " strip at the outer end of the gate and a  $2\frac{1}{2}$ " bent strip at the inner end, to permit the axle rods to pass through upon which the gates swing.

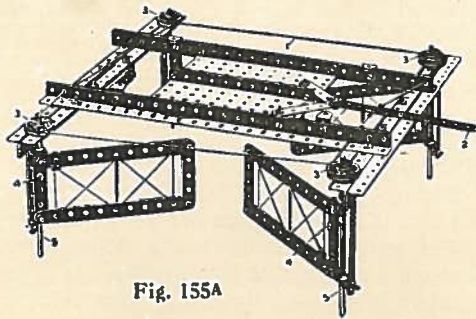


Fig. 155A

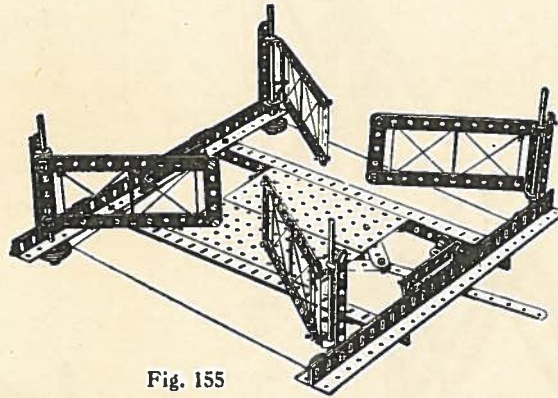


Fig. 155

Fig. 155A is an inverted view showing the arrangement of operating cord 1 which is passed from the operating lever 2, around the corner pulleys 3, and back to the lever 2. In order to obtain a better grip on the pulleys it is desirable to wind the operating cord twice around them. It is to be noted that the cord 1 is wound in opposite directions around the diagonal pairs of pulleys 3.

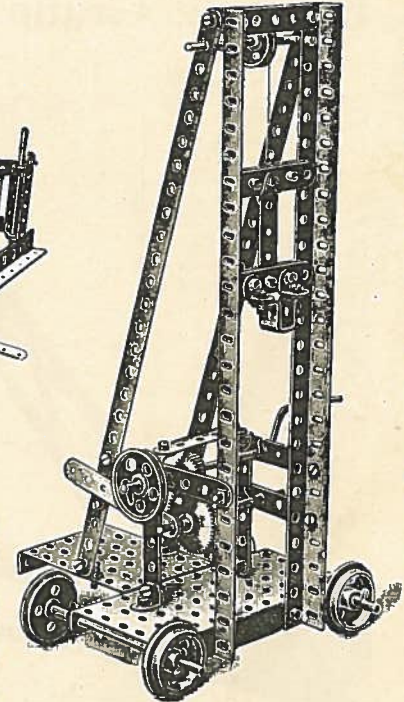
Pinching screws 4 are fitted in the inner sides of the gates to grip them to the spindles 5 so that all rotate together.

## Pile Driver

### Model No. 156

#### Parts Required:

2 of No. 1
1 " " 3
2 " " 4
8 " " 5
2 " " 8
4 " " 12
4 " " 15
1 " " 19
4 " " 20
1 " " 21
1 " " 22
1 " " 26
1 " " 27A
4 " " 35
40 " " 37
1 " " 45
1 " " 52
1 " " 53
2 " " 60



This illustration shows a model pile driver in which the pile head is guided on the two vertical angle girders. The raising of the pile head is controlled from the main driving shaft through the pinion and gear wheel. This latter is mounted on the end of the pivoted lever, and in order to drop the pile head the lever is raised to free the gear wheel. A grooved pulley is fitted on the pinion shaft to enable the model to be driven from an engine.



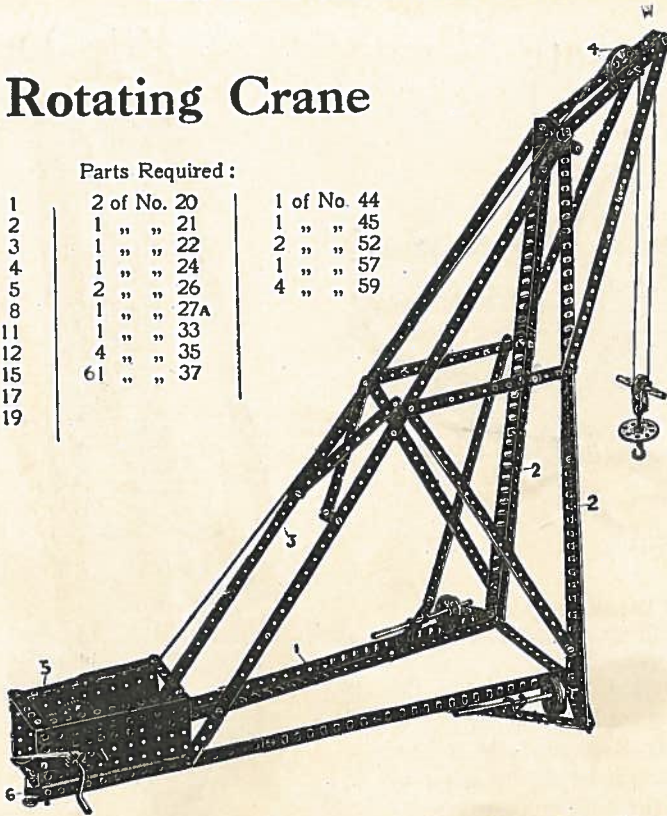
## Model No. 157 Rotating Crane

10 of No.	1
13 " "	2
3 " "	3
1 " "	4
5 " "	5
8 " "	8
1 " "	11
12 " "	12
3 " "	15
2 " "	17
1 " "	19

### Parts Required:

2 of No.	20
1 " "	21
1 " "	22
1 " "	24
2 " "	26
1 " "	27A
1 " "	33
4 " "	35
61 " "	37

1 of No.	44
1 " "	45
2 " "	52
1 " "	57
4 " "	59

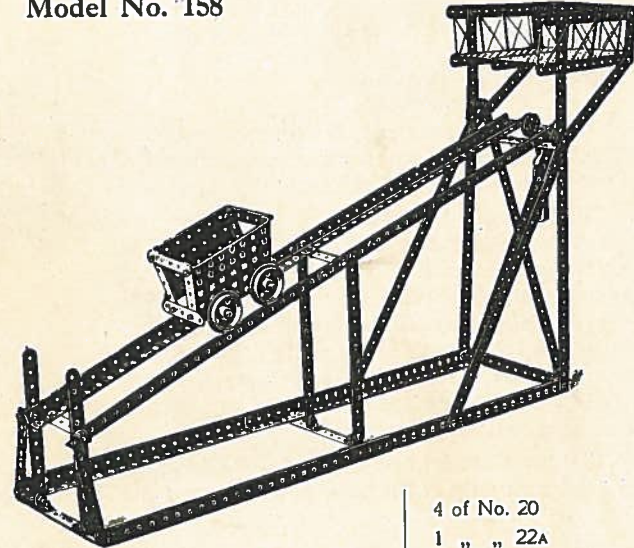


The lower horizontal ribs 1 and main vertical members 2 are made of angle girders overlapping nine holes; and the diagonal ties 3 of two  $12\frac{1}{2}$ " strips and one  $5\frac{1}{2}$ " strip, the  $12\frac{1}{2}$ " strips being overlapped three holes, and the lower  $5\frac{1}{2}$ " strip seven holes.

The pulley 4 is carried in a nosing made of two  $5\frac{1}{2}$ " strips and two  $12\frac{1}{2}$ " strips connected at their apex by angle brackets. The rear swivel point of the crane is made by bolting the gear box 5 to a double bent strip 6 secured to the floor. The crane runs on the flanged wheels 7, the spindles of which are secured in their position by collars and set-screws.

## Inclined Delivery Chute

Model No. 158



### Parts Required:

6 of No.	1
16 " "	2
4 " "	3

2 of No.	4
8 " "	5
8 " "	8
16 " "	12
3 " "	15

4 of No.	20
1 " "	22A
2 " "	35
70 " "	37
2 " "	52
2 " "	53
1 " "	57

This model furnishes an illustration of the inclined plane. The loading platform at the extreme right delivers a load into the truck, which being now heavier than the balance weight, runs down the incline, and when at the bottom discharges its load by tipping. The weight immediately overcoming the empty truck returns it quickly to the loading platform.

## Model No. 159 Fire Escape

Parts Required :

2 of No. 1	1 of No. 15A
4 " " 2	2 " " 19
3 " " 3	4 " " 20
2 " " 4	3 " " 22
4 " " 5	1 " " 23
4 " " 8	2 " " 26
2 " " 11	2 " " 33
18 " " 12	8 " " 35
4 " " 15	48 " " 37
	1 " " 60

In constructing this model, take two angle girders 1 and tie these together with  $3\frac{1}{2}$ " strips 2 at top and bottom.  $5\frac{1}{2}$ " strips 3 are then attached at right angles to one end of the frame, diagonal stays 4 tying these short strips to the angle brackets attached to the frame. The sliding ladder, Fig. 159B, is constructed from two angle girders reversed to those of the main frame, the angle girders of the sliding ladder being tied together by two  $2\frac{1}{2}$ " strips, and being retained and guided in the main carriage by the short angle brackets 5 which act as clips. The framework of the running truck, Fig. 159A, is very simply constructed, and is pivotally attached by angle brackets 6 to the main frame

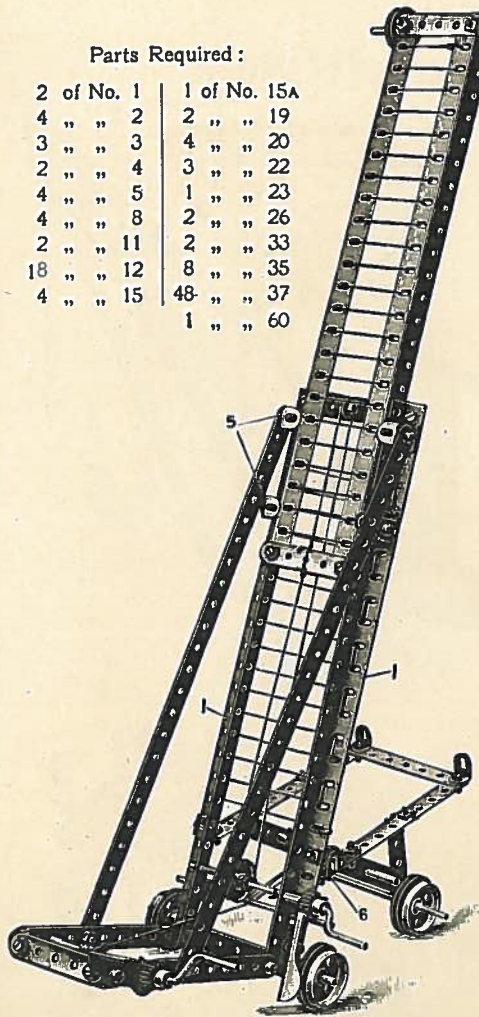


Fig. No. 159A

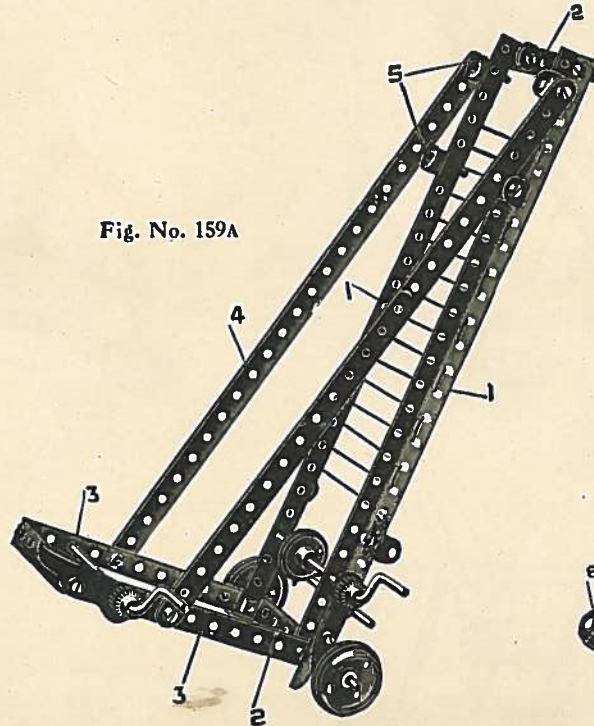
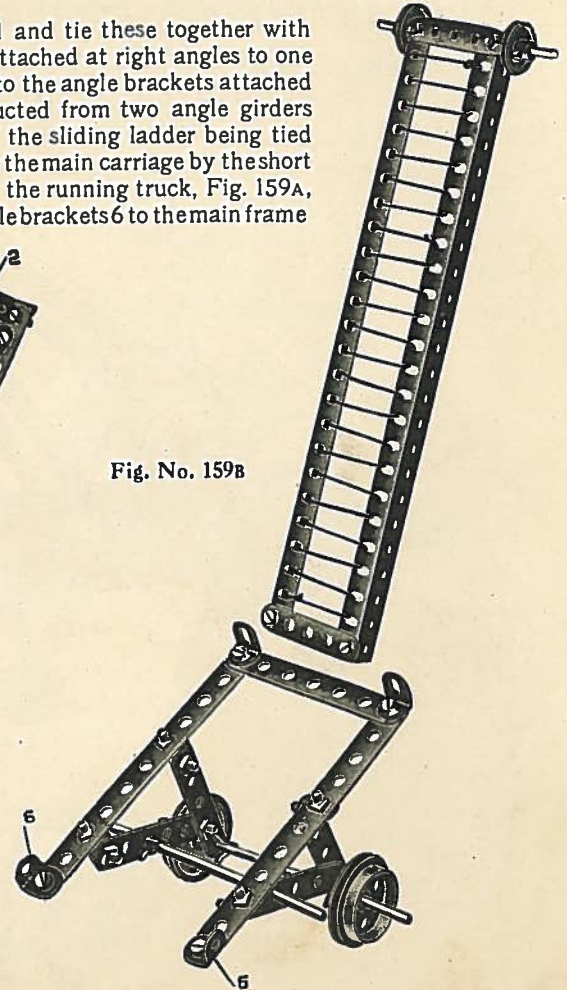


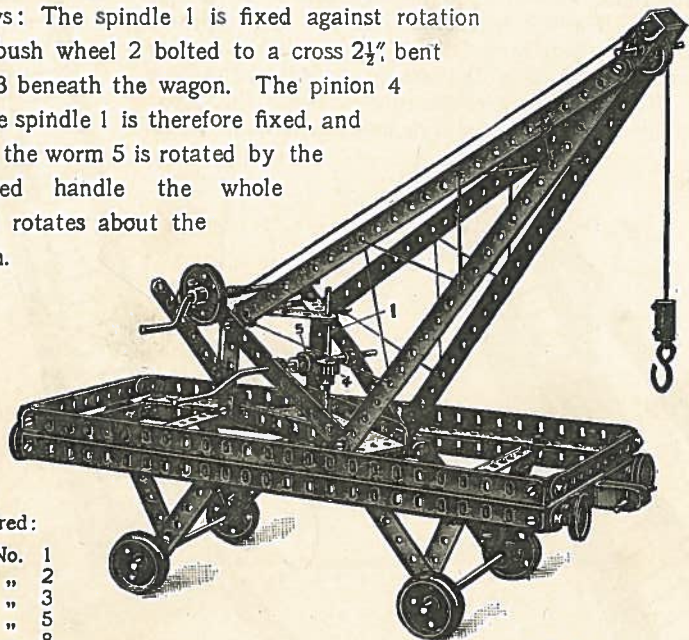
Fig. No. 159B



Model No. 160

# Railway Wagon Swivel Crane

The swivelling action of this model is obtained as follows: The spindle 1 is fixed against rotation in a bush wheel 2 bolted to a cross  $2\frac{1}{2}$ " bent strip 3 beneath the wagon. The pinion 4 on the spindle 1 is therefore fixed, and when the worm 5 is rotated by the cranked handle the whole crane rotates about the pinion.



Parts Required:

- 4 of No. 1
- 8 " " 2
- 5 " " 3
- 9 " " 5
- 4 " " 8
- 1 " " 11
- 16 " " 12
- 3 " " 15
- 2 " " 17
- 2 " " 19
- 4 " " 20
- 1 " " 21
- 4 " " 22
- 1 " " 22A
- 1 " " 24
- 1 " " 26
- 1 " " 32

Parts Required:

- 5 of No. 35
- 69 " " 37
- 1 " " 44
- 1 " " 45
- 1 " " 52
- 1 " " 54
- 1 " " 57
- 2 " " 59
- 2 " " 60

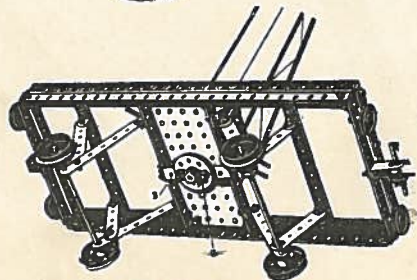
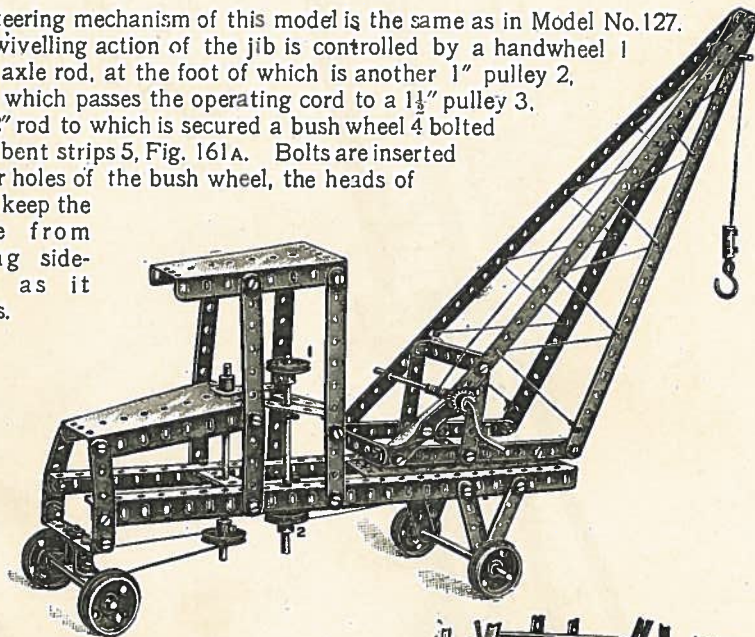


Fig. 160A

Model No. 161

# Travelling Swivel Crane

The steering mechanism of this model is the same as in Model No.127. The swivelling action of the jib is controlled by a handwheel 1 on an axle rod, at the foot of which is another 1" pulley 2, round which passes the operating cord to a  $1\frac{1}{2}$ " pulley 3, on a 2" rod to which is secured a bush wheel 4 bolted to  $2\frac{1}{2}$ " bent strips 5, Fig. 161A. Bolts are inserted in four holes of the bush wheel, the heads of which keep the crane from tilting sideways as it swivels.



Parts Required:

- |            |             |             |
|------------|-------------|-------------|
| 4 of No. 1 | 2 of No. 17 | 6 of No. 35 |
| 6 " " 2    | 1 " " 19    | 51 " " 37   |
| 2 " " 3    | 4 " " 20    | 1 " " 45    |
| 11 " " 5   | 1 " " 21    | 1 " " 52    |
| 2 " " 8    | 3 " " 22    | 2 " " 54    |
| 1 " " 11   | 1 " " 22A   | 1 " " 57    |
| 2 " " 12   | 1 " " 24    | 6 " " 60    |
| 3 " " 15   | 1 " " 26    | 1 " " 62    |
| 1 " " 16   | 1 " " 33    | 1 " " 63    |

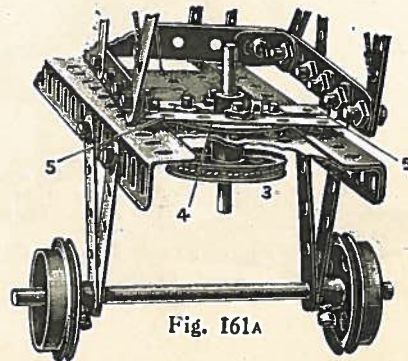


Fig. 161A

### Model No. 162 Pile Driver

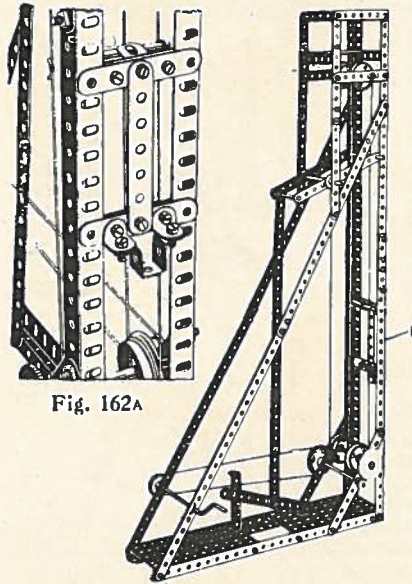
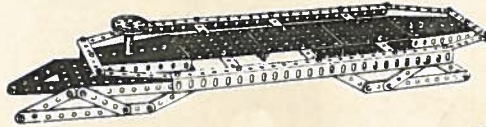


Fig. 162A

Parts Required :

5 of No. 1	3 of No. 15A	6 of No. 35
10 " " 2	2 " " 17	69 " " 37
6 " " 3	1 " " 19	1 " " 45
2 " " 4	4 " " 20	2 " " 52
4 " " 5	1 " " 21	1 " " 53
6 " " 8	1 " " 22	1 " " 60
6 " " 12	1 " " 26	2 " " 62
2 " " 15	1 " " 27A	

### Model No. 163 Bob Sleigh



Parts Required :

7 of No. 2	1 of No. 24
6 " " 3	59 " " 37
12 " " 5	1 " " 45
2 " " 8	2 " " 52
2 " " 11	3 " " 53
1 " " 17	2 " " 54
1 " " 21	1 " " 63

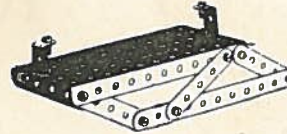
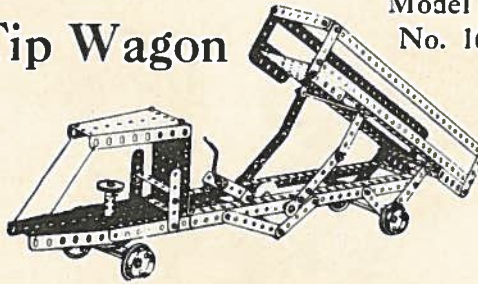


Fig. 163A

### Tip Wagon

Model No. 165

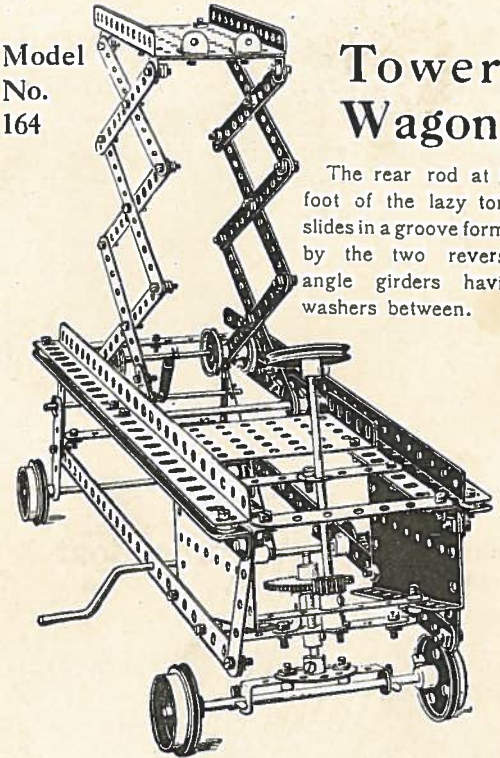


Parts Required :

2 of No. 1	2 of No. 16	1 of No. 32	4 of No. 59
6 " " 3	1 " " 17	2 " " 35	4 " " 60
2 " " 4	1 " " 19	54 " " 37	2 " " 62
12 " " 5	4 " " 20	1 " " 45	1 " " 63
4 " " 8	1 " " 22	1 " " 52	
6 " " 12	1 " " 24	3 " " 53	
3 " " 15a	1 " " 27	2 " " 54	

Model No. 164

### Tower Wagon



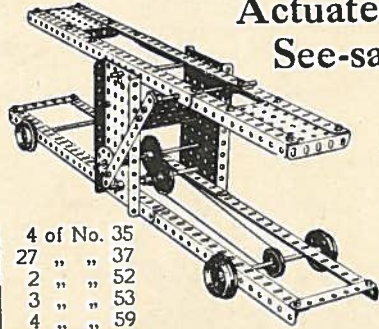
The rear rod at the foot of the lazy tongs slides in a groove formed by the two reversed angle girders having washers between.

Parts Required :

2 of No. 1	3 of No. 15	4 of No. 22	1 of No. 45
12 " " 2	2 " " 15A	1 " " 24	1 " " 52
6 " " 3	1 " " 17	2 " " 26	1 " " 53
2 " " 4	1 " " 19	1 " " 27	2 " " 54
4 " " 8	4 " " 20	1 " " 33	4 " " 59
1 " " 10	1 " " 21	65 " " 37	2 " " 62
4 " " 12			

**Model No. 166**

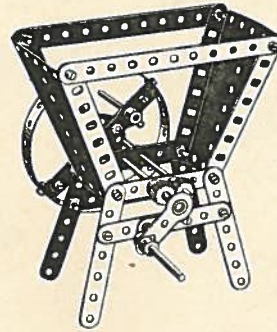
**Actuated See-saw**



Parts Required:

1 of No.	2
2 " "	3
8 " "	8
3 " "	15
3 " "	15A
4 " "	20
1 " "	21
1 " "	22
1 " "	24
1 " "	26
1 " "	27
4 of No.	35
27 " "	37
2 " "	52
3 " "	53
4 " "	59
1 " "	62

**Model No. 167 Coffee Grinder**

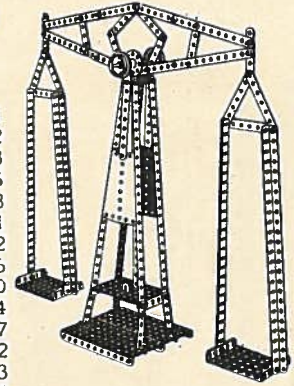


Parts Required:

1 of No.	1	2 of No.	17
2 " "	2	1 " "	24
6 " "	3	2 " "	26
2 " "	4	28 " "	37
4 " "	5	2 " "	54
4 " "	12	4 " "	59
1 " "	15	2 " "	62
1 " "	16		

**Demonstration Scales**

**Model No. 168**

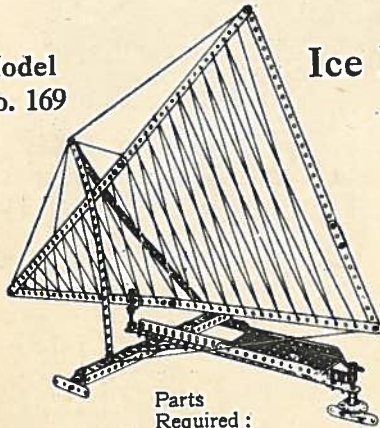


Parts Required:

5 of No.	1
10 " "	2
6 " "	3
12 " "	5
4 " "	8
2 " "	11
5 " "	12
1 " "	16
2 " "	20
1 " "	24
49 " "	37
2 " "	52
3 " "	53
2 " "	54

**Model No. 169**

**Ice Boat**

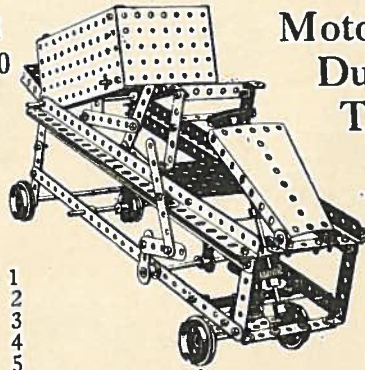


Parts Required:

7 of No.	1	3 of No.	11	39 of No.	37
1 " "	2	6 " "	12	1 " "	52
2 " "	3	2 " "	17	3 " "	59
3 " "	5	1 " "	19	2 " "	62
2 " "	8	1 " "	24	1 " "	63
2 " "	10				

**Model No. 170**

**Motor Dump Truck**



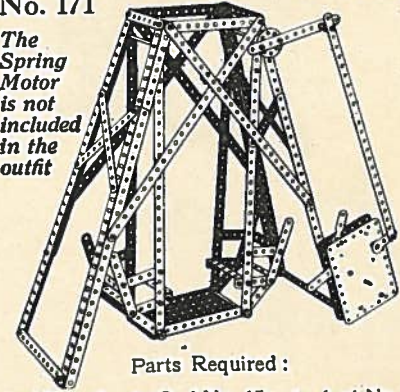
2 of No.	1
1 " "	2
6 " "	3
2 " "	4
11 " "	5
4 " "	8
9 " "	12
4 " "	15
2 " "	15a
1 " "	16
1 " "	17
4 " "	20
1 " "	21

3 of No.	22	1 of No.	45
1 " "	23	2 " "	52
1 " "	24	3 " "	53
1 " "	26	1 " "	54
1 " "	27	4 " "	59
4 " "	35	6 " "	60
65 " "	37	2 " "	62

**Model No. 171**

**Lawn Swing**

*The Spring Motor is not included in the outfit*

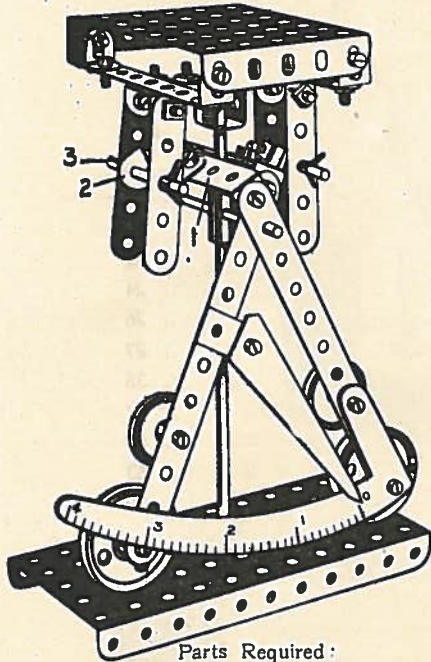


Parts Required:

9 of No.	1	2 of No.	15A	1 of No.	52
9 " "	2	2 " "	16	4 " "	59
6 " "	3	1 " "	24	6 " "	60
12 " "	5	6 " "	35	2 " "	62
8 " "	8	65 " "	37	1 " "	63

Model No. 172

## Letter Balance

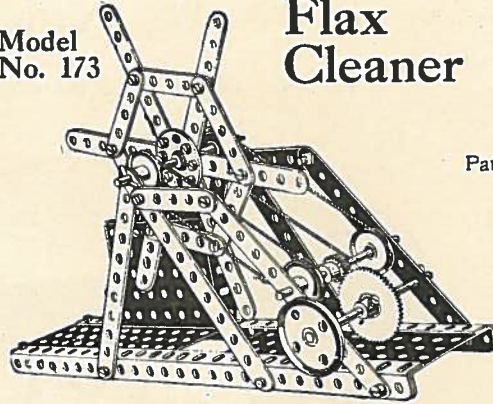


Parts Required:	
2 of No. 2	2 of No. 20
2 " " 3	2 " " 22
5 " " 5	8 " " 35
2 " " 10	31 " " 37
4 " " 11	1 " " 45
4 " " 12	1 " " 52
1 " " 15	1 " " 53
1 " " 16	4 " " 60
2 " " 17	1 " " 63

Strip 1 is bolted by an angle bracket to a double bent strip 2, which forms the pivot round the rod 3.

Model No. 173

## Flax Cleaner

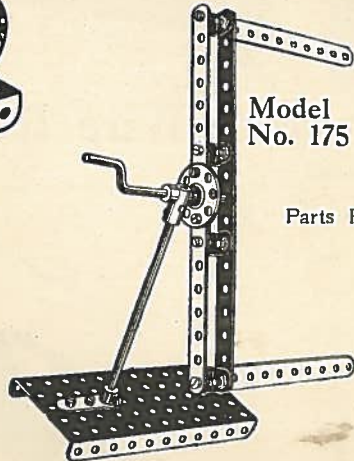


Parts Required:

6 of No. 2	2
6 " " 3	3
8 " " 5	8
2 " " 8	15A
2 " " 16	21
1 " " 22	24
4 " " 24	26
1 " " 27A	35
3 " " 37	52
28 " " 52	

Model No. 175

## Lace Jennie

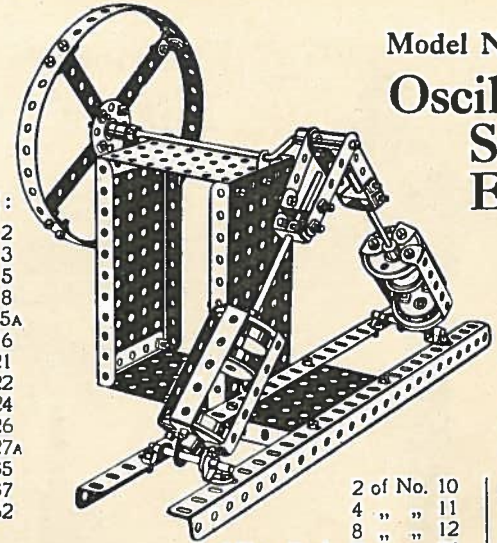


Parts Required:

8 of No. 2	2
4 " " 11	11
1 " " 15	15
1 " " 19	19
1 " " 24	24
14 " " 37	37
1 " " 52	52
1 " " 59	59
1 " " 62	62
1 " " 63	63

Model No. 174

## Oscillating Steam Engine



Parts Required

4 of No. 20	20
2 " " 22	22
1 " " 24	24
54 " " 37	37
2 " " 52	52
3 " " 53	53
4 " " 59	59
6 " " 60	60
1 " " 63	63

2 of No. 10	10
4 " " 11	11
8 " " 12	12
2 " " 15	15
2 " " 17	17
2 " " 8	19

## Perambulator

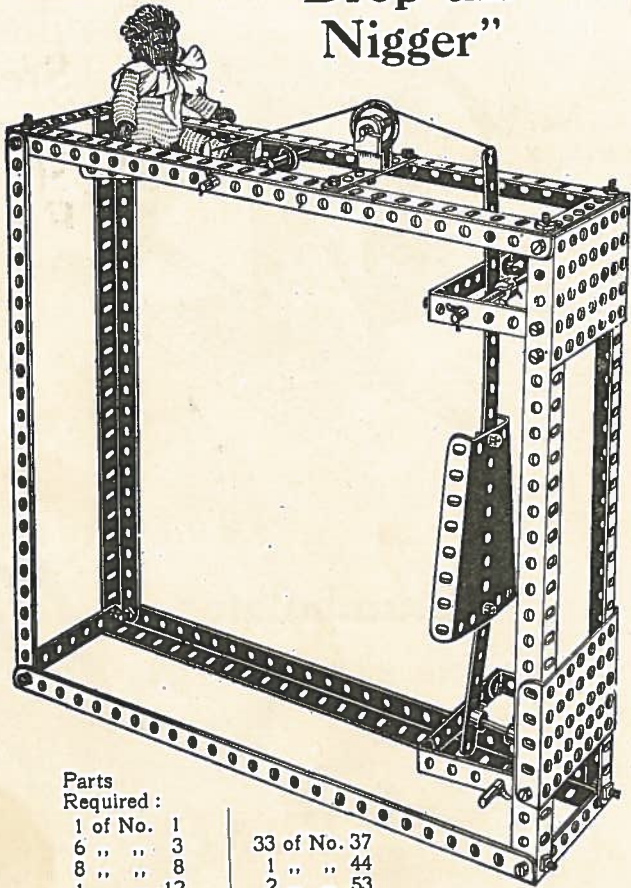
Model No. 176

Parts Required:

3 of No. 1	1 of No. 16
10 " " 2	4 " " 19A
12 " " 5	2 " " 22
2 " " 10	10 " " 35
12 " " 12	45 " " 37
3 " " 15A	1 " " 52
	3 " " 60



### Model No. 177 "Drop the Nigger"

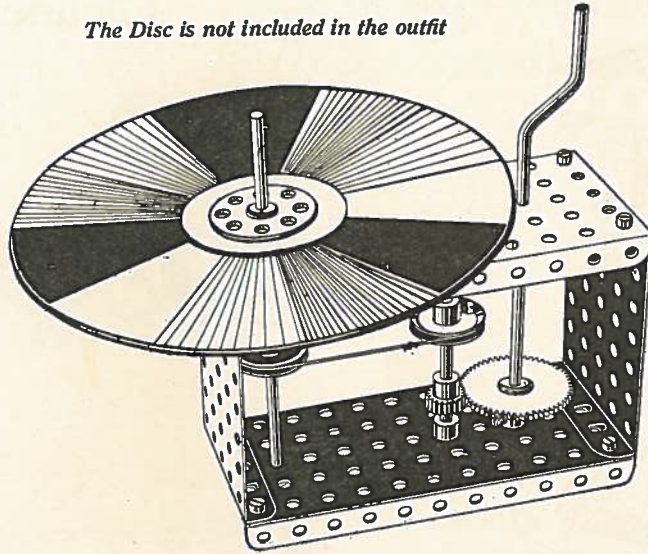


Parts Required:

1 of No. 1	33 of No. 37
6 " " 3	1 " " 44
8 " " 8	2 " " 53
1 " " 12	2 " " 54
3 " " 15A	3 " " 59
1 " " 17	4 " " 60
1 " " 22	1 " " 63
6 " " 35	

### Model No. 178 Newton's Disc

*The Disc is not included in the outfit*



Parts Required:

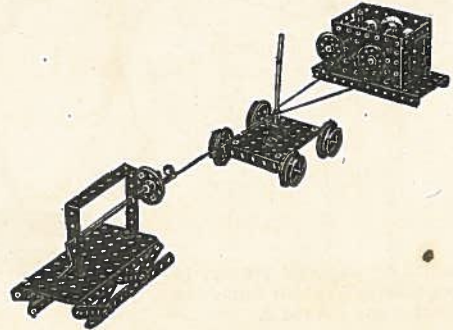
1 of No. 15
1 " " 15A
1 " " 19
2 " " 22
1 " " 24
1 " " 26
1 " " 27
2 " " 35
8 " " 37
2 " " 52
2 " " 53
4 " " 59

### Model No. 179

### Wire Rope Maker

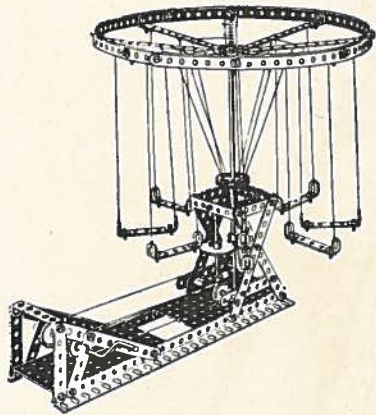
Parts Required:

2 of No. 2	2 of No. 26
1 " " 3	1 " " 27a
10 " " 5	2 " " 35
3 " " 11	38 " " 37
10 " " 12	1 " " 45
3 " " 15	2 " " 52
2 " " 15a	3 " " 53
2 " " 19	4 " " 50
4 " " 20	2 " " 60
1 " " 24	2 " " 62



Model  
No. 180

## Roundabout

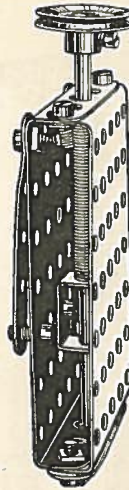


Parts  
Required:

3 of No.	1
14 " "	2
2 " "	3
2 " "	4
12 " "	5
2 " "	8
24 " "	12
3 " "	15
1 " "	16
1 " "	19
1 " "	21
4 " "	22
2 " "	26
1 " "	27
1 " "	32
68 " "	37
2 " "	52
4 " "	59
4 " "	60
1 " "	63
12 " "	38

Model No. 181

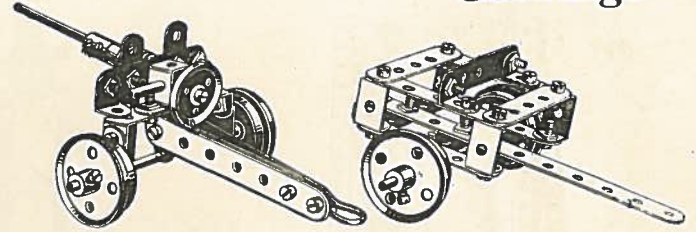
## Conductor's Punch



Parts  
Required .

3 of No.	5
1 " "	11
1 " "	15A
1 " "	22
9 " "	37
1 " "	43
2 " "	53
1 " "	59

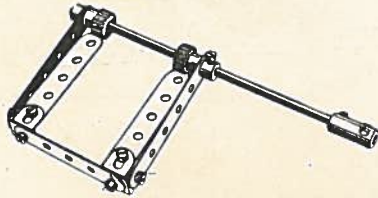
Model No. 182 **Field Gun and  
Carriage**



Parts Required:

1 of No	2	2 of No.	15A	27 of No	37
5 " "	3	1 " "	16	1 " "	45
12 " "	5	1 " "	17	1 " "	57
2 " "	10	4 " "	20	2 " "	59
4 " "	11	1 " "	22	2 " "	60
5 " "	12	1 " "	32	1 " "	63

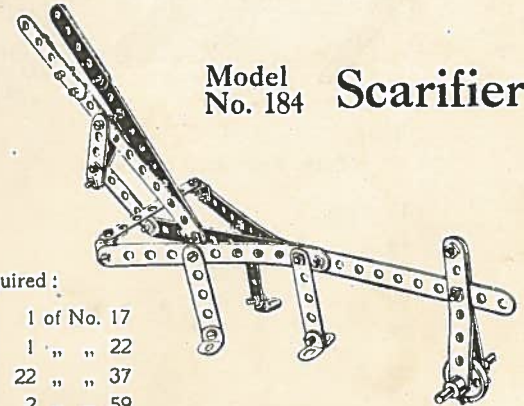
Model  
No. 183 **Rattle**



Parts  
Required:

2 of No.	4	2 of No.	26
3 " "	5	6 " "	37
4 " "	12	2 " "	59
1 " "	15	1 " "	63

Model  
No. 184 **Scarifier**

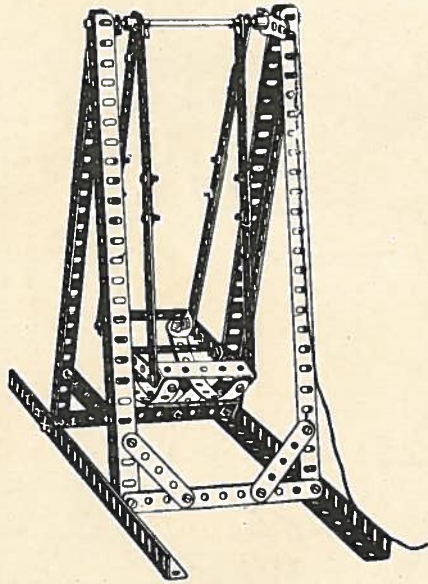


Parts Required:

6 of No.	2	1 of No.	17
3 " "	3	1 " "	22
10 " "	5	22 " "	37
6 " "	12	2 " "	59



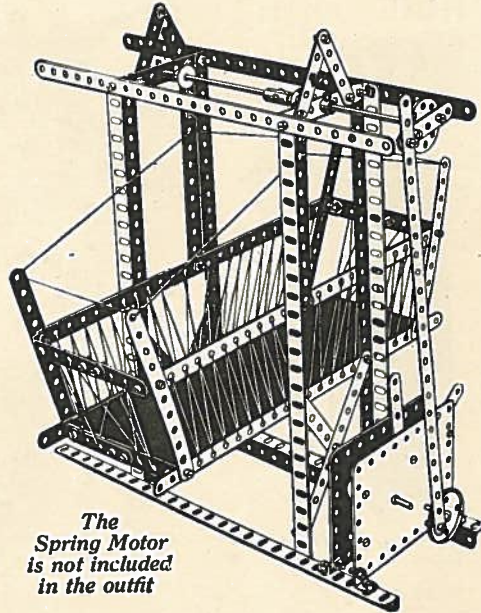
Model  
No. 185 **Swing**



Parts Required :

12 of No. 2	1 of No 15
10 " " 5	45 " " 37
6 " " 8	4 " " 60
2 " " 11	2 " " 62
4 " " 12	

Model  
No. 186 **Automatic  
Swing Boat**

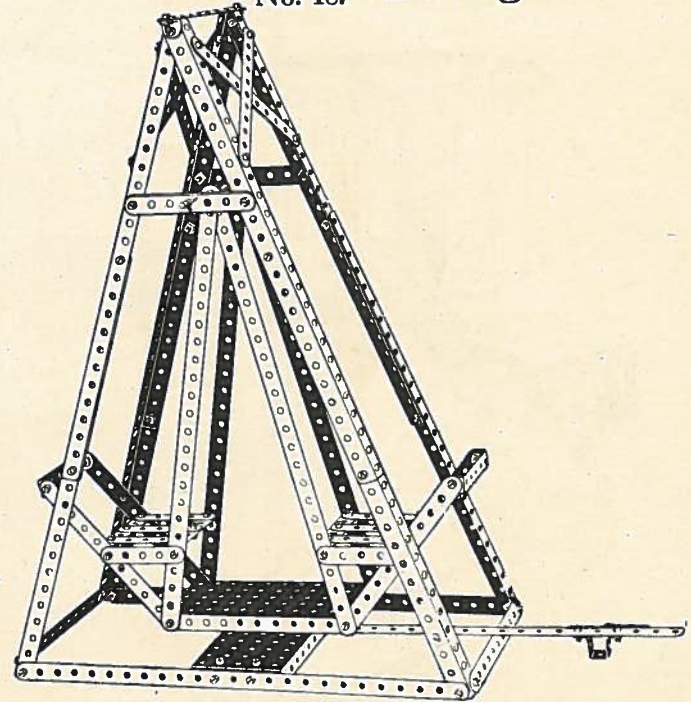


*The  
Spring Motor  
is not included  
in the outfit*

Parts Required :

7 of No. 1	1 of No. 21
10 " " 2	1 " " 24
3 " " 3	66 " " 37
12 " " 5	2 " " 59
4 " " 8	2 " " 62
12 " " 12	1 " " 63
2 " " 15	

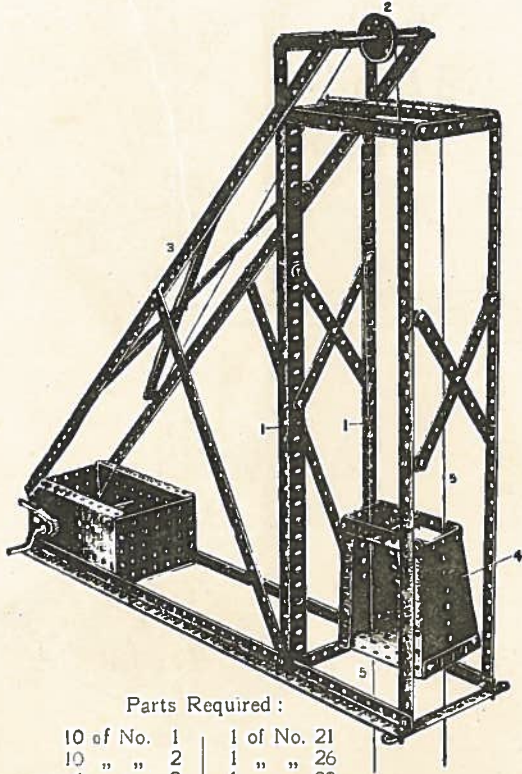
Model  
No. 187 **Swing**



Parts Required :

7 of No. 1	1 of No. 15
11 " " 2	6 " " 35
2 " " 3	67 " " 37
10 " " 5	1 " " 45
8 " " 8	2 " " 52
6 " " 12	6 " " 60

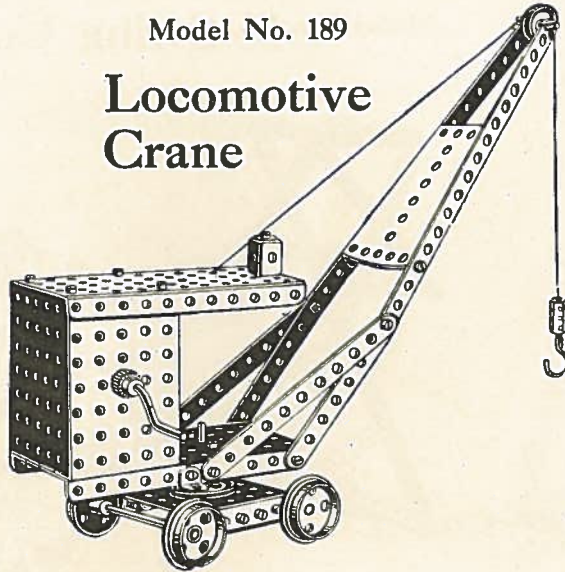
Model No. 188 Pit Head Gear



Parts Required:

10 of No. 1	1 of No. 21
10 " " 2	1 " " 26
6 " " 3	1 " " 33
4 " " 5	6 " " 35
8 " " 8	76 " " 37
1 " " 11	2 " " 52
14 " " 12	3 " " 53
1 " " 15	2 " " 54
1 " " 17	1 " " 59
1 " " 19	

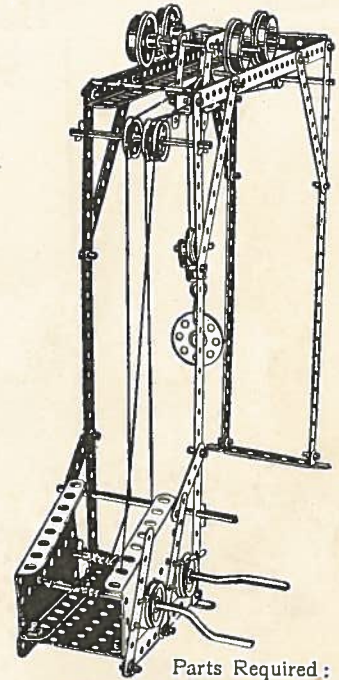
Model No. 189  
Locomotive Crane



Parts Required:

2 of No. 1	1 of No. 24
2 " " 2	1 " " 26
2 " " 3	1 " " 33
3 " " 11	2 " " 35
2 " " 12	38 " " 37
2 " " 15A	2 " " 52
1 " " 17	3 " " 53
1 " " 18	1 " " 54
1 " " 19	1 " " 57
4 " " 20	2 " " 59
1 " " 21	5 " " 60
1 " " 22	1 " " 63

Model No. 190 Crane

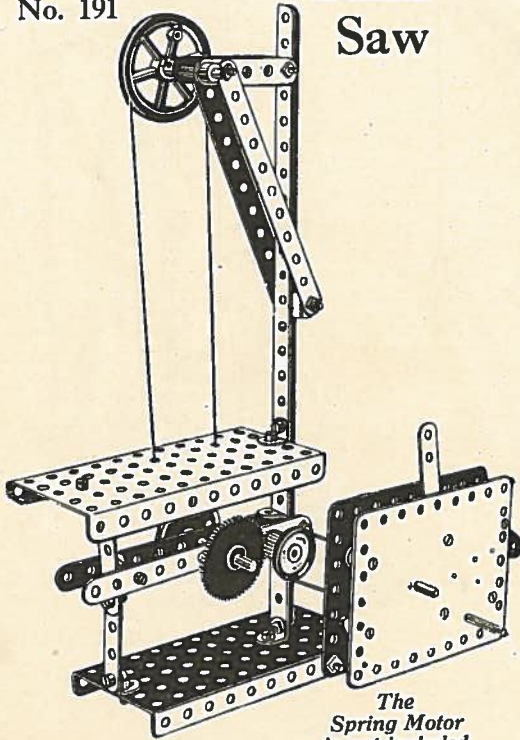


Parts Required:

4 of No. 1	4 of No. 20
6 " " 2	1 " " 21
2 " " 3	4 " " 22
10 " " 5	2 " " 22A
2 " " 8	1 " " 23
3 " " 11	1 " " 24
4 " " 12	12 " " 35
1 " " 15	32 " " 37
3 " " 15A	1 " " 44
1 " " 16	1 " " 52
1 " " 17	2 " " 54
1 " " 18	1 " " 57
2 " " 19	3 " " 60

Model No. 191

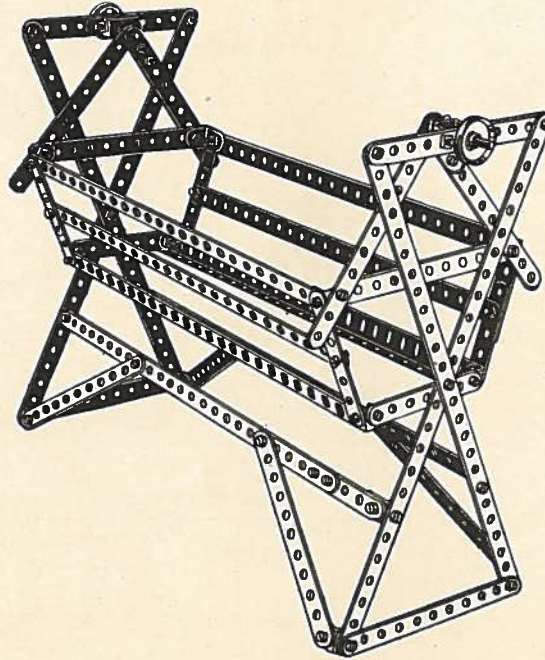
# Band Saw



*The Spring Motor is not included in the outfit*

Parts Required :		
4 of No. 2	2 of No. 17	1 of No. 27A
4 " " 5	1 " " 20A	21 " " 37
1 " " 8	1 " " 21	2 " " 52
3 " " 11	1 " " 22	2 " " 59
3 " " 12	1 " " 26	1 " " 60
1 " " 16		

Model No. 192 Swing Cot

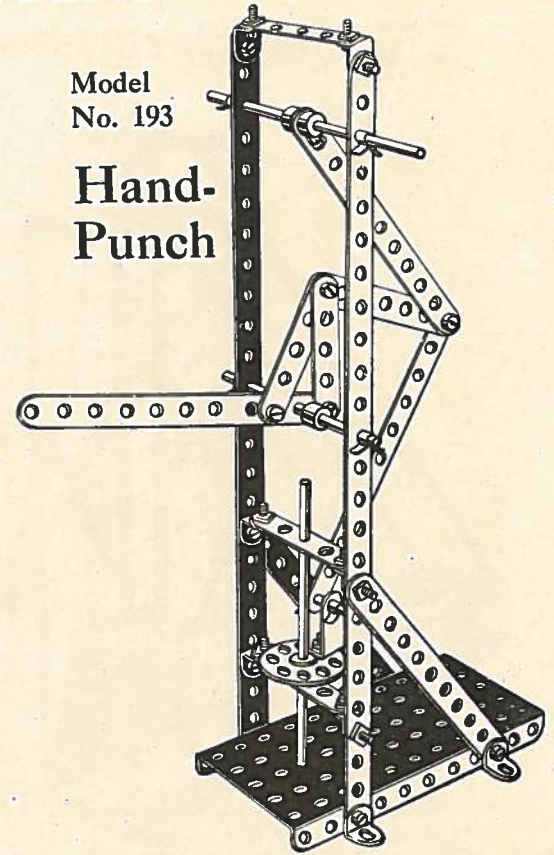


Parts Required :

10 of No. 1	20 of No. 12
14 " " 2	2 " " 17
2 " " 3	2 " " 22
8 " " 5	62 " " 37
2 " " 8	2 " " 62
2 " " 11	

Model No. 193

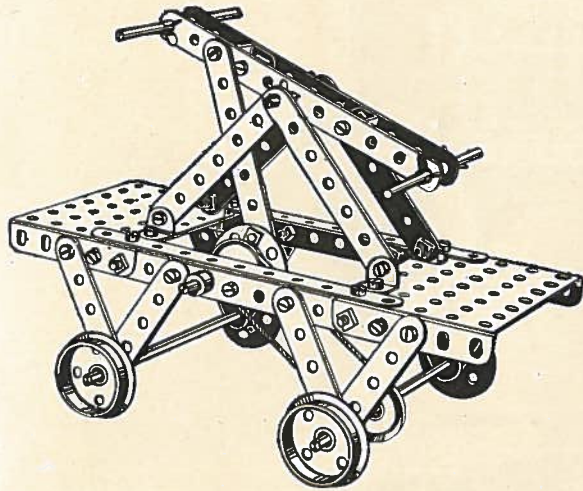
# Hand-Punch



Parts Required :

2 of No. 1	1 of No. 15	23 of No. 37
5 " " 2	2 " " 16	1 " " 44
1 " " 3	1 " " 18	1 " " 52
2 " " 5	1 " " 24	4 " " 59
8 " " 12	6 " " 35	3 " " 60

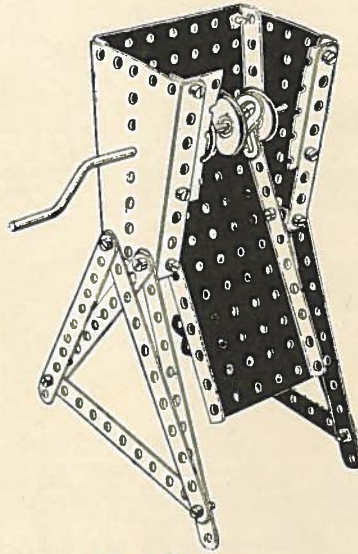
Model  
No. 194 **Hand Car**



Parts Required:

6 of No. 2	2 of No. 16	6 of No. 35
5 " " 3	2 " " 17	34 " " 37
8 " " 5	4 " " 20	2 " " 37A
2 " " 11	4 " " 22	1 " " 45
4 " " 12	2 " " 24	2 " " 53
2 " " 15	1 " " 24	1 " " 59

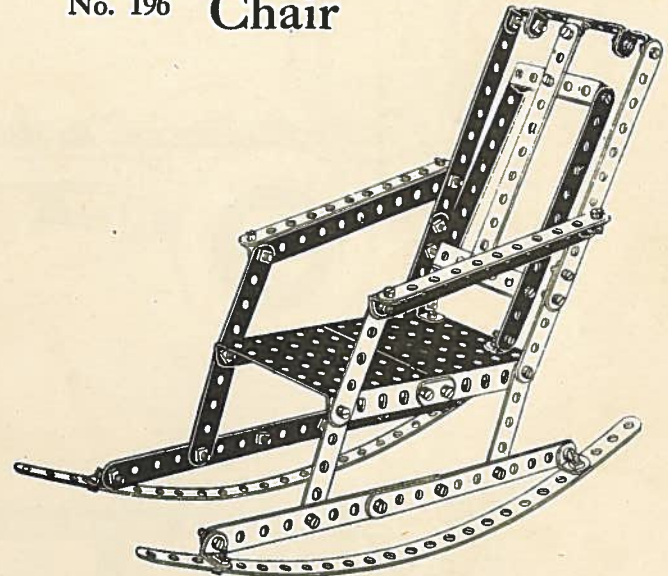
Model  
No. 195 **Oil Cake  
Chopper**



Parts Required .

10 of No. 2	20 of No. 37
4 " " 10	1 " " 52
4 " " 12	2 " " 53
1 " " 19	2 " " 54
4 " " 22	

Model  
No. 196 **Rocking  
Chair**



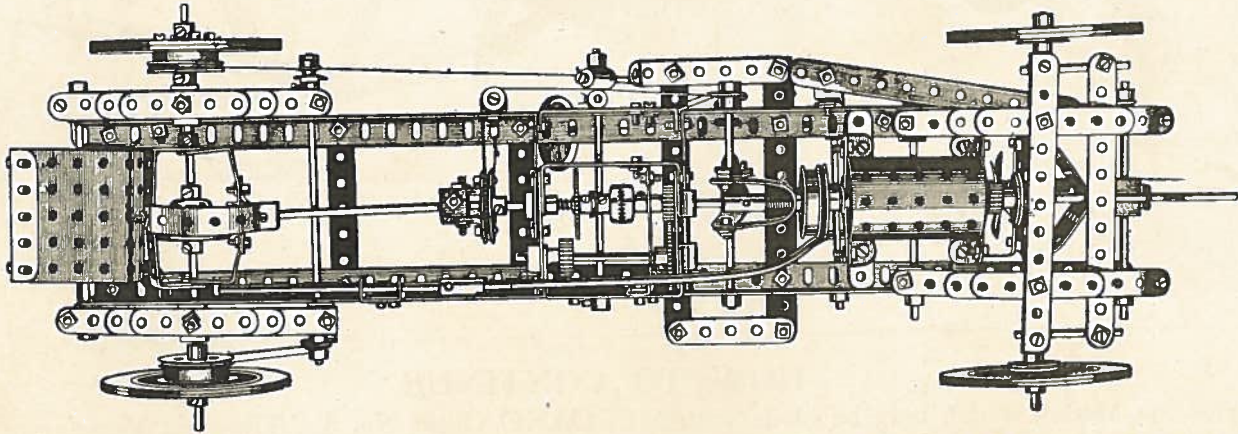
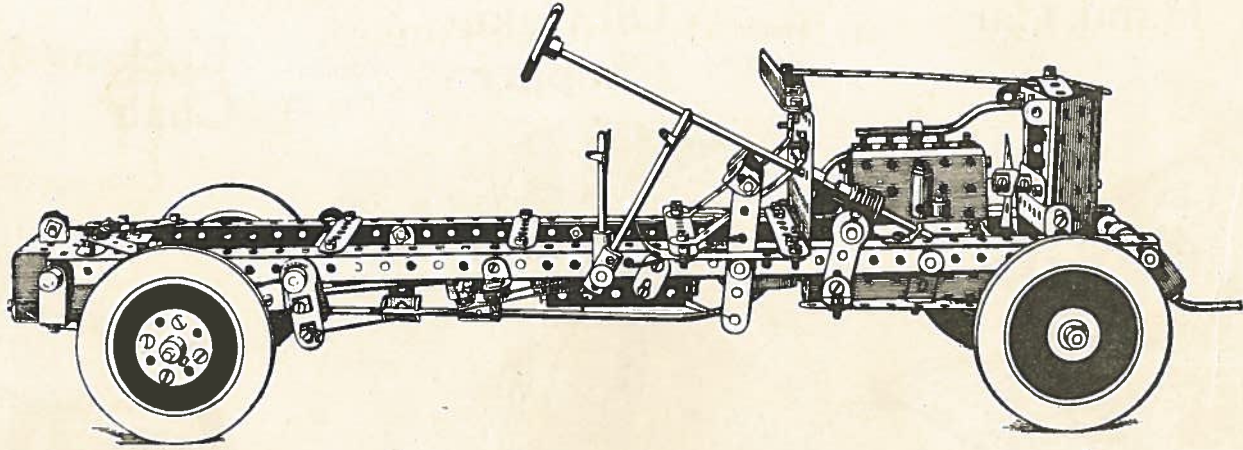
Parts Required :

2 of No. 1	2 of No. 10	48 of No. 37
13 " " 2	2 " " 11	2 " " 53
8 " " 5	11 " " 12	3 " " 60

### HOW TO CONTINUE

This completes the Models which may be made with MECCANO Outfit No. 3. 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. 3A Accessory Outfit, the cost of which will be found in the Price List at the end of the Manual.

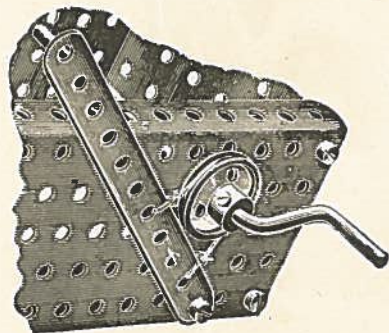
## Special Meccano Model No. 320 Motor Car Chassis



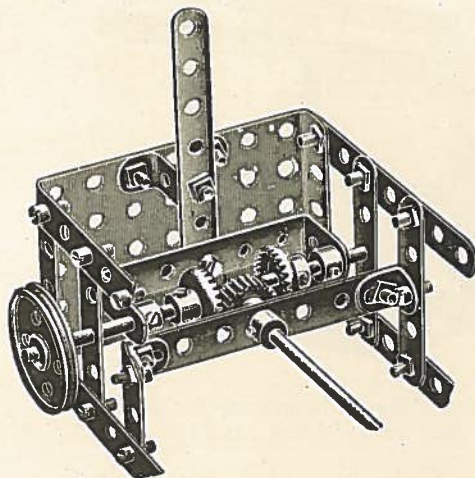
By means of these illustrations any Meccano boy should be able to build his own car. The new Meccano wheels are more effective than the cardboard ones shown. If the model gives you any trouble, send us a line, and we will mail you further illustrations.

# Standard Details for use in the Construction of Models on the Meccano Principle

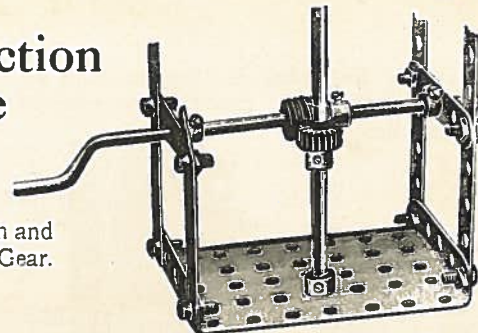
A—A Brake Mechanism suitable for controlling winding or similar spindles.



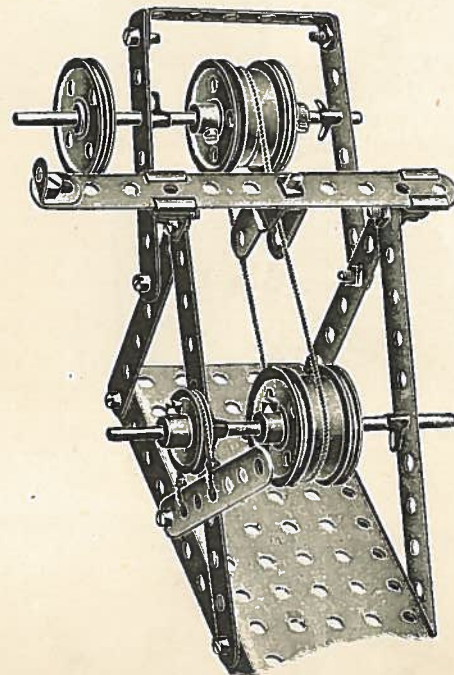
B—Type of Reversing Gear



C—Worm and Worm Gear.



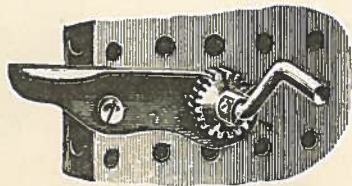
G—Method of operating a fast and loose pulley with a belt drive, one of the flanged wheels on the main shaft being secured whilst the other runs freely.



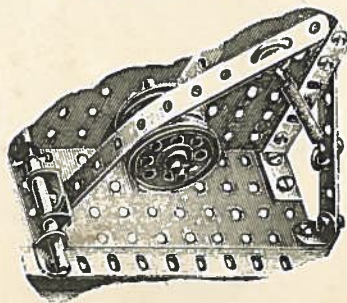
D—Method of locking swivelling connections with double nuts.



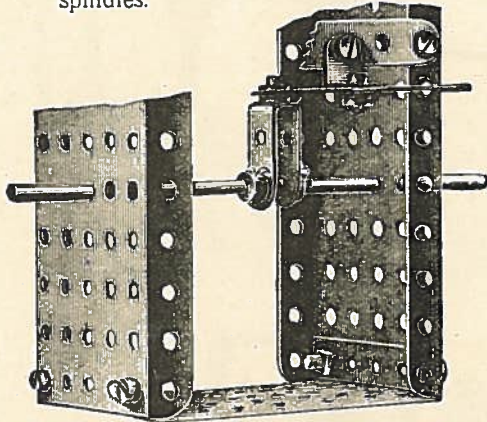
E—Pawl and Pinion or Ratchet Gear; used also as a brake.



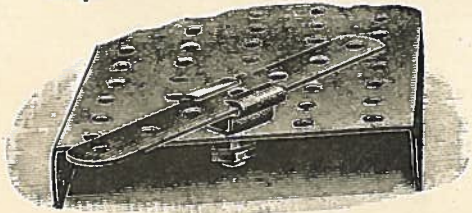
F—Spring controlled Band Friction Brake.



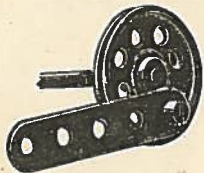
**H**—Simple Extended Bearing suitable for longitudinal or rotary movement of spindles.



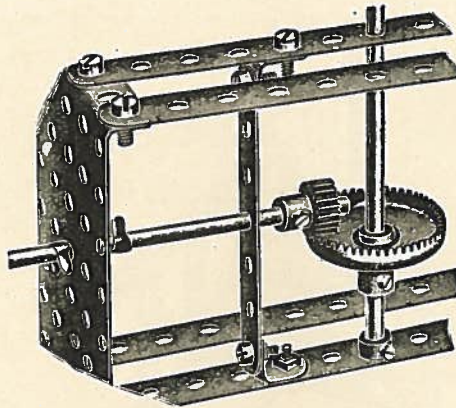
**K**—Swivel Bearing providing for combined sliding and oscillating movement of a strip.



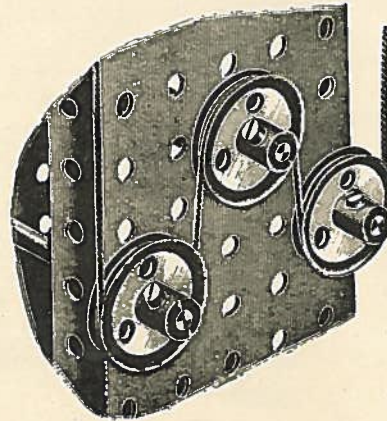
**N**—Crank formed with  $1\frac{1}{2}$ " pulley wheel and strip, lock-nutted. See detail 10)



**I**—Gear Connection for coupling two shafts at right angles.



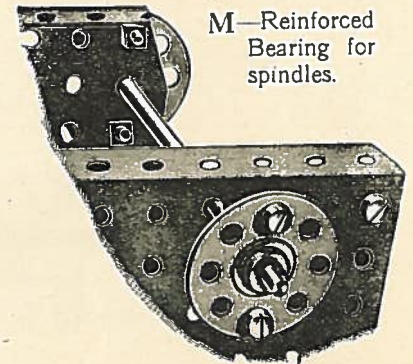
**L**—Jockey Pulley Arrangement for increasing grip in a driving band.



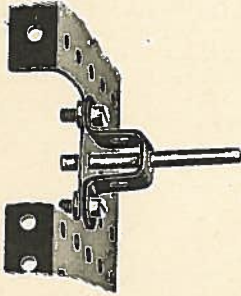
**J**—Purchase Pulley.



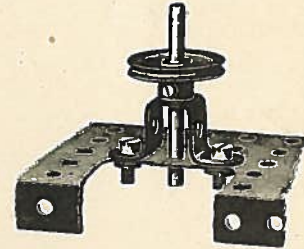
**M**—Reinforced Bearing for spindles.



**O**—Extended bearing for a spindle formed by a double bent strip bolted to a perforated plate.



**P**—Footstep bearing for a vertical spindle formed by bolting a double bent strip to a perforated plate.



**Q**—Overhung support for  $\frac{1}{2}$ " pulley. The bolt spindle for the pulley is nipped on each side of the angle bracket.



**R**—Overhung support for larger pulley. The screwed end of the bolt is entered in the wheel boss and nipped by the set screw.







## Price List of Outfits

No. 0.	Meccano Outfit	..	..	..	..	..	..	..	..	\$1.50
No. 1.	“ “	..	..	..	..	..	..	..	..	3.00
No. 1X.	“ “	..	..	..	..	..	..	..	..	5.50
No. 2.	“ “	..	..	..	..	..	..	..	..	6.00
No. 2X.	“ “	..	..	..	..	..	..	..	..	8.50
No. 3.	“ “	..	..	..	..	..	..	..	..	9.00
No. 3X.	“ “	..	..	..	..	..	..	..	..	11.50
No. 4.	“ “	..	..	..	..	..	..	..	..	15.00
No. 5.	“ “	..	..	..	..	..	..	..	..	20.00
No. 5X.	“ “	..	..	..	..	..	..	..	..	26.00
No. 6.	“ “	..	..	..	..	..	..	..	..	40.00
No. 0A.	Meccano Accessory Outfit									\$1.50
No. 1A.	“ “ “									3.00
No. 2A.	“ “ “									3.00
No. 3A.	“ “ “									6.00
No. 4A.	“ “ “									5.00
No. 5A.	“ “ “									20.00
										3.00
Meccano Inventor's Accessory Outfit A		..	..	..	..	..	..	..	..	3.00
“ “ “ “ B		..	..	..	..	..	..	..	..	7.00
“ Electrical “ “		..	..	..	..	..	..	..	..	4.00



# Particulars and Prices of Meccano Parts



Part No.	Perf. Strips, 12 1/2" long (1/2 doz.)	Cents
1		45
1A	" " 9 1/2" " "	35
2	" " 5 1/2" " "	25
2A	" " 4 1/2" " "	20
3	" " 3 1/2" " "	20
4	" " 3" " "	20
5	" " 2 1/2" " "	15
6	" " 2" " "	15
6A	" " 1 1/2" " "	15




Part No.	Angle Girders, 24 1/2" long	each	Cents
7			25
7A	" " 18 1/2" " "		20
8	" " 12 1/2" " "	1/2 doz.	60
8A	" " 9 1/2" " "		55
9	" " 5 1/2" " "		45


Part No.	Flat Brackets	1/2 doz.	Cents
10			05
11	Double Brackets	each	03




Part No.	Angle Brackets	doz.	Cents
12			12
12A	Angle Brackets, 1"	each	05



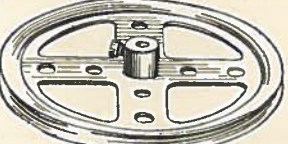
Part No.	Axle Rods, 11 1/2" long	each	Cents
13			10
13A	" " 8" " "		10
14	" " 6" " "		05
15	" " 5" " "		05
15A	" " 4 1/2" " "		05
16	" " 3 1/2" " "		05
17	" " 2" " "		02
18A	" " 1" " "		02





Part No.	Crank Handles	each	Cents
19			10
19A	Wheels, 3" diam. with set screw	"	20



Part No.	Flanged Wheels	each	Cents
20			25





Part No.	Pulley Wheels, 3" diam. with centre boss and set screw	each	Cents
19B			25
20A	Pulley Wheels, 2" diam. with centre boss and set screw	"	20

Part No.	Pulley Wheels, 1 1/2" diam. with centre boss and set screw	each	Cents
21			20
22	Pulley Wheels, 1" diam. with set screw	"	10
22A	Pulley Wheels, 1" diam. without centre boss and set screw	"	05
23	Pulley Wheels, 1/2" diam. without set screw	"	05
23A	Pulley Wheels, 1/2" diam. with set screw	"	10





Part No.	Bush Wheels	each	Cents
24			15

Part No.	Pinion	Gear	each	Cents
25	Pinion Wheels, 3/4" diam			25
26	" " 1/2" " "			15
27	Gear Wheels, 50 teeth (to gear with 3/4" pinion)			30
27A	Gear Wheels, 56 teeth (to gear with 1/2" pinion)			35




Part No.	Contrate Wheels, 1 1/2" diam.	each	Cents
28			50
29	" " 3/4" " "	"	30

Part No.	Bevel Gear	1" Gear	each	Cents
30	Bevel Gears			55
31	Gear Wheels, 1"—40 teeth			65



Part No.	Worm Wheels	each	Cents
32			25




Part No.	Pawls, complete	each	Cents
33			05



Part No.	Spanners	each	Cents
34			10




Part No.	Spring Clips, per box	doz.	Cents
35			15



Part No.	Screw Drivers	each	Cents
36			10
36A	Special Screwdrivers	"	50

Particulars and Prices of Meccano Parts—(Continued)





Part No.		doz.	Cents
37	Nuts and Bolts, per box	15	05
37A	Nuts, per box	10	05
37B	Bolts, per box	05	05
38	Washers	05	05
40	Hanks of Cord	each	05



41	Propeller Blades	per pair	15
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43	Springs	each	05
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	Cranked Bent Strip	Double Bent Strip	
44	Cranked Bent Strips	each	05
45	Double Bent Strips	each	05

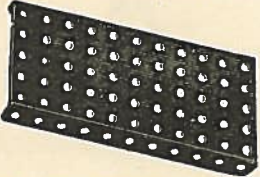


46	Double Angle Strips, 2 1/2" x 1"	each	05
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(See also Nos. 60 and 112)



50	Eye Pieces	each	05
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52	Perf. Flanged Plates, 5 1/2" x 2 1/2"	each	25
52A	Flat Plates	See No. 70	




Part No.		each	Cents
53	Perf. Flanged Plates, 3 1/2" x 2 1/2"	20	20
53A	Flat Plates	See No. 70	




54	Perforated Flanged Sector Plates	each	20
56	Manual of Instructions	"	35
56A	Instruction Manual, No. 2	"	35

57	Hooks	each	02
57A	Hooks (Scientific)	"	02
58	Spring Cord, per length	"	30
59	Collars with Set Screws	"	05



60A	Double Angle Strips, 1 1/2" x 1 1/2"	1/2 doz.	18
60	" " " 2 1/2" x 1 1/2"	"	20
60B	" " " 3 1/2" x 1 1/2"	"	25
60C	" " " 5 1/2" x 1 1/2"	"	36



61	Windmill Sails	each	10
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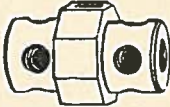
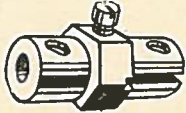


62	Cranks	each	15
62A	" Threaded	"	15


Bell—See No. 127



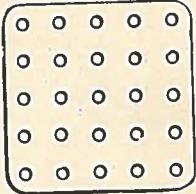
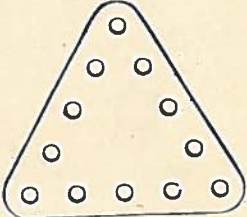
Part No.		each	Cents
63	Couplings	15	15


	Octagonal Coupling	Strip Coupling	
63A	Octagonal Couplings	each	20
63B	Strip Couplings	each	20




64	Threaded Bosses	each	06
65	Centre Forks	"	10
66	Weight, 50 grms.	"	20
67	" 25	"	15
68	Wood Screws, 1/2"	doz.	10
69	Set Screws	"	10
69A	Grub Screws	"	10

70	Flat Plates, 5 1/2" x 2 1/2"	each	15
72	" " 2 1/2" x 2 1/2"	"	10
52A	" " 5 1/2" x 3 1/2"	"	15
53A	" " 4 1/2" x 2 1/2"	"	12
76	Triangular Plates, 2 1/2"	"	05
77	" " 1"	"	04



80	Screwed Rods, 5"	each	15
80A	" " 3 1/2"	"	12
81	" " 2"	"	10
82	" " 1"	"	05



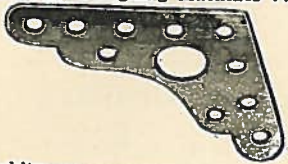
Part No.		Cents
89	Curved Strips, 5 1/2" .....	each 05
90	" " 2 1/2" .....	1/2 doz. 25
94	Sprocket Chain .....	per yard 25



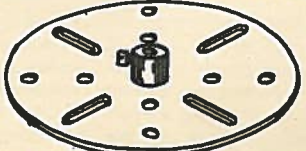
95	Sprocket Wheels, 2" .....	each 25
96	" " 1" .....	" 20




97	Braced Girders, 8 1/2" long .....	1/2 doz. 20
98	" " 2 1/2" " .....	" 15
99	" " 12 1/2" " .....	" 75
99A	" " 9 1/2" " .....	" 60
100	" " 5 1/2" " .....	" 60
101	Heads for Looms .....	doz. 45
102	Single Bent Strips for Looms ..	each 05
103	Flat Girders, 5 1/2" long .....	" 10
103A	" " 9 1/2" " .....	" 12
103B	" " 12 1/2" " .....	" 15
104	Shuttles .....	1.20
105	Reed Hooks .....	" 10
106	Rollers, Cloth .....	" 40
106A	" Sand .....	" 45
107	Tables for Designing Machines ..	" 25



108	Architraves .....	each 09
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109	Face Plates, 2 1/2" diam. ....	each 20
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Part No.		Cents
110	Rack Strips, 3 1/2" .....	each 10



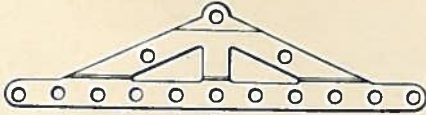
129	Rack Segments, 3" diam. ....	each 20
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111	Bolts, 3/4" .....	each 02
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112	Double Angle Strips, 2 1/2" x 1 1/2",	each 06
112A	" " 3" x 1 1/2" 1/2 doz.	36
	(See also Nos. 46 and 60)	



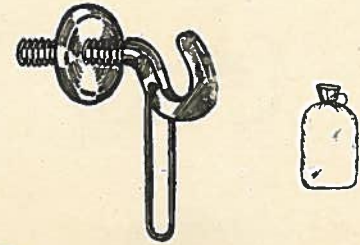
113	Girder Frames .....	each 10
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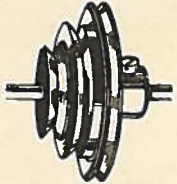
114	Hinges (pair) .....	per pair 20
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115	Threaded Pins .....	each 05
120	Buffers .....	" 05



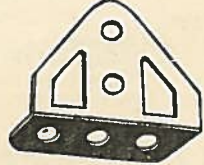
Part No.		Cents
121	Train Couplings .....	each 15
122	Miniature Sacks .....	(1/2 doz.) 30



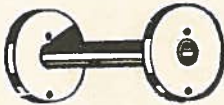
123	Cone Pulleys .....	each 50
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124	Reversed Angle Brackets, 1" (1/2 doz.)	25
125	" " " 1/2" " "	20



126	Trunnions .....	each 05
127	Simple Bell Cranks .....	" 10
128	Boss " .....	" 15



Part No. Cents  
301 Bobbins ..... each .10



302 Insulating Bushes ..... per doz. .15



303 Insulating Washers ..... per doz. .08



304 6 B. A. Screws ..... per doz. .15  
305 6 B. A. Nuts ..... " .10



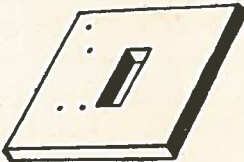
306 Terminals ..... each .05



307 Silver-tipped Contact-screws .... each .12




308 Pole Pieces ..... each .10



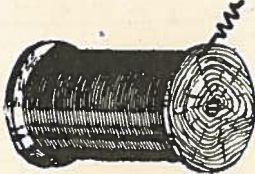
Part No. Cents  
309 Coil Cheeks ..... each .10



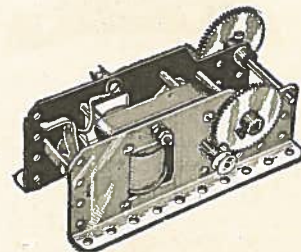
310 Lamp Holders ..... each .08



311 Metal Filament Lamps ..... each .20



312 30" lengths of bare iron wire, 27 gauge ..... each .05  
313 Reels of 50 yds., S. C. C. copper wire, 26 gauge ..... " .75  
314 Reels of 25 yds., S. C. C. copper wire, 28 gauge ..... " .65  
315 Coils of 4 yds., bare copper wire, 22 gauge ..... " .08  
Electrical Manual of Instructions.. " .45



### MECCANO ELECTRIC MOTORS

The best way to operate Meccano models. Side plates are perforated with equidistant holes so that motor can be built into model.

E1 Non-reversing ..... \$3.00  
E2 With reverse lever and extra gears 4.50  
2 Brushes, with springs, for electric motors ..... .40



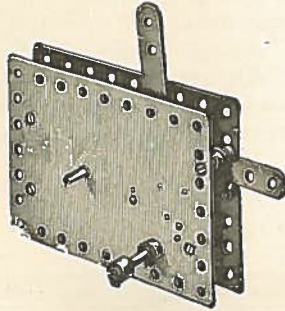
### TRANSFORMER

For alternating current only. Specially designed for Meccano Motor.  
Transformer for 110 A. C. 60 cycles .. \$3.25

Ask your dealer for outfits and parts. If he cannot supply you, send money order or stamps direct to Meccano Company, Inc., 46 West 24th St., New York City, and we will ship postage prepaid, providing order is not less than \$1.00.

# Meccano Motors and Transformers

## The Meccano Spring Motor

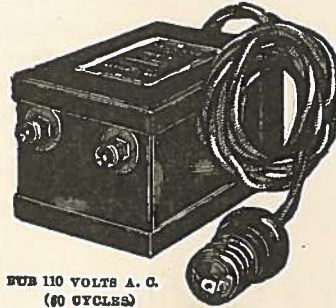


THE MECCANO SPRING MOTOR contains its own motive power in a simple and convenient form. It can be built into, and becomes part of, the model it drives.

The No. S1 Meccano Spring Motor may be used in connection with a very large number of Meccano models. It has a stopping and starting motion, and the movement can be reversed.

Price . . . . . \$3.00

## The Meccano Transformer

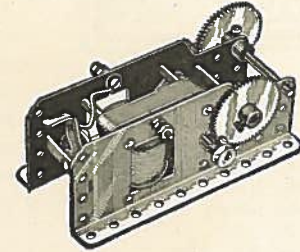


FOR 110 VOLTS A. C.  
(60 CYCLES)

The Meccano Transformer enables the boy to use the ordinary home lighting system to run his motor. It dispenses with the expense and uncertainty of dry cells and storage batteries. It reduces alternating current 110 volts, 60 to 133 cycles, to the proper strength of current for running the Meccano Motor. Attach the transformer plug to lamp socket; no special wiring is necessary.

Price . . . . . \$3.25

## The Meccano Electric Motor



This is the Meccano Electric Motor—the most powerful and reliable toy electric motor made. It runs Elevators, Sawmills, Lathes, or any other Meccano models. Two or three dry batteries will run it but accumulators or transformers are more satisfactory. Direct shaft drive; positive and powerful. Interchangeable gearing. It puts action into Meccano models; makes them operate like real machinery. Included as part of Outfits Nos. 1X, 2X, and 3X.

### PRICES:

E1. . . . .	\$3.00
E2. With reversing mechanism and extra gears . . . . .	\$4.50



This new outfit includes bobbins, insulating bushes and washers, terminals, core pieces, coil cheeks, contact screws, magnet and resistance wire, lamp and holder and other useful parts.

## Meccano Electrical Accessory Outfit

The application of electricity to the Meccano system means more fun for every Meccano boy. This new outfit contains electrical accessories which, when used with regular Meccano parts, enable you to make many new and interesting models. Just imagine the fun you could have with an electric locomotive, built around your own motor, and the current controlled by your own switchboard, also made of Meccano. Then you can start your train, watch it pick up speed, run through tunnels, over bridges, past switches and signals and finally, by a turn of your hand, bring it to a stop at the station, ready for another round trip through "Meccanoland". Or you could build a magnetic crane with a powerful lifting magnet, a shocking coil with which to mystify your friends, a telegraph system, railroad signals and many other valuable models and experiments. A special Manual of Instructions showing many fine new models is included in every outfit.

Meccano Electrical Accessory Outfit . . . \$4.00

## Meccano Inventor's Outfits

The Meccano Inventor's Outfits are accessory sets for use only with any regular Meccano Outfits, and contain new Meccano parts, which are not included in the other outfits. They are just the thing for the young inventor, as they enable him to design and build new models and greatly extend the possibilities and interest of Meccano building. With these fine new parts you can improve the design of models already shown in the manual.

There are two Inventor's Outfits: A and B. The Inventor's A contains braced girders, sprocket wheels and chain, couplings, large pulley wheels and many other interesting new parts. It helps to build better and larger models. There is a book of prize models in each outfit, which will prove an inspiration to any Meccano boy.

The Inventor's B is a dandy outfit. It contains many of the latest additions to the system, such as girder frames, threaded rods, rack strips, long bolts, new gears, architraves, strip couplings, flat plates, curved strips, and a number of other interesting elements, making possible many new constructions and mechanical movements.

Meccano Inventor's A Outfit . . . \$3.00

Meccano Inventor's B Outfit . . . \$7.00





# More Fun for You, Boys!

**I**F you are not a regular reader of the Meccano Magazine, you are not getting all the enjoyment from your Meccano that you should. It is a splendid, brightly written publication, in which Mr. Frank Hornby, the inventor of Meccano, is now telling the life-story of the hobby which has become famous all over the world. It also contains illustrations of fine new Meccano models, which every boy wants to build; stories about Meccano boys, with their photographs; announcements and results of the various Meccano Competitions which are always running, and which every Meccano boy should enter; helps and hints to Meccano boys, with replies to their letters by the Editor. Your first copy will be sent to you *free* on request, but if you wish to receive it regularly you should send 15 cents in stamps to the Editor, Meccano Magazine, 71 West 23rd St., New York City, for the next three issues. A double subscription of 30c will insure you receiving the next six issues.

THE EDITOR OF THE MECCANO MAGAZINE  
IS WAITING FOR A LETTER FROM YOU.



# Contents of Outfits

No.	Description of Parts	0	0A	1	1A	2	2A	3	3A	4	4A	5	5A	6
1	Perforated Strips, 12½" .. ..	2	2	4	6	10	—	10	4	14	—	14	34	48
2	" " 5½" .. ..	4	2	6	10	16	2	18	4	22	4	26	34	60
3	" " 3½" .. ..	—	1	1	1	2	4	6	—	6	11	17	19	36
4	" " 3" .. ..	—	—	—	—	—	2	2	2	4	6	10	14	24
5	" " 2½" .. ..	9	—	9	3	12	—	12	8	20	24	44	4	48
6	" " 2" .. ..	—	—	—	—	—	—	—	—	—	6	6	18	24
8	Perforated Angle Girders, 12½" ..	—	—	—	4	4	4	8	—	8	4	12	12	24
9	" " 5½" .. ..	—	—	—	—	—	—	—	—	—	—	—	16	16
10	Flat Brackets .. ..	4	—	4	—	4	—	4	4	8	—	8	8	16
11	Double Brackets .. ..	—	1	1	3	4	—	4	—	4	—	4	12	16
12	Angle Brackets .. ..	8	4	12	—	12	12	24	12	36	17	53	67	120
13	Rods, 11½" .. ..	—	—	—	—	—	—	—	2	2	—	2	2	4
13A	" 8" .. ..	—	—	—	—	—	—	—	2	2	—	2	6	8
14	" 6" .. ..	—	—	—	—	—	—	—	4	—	4	—	4	—
15	" 5" .. ..	—	—	—	3	3	1	4	—	4	—	4	—	4
15A	" 4½" .. ..	2	1	3	—	3	—	3	—	3	—	3	1	4
16	" 3½" .. ..	—	—	—	1	1	1	2	2	4	—	4	—	4
17	" 2" .. ..	2	—	2	—	2	—	2	2	4	—	4	3	7
18	" 1" .. ..	—	1	1	—	1	1	2	—	2	—	2	—	2
19	Crank Handles .. ..	1	—	1	—	1	1	2	1	3	—	3	1	4
20	Flanged and Grooved Wheels ..	—	—	—	4	4	—	4	4	8	—	8	—	8
21	Pulley Wheels, 1½" .. ..	—	—	—	—	—	1	1	—	1	1	2	—	2
22	" " 1" (fast) .. ..	4	—	4	—	4	—	4	—	4	—	4	1	5
22A	" " 1" (loose) .. ..	—	2	2	—	2	—	2	—	2	—	2	1	3
23	" " ½" .. ..	1	—	1	—	1	—	1	—	2	4	6	—	6
24	Bush Wheels .. ..	1	—	1	—	1	—	1	1	2	—	2	3	5
25	Pinion Wheels, ½" .. ..	—	—	—	—	—	—	—	—	—	—	—	2	2
26	" " ½" .. ..	—	—	—	—	—	2	2	—	2	1	3	2	5
27	Gear Wheels, 50 teeth .. ..	—	—	—	—	—	—	—	—	—	—	—	1	1
27A	" " 56 " .. ..	—	—	—	—	—	1	1	—	1	1	2	—	2
28	Contrate Wheels, 1½" .. ..	—	—	—	—	—	—	—	1	1	—	1	1	2
29	" " ½" .. ..	—	—	—	—	—	—	—	2	2	—	2	—	2
32	Worm Wheels .. ..	—	—	—	—	—	1	1	—	1	—	1	1	2
33	Pawl .. ..	—	—	—	—	—	2	2	—	2	—	2	—	2
34	Spanner .. ..	—	1	1	—	1	—	1	1	2	—	2	—	2
35	Spring Clips .. ..	4	2	6	—	6	6	12	6	18	—	18	6	24
36	Screwdriver .. ..	1	—	1	—	1	—	1	—	1	—	1	1	2
37	Nuts and Bolts .. ..	25	5	30	25	55	25	80	50	130	45	175	290	465
40	Hanks Cord .. ..	1	—	1	1	2	1	3	1	4	2	6	—	6
41	Propeller Blades .. ..	—	—	—	—	—	—	—	—	—	2	2	—	2
43	Springs .. ..	—	—	—	—	—	—	—	1	1	—	1	1	2
44	Cranked Bent Strip .. ..	1	—	1	—	1	—	1	—	1	1	2	—	2
45	Double Bent Strip .. ..	—	—	—	1	1	—	1	1	2	—	2	2	4
46	Large Bent Strip .. ..	—	—	—	—	—	—	—	1	1	2	3	1	4
50	Eye Pieces .. ..	—	—	—	—	—	—	—	—	—	1	1	1	2
52	Perforated Flanged Plates, 5½"x2½"	1	—	1	—	1	1	2	—	2	2	4	4	8
53	" " " 3½"x2½"	—	—	—	—	—	3	3	1	4	1	5	3	8
54	" " Sector Plates .. ..	1	1	2	—	2	—	2	1	3	—	3	1	4
56	Manual of Instructions .. ..	1	1	1	—	1	—	1	—	1	—	1	1	2
57	Hook .. ..	1	—	1	—	1	—	1	—	1	—	1	1	2
58	Spring Cord .. ..	—	—	—	—	—	—	—	—	—	—	—	1	1
59	Collars and Set Screws .. ..	—	—	—	—	—	4	4	4	8	—	8	10	18
60	Bent Strips, 2½" .. ..	2	2	4	2	6	—	6	2	8	1	9	7	16
61	Windmill Sails .. ..	—	—	—	4	4	—	4	—	4	—	4	—	4
62	Crank .. ..	—	—	—	2	2	—	2	—	2	—	2	1	3
63	Couplings .. ..	—	—	—	—	—	1	1	5	6	—	6	2	8
65	Centre Fork .. ..	—	—	—	—	—	—	—	1	1	—	1	1	1
94	Sprocket Chain (length) .. ..	—	—	—	—	—	—	—	—	—	1	1	1	1

# MECCANO IS MORE THAN A TOY

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**I**T is important to remember that when a boy is playing with Meccano he is using engineering parts in miniature, and that these parts act in precisely the same way as the corresponding engineering elements would do in actual practice. No other system of model construction could, therefore, be correct. Other toys which attempt the same object by other methods must avail themselves of other constructive elements which are not correct engineering elements. Consequently, though a boy may succeed in building playthings with them, they are merely toys and nothing else, and his mind as regards proper mechanical construction and methods, is distorted instead of instructed. He thus learns wrong principles, and when his ambition tempts him to invent or construct more elaborate models he will be stopped by the deficiencies of his non-mechanical system.

**No Outfit is genuine unless it bears the  
trade mark MECCANO**