

# MECCANO

HORNBY'S ORIGINAL SYSTEM — FIRST PATENTED 1901

## INSTRUCTIONS FOR OUTFITS O to B

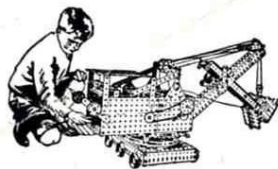
Price  
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Canada - \$1.10  
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370-B

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13/137/12 (ENG - SP)



# MECCANO

REAL ENGINEERING IN MINIATURE



## MODEL-BUILDING WITH MECCANO

There is no limit to the number of models that can be built with Meccano—Cranes, Clocks, Motor Cars, Ship Coalers, Machine Tools, Locomotives—in fact everything that interests boys. A screwdriver and a spanner, both of which are provided in each Outfit, are the only tools necessary.

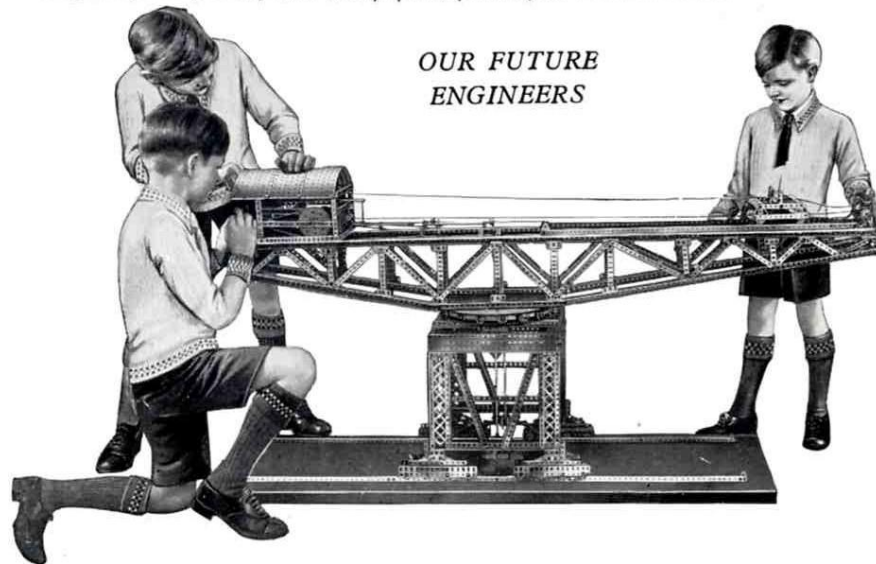
Make the simple models first—they will provide hours of fun—and then try to improve them. Every model can be made in a dozen different ways. It is important to screw up all the nuts and bolts tightly to ensure that your models will be strong and firm when they are completed.

Every keen and inventive Meccano model builder should obtain a copy of the special Manual "Meccano Standard Mechanisms." This Manual can be purchased from your dealer, or direct from Meccano Ltd., Binns Road, Liverpool 13.

## HOW TO BUILD UP YOUR OUTFIT

Meccano is sold in eleven different Outfits, lettered O to L. All Meccano parts are of the same high quality and finish, but the larger Outfits contain a greater quantity and variety of parts, making possible the construction of more elaborate models. Each Outfit from O upwards can be converted into the one next higher by the purchase of an Accessory Outfit. Thus, Meccano Outfit O can be converted into an A by adding to it an Oa Accessory Outfit. An Aa would then convert it into a B Outfit, and so on. In this way, no matter with which Outfit you commence, you can build it up by degrees until you possess an L Outfit. It is important to remember that Meccano Parts can be bought separately at any time in any quantity from your Meccano dealer.

## OUR FUTURE ENGINEERS



## ELECTRIC LIGHTING OF MECCANO MODELS

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

## THE "MECCANO MAGAZINE"

The *Meccano Magazine* is specially written for Meccano boys. It tells them of the latest Meccano models; what Meccano Clubs are doing; how to correspond with other Meccano boys; the Competitions that are running, etc. It contains splendid articles on such subjects as Railways, Famous Engineers and Inventors, Electricity, Chemistry, Bridges, Cranes, Wonderful Machinery, Aeronautics, Latest Patents, Radio, Stamps, Photography, Books and other topics of interest to boys, including suggestions from Meccano boys for new Meccano parts and correspondence columns in which the Editor replies to his readers' enquiries. The publishing date is the first of each month. If you are not already a reader of the *Meccano Magazine* write to the Editor for full particulars, or order a copy from your Meccano dealer or from any newsagent.

## THE MECCANO GUILD

Every owner of a Meccano Outfit should join the Meccano Guild. This is a world-wide organisation for boys, started at the request of boys, and as far as possible conducted by boys. Its primary object is to bring boys together and to make them feel that they are all members of a great brotherhood, each trying to help the others to get the very best out of life. Write for full particulars and an application form to the Meccano Guild Secretary, Binns Road, Liverpool 13.

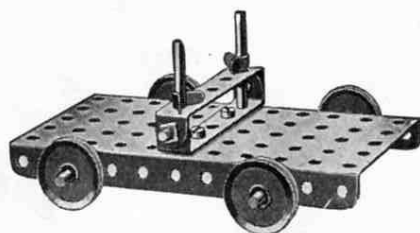
Meccano Clubs are founded and established under the guidance of the Guild Secretary at Headquarters, and at the present time there are active Clubs in nearly 250 towns and villages in the United Kingdom, and more than 100 in countries overseas. Each Club has its Leader, Secretary, Treasurer, and other officials, all of whom, with the exception of the Leader, are boys.

Special Merit Medallions are awarded to Club members for good work in connection with their Club, and Recruiting Medallions are awarded in connection with the Recruiting Campaign, full particulars of which will be sent on request.

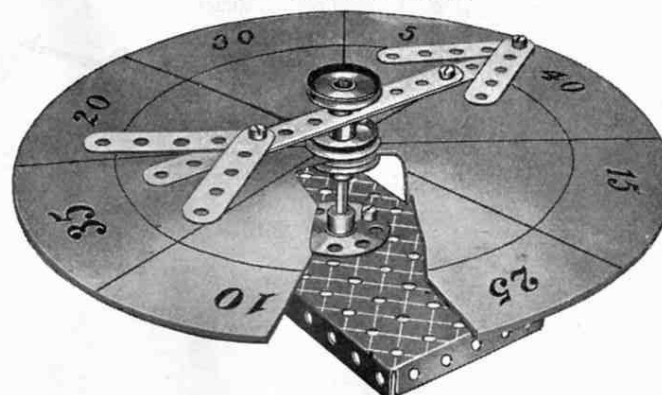
## MECCANO SERVICE

The service of Meccano does not end with selling an Outfit and an Instruction Manual. When you want to know something more about engineering than is now shown in our books, or when you strike a tough problem of any kind, write to us. We receive hundreds of letters from boys every day all the year round. Although all kinds of queries are put to us on all manner of subjects, the main interest is, of course, engineering. No one has such a wonderful knowledge of engineering matters as that possessed by our staff of experts. This vast store of knowledge, gained only by many years of hard-earned experience, is at your service. We want the Meccano boy of to-day to be the famous engineer of to-morrow.

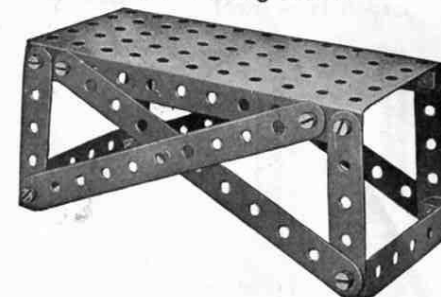
O1. Lumber Truck



O8. Roulette Wheel



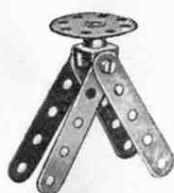
O17. Planing Bench



O2. Spade



O3. Flower Pot Stand



O4. Fork



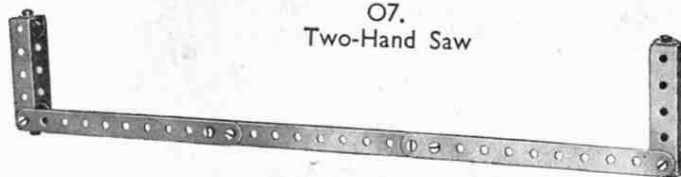
O5. Dividers



O6. Motor Boat

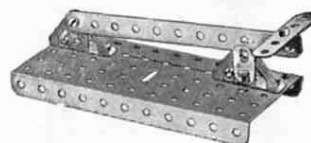


O7. Two-Hand Saw

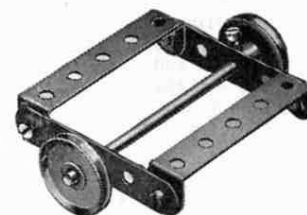


Cut out a circular piece of cardboard and mark as shown to form the scoring board, which is clamped between two 1" Pulleys. The pointer revolves freely on the upright spindle.

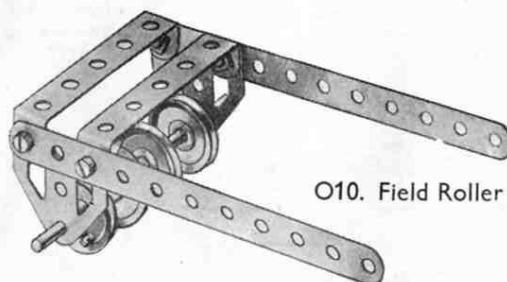
O9. Switch



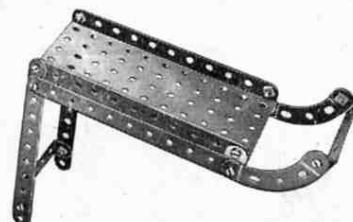
O13. Trolley



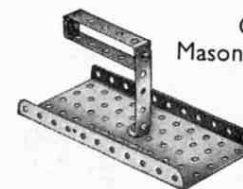
O10. Field Roller



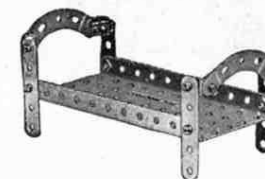
O11. Chute



O12. Mason's Trowel



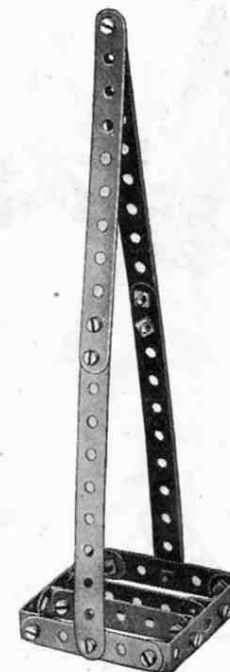
O18. Crib



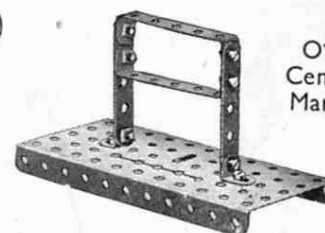
O14. Hoe



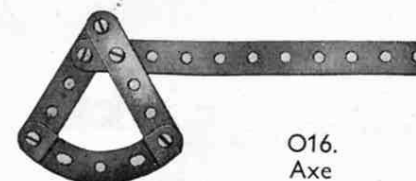
O19. Potato Chopper

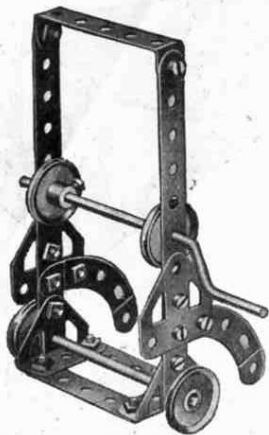


O15. Cement Marker



O16. Axe

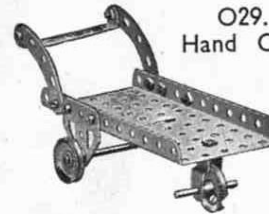


O20.  
Garden Hose Reel

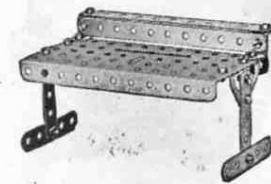
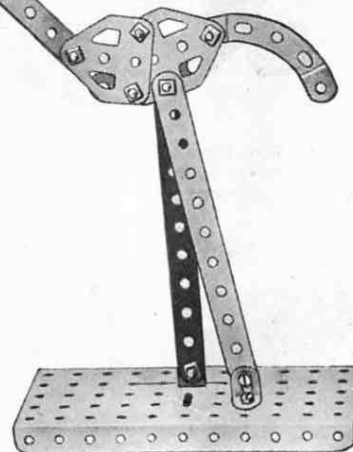
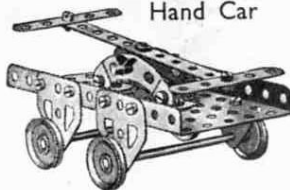
O23. Violin



O26. Carpenter's Square

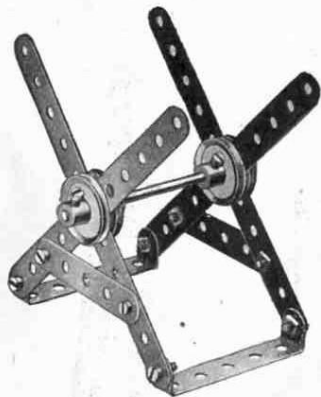
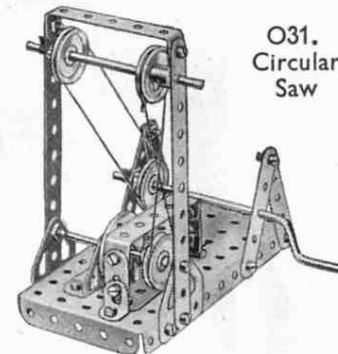
O29.  
Hand Cart

O30. Desk

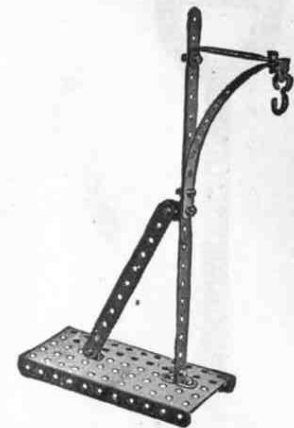
O27.  
Prehistoric BirdO24.  
Hand Car

On one side of the Flanged Plate, Flat Trunnions are used for supporting the axles, and Trunnions are used on the other side. The dummy handles pivot on a 2" Rod.

O21. Sawing Horse

O31.  
Circular Saw

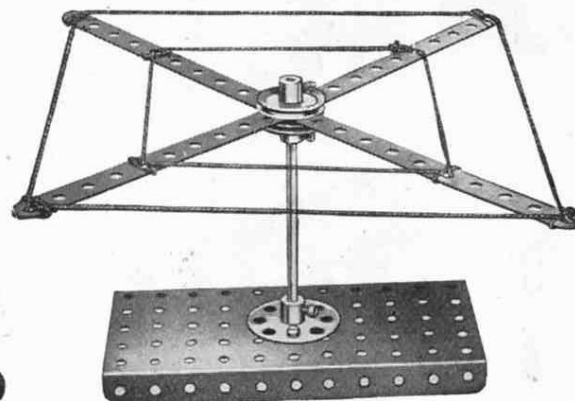
A Bush Wheel represents the circular saw and is driven from the Crank Handle through two sets of Pulleys and belts of cord.

O32.  
Mail Bag Hanger

O25. Piano Stool

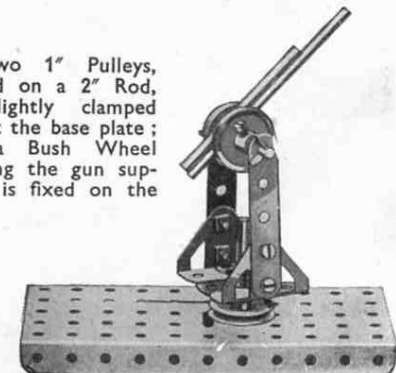


O28. Clothes Hanger

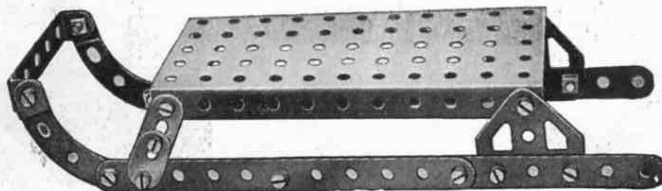


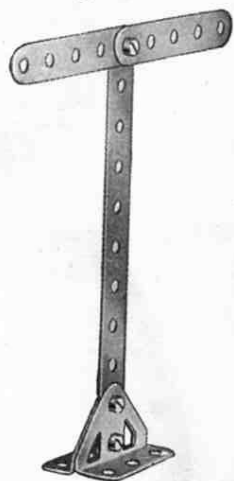
O33. Anti-Aircraft Gun

Two 1" Pulleys, carried on a 2" Rod, are lightly clamped against the base plate; and a Bush Wheel carrying the gun supports is fixed on the Rod.

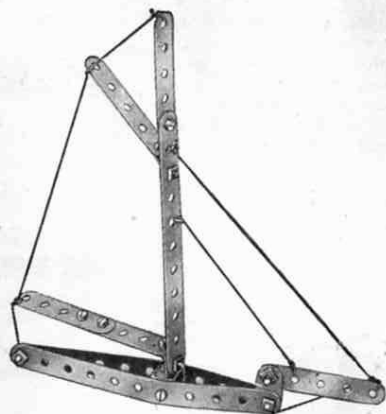


O22. Sledge

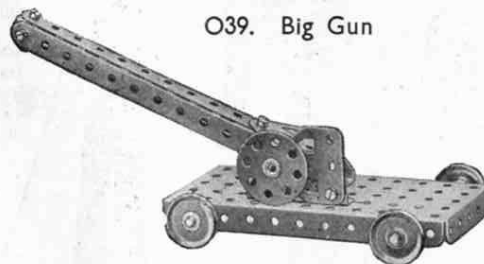


O34. 2-Way  
Sign Post

O38. Yacht

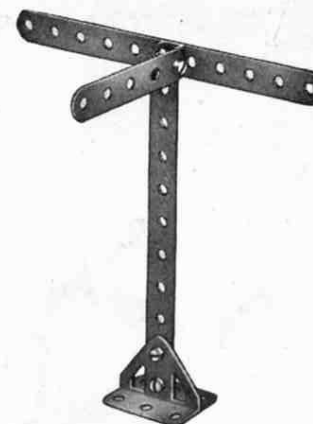


O39. Big Gun

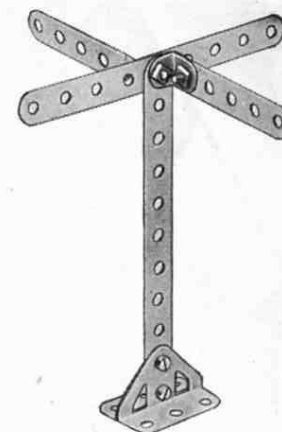


The gun barrel is made of 5 1/2" Strips, and at its lower end is bolted to a Flat Trunnion that is fixed by Angle Brackets between two Trunnions bolted to the base. A Bush Wheel forms a dummy handwheel.

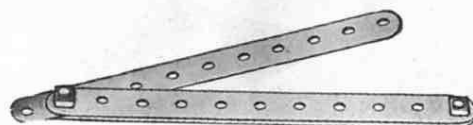
O44. 3-Way Sign Post



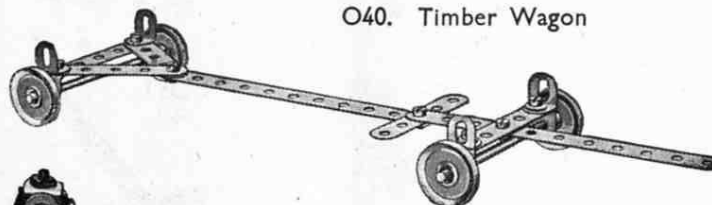
O47. 4-Way Sign Post



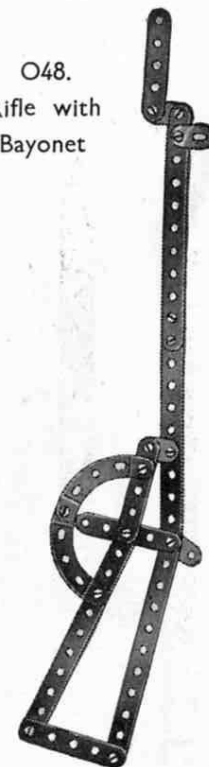
O35. Razor



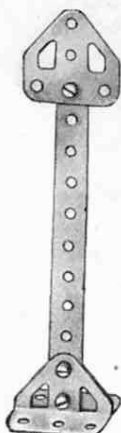
O40. Timber Wagon



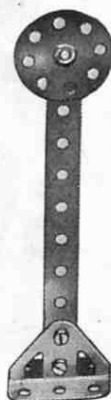
O45. Velocipede

O48. Rifle with  
Bayonet

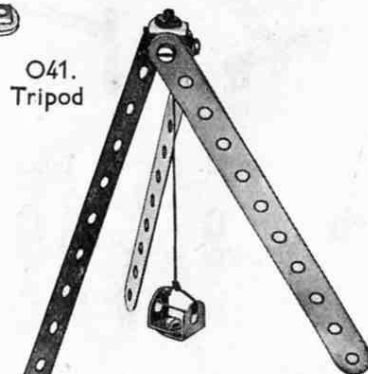
O36. Road Sign



O37. Road Sign



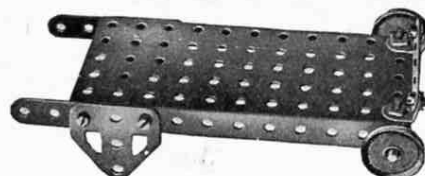
O41. Tripod



O42. Cannon

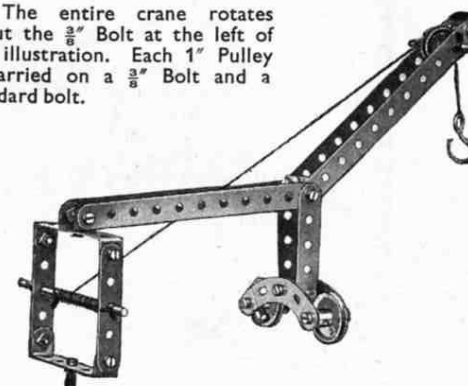


O43. Flat Truck



O46. Radial Travelling Crane

The entire crane rotates about the 3/8" Bolt at the left of the illustration. Each 1" Pulley is carried on a 3/8" Bolt and a standard bolt.

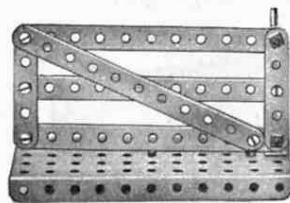


## These Models can be built with MECCANO Outfit O

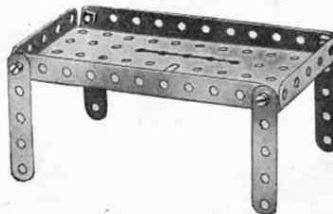
O49. Farm Sight



O52. Gate

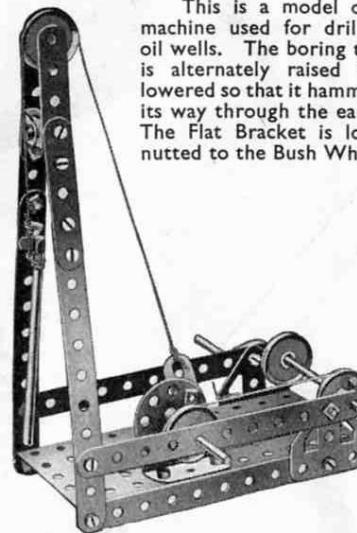


O55. Drinking Trough



O58. Well Driller

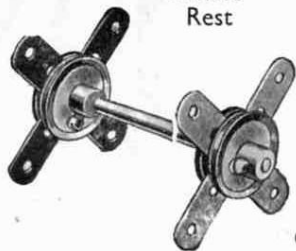
This is a model of a machine used for drilling oil wells. The boring tool is alternately raised and lowered so that it hammers its way through the earth. The Flat Bracket is lock-nutted to the Bush Wheel.



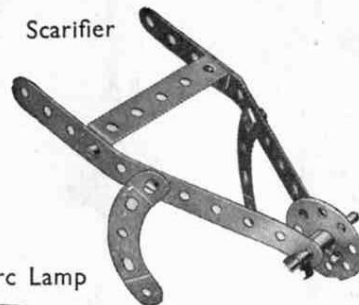
O63. Trowel



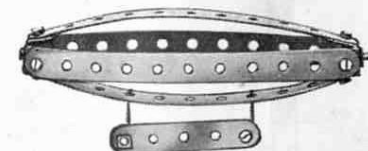
O50. Cutlers' Rest



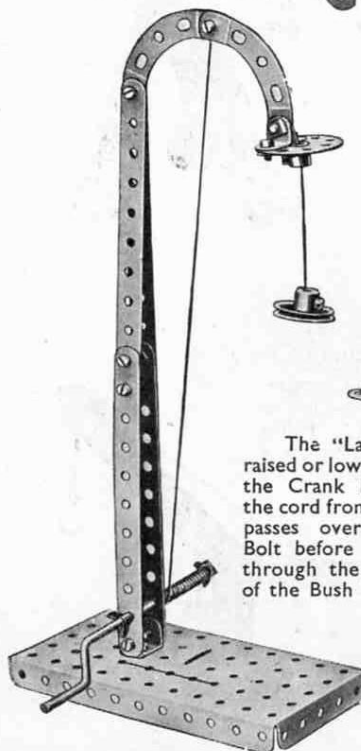
O53. Scarifier



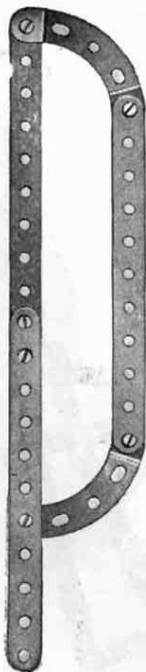
O64. Airship



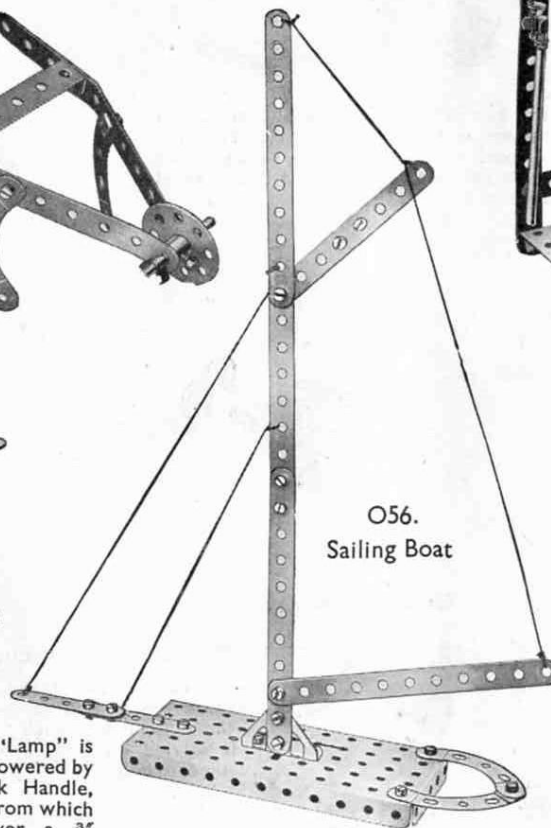
O54. Arc Lamp



O51. Meat Saw



O56. Sailing Boat



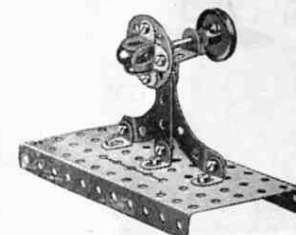
O59. Rake



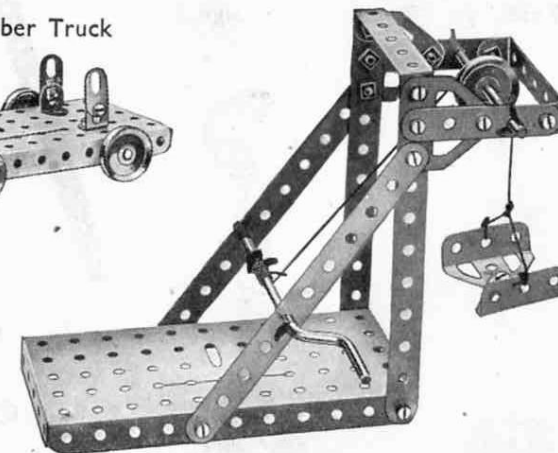
O61. Bed



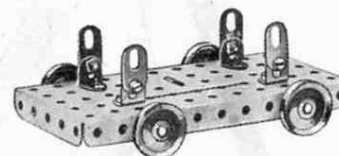
O65. Scrap Reel



O66. Pit-Head Gear



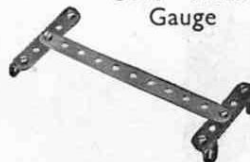
O62. Lumber Truck



O60. Book End



O57. Track Gauge

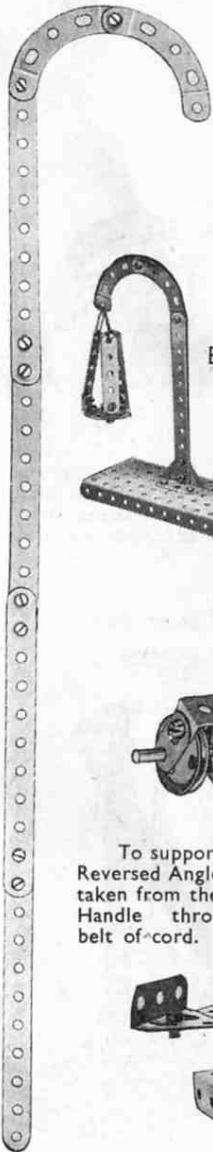


The "Lamp" is raised or lowered by the Crank Handle, the cord from which passes over a  $\frac{3}{8}$ " Bolt before passing through the centre of the Bush Wheel.

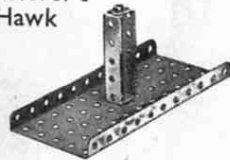
O67. Tin Opener



O68. Walking Stick



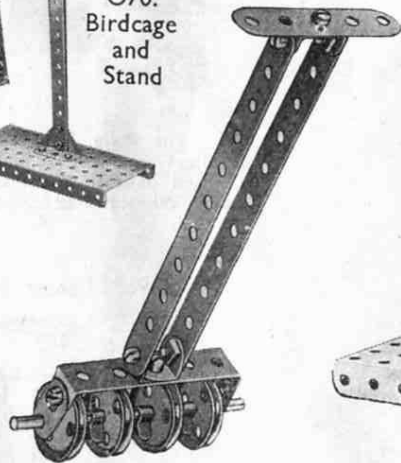
O69. Plasterer's Hawk



O70. Birdcage and Stand

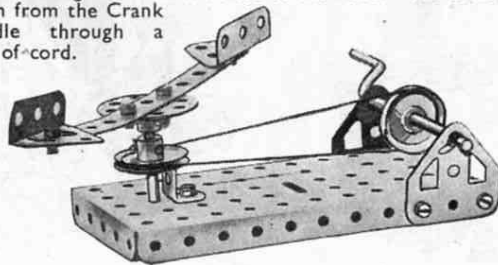


O71. Garden Roller

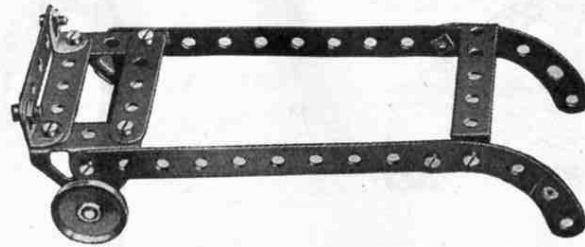


O72. Roundabout

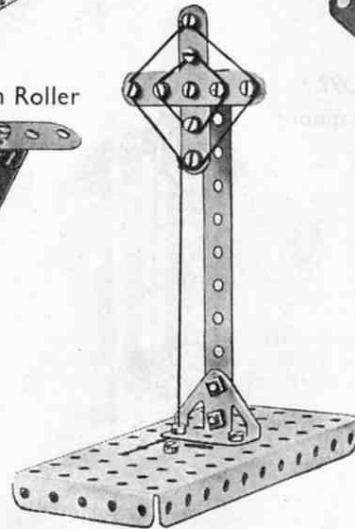
To support the vertical Rod carrying the roundabout a Reversed Angle Bracket is bolted to the Plate. The drive is taken from the Crank Handle through a belt of cord.



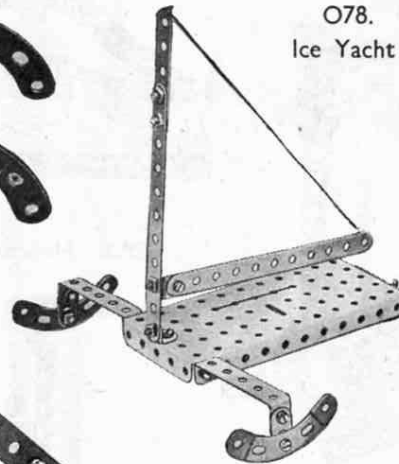
O73. Porter's Trolley



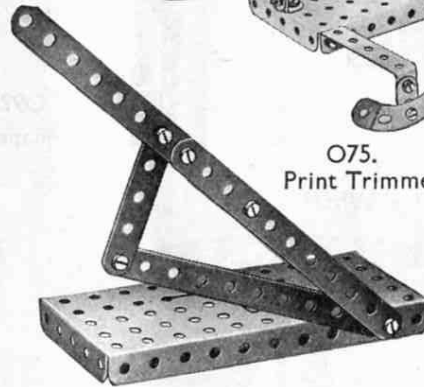
O74. Frame Aerial



O78. Ice Yacht



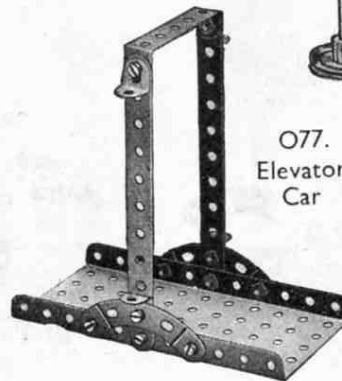
O75. Print Trimmer



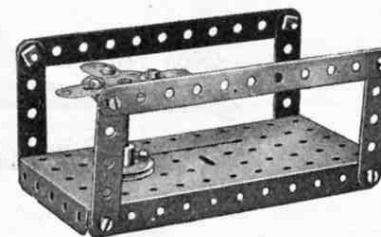
O76. Stool



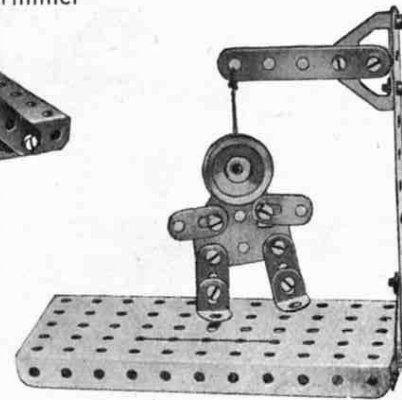
O77. Elevator Car



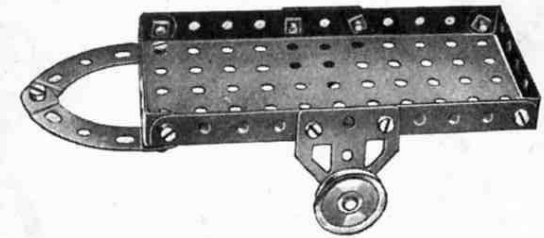
O80. Turnstile



O79. Gallows

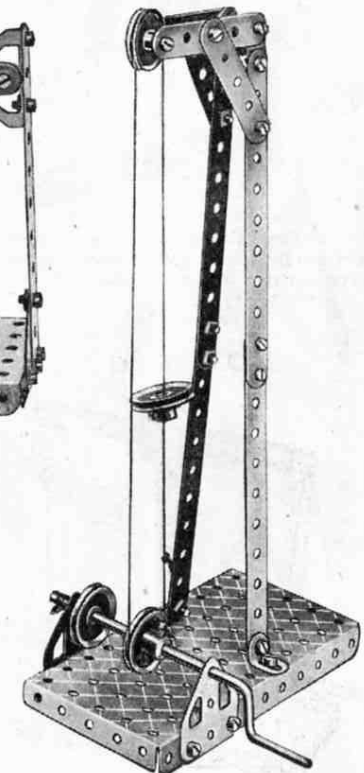


O81. Hand Truck

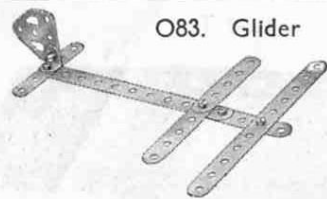


O82. Airship Mooring Mast

The 1" Pulley attached to the cord can be raised or lowered, and represents the lift for conveying passengers to and from the airship.



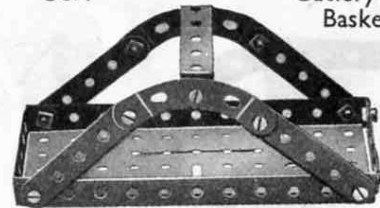
## These Models can be built with MECCANO Outfit O



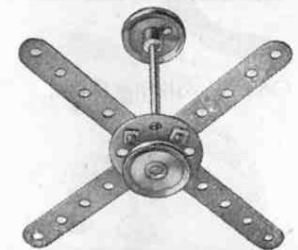
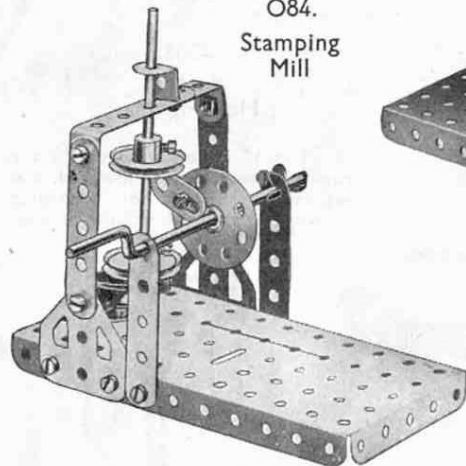
O83. Glider

O86.  
Pulley Shafting

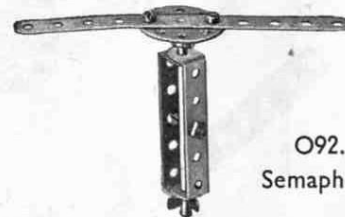
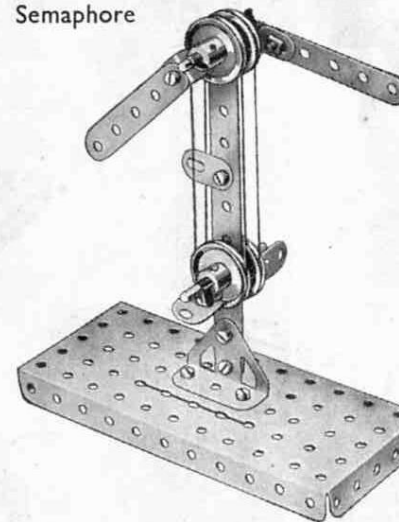
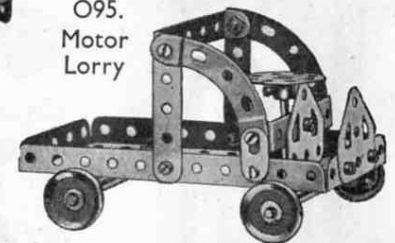
O87.

Cutlery  
BasketO91.  
Mail Bag  
Hanger

O94. Ceiling Fan

O84.  
Stamping  
Mill

O88. Helicopter Toy

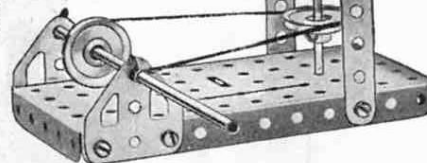
O92.  
SemaphoreO95.  
Motor  
Lorry

The Axle Rods carrying the 1" Pulleys are mounted in Angle Brackets bolted beneath the Flanged Plate. A Bush Wheel is used for a dummy steering wheel.

O89. Joy Wheel

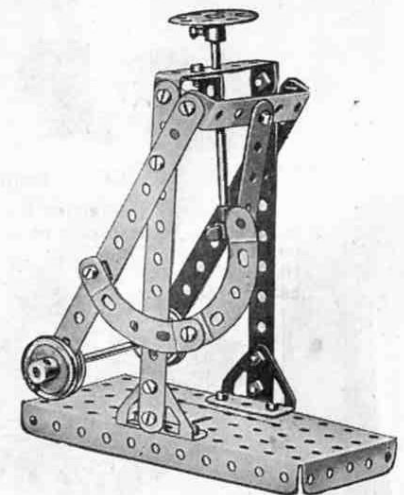


As the Crank Handle is turned the stamp is alternately raised and lowered by the Flat Bracket attached to the Bush Wheel.

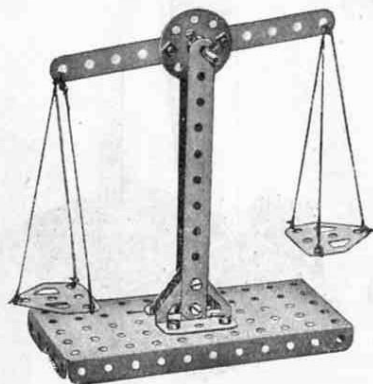


Stiff Cardboard is used for the disc and is bolted to a Bush Wheel. It is rotated by a belt of cord from the Crank Handle.

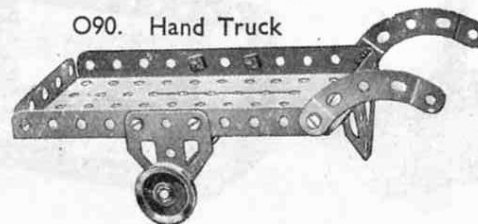
O96. Letter Balance



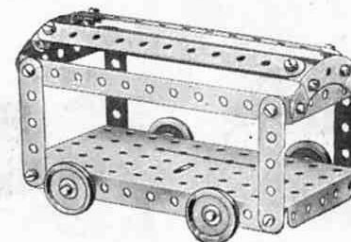
O85. Scales



O90. Hand Truck



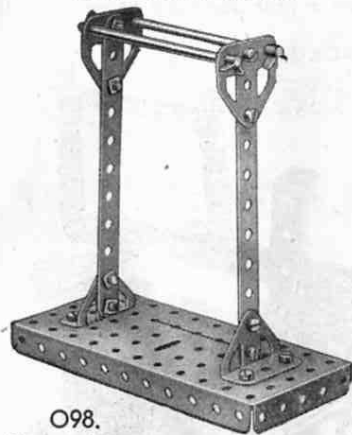
O93. Pullman Car



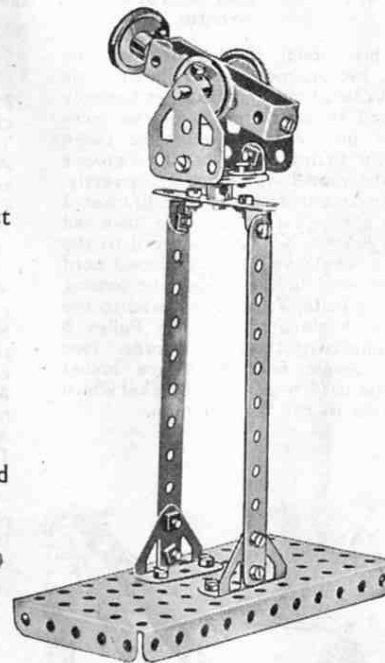
## These Models can be built with MECCANO Outfit O

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O97. Towel Horse



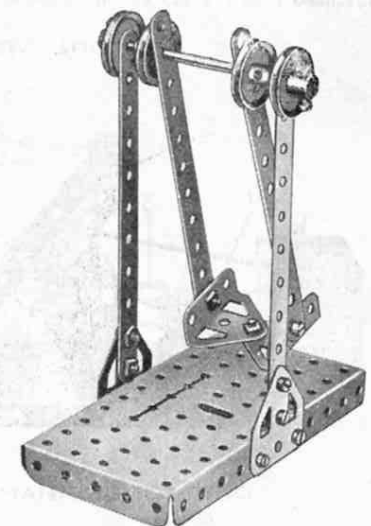
O102. Searchlight



O103. Table



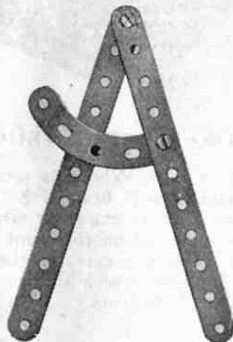
O106. Swing



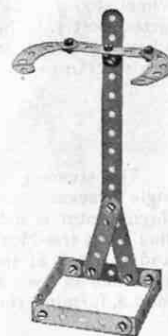
O98. Street Lamp



O99. Dividers



O101. Umbrella Stand

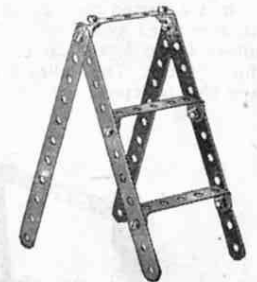


The searchlight can be rocked up or down on a 2" Rod carried in Flat Trunnions, and the upper framework swivels on the  $\frac{3}{8}$ " Bolt fixing the Bush Wheel.

O104. Cheese Cutter



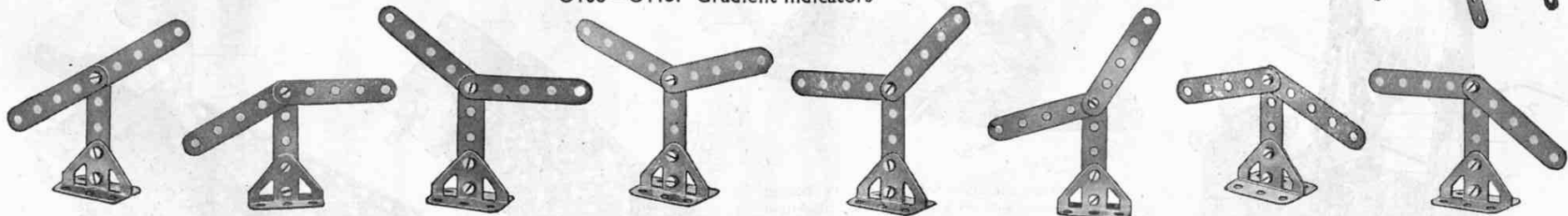
O107. Step Ladder



O105. Tweezers



O108—O115. Gradient Indicators



## HOW TO CONTINUE

When you have built the O Outfit Models illustrated, and fitted a number of them with the Meccano *Magic* Motor (see next page), your next step is to purchase an Oa Accessory Outfit. This converts your O Outfit into an A and enables you to build bigger and better models.

This page features a selection of Meccano Outfit O working models of a type rather more advanced than the 115 examples shown in the following pages. In four instances the models

are fitted with the Meccano *Magic Motor*, which makes them work just like the real thing. Try your hand at building bigger and better models with the parts in your Outfit and become a real inventor.

### O116. STEAM SHOVEL

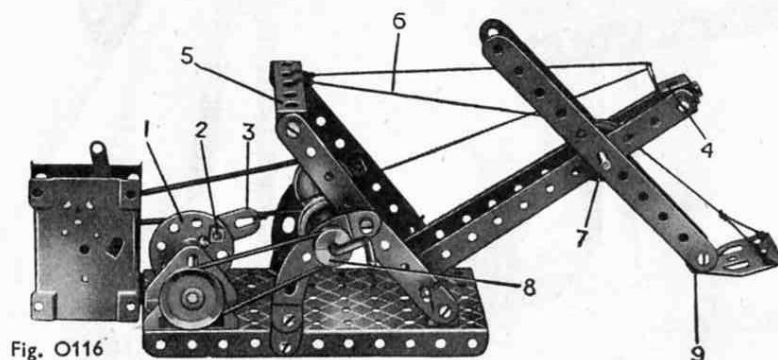


Fig. O116

This model is driven from the *Magic Motor*, mounted as shown. The Bush Wheel 1 has a Flat Bracket pivotally attached to it by means of the lock-nutted Bolt 2. Care must be taken with the fitting of the cords to ensure that the model will function correctly. A cord attached to the Flat Bracket 3 passes through a hole in the Reversed Angle Bracket 4, and is secured to the Double Angle Strip 5. A second cord 6 is fastened to the shovel and passing over the Pulley 7, is also secured to the Double Angle Strip 5. The Pulley 8 is supplied with the *Magic Motor*. Two  $\frac{1}{2} \times \frac{1}{2}$  Angle Brackets 9 are bolted together to form a Double Bracket which is bolted to the flat trunnion.

### O117. FORGING HAMMER

The hammer, two  $2\frac{1}{2}$ " Strips overlapping two holes, is pivotally mounted on a 2" Axle Rod, by means of two  $\frac{1}{2}$ " Angle Brackets bolted together forming a double bracket 1. It is actuated by a  $2\frac{1}{2}$ " Strip 2 bolted to a Bush Wheel that is rotated by a Driving Band 3 (crossed), passing round Pulleys 4 and 5, the latter of which is provided with the *Magic Motor*. The Pulley 6 is rotated by a second Driving Band that is fitted to the Pulley on the motor driving shaft.

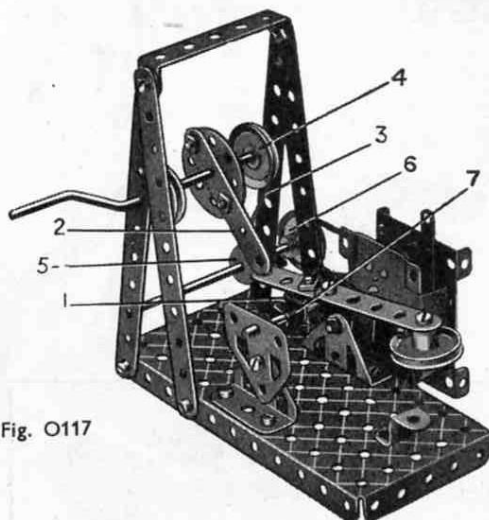


Fig. O117

### O118. DERRICK CRANE (HAND OPERATED)

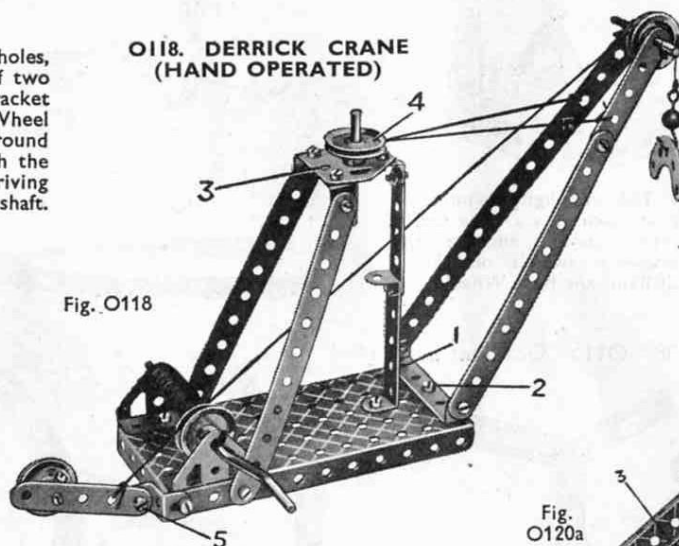


Fig. O118

The side members of the jib are bolted at their lower end to a  $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip 1, which is pivotally secured to the base by a lock-nutted Bolt 2. The Flat Trunnion 3 carries in its centre hole a 2" Axle Rod to which is fitted a Pulley 4. The length of cord supporting the jib is passed round this Pulley and attached to the jib head, as shown. The band brake is lock-nutted at 5 to a Reversed Angle Bracket.

### O119. POWER HACK SAW

The fitting of the *Magic Motor* and the Driving Bands is clearly shown in the illustration. The saw frame slides on a  $3\frac{1}{2}$ " Axle Rod held in position by means of a Flat Bracket bent over. It is driven to and fro by means of the rotating Bush Wheel to which it is pivoted. The Axle Rod 3 is journaled in the bottom hole of a  $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip, and one hole of a Reversed Angle Bracket 2. The saw is pivotally attached to the Bush Wheel by a lock-nutted Bolt 1. The Pulley 4 is provided with the Motor.

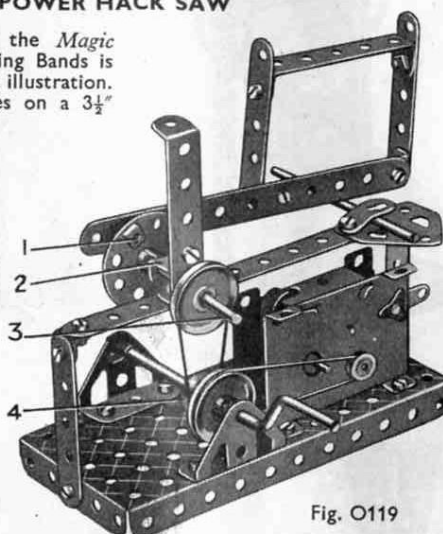


Fig. O119

### O120. ELECTRIC TRUCK

The steering wheel, a Bush Wheel, is secured to the Reversed Angle Bracket 1 by means of a  $\frac{3}{8}$ " Bolt. Fig. O120a shows how the *Magic Motor* is mounted to drive the front wheels. The Pulley supplied with the Motor is mounted on the front axle, and the rubber band is fitted as shown. The axle carrying the two front wheels is journaled in two Flat Brackets, which are secured to the  $5\frac{1}{2}$ " Strips 2 and 3, forming the frame of the truck.

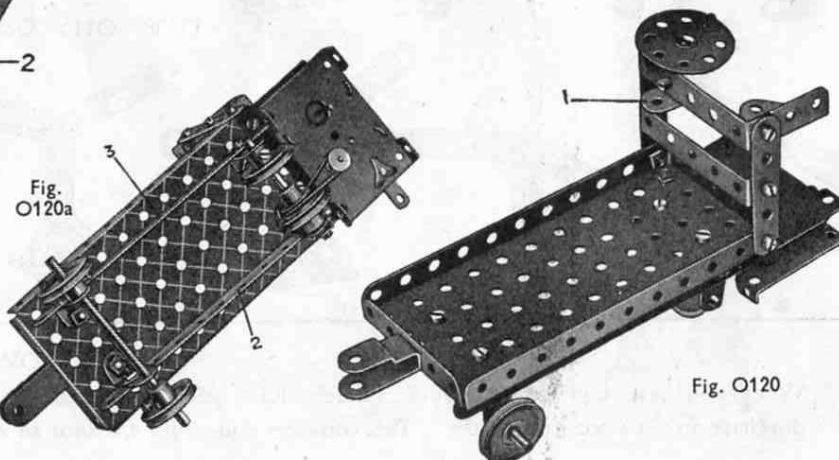
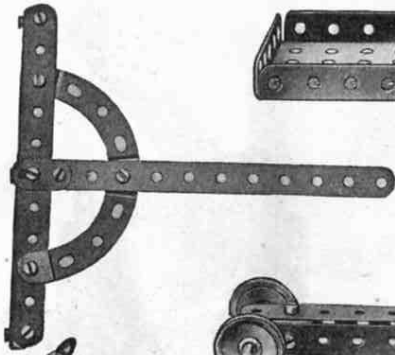


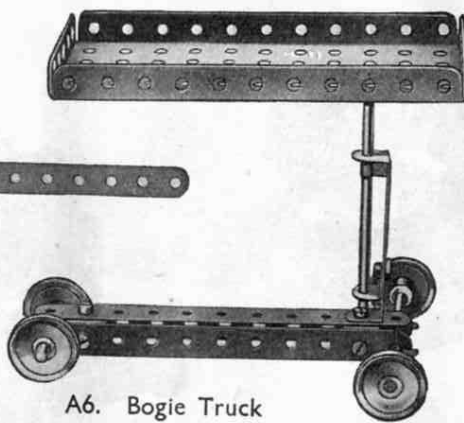
Fig. O120

Fig. O120a

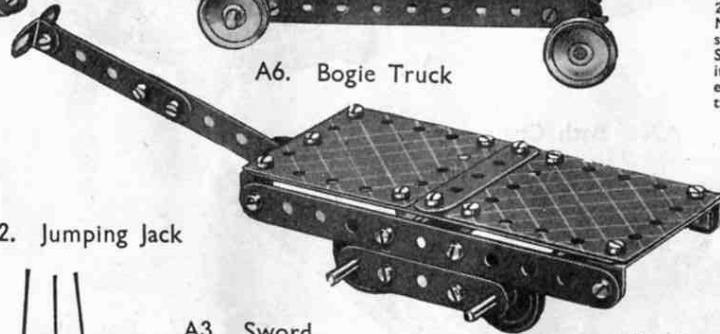
A1. Rake



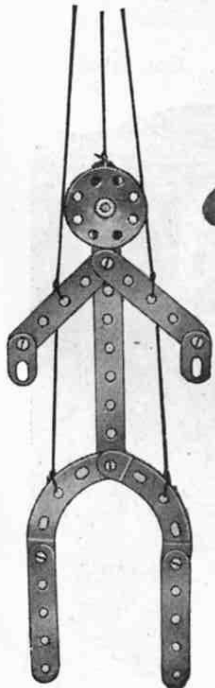
A5. Bed Table



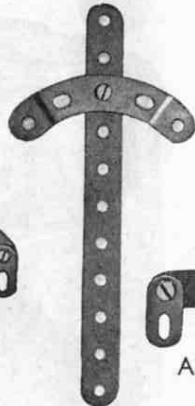
A6. Bogie Truck



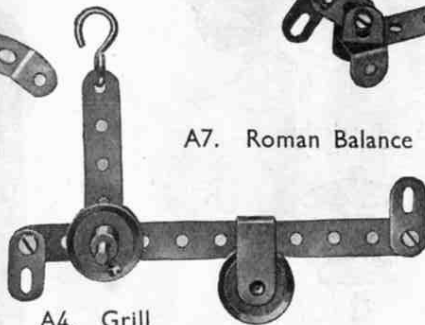
A2. Jumping Jack



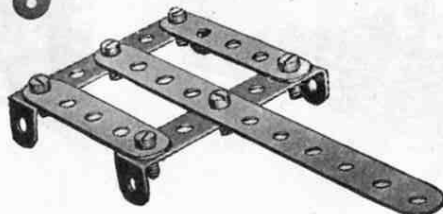
A3. Sword



A7. Roman Balance



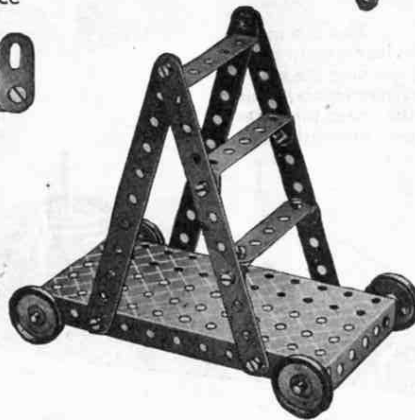
A4. Grill



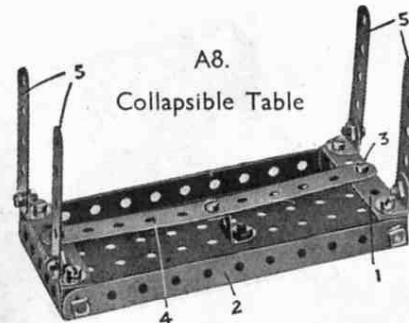
A9. Dog



A10. Ladder on Wheels

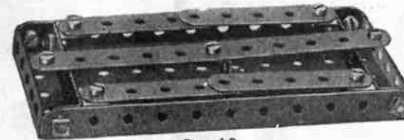


A8. Collapsible Table

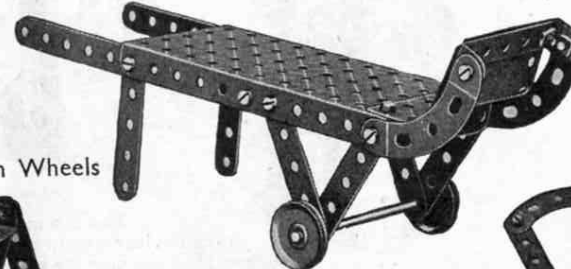


The  $2\frac{1}{2}'' \times \frac{3}{4}''$  Double Angle Strips 1 are attached to the  $5\frac{1}{2}'' \times 2\frac{1}{2}''$  Flanged Plate 2 by lock-nutted Bolts as in Standard Mechanism No. 1A. The Bolts 3 are secured to the  $5\frac{1}{2}''$  Strip 4 and their shanks engage with the centre holes in the  $2\frac{1}{2}'' \times \frac{3}{4}''$  Double Angle Strips 1, thus maintaining the legs 5 in an upright position. When it is desired to fold up the legs 5, it is only necessary to raise the ends of the Strip 4, thus freeing the Double Angle Strips 1. The table is shown in the folded position in Fig. A8a.

Fig. A8a



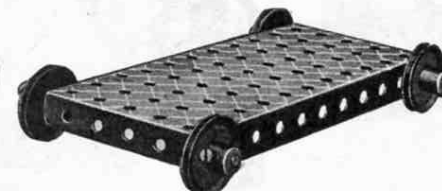
A13. Hand Truck



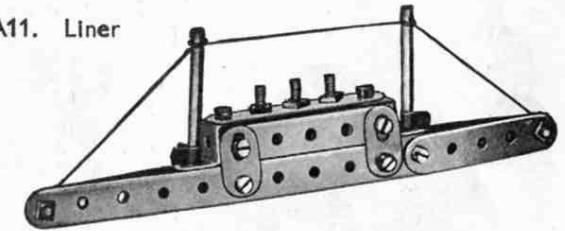
A14. Fire Axe



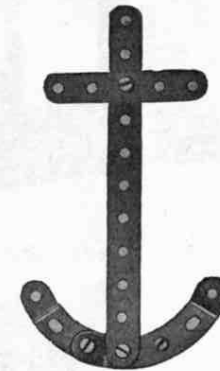
A15. Flat Truck



A11. Liner



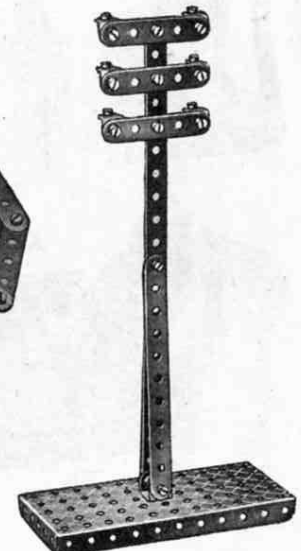
A12. Anchor



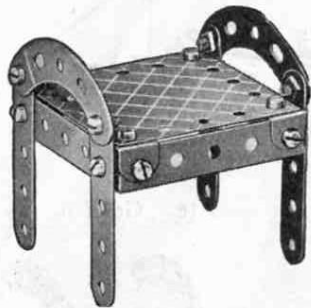
A16. Go-chair



A17. Telegraph Pole



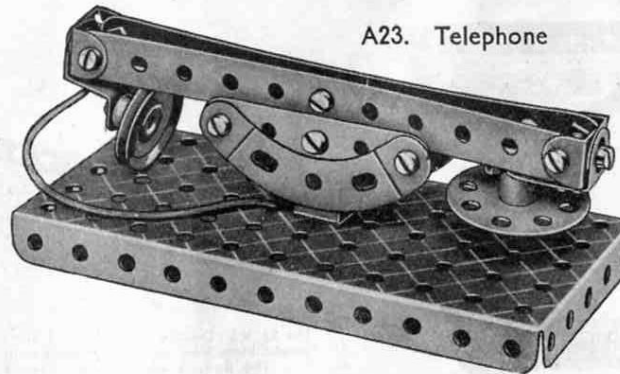
A18. Music Stool



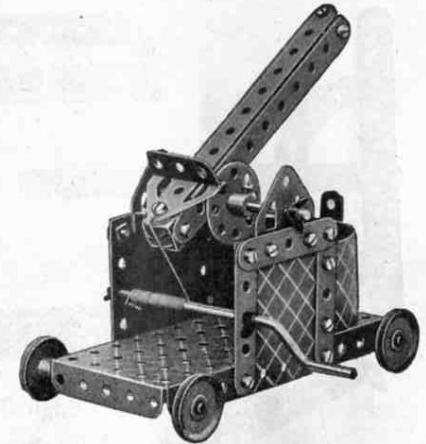
A21. Shafting Standard



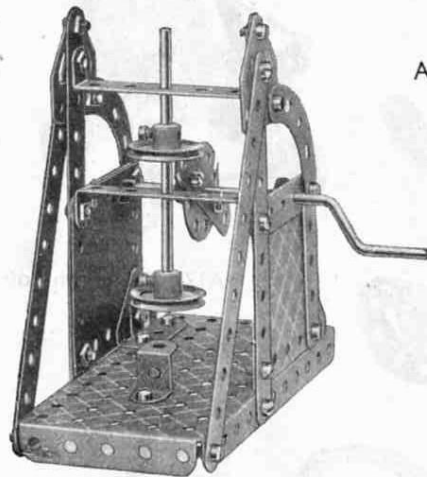
A23. Telephone



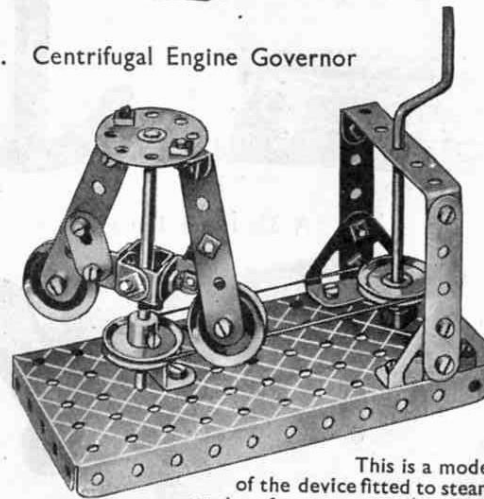
A26. Anti-aircraft Gun



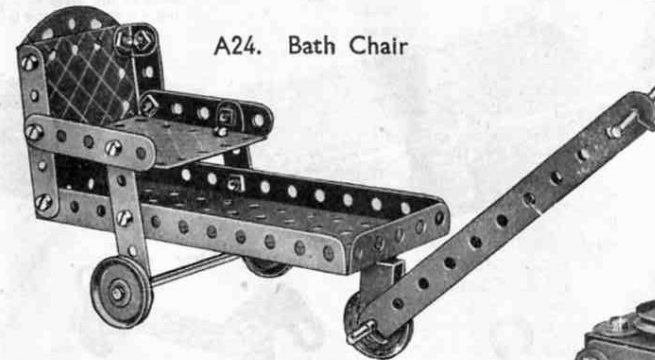
A19. Ore Crusher



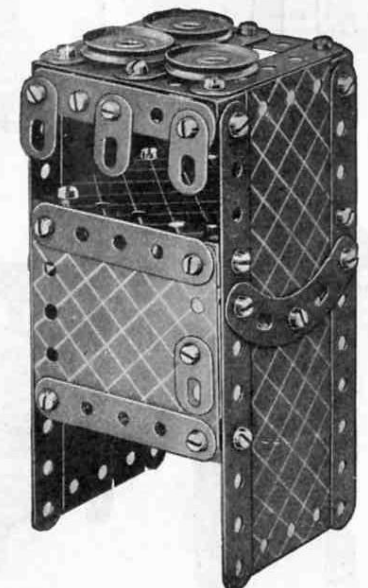
A22. Centrifugal Engine Governor



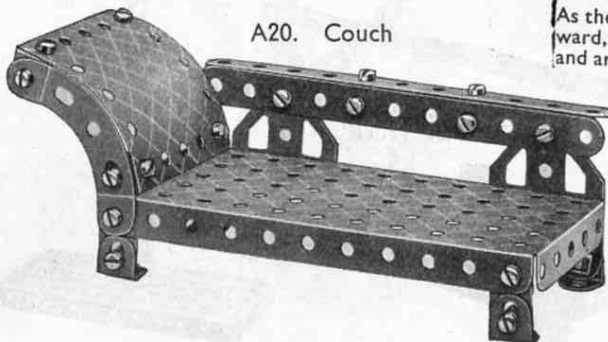
A24. Bath Chair



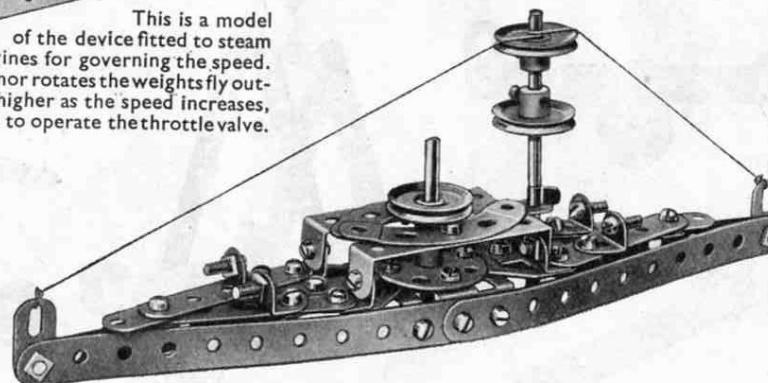
A27. Gas Stove



A20. Couch

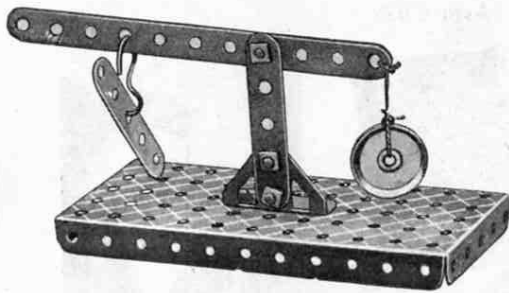


A25. Battleship

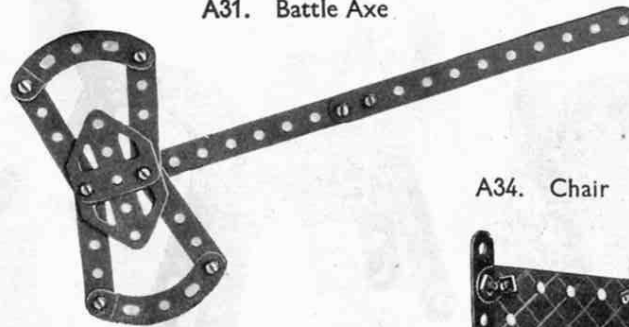


This is a model of the device fitted to steam engines for governing the speed. As the governor rotates the weights fly outward, rising higher as the speed increases, and are made to operate the throttle valve.

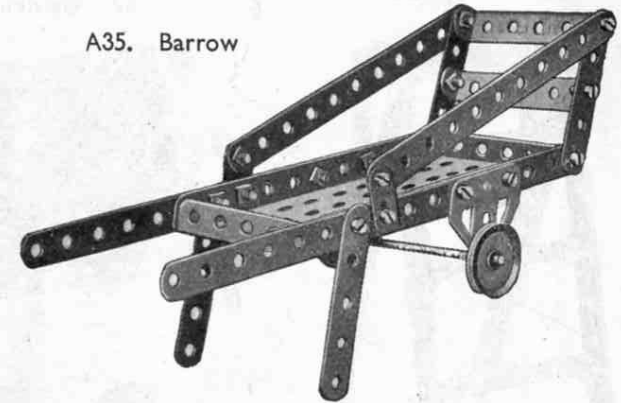
A28. Lever of the First Order



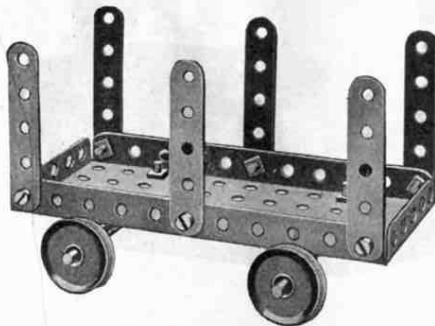
A31. Battle Axe



A35. Barrow



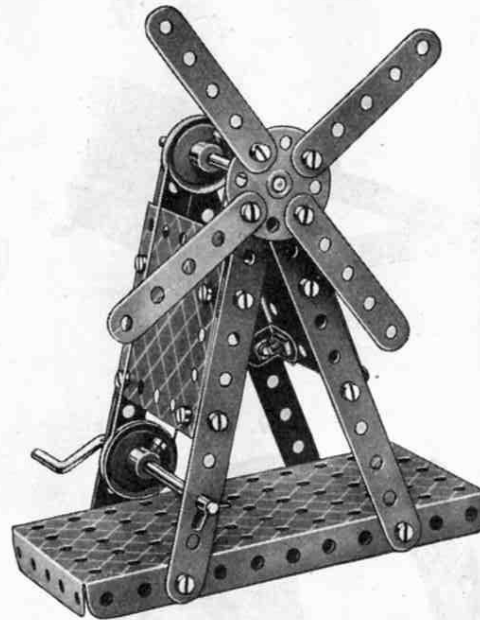
A29. Timber Truck



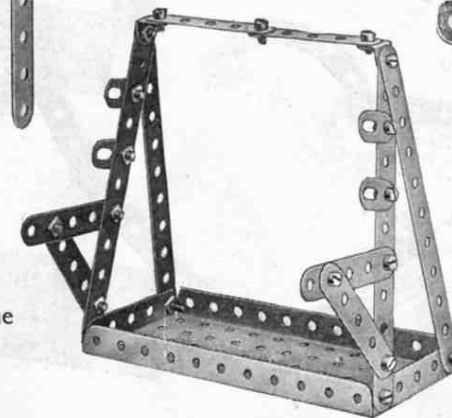
A34. Chair



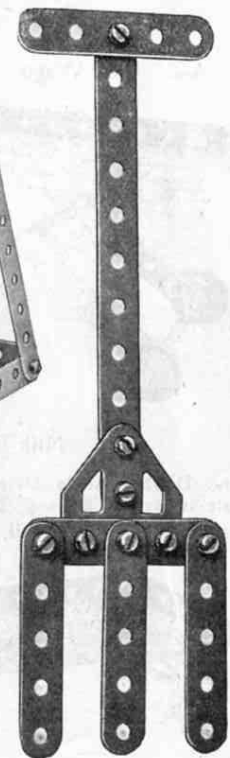
A32. Windmill



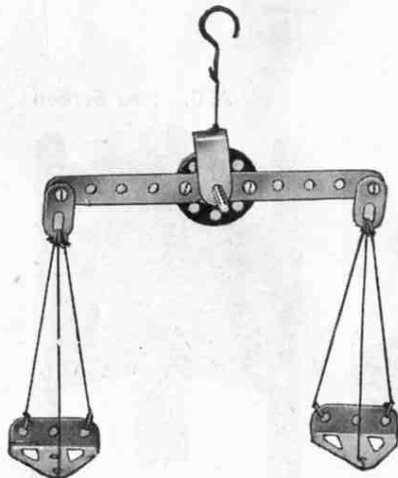
A36. Pen Rack



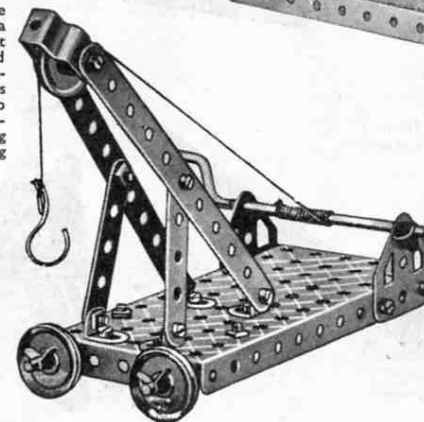
A38. Fork



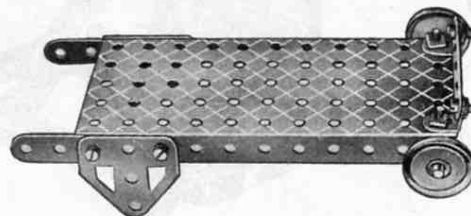
A30. Hanging Scales



A37. Revolving Crane

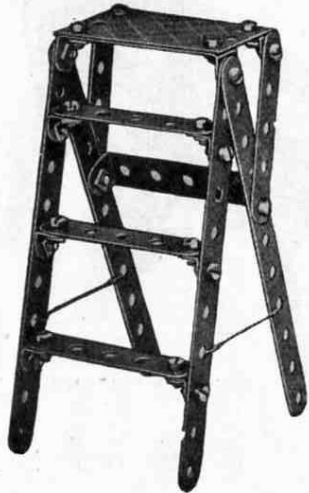


A33. Flat Truck

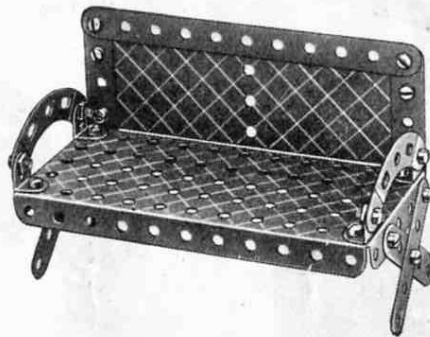


The back of the crane rests on a Flat Bracket bolted to the end flange. An Anchoring Spring is slipped on to the Crank Handle for securing the hoisting cord.

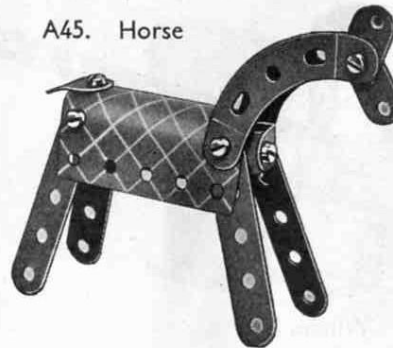
A39. Step Ladder



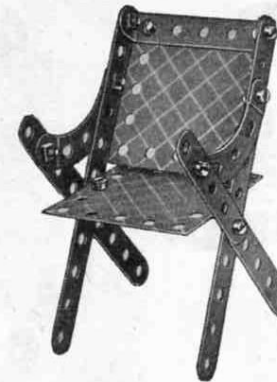
A42. Garden Seat



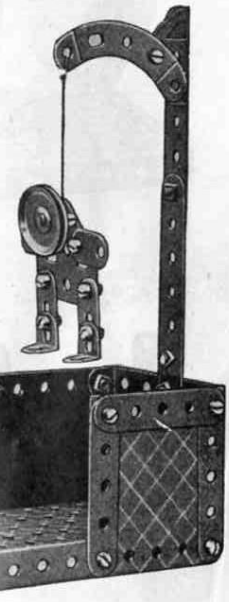
A45. Horse



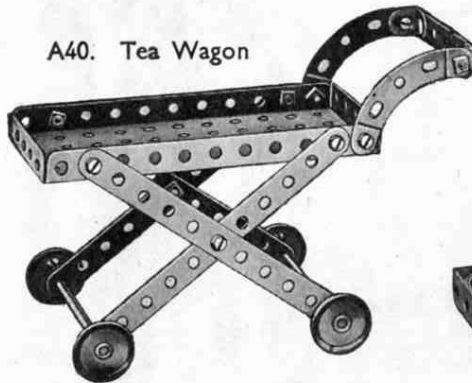
A48. Arm Chair



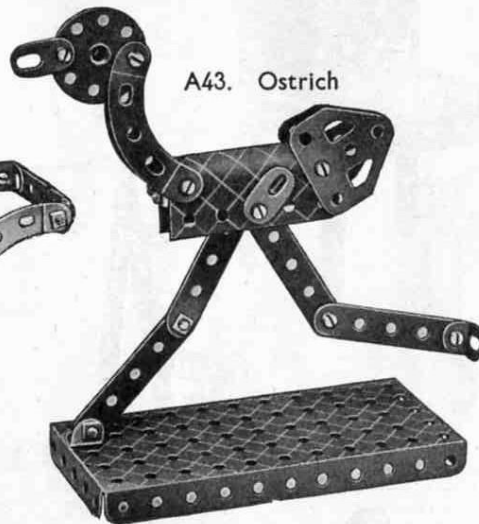
A49. Gallows



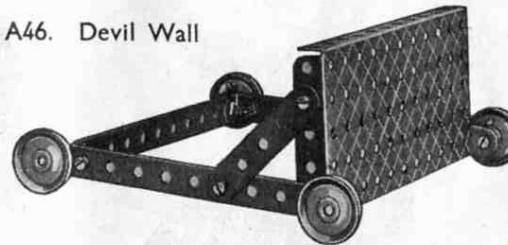
A40. Tea Wagon



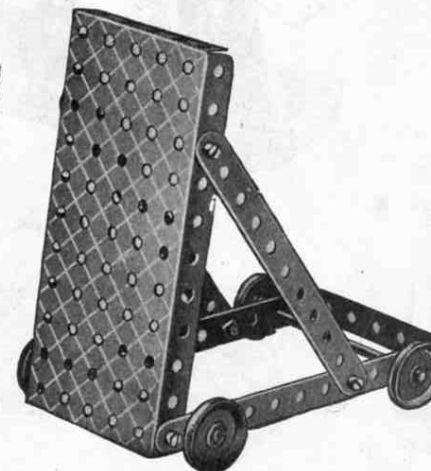
A43. Ostrich



A46. Devil Wall

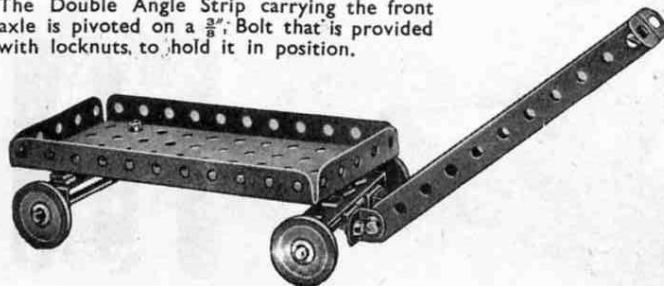


A47. Gravel Sifter

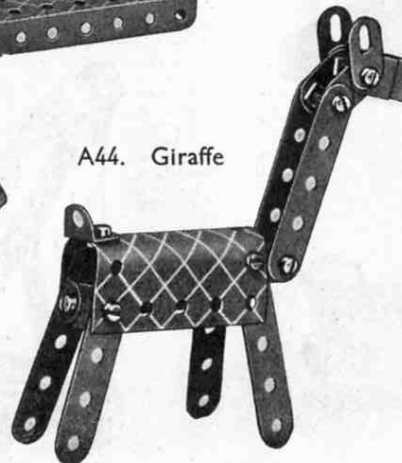


A41. Milk Truck

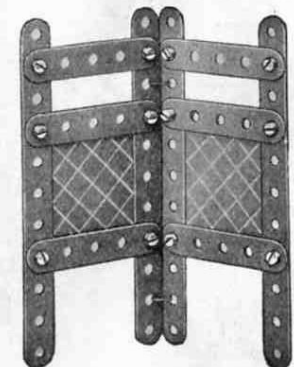
The Double Angle Strip carrying the front axle is pivoted on a  $\frac{3}{8}$ " Bolt that is provided with locknuts, to hold it in position.



A44. Giraffe



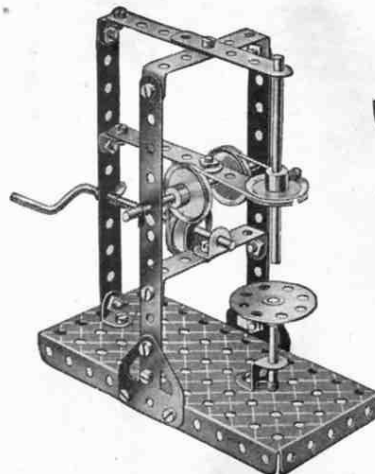
A50. Fire Screen



A51. Umpire's Seat

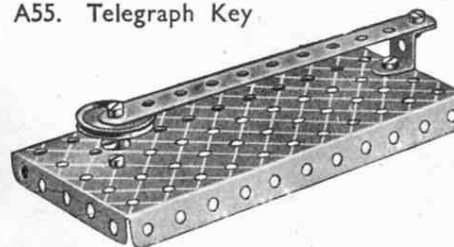


A52. Drilling Machine



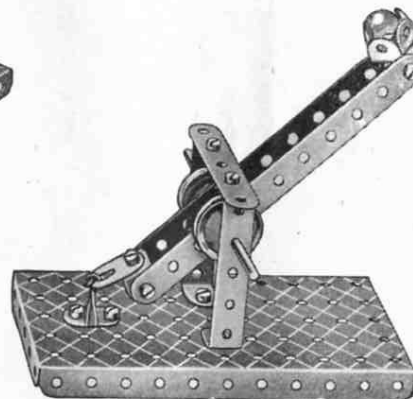
An alternative design of this model (A52M), fitted with the *Magic Motor*, is shown at the end of this section.

A55. Telegraph Key

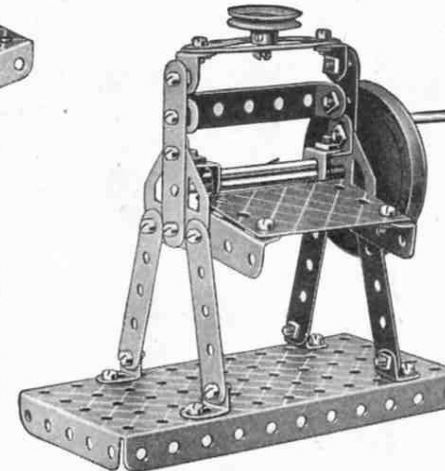


A56. Catapult

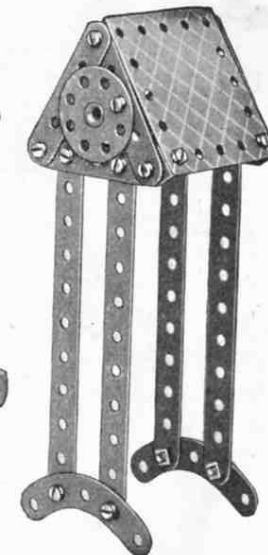
The pivoted arm is connected to the base by means of a short piece of elastic which is not provided in the Outfit.



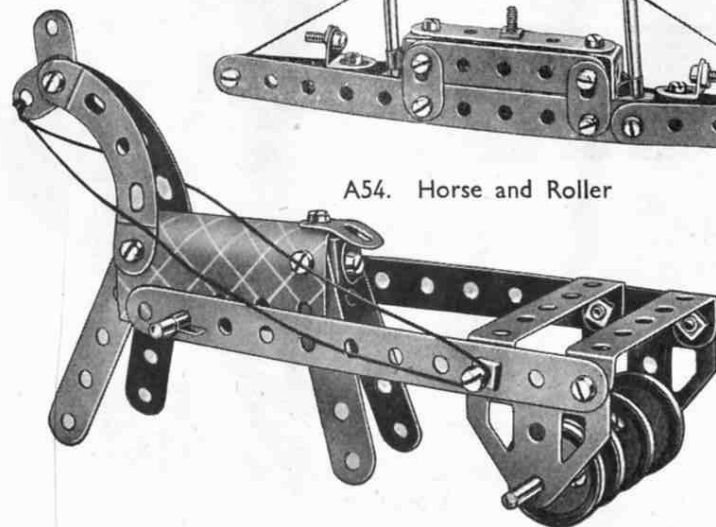
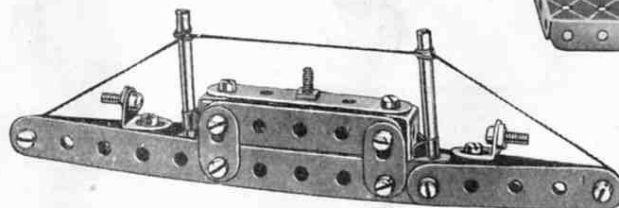
A58. Wringing Machine



A60. Grandfather Clock

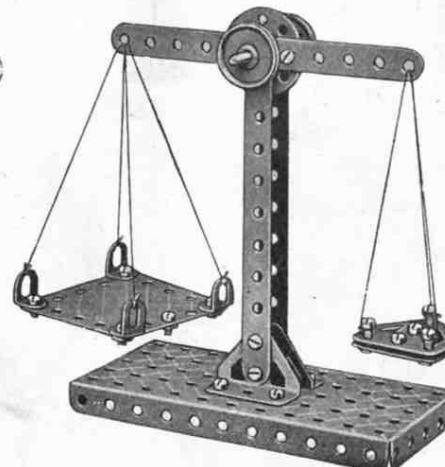


A53. Cruiser

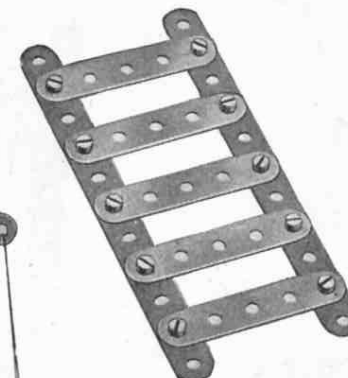


A54. Horse and Roller

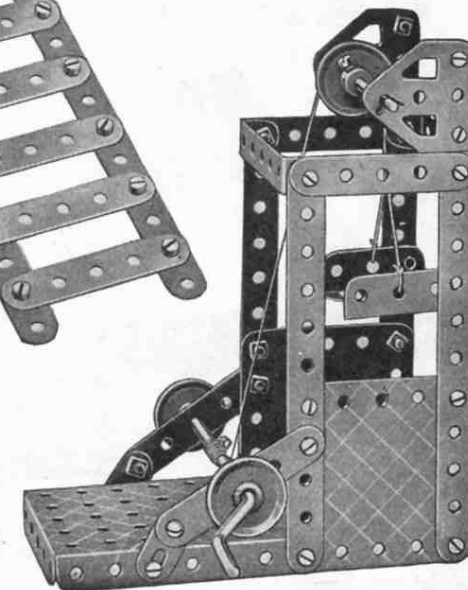
A57. Scales



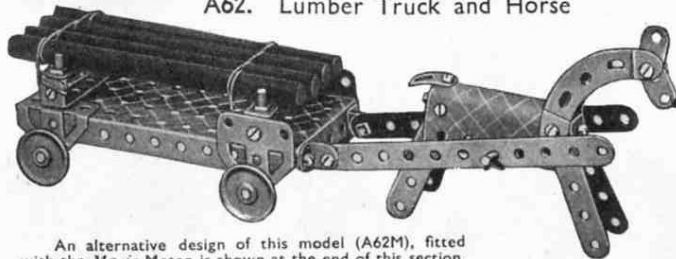
A59. Ladder



A61. Pit-head Gear

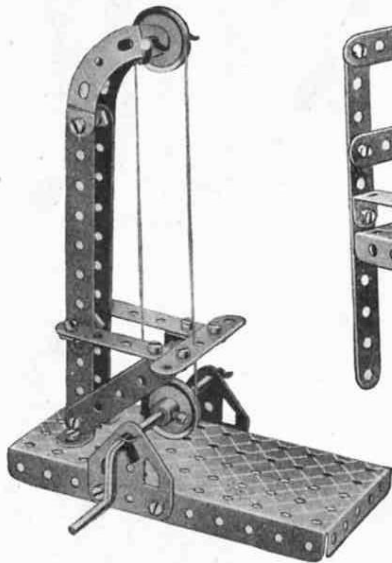


A62. Lumber Truck and Horse

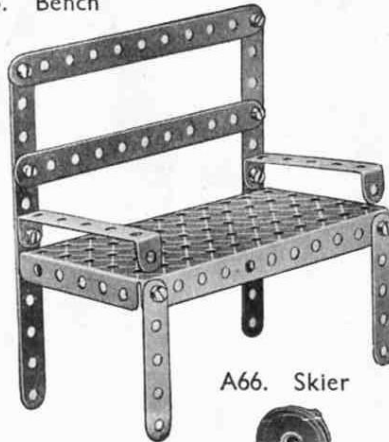


An alternative design of this model (A62M), fitted with the *Magic Motor*, is shown at the end of this section.

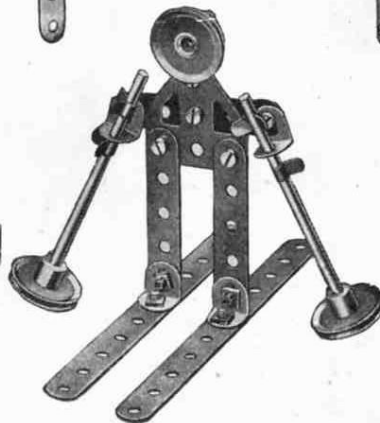
A63. Band Saw



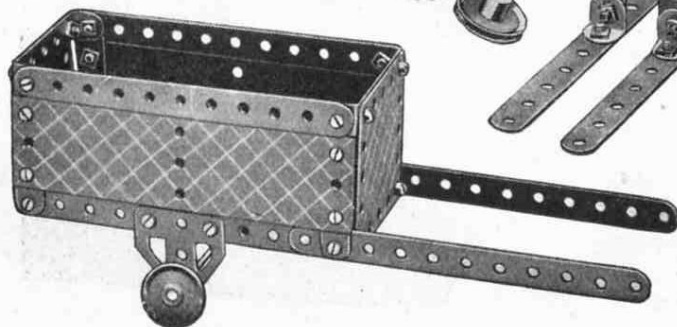
A65. Bench



A66. Skier



A64. Cart

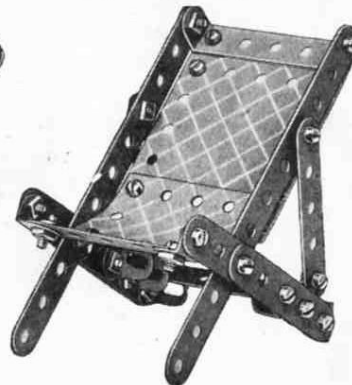


A67. Magic Plate

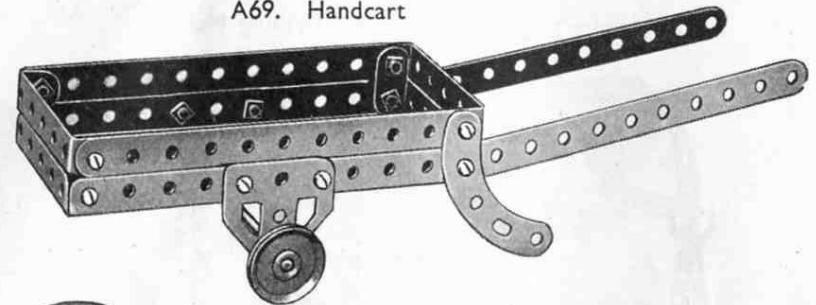
The cord is wound once round a 2" Axle Rod that is journalled in a  $\frac{3}{4}$ " Reversed Angle Bracket, which is bolted to the Plate. If the cord is held loosely the Plate will drop, but as soon as the cord is tightened the Plate becomes immovable.



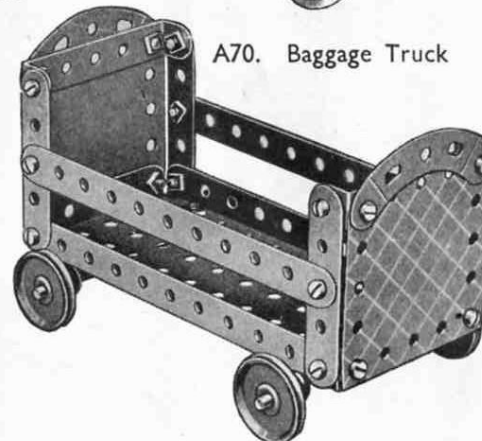
A68. Deck Chair



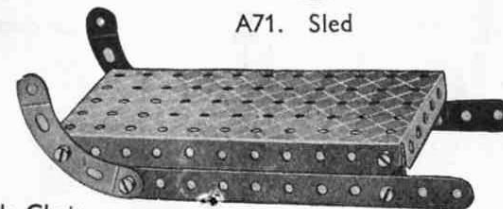
A69. Handcart



A70. Baggage Truck



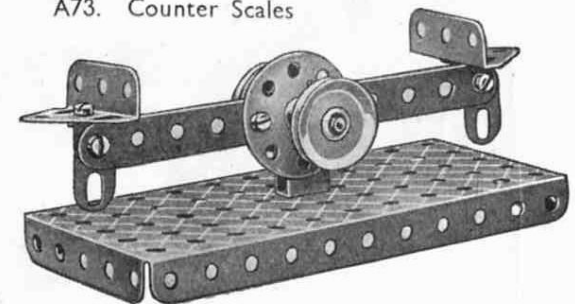
A71. Sled



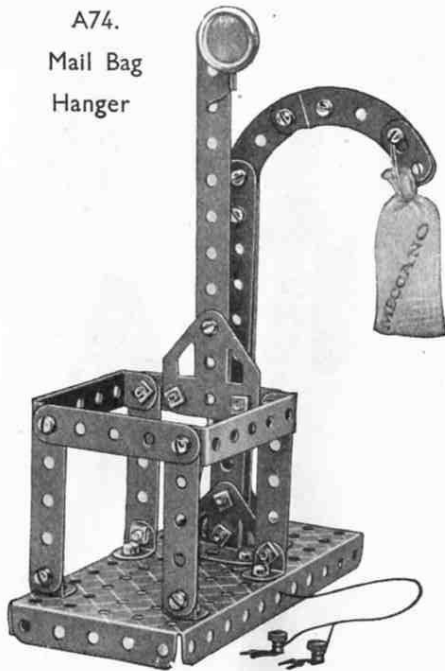
A72. Swing



A73. Counter Scales



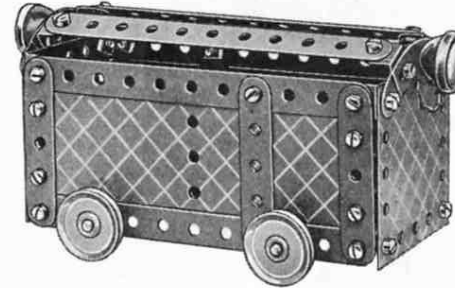
A74.  
Mail Bag  
Hanger



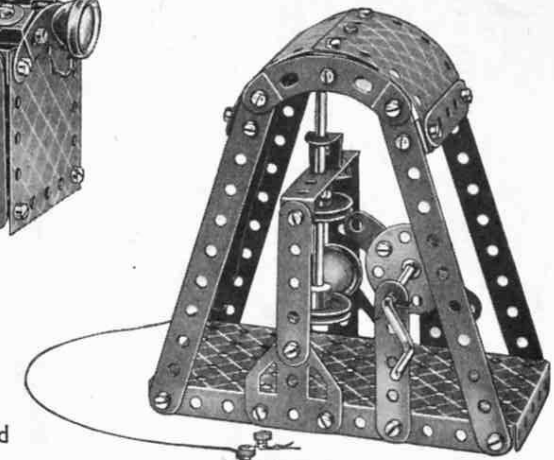
A76.  
Level Crossing  
Barrier



A79. Pullman Car

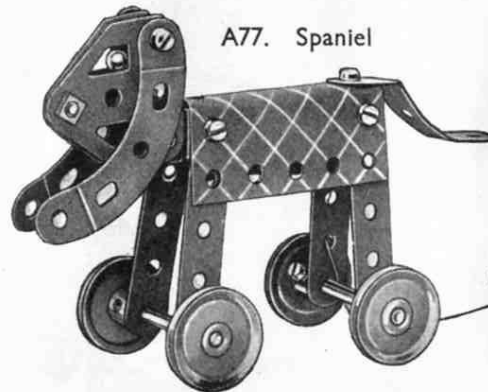


A82.  
Stamping Mill

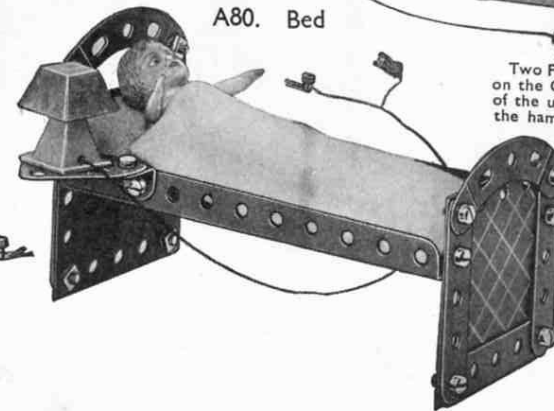


Two Flat Brackets are bolted to the Bush Wheel on the Crank Handle. They strike the underside of the upper Pulley on the vertical Rod, to raise the hammer.

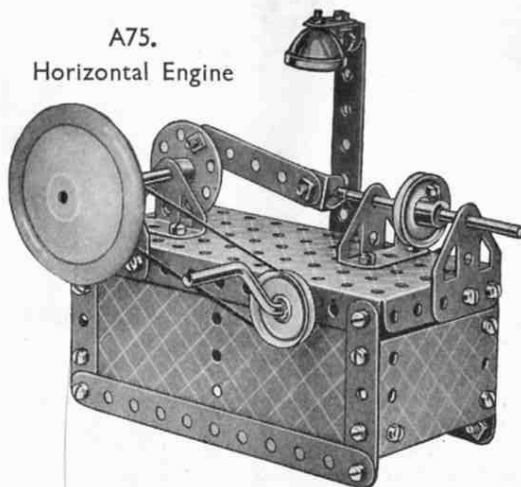
A77. Spaniel



A80. Bed

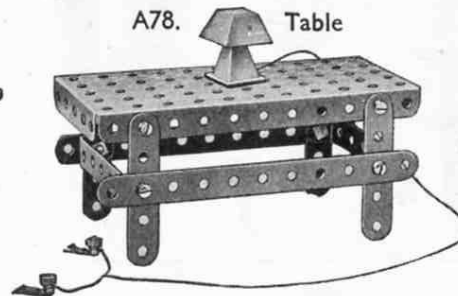


A75.  
Horizontal Engine

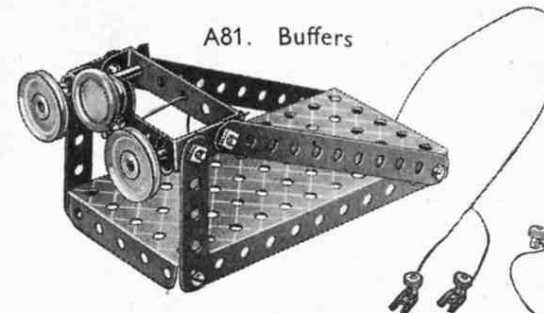


An alternative design of this model (A75M), fitted with the *Magic Motor*, is shown at the end of this section.

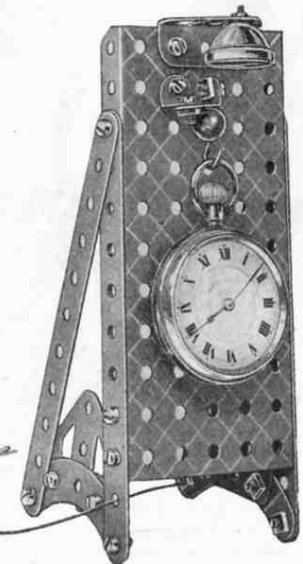
A78. Table



A81. Buffers

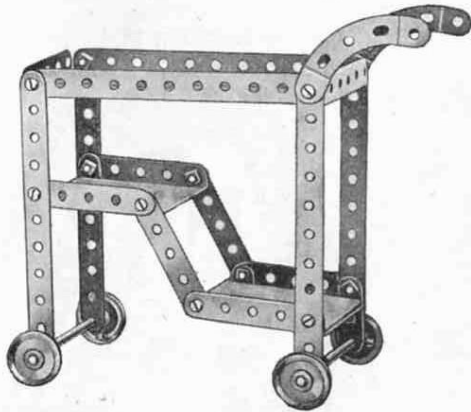


A83.  
Watch Stand

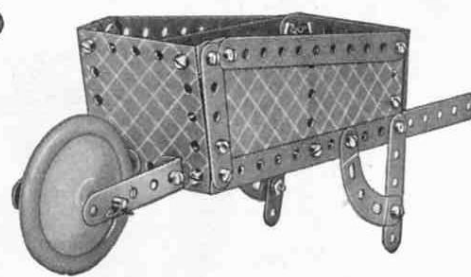


This page shows examples of the use of the Meccano Lighting Set, described on page 2 of cover

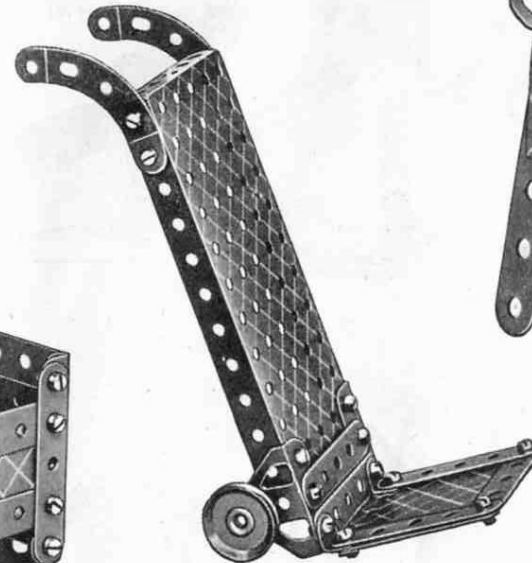
A84. Dinner Wagon



A87. Wheelbarrow



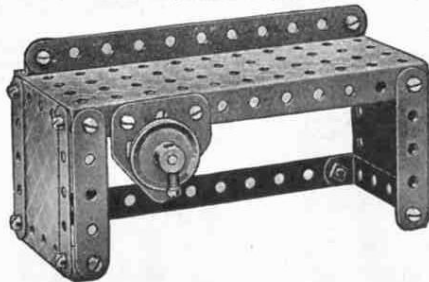
A90. Porter's Trolley



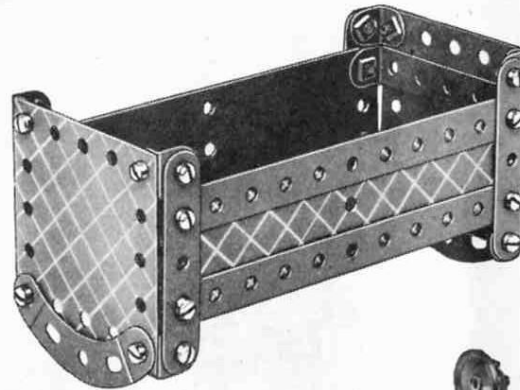
A92. Calf



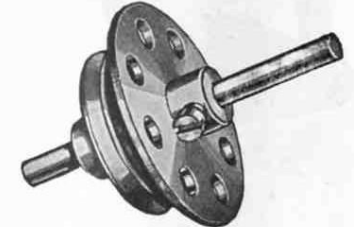
A85. Joiner's Bench



A88. Cot

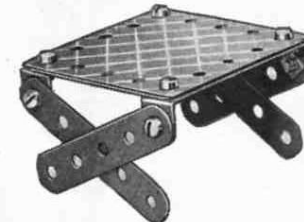


A93. Top

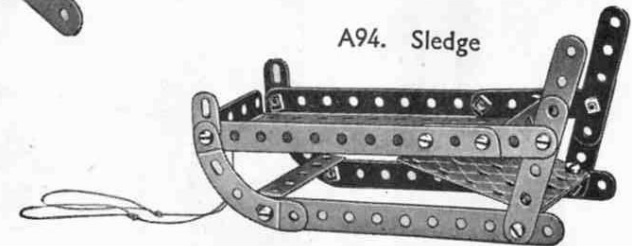


A handle for spinning the Top can be made from a  $5\frac{1}{2}$ " strip with a Reversed Angle Bracket at the end. Cord is wound round the Rod and the handle is fitted on before pulling the cord to spin the Top.

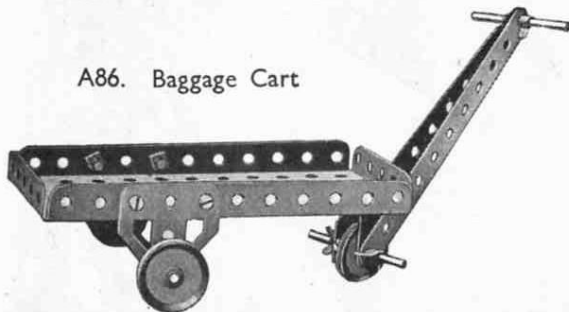
A91. Coffee Table



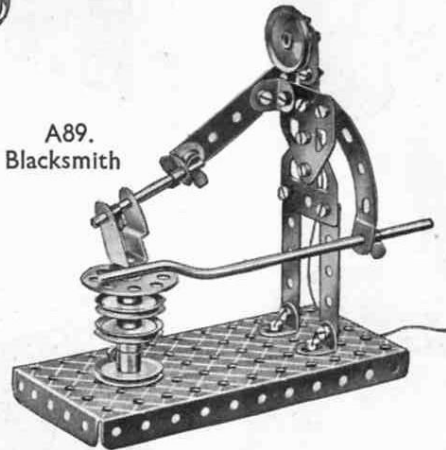
A94. Sledge



A86. Baggage Cart



A89. Blacksmith



### HOW TO CONTINUE

When you have built the A Outfit Models illustrated, and fitted a number of them with the Meccano *Magic Motor* (see next page), your next step is to purchase an Aa Accessory Outfit. This converts your A Outfit into a B and enables you to build bigger and better models.

The greatest thrill in Meccano model building is experienced when a model is set to work by means of a Meccano Motor. The illustrations below show how the Meccano *Magic Motor* can be fitted without any difficulty to Outfit A Models of various types. Fit the model you have just built with one of these wonderful Motors, and enjoy the fun of watching it work just like the real thing. Models A52M, A62M and A75M are more elaborate variations of Manual models A52, A62 and A75. Try your hand at re-designing other models in a similar manner and become a real inventor.

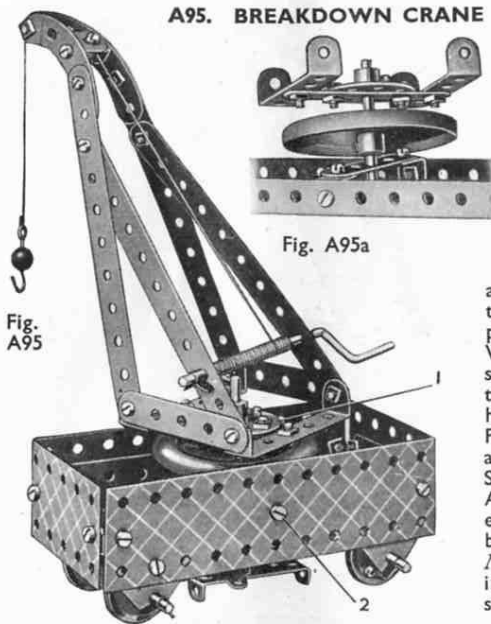
**A95. BREAKDOWN CRANE**

Fig. A95a

Fig. A95b

The crane swivels on an Axle Rod secured in the Bush Wheel 1 and passed through a Road Wheel before being inserted in a  $2\frac{1}{2}$ " Strip and through the centre hole of a  $5\frac{1}{2}$ "  $\times$   $2\frac{1}{2}$ " Flanged Plate. The arrangement of the  $2\frac{1}{2}$ " Strip can be seen in Fig. A95b, the Angle Brackets being fixed by the bolts 2 (Fig. A95). The *Magic Motor* is mounted in the same manner as shown in Fig. A62Ma.

**A96. TRIP HAMMER**

The hammer is pivoted at 1 on two Angle Brackets that are bolted through the slots to the centre hole of the  $5\frac{1}{2}$ " Strip. A 2" Axle Rod passes through the Angle Brackets and is supported in Trunnions bolted to the Plate.

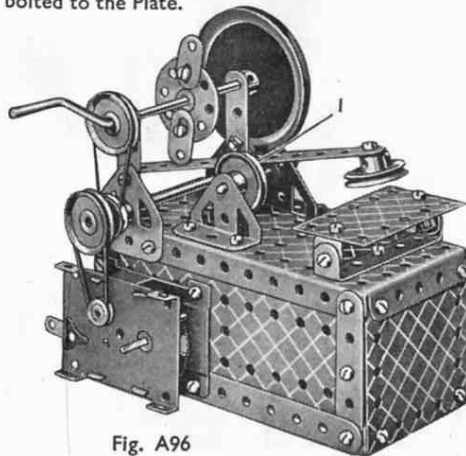


Fig. A96

**A52M. DRILLING MACHINE**

The drill Rod is journalled at the top in a Flat Bracket bolted to two Angle Brackets, and at its lower end in two Angle Brackets 1 that are bolted to a Strip attached to the vertical member of the drill. The drill table is supported by a  $2\frac{1}{2}$ "  $\times$   $1\frac{1}{2}$ " Double Angle Strip 2. A Spring Clip retains the free Pulley 3 in place.

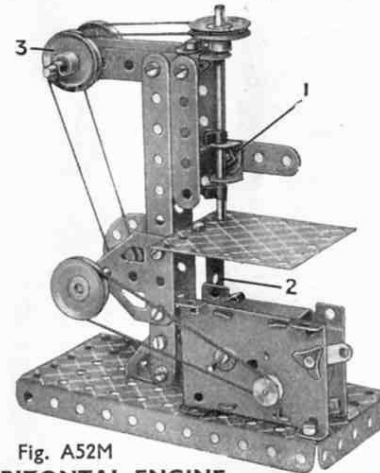


Fig. A52M

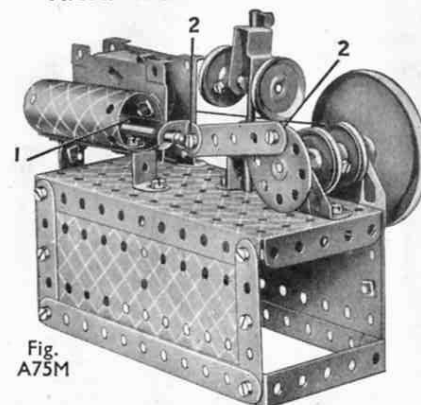
**A75M. HORIZONTAL ENGINE**

Fig. A75M

The cylinder is composed of a  $2\frac{1}{2}$ "  $\times$   $2\frac{1}{2}$ " Flexible Plate and a  $2\frac{1}{2}$ "  $\times$   $1\frac{1}{2}$ " Flexible Plate, and two Angle Brackets are bolted inside the cylinder to serve as guides for the piston rod. One of the Brackets is seen at 1. The bolts 2 are locknotted to form pivots.

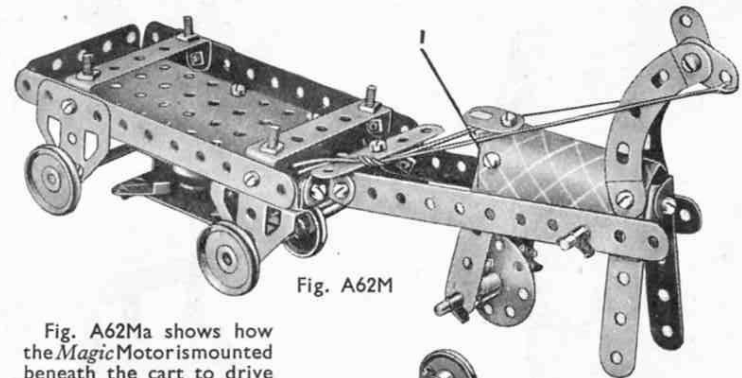
**A62M. LUMBER TRUCK AND HORSE**

Fig. A62M

Fig. A62Ma shows how the *Magic Motor* is mounted beneath the cart to drive the front Wheels. The Pulley supplied with the Motor is mounted on the front Axle, and the rubber band should be fitted as shown. Two Angle Brackets secure the front legs of the horse, and this construction is duplicated at 1 for the hind legs. The forelegs are kept off the ground by means of the reins.

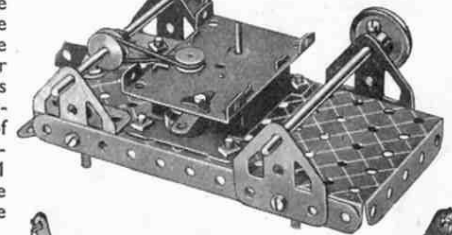


Fig. A62Ma

**A97. ROUNDABOUT**

Fig. A97a shows how the bearing for the vertical Rod is formed. The Rod is driven from the *Magic Motor* by means of a rubber band passed round the 1" Pulley and round the Motor Pulley as can be seen in Fig. A97.

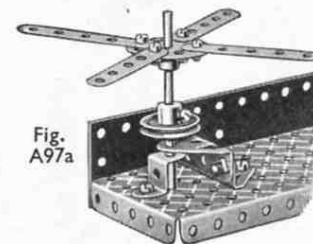


Fig. A97a

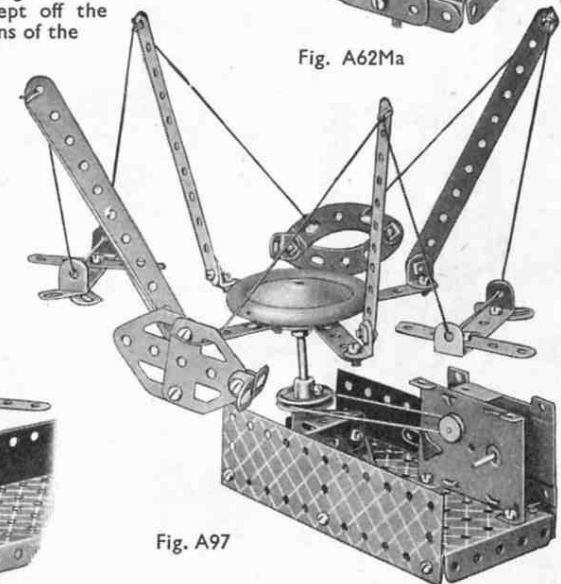


Fig. A97

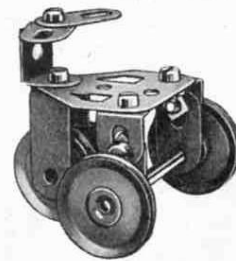
B1. Man and Boy



## Parts required

4 of No. 2
2 " " 5
5 " " 10
1 " " 11
8 " " 12
1 " " 22
1 " " 24
25 " " 37
1 " " 52
1 " " 54a
1 " " 90a
2 " " 111c
2 " " 125
1 " " 126a

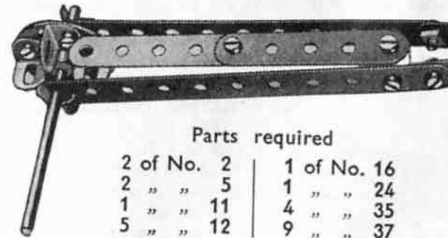
B4. Tricycle



## Parts required

4 of No. 10
1 " " 11
2 " " 12
1 " " 17
3 " " 22
6 " " 37
1 " " 44
1 " " 111c
1 " " 126a

B7. Rattle



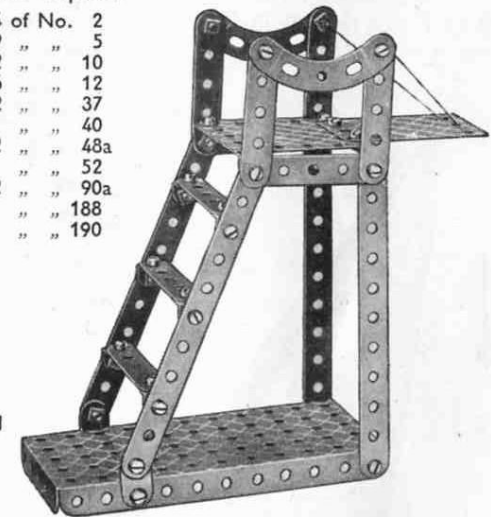
## Parts required

2 of No. 2	1 of No. 16
2 " " 5	4 " " 24
1 " " 11	4 " " 35
5 " " 12	9 " " 37

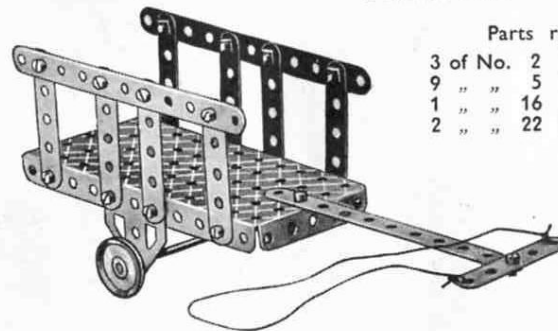
## Parts required

4 of No. 2
9 " " 5
2 " " 10
6 " " 12
32 " " 37
1 " " 40
2 " " 48a
1 " " 52
2 " " 90a
1 " " 188
1 " " 190

B9. High Diving Board



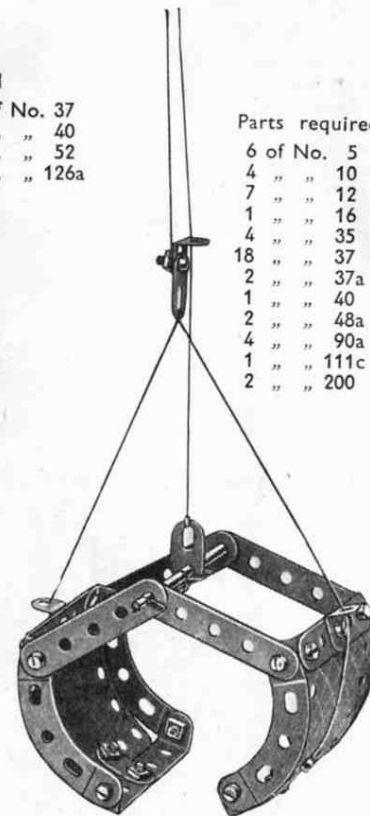
B5. Bullock Cart



## Parts required

3 of No. 2	18 of No. 37
9 " " 5	1 " " 40
1 " " 16	1 " " 52
2 " " 22	2 " " 126a

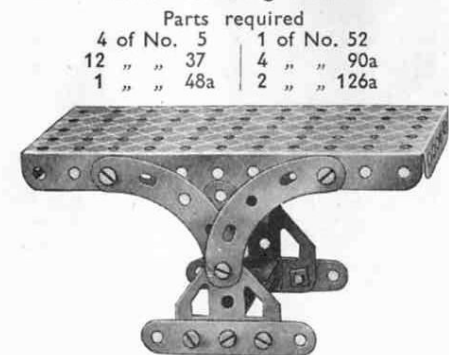
B8. Crane Grab



## Parts required

6 of No. 5
4 " " 10
7 " " 12
1 " " 16
4 " " 35
18 " " 37
2 " " 37a
1 " " 40
2 " " 48a
4 " " 90a
1 " " 111c
2 " " 200

B10. Drafting Table



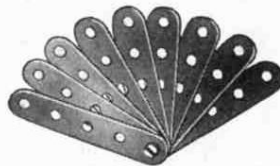
## Parts required

4 of No. 5	1 of No. 52
12 " " 37	4 " " 90a
1 " " 48a	2 " " 126a

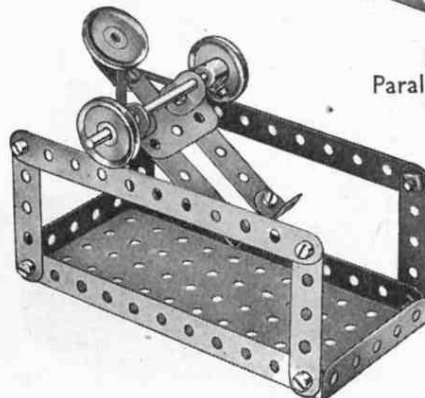
B2. Fan

## Parts required

9 of No. 5
1 " " 37a
1 " " 111c



B3. Parallel Bars



## Parts required

2 of No. 2
6 " " 5
1 " " 10
4 " " 12
1 " " 16
3 " " 22
2 " " 35
13 " " 37
1 " " 52
1 " " 111c
1 " " 126a

B6. Walking Man

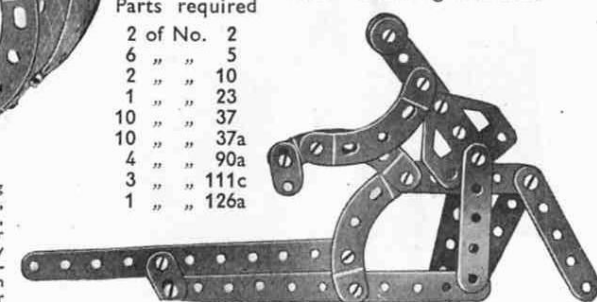


## Parts required

5 of No. 5
3 " " 10
2 " " 12
1 " " 22
5 " " 37
1 " " 37a
3 " " 90a
2 " " 111c

The  $\frac{3}{8}$ " Bolts used for connecting the  $\frac{5}{16}$ " Strips, the horse's legs, and the rider's legs and arms, are all locknotted. The lower  $\frac{5}{16}$ " Strip should be held rigidly and the upper one jerked forward; the horse will then throw its rider completely over its head.

B11. Bucking Broncho



## Parts required

2 of No. 2
6 " " 5
2 " " 10
1 " " 23
10 " " 37
10 " " 37a
4 " " 90a
3 " " 111c
1 " " 126a

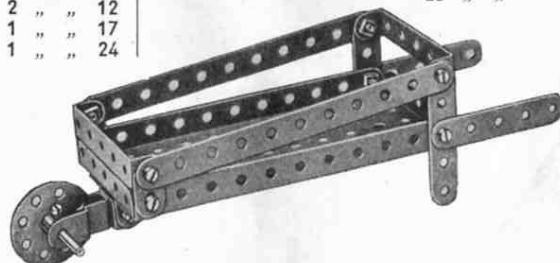
B12. Catapult



Parts required  
4 of No. 37  
4 " " 90a  
A short length  
of elastic

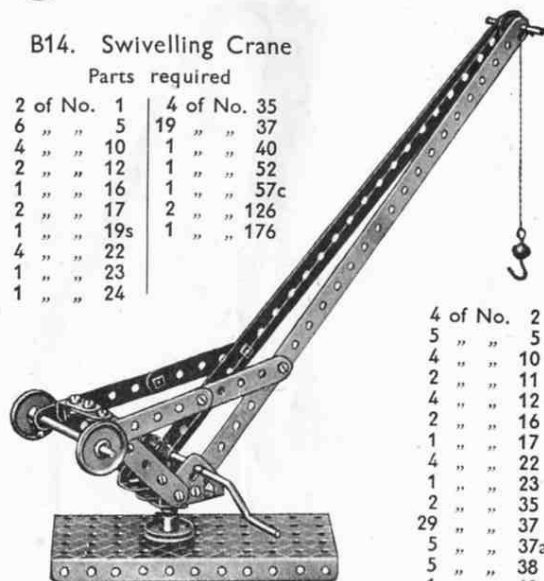
B13. Coster's Barrow

Parts required			
2 of No. 2	13 of No. 37		
4 " " 5	1 " " 44		
2 " " 10	2 " " 48a		
1 " " 11	1 " " 52		
2 " " 12			
1 " " 17			
1 " " 24			

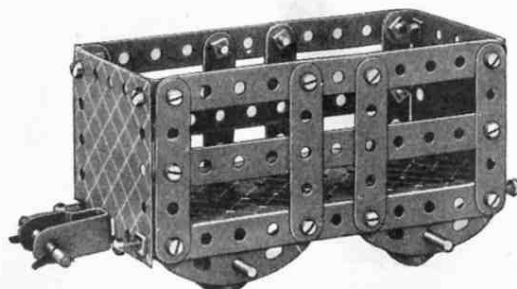


B14. Swivelling Crane

Parts required			
2 of No. 1	4 of No. 35		
6 " " 5	19 " " 37		
4 " " 10	1 " " 40		
2 " " 12	1 " " 52		
1 " " 16	1 " " 57c		
2 " " 17	2 " " 126		
1 " " 19s	1 " " 176		
4 " " 22			
1 " " 23			
1 " " 24			



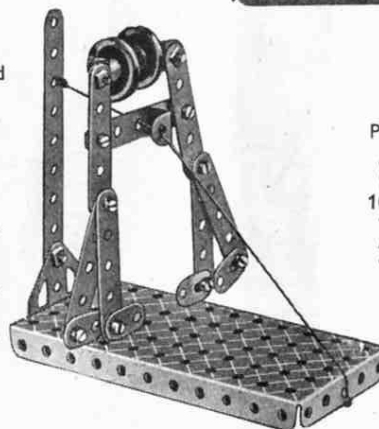
B15. Cattle Truck



Parts required			
4 of No. 2	9 of No. 37a		
8 " " 5	1 " " 44		
2 " " 16	2 " " 48a		
1 " " 18a	1 " " 52		
4 " " 22	4 " " 90a		
2 " " 35	4 " " 111c		
25 " " 37	2 " " 190		

B16. Wrestlers

Parts required			
1 of No. 2			
7 " " 5			
4 " " 10			
2 " " 12			
2 " " 22			
13 " " 37			
6 " " 37a			
1 " " 40			
1 " " 52			
4 " " 111c			
1 " " 125			
1 " " 126a			



B18. Single Sheave Pulley Block

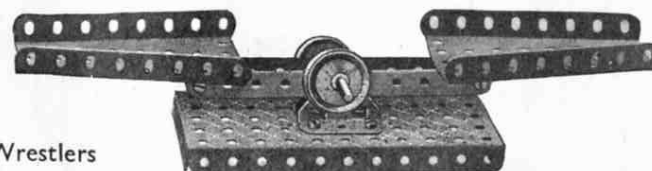


Parts required			
1 of No. 23			
11 " " 37a			
1 " " 57c			
4 " " 111c			
2 " " 126a			

B19. Scales

Parts required

2 of No. 2	2 of No. 22	1 of No. 52
2 " " 11	10 " " 37	2 " " 54a
1 " " 17	4 " " 38	2 " " 126



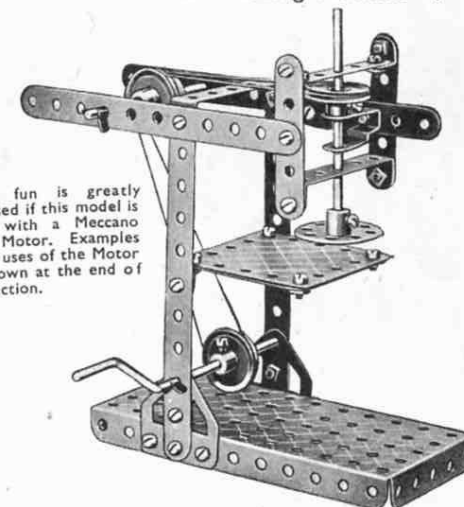
B20. Card Table

Parts required

4 of No. 5	
2 " " 12	
10 " " 37	
1 " " 48a	
4 " " 90a	
1 " " 190	



B21. Drilling Machine

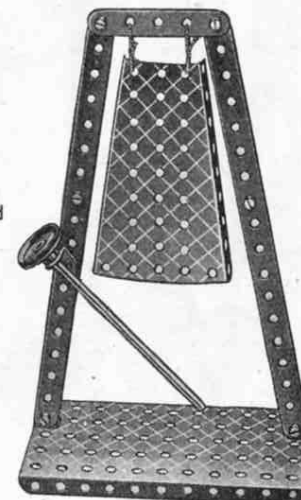


The fun is greatly increased if this model is fitted with a Meccano Magic Motor. Examples of the uses of the Motor are shown at the end of this section.

Parts required

4 of No. 2	28 of No. 37
8 " " 5	1 " " 37a
6 " " 12	1 " " 40
2 " " 16	1 " " 44
1 " " 19s	2 " " 48a
4 " " 22	1 " " 52
1 " " 24	2 " " 126a
6 " " 35	1 " " 190

B22. Gong

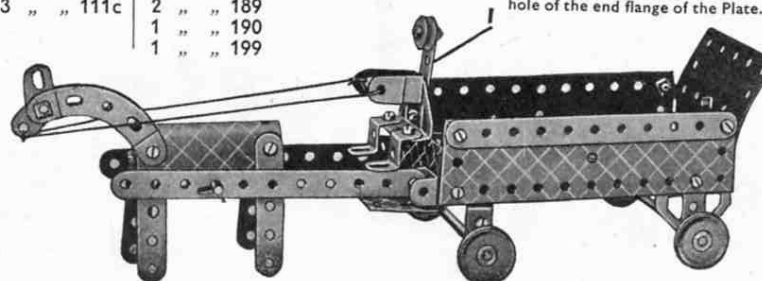


B17. Hay Cart

Parts required

1 of No. 44	2 of No. 125
1 " " 48a	1 " " 126
1 " " 52	2 " " 126a
2 " " 90a	2 " " 188
3 " " 111c	2 " " 189
	1 " " 190
	1 " " 199

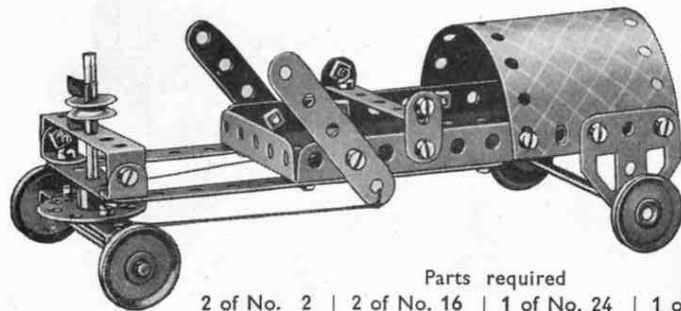
The fun is greatly increased if this model is fitted with a Meccano Magic Motor. Examples of the uses of the motor are shown at the end of this section. If the Motor is fitted, a Bush Wheel should be mounted on a 2" Rod fitted between the hind legs of the horse. The 2½" Strip 1 forming the driver's body is bolted to the centre hole of the end flange of the Plate.



Parts required

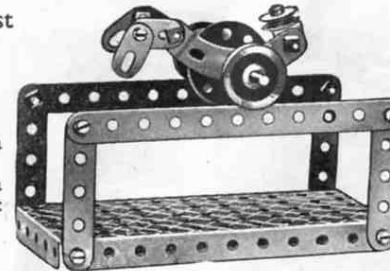
4 of No. 2	
1 " " 5	
3 " " 12	
1 " " 16	
1 " " 22	
9 " " 37	
1 " " 40	
1 " " 52	
1 " " 54a	

B23. Coaster



Parts required			
2 of No. 2	2 of No. 16	1 of No. 24	1 of No. 40
4 " " 5	1 " " 17	2 " " 35	2 " " 48a
2 " " 10	4 " " 22	24 " " 37	1 " " 52
4 " " 12	1 " " 23	2 " " 37a	2 " " 126a
			1 " " 191

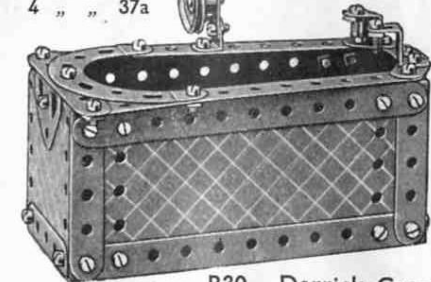
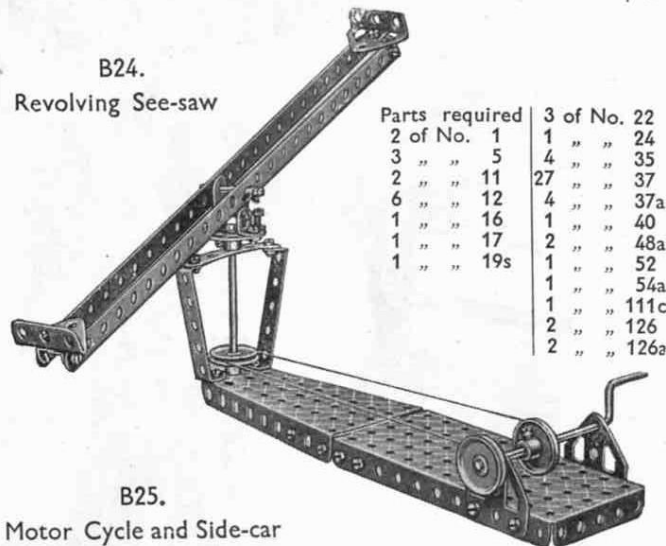
B26. Gymnast



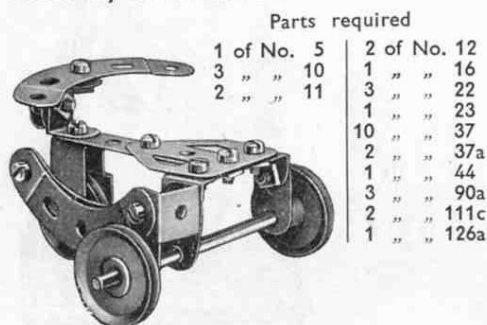
Parts required			
2 of No. 2	1 of No. 24		
4 " " 5	13 " " 37		
4 " " 10	1 " " 37a		
1 " " 12	1 " " 52		
1 " " 16	1 " " 90a		
2 " " 22	1 " " 111c		
1 " " 23			

B29. Bath with Shower

Parts required			
4 of No. 2	1 of No. 52		
7 " " 5	4 " " 90a		
1 " " 10	5 " " 111c		
8 " " 12	2 " " 125		
1 " " 22	1 " " 126		
1 " " 23	2 " " 190		
1 " " 24	2 " " 191		
36 " " 37			
4 " " 37a			

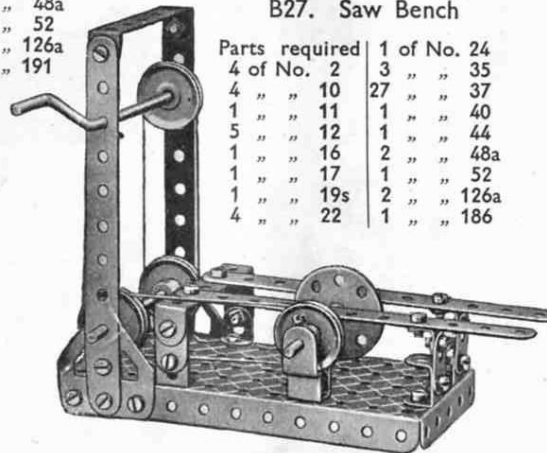
B24.  
Revolving See-saw

Parts required			
2 of No. 1	3 of No. 22		
3 " " 5	1 " " 24		
2 " " 11	4 " " 35		
6 " " 12	27 " " 37		
1 " " 16	4 " " 37a		
1 " " 17	1 " " 40		
1 " " 19s	2 " " 48a		
	1 " " 52		
	1 " " 54a		
	1 " " 111c		
	2 " " 126		
	2 " " 126a		

B25.  
Motor Cycle and Side-car

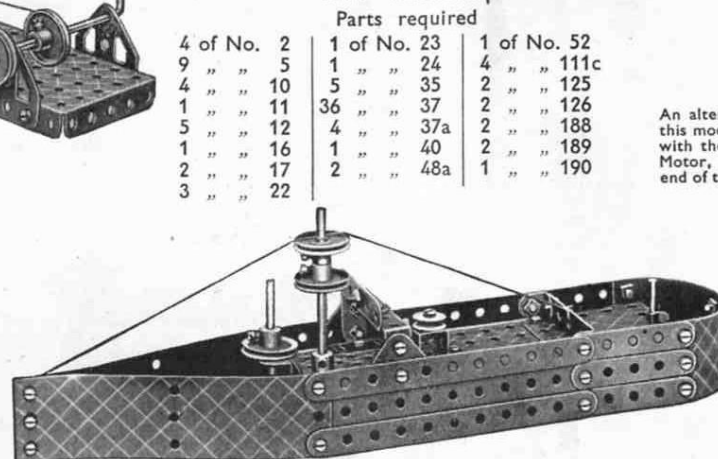
Parts required			
1 of No. 5	2 of No. 12		
3 " " 10	1 " " 16		
2 " " 11	3 " " 22		
	1 " " 23		
	10 " " 37		
	2 " " 37a		
	1 " " 44		
	3 " " 90a		
	2 " " 111c		
	1 " " 126a		

B27. Saw Bench



Parts required			
4 of No. 2	1 of No. 24		
4 " " 10	3 " " 35		
1 " " 11	27 " " 37		
5 " " 12	1 " " 40		
1 " " 16	1 " " 44		
1 " " 17	2 " " 48a		
1 " " 19s	1 " " 52		
4 " " 22	2 " " 126a		
	1 " " 186		

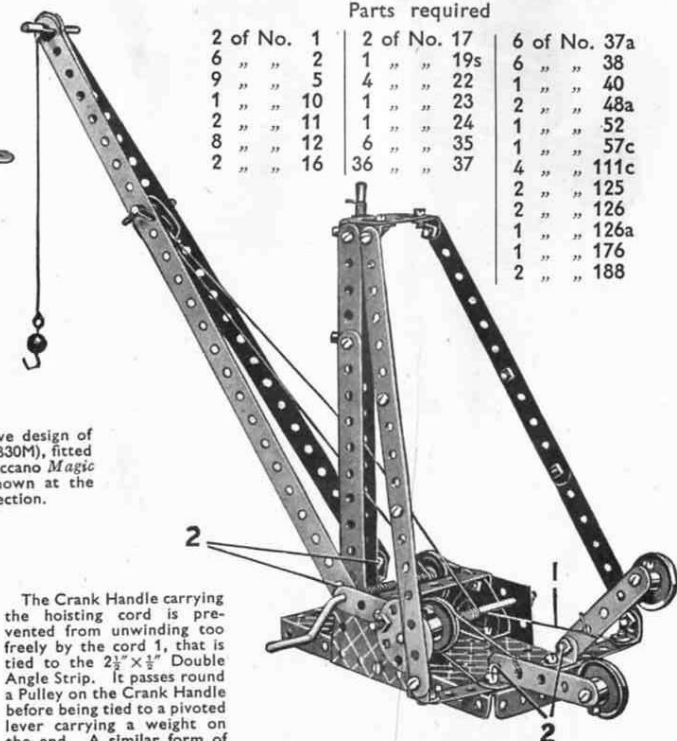
B28. Battleship



Parts required			
4 of No. 2	1 of No. 23	1 of No. 52	
9 " " 5	1 " " 24	4 " " 111c	
4 " " 10	5 " " 35	2 " " 125	
1 " " 11	36 " " 37	2 " " 126	
5 " " 12	4 " " 37a	2 " " 188	
1 " " 16	1 " " 40	2 " " 189	
2 " " 17	2 " " 48a	1 " " 190	
3 " " 22			

An alternative design of this model (B30M), fitted with the Meccano Magic Motor, is shown at the end of this section.

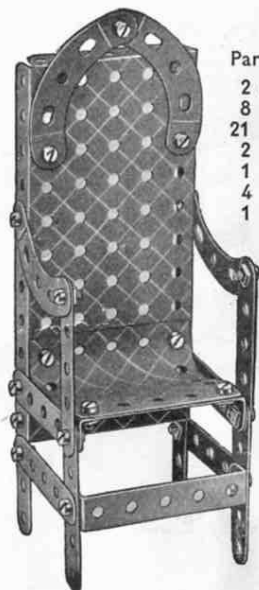
B30. Derrick Crane



Parts required			
2 of No. 1	2 of No. 17	6 of No. 37a	
6 " " 2	1 " " 19s	6 " " 38	
9 " " 5	4 " " 22	1 " " 40	
1 " " 10	1 " " 23	2 " " 48a	
2 " " 11	1 " " 24	1 " " 52	
8 " " 12	6 " " 35	1 " " 57c	
2 " " 16	36 " " 37	4 " " 111c	
		2 " " 125	
		2 " " 126	
		1 " " 126a	
		1 " " 176	
		2 " " 188	

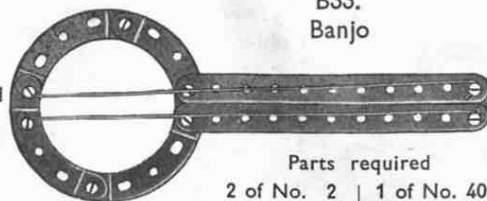
The Crank Handle carrying the hoisting cord is prevented from unwinding too freely by the cord 1, that is tied to the  $2\frac{1}{2} \times \frac{1}{2}$  Double Angle Strip. It passes round a Pulley on the Crank Handle before being tied to a pivoted lever carrying a weight on the end. A similar form of brake is fitted on the luffing shaft. The bolts 2, are fitted with locknuts.

B31. Arm Chair



## Parts required

2 of No. 2
8 " " 5
21 " " 37
2 " " 48a
1 " " 52
4 " " 90a
1 " " 200

B33.  
Banjo

## Parts required

2 of No. 2	1 of No. 40
1 " " 10	4 " " 90a
8 " " 37	

## Parts required

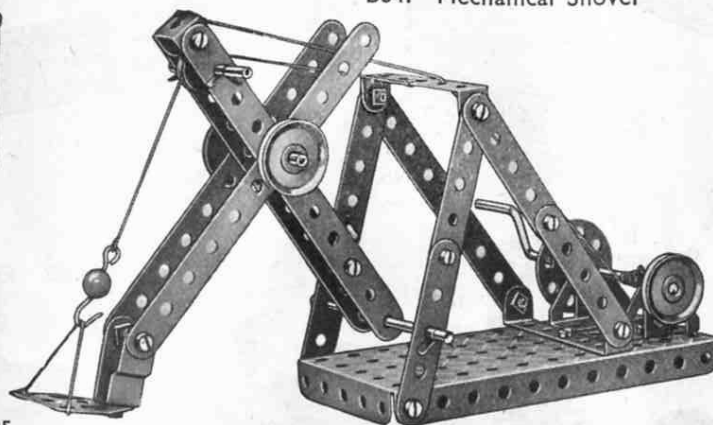
9 of No. 5
4 " " 10
6 " " 12
1 " " 23
17 " " 37
8 " " 37a
1 " " 40
4 " " 90a
5 " " 111c
1 " " 126a
1 " " 199

B36.  
Rocking Horse

## Parts required

4 of No. 2
8 " " 5
8 " " 12
33 " " 37
1 " " 40
2 " " 48a
1 " " 52
2 " " 90a
2 " " 126
2 " " 190
2 " " 191

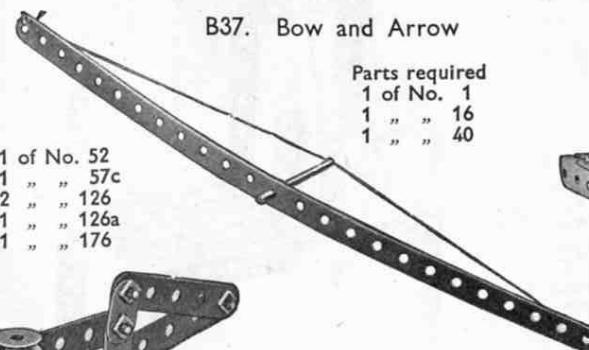
B34. Mechanical Shovel



## Parts required

2 of No. 17	5 of No. 35	1 of No. 52
1 " " 19s	20 " " 37	1 " " 57c
4 of No. 2	1 " " 40	2 " " 126
8 " " 5	3 " " 22	1 " " 126a
2 " " 11	1 " " 23	1 " " 176
1 " " 16	1 " " 24	

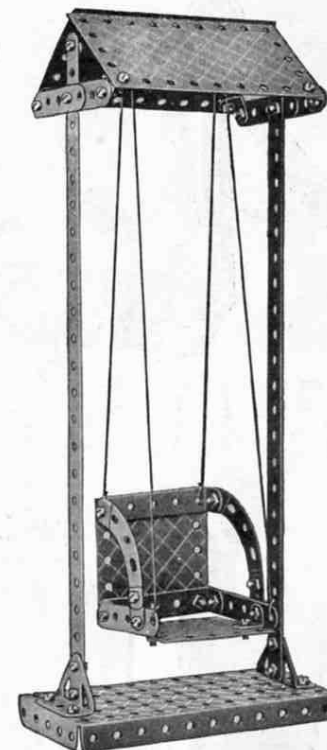
B37. Bow and Arrow



## Parts required

1 of No. 1
1 " " 16
1 " " 40

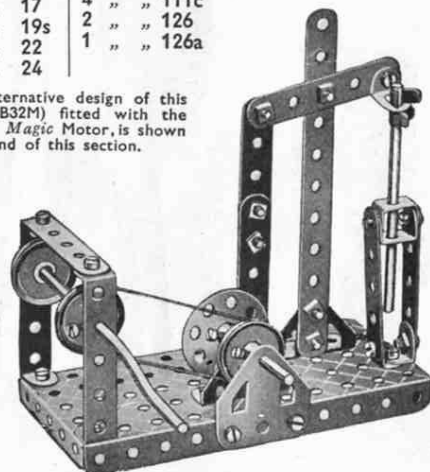
B38. Swing



B32. Pump

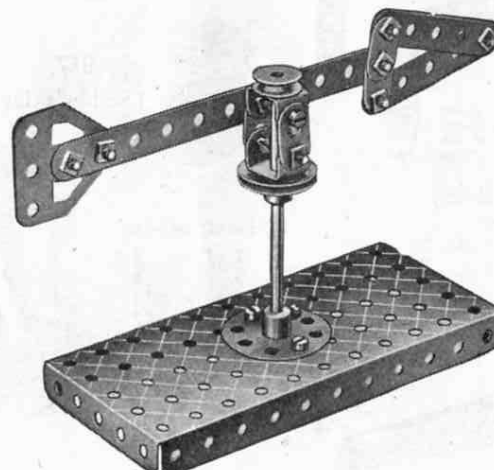
Parts required	2 of No. 35
1 of No. 2	19 " " 37
6 " " 5	8 " " 37a
2 " " 11	1 " " 40
3 " " 12	2 " " 48a
1 " " 16	1 " " 52
1 " " 17	4 " " 111c
1 " " 19s	2 " " 126
3 " " 22	1 " " 126a
1 " " 24	

An alternative design of this model (B32M) fitted with the Meccano Magic Motor, is shown at the end of this section.

B35.  
Weather  
Vane

## Parts required

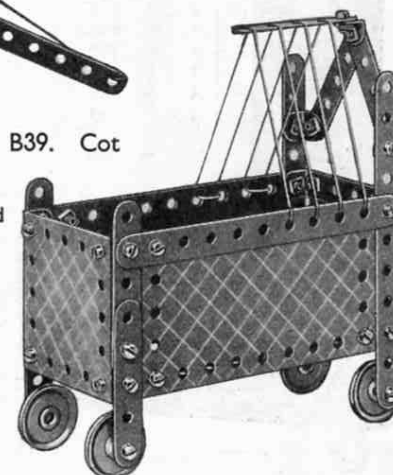
1 of No. 2
2 " " 5
4 " " 10
2 " " 11
1 " " 16
1 " " 22
1 " " 23
1 " " 24
12 " " 37
1 " " 52
1 " " 126a

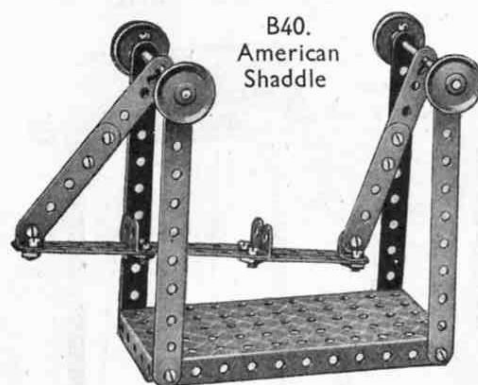


B39. Cot

## Parts required

4 of No. 2
7 " " 5
3 " " 12
4 " " 22
30 " " 37
1 " " 40
2 " " 48a
1 " " 52
4 " " 111c
2 " " 190
2 " " 191



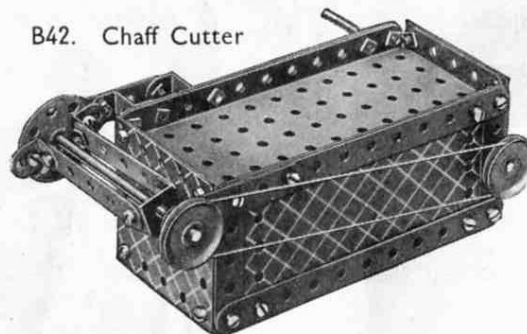


B40.  
American  
Shackle

## Parts required

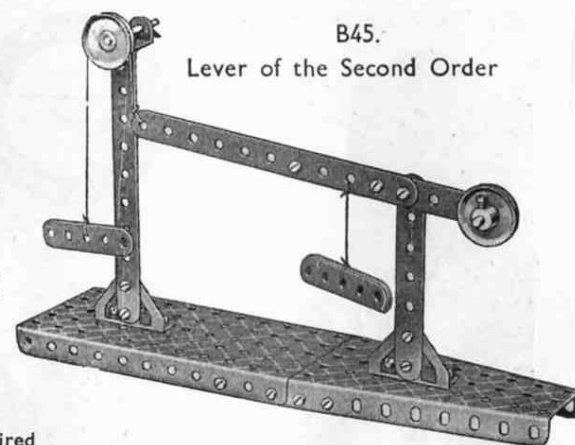
4 of No.	2
8 "	5
1 "	11
6 "	12
1 "	16
1 "	19s
2 "	22
1 "	24
2 "	35
33 "	37
1 "	40
1 "	52
2 "	125
2 "	190
2 "	191

B42. Chaff Cutter



## Parts required

2 of No.	2
9 "	5
2 "	17
2 "	22
1 "	23
2 "	35
21 "	37
2 "	37a
5 "	38
1 "	40
1 "	52
1 "	54a
1 "	111c
1 "	125
2 "	126



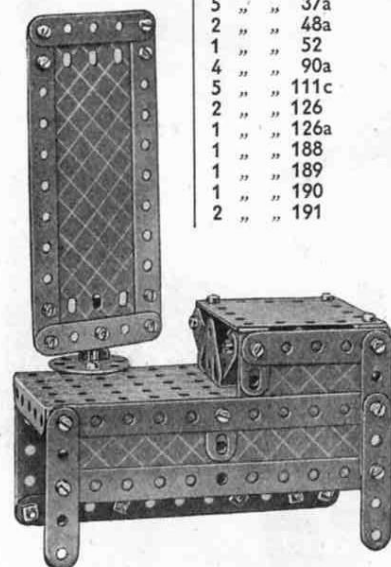
B45.  
Lever of the Second Order

Parts required	2 of No. 12	18 of No. 37
4 of No. 2	2 " " 16	2 " " 37a
9 " " 5	4 " " 22	2 " " 48a
2 " " 10	4 " " 35	1 " " 52

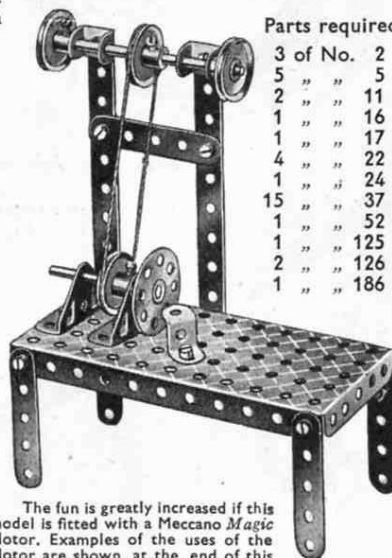
B41.  
Modern Dressing Table

## Parts required

4 of No. 2	4 of No. 12
9 " " 5	1 " " 17
4 " " 10	1 " " 24
1 " " 11	2 " " 35
	36 " " 37
	5 " " 37a
	2 " " 48a
	1 " " 52
	4 " " 90a
	5 " " 111c
	2 " " 126
	1 " " 126a
	1 " " 188
	1 " " 189
	1 " " 190
	2 " " 191



B43. Bench Lathe



## Parts required

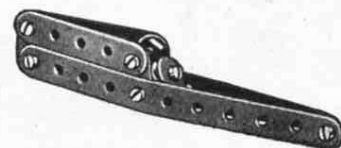
3 of No.	2
5 "	5
2 "	11
1 "	16
1 "	17
4 "	22
1 "	24
15 "	37
1 "	52
1 "	125
2 "	126
1 "	186

The fun is greatly increased if this model is fitted with a Meccano Magic Motor. Examples of the uses of the Motor are shown at the end of this section.

B44. Motor Boat

## Parts required

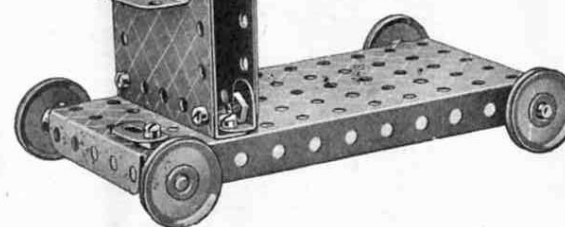
2 of No. 2	1 of No. 23
2 " " 5	7 " " 37
3 " " 10	1 " " 37a
1 " " 11	1 " " 111c



B46. Electric Trolley

## Parts required

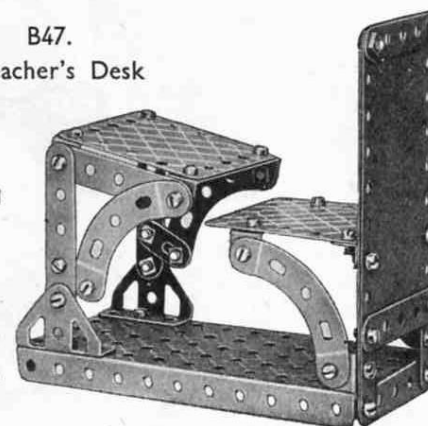
3 of No. 5	4 of No. 37a
2 " " 10	2 " " 48a
1 " " 11	1 " " 52
4 " " 12	1 " " 111c
2 " " 16	1 " " 126
4 " " 22	2 " " 190
16 " " 37	



B47.  
Teacher's Desk

## Parts required

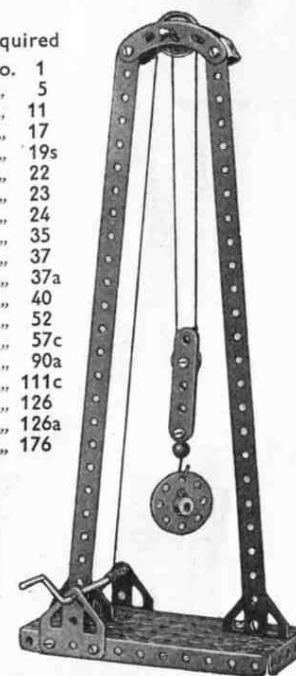
2 of No. 2
9 " " 5
2 " " 10
6 " " 12
34 " " 37
2 " " 48a
1 " " 52
4 " " 90a
2 " " 126
2 " " 190
1 " " 191



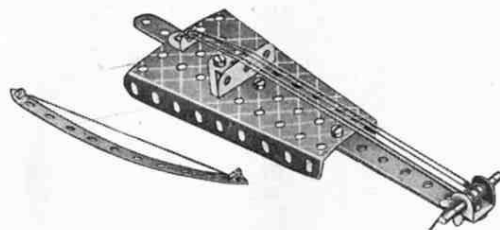
B48. Pulley Block

## Parts required

2 of No. 1
2 " " 5
2 " " 11
1 " " 17
1 " " 19s
1 " " 22
1 " " 23
1 " " 24
4 " " 35
14 " " 37
2 " " 37a
1 " " 40
1 " " 52
1 " " 57c
2 " " 90a
2 " " 111c
2 " " 126
2 " " 126a
2 " " 176



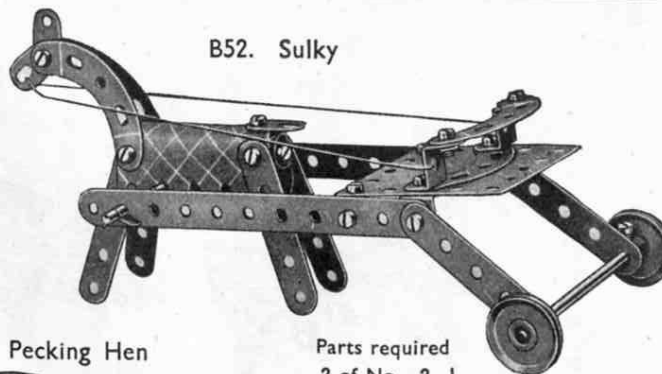
B49. Violin and Bow



## Parts required

4 of No.	2
1 "	11
1 "	12
1 "	17
2 "	35
5 "	37
1 "	40
1 "	54a
1 "	126

B52. Sulky



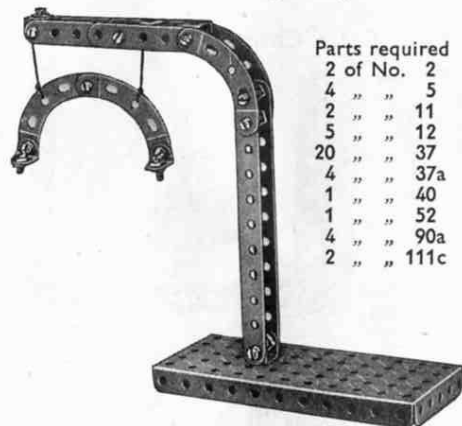
B56. Rocking Chair

## Parts required

9 of No.	5
4 "	10
8 "	12
26 "	37
2 "	37a
2 "	48a
4 "	90a
2 "	111c
2 "	190



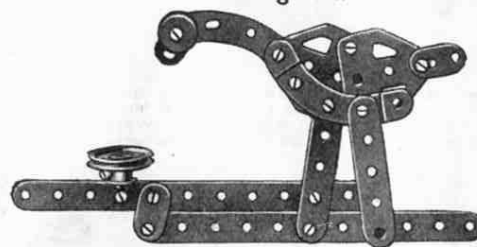
B50. Loading Gauge



## Parts required

2 of No.	2
4 "	5
2 "	11
5 "	12
20 "	37
4 "	37a
1 "	40
1 "	52
4 "	90a
2 "	111c

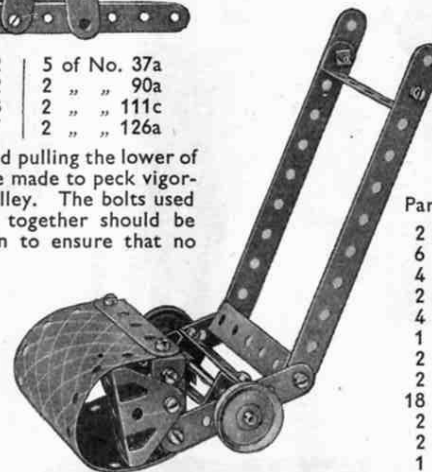
B53. Pecking Hen



## Parts required

2 of No.	2	4 of No.	35	4 of No.	90a
6 "	5	17 "	37	1 "	111c
3 "	10	1 "	37a	2 "	125
6 "	12	1 "	40	1 "	190
2 "	16	1 "	48a	1 "	199
2 "	22				

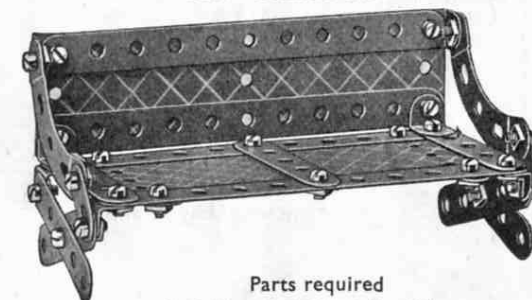
B54. Grass Cutter



## Parts required

2 of No.	2
6 "	5
4 "	10
2 "	11
4 "	12
1 "	16
2 "	22
2 "	35
18 "	37
2 "	48a
2 "	126
1 "	191

B57. Station Seat



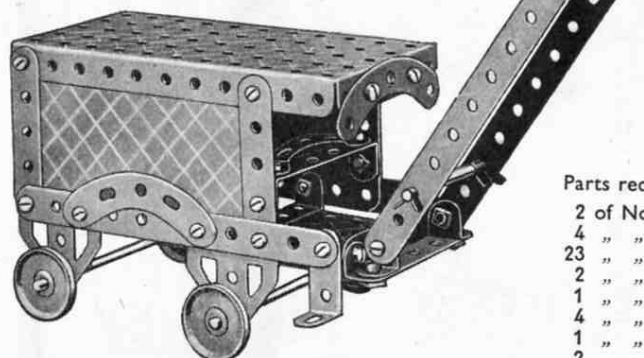
## Parts required

4 of No.	2	24 of No.	37
9 "	5	2 "	90a
2 "	10	1 "	189
8 "	12	1 "	191

B51. Bread Van

## Parts required

4 of No.	2	4 of No.	22	4 of No.	90a
8 "	5	4 "	35	1 "	125
2 "	10	34 "	37	2 "	126
8 "	12	2 "	37a	2 "	126a
2 "	16	2 "	48a	2 "	190
1 "	17	1 "	52	2 "	191

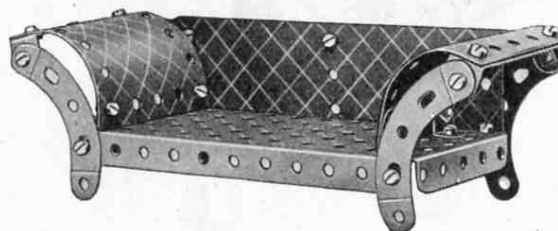


By alternately pushing and pulling the lower of the  $5\frac{1}{2}$ " Strips, the hen can be made to peck vigorously at the "bowl," a 1" Pulley. The bolts used for securing the  $5\frac{1}{2}$ " Strips together should be locknuttled, care being taken to ensure that no "side play" is permitted.

B55. Couch

## Parts required

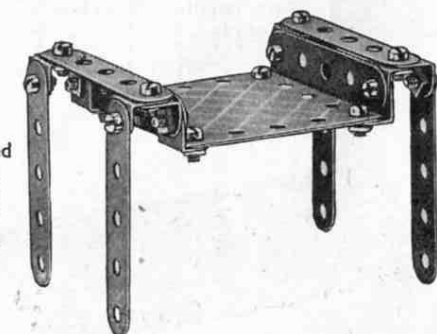
2 of No.	2
4 "	12
23 "	37
2 "	48a
1 "	52
4 "	90a
1 "	189
2 "	200



## Parts required

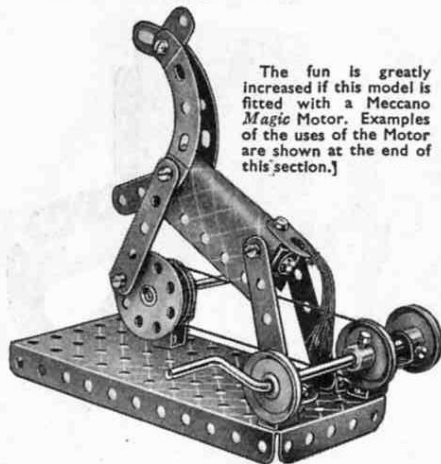
9 of No.	5
8 "	12
16 "	37
2 "	125
1 "	190

B58. Stool for Dressing Table



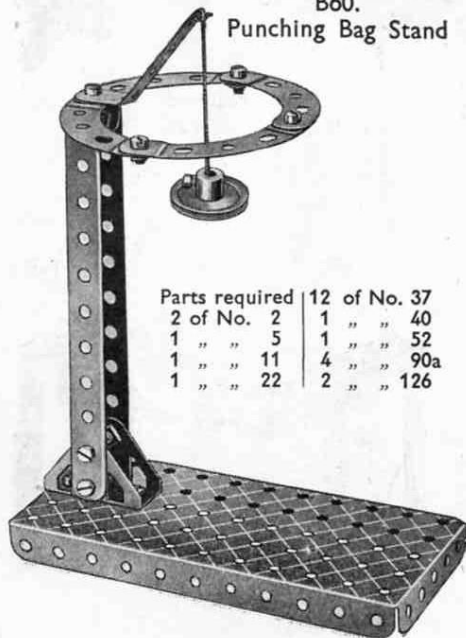
An alternative design of this model (B51M), fitted with the Meccano Magic Motor, is shown at the end of this section.

## B59. Prancing Horse



Parts required		
4 of No. 5	4 of No. 22	1 of No. 52
3 " " 10	1 " " 24	2 " " 90a
8 " " 12	14 " " 37	4 " " 111c
1 " " 17	8 " " 37a	2 " " 125
1 " " 19s	1 " " 40	1 " " 186
	1 " " 44	1 " " 199

## B60. Punching Bag Stand



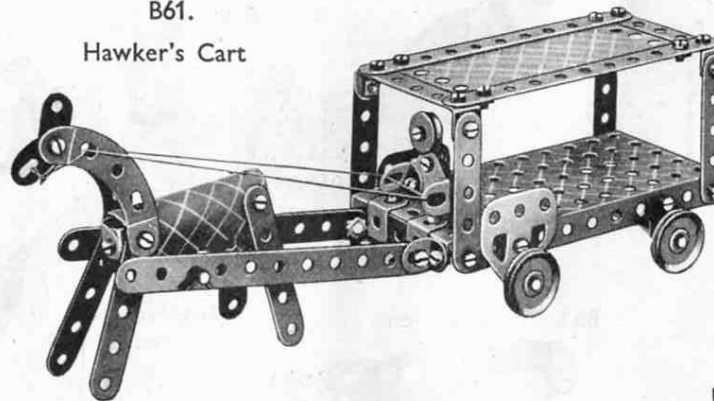
Parts required		
2 of No. 2	12 of No. 37	
1 " " 5	1 " " 40	
1 " " 11	1 " " 52	
1 " " 22	4 " " 90a	
	2 " " 126	

## Parts required

4 of No. 2	
8 " " 5	
4 " " 10	
8 " " 12	
2 " " 16	
1 " " 17	
4 " " 22	
1 " " 23	
4 " " 35	
35 " " 37	
4 " " 37a	
1 " " 40	
2 " " 48a	
1 " " 52	
2 " " 90a	
2 " " 111c	
2 " " 125	
2 " " 126	
2 " " 126a	
1 " " 191	
1 " " 199	

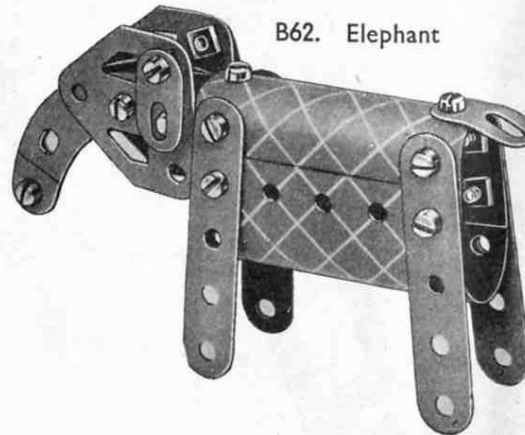
## B61.

## Hawker's Cart



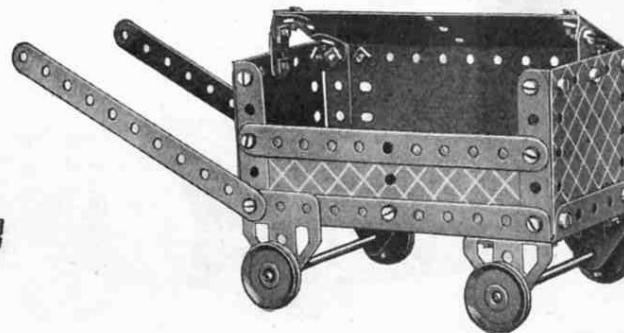
The fun is greatly increased if this model is fitted with a Meccano Magic Motor. For examples of the uses of the Motor see the Magic Motor pages at the end of this section. If the Motor is fitted, a Bush Wheel should be mounted on a 2" Rod fitted between the hind legs of the horse.

## B62. Elephant



Parts required		
4 of No. 5		
3 " " 10		
15 " " 37		
2 " " 37a		
2 " " 90a		
2 " " 126a		
2 " " 199		

## B63. Ash Cart



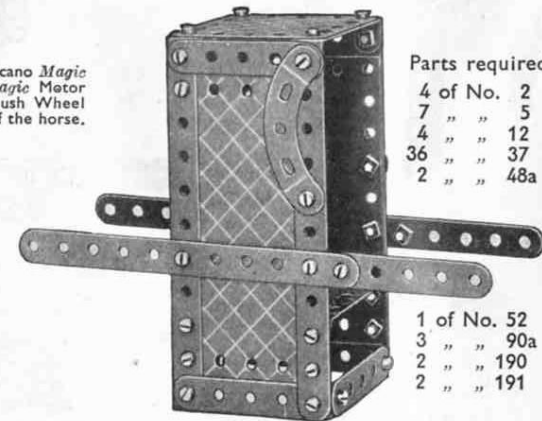
Parts required		
4 of No. 2		
4 " " 5		
2 " " 10		
4 " " 12		
2 " " 16		
4 " " 22		
34 " " 37		
2 " " 37a		
2 " " 48a		
1 " " 52		
2 " " 111c		
2 " " 126		
2 " " 126a		
2 " " 189		
2 " " 190		
1 " " 191		

## B64. Shepherd's Crook

Parts required		
2 of No. 1		
7 " " 37		
4 " " 90a		

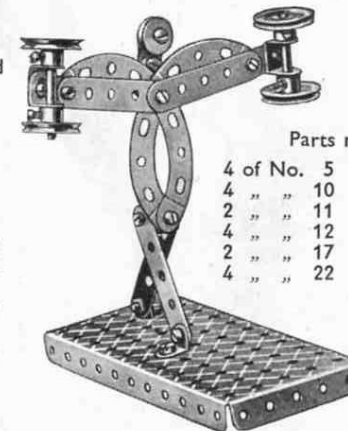


## B65. Sedan Chair



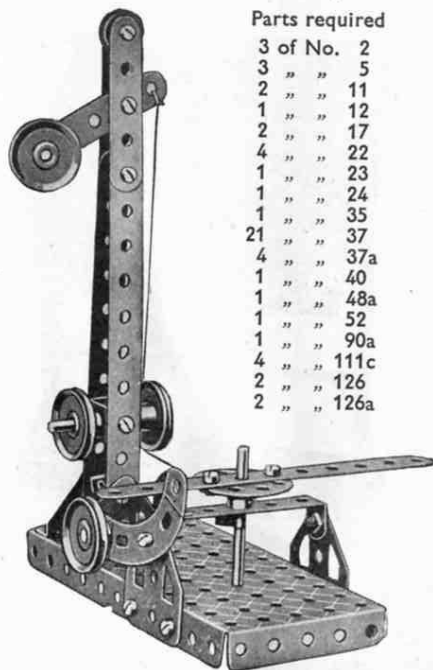
Parts required		
4 of No. 2		
7 " " 5		
4 " " 12		
36 " " 37		
2 " " 48a		
1 of No. 52		
3 " " 90a		
2 " " 190		
2 " " 191		

## B66. Strong Man



Parts required		
4 of No. 5		1 of No. 23
4 " " 10		12 " " 37
2 " " 11		2 " " 37a
4 " " 12		1 " " 52
2 " " 17		4 " " 90a
4 " " 22		2 " " 111c

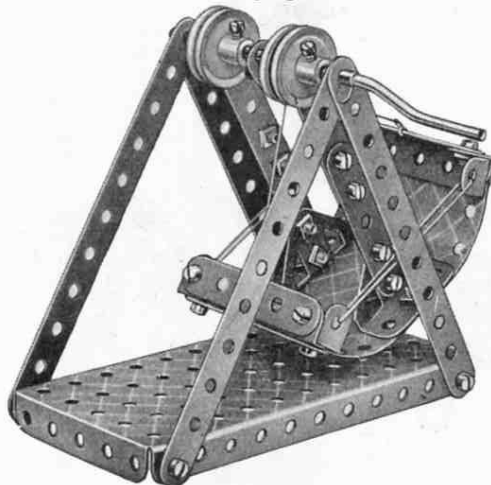
B67. Automatic Signals



Parts required	
3 of No.	2
3	5
2	11
1	12
2	17
4	22
1	23
1	24
1	35
21	37
4	37a
1	40
1	48a
1	52
1	90a
4	111c
2	126
2	126a

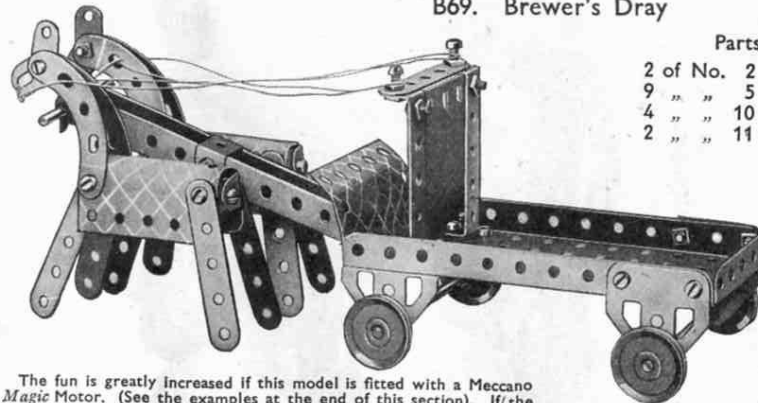
The weighted Curved Strip is locknuttet to the Flat Trunnion. When the horizontal 5 1/2" Strip is tripped by the locomotive the signal is raised to "danger" until the mechanism is re-set.

B68. Swinging Boat



Parts required	
4 of No.	2
8	5
1	10
1	12
1	19s
4	22
6	35
22	37
4	37a
1	40
2	48a
1	52
2	126
1	191

B69. Brewer's Dray



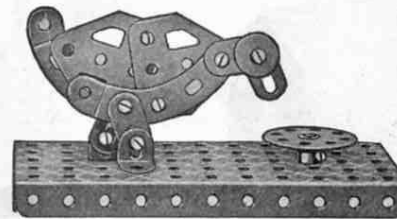
The fun is greatly increased if this model is fitted with a Meccano Magic Motor. (See the examples at the end of this section). If the Motor is fitted, a Bush Wheel should be mounted on a 2 1/4" Rod fitted between the inner hind legs of the two horses.

B70. Chair



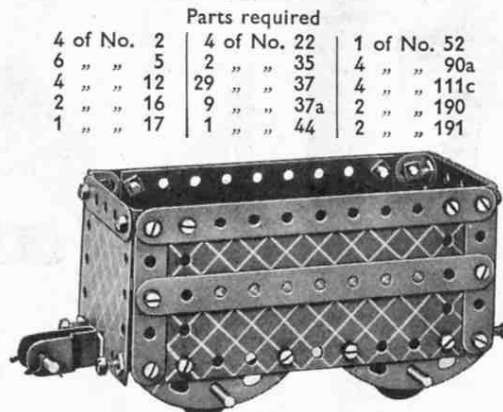
Parts required	
8 of No.	5
4	12
16	37
2	48a
2	190

B71. Goose



Parts required	
4 of No.	10
2	12
1	23
1	24
6	37
2 of No.	37a
1	52
2	90a
3	111c
2	126a

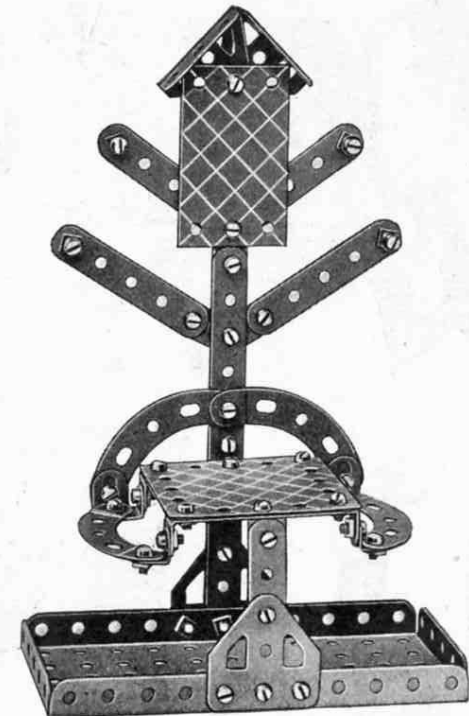
B72. Cattle Truck



Parts required	
4 of No.	2
6	5
4	12
2	16
1	17
4 of No.	22
2	35
29	37
9	37a
1	44
1 of No.	52
4	90a
4	111c
2	190
2	191

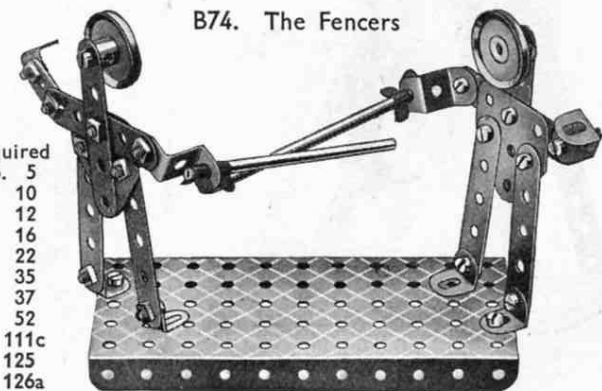
Parts required	
8 of No.	5
2	10
6	12
2	16
2	22
4	35
18	37
1	52
2	111c
2	125
2	126a

B73. Hat Rack

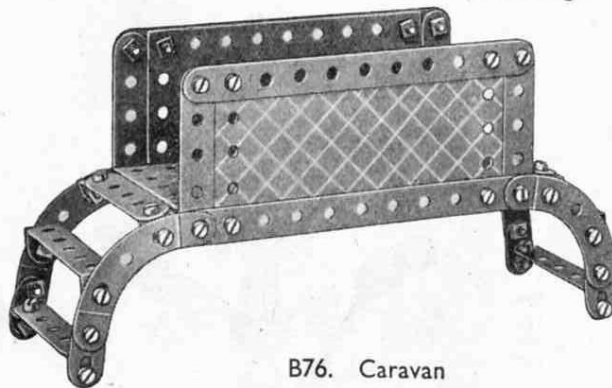


Parts required	
2 of No.	2
9	5
2	10
8	12
34	37
8 of No.	37a
2	48a
1	52
4	90a
4	111c
2 of No.	126
2	126a
1	188
1	190

B74. The Fencers



B75. Footbridge

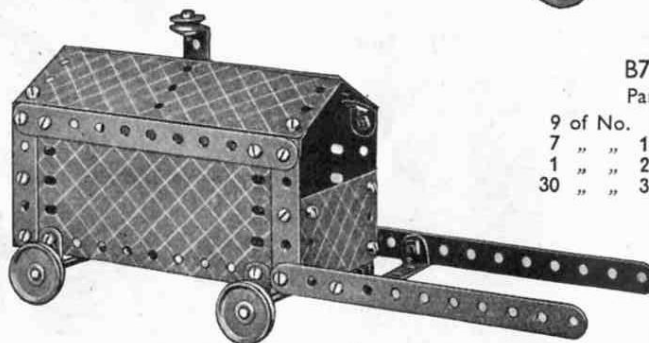


## Parts required

4 of No.	2
8 "	5
4 "	10
8 "	12
36 "	37
4 "	37a
2 "	48a
1 "	52
4 "	90a
4 "	111c
2 "	191

B76. Caravan

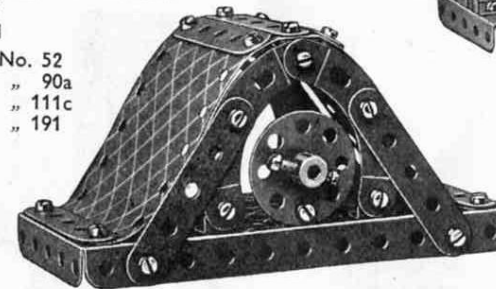
Parts required	
4 of No.	2
4 "	5
4 "	10
8 "	12
2 "	16
4 "	22
1 "	23
35 "	37
5 of No.	37a
1 "	48a
1 "	52
1 "	111c
1 "	125
2 "	188
2 "	189
2 "	191



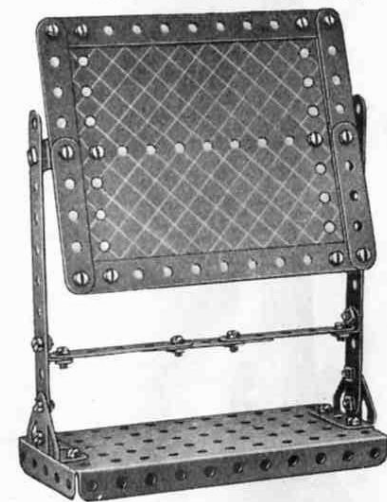
B79. Clock

## Parts required

9 of No.	5	1 of No.	52
7 "	12	4 "	90a
1 "	24	2 "	111c
30 "	37	2 "	191



B81. School Blackboard



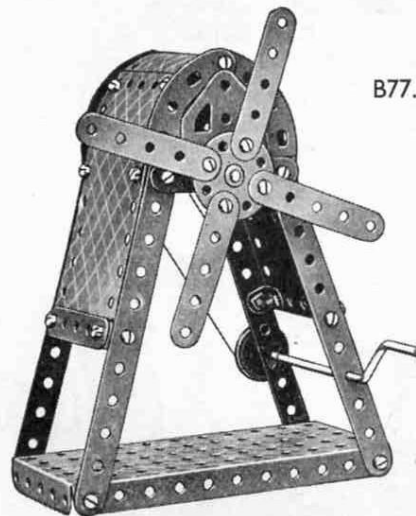
## Parts required

8 of No.	5
2 "	11
6 "	12
2 "	16
4 "	22
29 "	37
4 "	37a
1 "	52
4 "	90a
1 "	111c
2 "	126
2 "	126a
2 "	191

## Parts required

4 of No.	2
7 "	5
2 "	10
4 "	12
28 "	37
2 "	37a
1 "	52
2 "	126
2 "	191

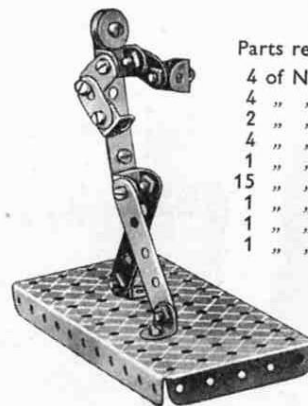
B77. Windmill



## Parts required

4 of No.	2
8 "	5
4 "	10
4 "	12
1 "	16
1 "	19s
2 "	22
1 "	24
1 "	35
36 "	37
2 "	37a
2 "	48a
1 "	52
4 "	90a
2 "	111c
2 "	126a
1 "	186
1 "	190
2 "	191

B80. Boxer

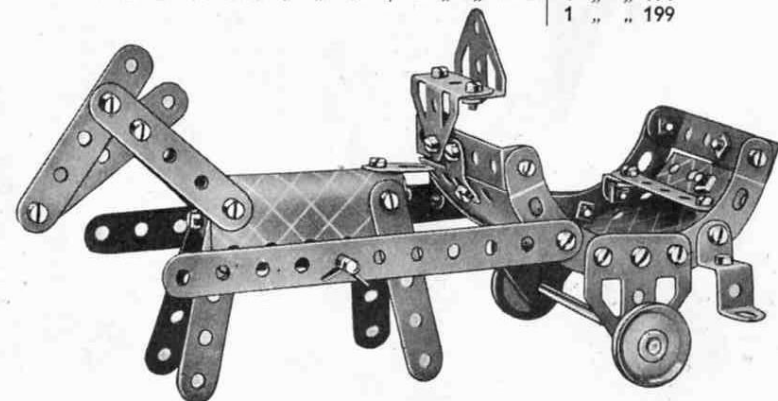


## Parts required

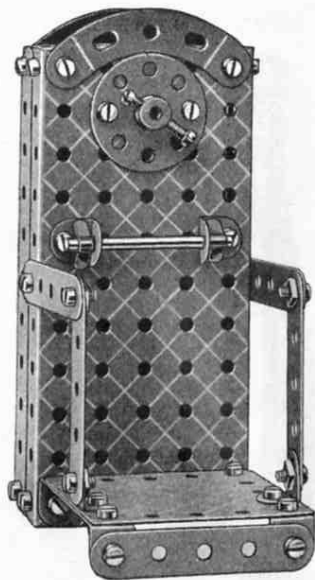
4 of No.	5
4 "	10
2 "	11
4 "	12
1 "	23
15 "	37
1 "	37a
1 "	52
1 "	111c

B82. Two-wheeled Trap

Parts required			
2 of No.	2	2 of No.	16
9 "	5	2 "	22
3 "	10	4 "	35
8 "	12	35 "	37
1 of No.	37a	2 of No.	125
2 "	48a	2 "	126
4 "	90a	2 "	126a
1 "	111c	1 "	191
		1 "	199



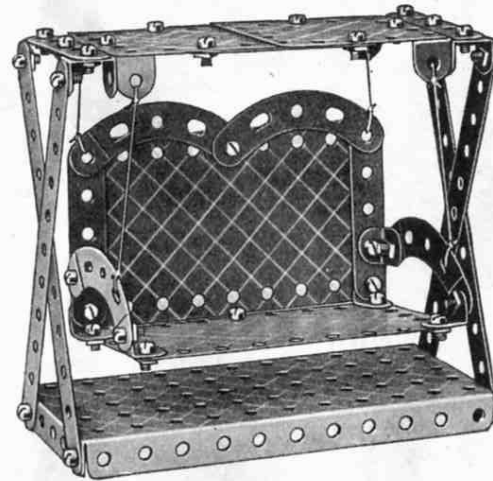
An alternative design of this model (B77M), fitted with the Meccano Magic Motor, is shown at the end of this section.



**B83.**  
Weighing  
Machine

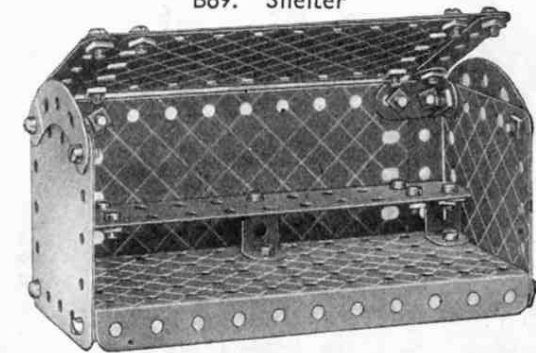
Parts required

4 of No. 2
7 " " 5
4 " " 10
8 " " 12
1 " " 17
1 " " 24
2 " " 35
36 " " 37
2 " " 37a
2 " " 48a
1 " " 52
2 " " 90a
3 " " 111c
1 " " 190
1 " " 191



**B86.**  
Swinging  
Garden Seat  
Parts required

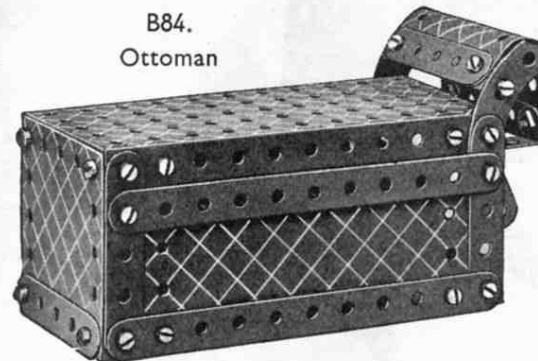
4 of No. 2
8 " " 5
2 " " 11
8 " " 12
34 " " 37
1 " " 40
2 " " 48a
1 " " 52
4 " " 90a
2 " " 126a
2 " " 190
2 " " 191



**B89.** Shelter

Parts required

4 of No. 2	4 of No. 12	1 of No. 125
8 " " 5	34 " " 37	2 " " 190
4 " " 10	1 " " 52	2 " " 191
2 " " 11	2 " " 90a	



**B84.**  
Ottoman

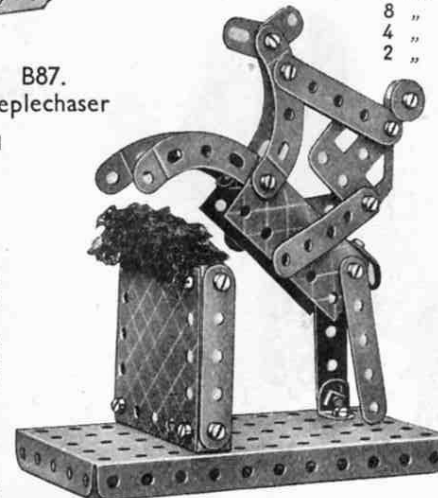
Parts required

4 of No. 2	1 of No. 48a
7 " " 5	1 " " 52
2 " " 10	2 " " 90a
2 " " 11	1 " " 190
4 " " 12	2 " " 191
34 " " 37	1 " " 199

Parts required

9 of No. 5
4 " " 10
7 " " 12
1 " " 23
20 " " 37
8 " " 37a
2 " " 48a
1 " " 52
4 " " 90a
4 " " 111c
1 " " 126a
1 " " 190
1 " " 199

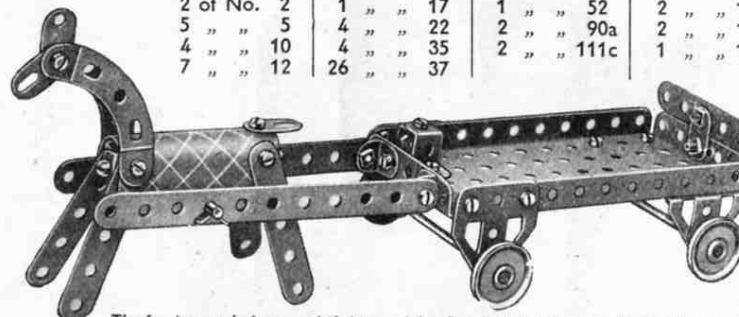
**B87.**  
Steeplechaser



**B88.**

Horse and Cart

Parts required	2 of No. 16	2 of No. 37a	1 of No. 125
2 of No. 2	1 " " 17	1 " " 52	2 " " 126
5 " " 5	4 " " 22	2 " " 90a	2 " " 126a
4 " " 10	4 " " 35	2 " " 111c	1 " " 199
7 " " 12	26 " " 37		

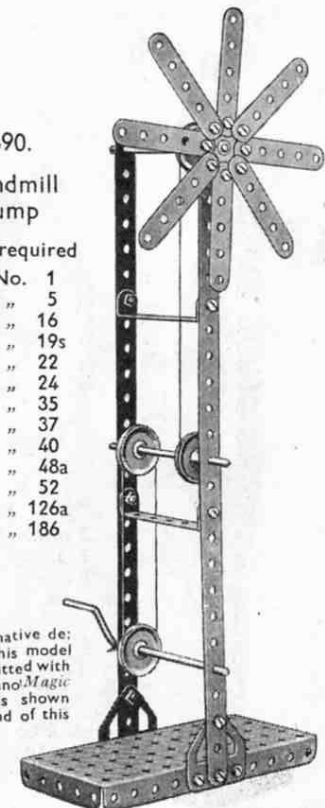


The fun is greatly increased if this model is fitted with a Meccano Magic Motor. Examples showing how the motor can be incorporated in models is shown at the end of this section. If the Motor is fitted, a Bush Wheel should be mounted on a 2" Rod fitted between the hind legs of the horse.

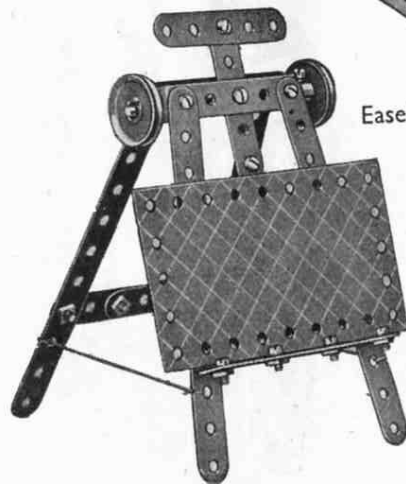
**B90.**  
Windmill  
Pump

Parts required

2 of No. 1
8 " " 5
2 " " 16
1 " " 19s
4 " " 22
1 " " 24
1 " " 35
20 " " 37
1 " " 40
2 " " 48a
1 " " 52
2 " " 126a
1 " " 186



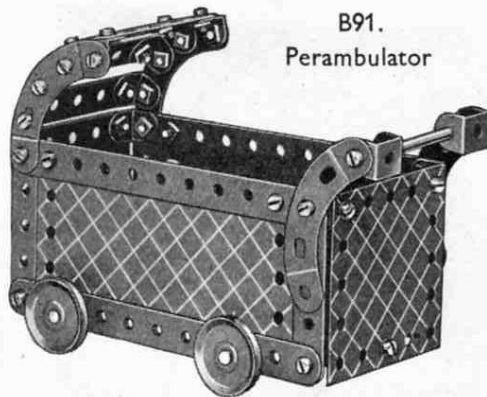
An alternative design of this model (B90M), fitted with the Meccano Magic Motor, is shown at the end of this section.



**B85.**  
Easel and Board

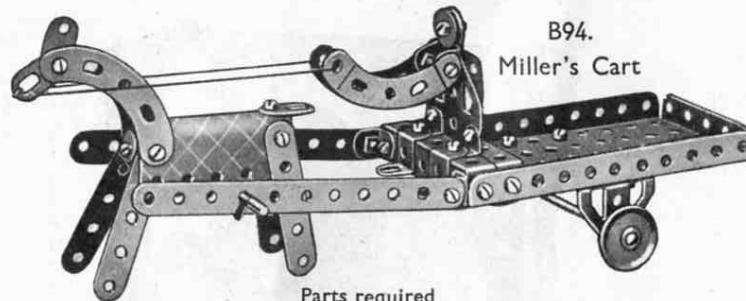
Parts required

4 of No. 2
7 " " 5
1 " " 10
2 " " 12
1 " " 16
2 " " 22
20 " " 37
1 " " 40
2 " " 48a
1 " " 191



B91.  
Perambulator

Parts required	
4 of No. 2	2
8 " " 5	5
2 " " 11	11
8 " " 12	12
2 " " 16	16
1 " " 17	17
4 " " 22	22
36 " " 37	37
2 " " 48a	48a
1 " " 52	52
4 " " 90a	90a
2 " " 190	190
2 " " 191	191



B94.  
Miller's Cart

Parts required			
2 of No. 2	2 of No. 16	2 of No. 37a	2 of No. 111c
4 " " 5	2 " " 22	1 " " 40	2 " " 125
4 " " 10	2 " " 23	2 " " 48a	2 " " 126
1 " " 11	4 " " 35	1 " " 52	2 " " 126a
8 " " 12	26 " " 37	4 " " 90a	1 " " 199

An alternative design of this model (B94M), fitted with the Meccano Magic Motor, is shown at the end of this section.

B97. Step Ladder on Wheels



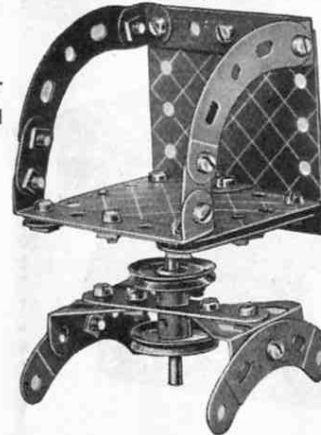
Parts required		
4 of No. 2	2 of No. 16	1 of No. 52
5 " " 5	4 " " 22	2 " " 90a
2 " " 11	32 " " 37	2 " " 126a
8 " " 12	2 " " 48a	1 " " 188

B92.  
Watchman's Hut and Fire

Parts required		
2 of No. 2	2 of No. 35	3 of No. 111c
9 " " 5	34 " " 37	2 " " 126
2 " " 10	3 " " 37a	2 " " 126a
6 " " 12	2 " " 48a	1 " " 188
1 " " 16	1 " " 52	1 " " 190
1 " " 23	4 " " 90a	2 " " 191

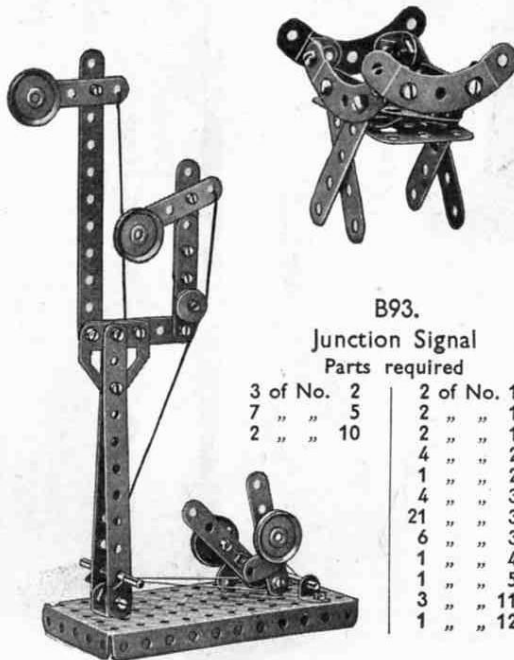
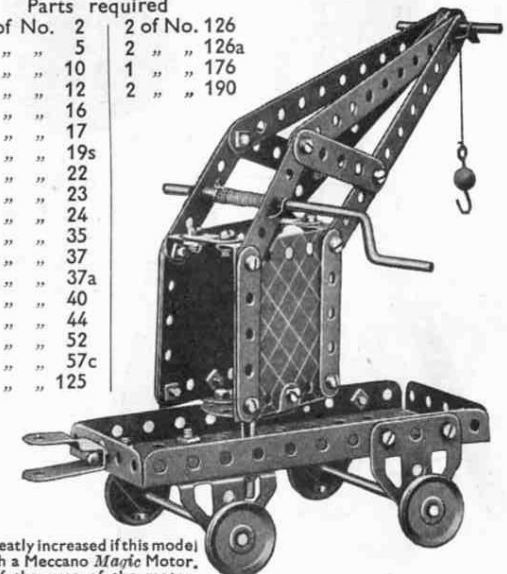
B95.  
Revolving  
Office Chair

Parts required	
6 of No. 5	5
4 " " 10	10
3 " " 12	12
1 " " 17	17
2 " " 22	22
1 " " 24	24
26 " " 37	37
4 " " 37a	37a
1 " " 48a	48a
4 " " 90a	90a
2 " " 126	126
2 " " 190	190



B98. Breakdown Crane

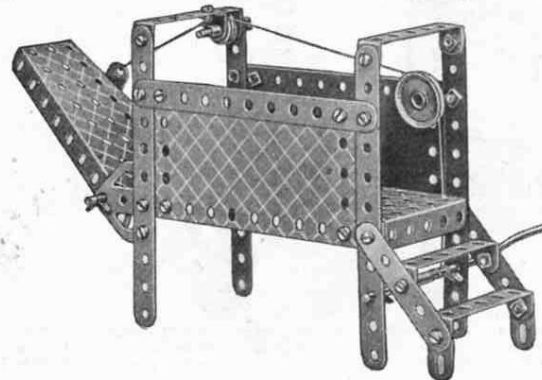
Parts required	
4 of No. 2	2 of No. 126
8 " " 5	2 " " 126a
3 " " 10	1 " " 176
8 " " 12	2 " " 190
2 " " 16	
2 " " 17	
1 " " 19s	
4 " " 22	
1 " " 23	
1 " " 24	
5 " " 35	
32 " " 37	
1 " " 37a	
1 " " 40	
1 " " 44	
1 " " 52	
1 " " 57c	
1 " " 125	



B93.  
Junction Signal

Parts required	
3 of No. 2	2 of No. 11
7 " " 5	2 " " 12
2 " " 10	2 " " 17
	4 " " 22
	1 " " 23
	4 " " 35
	21 " " 37
	6 " " 37a
	1 " " 40
	1 " " 52
	3 " " 111c
	1 " " 126a

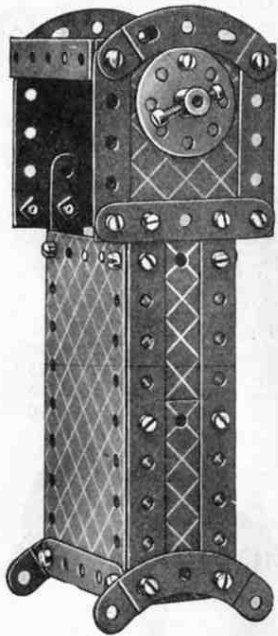
B96. Gangway



Parts required	
6 of No. 2	2
4 " " 5	5
3 " " 10	10
5 " " 12	12
1 " " 16	16
1 " " 17	17
1 " " 19s	19s
1 " " 22	22
1 " " 23	23
6 " " 35	35
32 " " 37	37
1 " " 37a	37a
1 " " 40	40
2 " " 48a	48a
1 " " 52	52
1 " " 54a	54a
1 " " 111c	111c
2 " " 126a	126a
1 " " 176	176
2 " " 191	191

The fun is greatly increased if this model is fitted with a Meccano Magic Motor. Examples of the uses of the motor are shown at the end of this section.

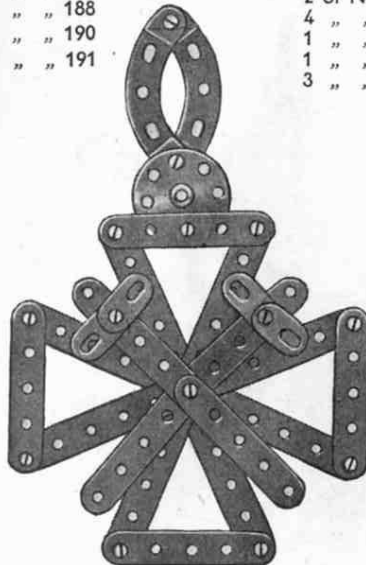
B99. Grandfather Clock



## Parts required

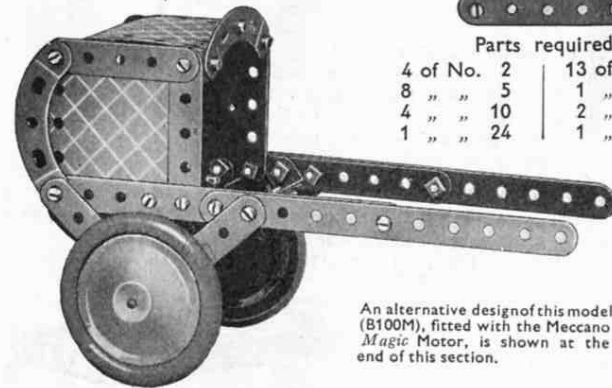
4 of No. 2
8 " " 5
8 " " 12
1 " " 24
31 " " 37
2 " " 48a
4 " " 90a
1 " " 111c
2 " " 188
2 " " 190
2 " " 191

B101. Medal



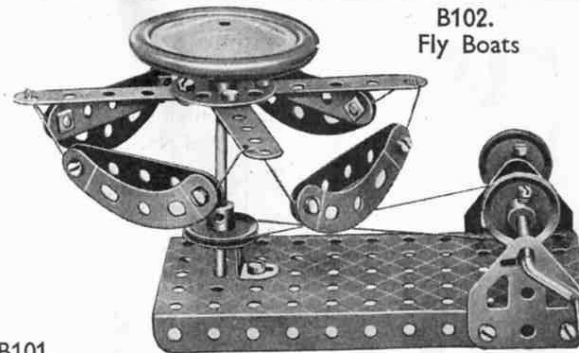
## Parts required

4 of No. 2	13 of No. 37
8 " " 5	1 " " 37a
4 " " 10	2 " " 90a
1 " " 24	1 " " 111c



An alternative design of this model (B100M), fitted with the Meccano Magic Motor, is shown at the end of this section.

B102. Fly Boats

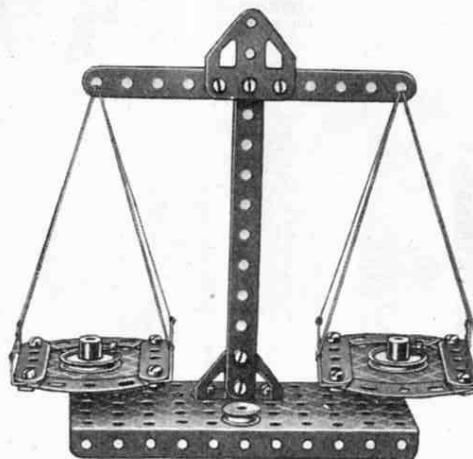


2 of No. 2	1 of No. 24	1 of No. 52
4 " " 5	2 " " 35	4 " " 90a
1 " " 15b	17 " " 37	1 " " 125
1 " " 19s	8 " " 37a	2 " " 126a
3 " " 22	1 " " 40	1 " " 187

## Parts required

2 of No. 2	1 of No. 126a
6 " " 5	2 " " 187
5 " " 12	1 " " 188
1 " " 15b	2 " " 189
26 " " 37	
2 " " 48a	
1 " " 52	
2 " " 90a	
1 " " 125	
1 " " 126	

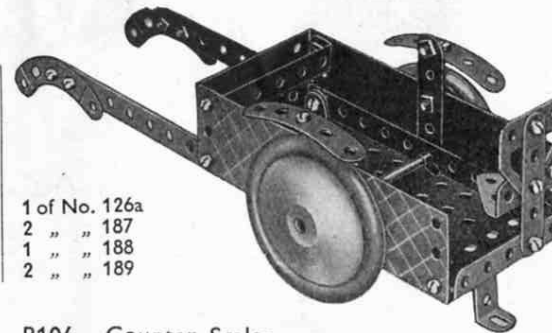
B104. Counter Scales



## Parts required

5 of No. 2
2 " " 17
4 " " 22
2 " " 35
20 " " 37
1 " " 37a
1 " " 40
1 " " 48a
1 " " 52
1 " " 54a
2 " " 111c
2 " " 125
2 " " 126

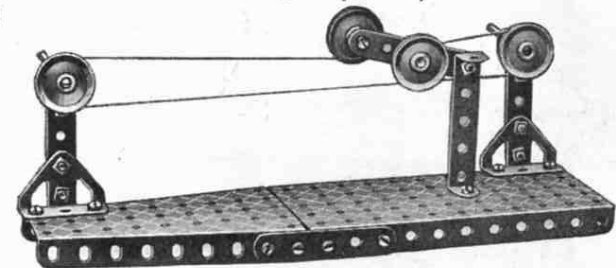
B103. Milk Float



## Parts required

2 of No. 2
4 " " 5
8 " " 12
2 " " 22
1 " " 23
14 " " 37
2 " " 37a
1 " " 40
1 " " 52
4 " " 90a
1 " " 111c
1 " " 126
1 " " 126a
2 " " 190

B105. Jockey Pulley

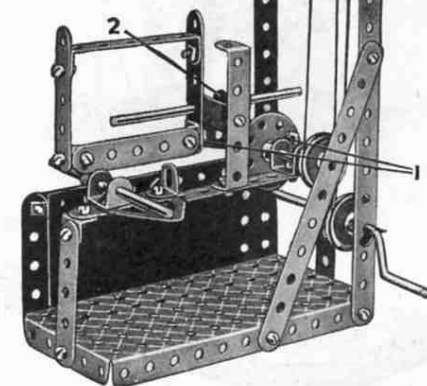


B106. Power Hack Saw

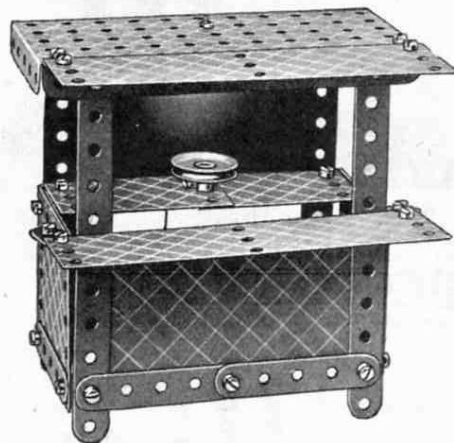
The Crank Handle drives an overhead shaft through 1" Pulleys and cord, and a similar arrangement conveys the drive to a 2" Rod carrying a Bush Wheel. A 2 1/2" Strip is pivoted to the Bush Wheel and to an Angle Bracket bolted to the saw frame. These pivots 1 are each locknotted. A Cranked Bent Strip 2 carries a 3 1/2" Rod on which the saw frame slides. An alternative design of this model (B106M), fitted with the Meccano Magic Motor, is shown at the end of this section.

## Parts required

2 of No. 1
3 " " 2
8 " " 5
2 " " 11
8 " " 12
2 " " 15b
2 " " 16
1 " " 17
1 " " 19s
4 " " 22
1 " " 24
6 " " 35
33 " " 37
2 " " 37a
2 " " 38
1 " " 40
1 " " 44
2 " " 48a
1 " " 52
1 " " 126a
1 " " 176
1 " " 191



**B107.**  
Coffee Stall



Parts required

4 of No. 2
8 " " 5
4 " " 10
8 " " 12
1 " " 22
35 " " 37
2 " " 48a
1 " " 52
1 " " 111c
2 " " 188
2 " " 189
2 " " 190
2 " " 191

Lighting Set  
(not included in Outfit).

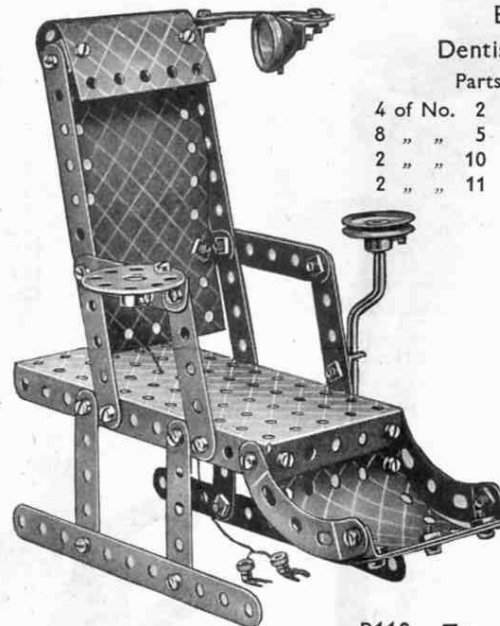
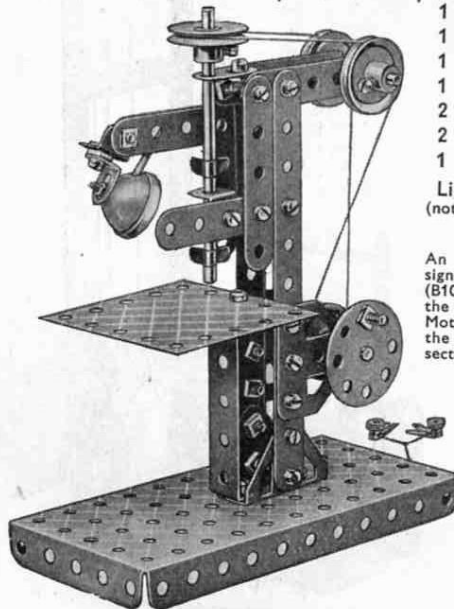
**B108.**  
Sensitive Drill

2 of No. 2	2 of No. 11	2 of No. 17
6 " " 5	3 " " 12	4 " " 22
2 " " 10	1 " " 16	1 " " 24

3 of No. 35
28 " " 37
5 " " 37a
1 " " 40
1 " " 48a
1 " " 52
1 " " 111c
2 " " 126
2 " " 126a
1 " " 190

Lighting Set  
(not included in Outfit).

An alternative design of this model (B108M) fitted with the Meccano Magic Motor, is shown at the end of this section.



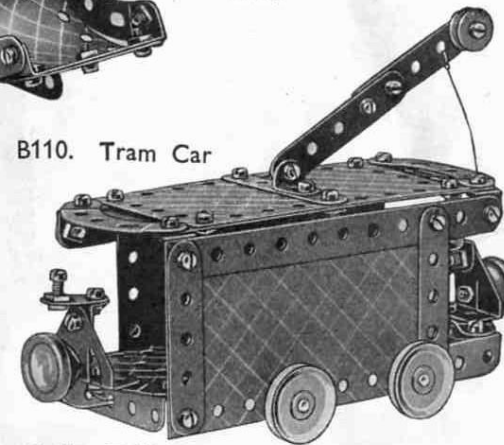
**B109.**  
Dentist's Chair

Parts required

4 of No. 2	7 of No. 12
8 " " 5	1 " " 19s
2 " " 10	1 " " 22
2 " " 11	1 " " 24
	3 " " 35
	36 " " 37
	6 " " 37a
	1 " " 48a
	1 " " 52
	3 " " 90a
	4 " " 111c
	1 " " 126a
	1 " " 191
	1 " " 199
	1 " " 200

Lighting Set  
(not included in Outfit).

**B110.** Tram Car

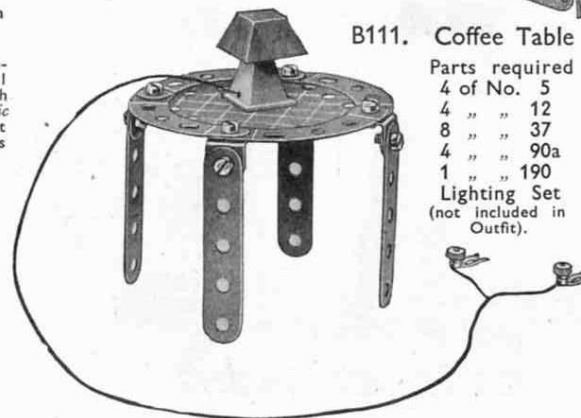


Parts required

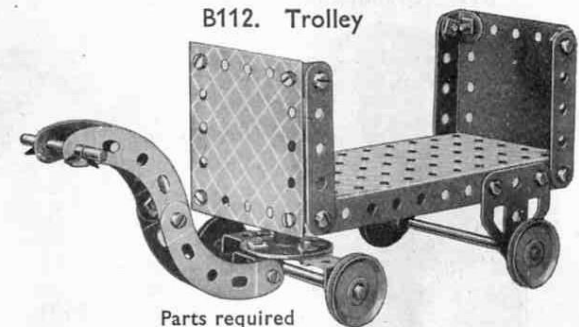
4 of No. 2	1 of No. 40
2 " " 10	2 " " 48a
2 " " 11	1 " " 52
3 " " 12	4 " " 90a
2 " " 16	3 " " 111c
4 " " 22	2 " " 126
1 " " 23	2 " " 190
34 " " 37	2 " " 191
6 " " 37a	Lighting Set (not included in Outfit).

**B111.** Coffee Table

Parts required
4 of No. 5
4 " " 12
8 " " 37
4 " " 90a
1 " " 190
Lighting Set (not included in Outfit).



**B112.** Trolley



Parts required

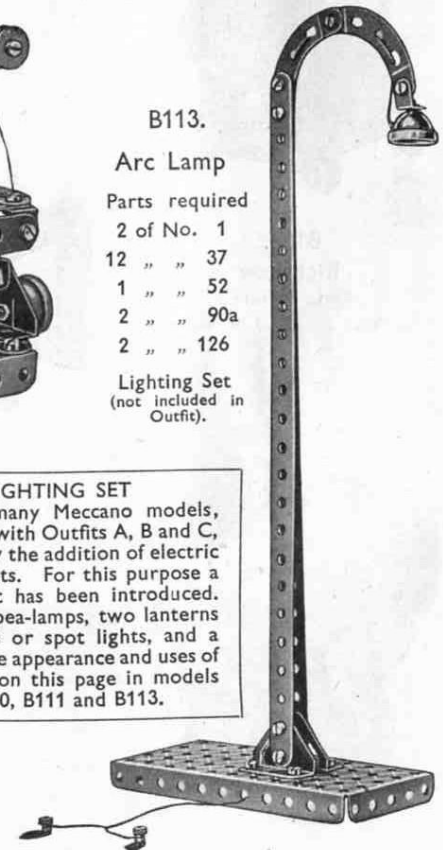
4 of No. 5	4 of No. 22	1 of No. 52
1 " " 11	1 " " 24	4 " " 90a
4 " " 12	3 " " 35	2 " " 125
2 " " 16	28 " " 37	2 " " 126a
2 " " 17	1 " " 48a	2 " " 190

**B113.**  
Arc Lamp

Parts required

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

Lighting Set  
(not included in Outfit).



**MECCANO LIGHTING SET**

The appearance of many Meccano models, especially those built with Outfits A, B and C, is greatly improved by the addition of electric lights at suitable points. For this purpose a Meccano Lighting Set has been introduced. This consists of two pea-lamps, two lanterns for use as headlamps or spot lights, and a fancy stand lamp. The appearance and uses of the parts are shown on this page in models B107, B108, B109, B110, B111 and B113.

B114. Dressing Table



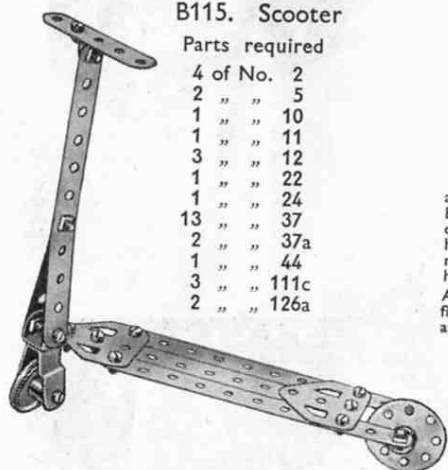
## Parts required

3 of No. 2	1 of No. 52
9 " " 5	1 " " 90a
4 " " 10	1 " " 111c
8 " " 12	1 " " 126a
1 " " 23	2 " " 190
33 " " 37	2 " " 191
13 " " 37a	

B115. Scooter

## Parts required

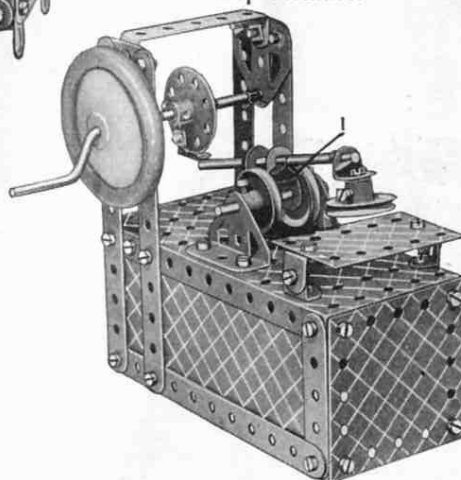
4 of No. 2
2 " " 5
1 " " 10
1 " " 11
3 " " 12
1 " " 22
1 " " 24
13 " " 37
2 " " 37a
1 " " 44
3 " " 111c
2 " " 126a



## Parts required

2 of No. 10
2 " " 11
7 " " 12
1 " " 22
1 " " 23
16 " " 37
1 " " 37a
1 " " 52
4 " " 90a
2 " " 111c
2 " " 126a

B117. Trip Hammer

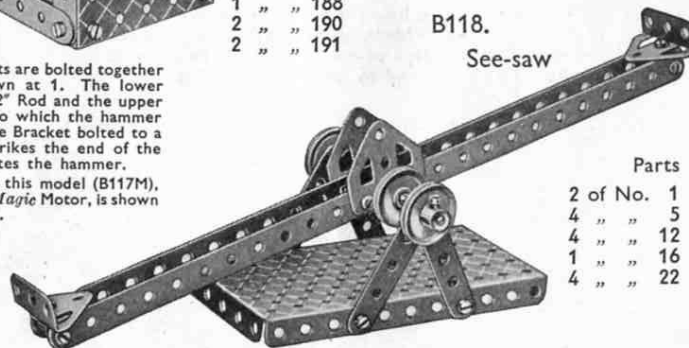


## Parts required

6 of No. 2
2 " " 5
2 " " 11
8 " " 12
1 " " 15b
1 " " 17
1 " " 19s
3 " " 22
1 " " 24
4 " " 35
40 " " 37
1 " " 38
2 " " 48a
1 " " 52
1 " " 111c
2 " " 126
2 " " 126a
1 " " 176
1 " " 187
1 " " 188
2 " " 190
2 " " 191

Two Double Brackets are bolted together at right angles as shown at 1. The lower Bracket pivots about a 2" Rod and the upper one carries a 3½" Rod to which the hammer head is fitted. An Angle Bracket bolted to a rotating Bush Wheel strikes the end of the hammer Rod and operates the hammer.

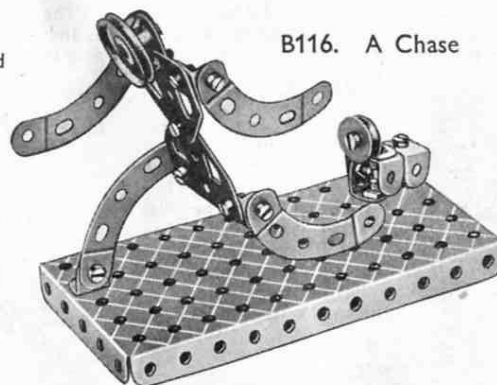
An alternative design of this model (B117M), fitted with the Meccano Magic Motor, is shown at the end of this section.

B118.  
See-saw

## Parts required

2 of No. 1	14 of No. 37
4 " " 5	1 " " 52
4 " " 12	2 " " 126
1 " " 16	2 " " 126a
4 " " 22	

B116. A Chase



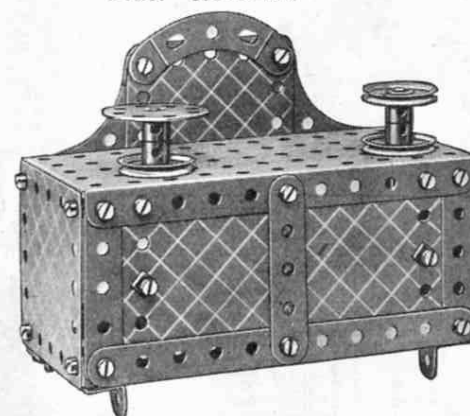
## Parts required

4 of No. 2
6 " " 5
4 " " 10
2 " " 11
4 " " 12
2 " " 16
2 " " 22
1 " " 23
2 " " 35
22 " " 37
3 " " 37a
1 " " 40

## 3 of No. 111c

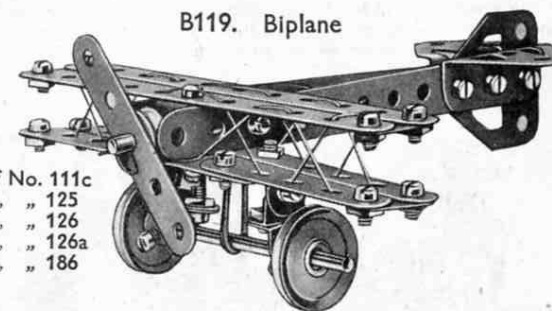
2 " " 125
2 " " 126
1 " " 126a
1 " " 186

B120. Sideboard



Parts required	3 of No. 22	1 of No. 52
2 of No. 2	1 " " 24	3 " " 90a
5 " " 5	2 " " 35	2 " " 125
8 " " 12	28 " " 37	2 " " 190
2 " " 17	2 " " 37a	2 " " 191

B119. Biplane

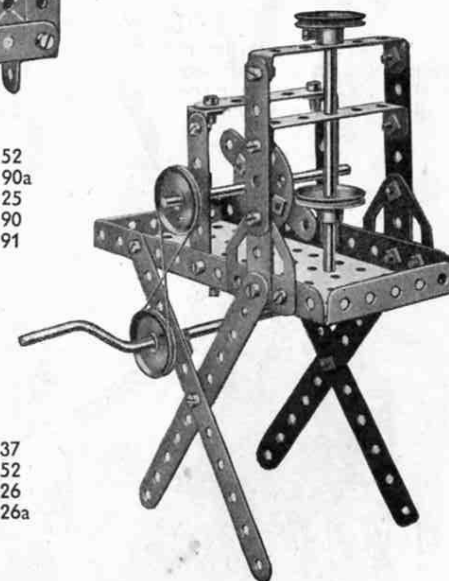


B121.

Stamping Machine

## Parts required

4 of No. 2	1 of No. 24
7 " " 5	2 " " 35
2 " " 10	20 " " 37
2 " " 12	2 " " 48a
2 " " 16	1 " " 52
1 " " 19s	2 " " 126a
4 " " 22	1 " " 186



## HOW TO CONTINUE

When you have built the B Outfit Models illustrated, and fitted a number of them with the Meccano Magic Motor (see following two pages), your next step is to purchase a Ba Accessory Outfit. This converts your B Outfit into a C and enables you to build bigger and better models.

# **Outfit B Models fitted with the Magic Motor**

The greatest thrill in Meccano model-building is experienced when a model is set to work by means of a Meccano Motor. The models featured on this and the next page are more elaborate variations of a selection of Outfit B Models, showing how the new Meccano *Magic* Motor can be fitted to give more realism and to increase the fun. The numbers of these re-designed models are the same as those of the corresponding models in the preceding pages, with the addition of the letter M. Try your hand at re-designing other models in a similar manner and become a real inventor.

## **B100M. Rickshaw**

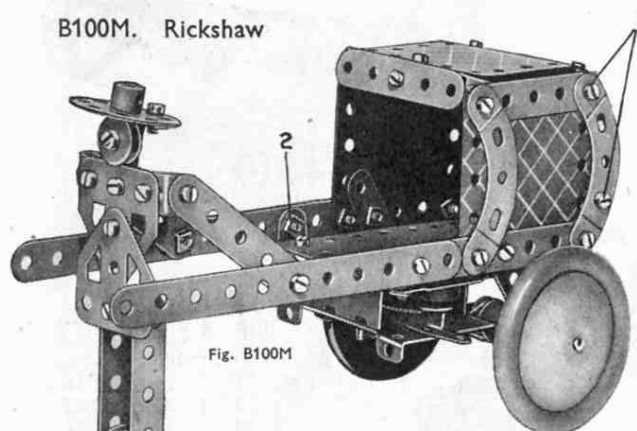
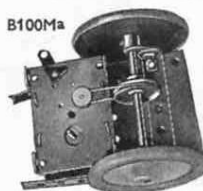


Fig. B100M

Two  $4\frac{1}{2}'' \times 2\frac{1}{2}''$  Flexible Plates are overlapped  $\frac{1}{2}''$  to form the top and back of the rickshaw. They are fixed to Angle Brackets at the points 1. A  $2\frac{1}{2}'' \times \frac{1}{2}''$  Double Angle Strip at 2 supports the floor and also the *Magic* Motor bolted as shown in Fig. B100Ma.

Fig. B100Ma



Parts required			
4 of No. 2	34 of No. 37	1 of No. 37a	
9 " " 5	2 " " 37a	2 " " 48a	
1 " " 10	4 " " 90a	1 " " 111c	
1 " " 11	1 " " 126a	2 " " 187	
8 " " 12	2 " " 190	2 " " 191	
1 " " 15b	2 " " 199		
1 " " 17			
1 " " 22			
1 " " 23			
1 " " 24			
2 " " 35			
			<i>Magic</i> Motor

## **B108M. Sensitive Drill**

The  $3\frac{1}{2}''$  Rod 1 representing the drill is journaled at the top in a  $2\frac{1}{2}''$  Strip and at the bottom in a Flat Bracket. The Flat Bracket is secured to an Angle Bracket held by the bolt 2. One of the two  $1''$  Pulleys forming guides for the cord is free on its Rod.

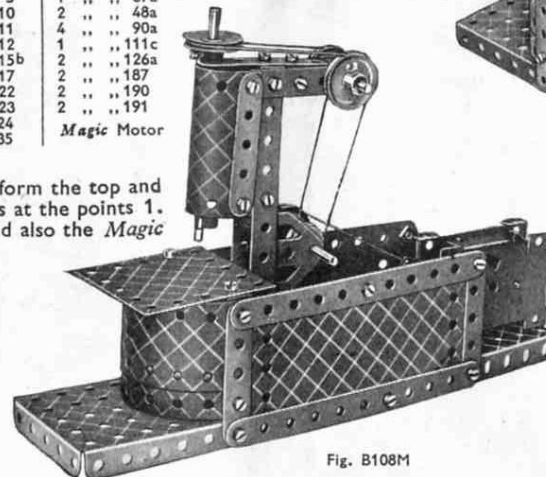


Fig. B108M

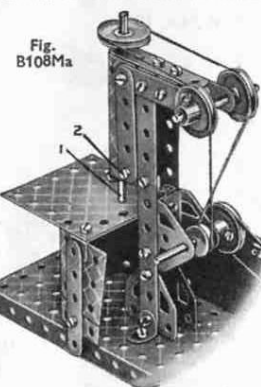


Fig. B108Ma

Parts required			
6 of No. 2	2	36 " " 37	
9 " " 5	10	6 " " 37a	
2 " " 10	11	1 " " 40	
2 " " 11	12	1 " " 48a	
7 " " 12	15b	1 " " 52	
1 " " 17	17	6 " " 54a	
2 " " 22	23	1 " " 111c	
2 " " 23	35	2 " " 126	
2 " " 35	37	2 " " 126a	
36 " " 37a	40	2 " " 189	
1 " " 40	48a	2 " " 190	
1 " " 52	54a	1 " " 191	
6 " " 111c	126	1 " " 199	
2 " " 126	126a		
2 " " 189	190		
2 " " 190	191		
1 " " 191	199		
1 " " 199			
			<i>Magic</i> Motor

## **B106M.**

### **Power Hacksaw**

The saw frame slides on a  $3\frac{1}{2}''$  Axle Rod held in a Cranked Bent Strip and is driven to and fro by a  $2\frac{1}{2}''$  Strip connected to a revolving Bush Wheel. The bolts 1 are provided with locknuts to form pivots.

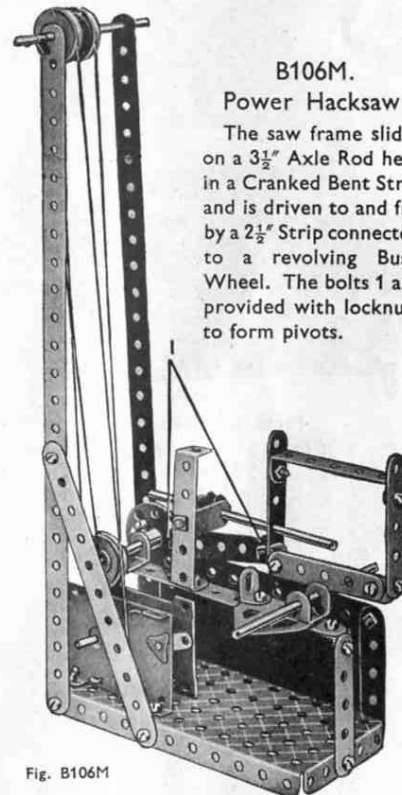


Fig. B106M

Parts required			
2 of No. 1	6 of No. 12	2 of No. 38	
3 " " 2	1 " " 15b	1 " " 40	
7 " " 5	2 " " 16	1 " " 44	
2 " " 11	1 " " 17	2 " " 48a	
	3 " " 22	1 " " 52	
	1 " " 24	1 " " 126a	
	5 " " 35	1 " " 176	
	30 " " 37	1 " " 199	
	2 " " 37a		
			<i>Magic</i> Motor

## **B77M. Windmill**

The  $\frac{1}{2}''$  Pulley on the intermediate Rod drives a  $1''$  Pulley on the Axle Rod carrying the "sails." (See Fig. B77Ma)

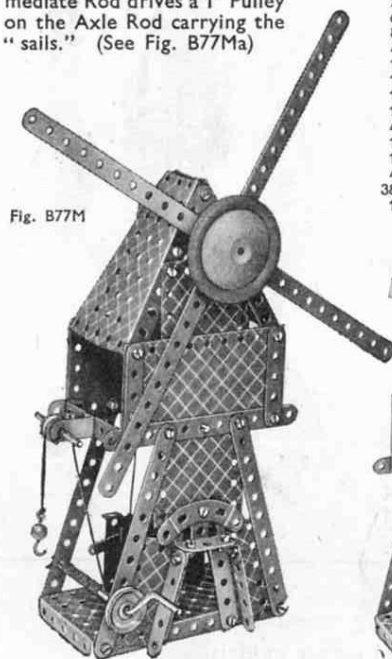


Fig. B77M

Parts required			
2 of No. 1	1 of No. 44		
6 " " 2	2 " " 48a		
8 " " 5	1 " " 52		
4 " " 12	2 " " 54a		
1 " " 15b	1 " " 57c		
1 " " 16	1 " " 90a		
1 " " 17	2 " " 126		
1 " " 19s	2 " " 126a		
4 " " 22	1 " " 176		
1 " " 23	1 " " 187		
1 " " 24	2 " " 188		
4 " " 35	2 " " 190		
38 " " 37	2 " " 191		
1 " " 40			
			<i>Magic</i> Motor

Fig. B77Ma



Parts required			
6 of No. 2	1 of No. 188		
6 " " 5	2 " " 189		
5 " " 10	1 " " 199		
1 " " 11			
1 " " 12			
8 " " 15b			
1 " " 17			
2 " " 22			
1 " " 23			
1 " " 24			
4 " " 35			
36 " " 37			
3 " " 37a			
6 " " 38			
1 " " 40			
2 " " 48a			
1 " " 52			
4 " " 90a			
3 " " 111c			
2 " " 125			
2 " " 126			
1 " " 126a			
2 " " 187			

## **B94M. Miller's Cart**

Fig. B94Ma shows how the *Magic* Motor is arranged to drive the Road Wheels. A Bush Wheel is mounted between the hind legs of the horse and the forelegs are kept off the ground by means of the reins.

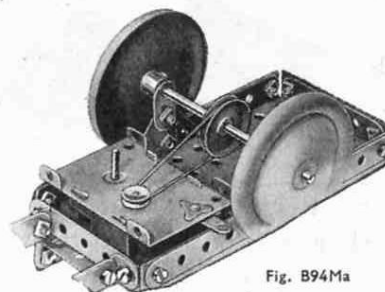


Fig. B94Ma

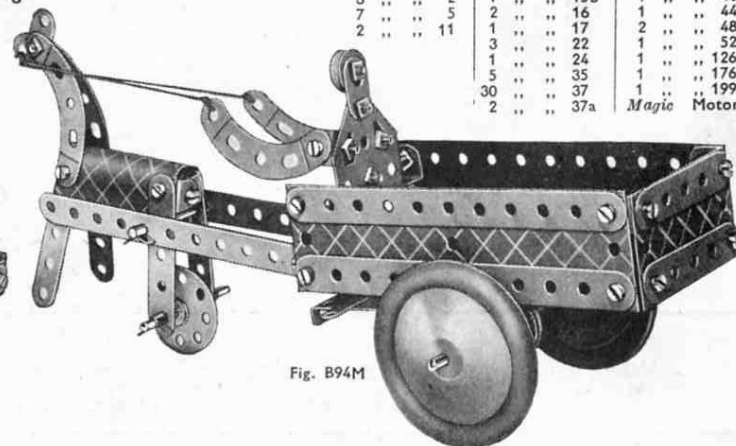
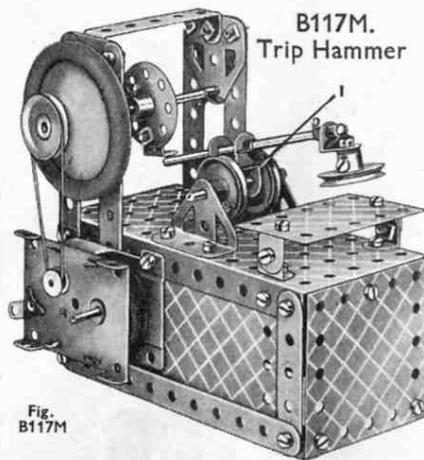


Fig. B94M



**B117M.**  
Trip Hammer

Parts required	
6 of No. 2	
2 " " 5	
2 " " 11	
8 " " 12	
1 " " 15b	
1 " " 16	
1 " " 17	
1 " " 22	
1 " " 24	
1 " " 35	
36 " " 37	
1 " " 37a	
2 " " 48a	
1 " " 52	
1 " " 111c	
2 " " 126	
2 " " 126a	
1 " " 187	
1 " " 188	
2 " " 190	
2 " " 191	

*Magic Motor*

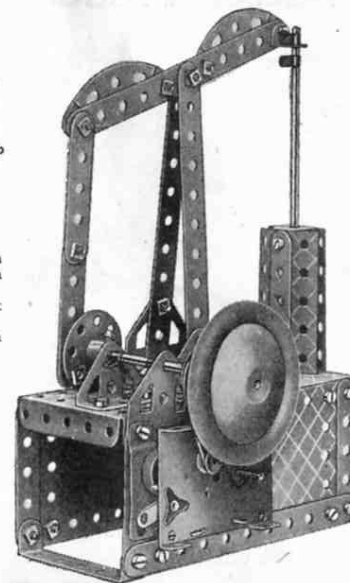


Fig. B32M

**B32M. Pump**

Parts required	
5 of No. 2	
8 " " 5	
2 " " 11	
3 " " 12	
1 " " 15b	
1 " " 16	
1 " " 22	
1 " " 24	
4 " " 35	
34 " " 37	
8 " " 37a	
3 of No. 38	
2 " " 48a	
1 " " 52	
2 " " 90a	
6 " " 111c	
2 " " 126	
2 " " 126a	
1 " " 186	
1 " " 187	
2 " " 188	
2 " " 191	

*Magic Motor*

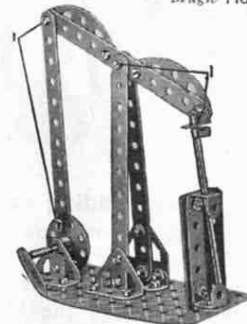
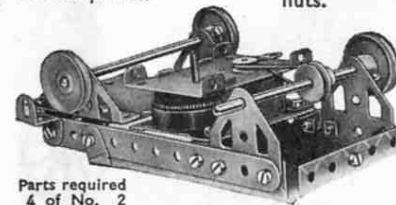


Fig. B32Ma

The construction of the pump cylinder will be clear from Fig. B32Ma. The *Magic Motor* drives a 1" Pulley on the crankshaft that is fitted with a Bush Wheel forming the crank. The bolts 1 are locknuttied to form pivots.



Parts required	
4 of No. 2	
6 " " 5	
3 " " 10	
1 " " 11	
8 " " 12	
2 " " 16	
2 " " 17	
4 " " 22	
1 " " 23	
4 " " 35	
36 " " 37	
1 " " 40	
2 " " 48a	
1 " " 52	
4 " " 90a	
1 " " 125	
2 " " 126	
2 " " 126a	
1 " " 186	
2 " " 188	
1 " " 190	
2 " " 191	
1 " " 199	

*Magic Motor*

Parts required	
2 of No. 1	
5 " " 2	
9 " " 5	
2 " " 11	
7 " " 12	
1 " " 15b	
2 " " 16	
1 " " 19s	
4 " " 22	
1 " " 24	
6 " " 35	
2 " " 37	
36 " " 37a	
5 " " 38	
2 " " 40	
2 " " 48a	
1 " " 52	
4 " " 90a	
1 " " 111c	
1 " " 126	
2 " " 126a	
1 " " 186	
2 " " 188	
2 " " 189	
2 " " 190	

The Motor drives a Crank Handle that is fitted with the separate Pulley Wheel. It carries also a 1" Pulley, to the boss of which an Angle Bracket is secured, two Washers being placed on the securing bolt as shown in Fig. B90Ma. In this way a crank is formed and is connected to the pivoted beam that operates the pump. The bolts 1 are pivotally attached by means of locknuts.

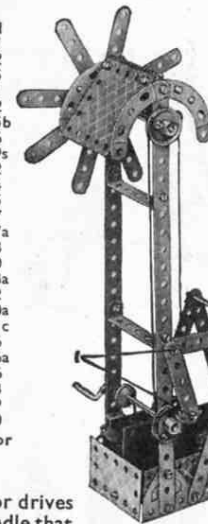


Fig. B90Ma

**B90M.**  
Windmill Pump

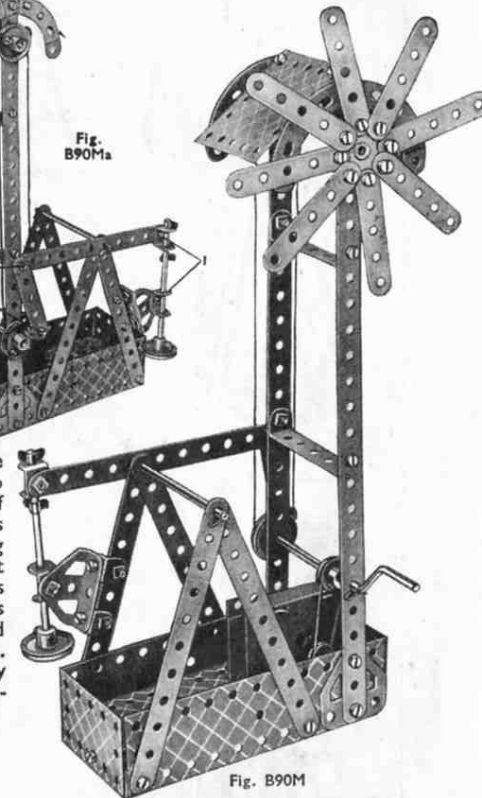


Fig. B90M

**B51M. Bread Van**

The method of mounting the *Magic Motor* in position is shown in Fig. B51Ma. The horse travels on a  $\frac{1}{2}$ " loose Pulley mounted between its hind legs, and the forelegs should be kept clear of the ground by tying the reins to the Angle Bracket 1.

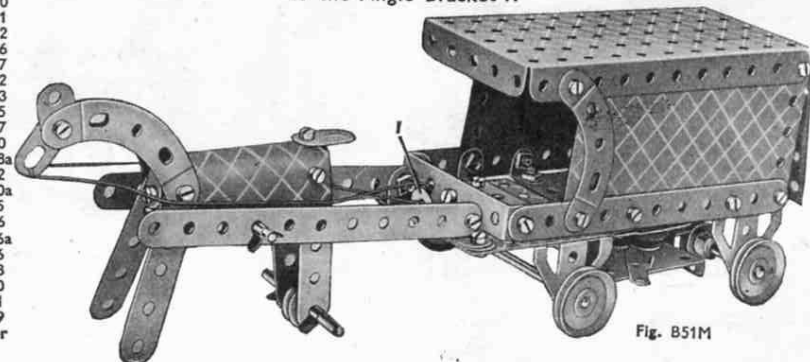


Fig. B51M

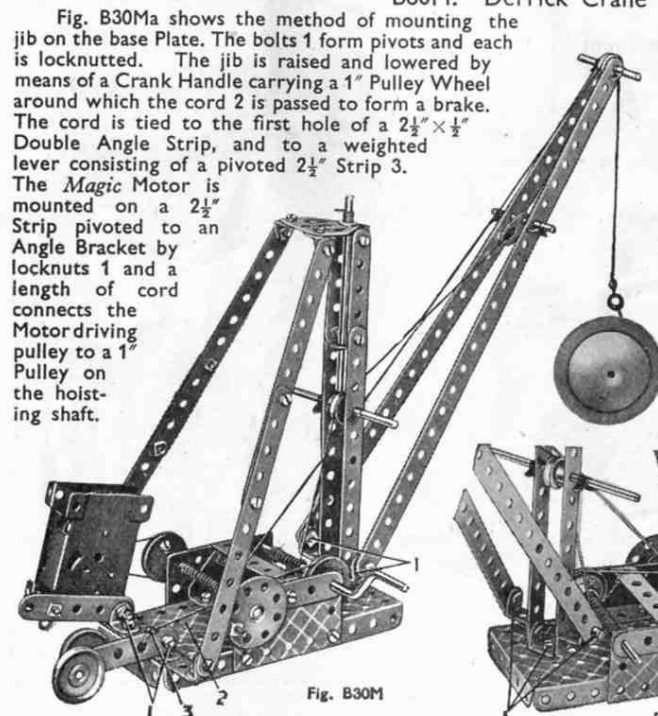


Fig. B30M

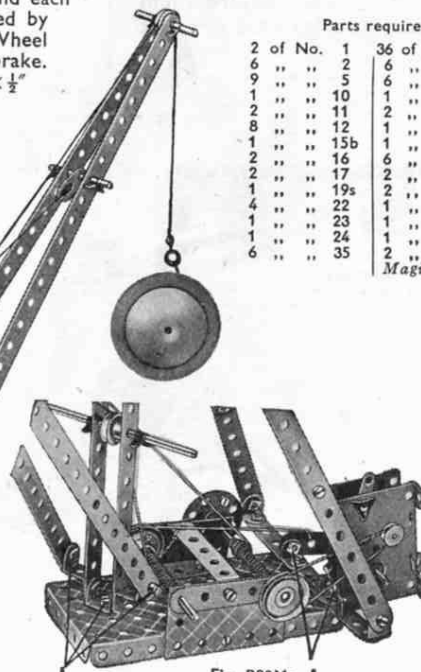


Fig. B30Ma

**B30M. Derrick Crane**

Fig. B30Ma shows the method of mounting the jib on the base Plate. The bolts 1 form pivots and each is locknuttied. The jib is raised and lowered by means of a Crank Handle carrying a 1" Pulley Wheel around which the cord 2 is passed to form a brake. The cord is tied to the first hole of a  $2\frac{1}{2}" \times \frac{1}{2}"$  Double Angle Strip, and to a weighted lever consisting of a pivoted  $2\frac{1}{2}"$  Strip 3. The *Magic Motor* is mounted on a  $2\frac{1}{2}"$  Strip pivoted to an Angle Bracket by locknuts 1 and a length of cord connects the Motor driving pulley to a 1" Pulley on the hoisting shaft.

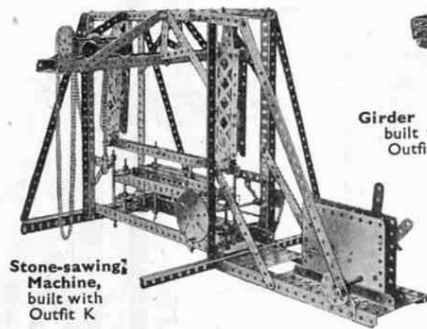
Parts required	
2 of No. 1	
6 " " 2	
9 " " 5	
1 " " 10	
2 " " 11	
8 " " 12	
1 " " 15b	
2 " " 16	
2 " " 17	
1 " " 19s	
4 " " 22	
1 " " 23	
1 " " 24	
6 " " 35	
36 of No. 37	
1 " " 37a	
1 " " 38	
1 " " 40	
1 " " 48a	
1 " " 52	
1 " " 57c	
1 " " 111c	
2 " " 125	
2 " " 126	
1 " " 126a	
1 " " 176	
1 " " 187	
2 " " 188	

*Magic Motor*

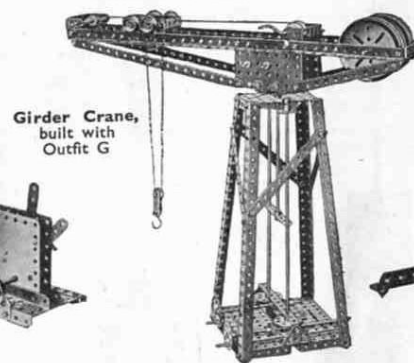
## Build Bigger and Better Models



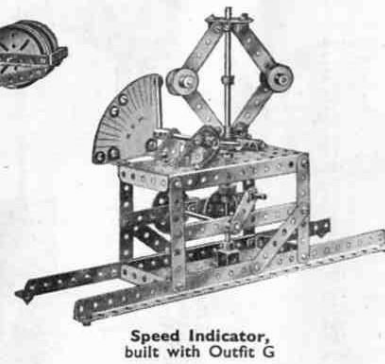
Windmill,  
built with  
Outfit E



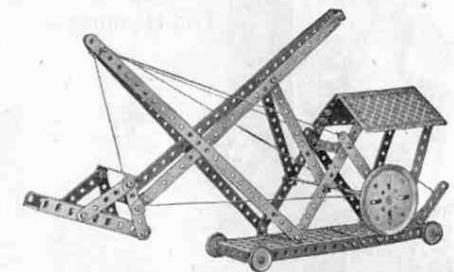
Stone-sawing  
Machine,  
built with  
Outfit K



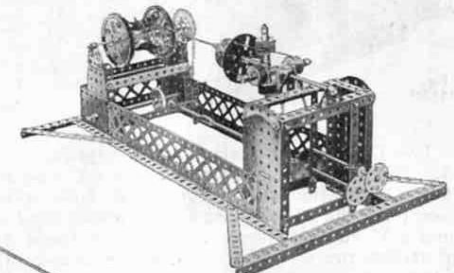
Girder Crane,  
built with  
Outfit G



Speed Indicator,  
built with Outfit G



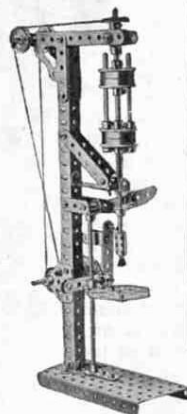
Mechanical Shovel, built with Outfit C



Wire-rope Making Machine,  
built with Outfit G



Elevated  
Jib Crane,  
built with  
Outfit C



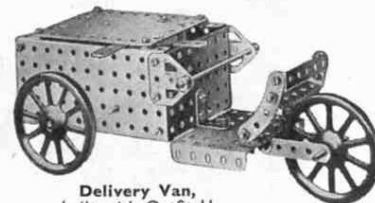
Vertical Drill,  
built with  
Outfit H

### Keep adding to your Outfit

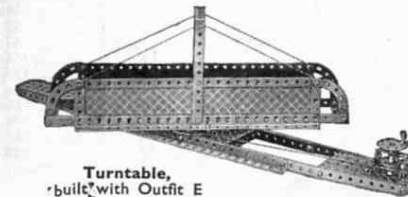
The more Meccano parts you have, the bigger and better the models you are able to build. Keen and enthusiastic model-builders keep adding to their Outfits, until they are able to build all the wonderful models shown in the Meccano Manuals.

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

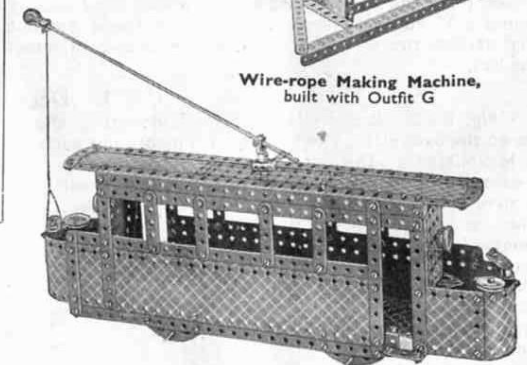
You can purchase separate Meccano parts as you require them or, if you prefer, you can purchase Accessory Outfits that connect all the main Outfits.



Delivery Van,  
built with Outfit H



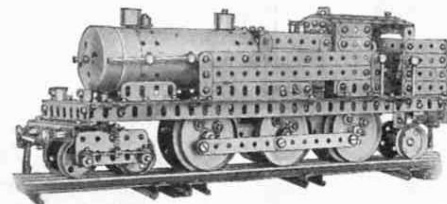
Turntable,  
built with Outfit E



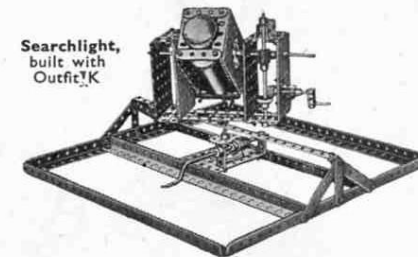
Tramcar, built with Outfit F



Racing Seaplane,  
built with Outfit L



Pacific Tank Locomotive,  
built with Outfit L

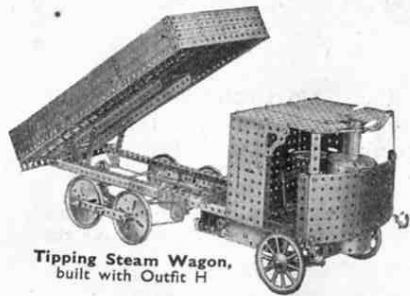


Searchlight,  
built with  
Outfit K

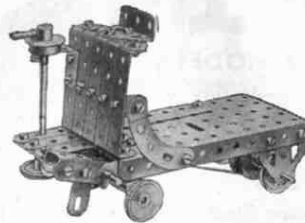


Gantry Crane,  
built with  
Outfit H

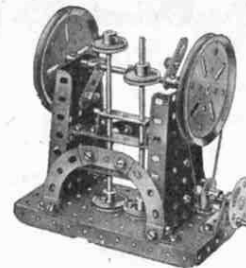
# The Possibilities of Meccano are Unlimited



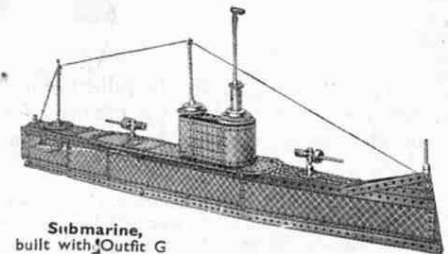
**Tipping Steam Wagon,**  
built with Outfit H



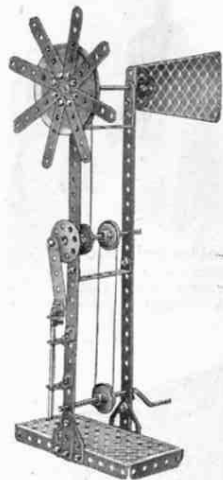
**Electric Truck,**  
built with Outfit E



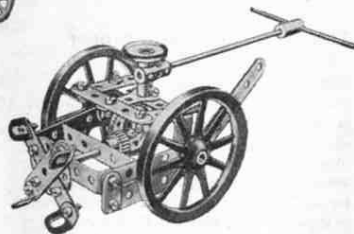
**Stamping Mill,**  
built with Outfit E



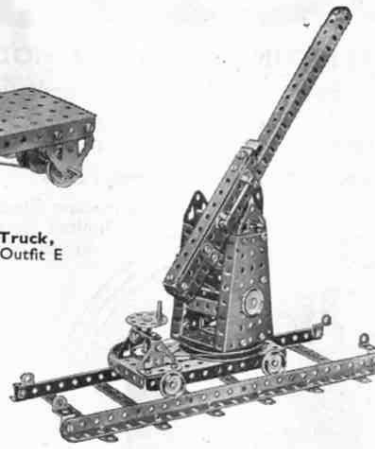
**Submarine,**  
built with Outfit G



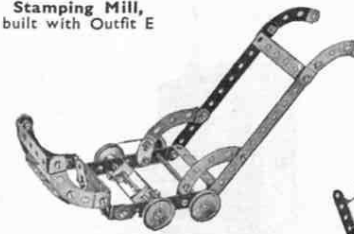
**Windmill Pump,**  
built with Outfit C



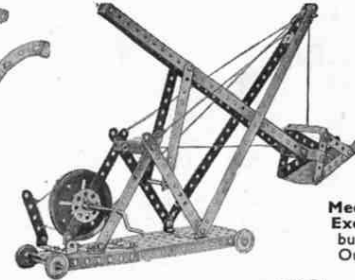
**Potato Reaper,**  
built with Outfit H



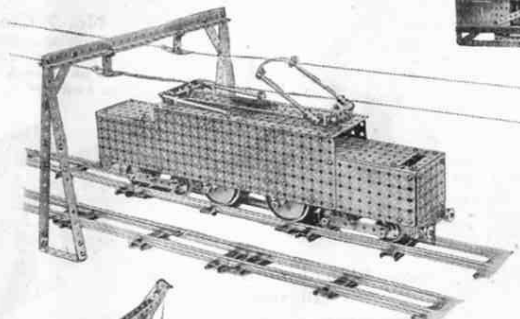
**Anti Aircraft Gun,** built with Outfit E



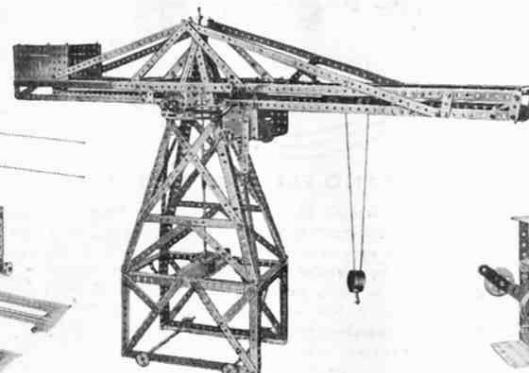
**Lawn Mower,**  
built with Outfit E



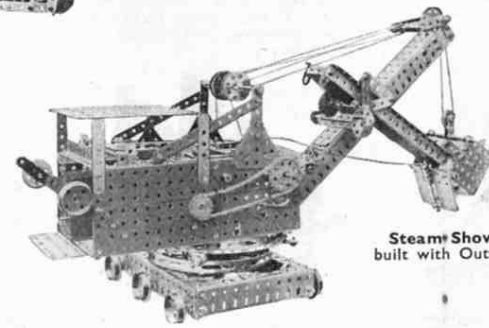
**Mechanical Excavator,**  
built with Outfit C



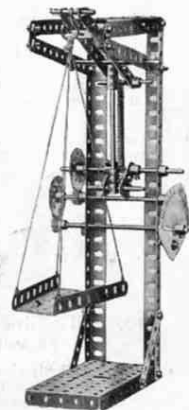
**Electric Locomotive,**  
built with Outfit K



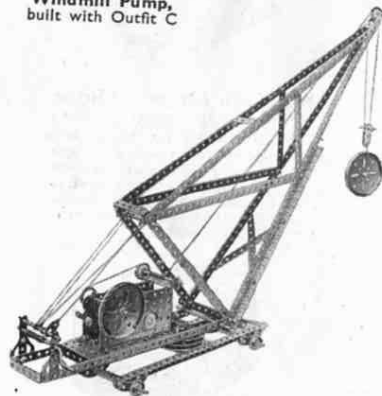
**Radial Travelling Crane,**  
built with Outfit K



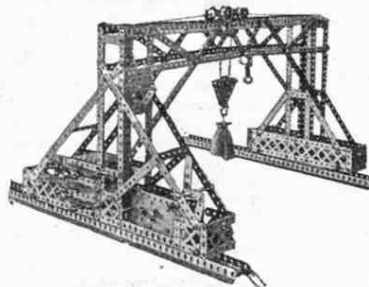
**Steam Shovel,**  
built with Outfit L



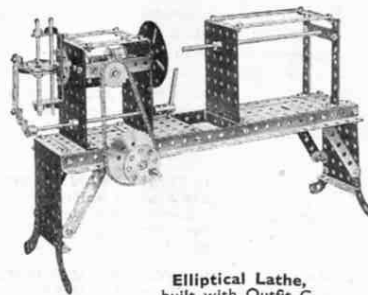
**Spring Scales,**  
built with Outfit H



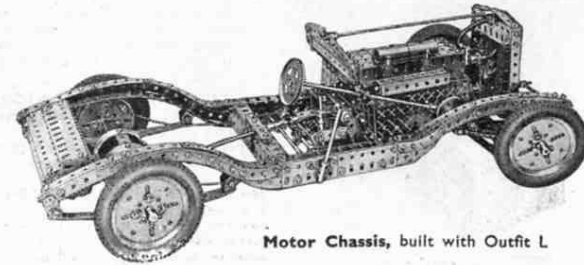
**Travelling Jib Crane,**  
built with Outfit E



**Travelling Gantry Crane,**  
built with Outfit L



**Elliptical Lathe,**  
built with Outfit G



**Motor Chassis,** built with Outfit L

# MECCANO

## MOTORS FOR OPERATING MECCANO MODELS

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

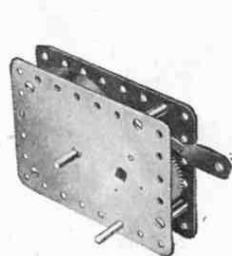
motor and immediately your Crane, Motor Car, Ship Coaler or Windmill commences to work in exactly the same manner as its prototype in real life.

Each motor is pierced with the standard Meccano equidistant holes.

### MECCANO CLOCKWORK MOTORS

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

Meccano Clockwork Motors are especially suitable for small models built with a limited range of parts. They are extremely simple to operate and have the advantage of being self-contained.



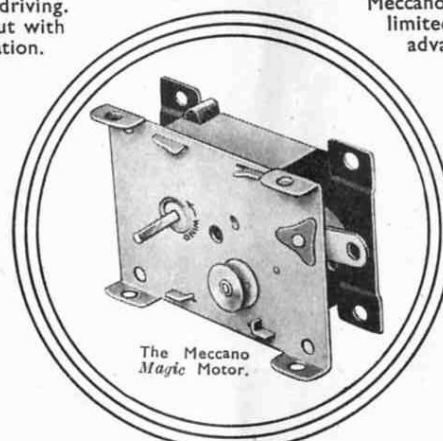
**No. 1 Clockwork Motor**

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



**No. 1a Clockwork Motor**

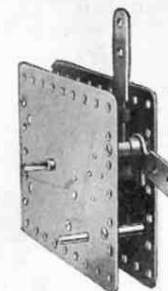
This Motor is more powerful than the No. 1 Motor and is fitted with reversing motion. It has brake and reverse levers.



The Meccano Magic Motor.

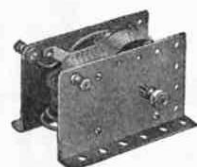
### The Meccano Magic Motor

The Meccano Magic Motor is well designed and strongly constructed, and is fitted with a powerful spring giving a long and steady run. It is non-reversing. Each Magic Motor is supplied with a separate  $\frac{1}{2}$ " Pulley Wheel and three pairs of driving bands of different lengths, it is capable of driving all the Meccano O, A and B Outfit models, and many of the lighter models illustrated in the Manuals of the C, D and E Outfits.



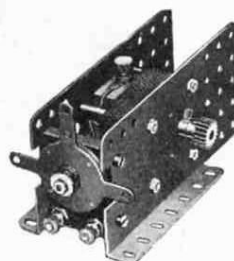
**No. 2 Clockwork Motor**

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



**No. E1 Electric Motor (6 volt)**

This is a highly efficient motor (non-reversing) that will give excellent service. It can be operated through a 9-volt Meccano Transformer from the mains, providing that the supply is alternating current, or from a 6-volt accumulator.

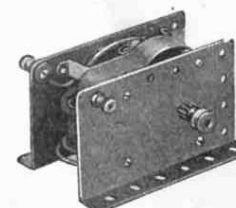


**No. E6 Electric Motor (6 volt)**

This fine motor is fitted with reversing motion and provided with stopping and starting controls. It can be operated through a 9-volt Meccano Transformer from the mains providing that the supply is alternating current, or from a 6-volt accumulator.

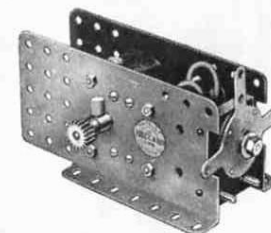
### MECCANO ELECTRIC MOTORS

The four Meccano Electric Motors shown here have been designed specially to provide smooth-running power units for the operation of Meccano models. The 6-volt Motors may be operated through a Meccano Transformer direct from the mains, providing that the supply is alternating current, or from a 6-volt accumulator. The 20-volt Motors are operated through a 20-volt Transformer from alternating current supply mains.



**No. E120 Electric Motor (20 volt)**

The E120 Electric Motor is a very reliable and smooth-running power unit. It is operated through a Meccano 20-volt Transformer from alternating current supply mains. Non-reversing.



**No. E20b Electric Motor (20 volt)**

This 20-volt Electric Motor is an extremely efficient power unit, fitted with reversing motion and provided with stopping and starting controls. It is operated through a Meccano 20-volt Transformer from alternating current supply mains.

### MECCANO TRANSFORMERS

There are six Transformers in the series, as described below, all of which are available for the following A.C. Supplies:—100/110 volts, 50 cycles; 200/225 volts, 50 cycles; 225/250 volts, 50 cycles. Any of the Transformers can be specially wound for supplies other than these at a small extra charge. When ordering a Transformer the voltage and frequency of the supply must always be stated.

### Resistance Controllers

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



No. T20a Transformer

**No. T20A TRANSFORMER (Output 35 VA at 20 $\frac{1}{2}$  volts)** for 20-volt Electric Motors. Has two separate circuits at 20 volts, one controlled by a 5-stud speed regulator; and a third circuit at 3 $\frac{1}{2}$  volts for lighting up to 14 lamps.

**No. T6A TRANSFORMER (Output 40 VA at 9 $\frac{3}{4}$  volts)** for 6-volt Electric Motors. Has two separate circuits at 9 volts, one controlled by a 5-stud speed regulator, and a third circuit at 3 $\frac{1}{2}$  volts for lighting up to 18 lamps.

**No. T20M TRANSFORMER (Output 20 VA at 20 volts)** for 20-volt Electric Motors. This is similar to the No. T20 Transformer, but is not fitted with speed regulator.

**No. T6M TRANSFORMER (Output 25 VA at 9 volts)** for 6-volt Electric Motors. This is similar to the No. T6 Transformer, but is not fitted with speed regulator.

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

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



No. T20 Transformer

Ask your dealer for a complete price list.



# MECCANO

## STANDARD MECHANISMS



When a boy has built all the models illustrated in this Manual, he will wish, not only to increase the size of his Outfit so that he can build bigger models, but also to start constructing models of his own design. It is now that the real inventive spirit of the Meccano boy asserts itself, and if he builds thoughtfully there is no reason why he should not in time become familiar with almost every form of engineering structure and mechanical movement.

In order to assist youthful inventors, we have collected and classified a number of Meccano movements that have, to a certain extent, become standardised. That is to say, these movements may be applied to more than one model—in most cases without any alteration to the standard movements, but in a few instances with some slight modifications. These movements are published in a Manual entitled "Meccano Standard Mechanisms" which may be obtained from any Meccano dealer.

The following examples have been selected from these two Manuals because of their general utility.

### LOCKNUTS

One of the most useful of all Meccano connections is the locknutt joint, illustrated in Fig. A. If a pivoted joint were to be made using one nut and bolt only, the nut would soon either unscrew from its bolt or jam the two Strips together. This difficulty is easily overcome by fitting the Bolt 1, carrying the Strip 2, with a Nut 5. The Strip 2 must swing freely between the bolt head and Nut 5, the latter part having a second Strip 3 locked firmly against it by means of a Nut 4. In order to make the two nuts secure they must be turned towards each other with the aid of two spanners.

### CORD TRANSMISSION

In small models where it is found necessary to introduce a step-up drive for increasing the speed of a movement, or a step-down drive for increasing the available power, pulleys of varying diameters connected together by cord can be used. An example of this is shown in Fig. C, where a 3" Pulley is connected to a  $\frac{1}{2}$ " Pulley, thus forming a 6:1 gear ratio. In Fig. B a 1:1 ratio transmission drive is shown for use in reverse gears. By crossing the cords in this way two shafts, arranged at any angle to each other, can be driven.

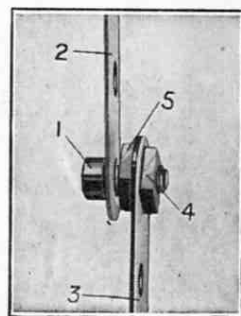


Fig. A

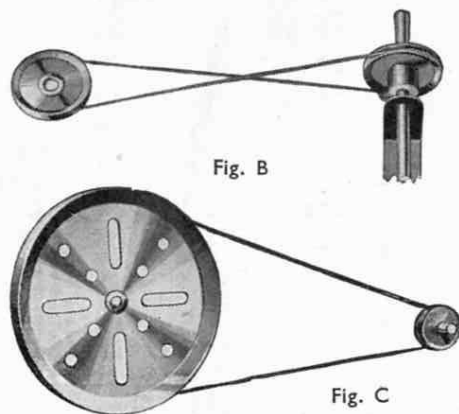


Fig. B

Fig. C

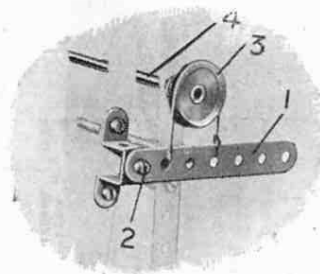


Fig. D

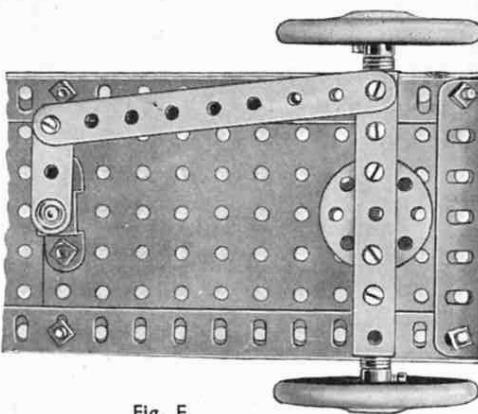


Fig. E

### BAND BRAKE

A simple method of slowing down or stopping a shaft is shown in Fig. D. A Strip 1 is secured by means of a locknutt Bolt (see Fig. A) to the framework of a model. A short length of cord attached to this Strip passes round a 1" fast Pulley 3 secured on the shaft 4. By depressing or adding weight to the end of the lever 1 the cord is pressed into the groove of the Pulley 3, and by regulating the weight or pressure the speed of the shaft can be very finely adjusted.

### STEERING MECHANISM

Greater interest can be given to a small model car or lorry by arranging the front wheels to steer. One simple way of accomplishing this is shown in Fig. E. A Double Angle Strip 1 is bolted to a Bush Wheel that is secured to the under side of the model. The two front wheels are attached to the turned up ends of the Double Angle Strip by means of  $\frac{3}{8}$ " Bolts, and are turned from side to side by a short Strip connected to a Crank. This Crank is locked on the lower end of the steering column. If necessary the Crank and Strip may be replaced by a length of cord, passed round the steering column and secured to the extremities of the Double Angle Strip.

[illegible]

[illegible]

FOR ILLUSTRATIONS OF MECCANO PARTS REFER TO PAGE III OF COVER

## CONTENTS OF OUTFITS AND COMPLETE LIST OF MECCANO PARTS (continued)

No.	Description.	O	On	A	As	B	Ba	C	Ca	D	Da	E	Ea	F	Fa	G	Ga	H	Ha	K	Ka	L
146	Circular Plates, 6" diam.																				2	2
146a	"																				2	2
147	Pawls with pivot bolt and nuts																				2	2
147a	"																				2	2
147b	Pivot Bolt with 2 Nuts																				2	2
147c	Pawl, without Boss																				2	2
148	Ratchet Wheels																				2	2
149	Collector Shoes for Locos																				2	2
150	Crane Grabs																				2	2
151	Pulley Blocks, 1 Sheave																				2	2
152	" " 2 Sheaves																				2	2
153	" " 3																				2	2
154	Corner Angle Brackets, R.H.																				2	2
154a	" " L.H.																				2	2
155	Rubber Rings, 8"																				2	2
156	Pointers, 2 1/2", with boss																				2	2
157	Fans 2" diam.																				2	2
158	Signal Arms, Home																				2	2
158a	" Distant																				2	2
158b	Channel Bearings, 1 1/2" X 1 1/2" X 3/4"																				2	2
160	Girder Brackets, 2 1/2" X 1 1/2" X 3/4"																				2	2
161	Boiler with ends, complete																				2	2
162	Boiler Ends																				2	2
162a	Boilers without Ends																				2	2
162b	Sleeve Pieces																				2	2
163	Chimney Adaptors																				2	2
164	Swivel Bearings																				2	2
165	End Bearings																				2	2
166	Gear Roller Bearings																				2	2
167	Ring Frames for Rollers, 192 teeth																				2	2
167a	Ring Frames for Rollers, 192 teeth																				2	2
167b	Pinions 16-teeth																				2	2
167c	Ball Bearings, 4" diam.																				2	2
168	Ball Races, Flanged Disc																				2	2
168a	" Toothed																				2	2
168b	Ball Castings complete with Balls																				2	2
168c	Digger Buckets																				2	2
169	Eccentrics 3/4" throw																				2	2
170	Socket Couplings																				2	2
171	Pendulum Connections																				2	2
172	Rail Adaptors																				2	2
173	Frease Cups																				2	2
174	Flexible Coupling																				2	2
175	Anchoring Springs for Cord																				2	2
176	Shafting Standard, Large																				2	2
177	" Small																				2	2
178	Rod Socket																				2	2
179	Gear Ring 3 1/2"																				2	2
180	Bobbins																				2	2
181	Insulating Bushes																				2	2
182	Insulating Washers																				2	2
183	Lamp Holders																				2	2
184	Lamps, 2 1/2" volt																				2	2
184a	" 6																				2	2
184b	" 10																				2	2
184c	" 20																				2	2
184d	Steering Wheel 1 1/2" diam.																				2	2
185	Driving Bands																				2	2
186	Road Wheels																				2	2
187	Flexible Plates, 2 1/2" X 1 1/2"																				2	2
188	" 2 1/2" X 1 1/2"																				2	2
189	" 4" X 2 1/2"																				2	2
190	" 5" X 2 1/2"																				2	2
191	" 6" X 2 1/2"																				2	2
192	" 8" X 2 1/2"																				2	2
193	" 10" X 2 1/2"																				2	2
194	" 12" X 2 1/2"																				2	2
195	" 14" X 2 1/2"																				2	2
196	" 16" X 2 1/2"																				2	2
197	" 18" X 2 1/2"																				2	2
198	Hinged Flat Plates, 4 1/2" X 2 1/2" X 1/4" radius																				2	2
199	Curved Plates, U Section 2 1/2" X 2 1/2" X 1/4" radius																				2	2
200	Lamps with Flex																				2	2
201	Angle Brackets (for Headlamps)																				2	2
202	Headlamps																				2	2
203	Headlamp Rim																				2	2
203a	" Body																				2	2
203b	" Nuts																				2	2
204	" Glasses (Green, Plain or Red)																				2	2
205	Lampshades																				2	2
206	Lamp Bases																				2	2
207	Stands with Lamp and Flex																				2	2
207a	Battery Tags and Stud																				2	2
208	Washers for Battery Stud																				2	2
208a	Nuts																				2	2
210	Helical Gear 1/2" (Can only be used together)																				2	2
211a	Terminals																				2	2
211b	6 B.A. Screws																				2	2
1563	6 B.A. Nuts																				2	2
1575	Clockwork Motor No. 2																				2	2
1583	Electric Motor No. E6 (6 volt)																				2	2

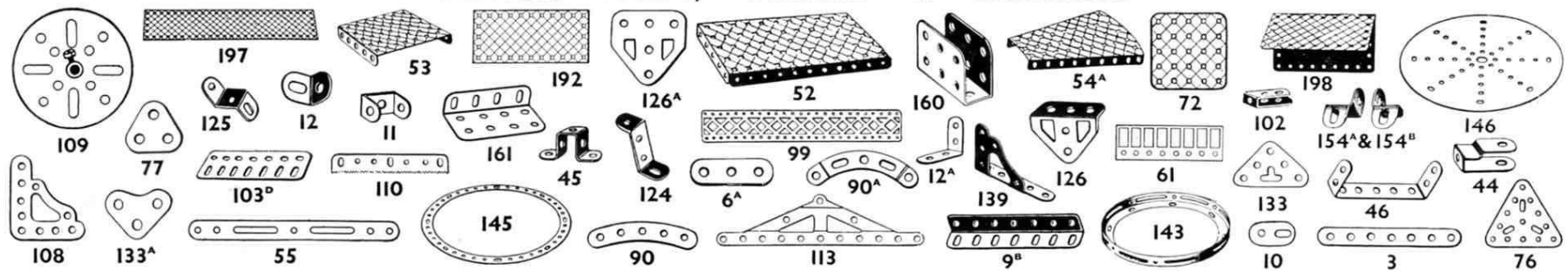
## SPECIAL INSTRUCTION LEAFLETS

No. 1a—Motor Chassis	No. 12—Stone-sawing Machine	No. 24—Travelling Gantry Crane
" 2—High-speed Ship-Coaler	" 13—Meccanograph	" 25—Hydraulic Crane
" 5—Dredger	" 14a—New Grandfather Clock	" 28—Pontoon Crane
" 6—Stiff Leg Derrick	" 18—Revolving Crane	" 29—Hammerhead Crane
" 7—Platform Scales	" 19—Steam Shovel	" 30—Breakdown Crane
" 9—Bagatelle Table	" 20—Electric Mobile Crane	" 31—Warehouse
" 10—Log Saw	" 21—Transporter Bridge	" 35—Automatic Grabbing Crane
" 11a—Horizontal Engine	" 22—Traction Engine	

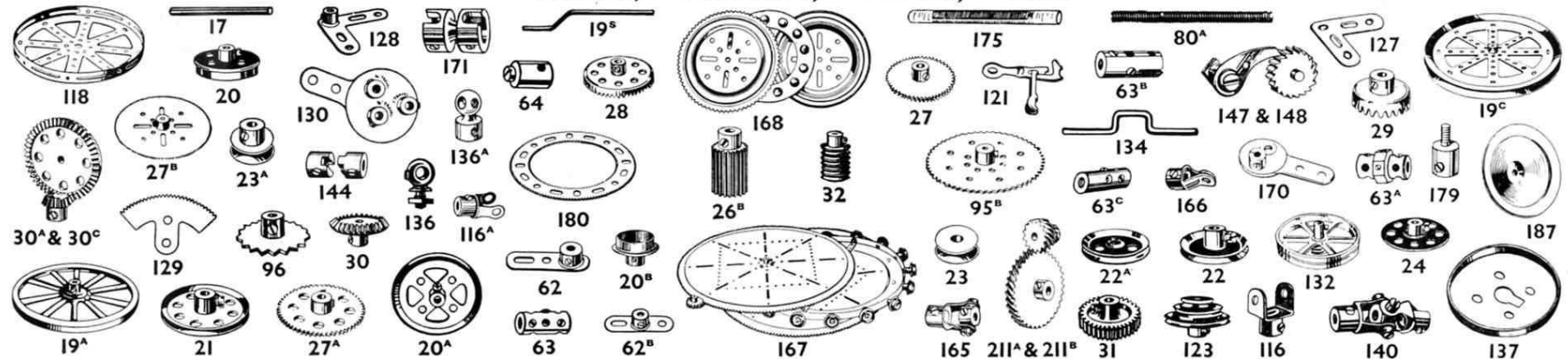
Outfits Ha and K contain Special Instruction Leaflets Nos. 7, 9, 10, 11a, and 12.  
 Outfit Ka contains Special Instruction Leaflets Nos. 1a, 2, 5, 6, 13, 14a, 18, 19, 20, 21, 22, 24, 25, 28, 29, 30, 31 and 35.  
 Outfit L contains a copy of each of the 23 Special Instruction Leaflets listed above.

# MECCANO PARTS & ACCESSORIES

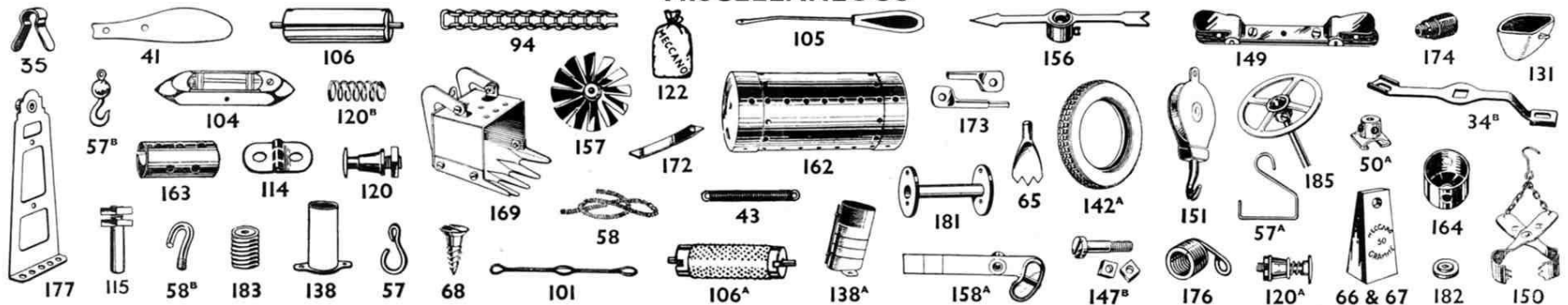
## PLATES, STRIPS, GIRDERS & BRACKETS



## WHEELS, PULLEYS, GEARS, ETC.

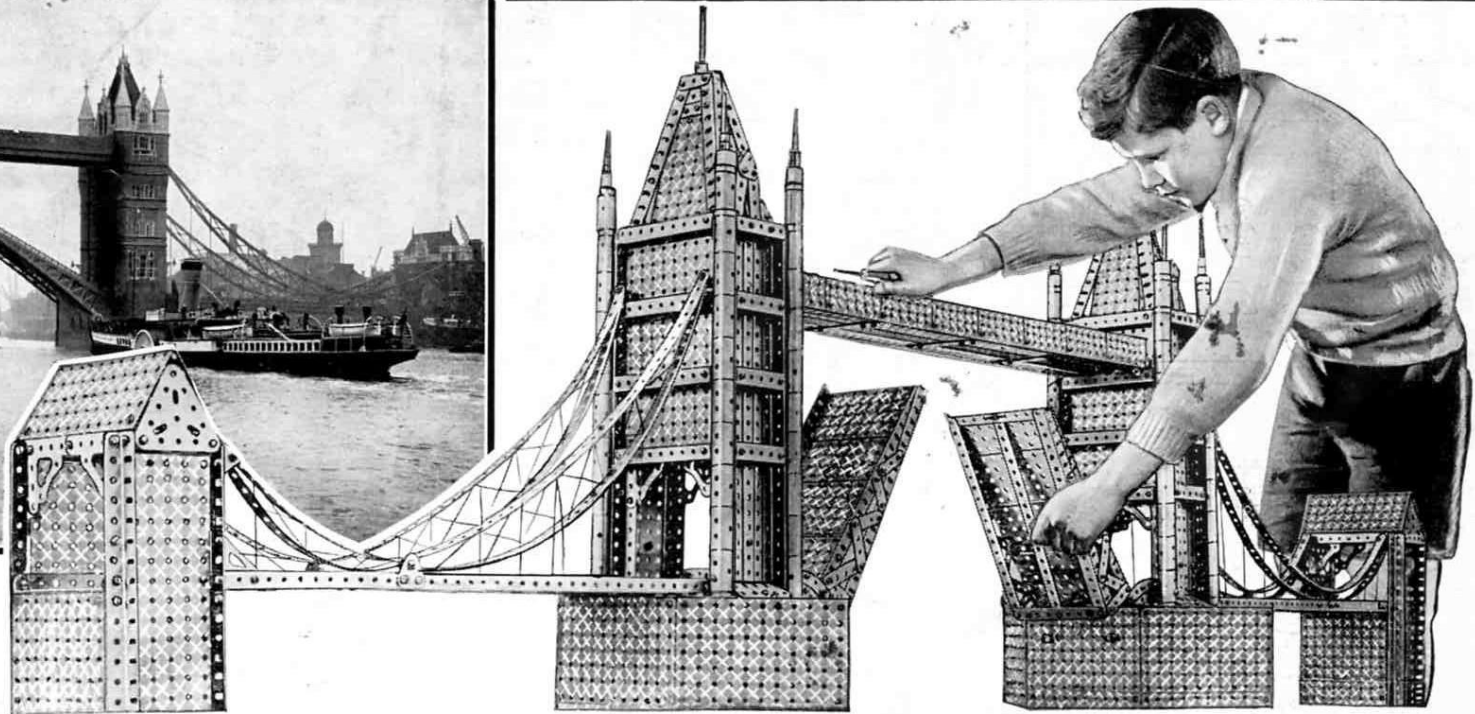


## MISCELLANEOUS





The famous Tower Bridge-London, a strikingly realistic Meccano Model of which is shown on the right.



*Meccano  
is the  
finest  
hobby  
in the  
world  
for boys*

## Meccano is more than a toy

**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 that 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 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.

# MECCANO