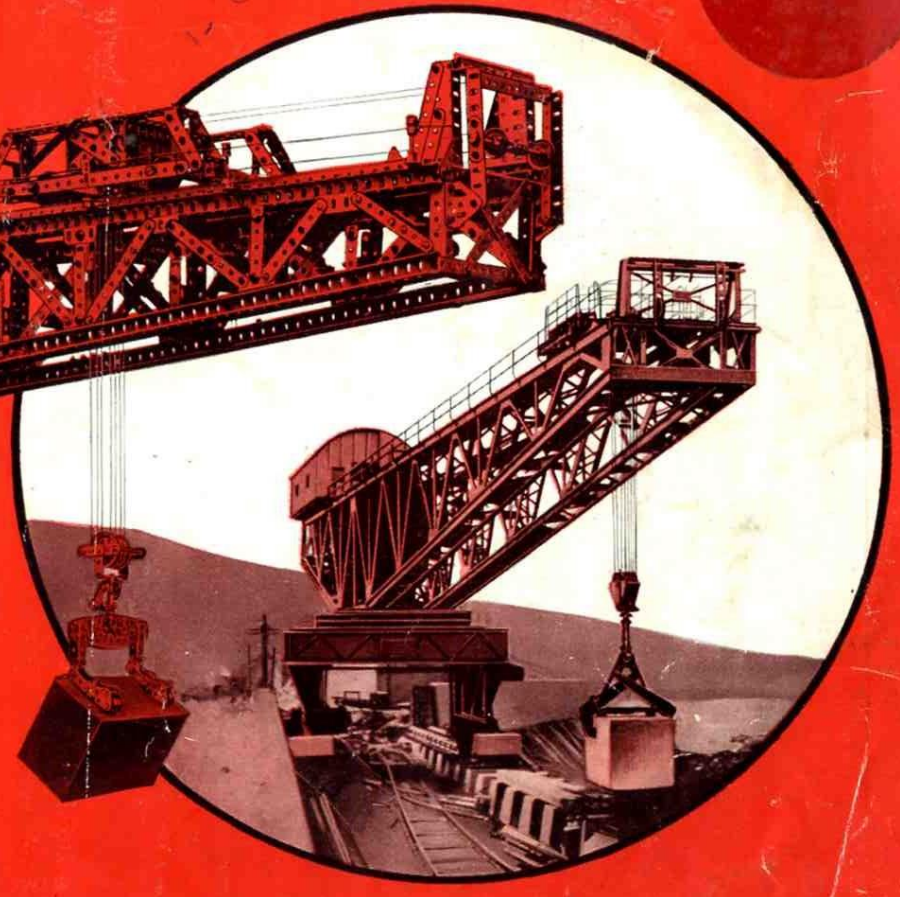
MECCANO

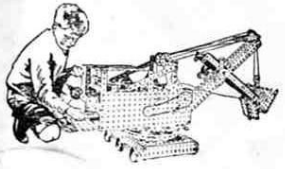
HORNBY'S ORIGINAL SYSTEM — FIRST PATENTED 1901

INSTRUCTIONS FOR OUTFIT O

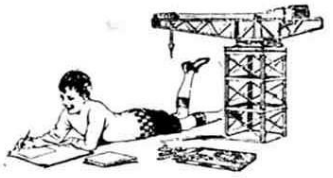


360

13/635/47 (U.K.)



MECCANO



REAL ENGINEERING IN MINIATURE

MODEL-BUILDING WITH MECCANO

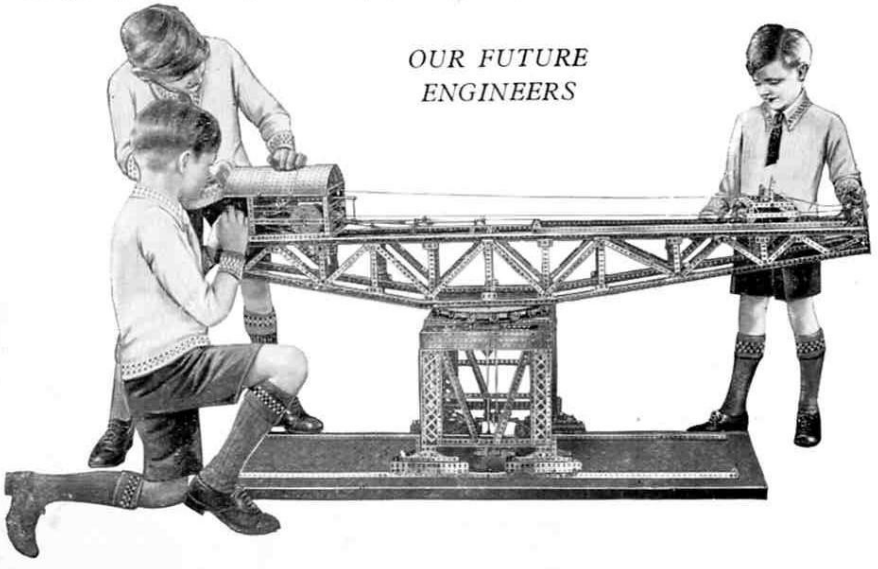
There is no limit to the number of models that can be built with Meccano—Cranes, Clocks, Motor Cars, Ship Coalers, Machine Tools, Locomotives—in fact everything that interests boys. A screwdriver and a spanner, both of which are provided in each Outfit, are the only tools necessary.

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.

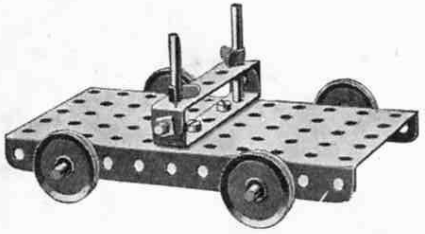
Meccano Clubs are founded and established under the guidance of the Guild Secretary at Headquarters, and at the present time there are active Clubs in nearly 250 towns and villages in the United Kingdom, and more than 100 in countries overseas. Each Club has its Leader, Secretary, Treasurer, and other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

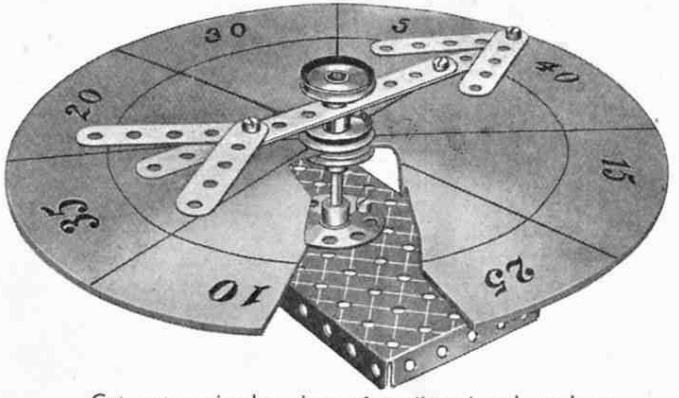
MECCANO SERVICE

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

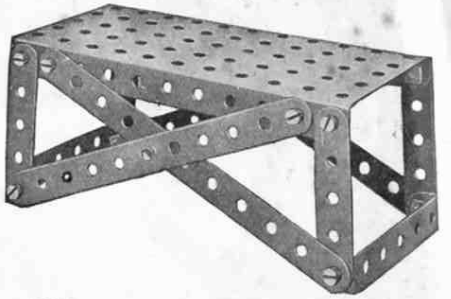


O8. Roulette Wheel



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.

O17. Planing Bench

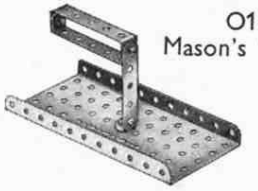


O2. Spade

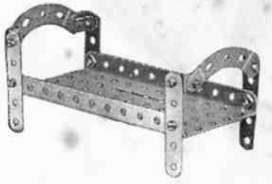
O3. Flower Pot Stand

O4. Fork

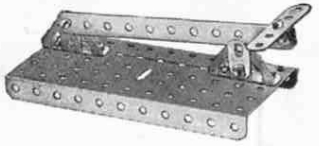
O12. Mason's Trowel



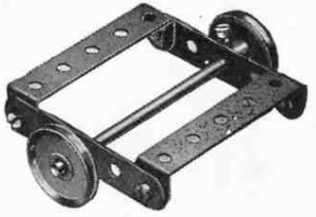
O18. Crib



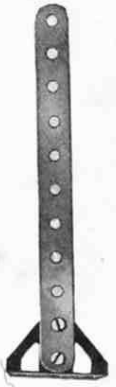
O9. Switch



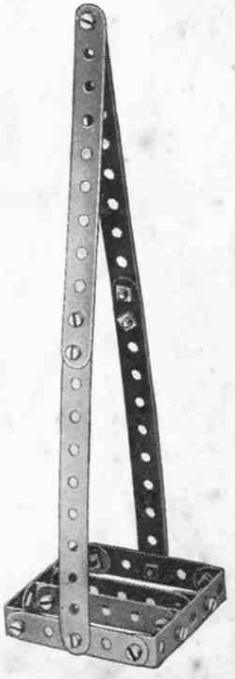
O13. Trolley



O14. Hoe

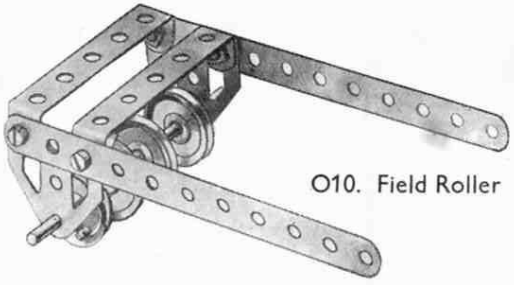


O19. Potato Chopper

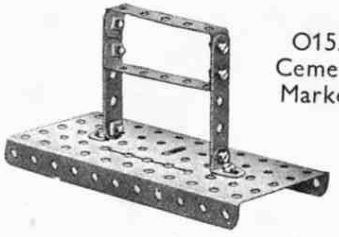


O5. Dividers

O10. Field Roller

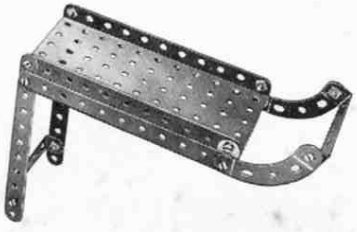


O15. Cement Marker

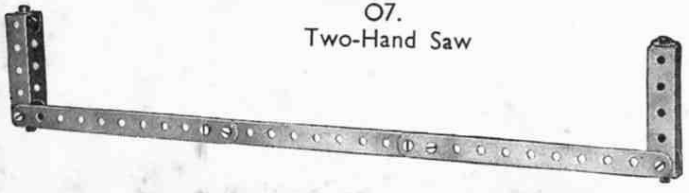


O6. Motor Boat

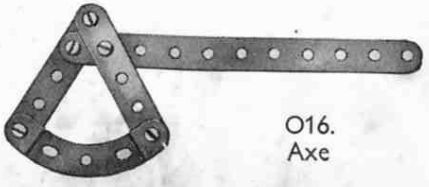
O11. Chute



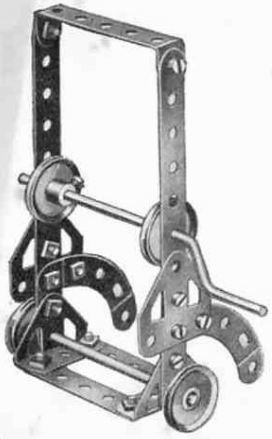
O7. Two-Hand Saw



O16. Axe

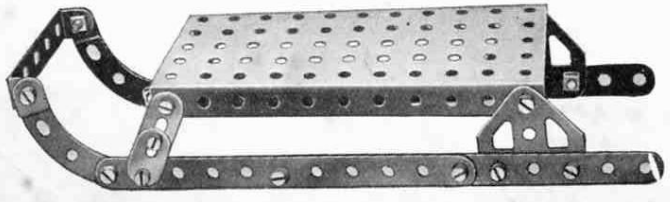


O20. Garden Hose Reel



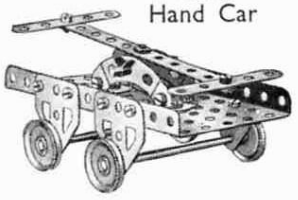
O21. Sawing Horse

O22. Sledge



O23. Violin

O24. Hand Car

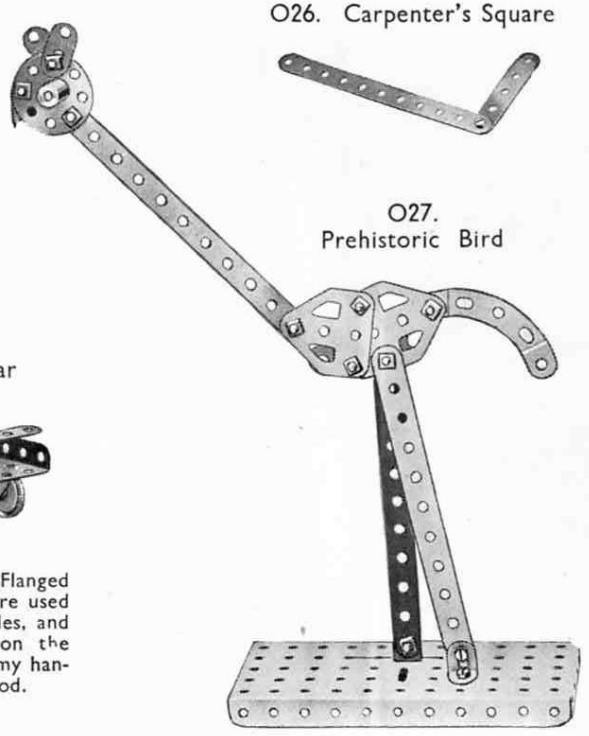


On one side of the Flanged Plate, Flat Trunnions are used for supporting the axles, and Trunnions are used on the other side. The dummy handles pivot on a 2″ Rod.

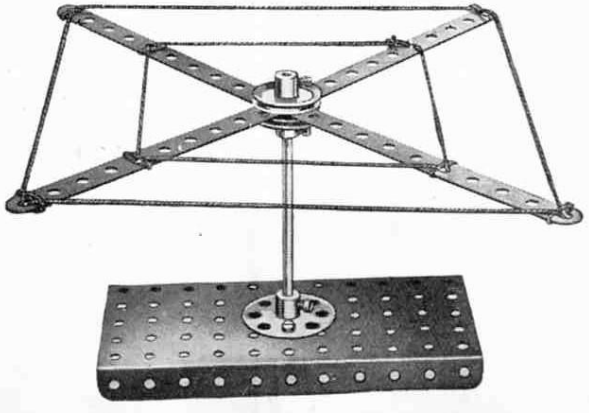
O25. Piano Stool

O26. Carpenter's Square

O27. Prehistoric Bird



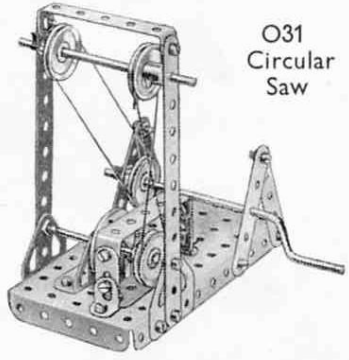
O28. Clothes Hanger



O29. Hand Cart

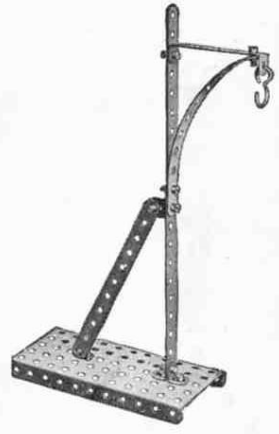
O30. Desk

O31 Circular Saw



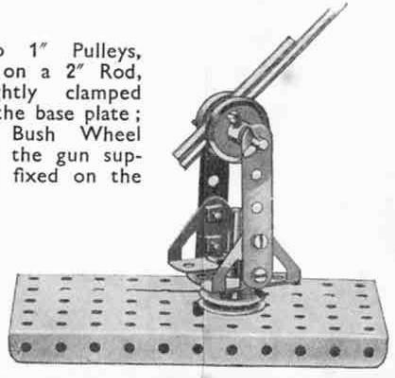
A Bush Wheel represents the circular saw and is driven from the Crank Handle through two sets of Pulleys and belts of cord.

O32. Mail Bag Hanger

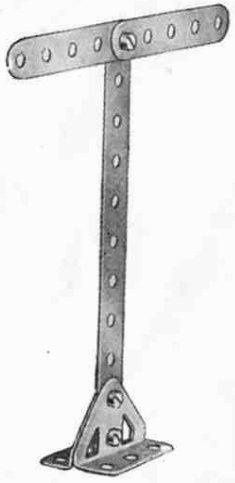


O33. Anti-Aircraft Gun

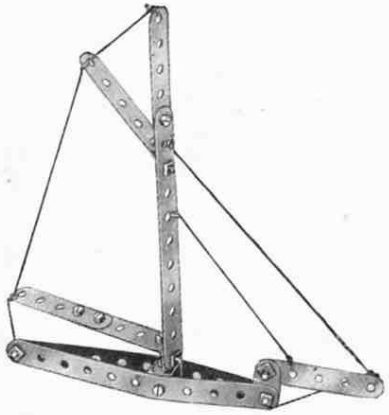
Two 1″ Pulleys, carried on a 2″ Rod, are lightly clamped against the base plate; and a Bush Wheel carrying the gun supports is fixed on the Rod.



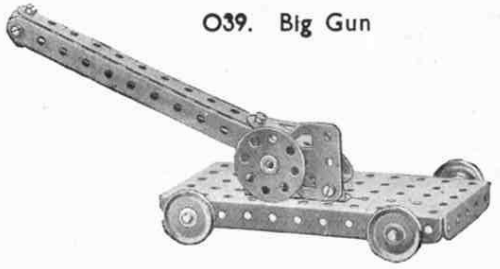
O34. 2-Way Sign Post



O38. Yacht



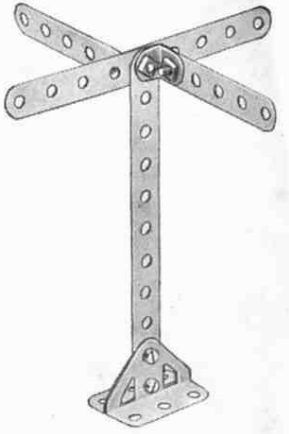
O39. Big Gun



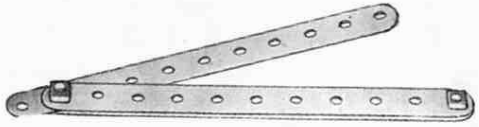
The gun barrel is made of 5½" Strips, and at its lower end is bolted to a Flat Trunnion that is fixed by Angle Brackets between two Trunnions bolted to the base. A Bush Wheel forms a dummy handwheel.

O44. 3-Way Sign Post

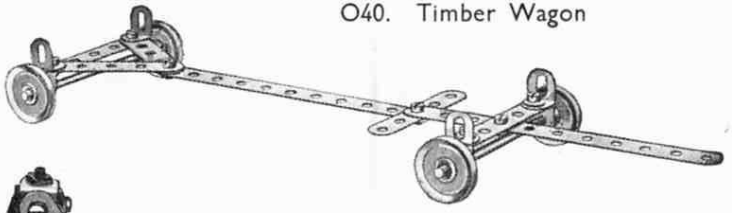
O47. 4-Way Sign Post



O35. Razor

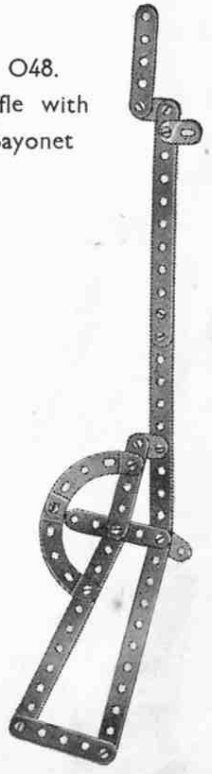


O40. Timber Wagon

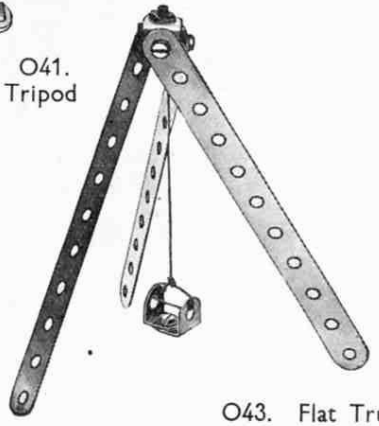


O45. Velocipede

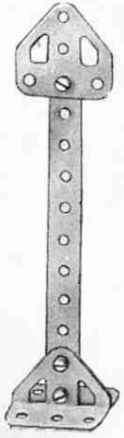
O48. Rifle with Bayonet



O41. Tripod



O36. Road Sign

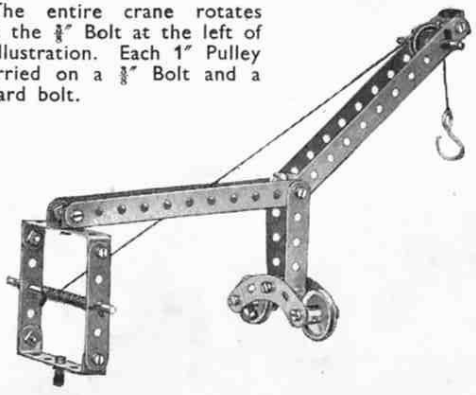


O37. Road Sign

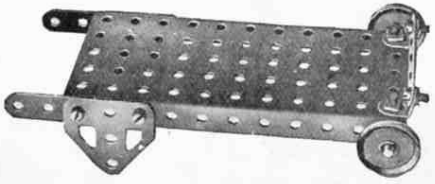
O42. Cannon

O46. Radial Travelling Crane

The entire crane rotates about the ⅜" Bolt at the left of the illustration. Each 1" Pulley is carried on a ⅜" Bolt and a standard bolt.

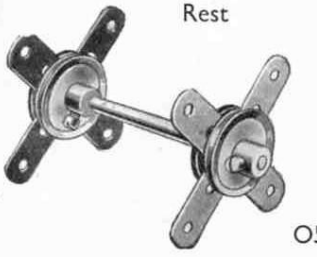


O43. Flat Truck



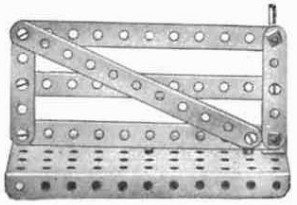
O49. Farm Sight

O50. Cutlers' Rest



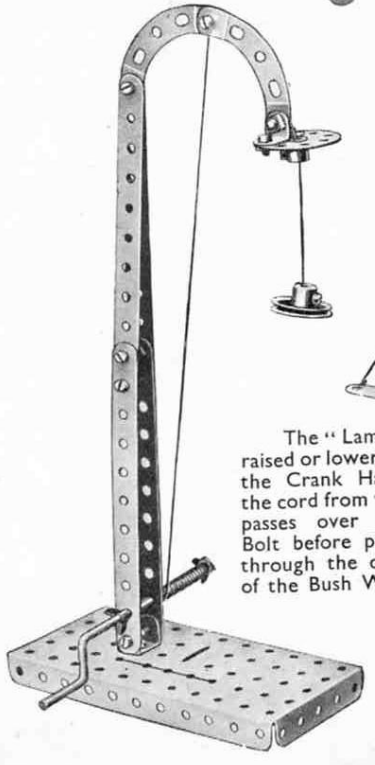
O51. Meat Saw

O52. Gate



O53. Scarifier

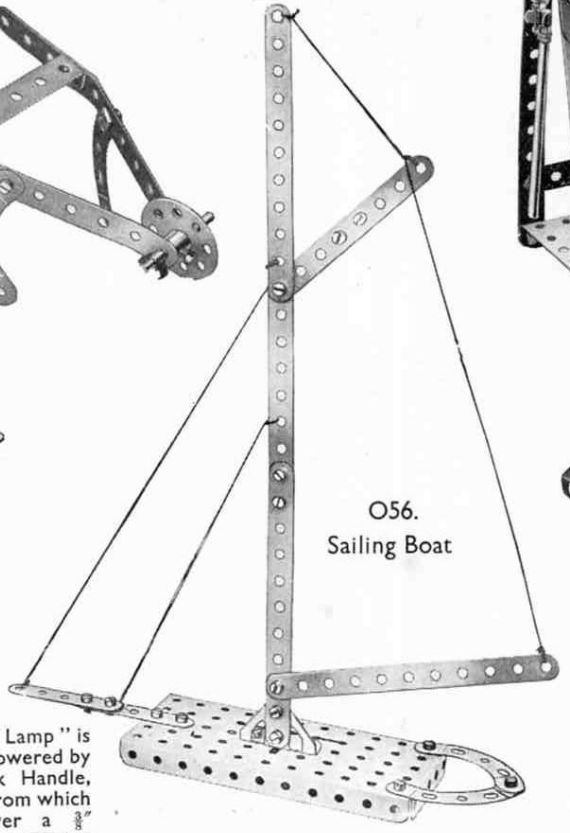
O54. Arc Lamp



The "Lamp" is raised or lowered by the Crank Handle, the cord from which passes over a ⅜" Bolt before passing through the centre of the Bush Wheel.

O55. Drinking Trough

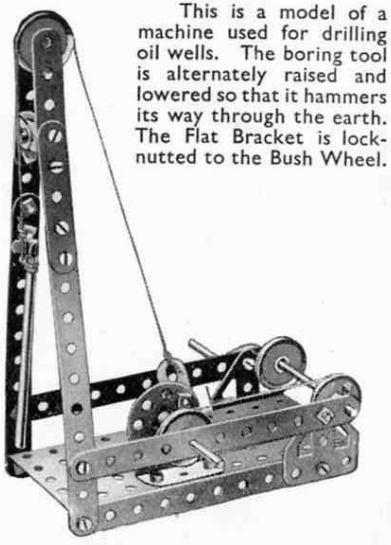
O56. Sailing Boat



O57. Track Gauge

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.

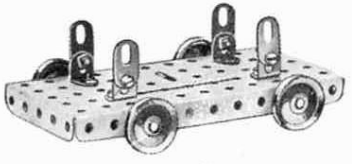


O59. Rake

O60. Book End

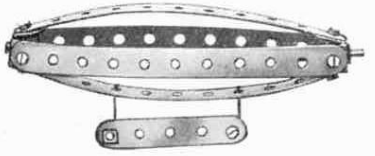
O61. Bed

O62. Lumber Truck



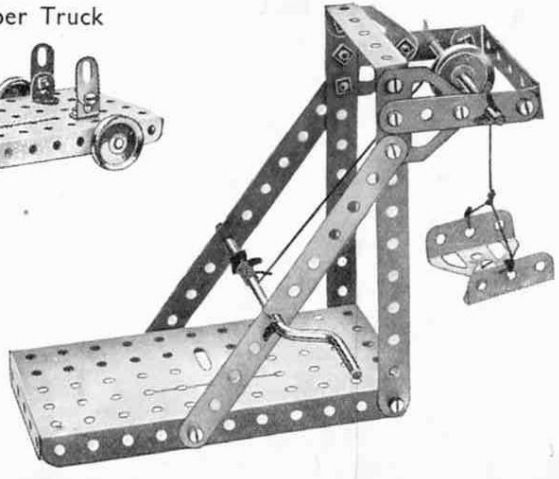
O63. Trowel

O64. Airship



O65. Scrap Reel

O66. Pit-Head Gear



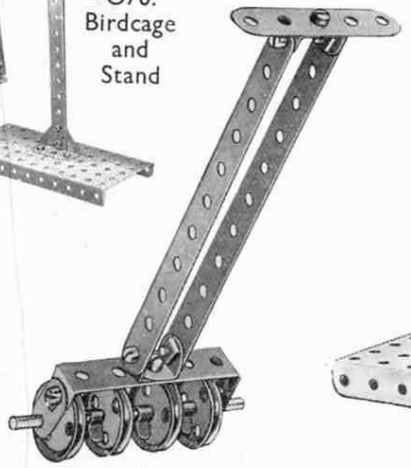
O67. Tin Opener

O68. Walking Stick

O69. Plasterer's Hawk

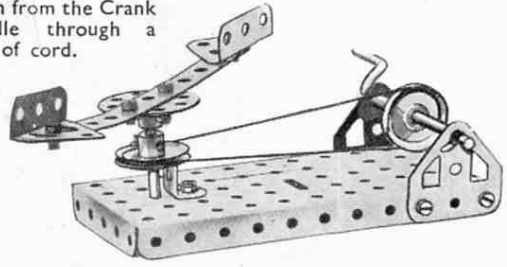
O70. Birdcage and Stand

O71. Garden Roller

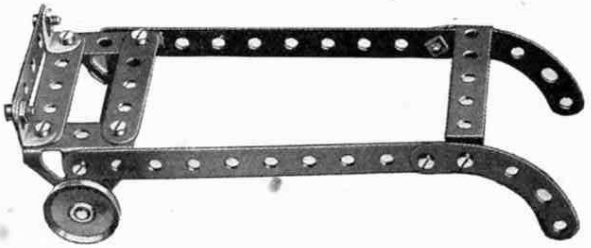


O72. Roundabout

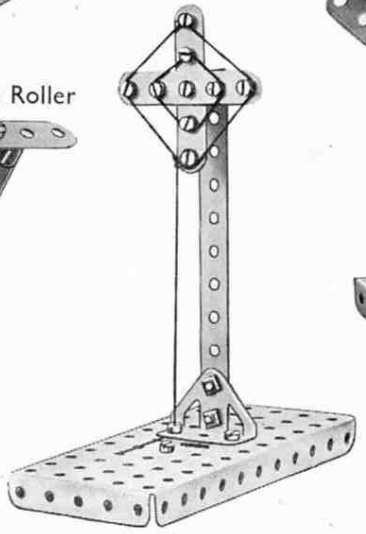
To support the vertical Rod carrying the roundabout a Reversed Angle Bracket is bolted to the Plate. The drive is taken from the Crank Handle through a belt of cord.



O73. Porter's Trolley



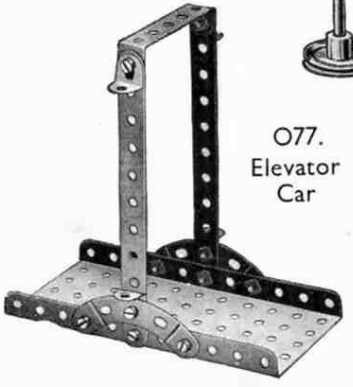
O74. Frame Aerial



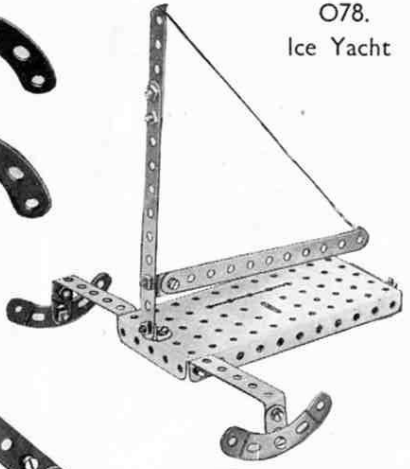
O75. Print Trimmer

O76. Stool

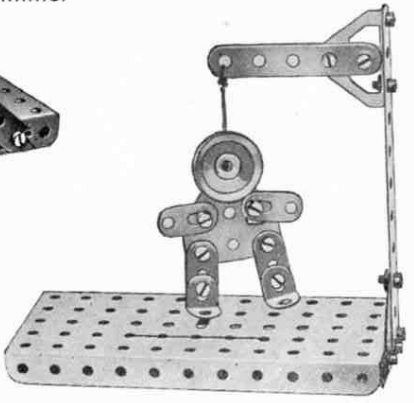
O77. Elevator Car



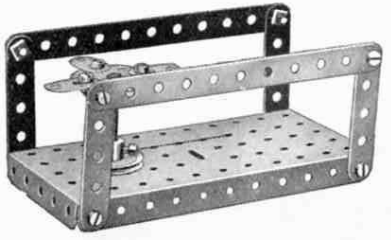
O78. Ice Yacht



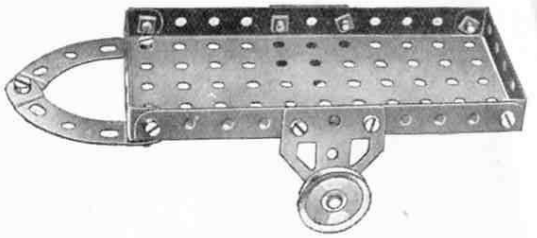
O79. Gallows



O80. Turnstile

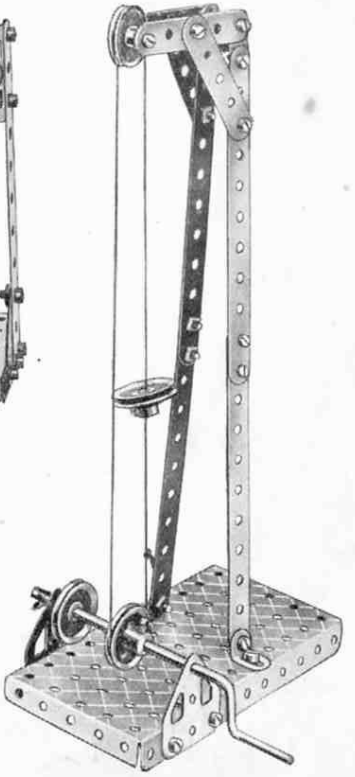


O81. Hand Truck

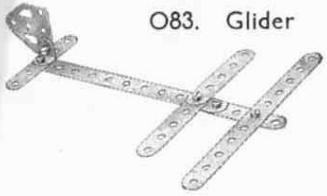


O82. Airship Mooring Mast

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

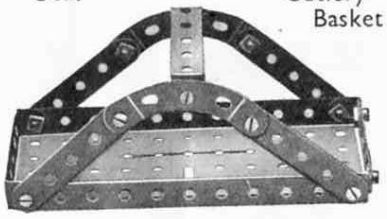


O83. Glider



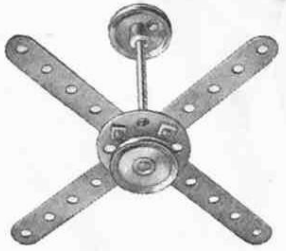
O86. Pulley Shafting

O87. Cutlery Basket

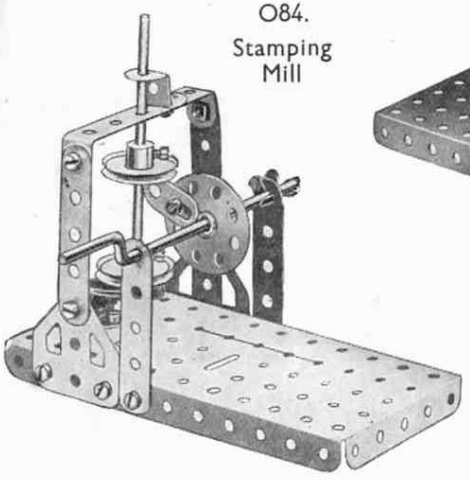


O91. Mail Bag Hanger

O94. Ceiling Fan

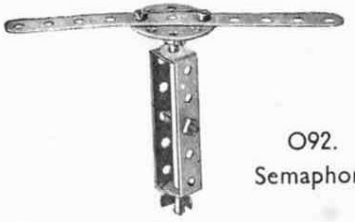


O84. Stamping Mill

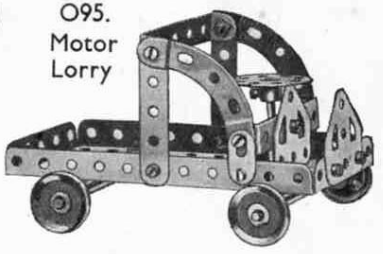


As the Crank Handle is turned the stamp is alternately raised and lowered by the Flat Bracket attached to the Bush Wheel.

O88. Helicopter Toy

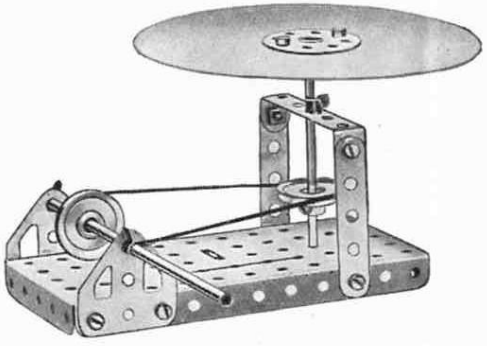


O95. Motor Lorry



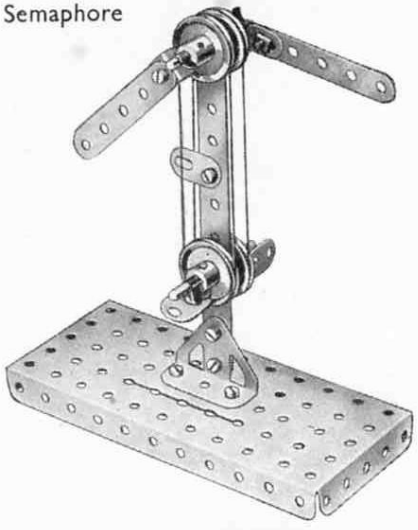
The Axle Rods carrying the 1" Pulleys are mounted in Angle Brackets bolted beneath the Flanged Plate. A Bush Wheel is used for a dummy steering wheel.

O89. Joy Wheel

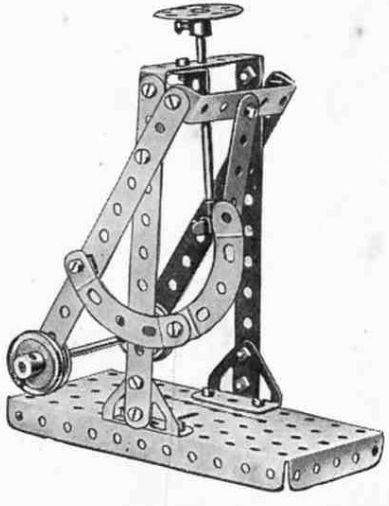


Stiff Cardboard is used for the disc and is bolted to a Bush Wheel. It is rotated by a belt of cord from the Crank Handle.

O92. Semaphore

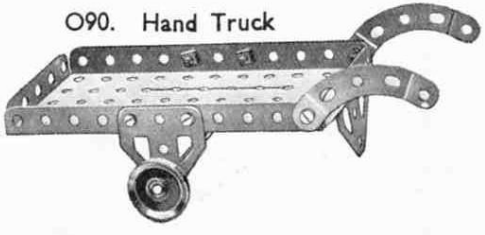


O96. Letter Balance

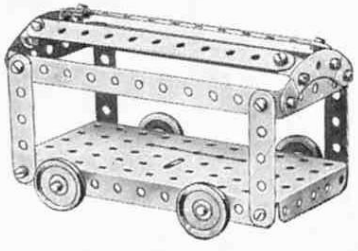


O85. Scales

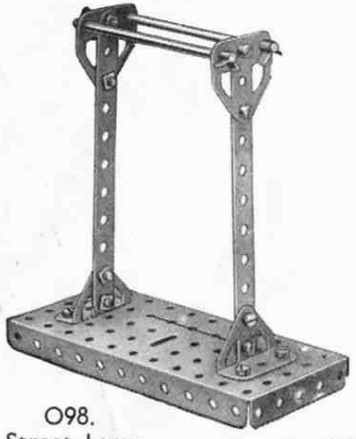
O90. Hand Truck



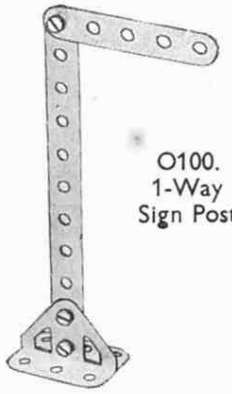
O93. Pullman Car



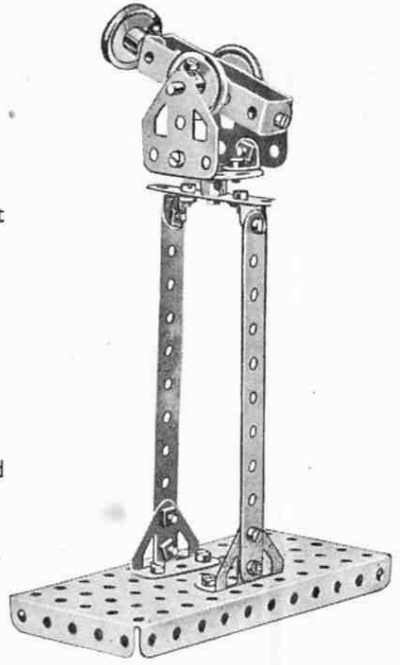
O97. Towel Horse



O100. 1-Way Sign Post



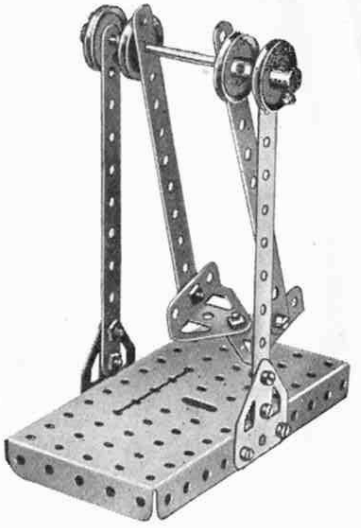
O102. Searchlight



The searchlight can be rocked up or down on a 2" Rod carried in Flat Trunnions, and the upper framework swivels on the ⅜" Bolt fixing the Bush Wheel.

O103. Table

O106. Swing



O98. Street Lamp

O99. Dividers

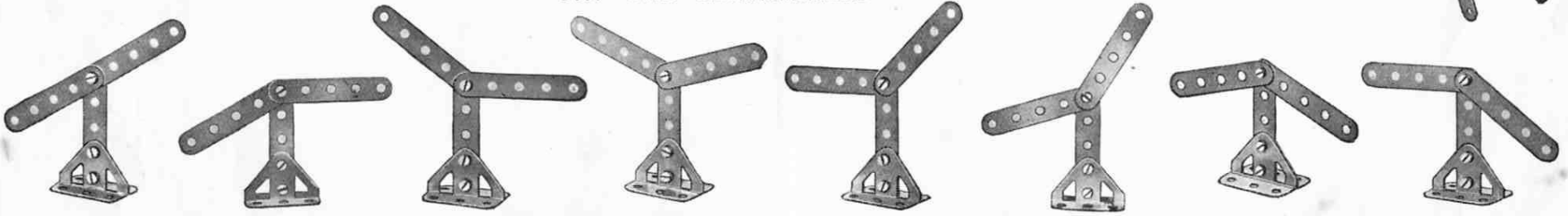
O101. Umbrella Stand

O104. Cheese Cutter

O105. Tweezers

O107. Step Ladder

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

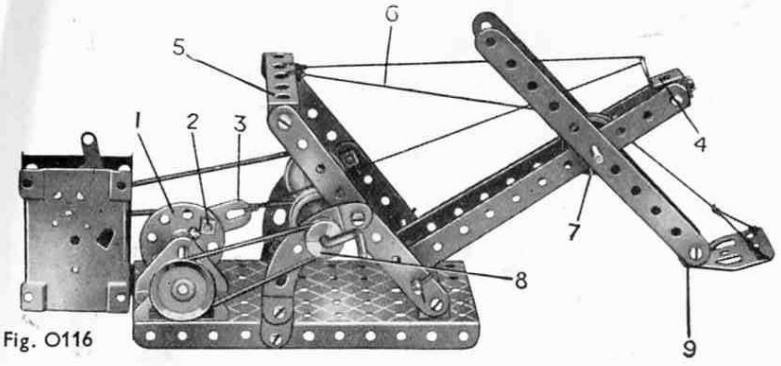


Fig. O116

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 $\frac{1}{2}$" × $\frac{1}{2}$" 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.

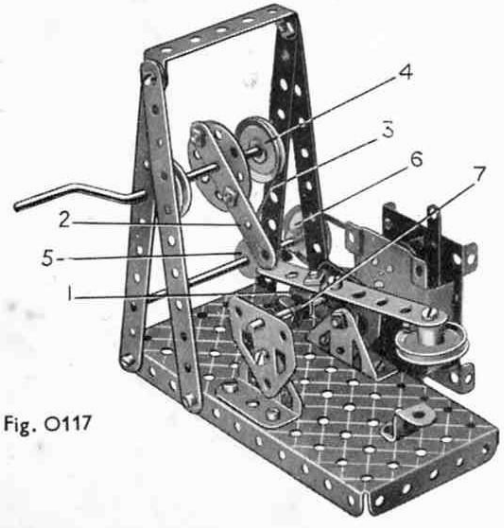


Fig. O117

O118. DERRICK CRANE (HAND OPERATED)

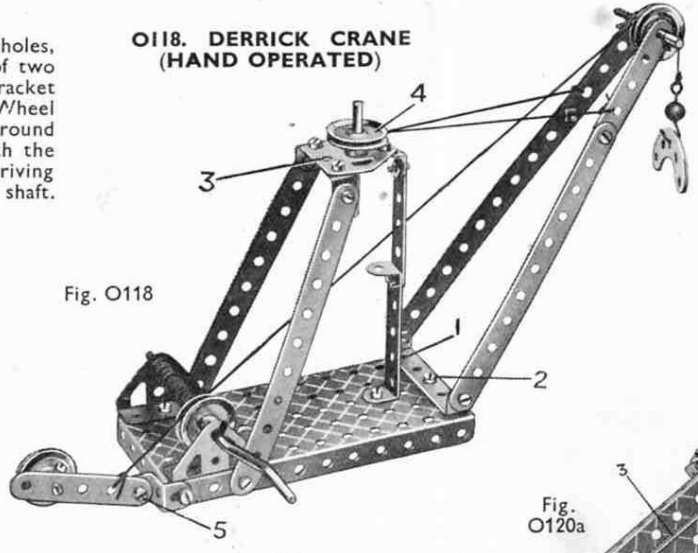


Fig. O118

The side members of the jib are bolted at their lower end to a $2\frac{1}{2}$" × $\frac{1}{2}$" 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 journalled in the bottom hole of a $2\frac{1}{2}$" × $\frac{1}{2}$" 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.

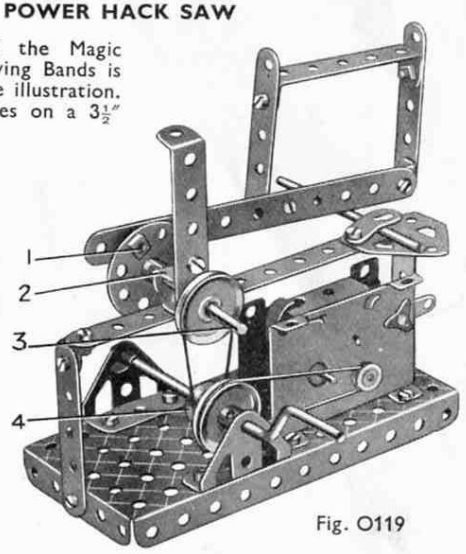


Fig. O119

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 journalled in two Flat Brackets, which are secured to the $5\frac{1}{2}$" Strips 2 and 3, forming the frame of the truck.

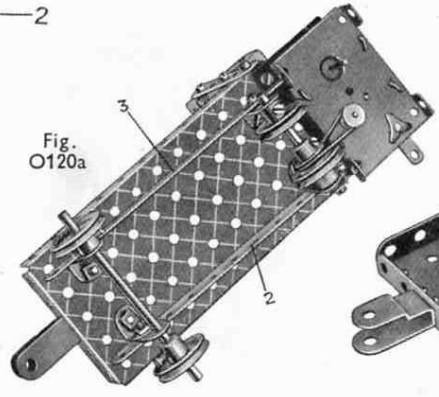


Fig. O120a

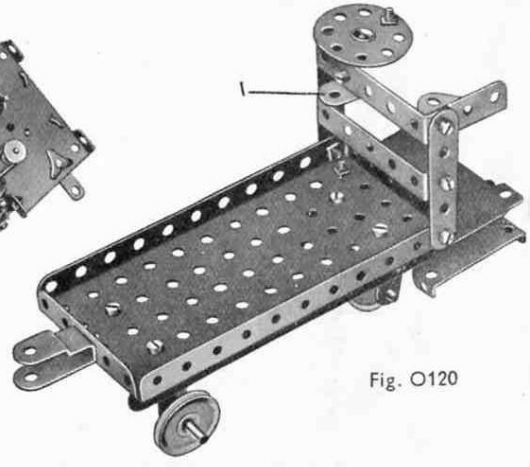


Fig. O120

MECCANO

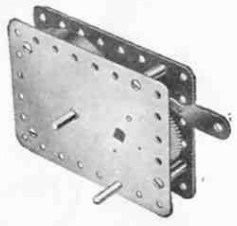
MOTORS FOR OPERATING MECCANO MODELS

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

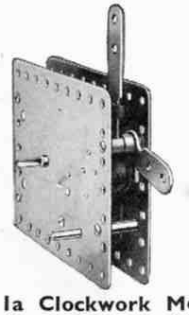
These are the finest Clockwork motors obtainable for model driving. They have exceptional power and length of run and their gears are cut with such precision as to make them perfectly smooth and steady in operation.

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.



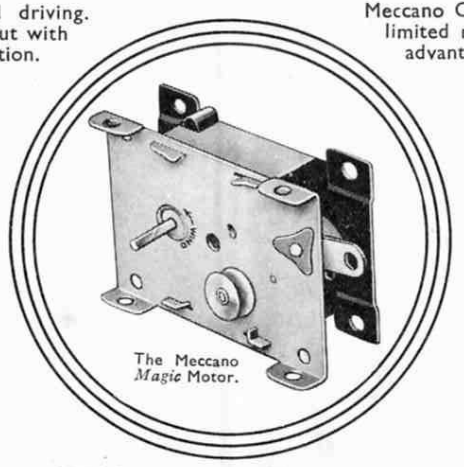
No. 1 Clockwork Motor

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

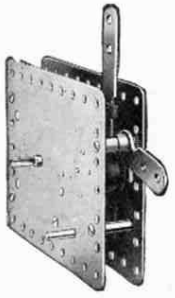
This Motor is more powerful than the No. 1 Motor and is fitted with reversing motion. It has brake and reverse levers.



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 ½" 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.

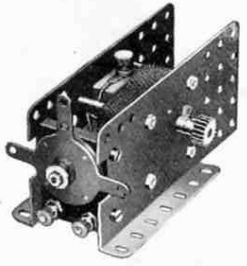


No. 2 Clockwork Motor

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.

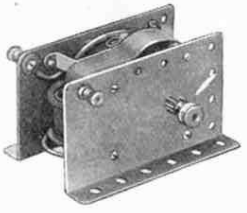


No. E6 Electric Motor (6 volt)

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.

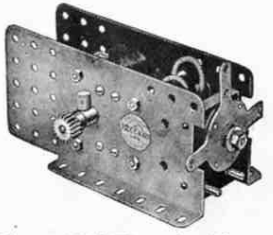
MECCANO ELECTRIC MOTORS

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 efficent 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 20/3½ 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 3½ volts for lighting up to 14 lamps.

No. T6A TRANSFORMER (Output 40 VA at 9/3½ 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 3½ 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.

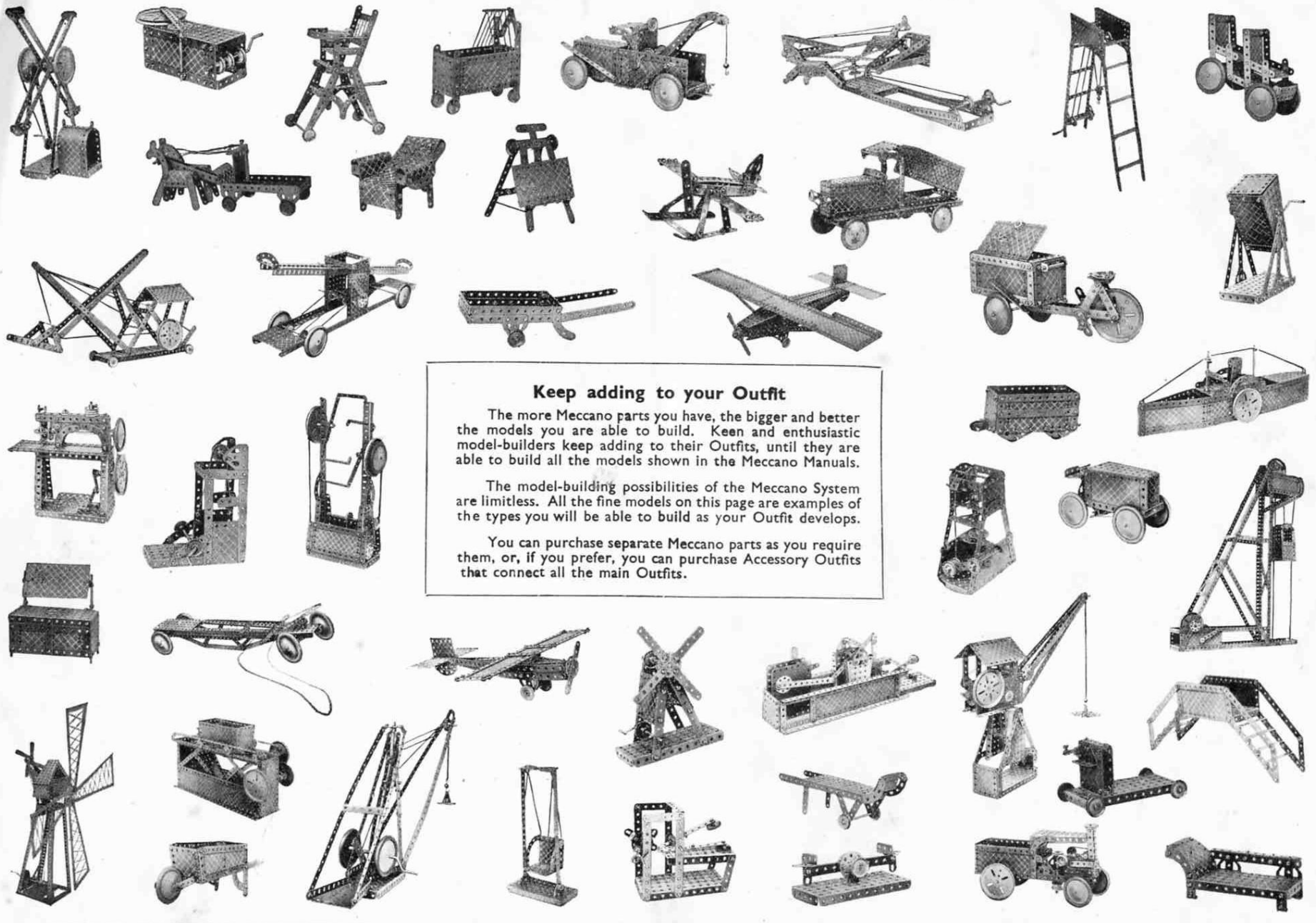
No. T20 TRANSFORMER (Output 20 VA at 20 volts) for 20-volt Electric Motors. Provided with one 20-volt circuit controlled by a 5-stud speed regulator.

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.

Build Bigger and Better Models



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 models shown in the Meccano Manuals.

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

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

CONTENTS OF MECCANO OUTFIT O

No.	Description.	Quantity.
2	Perforated Strips, $5\frac{1}{2}''$	4
5	,, ,, $2\frac{1}{2}''$	4
10	Flat Brackets	4
12	Angle Brackets, $\frac{1}{2}'' \times \frac{1}{2}''$	8
16	Axle Rods, $3\frac{1}{2}''$	2
17	,, ,, $2''$	2
19s	Crank Handles ($3\frac{1}{2}''$ shaft)	1
22	Pulley Wheels, 1" (fast)	4
24	Bush Wheels	1
34	Spanners	2
35	Spring Clips	4
36	Screwdrivers	1
37	Nuts and Bolts, $\frac{7}{32}''$	20
37a	Nuts	4
40	Hanks of Cord	1
44	Cranked Bent Strips	1
48a	Double Angle Strips, $2\frac{1}{2}'' \times \frac{1}{2}''$	2
52	Perforated Flanged Plates, $5\frac{1}{2}'' \times 2\frac{1}{2}''$	1
57c	Loaded Hooks, small	1
90a	Curved Strips, $2\frac{1}{2}''$. $1\frac{3}{8}''$ radius	2
111c	Bolts, $\frac{3}{8}''$	4
125	Reversed Angle Brackets, $\frac{1}{2}''$	1
126	Trunnions	2
126a	Flat Trunnions	2

MECCANO MECHANISMS

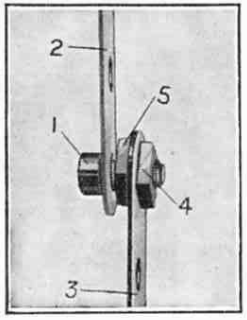


Fig. A

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 be 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.

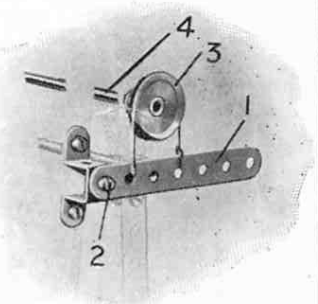


Fig. D

LOCKNUTS

One of the most useful of all Meccano connections is the locknutted joint, which prevents a pivot, formed from a nut and bolt, from working loose. As will be seen from Fig. A, the bolt 1 passes through the Strip 2 and is securely held to Strip 3 by means of two nuts 4 and 5, which are screwed tightly against opposite sides of the Strip. Sufficient space is left between the nut 5 and the bolt head to allow free movement of the Strip 2.

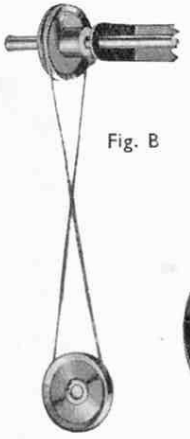


Fig. B

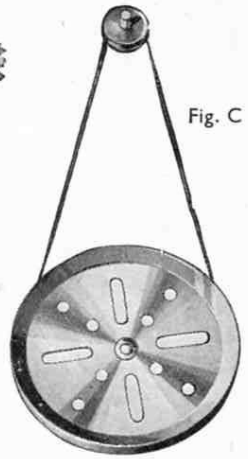


Fig. C

CORD TRANSMISSION

In small models where it is necessary to alter the speed or power of a drive, Pulleys of varying diameters connected together by cord may be used. Fig. C shows how a 6:1 ratio can be obtained by using a 3in. and $\frac{1}{2}$in. Pulley. In Fig. B a 1:1 ratio transmission drive is shown for driving between two shafts placed at right angles.

BAND BRAKE

A simple method of slowing down or stopping a shaft is shown in Fig. D. A Strip 1, which may be weighted if desired, is secured by a locknutted bolt (see Fig. A) to the frame of the model. A short length of cord attached to this Strip passes round a 1" fast Pulley 3 secured on the shaft 4.

STEERING MECHANISM

Greater interest may 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. The Crank is secured to the lower end of the steering column and the $4\frac{1}{2}''$ Strip is secured by locknuts at each end. 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.

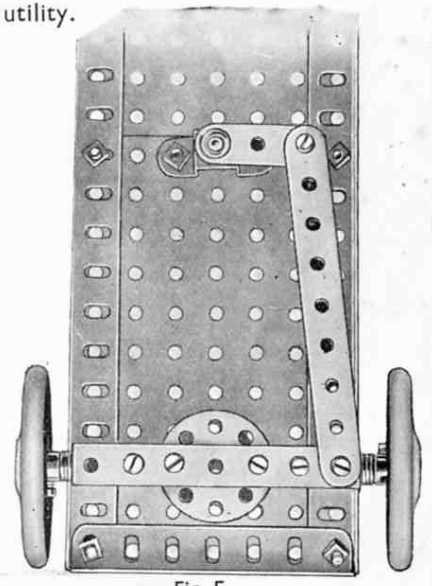


Fig. E

LIST OF MECCANO PARTS

No.	Description.
1	Perforated Strips, 12½" ... ...
1a	" " 9½" ... ...
1b	" " 7½" ... ...
2	" " 5½" ... ...
2a	" " 4½" ... ...
3	" " 3½" ... ...
4	" " 3" ... ...
5	" " 2½" ... ...
6	" " 2" ... ...
6a	" " 1½" ... ...
7	Angle Girders, 24½" ... ...
7a	" " 18½" ... ...
8	" " 12½" ... ...
8a	" " 9½" ... ...
8b	" " 7½" ... ...
9	" " 5½" ... ...
9a	" " 4½" ... ...
9b	" " 3½" ... ...
9c	" " 3" ... ...
9d	" " 2½" ... ...
9e	" " 2" ... ...
9f	" " 1½" ... ...
10	Flat Brackets ... ...
11	Double Brackets... ... ...
12	Angle Brackets, ½"×½" ... ...
12a	" " 1"×1" ... ...
12b	" " 1"×½" ... ...
12c	Obtuse Angle Brackets, ½"×½" ...
13	Axle Rods, 11½" ... ...
13a	" " 8" ... ...
14	" " 6½" ... ...
15	" " 5" ... ...
15a	" " 4½" ... ...
15b	" " 4" ... ...
16	" " 3½" ... ...
16a	" " 2½" ... ...
16b	" " 3" ... ...
17	" " 2" ... ...
18a	" " 1½" ... ...
18b	" " 1" ... ...
19	Crank Handles, large, 5" ... ...
19s	" " small, 3½" ... ...
19a	Wheels, 3" diam., with set-screws ...
20	Flanged Wheels, 1½" diam. ... ...
20b	" " ¾" " ... ...
	Pulley Wheels
19b	3" dia., with centre boss & set-screw
19c	6" " " " " "
20a	2" " " " " "
21	1½" " " " " "
22	1" " " " " "
23a	½" " " " & grub-screw
22a	1" " without " "
23	½" " " "
24	Bush Wheels ... ...
25	Pinion Wheels, ½" diam., ½" face ...
25a	" " " " " " " " ...
25b	" " " " " " " " ...
26	" " " " " " " " ...
26a	" " " " " " " " ...
26b	" " " " " " " " ...
	Gear Wheels
27	50 teeth to gear with ½" pinion ...
27a	57 " " " " " " ...
27b	133 " " " ½" "(3½" diam.)
27c	95 " " " ½" "(2⅜" diam.)
28	Contrate Wheels, 1½" diam. ... ...
29	" " ¾" " ... ...

No.	Description.
30	Bevel Gears, ⅞", 26 teeth ... ...
30a	" " ½", 16 " (Can only be used together)
30c	" " 1½", 48 "
31	Gear Wheels, 1", 38 teeth ... ...
32	Worms ... ...
34	Spanners ... ...
34b	Box Spanners ... ...
35	Spring Clips ... ...
36	Screwdrivers ... ...
36a	" Extra Long ... ...
36b	" Special ... ...
37	Nuts and Bolts, 7/32" ... ...
37a	Nuts ... ...
37b	Bolts, 7/32" ... ...
38	Washers ... ...
40	Hanks of Cord ... ...
41	Propeller Blades ... ...
43	Springs ... ...
44	Cranked Bent Strips ... ...
45	Double " " ... ...
46	Double Angle Strips, 2½"×1" ...
47	" " " 2½"×1½" ...
47a	" " " 3"×1½" ...
48	" " " 1½"×½" ...
48a	" " " 2½"×1" ...
48b	" " " 3½"×½" ...
48c	" " " 4½"×½" ...
48d	" " " 5½"×½" ...
50a	Eye Pieces, with boss ... ...
51	Flanged Plates, 2½"×1½" ... ...
52	" " 5½"×2½" ... ...
52a	Flat Plates, 5½"×3½" ... ...
53	Perforated Flanged Plates, 3½"×2½"
53a	Flat Plates, 4½"×2½" ... ...
54a	Flanged Sector Plates, 4½" long ...
55	Perforated Strips, slotted, 5½" long
55a	" " " 2" "
57	Hooks ... ...
57a	" Scientific ... ...
57b	" Loaded, large ... ...
57c	" small ... ...
58	Spring Cord ... ...
58a	Coupling Screws for Spring Cord ...
58b	Hooks for Spring Cord ... ...
59	Collars with Grub Screws ... ...
61	Windmill Sails ... ...
62	Cranks ... ...
62a	Threaded Cranks ... ...
62b	Double Arm Cranks ... ...
63	Couplings ... ...
63a	Octagonal Couplings ... ...
63b	Strip Couplings ... ...
63c	Threaded Couplings ... ...
64	" Bosses ... ...
65	Centre Forks ... ...
66	Weights, 50 grammes ... ...
67	" 25 " ... ...
68	Woodscrews, ½" ... ...
69	Set Screws ... ...
69a	Grub Screws, 5/32" ... ...
69b	" " 7/32" ... ...
70	Flat Plates, 5½"×2½" ... ...
72	" " 2½"×2½" ... ...
73	" " 3"×1½" ... ...
76	Triangular Plates, 2½" ... ...
77	" " 1" ... ...
78	Screwed Rods, 11½" ... ...

No.	Description.
79	Screwed Rods, 8" ... ...
79a	" " 6" ... ...
80	" " 5" ... ...
80a	" " 3½" ... ...
80b	" " 4" ... ...
81	" " 2" ... ...
82	" " 1" ... ...
89	5½" Curved Strips, 10" radius ...
89a	3" " " cranked, 1¾" radius, 4 to circle ... ...
89b	4" Curved Strips, cranked, 4½" radius, 8 to circle ... ...
90	2½" Curved Strips, 2⅜" radius ...
90a	2½" " " cranked, 1⅜" radius, 4 to circle ... ...
94	Sprocket Chain, 40" lengths ... ...
95	" Wheels, 36 teeth, 2" diam.
95a	" " 28 " 1½" "
95b	" " 56 " 3" "
96	" " 18 " 1" "
96a	" " 14 " ¾" "
97	Braced Girders, 3½" long ... ...
97a	" " 3" " ... ...
98	" " 2½" " ... ...
99	" " 12½" " ... ...
99a	" " 9½" " ... ...
99b	" " 7½" " ... ...
100	" " 5½" " ... ...
100a	" " 4½" " ... ...
101	Healds, for looms ... ...
102	Single Bent Strips ... ...
103	Flat Girders, 5½" long ... ...
103a	" " 9½" " ... ...
103b	" " 12½" " ... ...
103c	" " 4½" " ... ...
103d	" " 3½" " ... ...
103e	" " 3" " ... ...
103f	" " 2½" " ... ...
103g	" " 2" " ... ...
103h	" " 1½" " ... ...
103k	" " 7½" " ... ...
104	Shuttles, for looms ... ...
105	Reed Hooks, for looms ... ...
106	Wood Rollers ... ...
106a	Sand Rollers ... ...
107	Tables for designing machines ...
108	Architraves ... ...
109	Face Plates, 2½" diam. ... ...
110	Rack Strips, 3½" ... ...
110a	" " 6½" ... ...
111	Bolts, ¾" ... ...
111a	" ⅝" ... ...
111c	" ½" ... ...
113	Girder Frames ... ...
114	Hinges... ... ...
115	Threaded Pins ... ...
116	Fork Pieces, large ... ...
116a	" " small ... ...
117	Steel Balls, ⅜" diam. ... ...
118	Hub Discs, 5½" ... ...
120	Buffers ... ...
120a	Spring Buffers ... ...
120b	Compression Springs ... ...
121	Train Couplings ... ...
122	Miniature Loaded Sacks ... ...
123	Cone Pulley ... ...

No.	Description.
124	Reversed Angle Brackets, 1" ...
125	" " " ½" ...
126	Trunnions ... ...
126a	Flat Trunnions ... ...
127	Simple Bell Cranks ... ...
128	Boss Bell Cranks ... ...
129	Rack Segments, 3" diam. ... ...
130	Eccentrics, Triple Throw ... ...
131	Dredger Buckets ... ...
132	Flywheels, 2¾" diam. ... ...
133	Corner Brackets, 1½" ... ...
133a	" " 1" ... ...
134	Crank Shanks, 1" stroke ... ...
135	Theodolite Protractors ... ...
136	Handrail Supports ... ...
136a	" Coup'lings ... ...
137	Wheel Flanges ... ...
138	Ships' Funnels ... ...
*138a-z	" " Raked ... ...
139	Flanged Brackets (right) ... ...
139a	" " (left) ... ...
140	Universal Couplings ... ...
141	Wire Lines (for suspending clock weights) ... ...
142	Rubber Rings, 3" rim ... ...
142a	Motor Tyres (to fit 2" diam. rims)
142b	" " " 3" " "
142c	" " " 1" " "
142d	" " " 1½" " "
143	Circular Girders, 5½" diam. ... ...
144	Dog Clutches ... ...
145	Circular Strips, 7½" diam overall ...
146	" Plates, 6" " " ...
146a	" " 4" " " ...
147	Pawls, with Pivot Bolt and nuts ...
147a	Pawls ... ...
147b	Pivot Bolts with 2 nuts ... ...
147c	Pawls without boss ... ...
148	Ratchet Wheels ... ...
149	Collecting Shoes for Electric Locos
150	Crane Grabs ... ...
151	Pulley Blocks, Single Sheave ... ...
152	" " Two " ... ...
153	" " Three " ... ...
154a	Corner Angle Brackets, ½" (right hand) ... ...
154b	Corner Angle Brackets, ½" (left hand)
155	Rubber Rings (for 1" Pulleys)
156	Pointers (with boss), 2½" overall ...
157	Fans, 2" diam. ... ...
158a	Signal Arms, Home ... ...
158b	" " Distant ... ...
160	Channel Bearings, 1½"×1"×½" ...
161	Girder Brackets, 2"×1"×½" ...
162	Boilers, complete with ends ... ...
162a	" ends ... ...
162b	" without ends ... ...
163	Sleeve Pieces ... ...
164	Chimney Adaptors ... ...
165	Swivel Bearings ... ...
166	End " ... ...
167	Geared Roller Bearings ... ...
167a	Roller Races, geared, 192 teeth ...
167b	Ring Frames for Rollers ... ...
167c	Pinions for Roller Bearings, 16 teeth
168	Ball Bearings, 4" diam. ... ...

No.	Description.
168a	Ball Races, flanged disc ... ...
168b	" " toothed " ... ...
168c	" Casing, complete with balls ...
169	Digger Buckets ... ...
170	Eccentrics, ½" throw ... ...
171	Socket Couplings ... ...
172	Pendulum Connections ... ...
173	Rail Adaptors ... ...
174	Grease Cups ... ...
175	Flexible Coupling Units ... ...
176	Anchoring Springs for Cord ... ...
177	Shafting Standards, large ... ...
178	" " small ... ...
179	Rod Sockets ... ...
180	Toothed Gear Rings, 3½" diam. (133 external teeth ; 95 internal teeth) ... ...
181	Bobbins ... ...
182	Insulating Bushes, 6BA ... ...
182a	Insulating Washers, 6BA ... ...
183	Lamp Holders ... ...
184a	Lamps, 2½ volt ... ...
184b	" 3½ " ... ...
184c	" 6 " ... ...
184d	" 10 " ... ...
184e	" 20 " ... ...
185	Steering Wheels, 1¾" diam ... ...
186	Driving Bands ... ...
187	Road Wheels ... ...
188	Flexible Plates, 2½"×1½" ... ...
189	" " 5½"×1½" ... ...
190	" " 2½"×2½" ... ...
191	" " 4½"×2½" ... ...
192	" " 5½"×2½" ... ...
193	Strip Plates, 2½"×2½" ... ...
194	" " 3½"×2½" ... ...
195	" " 5½"×2½" ... ...
196	" " 9½"×2½" ... ...
197	" " 12½"×2½" ... ...
198	Hinged Flat Plates, 4½"×2½" ...
199	Curved Plates, U Section 9/32" radius
200	" " 1 11/16" radius ... ...
201	Lamps with Flex ... ...
202	Angle Brackets (for Headlamps) ...
203	Headlamps ... ...
203a	Headlamp Rims ... ...
203b	Headlamp Bodies ... ...
204	Headlamp Nuts ... ...
205	" Glasses (Green, Plain or Red) ... ...
206	Lampshades ... ...
207	Lamp Bases ... ...
207a	Lamps with Standard and Flex ...
208	Battery Tags and Studs ... ...
208a	Washers for Battery Studs ... ...
210	Nuts " " " ... ...
211a	Helical Gears ½" (Can only be used together)
211b	" " 1½"

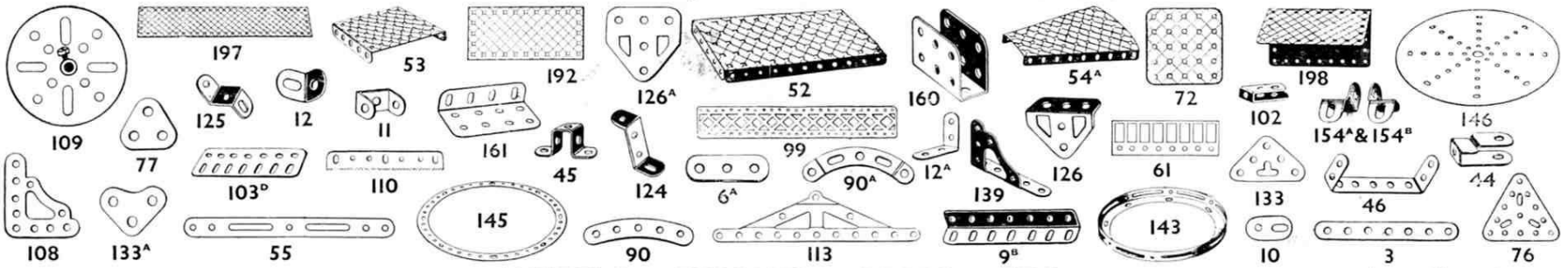
* * *

* The series includes 26 Funnels in the correct designs and colours of leading shipping companies.

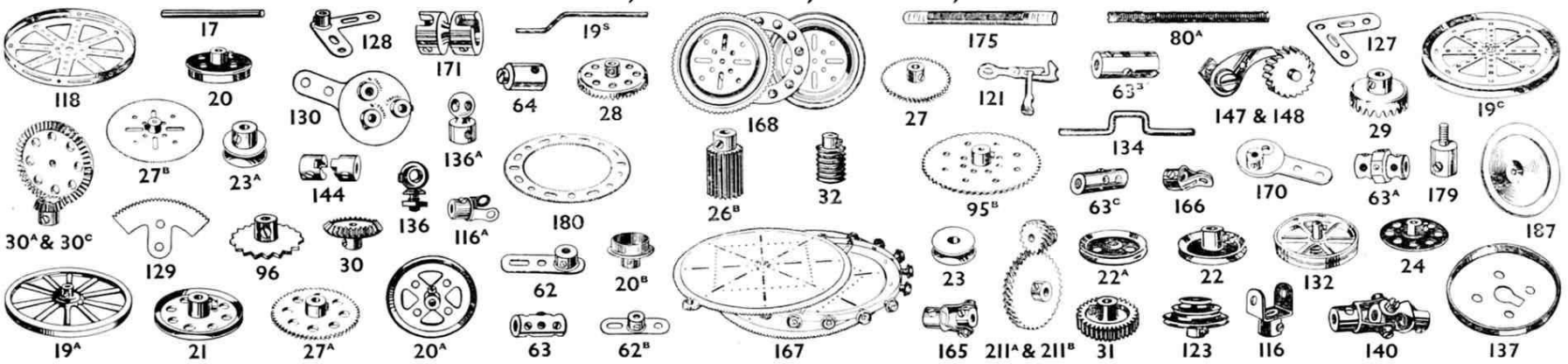
Your Dealer will be pleased to provide you with a complete Price List.

MECCANO PARTS & ACCESSORIES

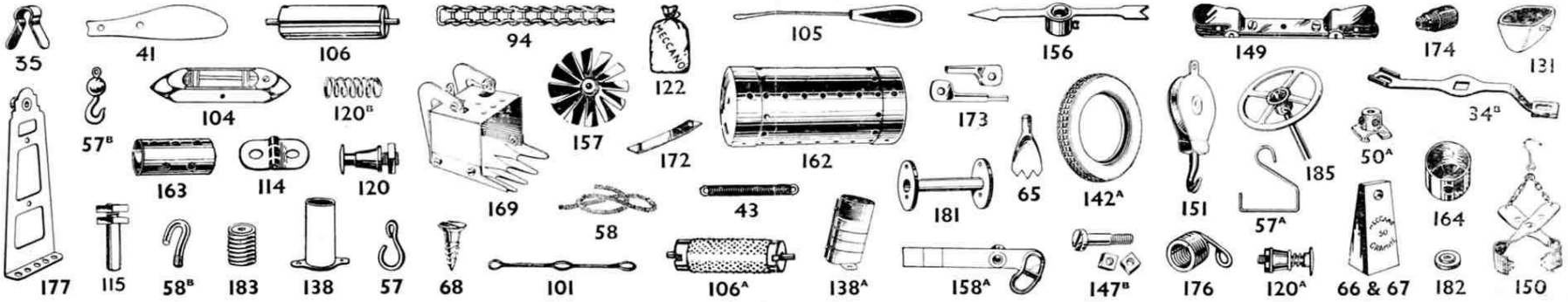
PLATES, STRIPS, GIRDERS & BRACKETS



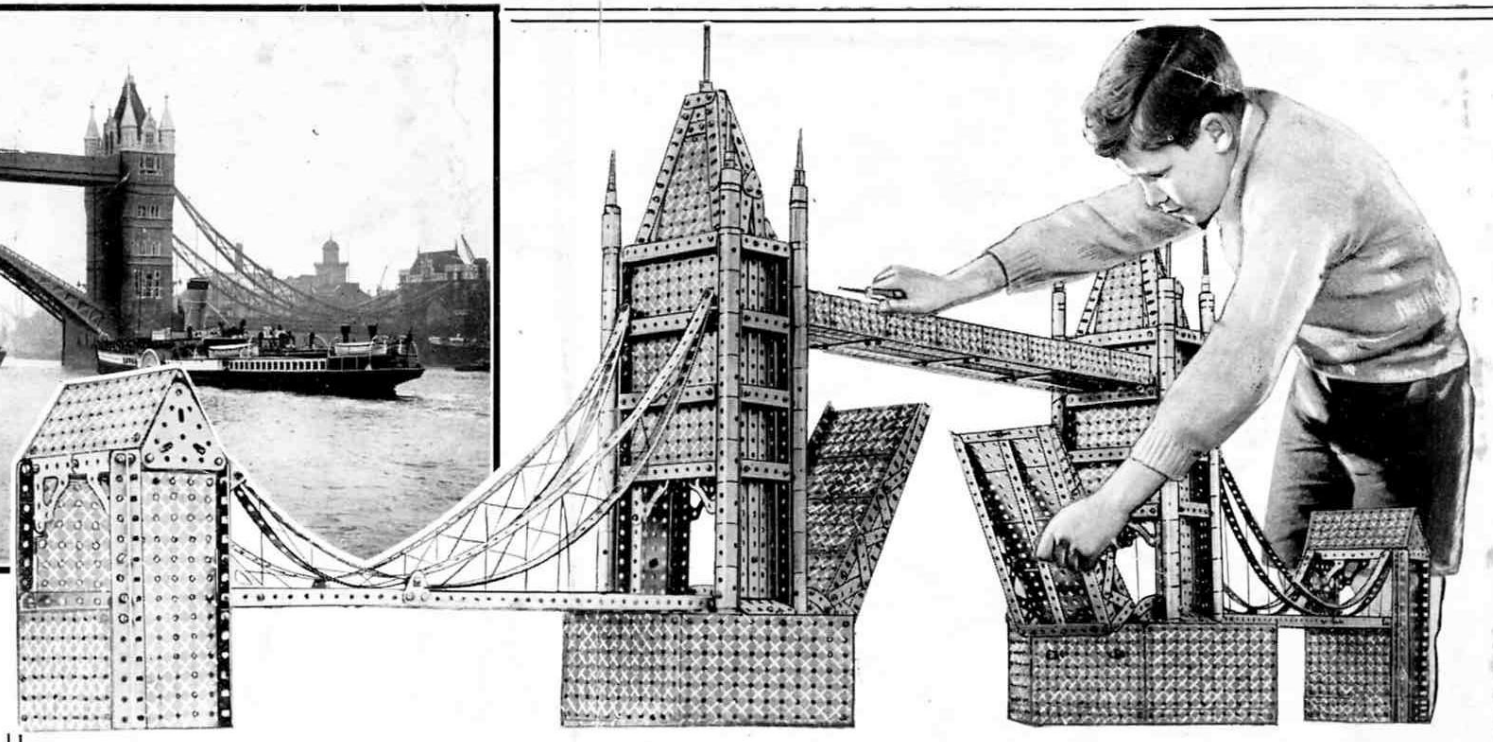
WHEELS, PULLEYS, GEARS, ETC.



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

IT 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

Printed in England