

MECCANO



(TRADE MARK REG. U.S. PAT. OFF.)

EASIEST MODEL BUILDING.—YOU JUST COUNT THE HOLES

INSTRUCTIONS

FOR OUTFITS

0 to 40

Price 50 Cents

MECCANO COMPANY
INCORPORATED

AMERICAN EDITION

MECCANO INSTRUCTIONS
ARE PRINTED IN 16
LANGUAGES

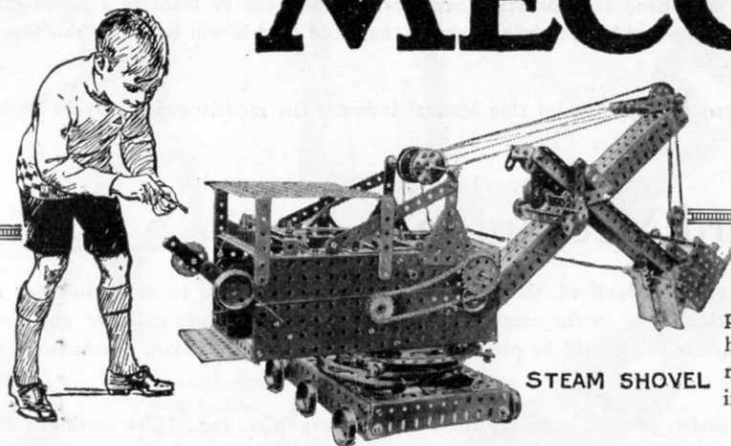
ELIZABETH, NEW JERSEY

NOV 27 1929

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MECCANO

THE TOY THAT MADE
ENGINEERING FAMOUS



Meccano was invented more than 30 years ago by Frank Hornby, the great pioneer in constructional toys. The idea was a big one, but even he didn't know how big it was destined to become. *He had discovered the only way to build reproductions of all engineering and mechanical wonders in a true engineering way.*

For every one boy who plays with any other constructional toy, over 1,000 play with Meccano. Altogether many millions of boys are playing with Meccano

while you are reading this, and they speak all languages and live in every clime and country.

This Instruction Manual you are reading now is published for no less than 20 different countries, and in each case is printed in the particular language that is spoken in these countries. In addition to the English language, there are Manuals for the Argentine, Spain, France, Belgium, Luxemburg, Switzerland, Germany, Holland, Norway, Sweden, Denmark, Italy, Brazil, Portugal, and last but not least, China.

If a copy in any of these languages interests you, send 50 cents along to us and you shall have it. Over 250 tons of paper are required every year to print one edition only and if one year's edition of Manuals was placed end to end they would extend for 125 miles; placed one on top of the other they would form a gigantic pile over 2 miles in height—over 14 times as high as the Woolworth Building.

If in Doubt Write to Meccano Company, Inc.

We invite you to make full use of the Meccano service. When you want to know something more about engineering than is now shown in our books, when you strike a tough problem of any kind, write to us. We receive from boys over 200 letters every day all the year round. Some write to us because they are in difficulty, others because they want advice on their work or pleasures, or about their choice of a career. Others, again, write to us just because they like to—and we are glad to know that they regard us as their friends.

Although all kinds of queries are put up to us on all manner of subjects, the main interest is, of course, engineering. On this subject we claim to be supreme, and no one has such a wonderful knowledge of engineering matters as is possessed by our staff of experts. This vast store of knowledge gained only by many years of hard-earned experience, is at your service. Our experts will help you all they can, and be glad to do it!

The Meccano boy of today will be the famous engineer of tomorrow. There never was a time when there were so many opportunities for clever engineers, and never until now have boys had this marvelous opportunity of learning engineering secrets so quickly.



Front Cover of
Meccano Manual
in Chinese

How to Begin

Make the simple models first—there's loads of fun in them—and then try your hand at improving them. Every model can be made in a dozen different ways, and you may be the lucky one and discover a thirteenth! Screw up all the nuts and bolts tightly to ensure that your models will be strong and firm when they are completed.

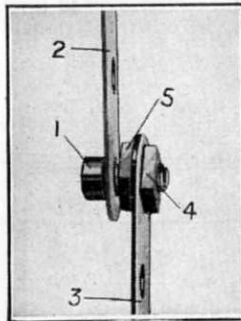
All the models shown in this Manual are numbered and for reference purposes the last page of this Manual indicates the models which may be built with each outfit.

Meccano Standard Mechanisms

There are a number of Meccano movements that have to a certain extent become standardized, that is to say they may be applied to more than one model, in most cases without any alteration, but in some few instances with only slight alterations to the original movement. These have been collected and classified, and may be obtained in the form of a Manual entitled "Meccano Standard Mechanisms." It will be observed that many of these Standard Mechanisms are referred to in the instructions for building the more intricate models in this book.

You may obtain a copy of the "Standard Mechanism Manual" from your dealer, price 50 cents, or direct from Meccano Co., Inc., 1004 Elizabeth Avenue, Elizabeth, New Jersey, price 50 cents postpaid.

Simple Meccano Pivots



S. M. 262

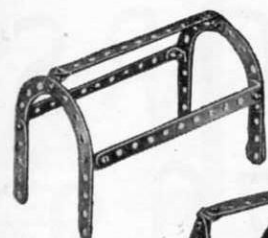
In building Meccano models it is frequently required to attach two parts together so that one or both are quite free to swivel. A simple way to do this is shown under detail number 262 in the Meccano Standard Mechanisms Manual, and for the benefit of those readers who are unable to consult the special Manual, we have reproduced this detail here. As will be seen, it consists of a simple type of pivot or swivel bearing formed by a bolt and two nuts. The bolt is secured rigidly to a Strip or Plate, etc., by means of the nuts, which are screwed tightly against opposite sides of the Strip, sufficient space being left beneath the head of the bolt to permit another Strip to turn freely about its shank.

A somewhat similar form of swivel-joint, also widely used, consists of a bolt and lock-nuts (S.M. 263). The two Strips to be connected pivotally are placed on the bolt and held in position by two nuts locked together on the shank. The Strips must be allowed a certain amount of play so that they can pivot independently about the bolt. These pivoting devices will be found equally valuable in the simplest and the most elaborate models.

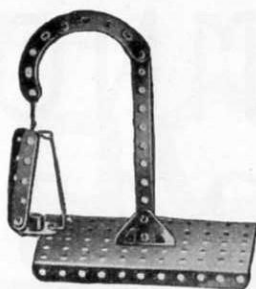


See last page of this Manual for list of models built with your outfit.

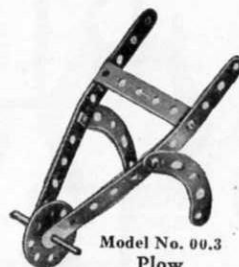
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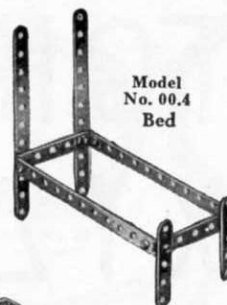
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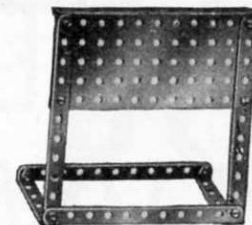
Model No. 00.2
Bird Cage and Stand



Model No. 00.3
Plow



Model
No. 00.4
Bed



Model No. 00.6
Top

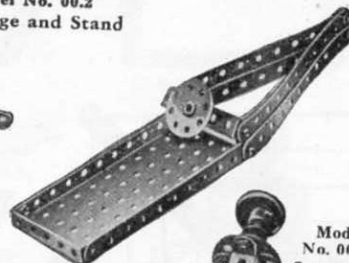
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Target Stand



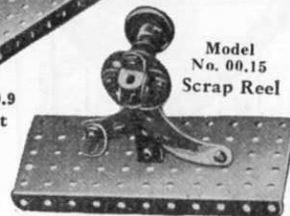
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Step Ladder



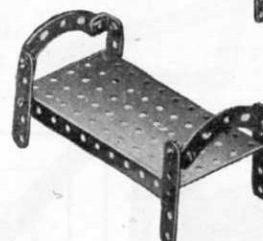
Model No. 00.8
Piano Stool



Model No. 00.9
Motor Boat



Model
No. 00.15
Scrap Reel



Model
No. 00.10
Crib

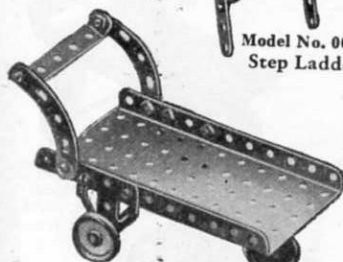
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Gravel Sifter



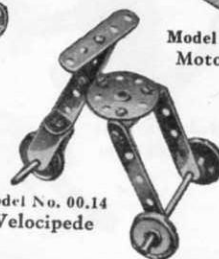
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Farm Sight



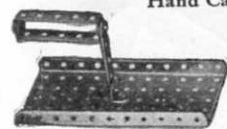
Model
No. 00.12
Auger



Model No. 00.13
Hand Cart



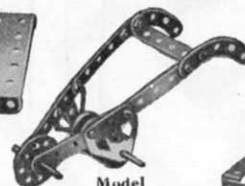
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Velocipede



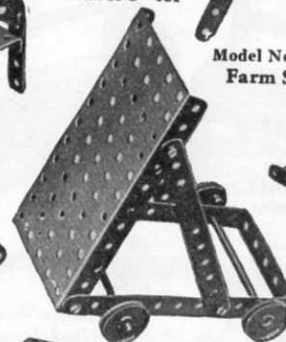
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Mason's Trowel



Model
No. 00.22
Book End



Model
No. 00.16
Harrow



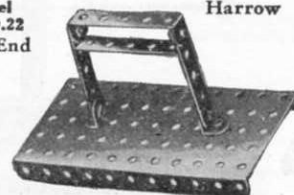
Model No. 00.18
Plasterer's Hawk



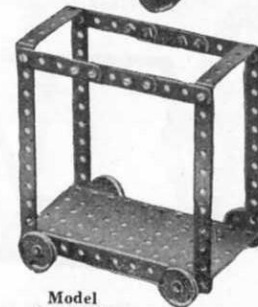
Model No. 00.20
Timber Wagon



Model No. 00.21
Telegraph Key



Model No. 00.23
Cement Marker



Model
No. 00.24
Tray



Model
No. 00.25
Umbrella Stand

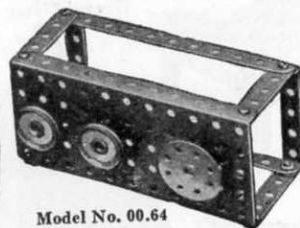
See last page of this Manual for list of models built with your outfit.

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Model
Nos. 00.26 to 00.62



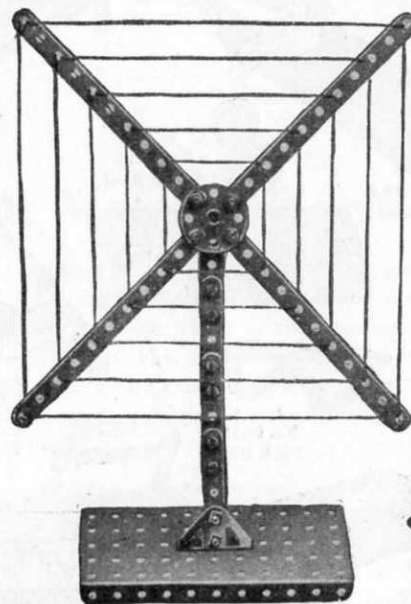
Model
No. 00.63
Bench



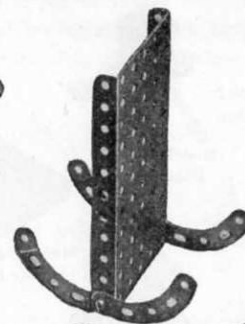
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Radio Set



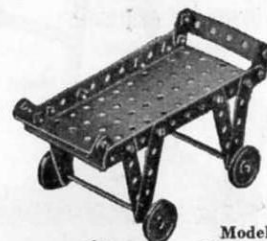
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Headphones



Model No. 00.72
Indoor Aerial



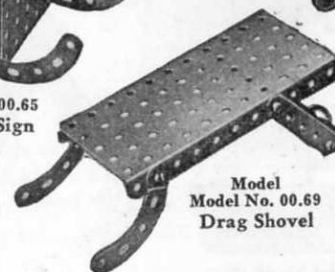
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Rocking Sign



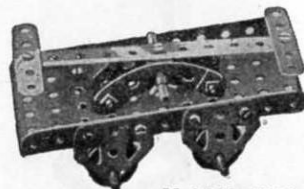
Model
No. 00.66
Tea Wagon



No. 00.67
Table



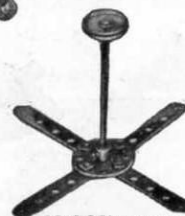
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Drag Shovel



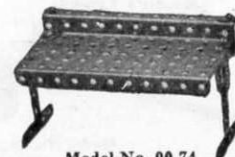
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Hand Car



Model No. 00.71
Pen Holder



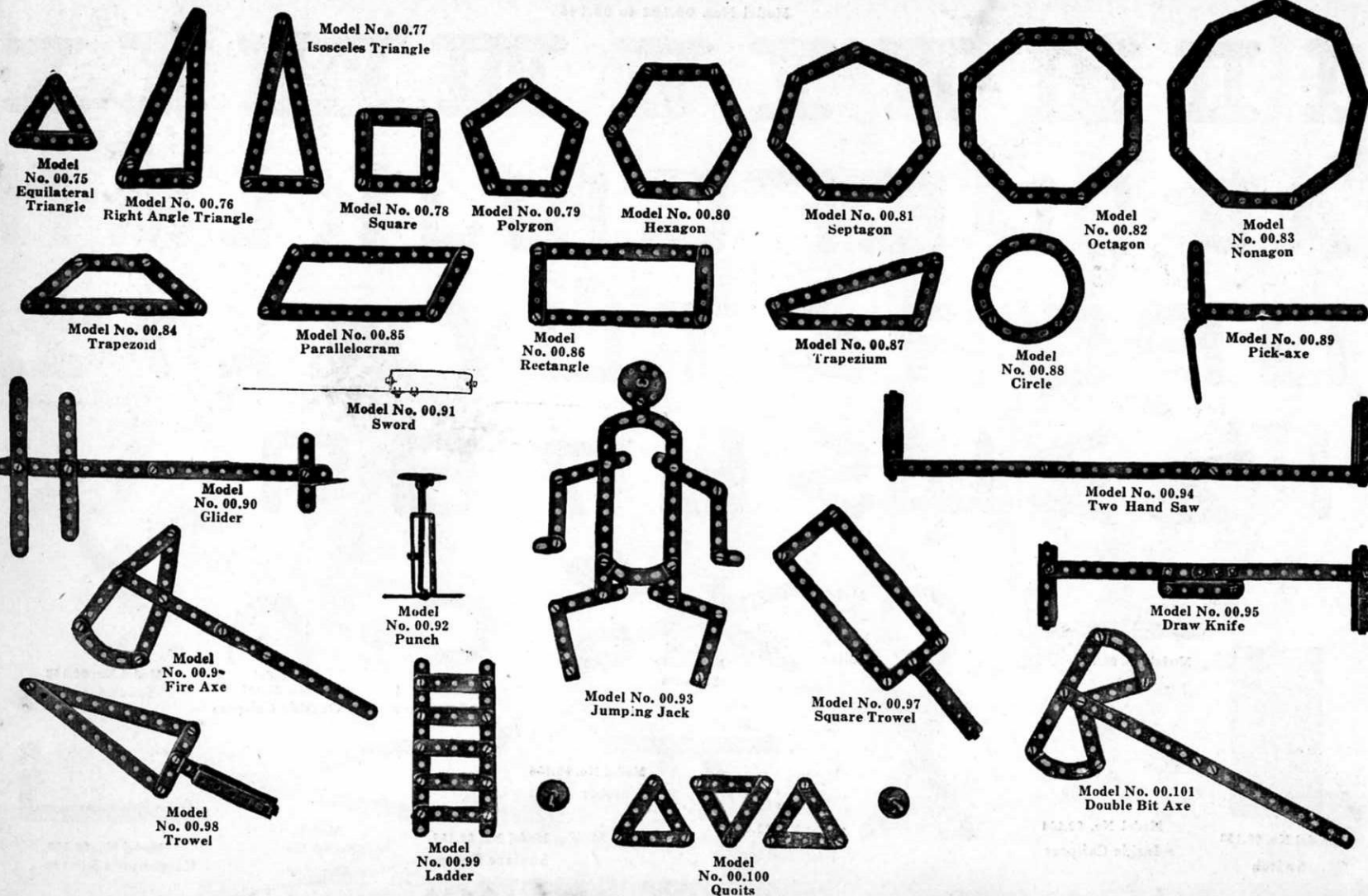
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Ceiling Fan



Model No. 00.74
Desk

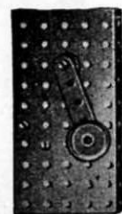
See last page of this Manual for list of models built with your outfit.

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See last page of this Manual for list of models built with your outfit.

Model Nos. 00.102 to 00.146



Model No. 00.153
Switch



Model No. 00.147
Rake



Model No. 00.154
Inside Calipers



Model
No. 00.148
Horse
Collar



Model No. 00.155
Post Holder



Model
No. 00.149
Scissors



Model No. 00.156
Lumber Hook



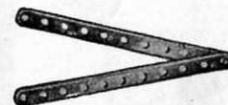
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Snowshoe



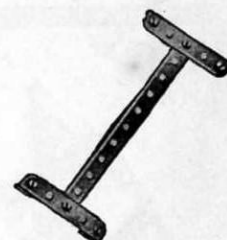
Model No. 00.157
Surface Gauge



Model
No. 00.151
Outside Calipers



Model
No. 00.158
Divider



Model No. 00.152
Track Gauge

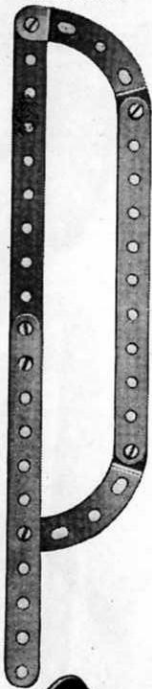


Model No. 00.159
Carpenter's Square

See last page of this Manual for list of models built with your outfit.

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Model
No. 00.160
Meat Saw



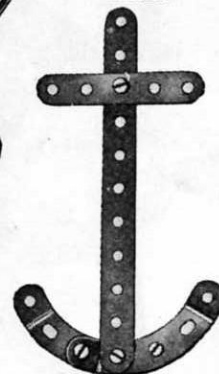
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Axe



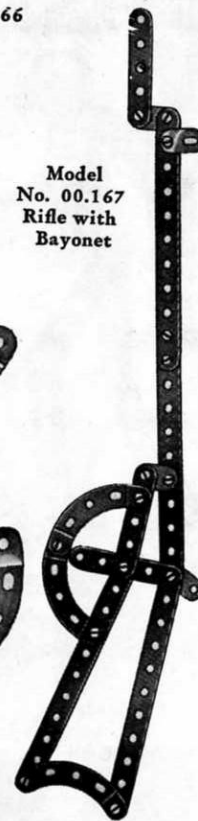
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Spade



Model No. 00.166
Anchor



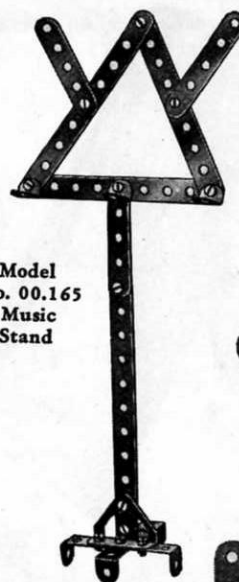
Model
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Rifle with
Bayonet



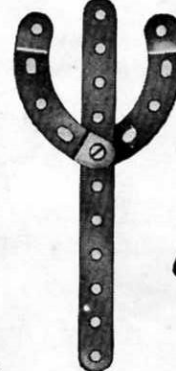
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Tennis
Racket



Model
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Music
Stand



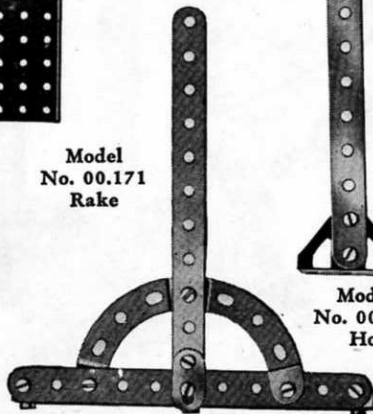
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Fork



Model
No. 00.169
Candle Shade



Model
No. 00.171
Rake



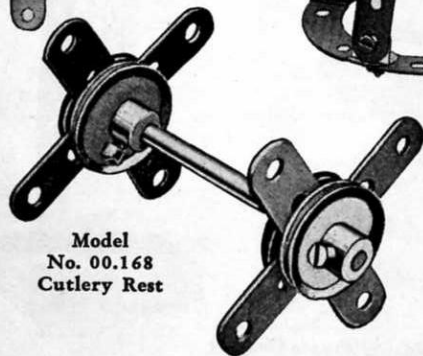
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Hoe



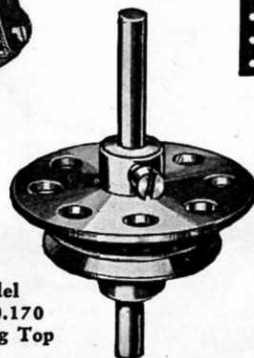
Model No. 00.174
Hanger
Coat



Model
No. 00.168
Cutlery Rest



Model
No. 00.170
Spinning Top

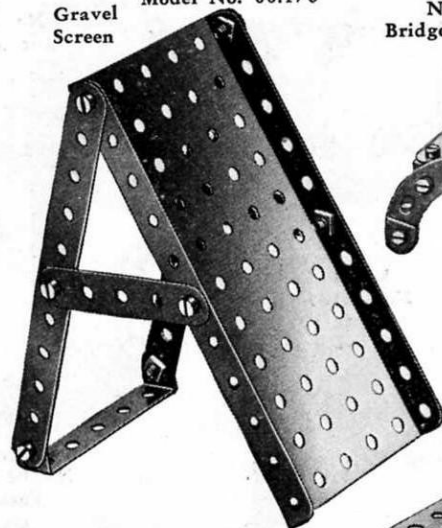


See last page of this Manual for list of models built with your outfit.

Model No. 00.175
Walking Man

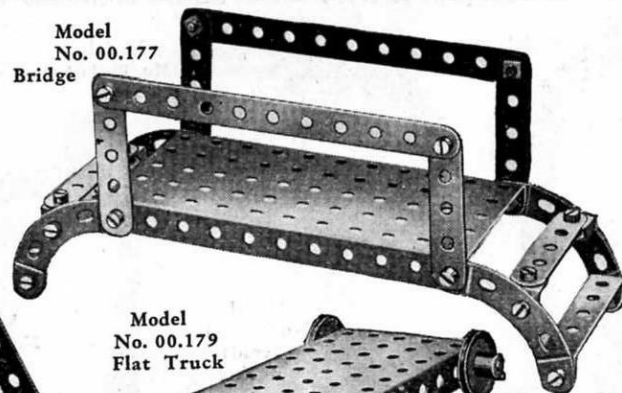


Gravel
Screen

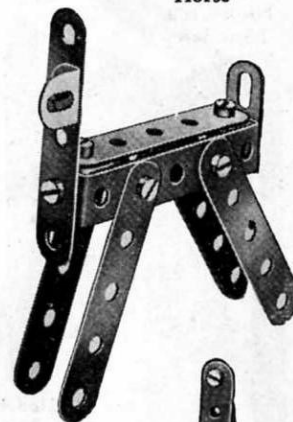


Model No. 00.176

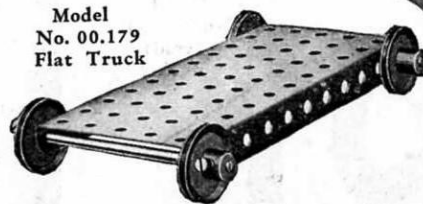
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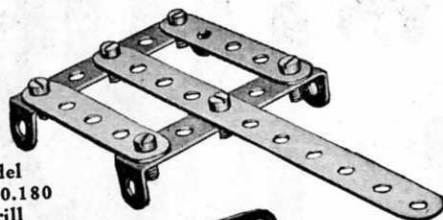
Model No. 00.178
Horse



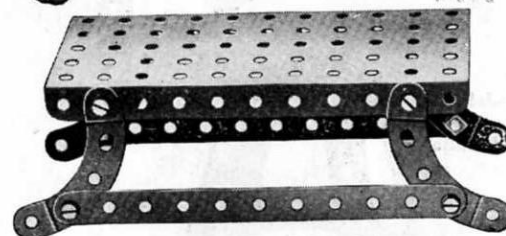
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Flat Truck



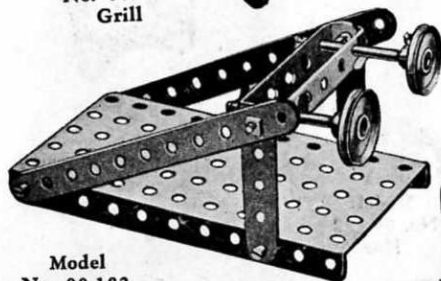
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Grill



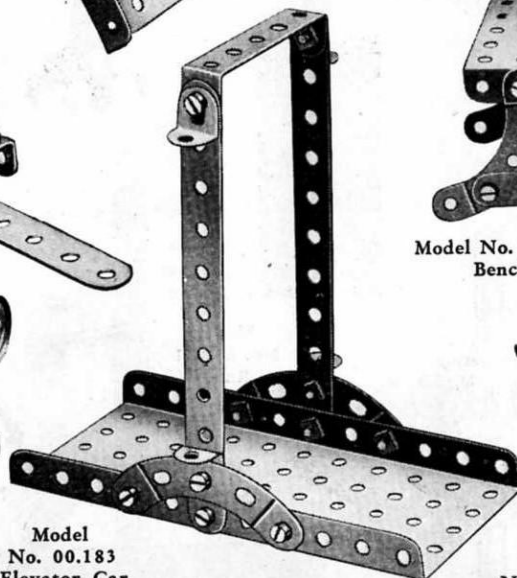
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Bench



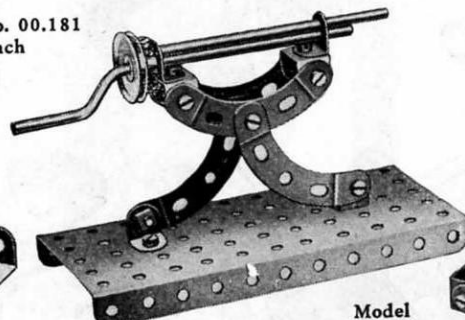
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Buffers



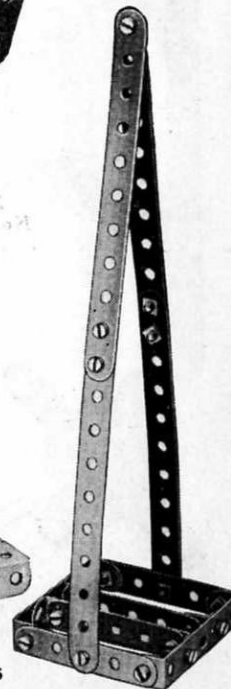
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No. 00.183
Elevator Car



Model
No. 00.184—Machine Gun



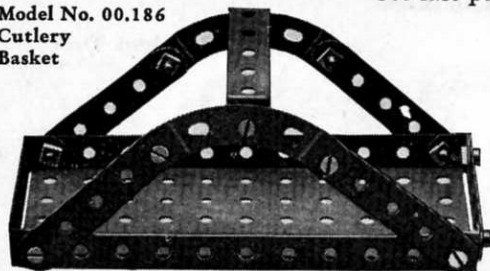
Model
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Potato Chopper



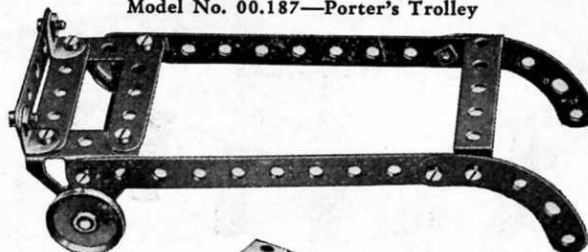
See last page of this Manual for list of models built with your outfit.

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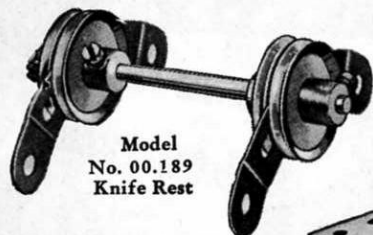
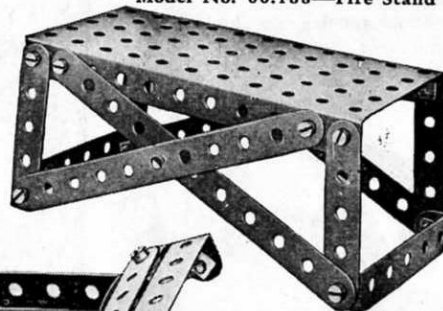
Model No. 00.186
Cutlery
Basket



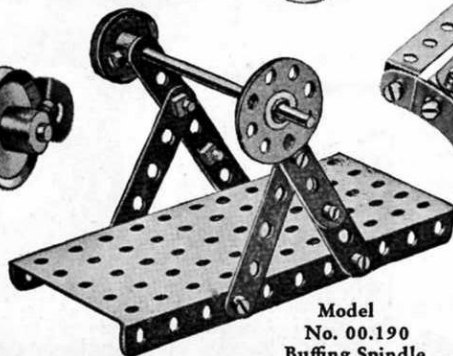
Model No. 00.187—Porter's Trolley



Model No. 00.188—Fire Stand

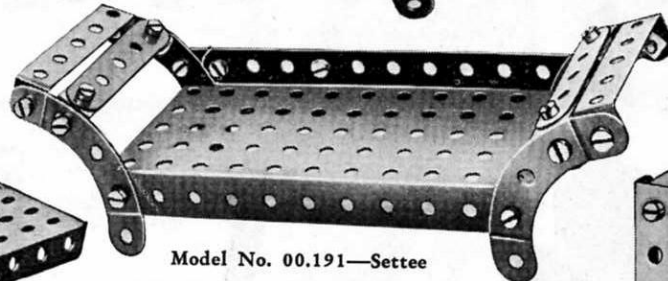


Model
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Knife Rest

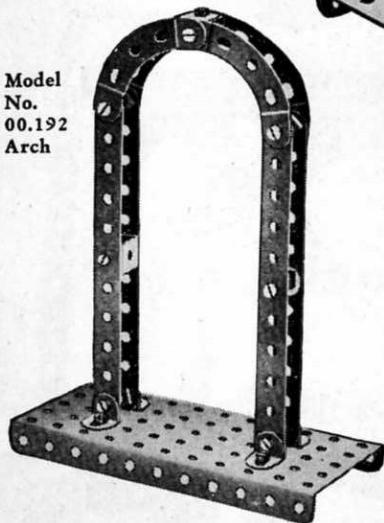


Model
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Buffing Spindle

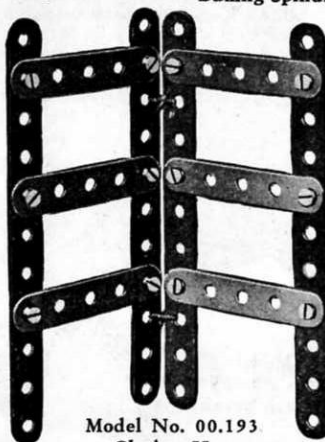
Model No. 00.191—Settee



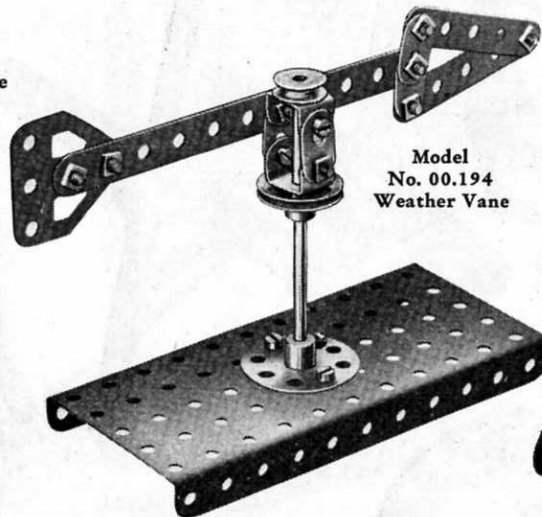
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00.192
Arch



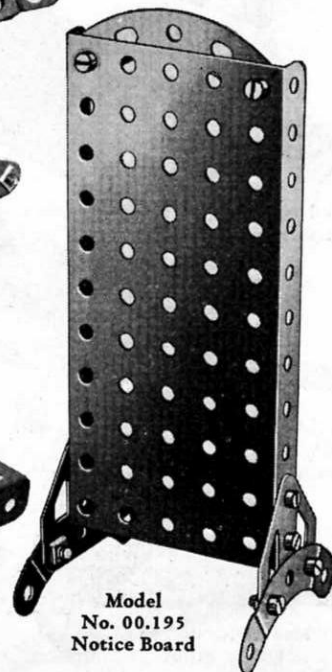
Model No. 00.193
Clothes Horse



Model
No. 00.194
Weather Vane



Model
No. 00.195
Notice Board



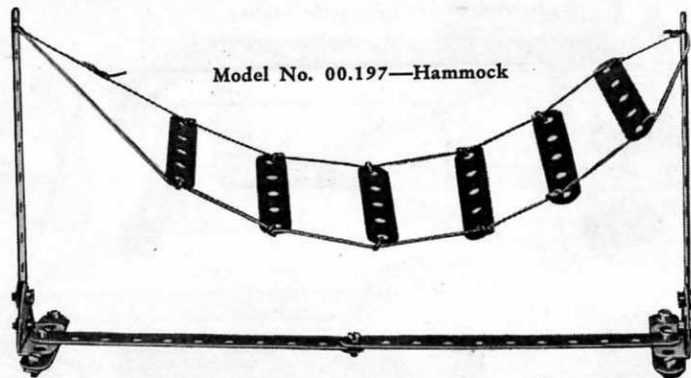
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See last page of this Manual for list of models built with your outfit.

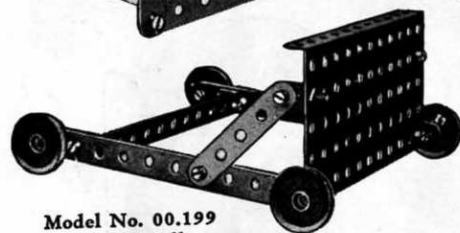
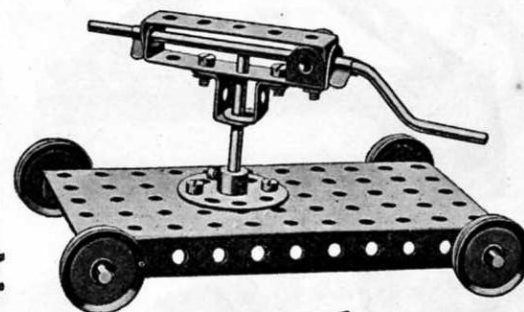
Model No. 00.196
Dog Kennel



Model No. 00.197—Hammock

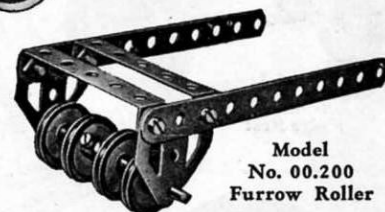


Model No. 00.198—Rock Drill

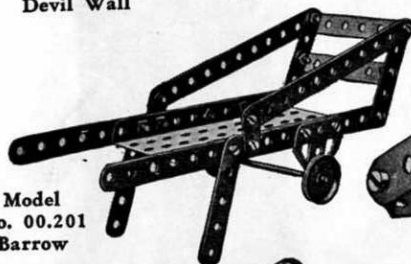


Model No. 00.199
Devil Wall

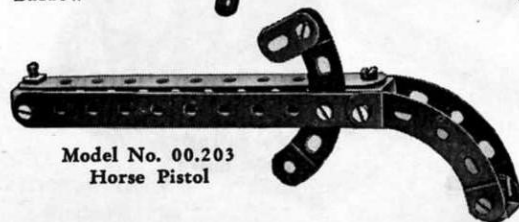
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Furrow Roller



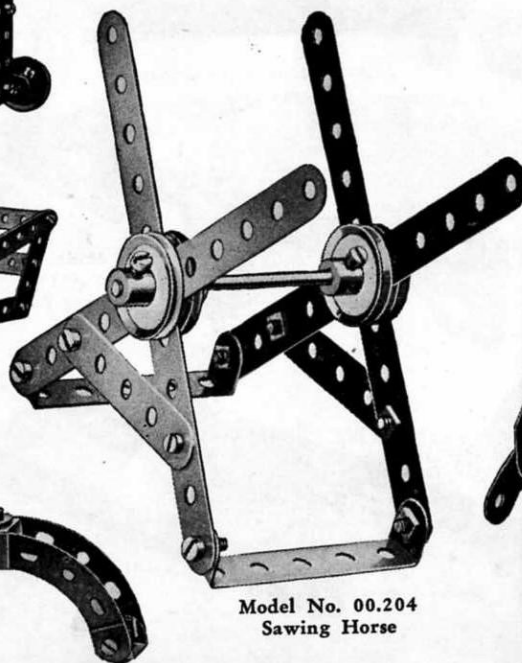
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Barrow



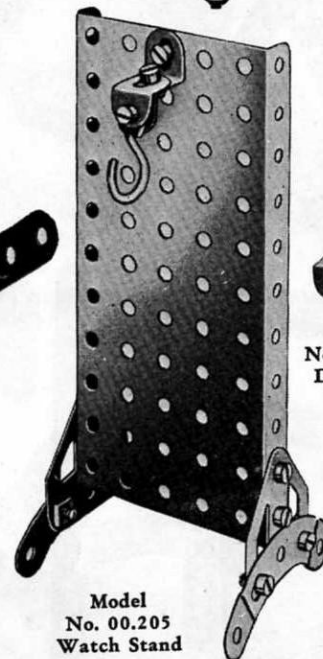
Model No. 00.203
Horse Pistol



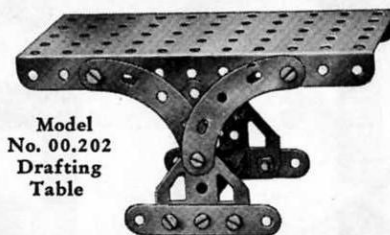
Model No. 00.204
Sawing Horse



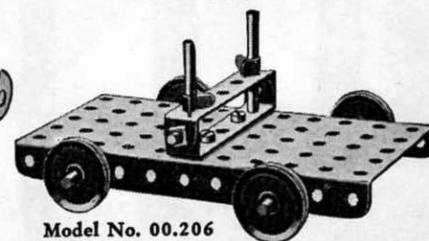
Model
No. 00.205
Watch Stand



Model
No. 00.202
Drafting
Table



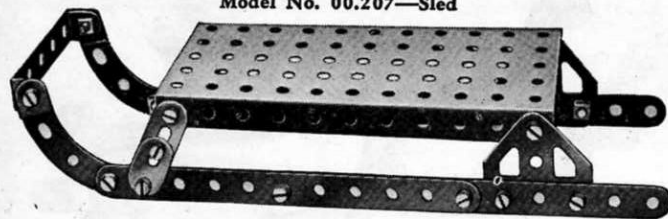
Model No. 00.206
Timber Truck



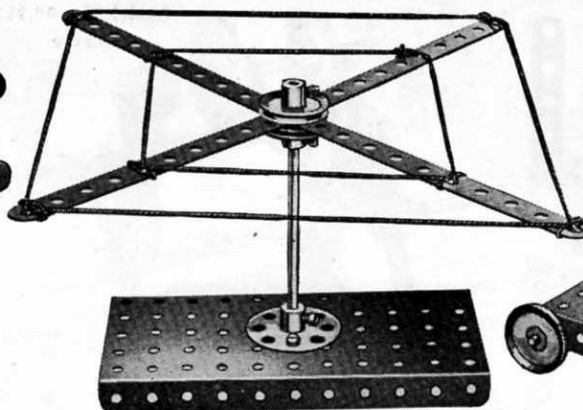
See last page of this Manual for list of models built with your outfit.

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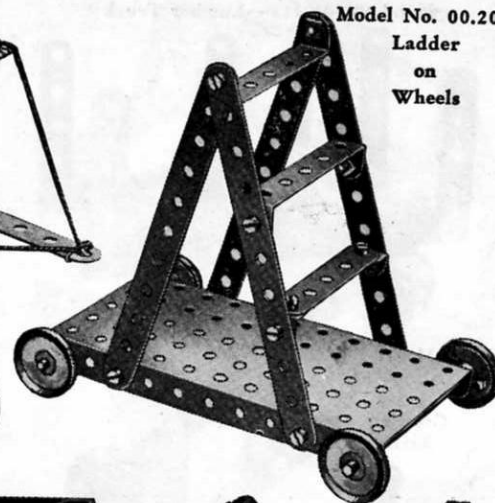
Model No. 00.207—Sled



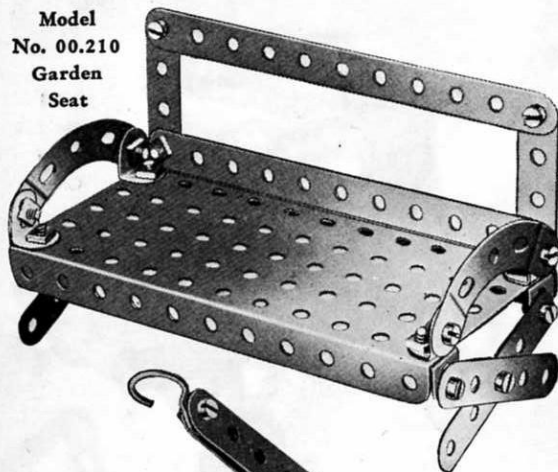
Model No. 00.208—Clothes Hanger



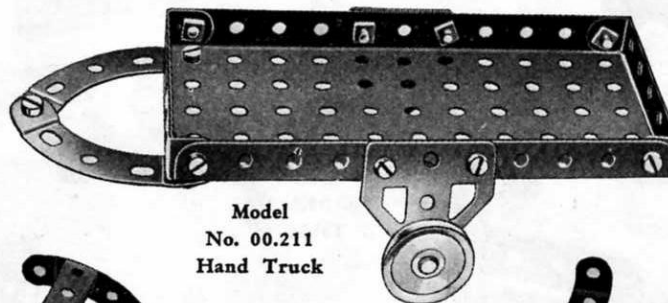
Model No. 00.209
Ladder
on
Wheels



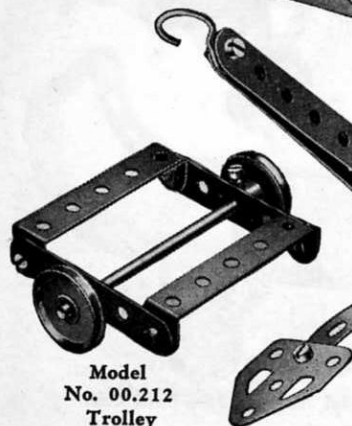
Model
No. 00.210
Garden
Seat



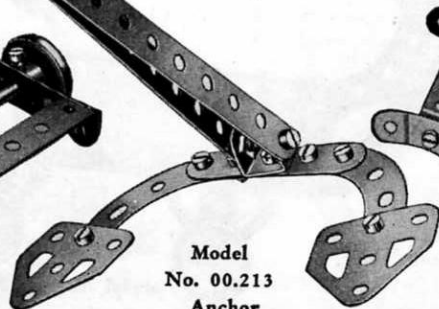
Model
No. 00.211
Hand Truck



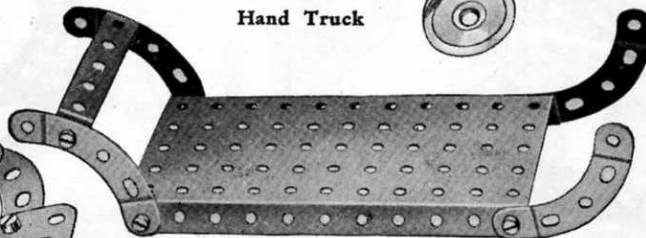
Model
No. 00.212
Trolley



Model
No. 00.213
Anchor



Model No. 00.214—Sled

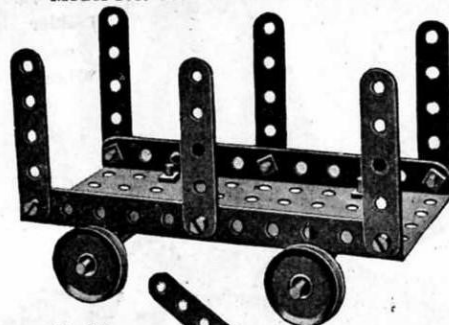


Model No. 00.215
Windmill

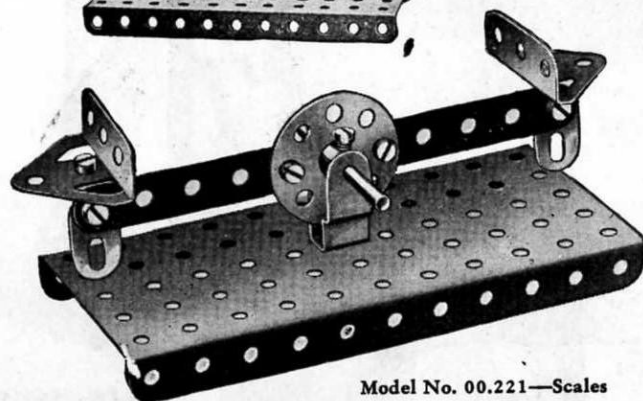
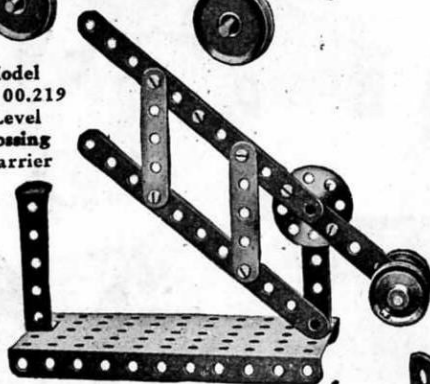


See last page of this Manual for list of models built with your outfit.

Model No. 00.216—Lumber Truck

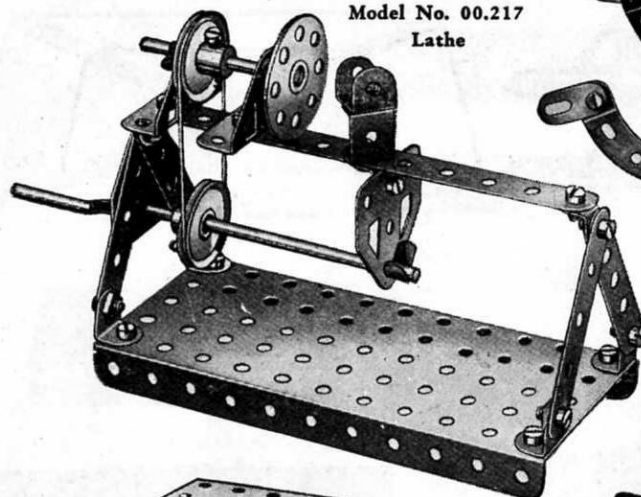


Model
No. 00.219
Level
Crossing
Barrier

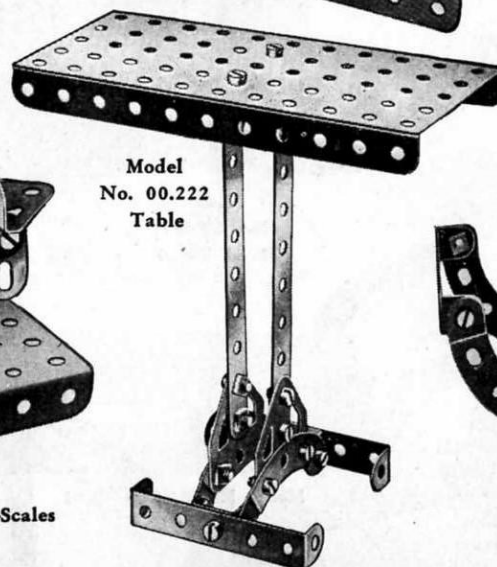


Model No. 00.221—Scales

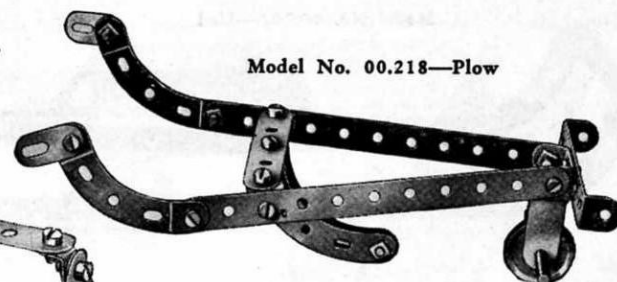
Model No. 00.217
Lathe



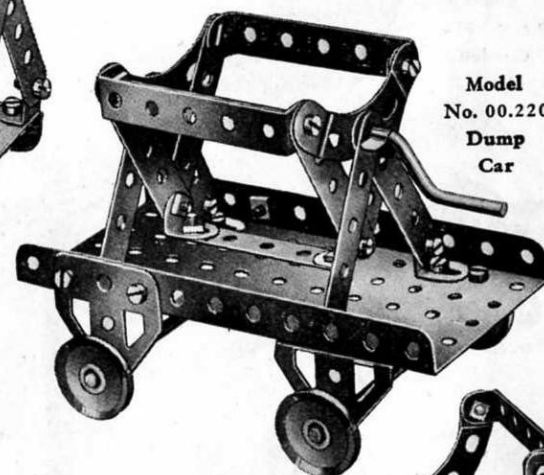
Model
No. 00.222
Table



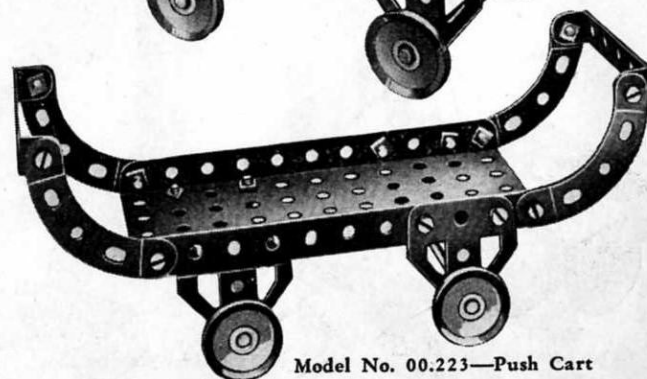
Model No. 00.218—Plow



Model
No. 00.220
Dump
Car



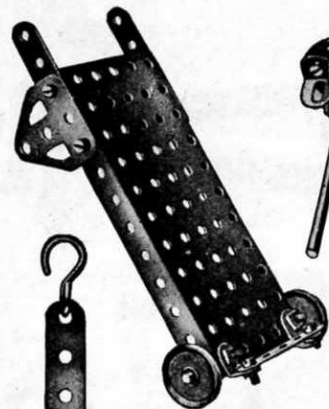
Model No. 00.223—Push Cart



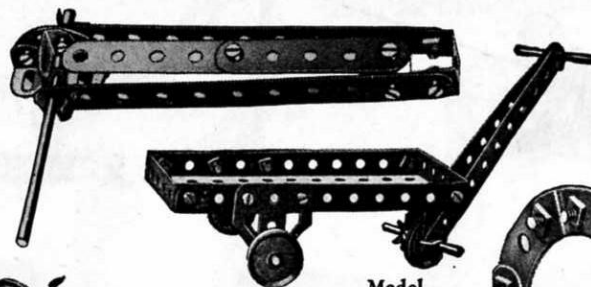
See last page of this Manual for list of models built with your outfit.

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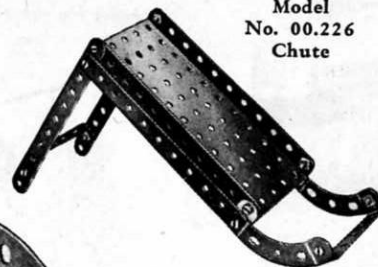
Model No. 00.224—Flat Truck



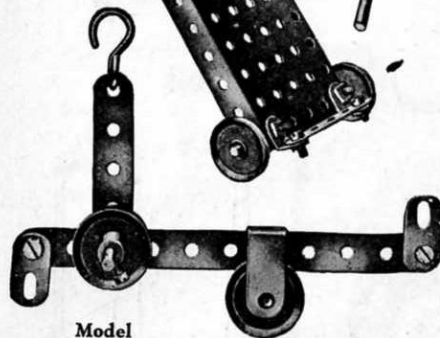
Model No. 00.225—Rattle



Model
No. 00.226
Chute

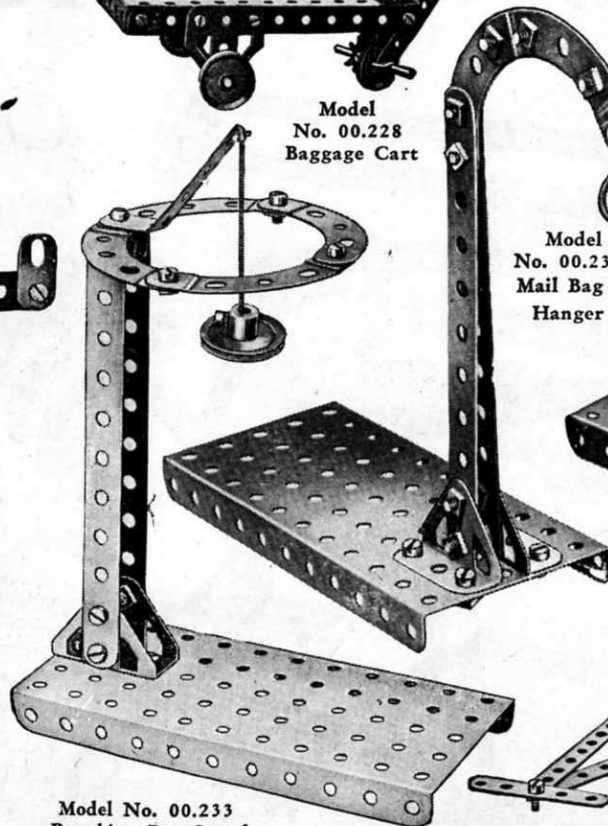


Model
No. 00.227
Revolving Office Chair

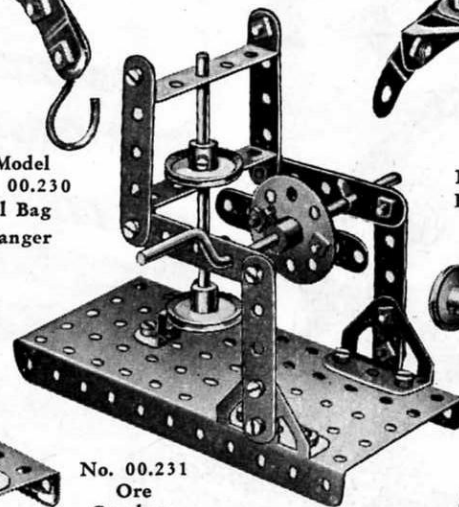


Model
No. 00.229
Roman Balance

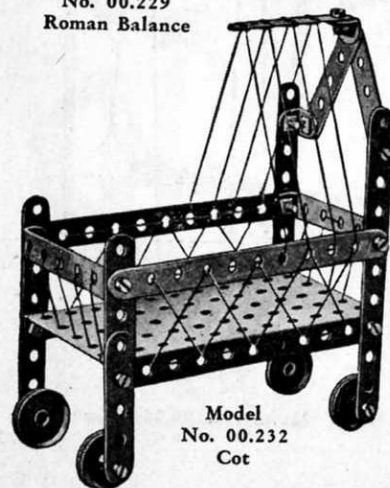
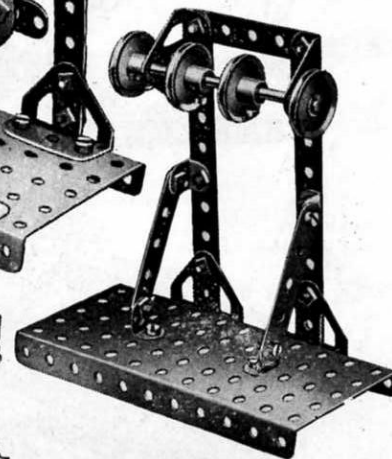
Model
No. 00.228
Baggage Cart



Model
No. 00.230
Mail Bag
Hanger

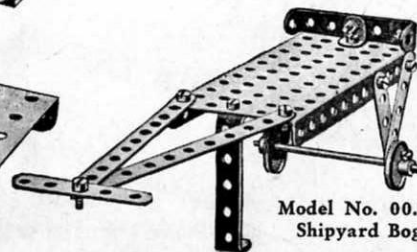


No. 00.231
Ore
Crusher



Model
No. 00.232
Cot

Model No. 00.233
Punching Bag Stand

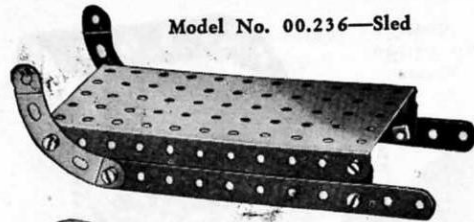


Model No. 00.234
Shipyards Bogie

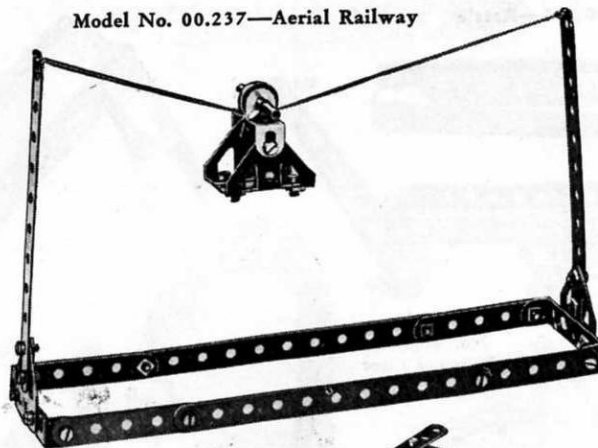
Model No. 00.235
Pulley Shafting

See last page of this Manual for list of models built with your outfit.

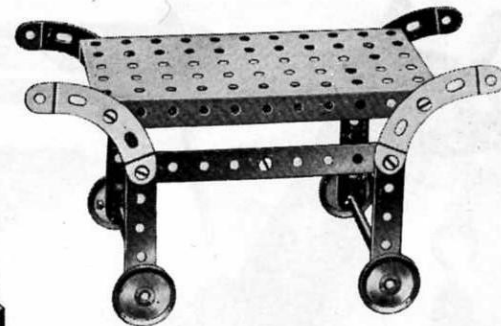
Model No. 00.236—Sled



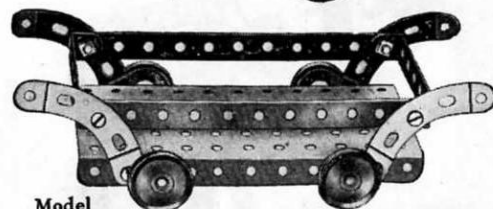
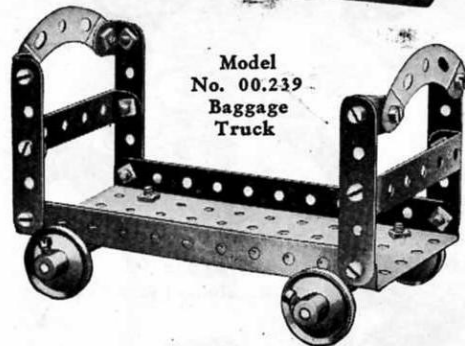
Model No. 00.237—Aerial Railway



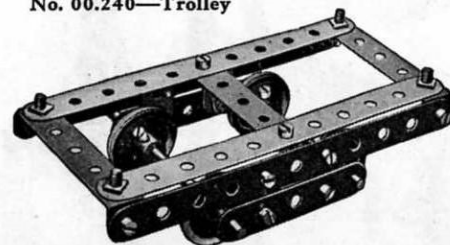
Model No. 00.238—Tea Wagon



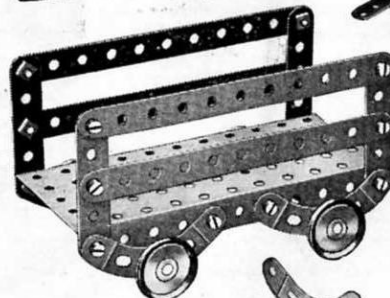
Model
No. 00.239—
Baggage
Truck



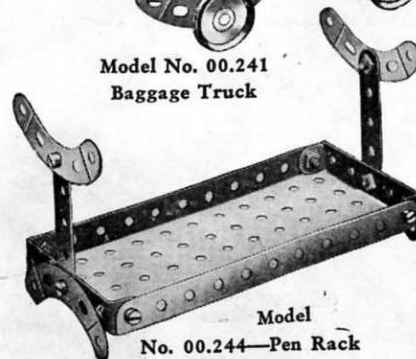
Model
No. 00.240—Trolley



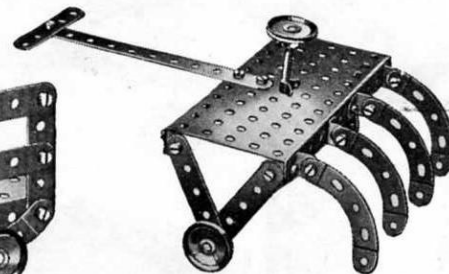
Model No. 00.243—Bogie Truck



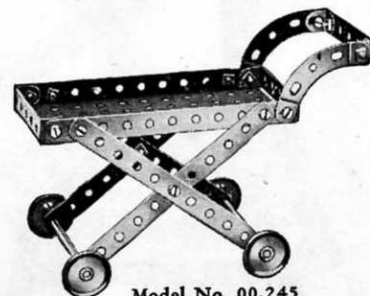
Model No. 00.241—
Baggage Truck



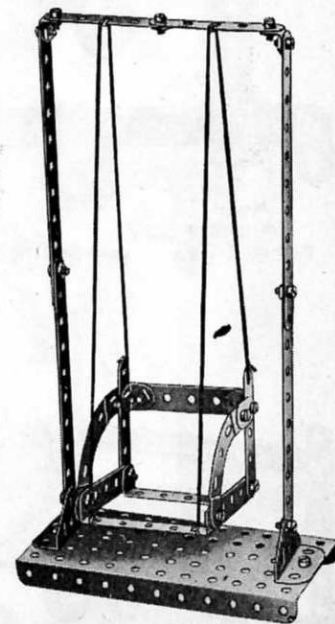
Model
No. 00.244—Pen Rack



Model No. 00.242—Horse Rack



Model No. 00.245—
Tea Wagon

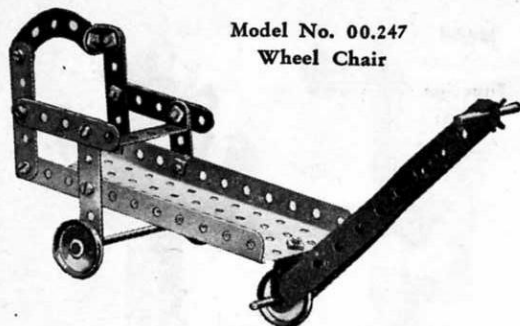


Model No. 00.246—Swing

See last page of this Manual for list of models built with your outfit.

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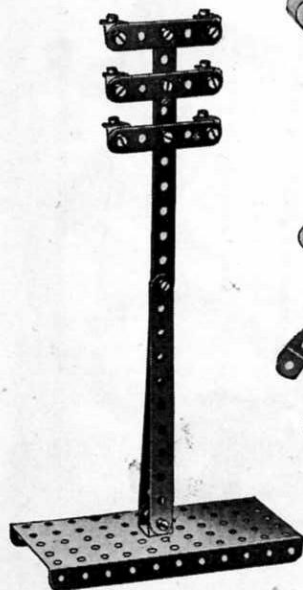
Model No. 00.247
Wheel Chair



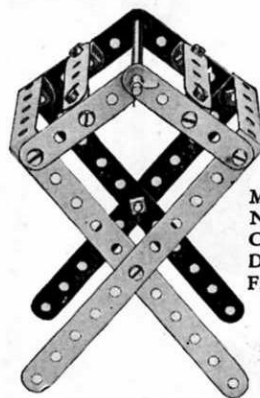
Model No. 00.249
Baggage Truck



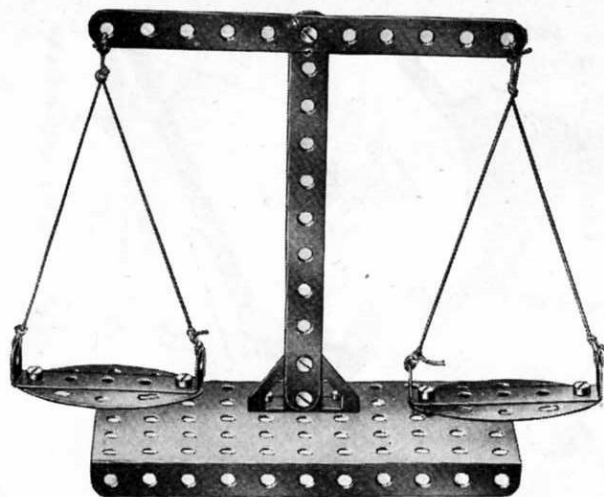
Model
No. 00.253
Telegraph
Pole



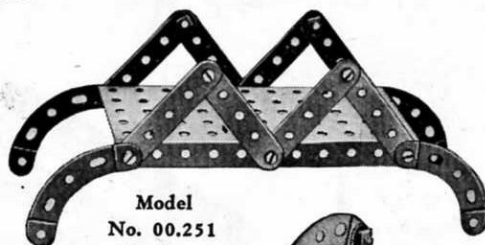
Model
No. 00.250
Clothes
Drying
Frame



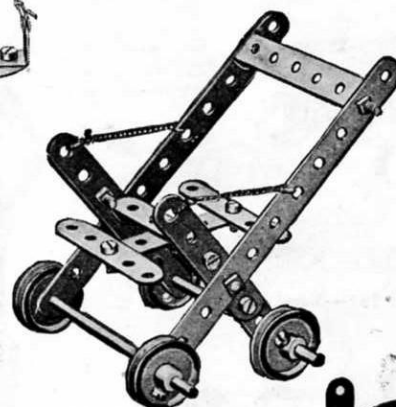
Model No. 00.248—Scales



Model
No. 00.251
Viaduct

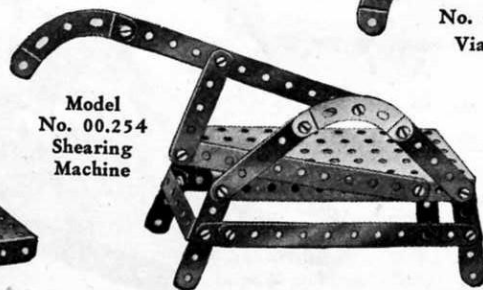


Model
No. 00.256
Arm
Chair

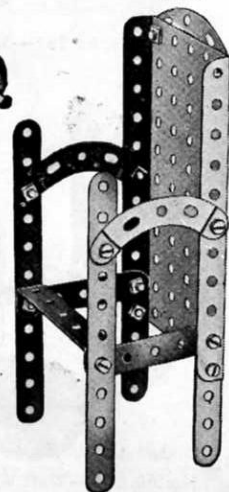
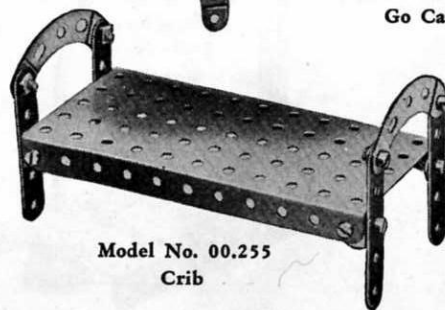


Model No. 00.252
Go Cart

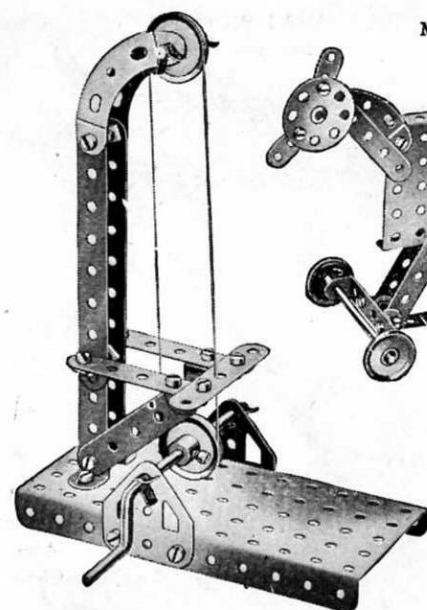
Model
No. 00.254
Shearing
Machine



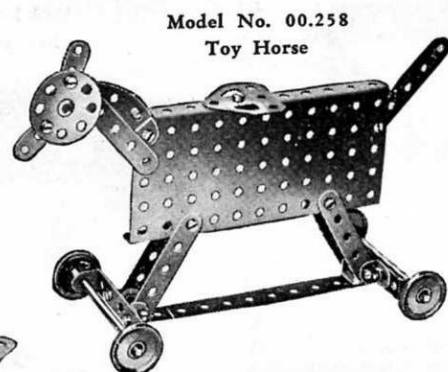
Model No. 00.255
Crib



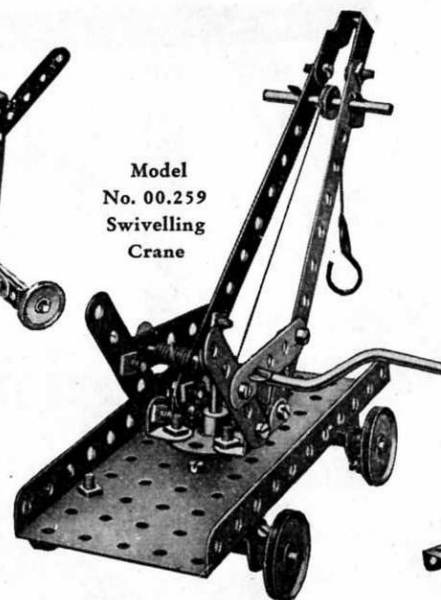
See last page of this Manual for list of models built with your outfit.



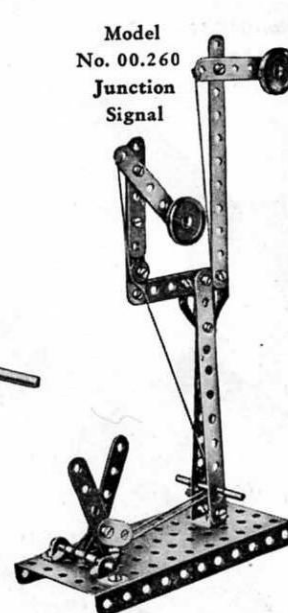
Model No. 00.257—Band Saw



Model No. 00.258
Toy Horse



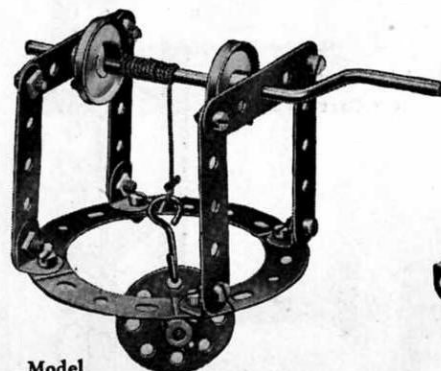
Model
No. 00.259
Swivelling
Crane



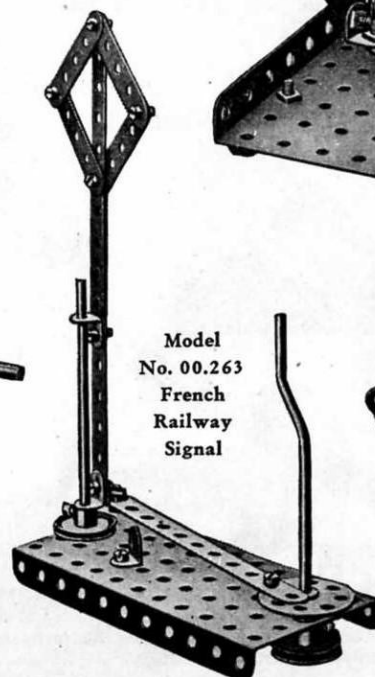
Model
No. 00.260
Junction
Signal



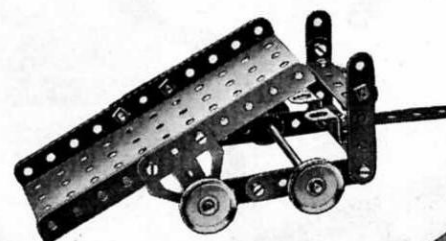
Model
No. 00.261
Hat
Rack



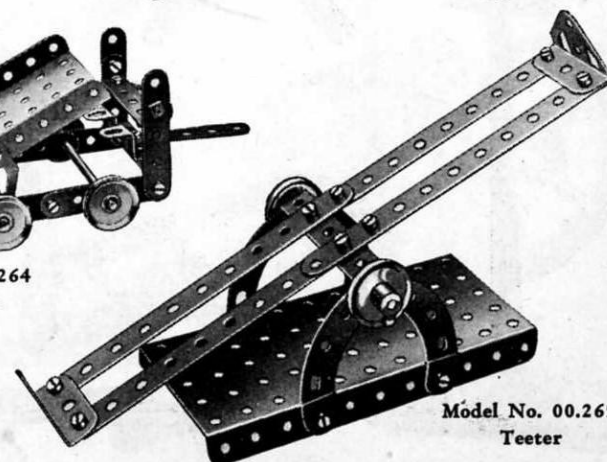
Model
No. 00.262—Well Windlass



Model
No. 00.263
French
Railway
Signal



Model No. 00.264
Dump Cart

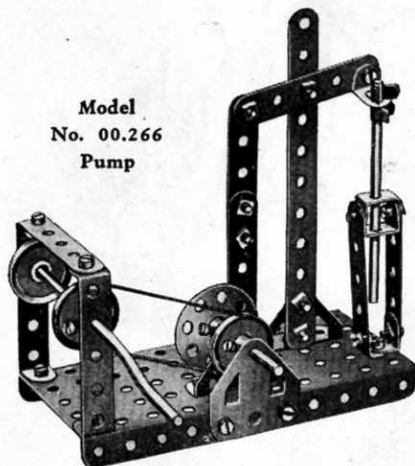


Model No. 00.265
Teeter

See last page of this Manual for list of models built with your outfit.

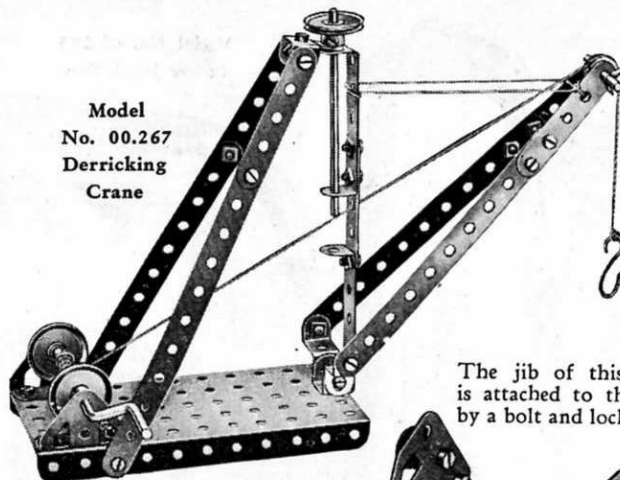
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**Model
No. 00.266
Pump**



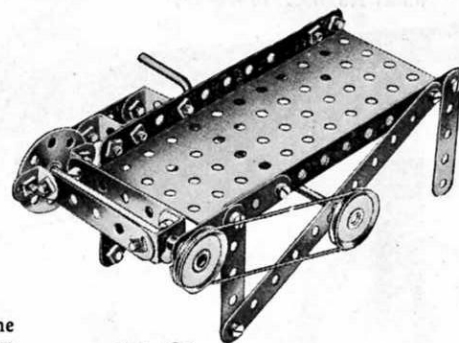
The connecting Strip is pivoted by bolts and nuts at one end to the Bush Wheel and at the other end to the cross beam. The latter is pivoted by the same means to the upright.

**Model
No. 00.267
Derricking
Crane**



The jib of this crane is attached to the base by a bolt and lock-nuts.

Model No. 00.268—Chaff Cutter



**Model No. 00.269
Trip Hammer**

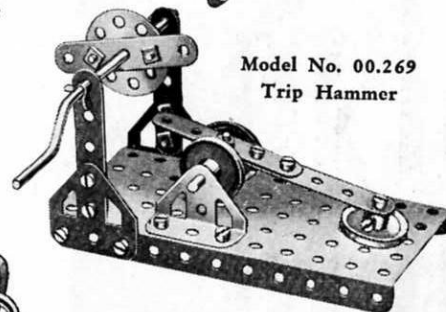
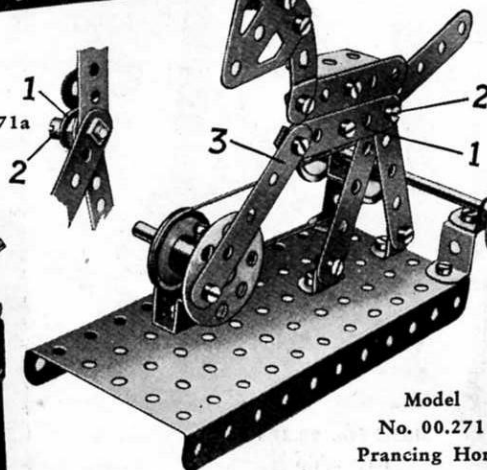


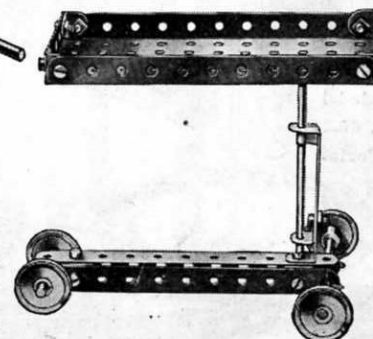
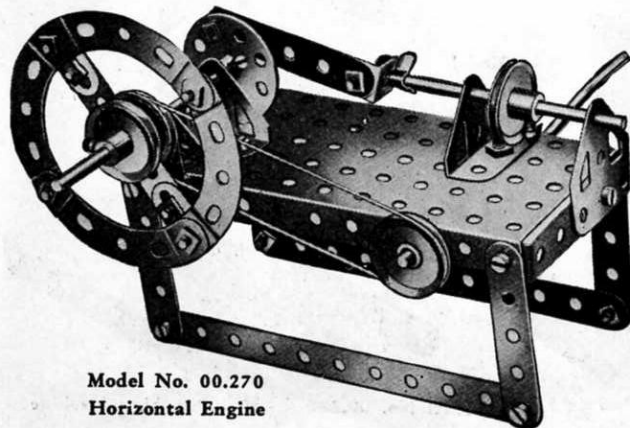
Fig. 00.271a



**Model
No. 00.271
Prancing Horse**

The Strip 1 forming part of the body is free to move about the bolt 2, but two nuts on the latter secure the rear legs and tail rigidly together. The arrangement of the various Strips about this bolt 2 is shown more clearly in Fig. 00.271a. The Strip 3 is free to move at each end about pivots formed from bolts and nuts.

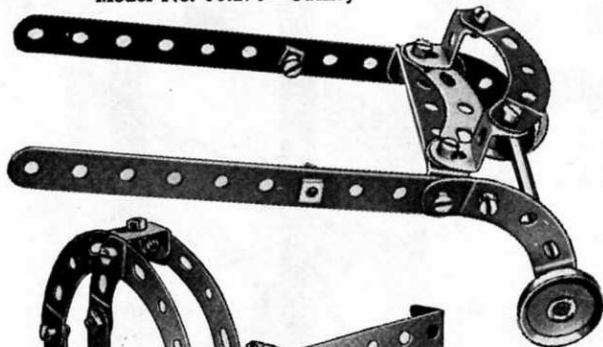
**Model No. 00.270
Horizontal Engine**



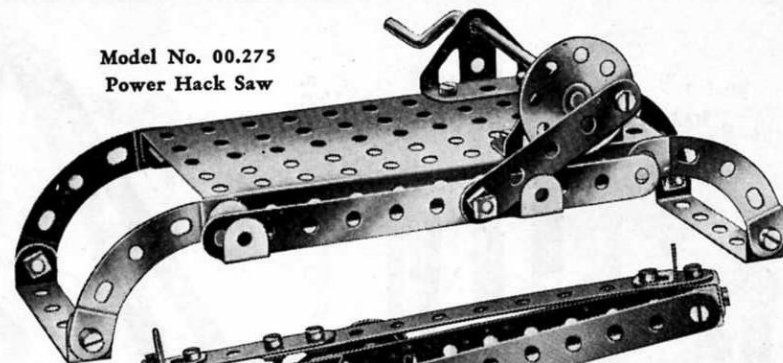
Model No. 00.272—Bed Table

See last page of this Manual for list of models built with your outfit.

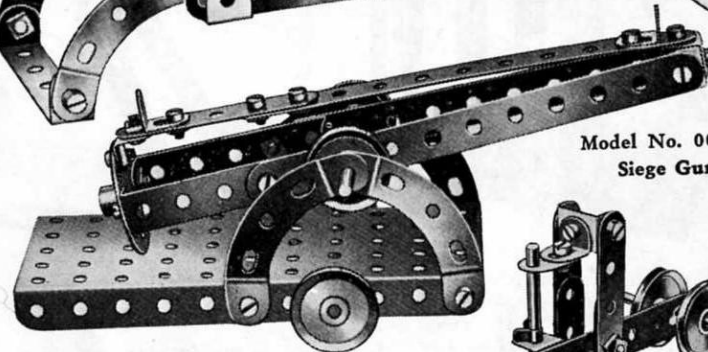
Model No. 00.273—Sulkey



Model No. 00.275
Power Hack Saw



Model No. 00.277
Siege Gun



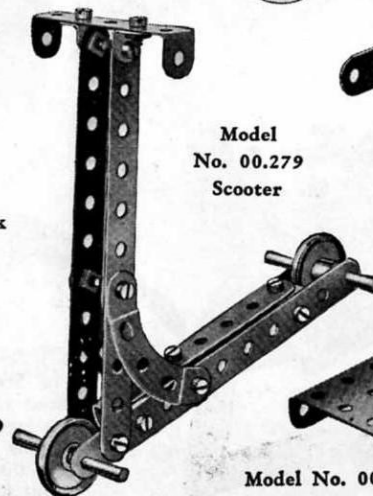
Model
No. 00.276
Portal



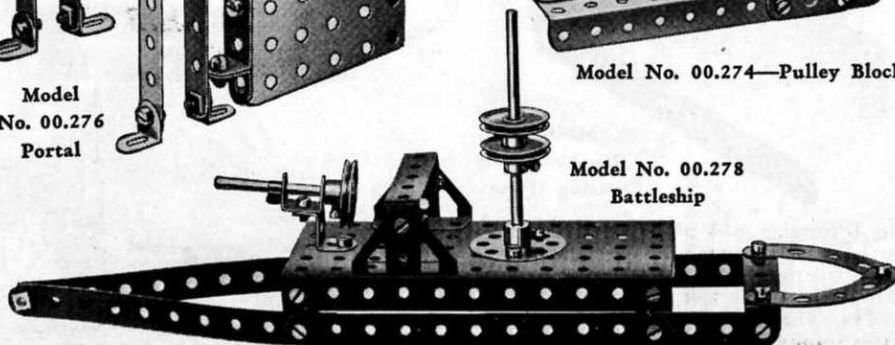
Model No. 00.274—Pulley Block



Model
No. 00.279
Scooter

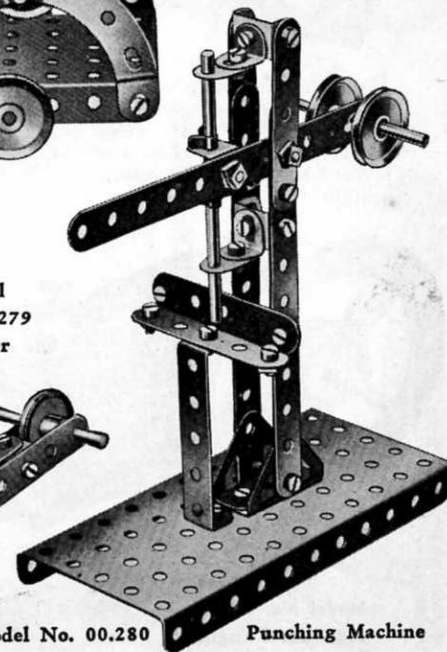


Model No. 00.278
Battleship



Model No. 00.280

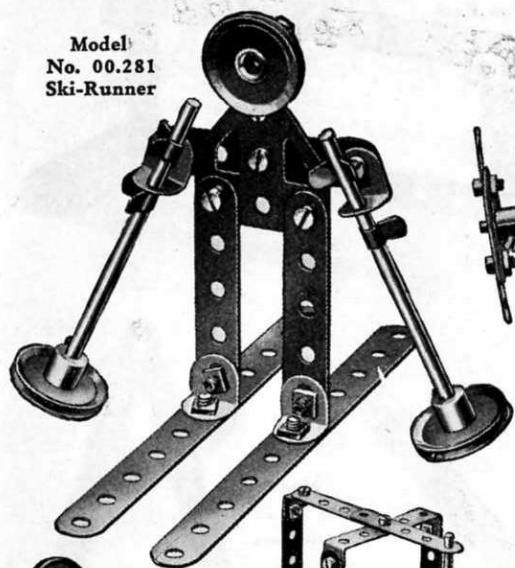
Punching Machine



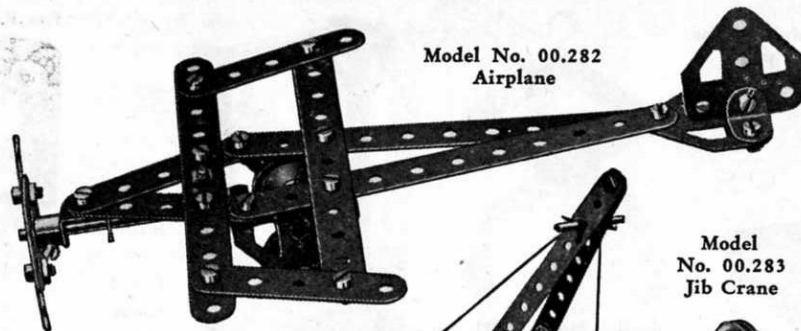
See last page of this Manual for list of models built with your outfit.

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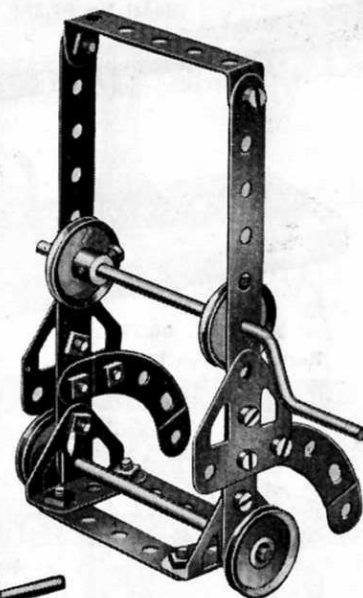
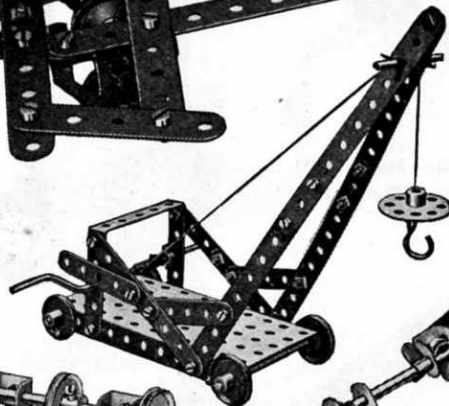
Model
No. 00.281
Ski-Runner



Model No. 00.282
Airplane

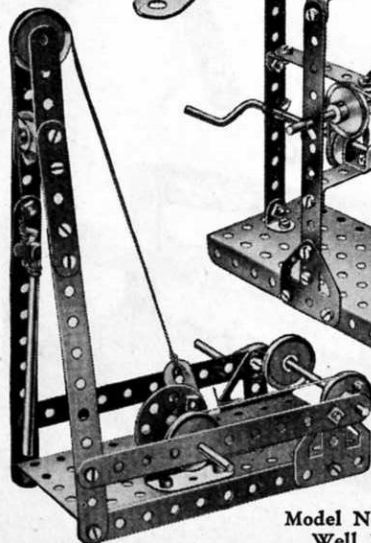
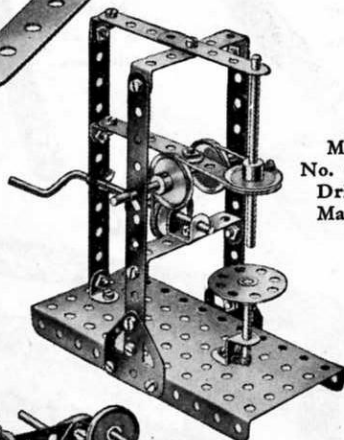


Model
No. 00.283
Jib Crane

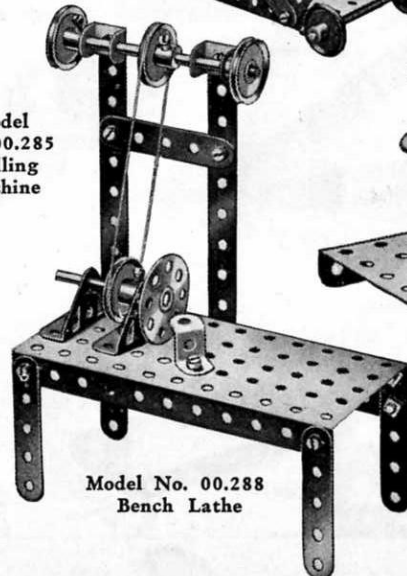


Model No. 00.284
Garden Hose Reel

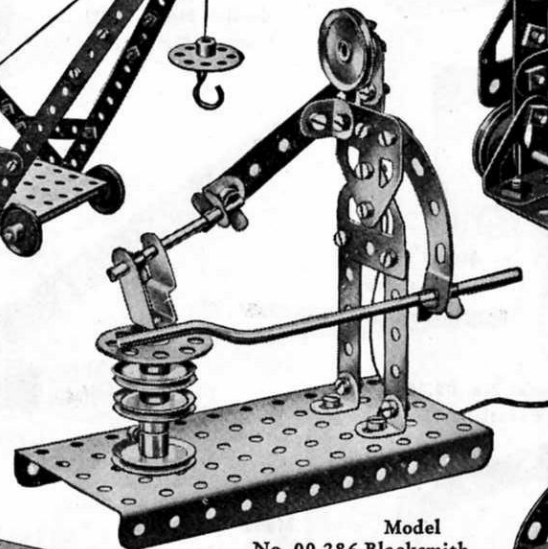
Model
No. 00.285
Drilling
Machine



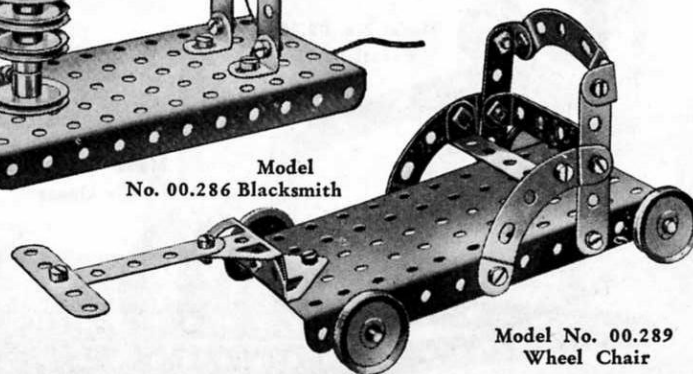
Model No. 00.287
Well Driller



Model No. 00.288
Bench Lathe

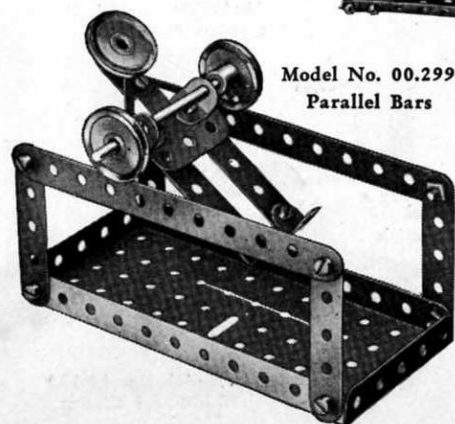
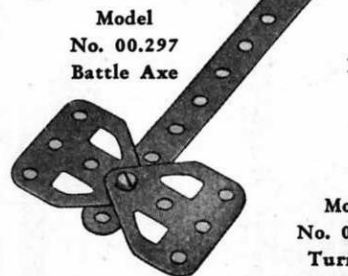
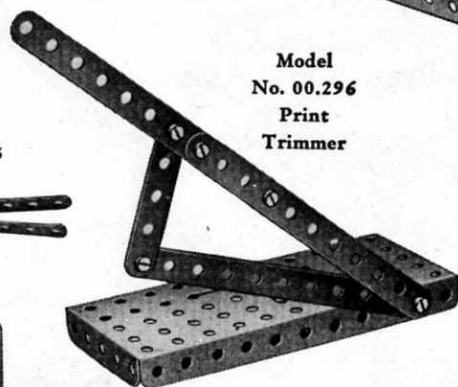
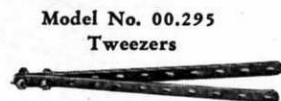
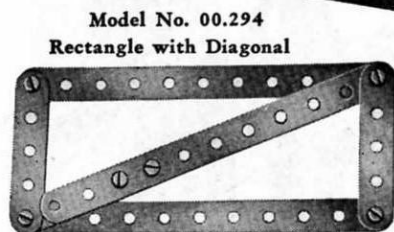
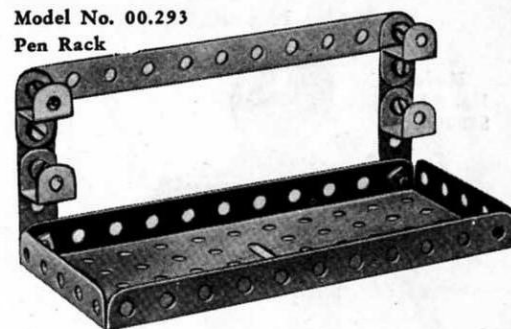
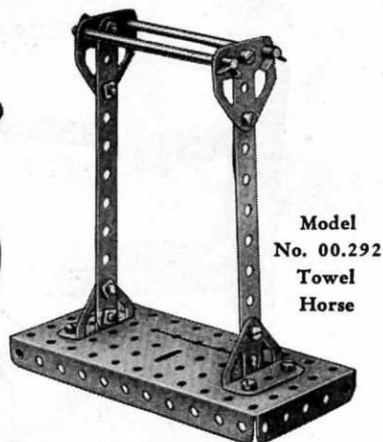
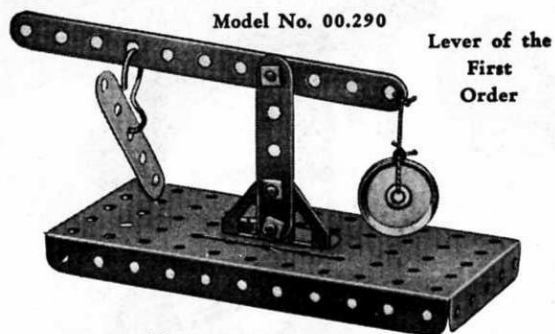


Model
No. 00.286 Blacksmith

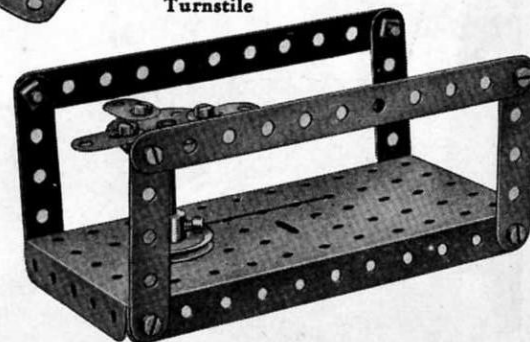


Model No. 00.289
Wheel Chair

See last page of this Manual for list of models built with your outfit.

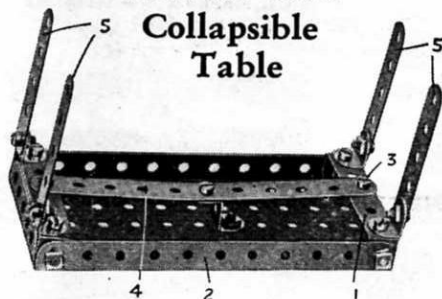


Model
No. 00.302
Turnstile



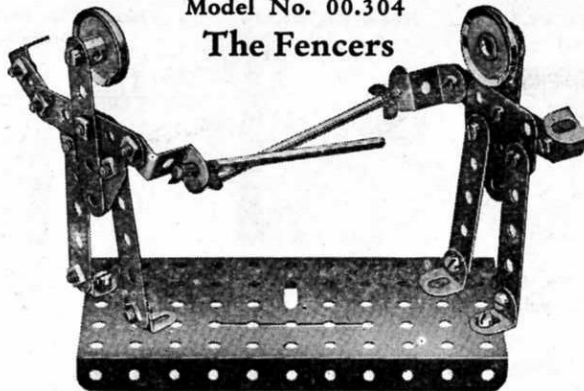
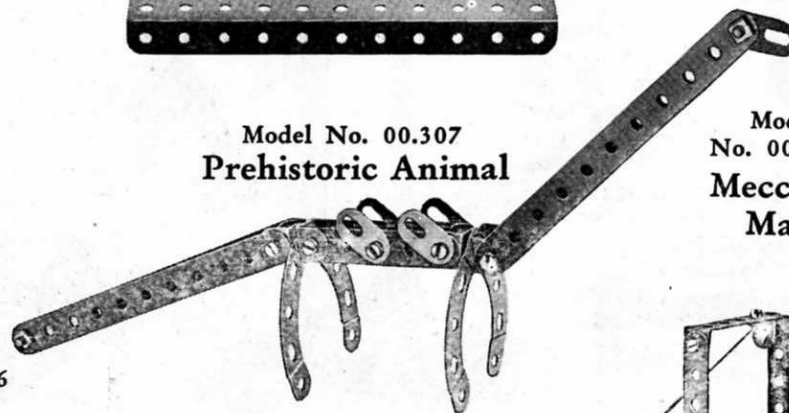
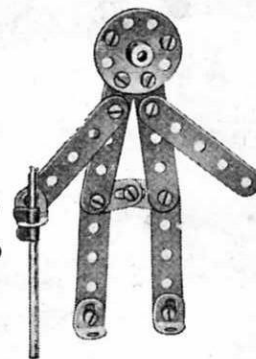
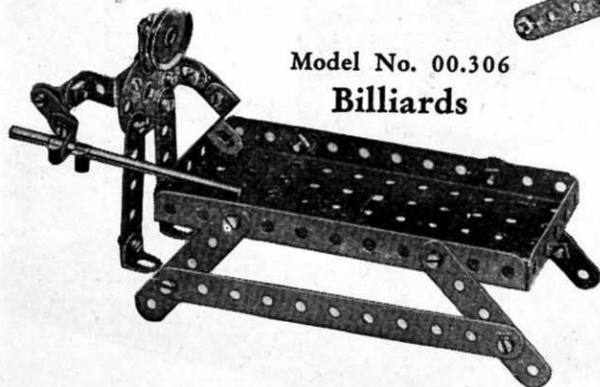
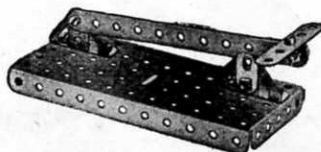
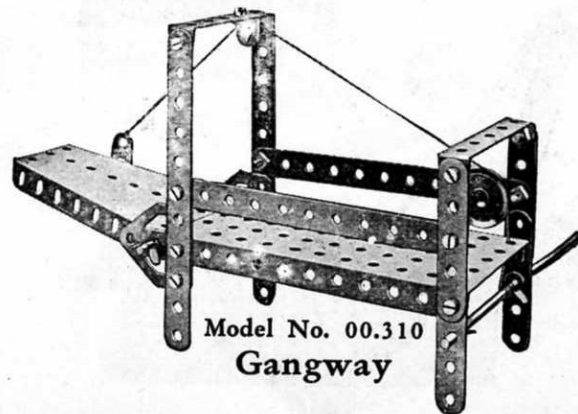
See last page of this Manual for list of models built with your outfit.

Model No. 00.303

**Collapsible
Table**

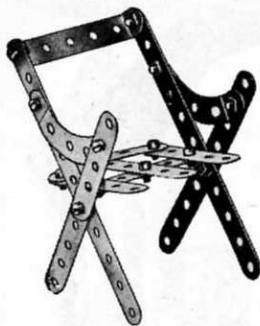
The $2\frac{1}{2}$ " \times $\frac{1}{2}$ " Double Angle Strips 1 are attached to the $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flanged Plate 2 by lock-nutted bolts, as in Standard Mechanism No. 263. The bolts 3 are secured to the $5\frac{1}{2}$ " Strip 4 and their shanks engage with the centre holes in the $2\frac{1}{2}$ " \times $\frac{1}{2}$ " 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 Strips 4, thus freeing the Double Angle Strips 1.

Model No. 00.304

The FencersModel No. 00.305
Lewis GunModel No. 00.307
Prehistoric AnimalModel
No. 00.309
**Meccano
Man**Model No. 00.306
BilliardsModel No. 00.308
Knife SwitchModel No. 00.310
Gangway

See last page of this Manual for list of models built with your outfit.

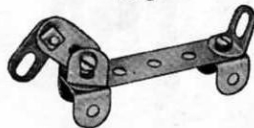
Model No. 00.311
Arm Chair



Model No. 00.312
Catapult



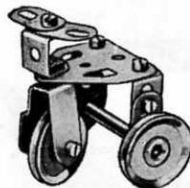
Model No. 00.317
Dog



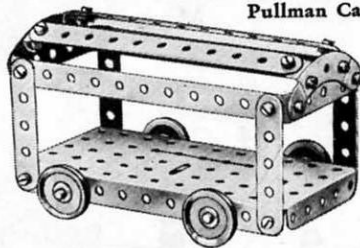
Model No. 00.313
Stool



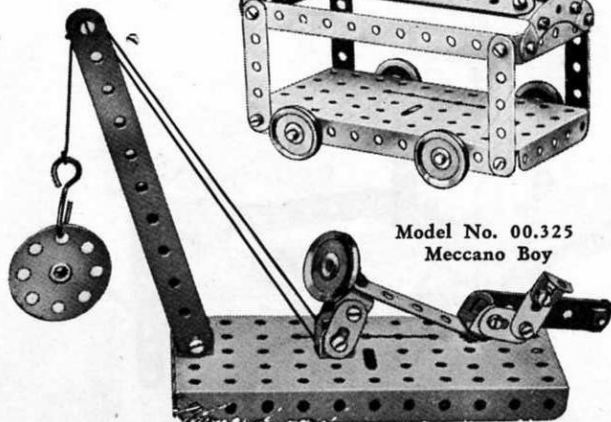
Model No. 00.318
Tricycle



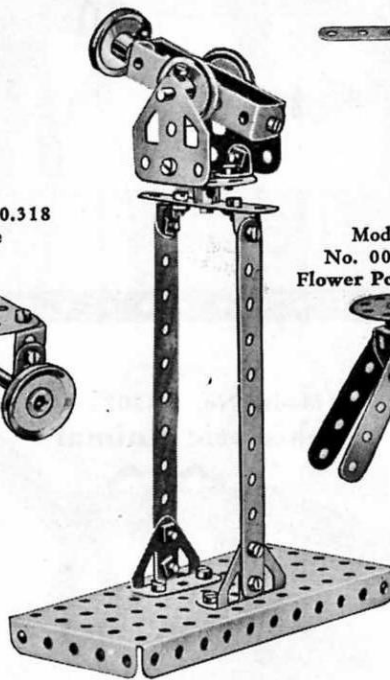
Model No. 00.322
Pullman Car



Model No. 00.325
Meccano Boy



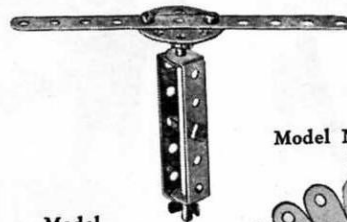
Model No. 00.314
Searchlight



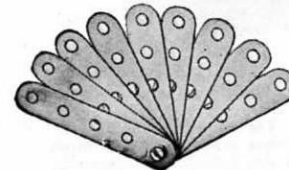
Model
No. 00.319
Flower Pot Stand



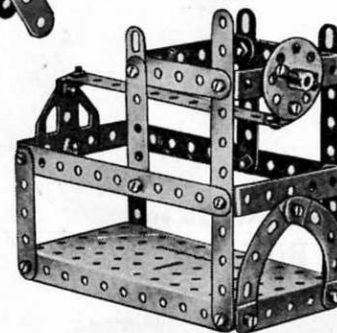
Model No. 00.315
Propeller



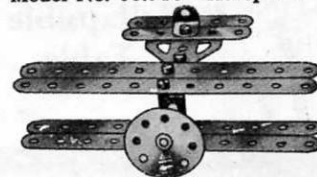
Model No. 00.320
Fan



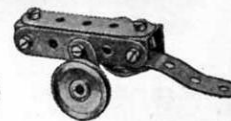
Model No. 00.323
Church



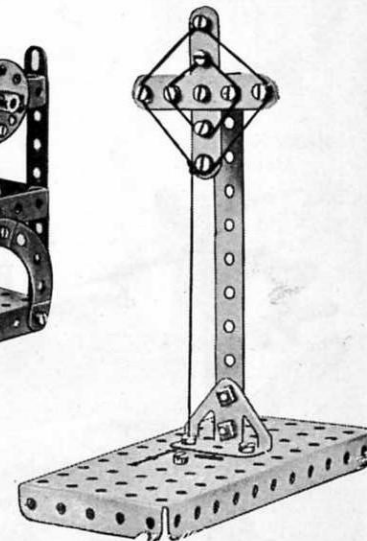
Model No. 00.316—Aeroplane



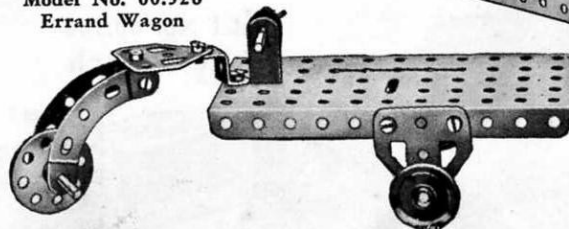
Model No. 00.321
Cannon



Model No. 00.324
Frame Aerial



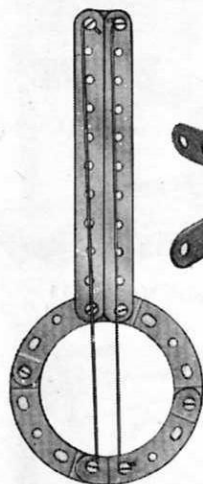
Model No. 00.326
Errand Wagon



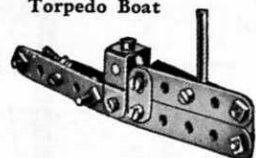
See last page of this Manual for list of models built with your outfit.

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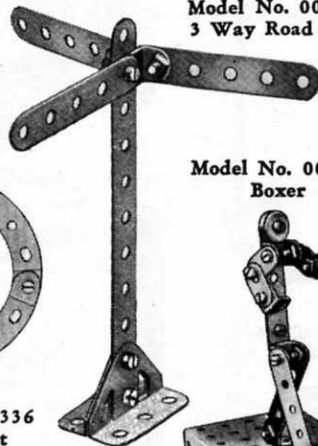
Model No. 00.327
Banjo



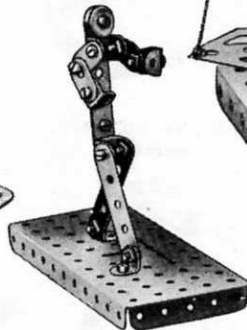
Model No. 00.328
Torpedo Boat



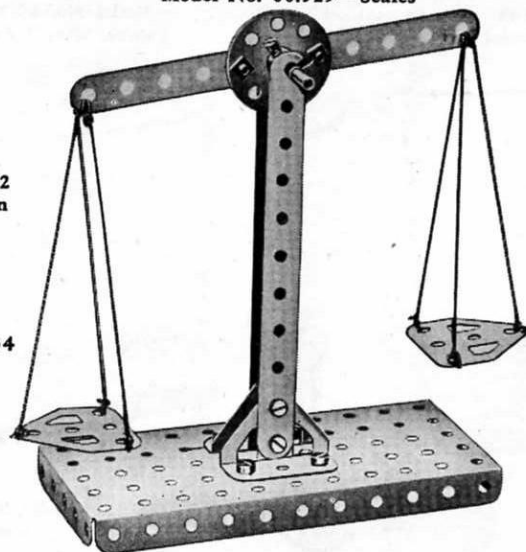
Model No. 00.332
3 Way Road Sign



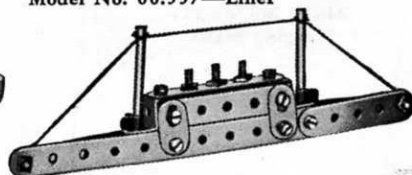
Model No. 00.334
Boxer



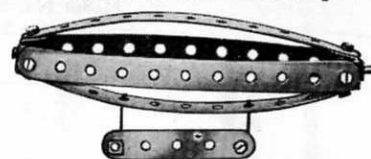
Model No. 00.329—Scales



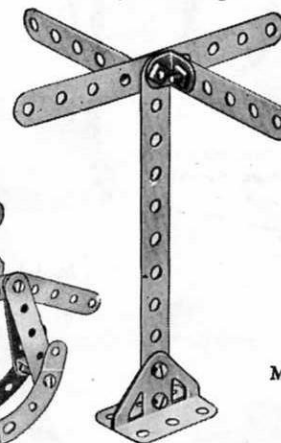
Model No. 00.337—Liner



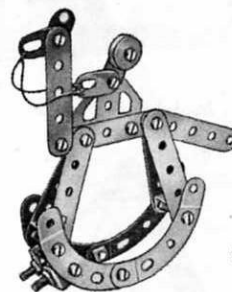
Model No. 00.330—Airship



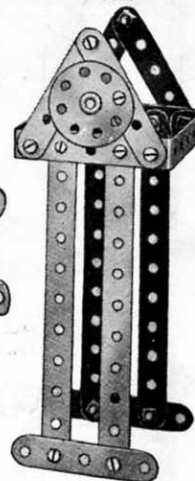
Model No. 00.333
4 Way Road Sign



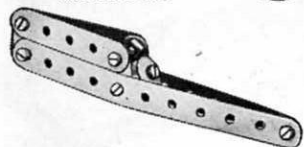
Model No.
00.335
Rocking
Horse



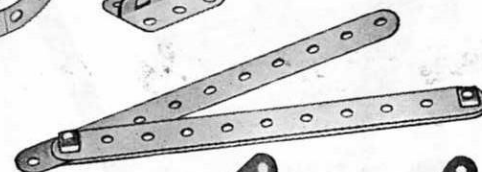
Model No. 00.331
Grandfather's
Clock



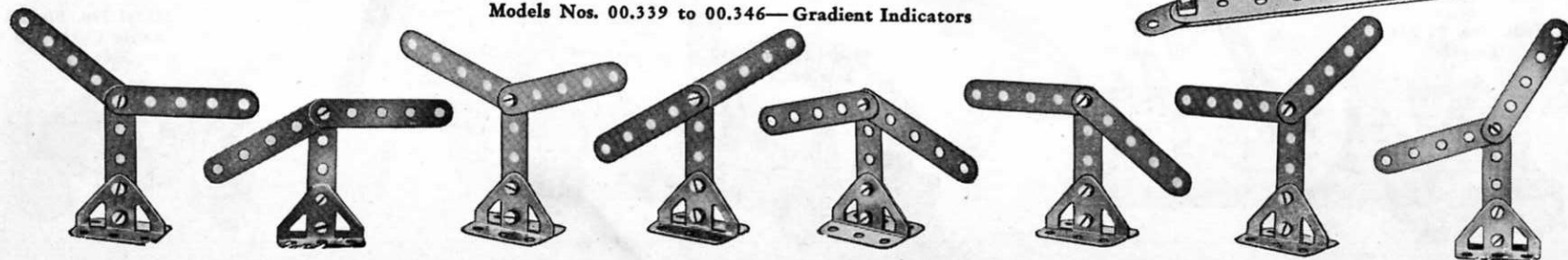
Model No. 00.336
Motor Boat



Model No. 00.338
Razor



Models Nos. 00.339 to 00.346—Gradient Indicators



See last page of this Manual for list of models built with your outfit.

Types of Wireless Aerials

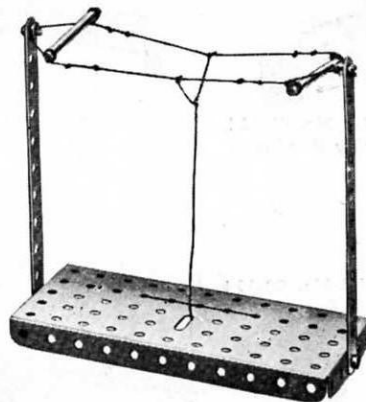
Model No. 00.347
Single Wire T Aerial



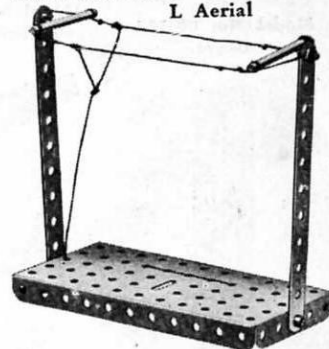
Model No. 00.348
Single Wire L Aerial



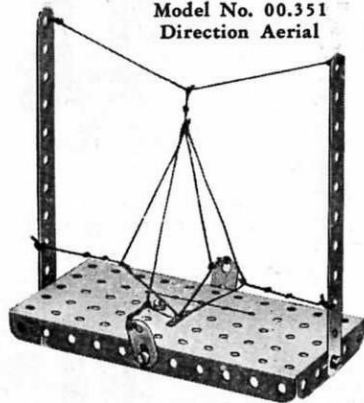
Model No. 00.349
Double Wire T Aerial



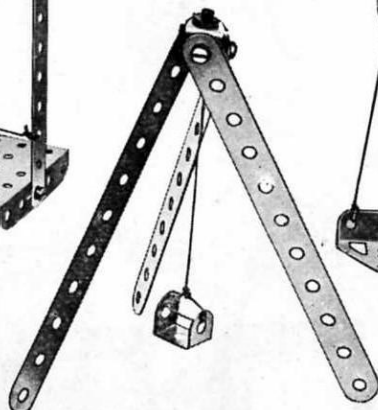
Model No. 00.350—Double Wire
L Aerial



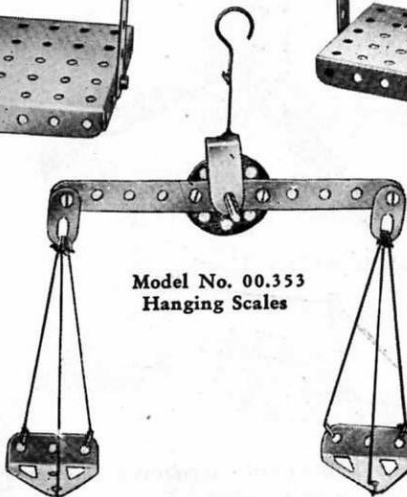
Model No. 00.351
Direction Aerial



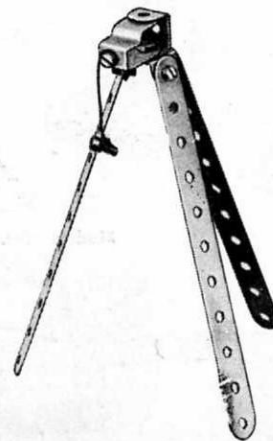
Model No. 00.352
Tripod



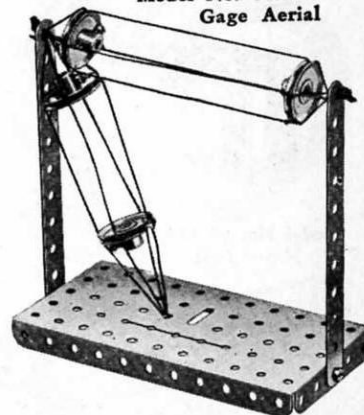
Model No. 00.353
Hanging Scales



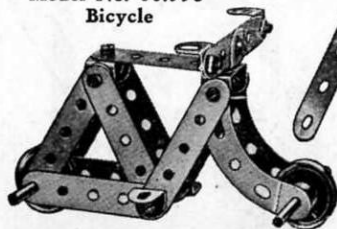
Model No. 00.354
Camera



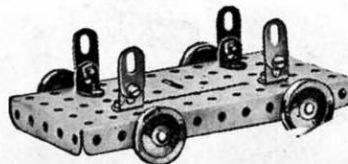
Model No. 00.355
Gage Aerial



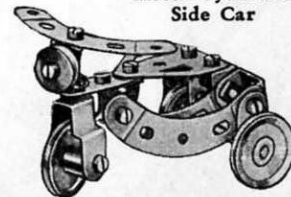
Model No. 00.356
Bicycle



Model No. 00.357
Timber Truck



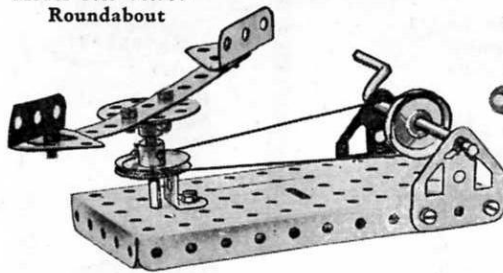
Model No. 00.358
Motor Cycle and
Side Car



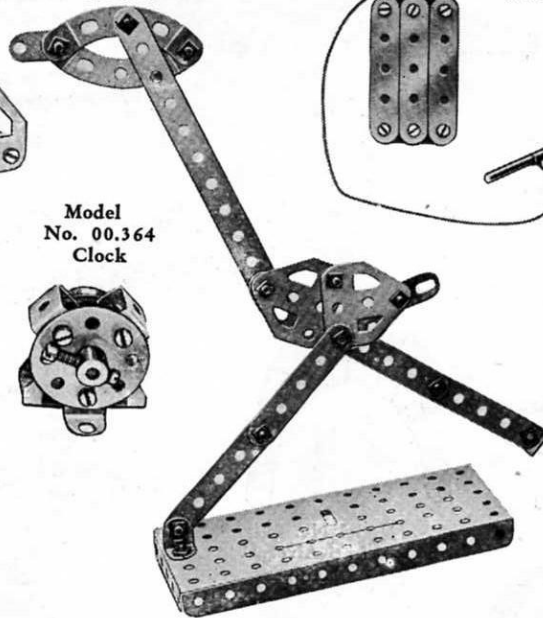
See last page of this Manual for list of models built with your outfit.

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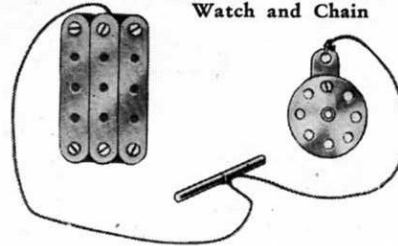
Model No. 00.359
Roundabout



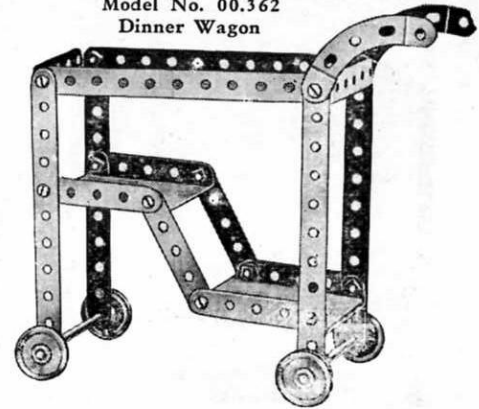
Model No. 00.360
Ostrich



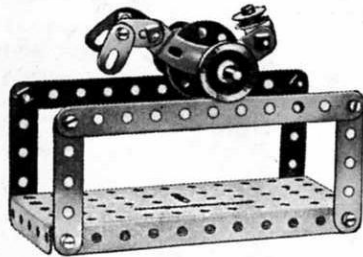
Model No. 00.361
Watch and Chain



Model No. 00.362
Dinner Wagon



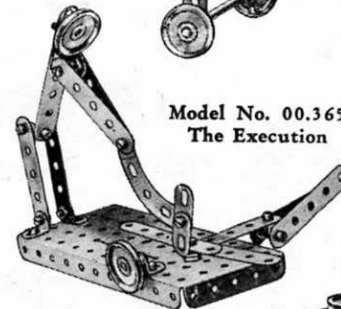
Model No. 00.363—Gymnast



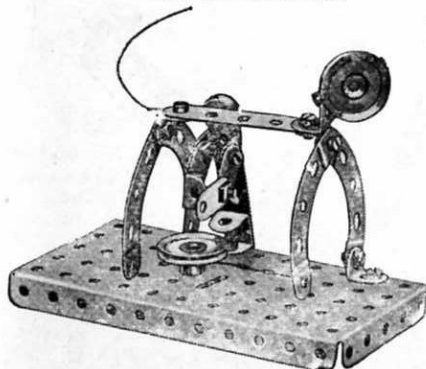
Model
No. 00.364
Clock



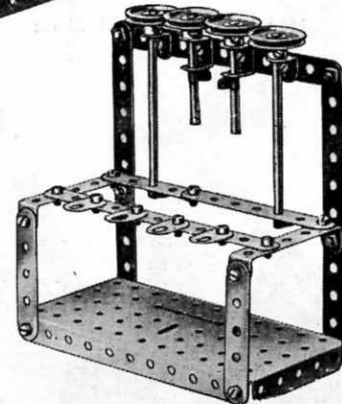
Model No. 00.365
The Execution



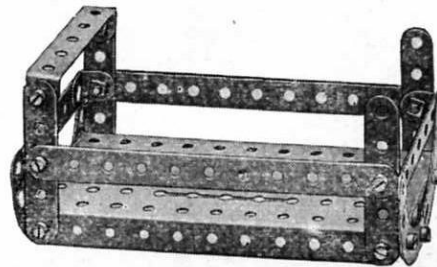
Model No. 00.366
Cow and Milk Man



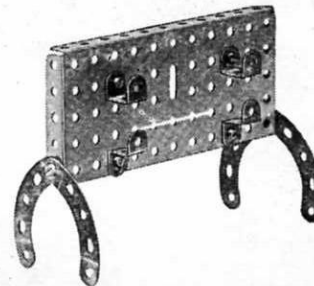
Model No. 00.369
Organ



Model No. 00.367—Cot

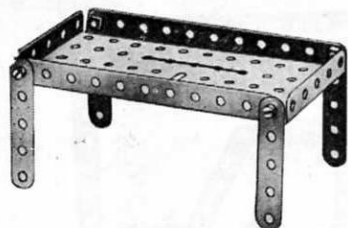


Model No. 00.368
Sign Board



See last page of this Manual for list of models built with your outfit.

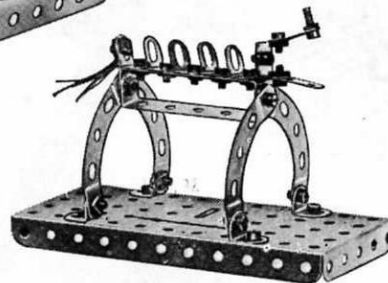
Model No. 00.370—Drinking Trough



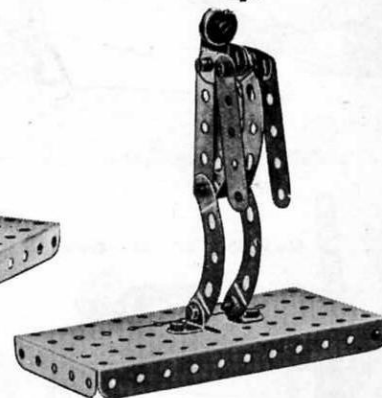
Model No. 00.372
Table



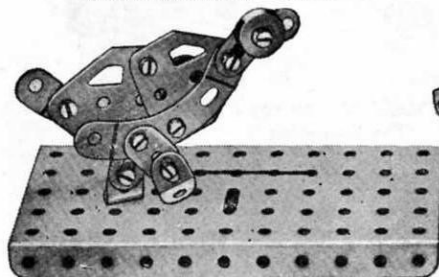
Model No. 00.373
Prehistoric
Armadillo



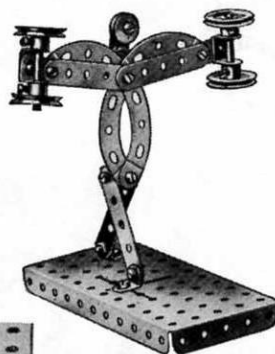
Model No. 00.374
Ape



Model No. 00.375—Duck



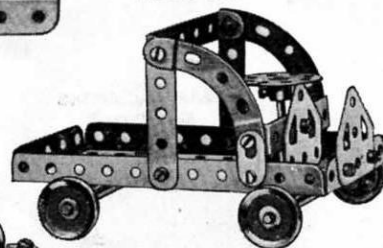
Model No. 00.371
Strong Man



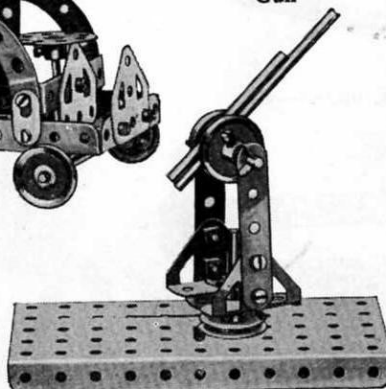
Model No. 00.376
Milk Maid



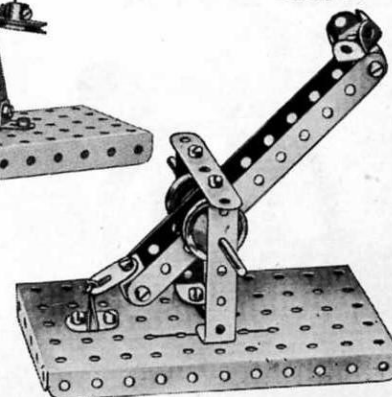
Model No. 00.378
Motor Car



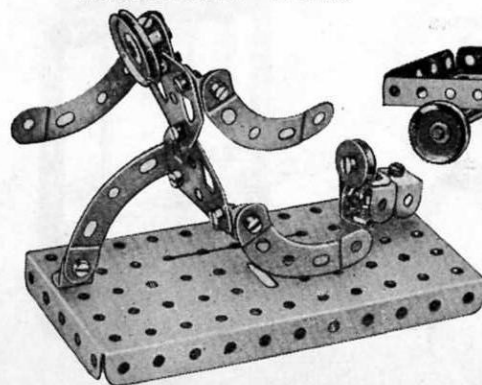
Model No. 00.379
Anti-Aircraft
Gun



Model No. 00.380
Catapult



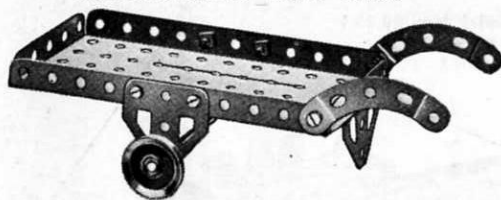
Model No. 00.377—A Chase



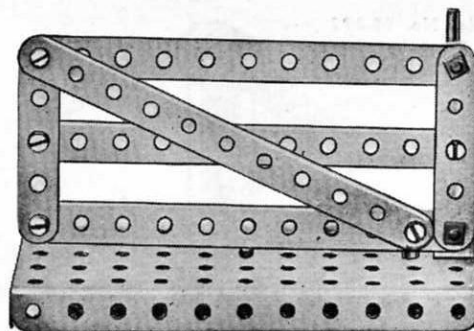
See last page of this Manual for list of models built with your outfit.

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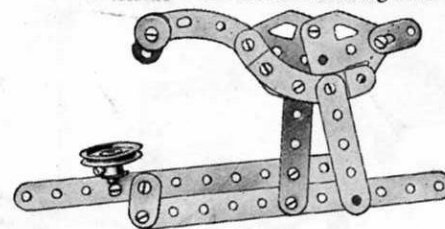
Model No. 00.381—Hand Truck



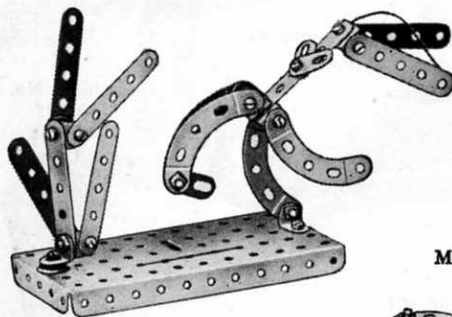
Model No. 00.382—Gate



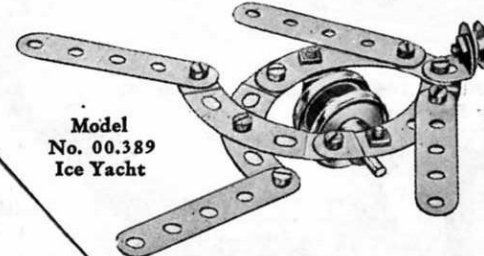
Model No. 00.383—Pecking Hen



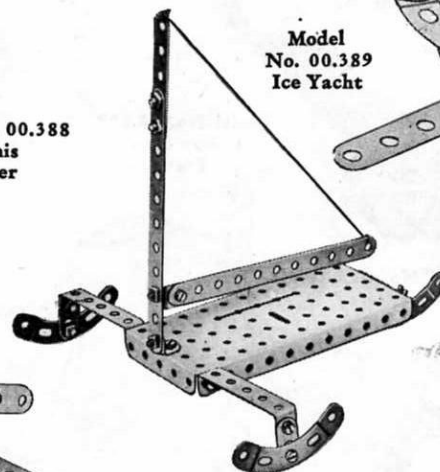
Model No. 00.384—Horseman's Fall



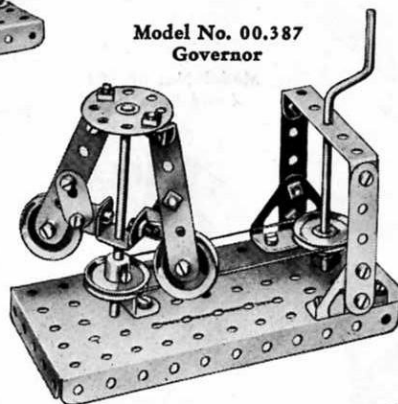
Model No. 00.385—Frog



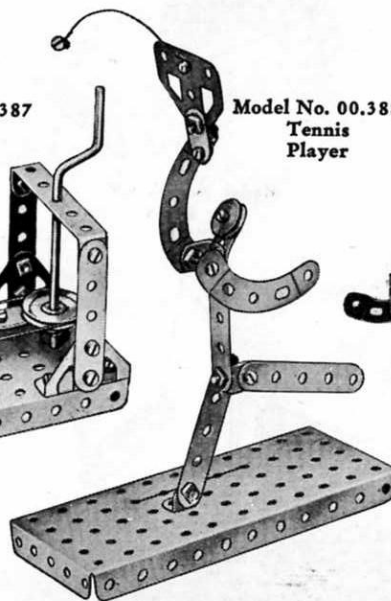
Model
No. 00.389
Ice Yacht



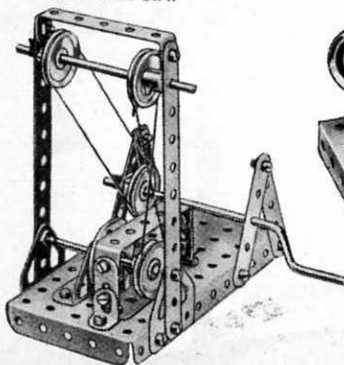
Model No. 00.387
Governor



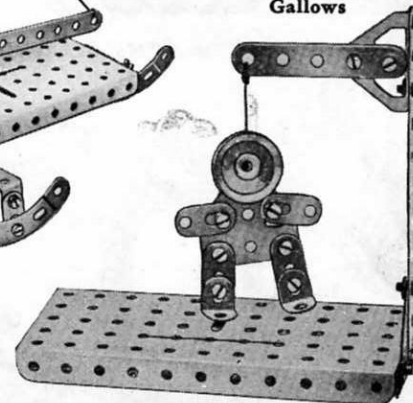
Model No. 00.388
Tennis
Player



Model No. 00.386
Circular Saw

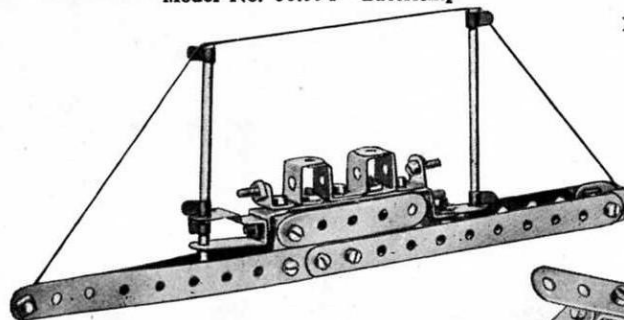


Model No. 00.390
Gallows

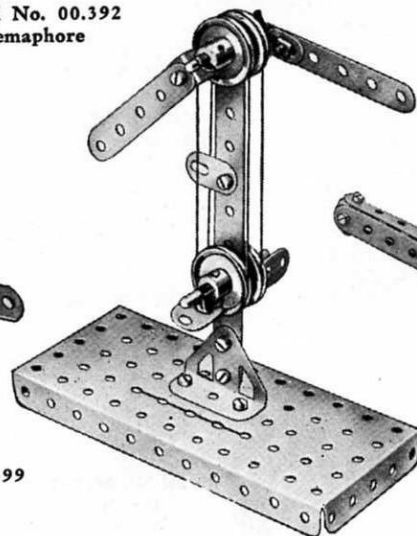


See last page of this Manual for list of models built with your outfit.

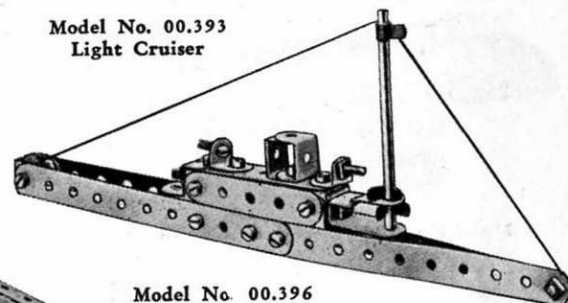
Model No. 00.391—Battleship



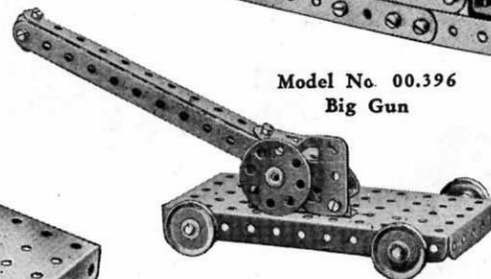
Model No. 00.392
Semaphore



Model No. 00.393
Light Cruiser



Model No. 00.396
Big Gun



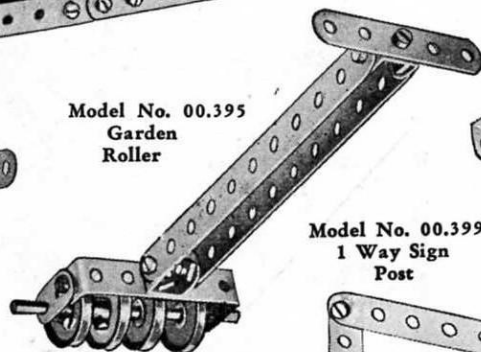
Model No.
00.397
Street
Lamp



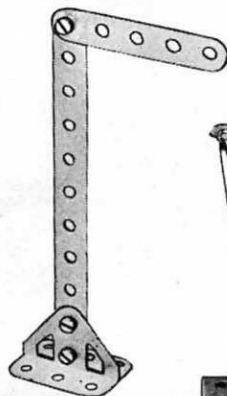
Model No. 00.394
2 Way Sign Post



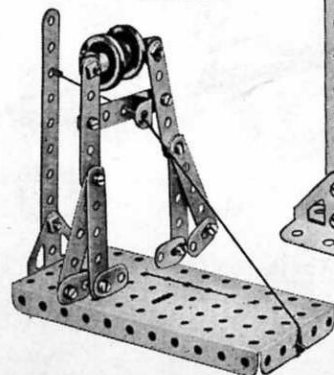
Model No. 00.395
Garden
Roller



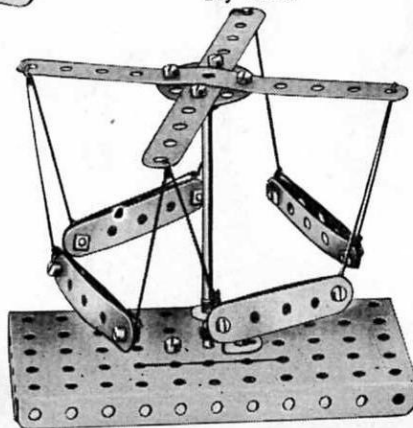
Model No. 00.399
1 Way Sign
Post



Model No. 00.398
Wrestlers



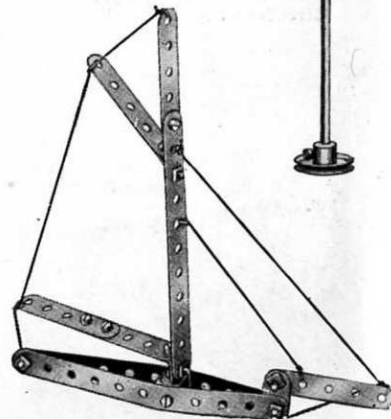
Model No. 00.400
Fly Boats



Model No. 00.401
Loud Speaker



Model No. 00.402
Yacht



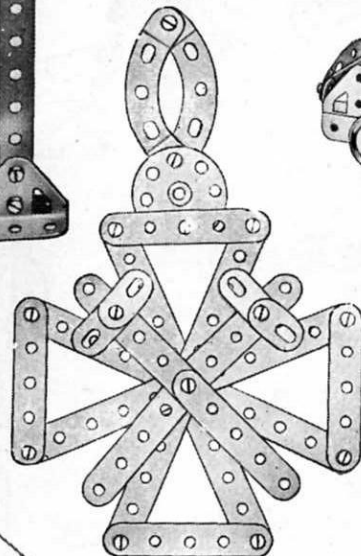
See last page of this Manual for list of models built with your outfit.

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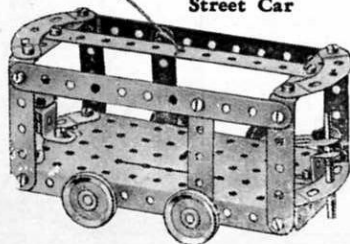
Model No. 00.403
Road Sign



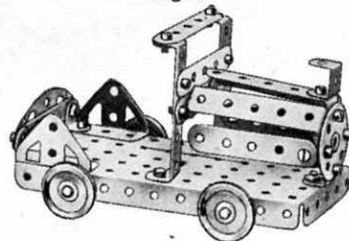
Model No. 00.406
Medal



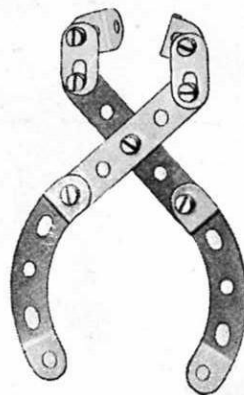
Model No. 00.413
Street Car



Model No. 00.407
Engine



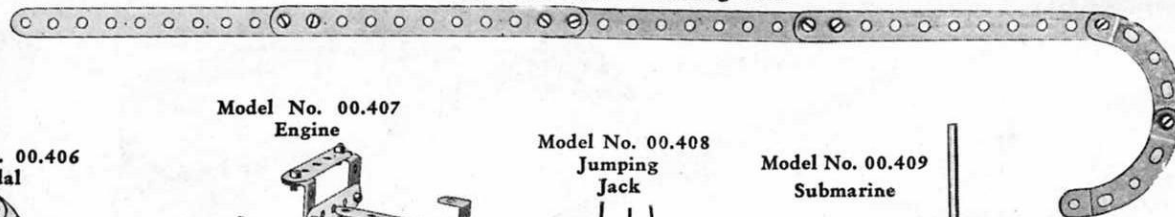
Model No. 00.411—Pliers



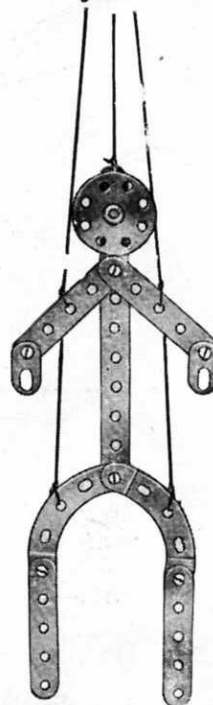
Model No. 00.414
Violin



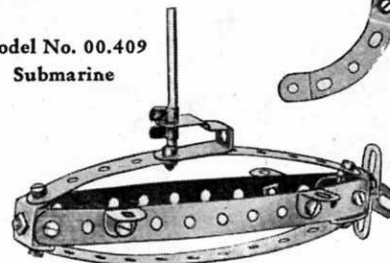
Model No. 00.404—Walking Stick



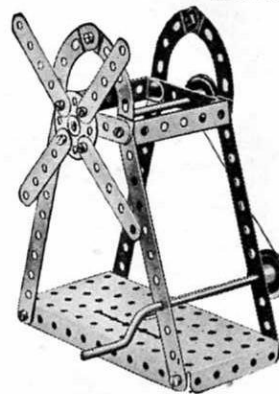
Model No. 00.408
Jumping Jack



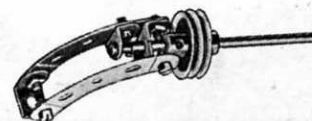
Model No. 00.409
Submarine



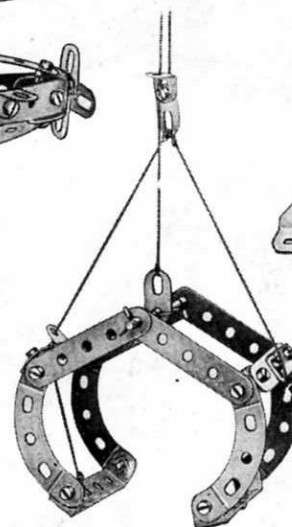
Model No. 00.412—Windmill



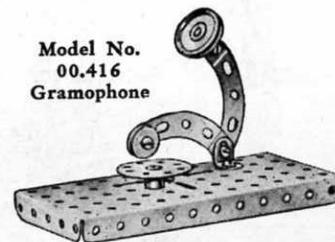
Model No. 00.415—Pistol



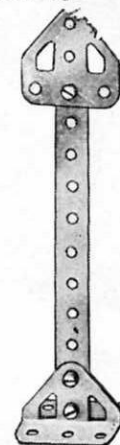
Model No.
00.410
Crane
Grab



Model No.
00.416
Gramophone

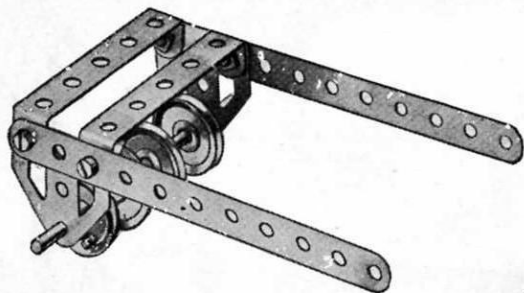


Model No. 00.405
Road Sign

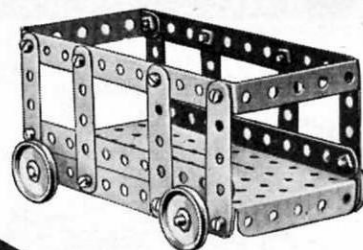


See last page of this Manual for list of models built with your outfit.

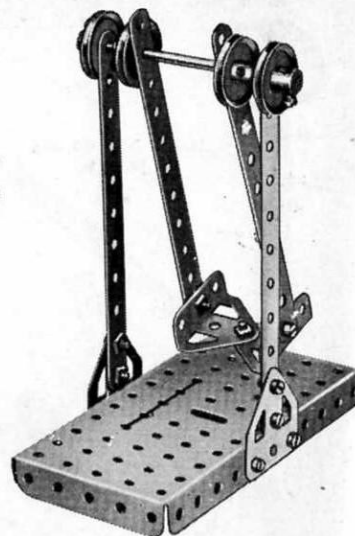
Model No. 00.417—Field Roller



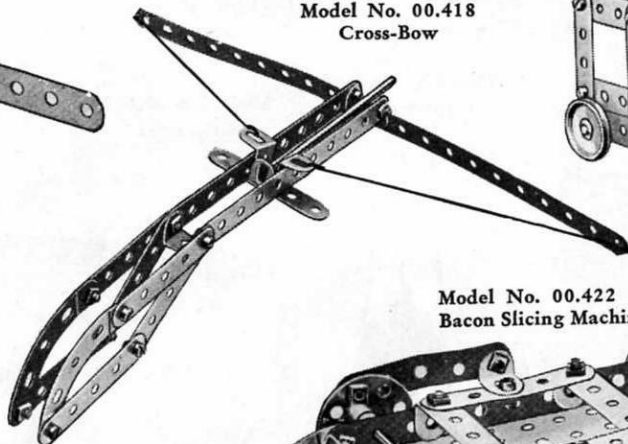
Model No. 00.419—Cattle Truck



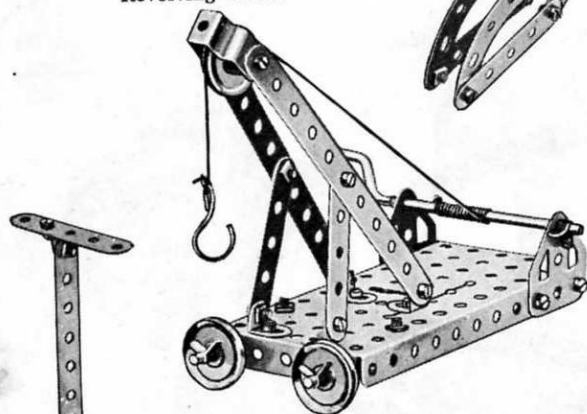
Model No. 00.420—Swing



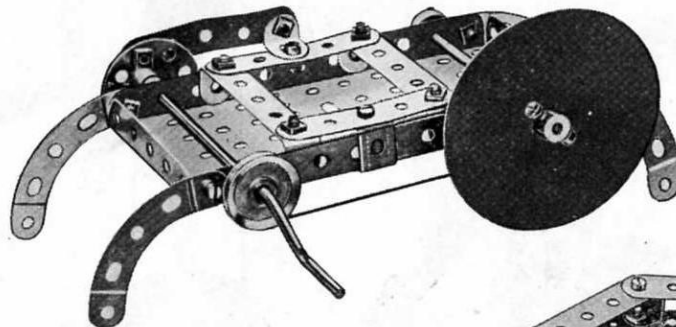
Model No. 00.418
Cross-Bow



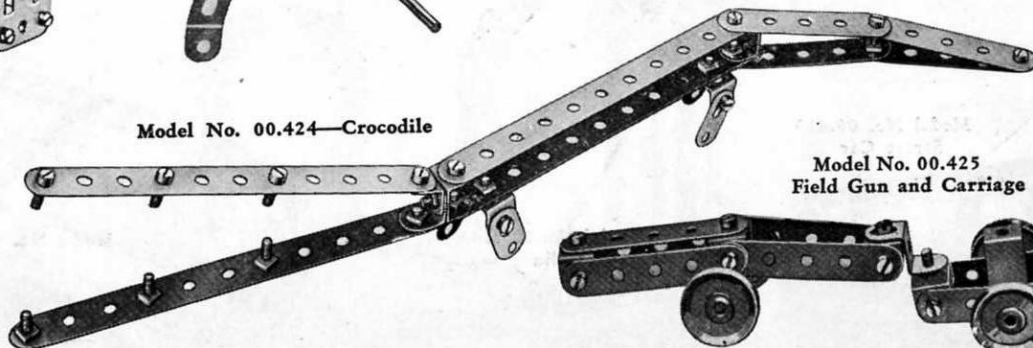
Model No. 00.421
Revolving Crane



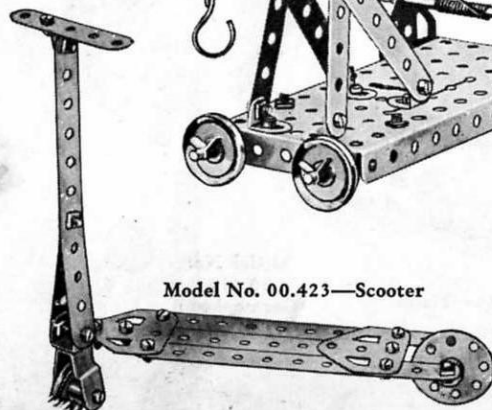
Model No. 00.422
Bacon Slicing Machine



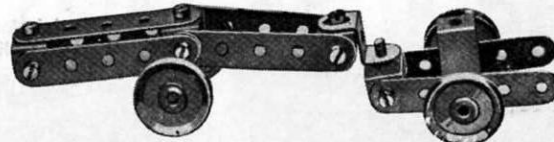
Model No. 00.424—Crocodile



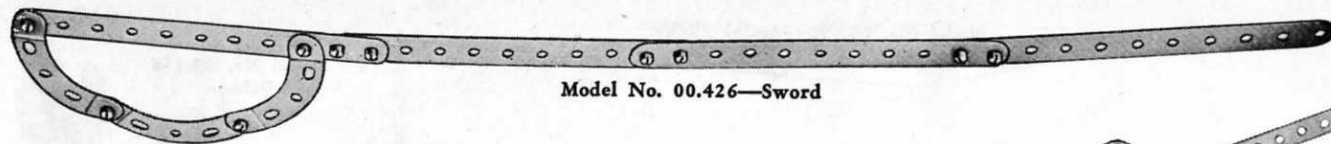
Model No. 00.423—Scooter



Model No. 00.425
Field Gun and Carriage

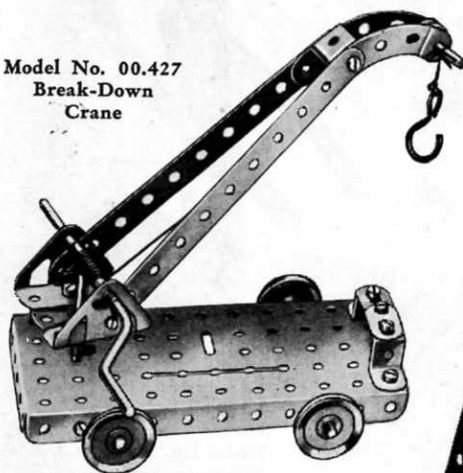


See last page of this Manual for list of models built with your outfit.

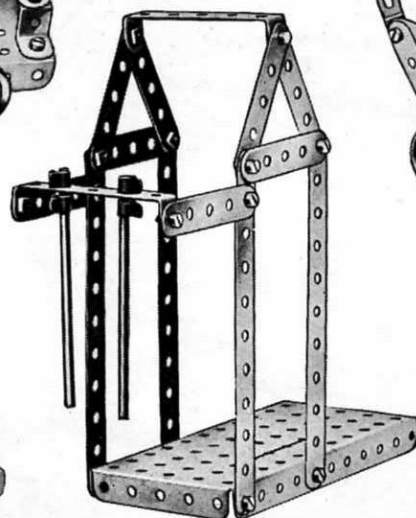


Model No. 00.426—Sword

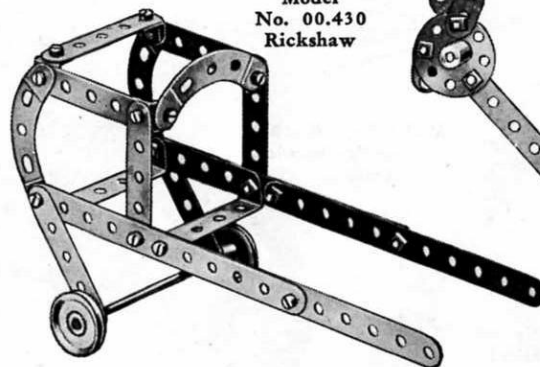
Model No. 00.427
Break-Down
Crane



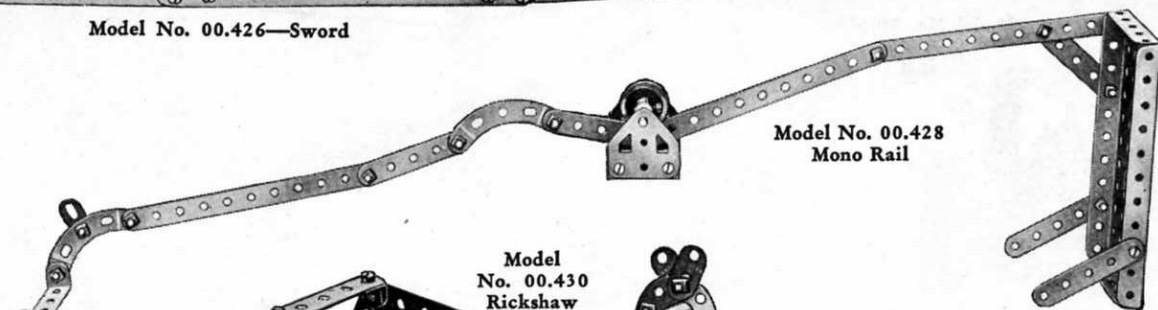
Model No. 00.429
Grain Elevator



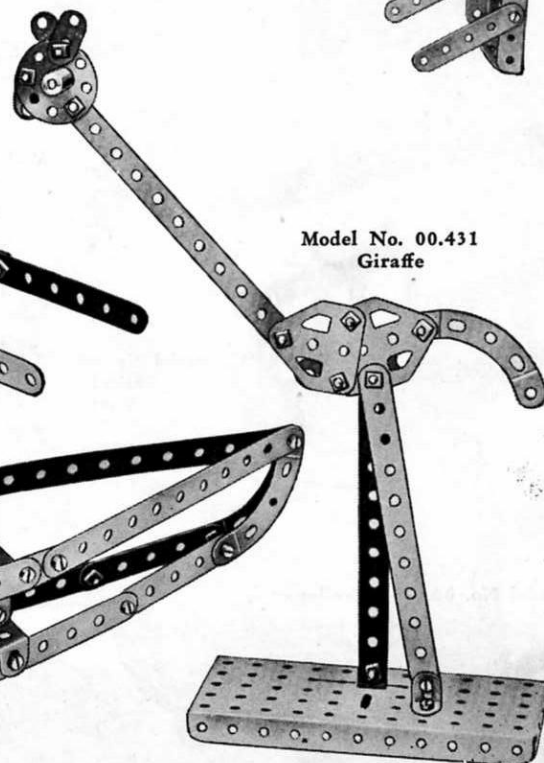
Model
No. 00.430
Rickshaw



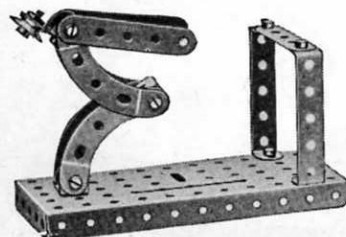
Model No. 00.428
Mono Rail



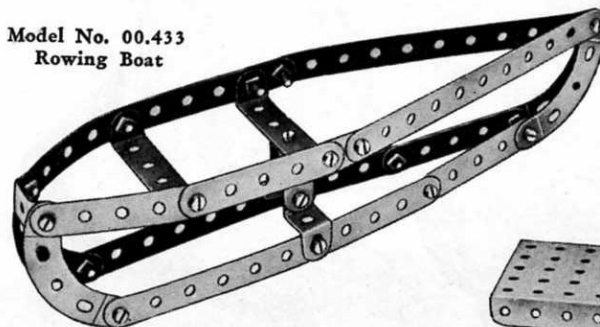
Model No. 00.431
Giraffe



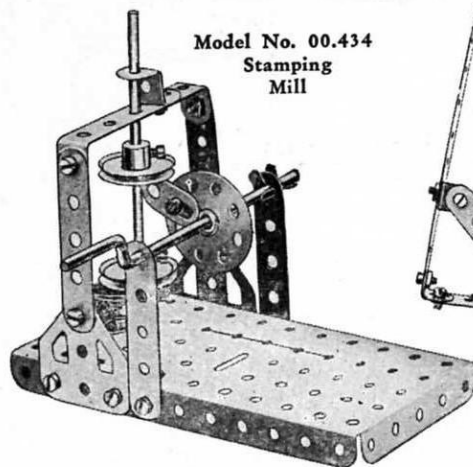
Model No. 00.432
Hurdler



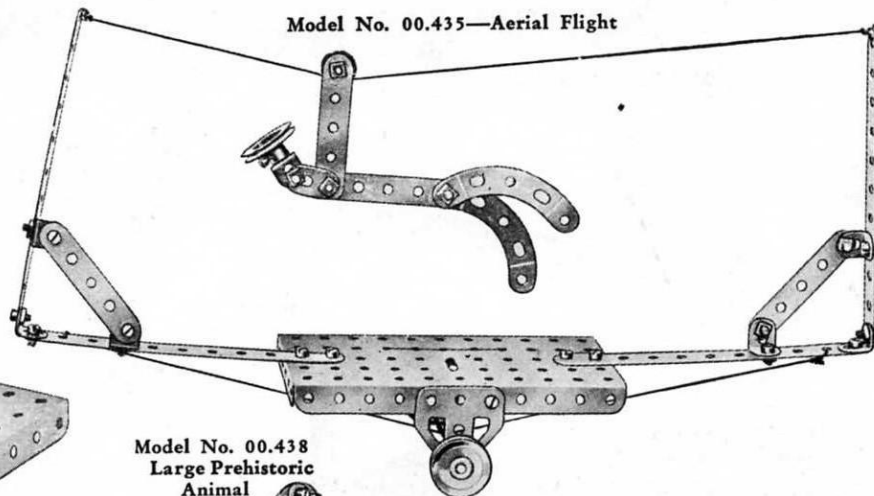
Model No. 00.433
Rowing Boat



See last page of this Manual for list of models built with your outfit.



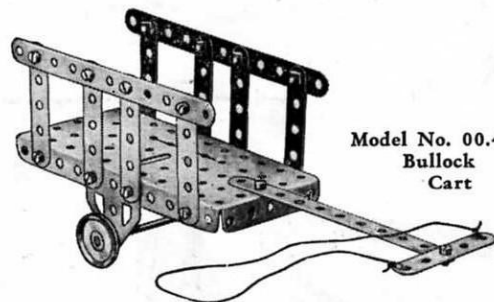
Model No. 00.434
Stamping
Mill



Model No. 00.435—Aerial Flight

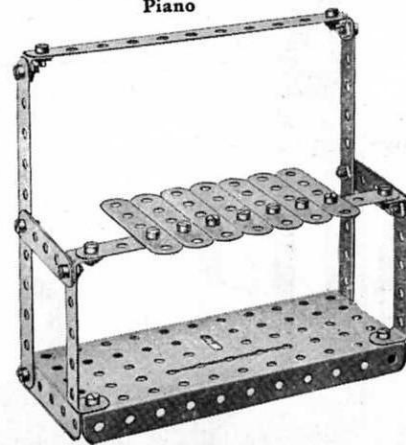


Model No. 00.436
Baboon

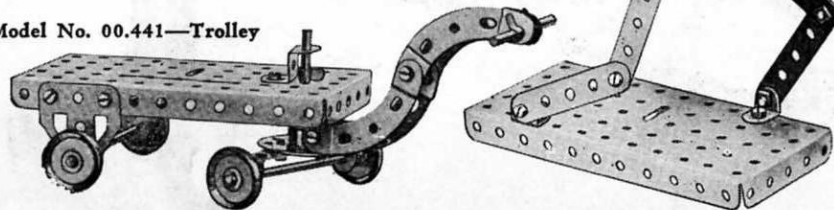


Model No. 00.437
Bullock
Cart

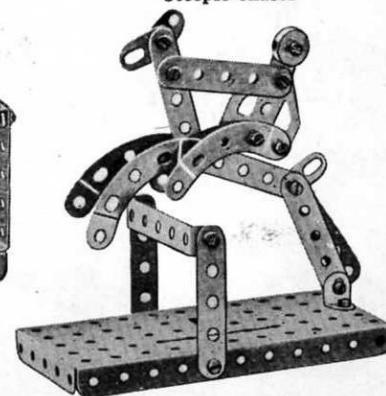
Model No. 00.439
Piano



Model No. 00.441—Trolley

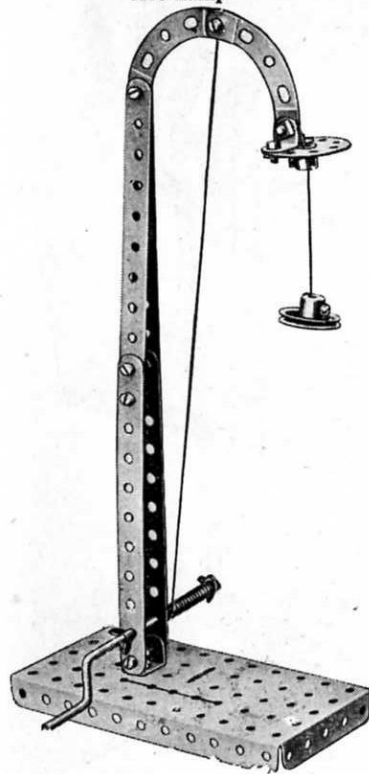


Model No. 00.440
Steeple-chaser

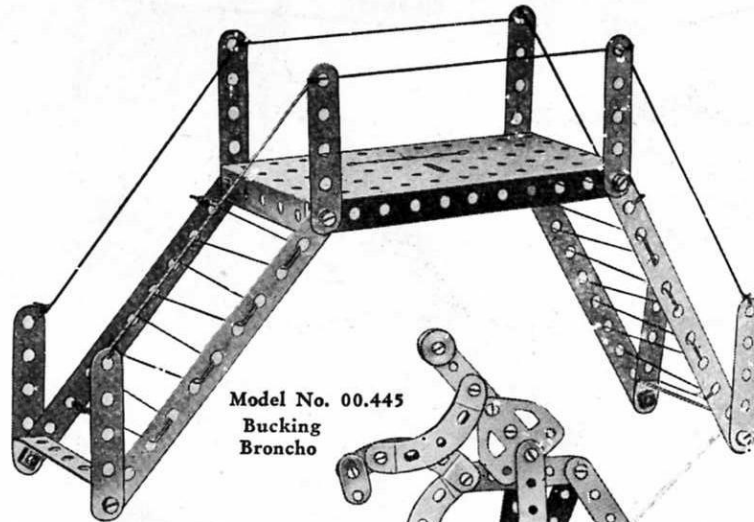


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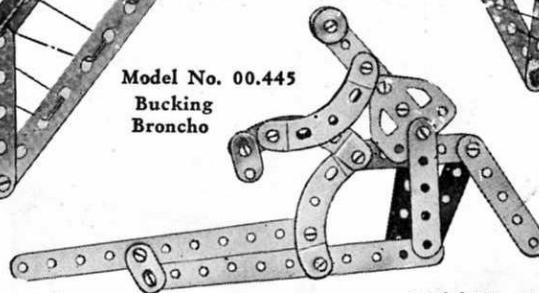
Model No. 00.442
Arc Lamp



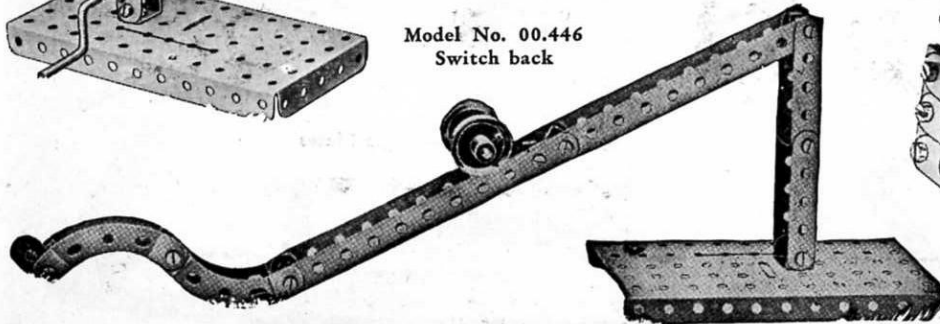
Model No. 00.443—Footbridge



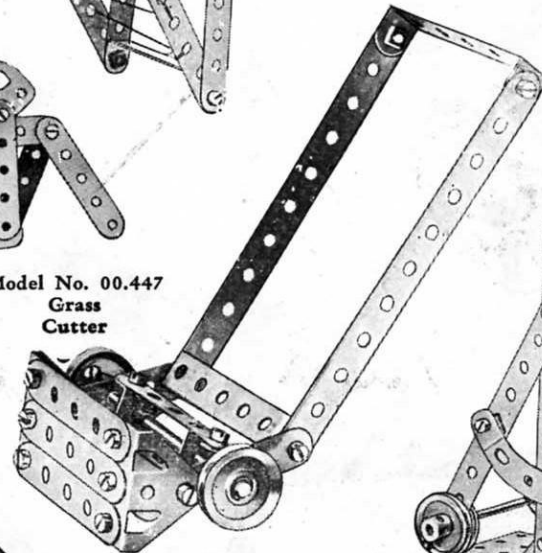
Model No. 00.445
Bucking
Broncho



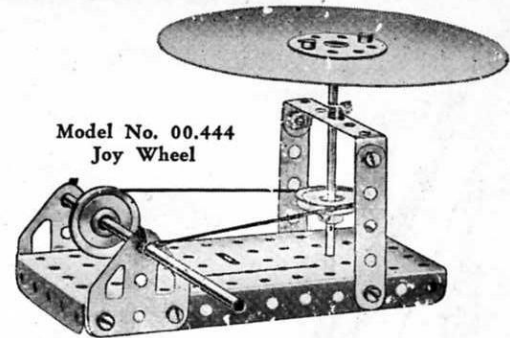
Model No. 00.446
Switch back



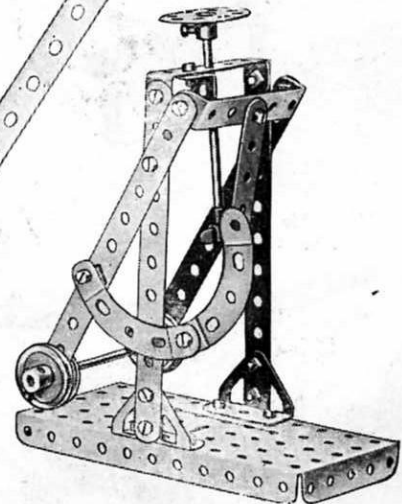
Model No. 00.447
Grass
Cutter



Model No. 00.444
Joy Wheel

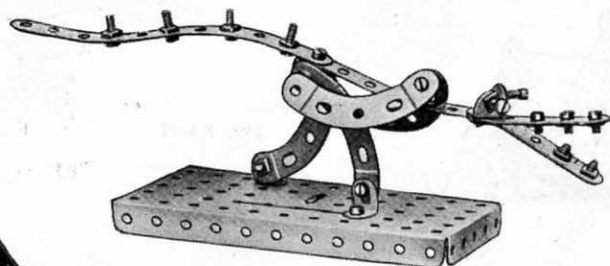


Model No. 00.448
Letter
Balance

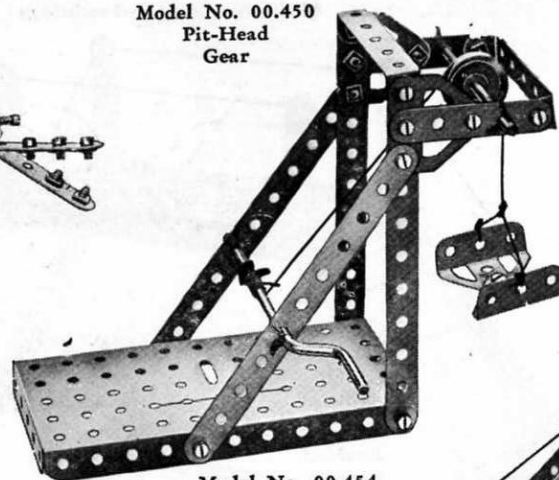


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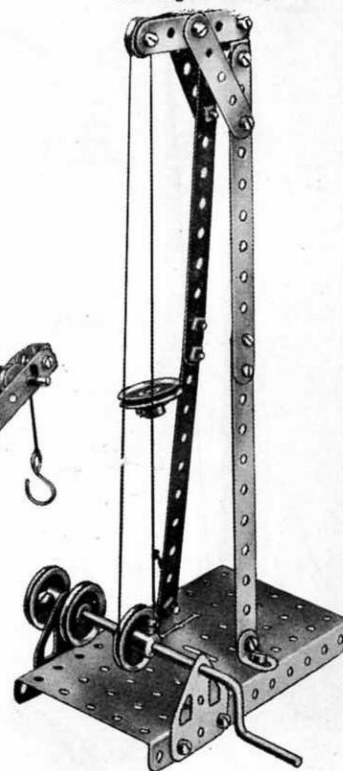
Model No. 00.449—Pterodactyl



Model No. 00.450
Pit-Head
Gear

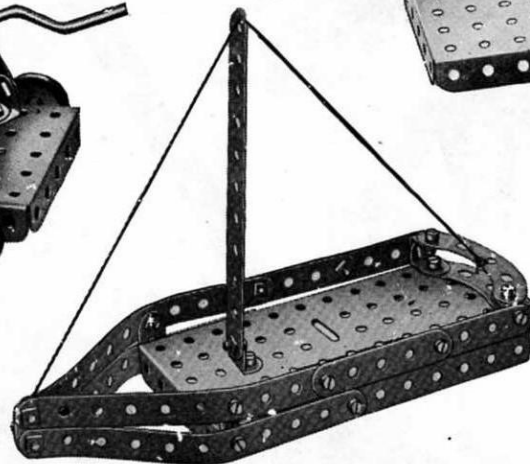
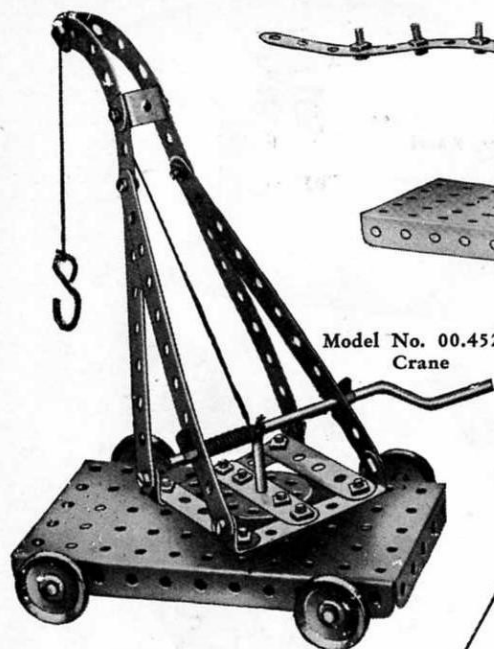


Model No. 00.451
Airship Mooring Mast

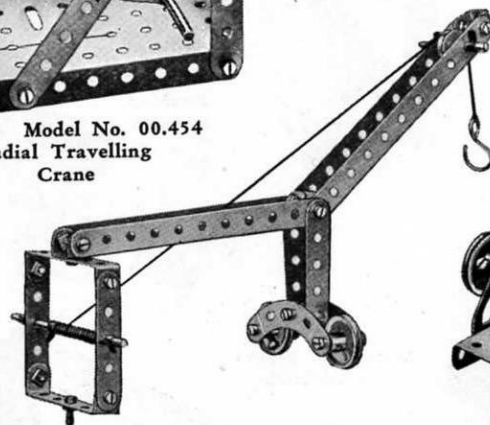


Model No. 00.452
Crane

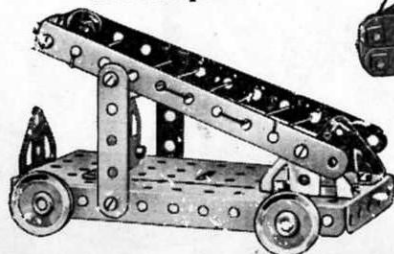
Model No. 00.453
Barge



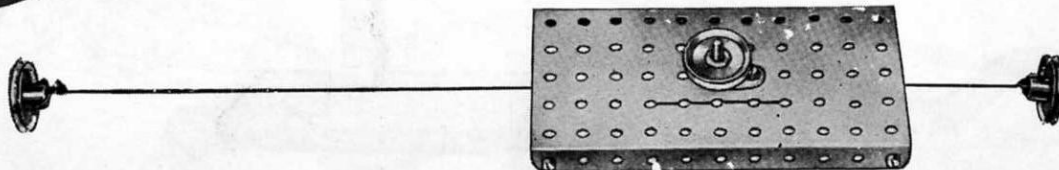
Model No. 00.454
Radial Travelling
Crane



Model No. 00.455
Fire Escape



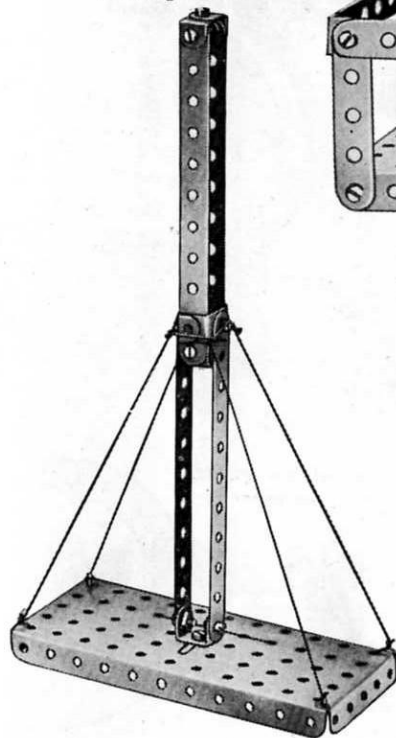
Model No. 00.456—Magic Plates



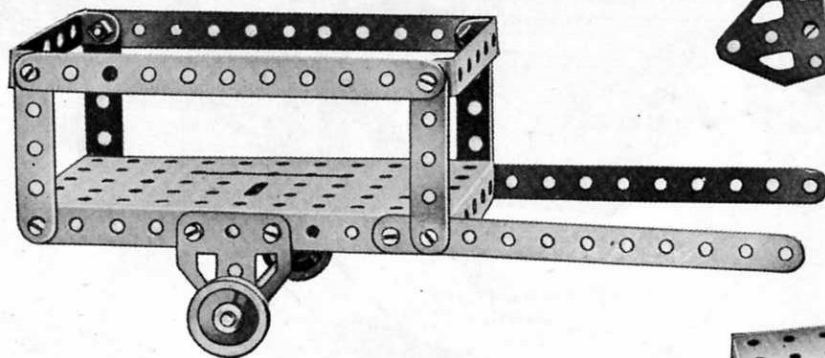
See last page of this Manual for list of models built with your outfit.

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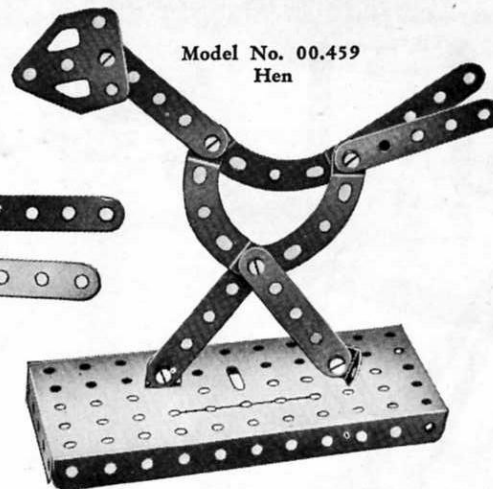
Model No. 00.457
Telescopic Mast



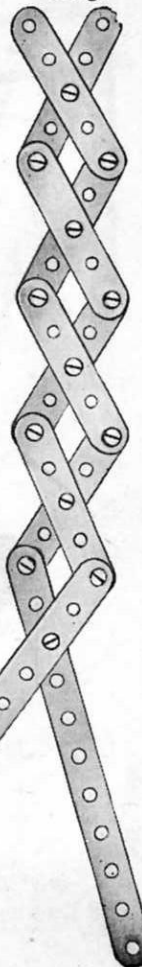
Model No. 00.458—Cart



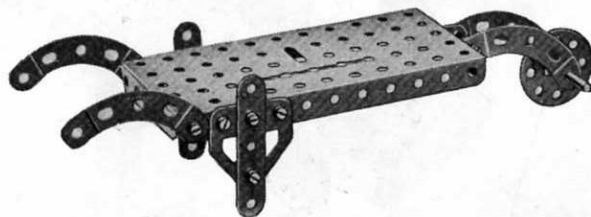
Model No. 00.459
Hen



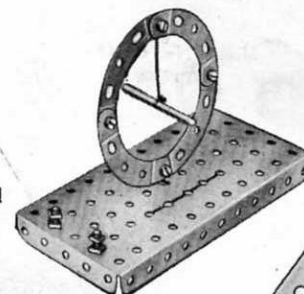
Model No. 00.460
Lazy
Tongs



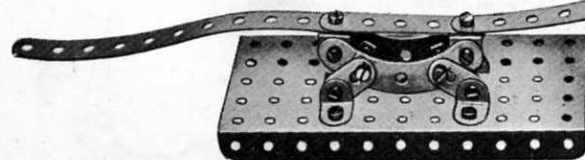
Model No. 00.461—Coster's Barrow



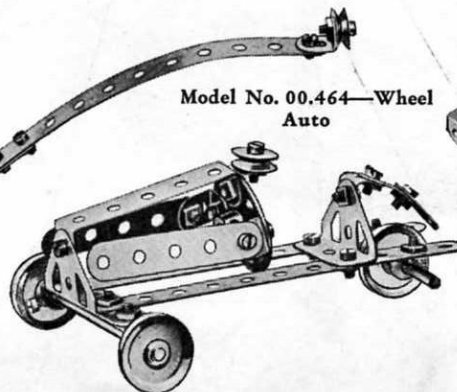
Model No. 00.462
Galvanometer



Model No. 00.463
Dinosaur

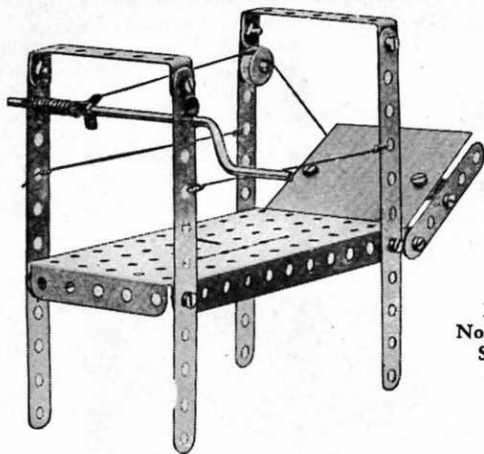


Model No. 00.464—Wheel
Auto

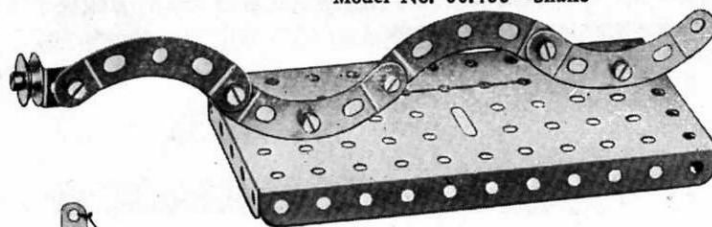


See last page of this Manual for list of models built with your outfit.

Model No. 00.465—Gangway

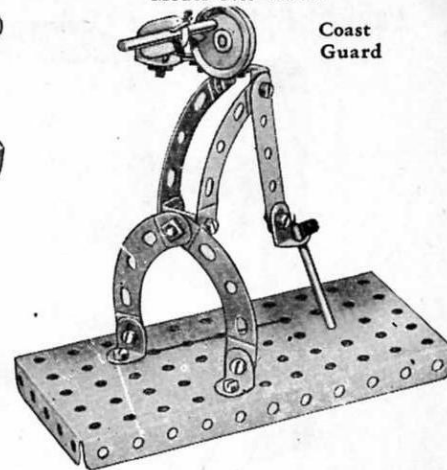


Model No. 00.466—Snake

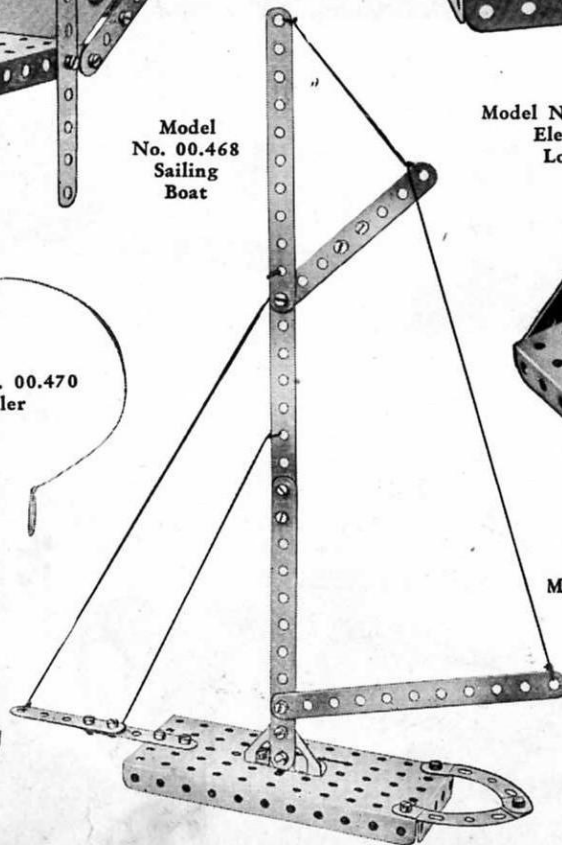


Model No. 00.467

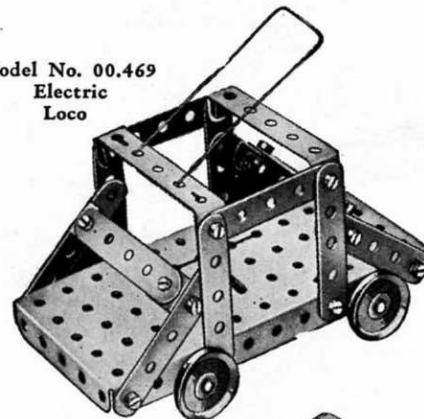
Coast
Guard



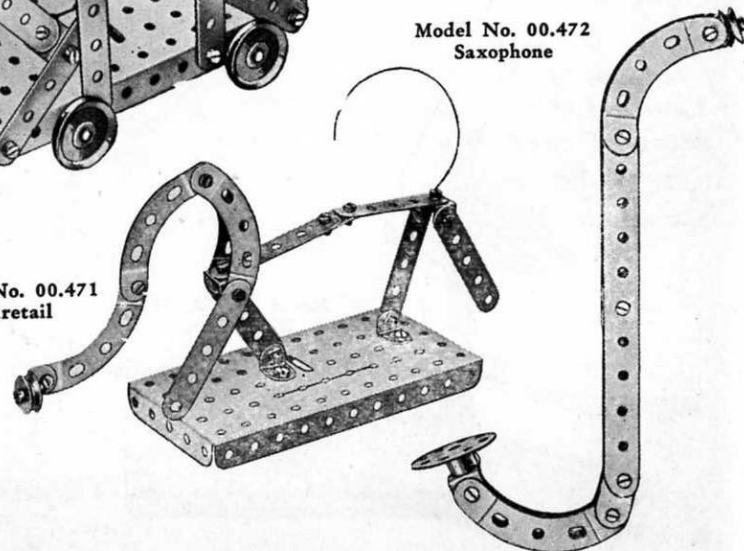
Model
No. 00.468
Sailing
Boat



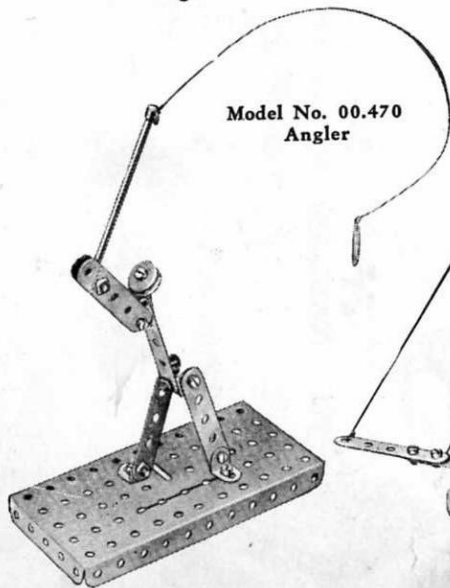
Model No. 00.469
Electric
Loco



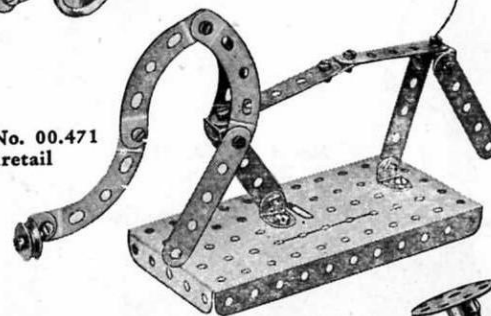
Model No. 00.472
Saxophone



Model No. 00.470
Angler



Model No. 00.471
Wiretail



See last page of this Manual for list of models built with your outfit.

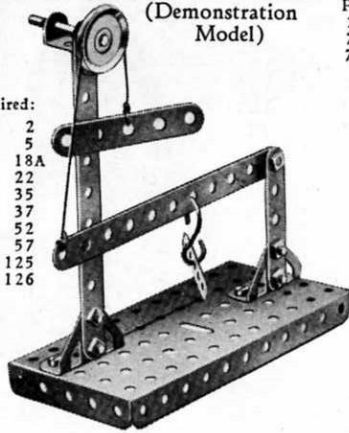
37

Model No. 0.1 Lever of the Third Order

(Demonstration Model)

Parts required:

2 of No.	2
4 " "	5
1 " "	18A
1 " "	22
1 " "	35
11 " "	37
1 " "	52
1 " "	57
1 " "	125
2 " "	126



Model No. 0.2 Lever of the Second Order (Demonstration Model)

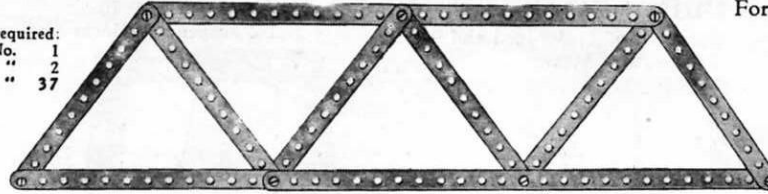
Parts required:

2 of No.	2
4 " "	5
1 " "	18A
1 " "	22
1 " "	35
11 " "	37
1 " "	52
1 " "	57
1 " "	125
1 " "	126
1 " "	126A



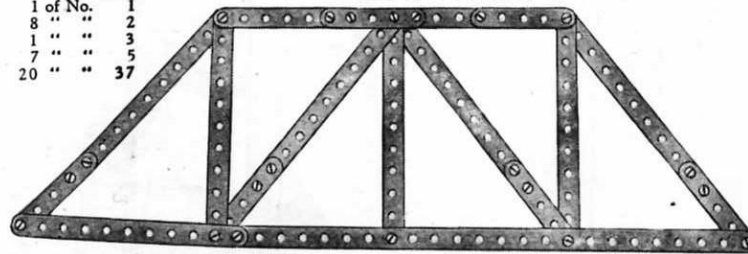
Model No. 0.3 Compound Triangulated Truss

Parts required:
2 of No. 1
7 " " 2
7 " " 37



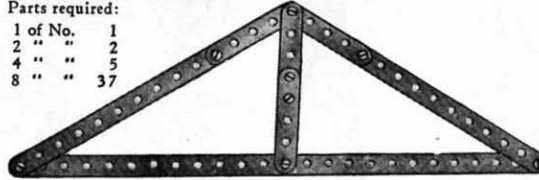
Parts required:
1 of No. 1
8 " " 2
1 " " 3
7 " " 5
20 " " 37

Model No. 0.4 Howe Truss

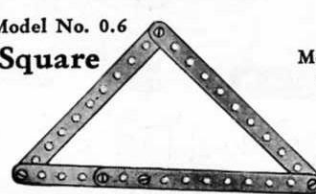


Model No. 0.5 Triangulated Truss

Parts required:
1 of No. 1
2 " " 2
4 " " 5
8 " " 37

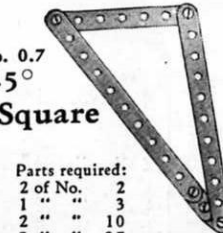


Model No. 0.6 60° Set-Square



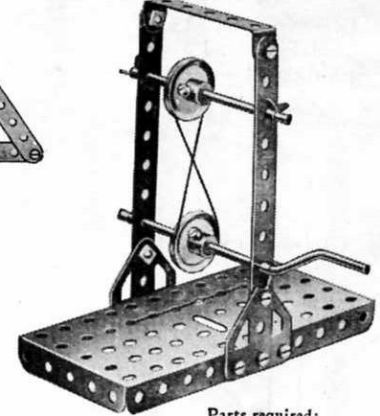
Parts required:
3 of No. 2 | 5 " " 37
1 " " 5

Model No. 0.7 45° Set-Square



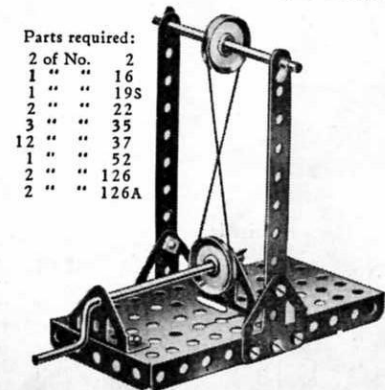
Parts required:
2 of No. 2
1 " " 3
2 " " 10
5 " " 37

Model No. 0.8 Belt Gear For Reversing Motion of Driven Shaft



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

Model No. 0.9 Belt Gear For Driving Shafts at Right Angle

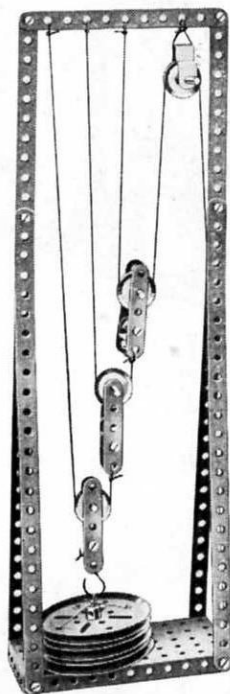


Parts required:
2 of No. 2
1 " " 16
1 " " 19S
2 " " 22
3 " " 35
12 " " 37
1 " " 52
2 " " 126
2 " " 126A

See last page of this Manual for list of models built with your outfit.

Model No. 0.10 Pulley Block

Demonstration Model;
1 Fixed and 3
Movable Sheaves

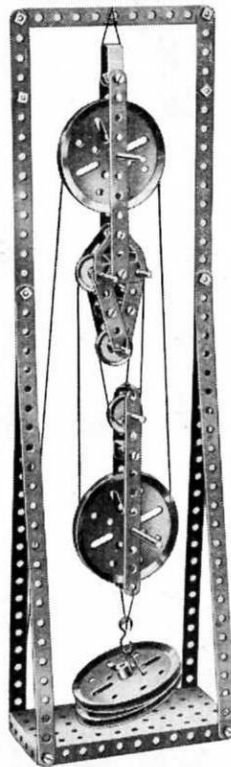


Parts required:

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

Model No. 0.11 Pulley Block

Demonstration Model; 3 Fixed and
2 Movable Sheaves

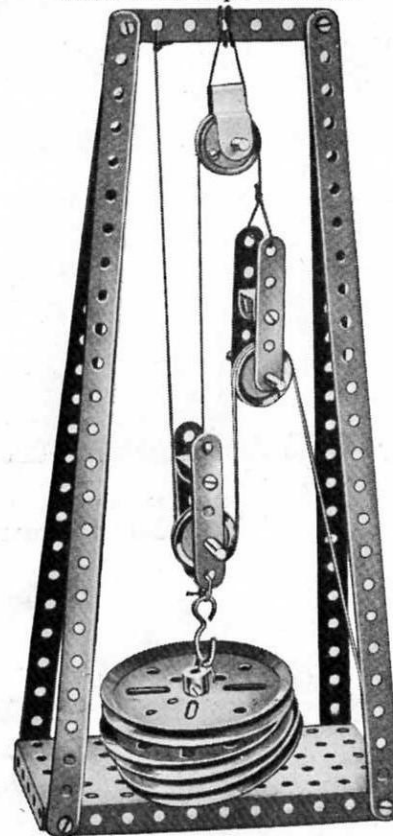


Parts required:

4 of No.	1	4 of No.	19B
7 " "	2	4 " "	22
6 " "	5	6 " "	35
2 " "	10	22 " "	37
2 " "	11	1 " "	44
2 " "	16	1 " "	52
2 " "	17	1 " "	57
2 " "	18A	2 " "	126

Model No. 0.12 Pulley Block

Demonstration Model; 1 Fixed
Sheave and 2 suspended Blocks



Parts required:

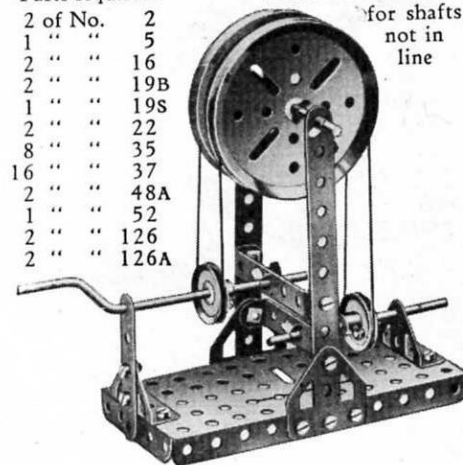
4 of No.	1	4 of No.	19B
1 " "	3	3 " "	22
4 " "	5	10 " "	37
2 " "	11	1 " "	44
1 " "	17	1 " "	52
2 " "	18A	1 " "	57

Model No. 0.13 Belt Gear

Drive Transmission
for shafts
not in
line

Parts required:

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

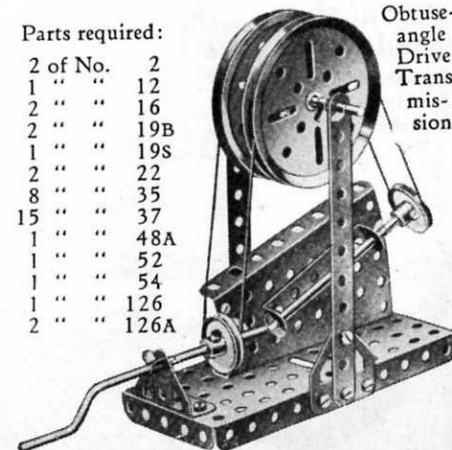


Model No. 0.14 Belt Gear

Obtuse-
angle
Drive
Trans-
mis-
sion

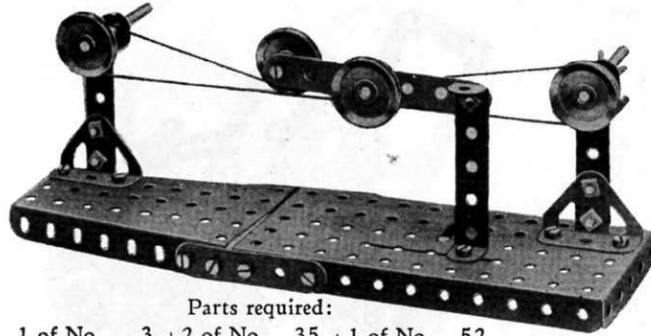
Parts required:

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



See last page of this Manual for list of models built with your outfit.

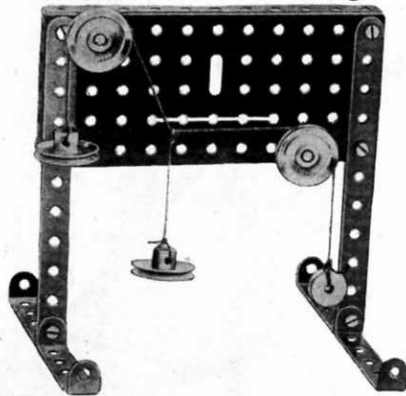
39

Model No. 0.15 Jockey Pulley

Parts required:

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

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

Model No. 0.17 Triangle of Forces

Parts required:

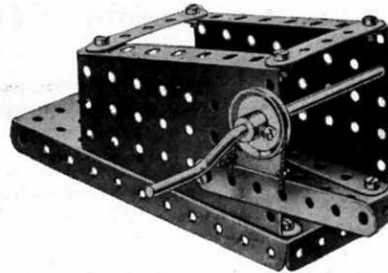
2 of No.	2
2 " "	18A
4 " "	22
1 " "	23
2 " "	35
8 " "	37
4 " "	48A
1 " "	52
2 " "	125

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

Model No. 0.16 Belt Gear

Parts required:

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

Model No. 0.18 Band Brake

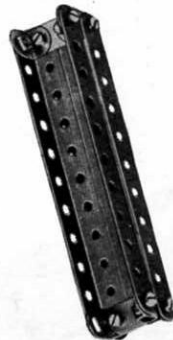
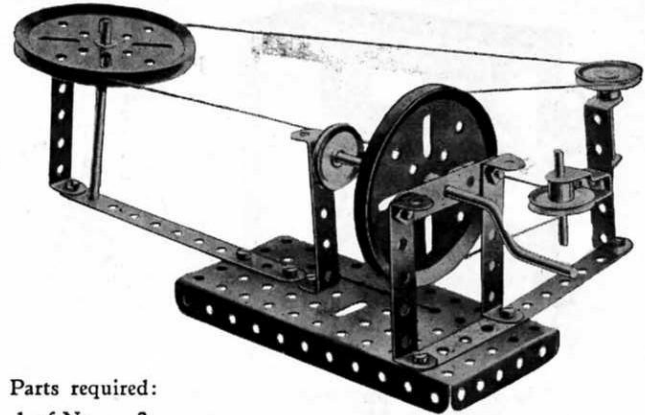
Parts required:

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

Model No. 0.19 "H" Girder

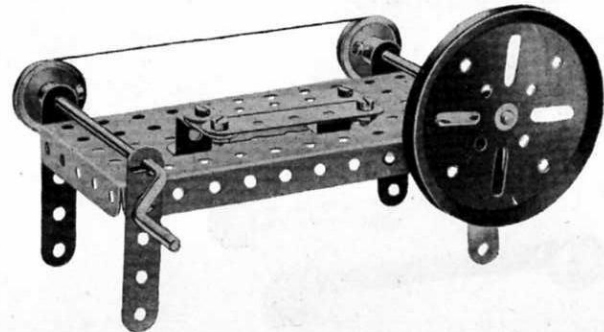
Parts required:

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

**Right-angle Drive Transmission****Model No. 0.20 Bacon Slicer**

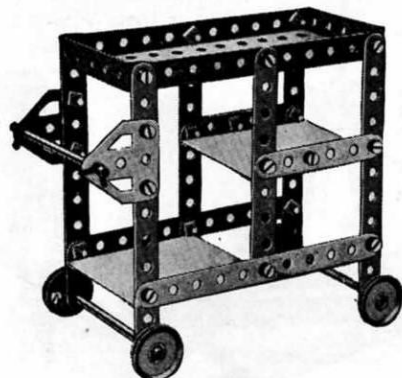
Parts required:

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



See last page of this Manual for list of models built with your outfit.

Model No. 0.21 Dinner Wagon

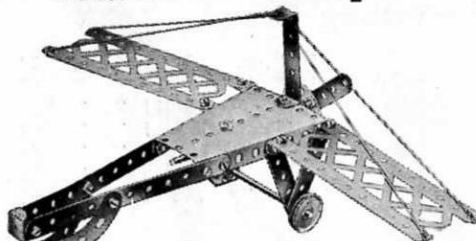


Parts required:

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

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

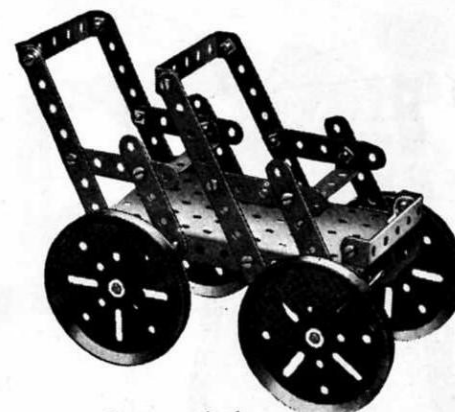
Model No. 0.22 Aeroplane



Parts required:

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

Model No. 0.23 Tandem Car



Parts required:

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

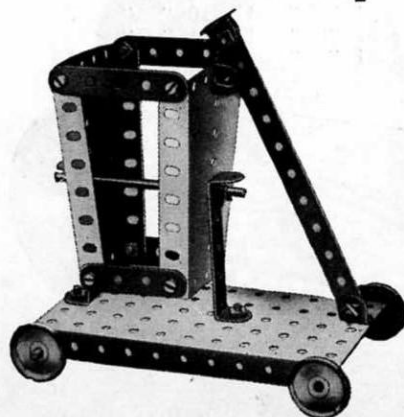
Model No. 0.25 Lumber Carrier



Parts required:

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

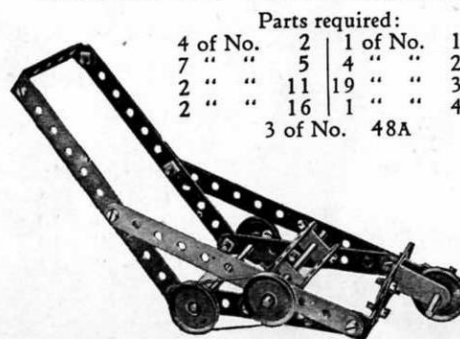
Model No. 0.24 Tip Wagon



Parts required:

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

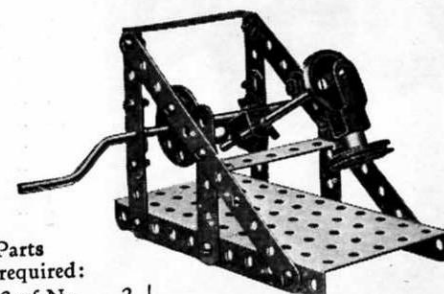
Model No. 0.26 Lawn Mower



Parts required:

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

Model No. 0.27 Mechanical Hammer

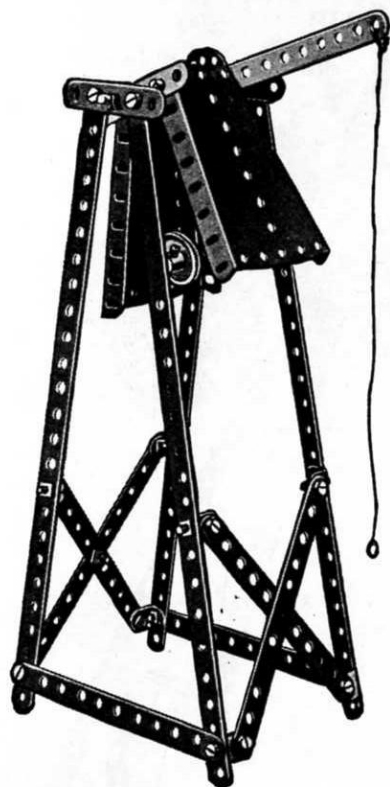


Parts required:

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

See last page of this Manual for list of models built with your outfit.

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Model No. 0.28 Fire Alarm

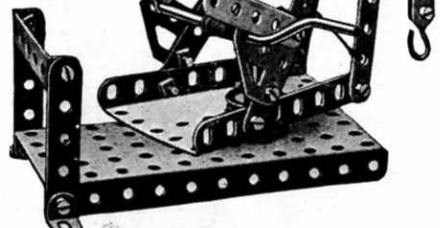
The rear Sector Plate is weighted so that it normally hangs in the position shown. When the cord is jerked, the other Sector Plate strikes against the 1" fast Pulley Wheel, which is loosely suspended on a 3½" Strip, and the clapper is thus caused to strike each Sector Plate in turn.

Parts required:

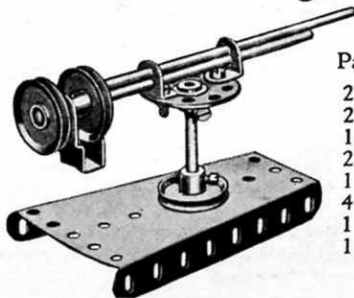
4 of No.	1	8 of No.	12	4 of No.	35
7 " "	2	1 " "	16	27 " "	37
1 " "	3	1 " "	22	2 " "	54
3 " "	5	1 " "	24		

Model No. 0.29**Swivelling Crane****Parts required:**

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



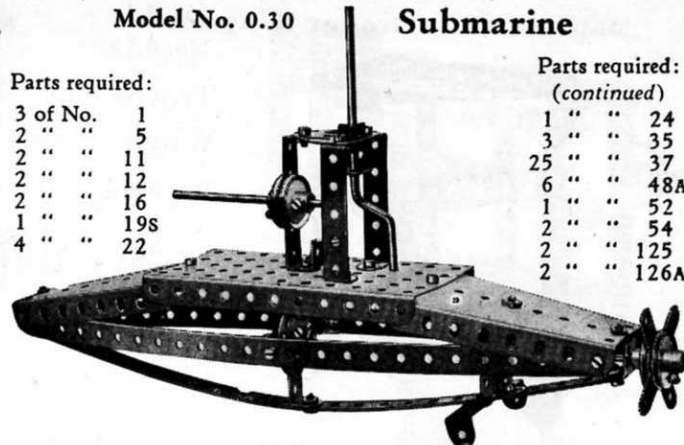
The Sector Plate of the Crane in this model is pivoted to the base with a fast Pulley above and below.

Model No. 0.31**Quick-Firing Gun****Parts required:**

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

Model No. 0.30**Submarine****Parts required:**

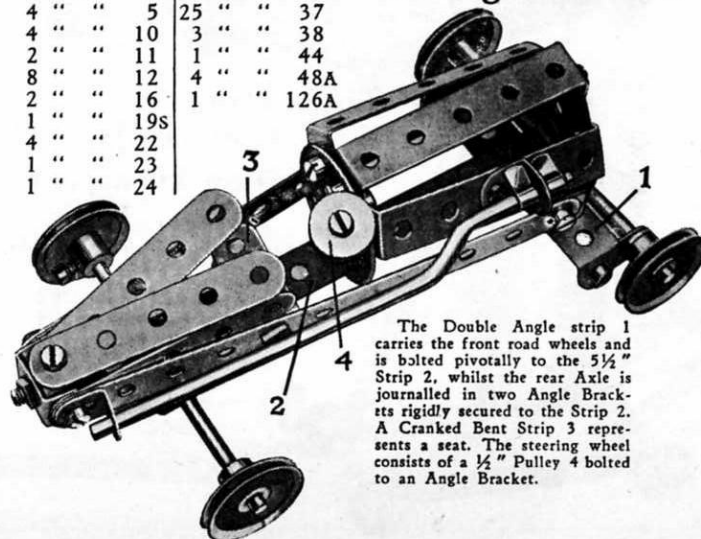
3 of No.	1
2 " "	5
2 " "	11
2 " "	12
2 " "	16
1 " "	19s
4 " "	22

**Parts required:
(continued)**

1 " "	24
3 " "	35
25 " "	37
6 " "	48A
1 " "	52
2 " "	54
2 " "	125
2 " "	126A

Model No. 0.32**Racing Motor Car****Parts required:**

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



The Double Angle strip 1 carries the front road wheels and is bolted pivotally to the 5½" Strip 2, whilst the rear Axle is journaled in two Angle Brackets rigidly secured to the Strip 2. A Cranked Bent Strip 3 represents a seat. The steering wheel consists of a ½" Pulley 4 bolted to an Angle Bracket.

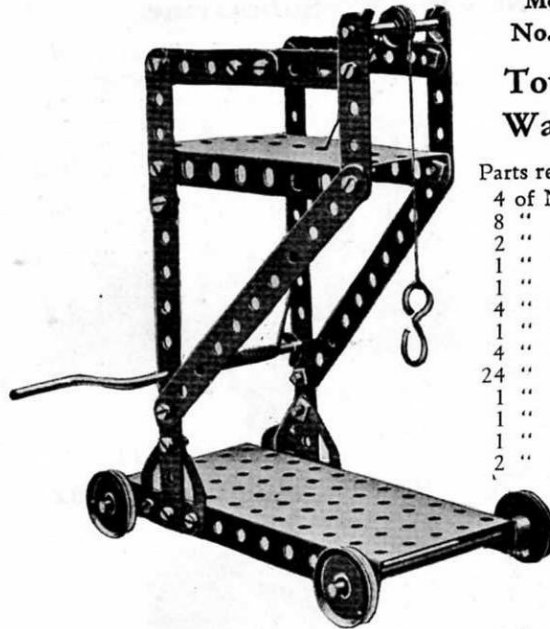
See last page of this Manual for list of models built with your outfit.

**Model
No. 0.33**

**Tower
Wagon**

Parts required

4 of No.	2
8 " "	5
2 " "	16
1 " "	17
1 " "	19S
4 " "	22
1 " "	23
4 " "	35
24 " "	37
1 " "	52
1 " "	54
1 " "	57
2 " "	126A

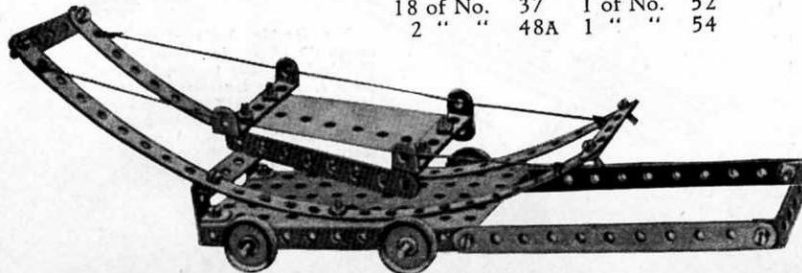


Model No. 0.34

Mountain Transport

Parts required:

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

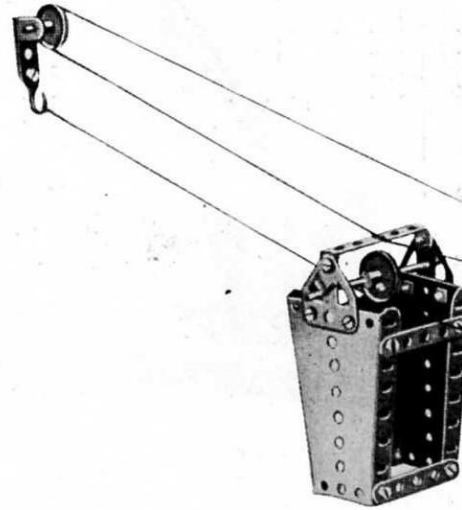


Model No. 0.35

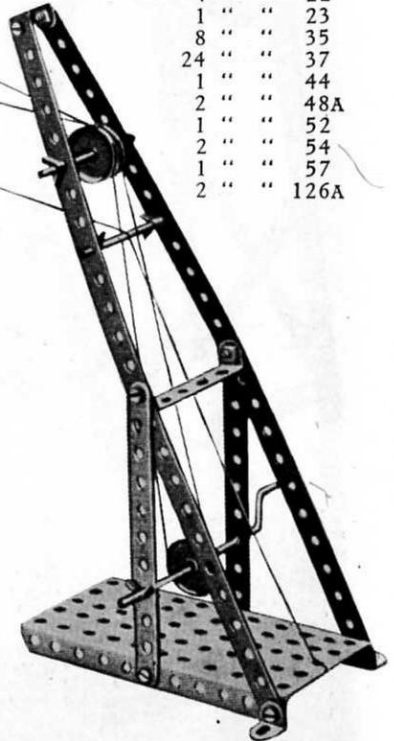
Telpher Span

Parts required

2 of No.	1
2 " "	2
4 " "	5
1 " "	10
1 " "	11
4 " "	12
3 " "	16
1 " "	18A
1 " "	19
4 " "	22
1 " "	23
8 " "	35
24 " "	37
1 " "	44
2 " "	48A
1 " "	52
2 " "	54
1 " "	57
2 " "	126A

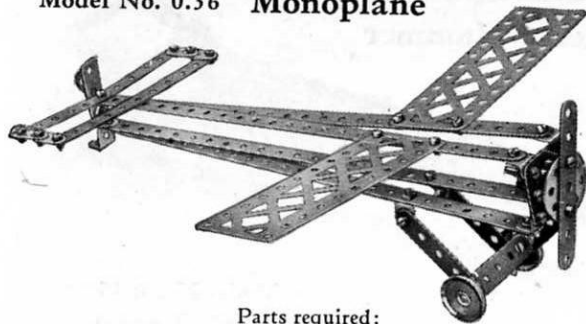


This model will provide many hours of enjoyment. The cords may be made to any length to allow the load to be carried from one side of the room to the other, and, if necessary, a better grip may be obtained by winding the operating cord twice round the Pulley on the Crank Handle. The open sides of the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



See last page of this Manual for list of models built with your outfit.

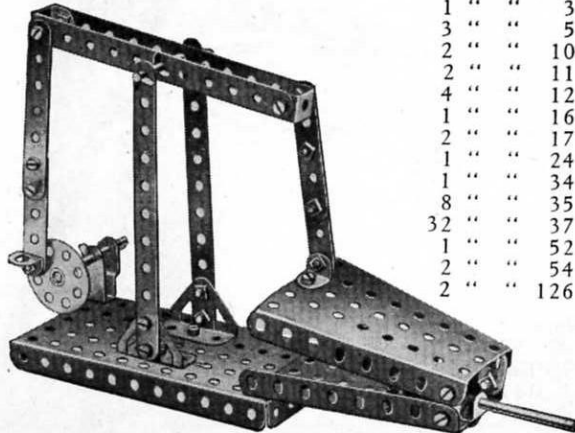
Model No. 0.36 Monoplane



Parts required:

4 of No.	2	1 of No.	17	1 of No.	38
7 " "	5	1 " "	22	1 " "	48A
3 " "	10	1 " "	24	4 " "	90A
2 " "	11	1 " "	35	2 " "	100
3 " "	12	25 " "	37	2 " "	126
1 " "	16				

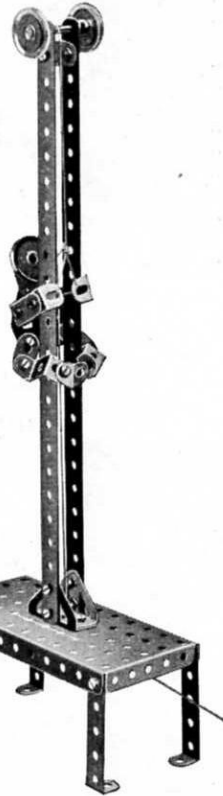
Model No. 0.39 Bellows



Parts required:

4 of No.	2
1 " "	3
3 " "	5
2 " "	10
2 " "	11
4 " "	12
1 " "	16
2 " "	17
1 " "	24
1 " "	34
8 " "	35
32 " "	37
1 " "	52
2 " "	54
2 " "	126

**Model No. 0.37
The Climber**



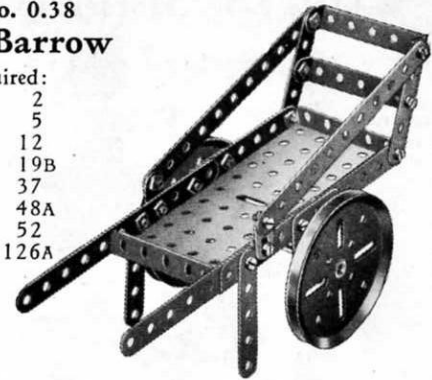
Parts required:

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

**Model No. 0.38
Coster's Barrow**

Parts required:

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



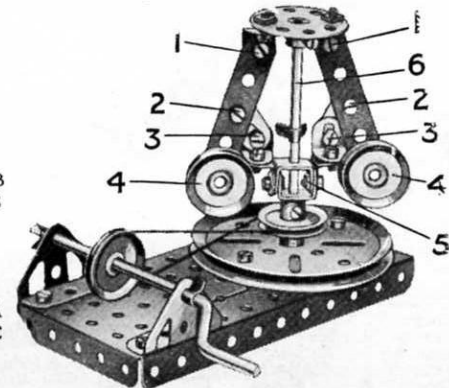
Model No. 0.40

Centrifugal Governor

The 3" Pulley Wheel is bolted to the 5 1/2"x2 1/2" Flanged Plate as shown, and the Rod 6 is free to rotate in its boss. The bolts 1, 2, 3 are provided with lock-nuts. When the engine to which the governor is attached works at too great a speed, the 1" fast Pulley Wheels 4 fly outward and lift the two Double Brackets 5. In actual practice this movement is utilized to close the engine valve and so reduce speed.

Parts required:

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

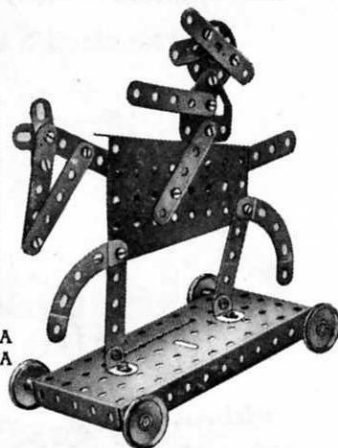


See last page of this Manual for list of models built with your outfit.

Model No. 0.41 Horseman

Parts required:

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

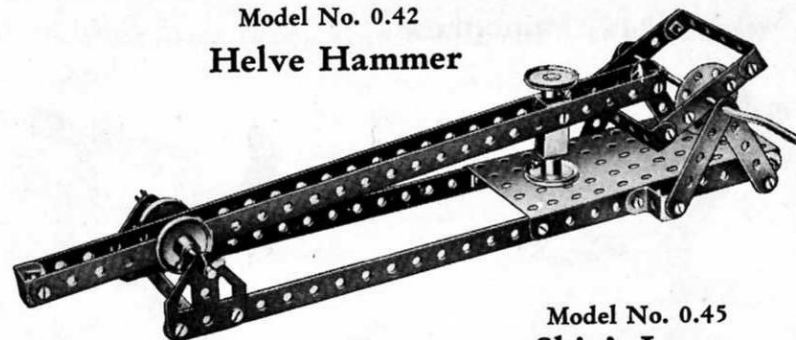


Parts required:

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

Model No. 0.42

Helve Hammer



**Model No. 0.45
Ship's Lamp**

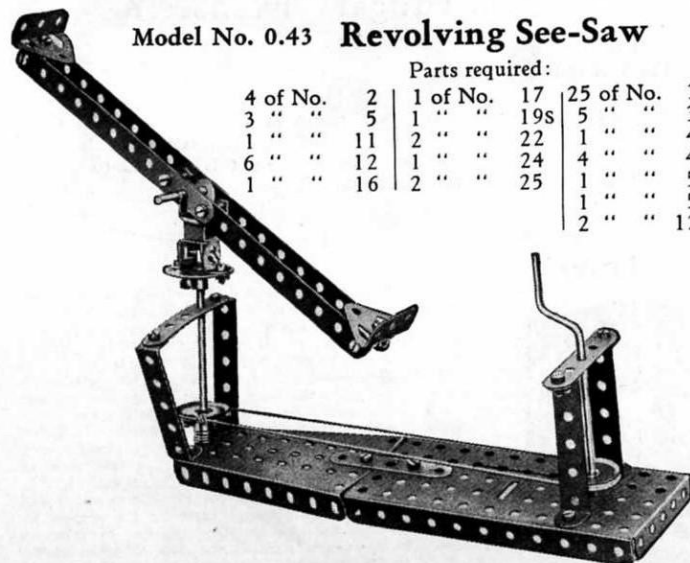
Parts required:

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

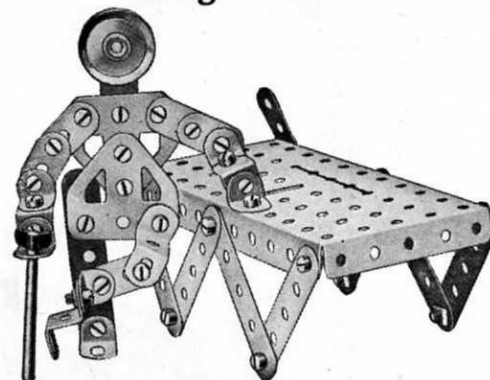
Model No. 0.43 Revolving See-Saw

Parts required:

4 of No.	2	1 of No.	17	25 of No.	37
3 " "	5	1 " "	19S	5 " "	38
1 " "	11	2 " "	22	1 " "	44
6 " "	12	1 " "	24	4 " "	48A
1 " "	16	2 " "	25	1 " "	52
				1 " "	54
				2 " "	125

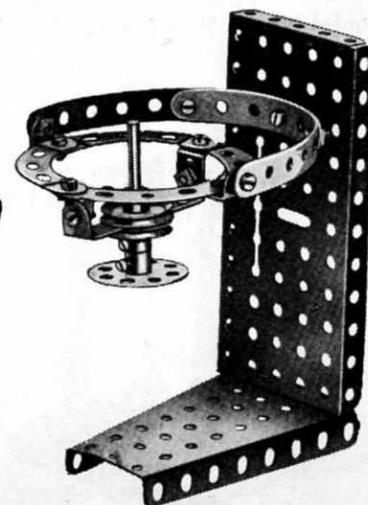


**Model No. 0.44
King Meccano**



Parts required:

1 of No.	3	29 of No.	37
9 " "	5	1 " "	52
4 " "	10	1 " "	100
1 " "	17	2 " "	111C
1 " "	22	2 " "	125

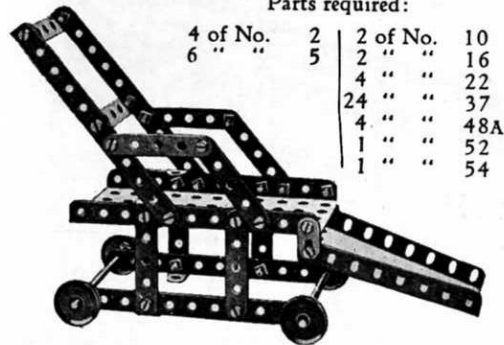


See last page of this Manual for list of models built with your outfit.

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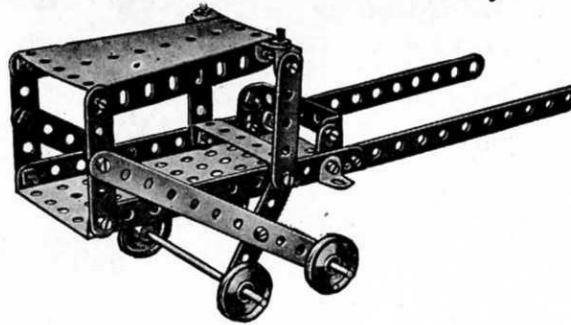
Model No. 0.46 Invalid Chair

Parts required:



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

Model No. 0.47 Ticca Gharry



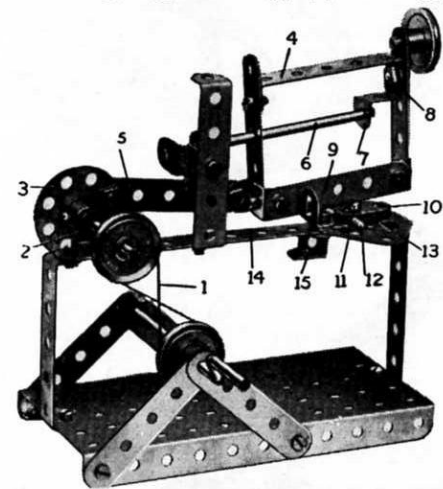
Parts required:

4 of No.	2	2 of No.	16	2 of No.	48A
6 " "	5	4 " "	22	1 " "	52
2 " "	10	22 " "	37	1 " "	54
6 " "	12				

Model No. 0.48 Mechanical Saw

Parts required:

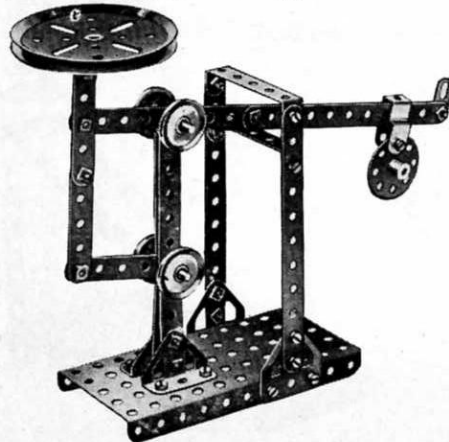
1 of No.	2	1 of No.	17	4 of No.	38
8 " "	5	1 " "	19S	1 " "	44
1 " "	10	3 " "	22	4 " "	48A
1 " "	11	1 " "	24	1 " "	52
4 " "	12	3 " "	35	2 " "	125
1 " "	16	22 " "	37	1 " "	126A



Model No. 0.49 Letter Balance

Parts required:

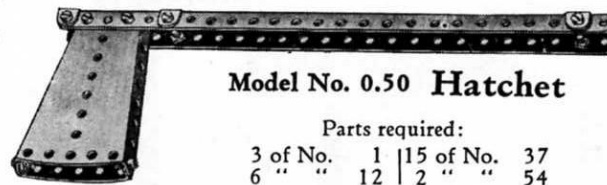
6 of No.	2	4 of No.	22	2 of No.	48A
3 " "	5	1 " "	24	1 " "	52
1 " "	10	26 " "	37	2 " "	111C
1 " "	12	4 " "	37A	2 " "	126
2 " "	18A	2 " "	38	2 " "	126A
1 " "	19B	1 " "	44		



Model No. 0.50 Hatchet

Parts required:

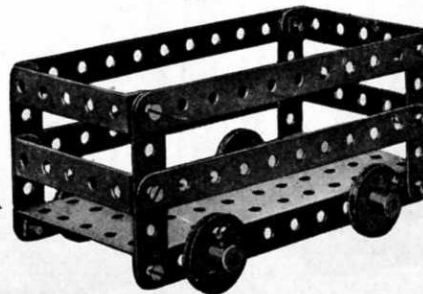
3 of No.	1	15 of No.	37
6 " "	12	2 " "	54



Model No. 0.51 Truck with Sides

Parts required:

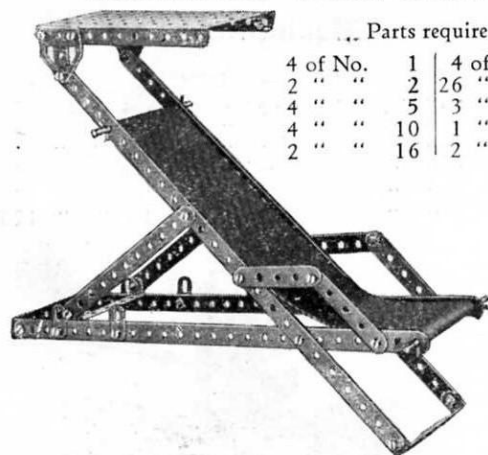
4 of No.	2
4 " "	5
2 " "	16
4 " "	22
12 " "	37
4 " "	48A
1 " "	52



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

See last page of this Manual for list of models built with your outfit.

Model No. 0.52 Deck Chair

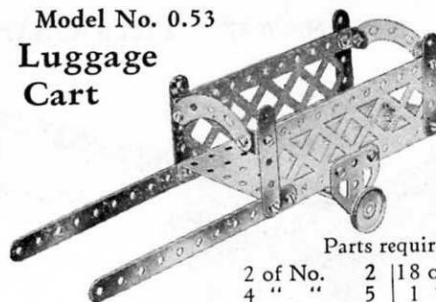


Parts required:

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

Model No. 0.53

Luggage Cart



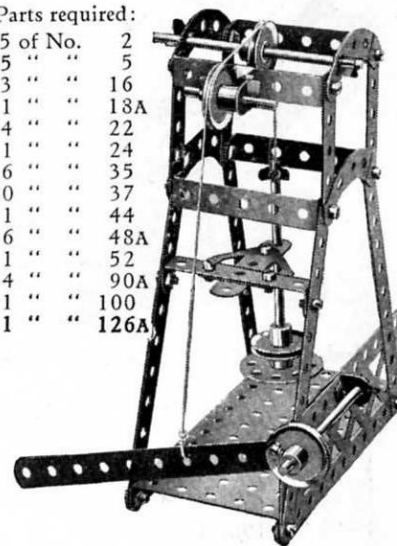
Parts required:

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

Model No. 0.54 Mechanical Stamp

Parts required:

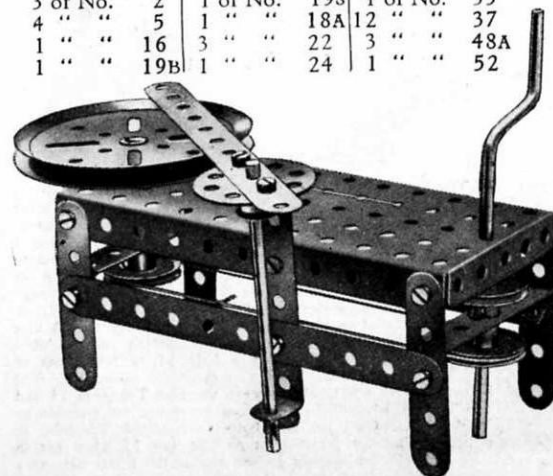
5 of No.	2
5 " "	5
3 " "	16
1 " "	18A
4 " "	22
1 " "	24
6 " "	35
20 " "	37
1 " "	44
6 " "	48A
1 " "	52
4 " "	90A
1 " "	100
1 " "	126A



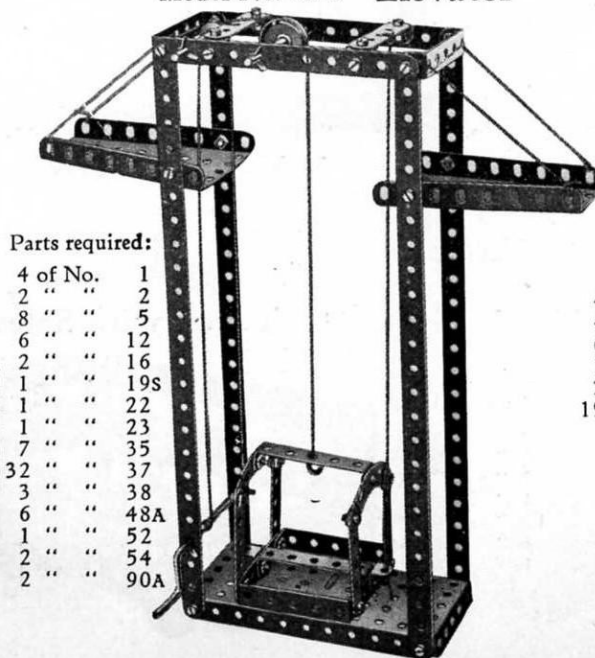
Model No. 0.55 Potter's Wheel

Parts required:

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



Model No. 0.56 Elevator



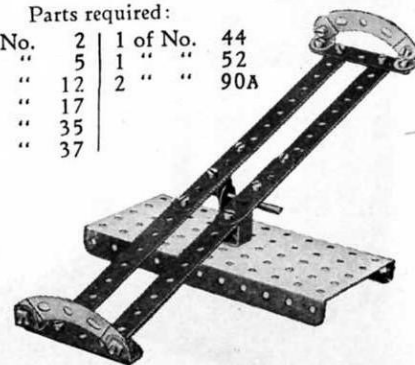
Parts required:

4 of No.	1
2 " "	2
8 " "	5
6 " "	12
2 " "	16
1 " "	19S
1 " "	22
1 " "	23
7 " "	35
32 " "	37
3 " "	38
6 " "	48A
1 " "	52
2 " "	54
2 " "	90A

Model No. 0.57 See-saw

Parts required:

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



See last page of this Manual for list of models built with your outfit.

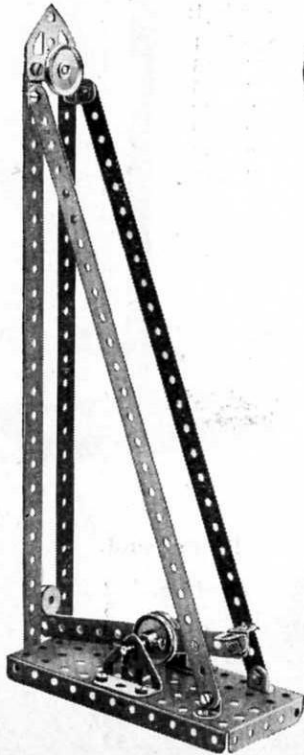
47

Model No. 0.58

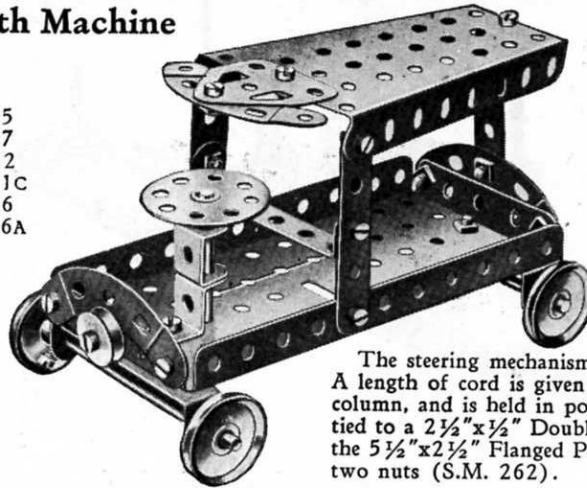
Try Your Strength Machine

Parts required:

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



Model No. 0.59 Motor Van



Parts required:

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

The steering mechanism is shown more clearly in Fig. 1.59a. A length of cord is given two or three turns round the steering column, and is held in position by a Spring Clip, its ends being tied to a $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip. The latter is pivoted to the $5\frac{1}{2} \times 2\frac{1}{2}$ " Flanged Plate of the van by means of a bolt and two nuts (S.M. 262).

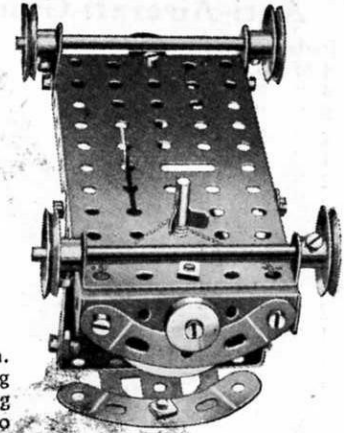


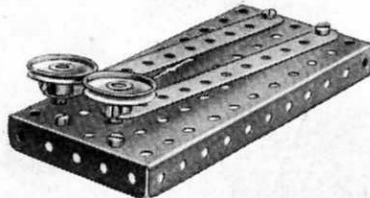
Fig. 1.59a

Model No. 0.60

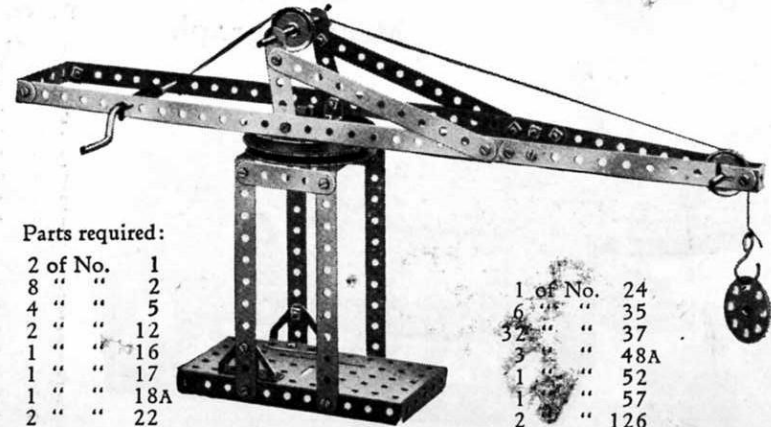
Double Cable Key

Parts required:

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



Model No. 0.61 Revolving Hammerhead Crane



Parts required:

2 of No.	1
8 " "	2
4 " "	5
2 " "	12
1 " "	16
1 " "	17
1 " "	18A
2 " "	22

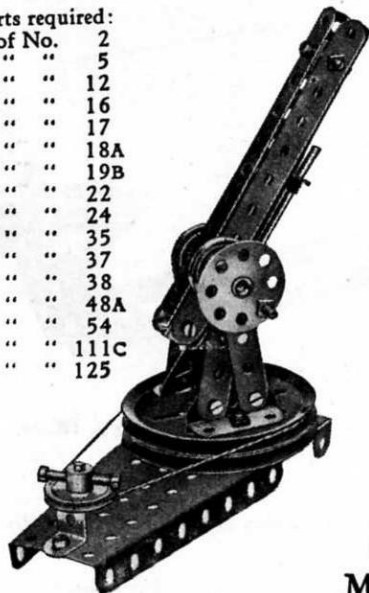
1 of No.	24
6 " "	35
32 " "	37
3 " "	48A
1 " "	52
1 " "	57
2 " "	126

See last page of this Manual for list of models built with your outfit.

Model No. 0.62 Anti-Aircraft Gun

Parts required:

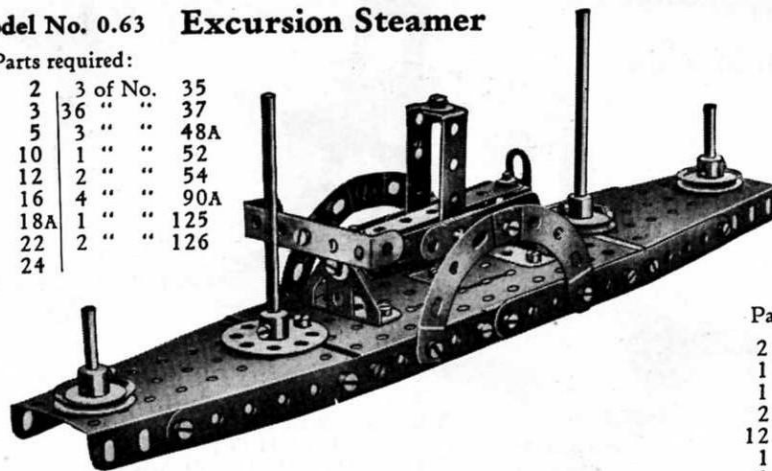
4 of No.	2
4 " "	5
8 " "	12
1 " "	16
1 " "	17
2 " "	18A
2 " "	19B
3 " "	22
1 " "	24
4 " "	35
18 " "	37
2 " "	38
1 " "	48A
1 " "	54
3 " "	111C
1 " "	125



Model No. 0.63 Excursion Steamer

Parts required:

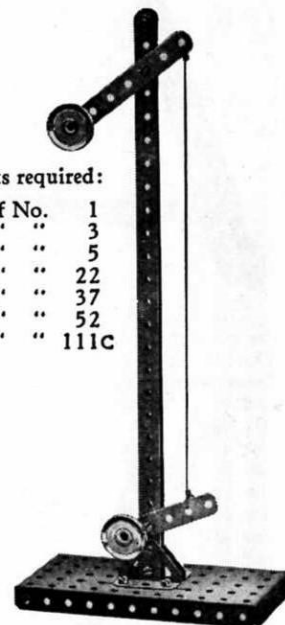
4 of No.	2	3 of No.	35
1 " "	3	36 " "	37
4 " "	5	3 " "	48A
1 " "	10	1 " "	52
2 " "	12	2 " "	54
2 " "	16	4 " "	90A
2 " "	18A	1 " "	125
3 " "	22	2 " "	126
1 " "	24		



Model No. 0.64 Semaphore Signal

Parts required:

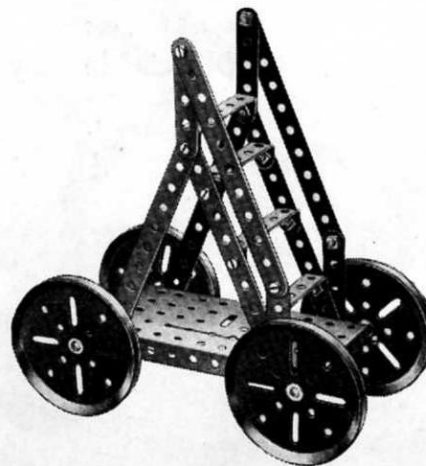
2 of No.	1
1 " "	3
1 " "	5
2 " "	22
12 " "	37
1 " "	52
2 " "	111C



Model No. 0.66 Ladder on Wheels

Parts required:

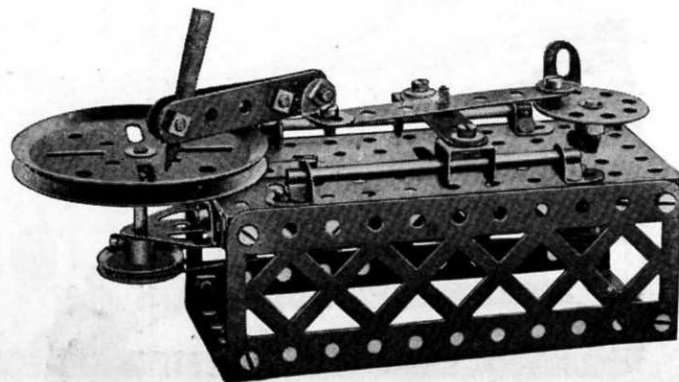
1 of No.	3
4 " "	5
2 " "	11
6 " "	12
2 " "	16
2 " "	17
1 " "	19B
2 " "	22
1 " "	24
5 " "	35
21 " "	37
2 " "	37A
2 " "	38
2 " "	48A
1 " "	52
2 " "	100
3 " "	111C
2 " "	126



Parts required:

6 of No.	2
4 " "	5
2 " "	12
4 " "	19B
16 " "	37
8 " "	38
4 " "	48A
1 " "	52

Model No. 0.65 Meccanograph

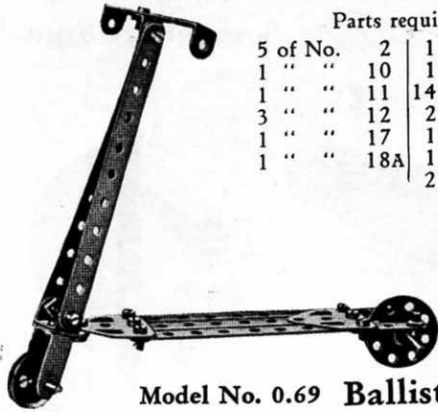


See last page of this Manual for list of models built with your outfit.

Model No. 0.67 Scooter

Parts required:

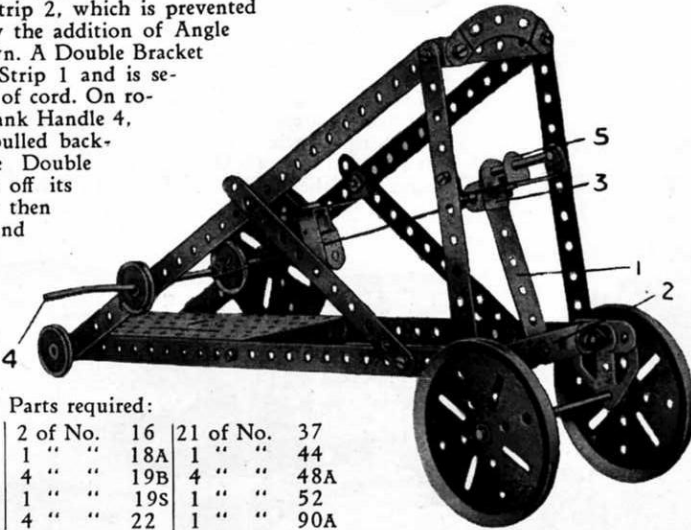
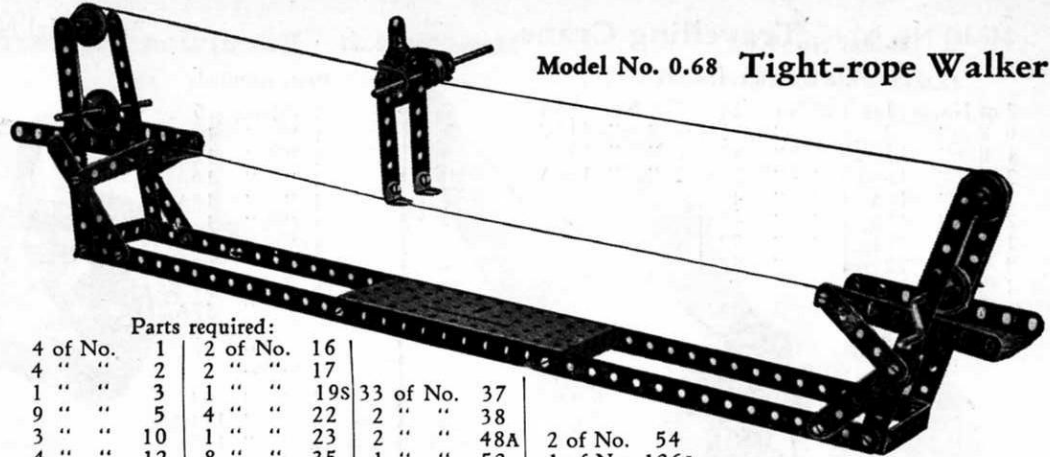
5 of No.	2	1 of No.	22
1 " "	10	1 " "	24
1 " "	11	14 " "	37
3 " "	12	2 " "	38
1 " "	17	1 " "	44
1 " "	18A	1 " "	48A
		2 " "	126A

**Model No. 0.69 Ballista**

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

Parts required:

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

**Model No. 0.68 Tight-rope Walker**

Parts required:

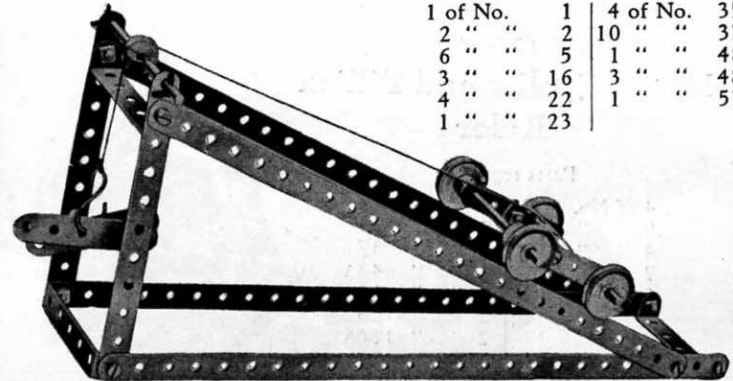
4 of No.	1	2 of No.	16		
4 " "	2	2 " "	17		
1 " "	3	1 " "	19S	33 of No.	37
9 " "	5	4 " "	22	2 " "	38
3 " "	10	1 " "	23	2 " "	48A
4 " "	12	8 " "	35	1 " "	52
				2 of No.	54
				1 of No.	126A

Model No. 0.70 Inclined Plane

The inclined plane, like the various systems of pulleys and levers, is a device for making a small force overcome a greater one. Thus the weight of the two $2\frac{1}{2}$ " Strips is sufficient to restrain the much heavier truck, or even to raise the latter although for every inch of vertical movement of the truck the Strips must move through two or more inches.

Parts required:

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

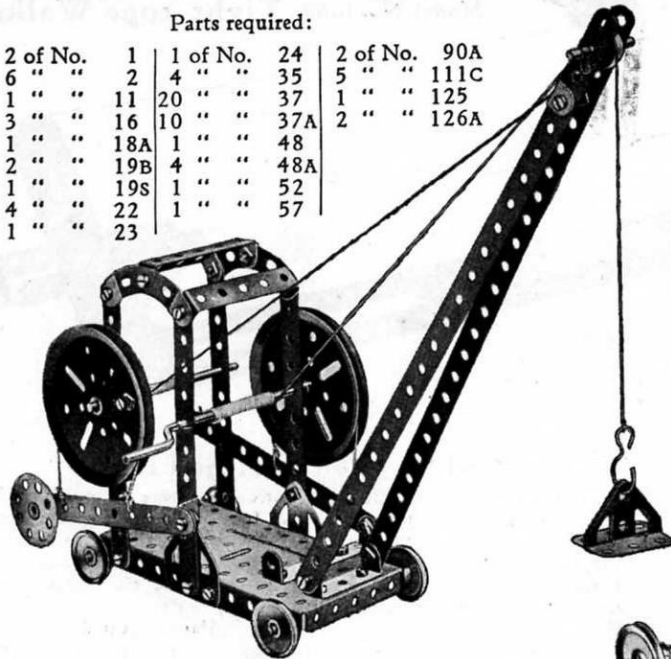


See last page of this Manual for list of models built with your outfit.

Model No. 0.71 Travelling Crane

Parts required:

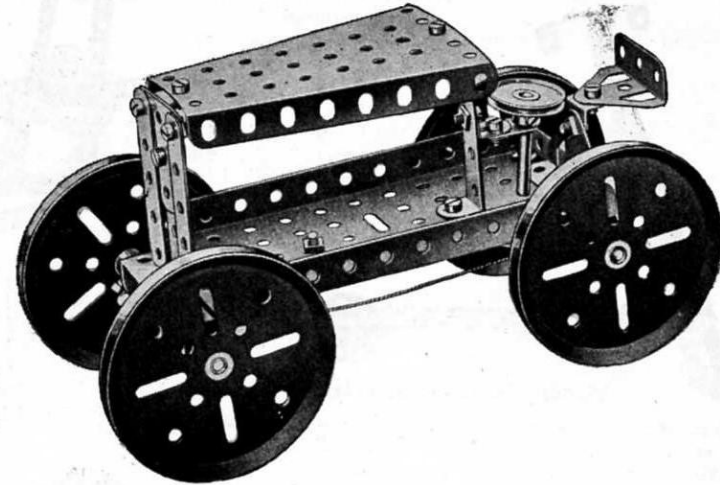
2 of No.	1	1 of No.	24	2 of No.	90A
6 " "	2	4 " "	35	5 " "	111C
1 " "	11	20 " "	37	1 " "	125
3 " "	16	10 " "	37A	2 " "	126A
1 " "	18A	1 " "	48		
2 " "	19B	4 " "	48A		
1 " "	19S	1 " "	52		
4 " "	22	1 " "	57		
1 " "	23				



Parts required:

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

Model No. 0.72 Motor Tractor



The steering gear is shown in Fig. 0.72a. The front wheels are carried in a $2\frac{1}{2} \times \frac{1}{2}$ Double Angle Strip 1, which is mounted pivotally by a bolt and two nuts (S.M. 262) to a $2\frac{1}{2}$ Strip 2 secured to the $5\frac{1}{2} \times 2\frac{1}{2}$ Flanged Plate.

Model No. 0.73 Motor Cyclist and Pillion Rider

Parts required:

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

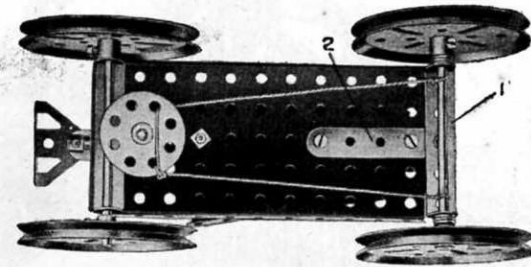
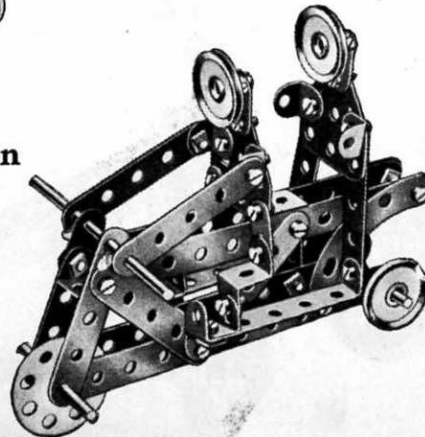
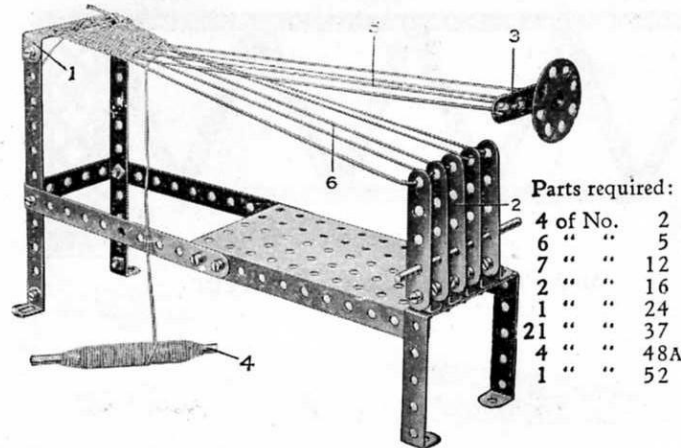


Fig. 0.72a

See last page of this Manual for list of models built with your outfit.

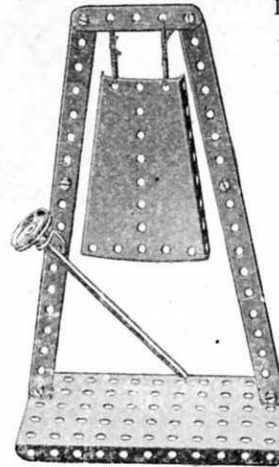
51

Model No. 0.74 Hand Loom



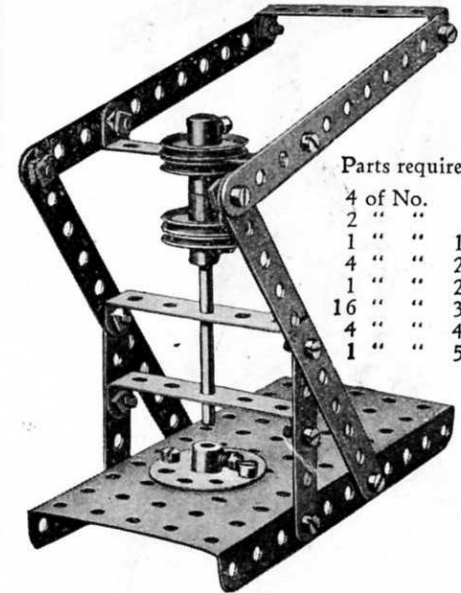
The warp threads are tied at one end to a Double Angle Strip 1, whilst their other ends are secured alternately to the tops of the upright Strips 2, and the $2\frac{1}{2}$ " Strip 3. The "shedding" movement of the warp is obtained by moving the Strip 3 up or down each time the shuttle—a $3\frac{1}{2}$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

Model No. 0.75 Gong

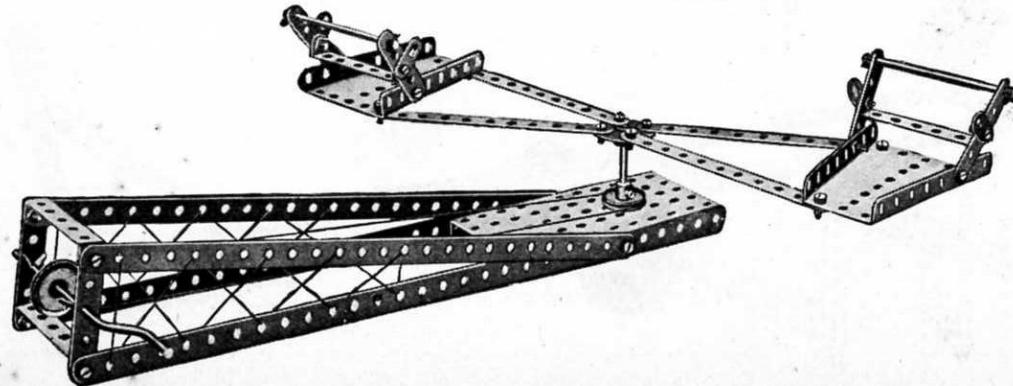


Model No. 0.76

Punching Machine



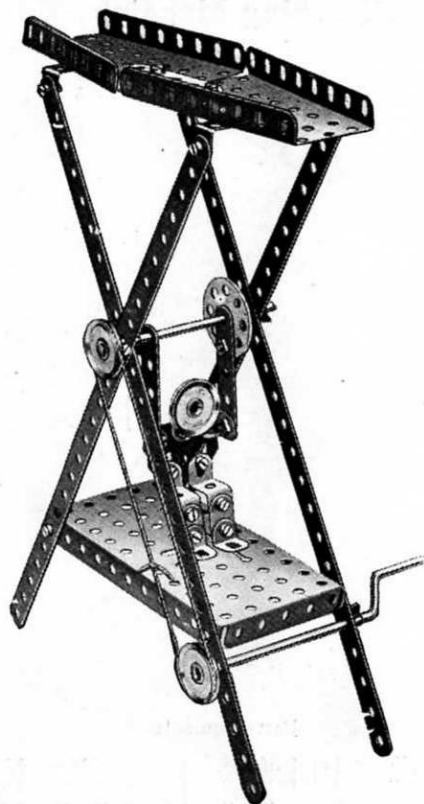
Model No. 0.77 Roundabout



The vertical spindle of the Roundabout is secured in place in the base Plate by means of a 1" fast Pulley bolted on either side of the Plate. Washers should be placed beneath these Pulleys in order to obtain freedom of movement.

See last page of this Manual for list of models built with your outfit.

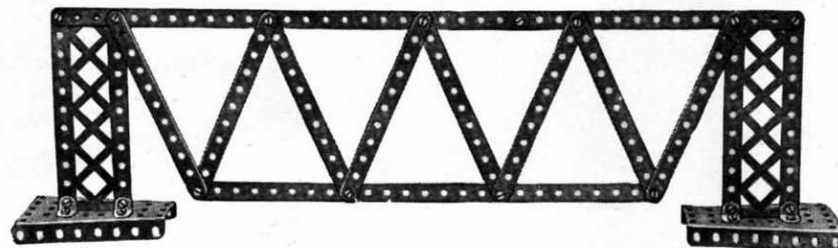
Model No. 0.78 Revolving Acrobat



Parts required:

4 of No.	1	3 of No.	35
3 " "	5	24 " "	37
3 " "	10	2 " "	48A
4 " "	12	1 " "	52
1 " "	16	2 " "	54
1 " "	19s	2 " "	125
3 " "	22	1 " "	126A
1 " "	24		

Model No. 0.79 Inverted Truss



Parts required:

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

Model No. 0.81 Coat Hanger



Parts required:

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

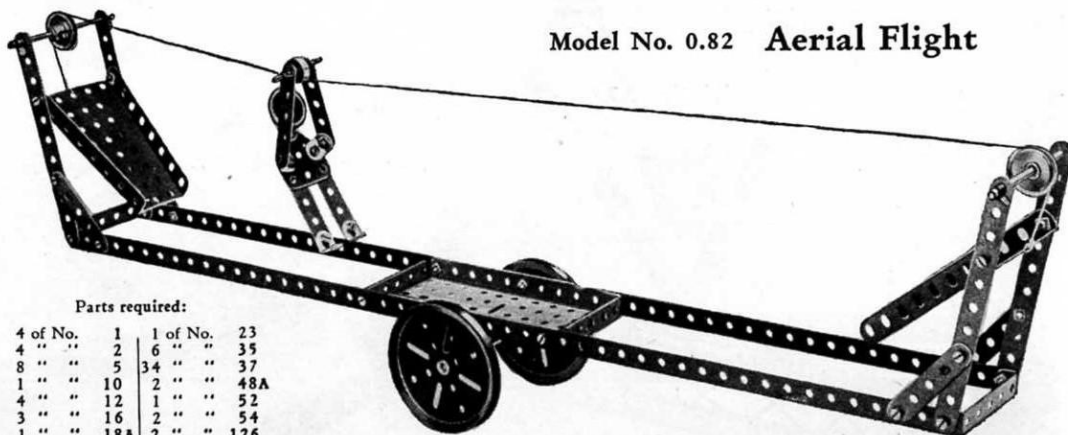
Model No. 0.80 Rake



Parts required:

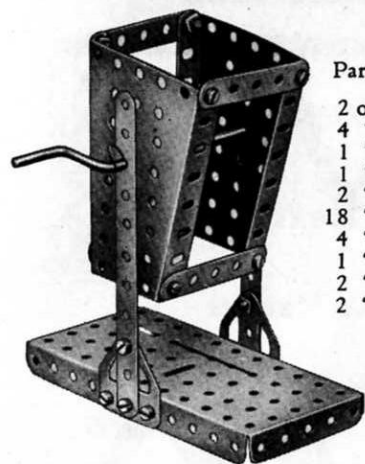
1 of No.	2
1 " "	3
4 " "	10
1 " "	12
6 " "	37

Model No. 0.82 Aerial Flight



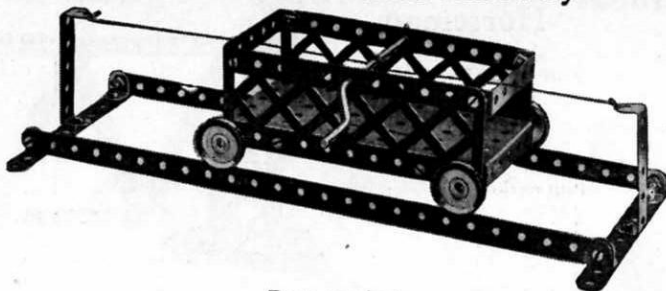
Parts required:

4 of No.	1	1 of No.	23
4 " "	2	6 " "	35
8 " "	5	34 " "	37
1 " "	10	2 " "	48A
4 " "	12	1 " "	52
3 " "	16	2 " "	54
1 " "	18A	2 " "	126
2 " "	19B	1 " "	126A
3 " "	22		

Model No. 0.83 Butter Churn

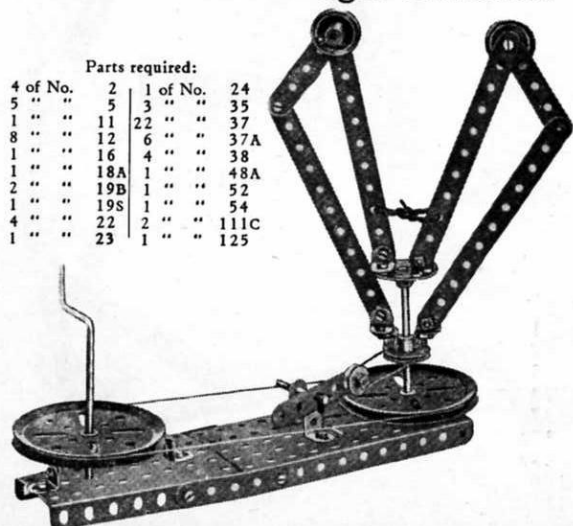
Parts required:

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

Model No. 0.84 Cable Railway

Parts required:

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

Model No. 0.85 Man and Boy**Model No. 0.86 Inverted Centrifugal Governor**

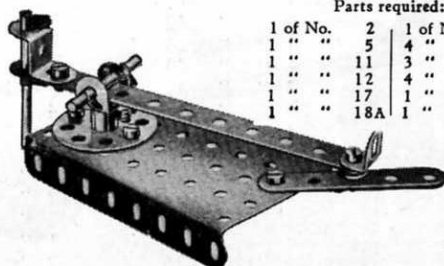
Parts required:

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

Model No. 0.87 Candle Stick

Parts required:

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

**Model No. 0.88 Machine for Tracing a Locus**

Parts required:

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

Parts required:

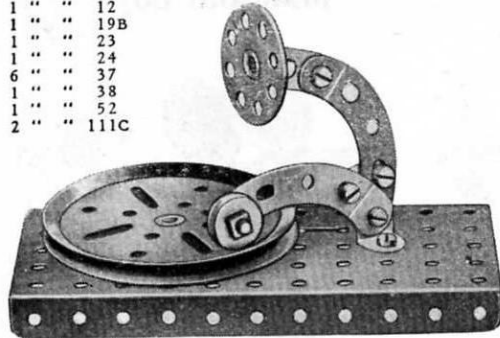
4 of No.	2	1 of No.	24
1 " "	3	26 " "	37
1 " "	5	1 " "	52
5 " "	10	2 " "	54
1 " "	11	1 " "	90A
8 " "	12	2 " "	125
1 " "	22	1 " "	126A

See last page of this Manual for list of models built with your outfit.

Model No. 0.89 Gramophone

Parts required:

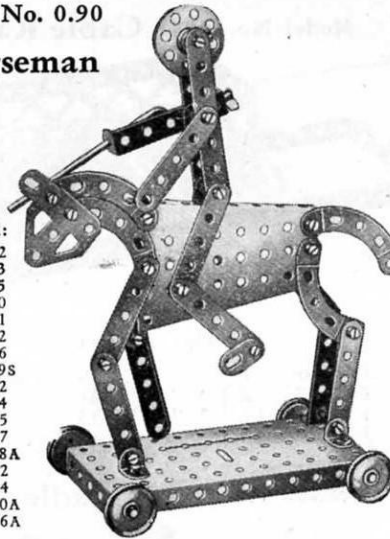
2 of No.	10
1 " "	12
1 " "	19B
1 " "	23
1 " "	24
6 " "	37
1 " "	38
1 " "	52
2 " "	111C



Model No. 0.90 Horseman

Parts required:

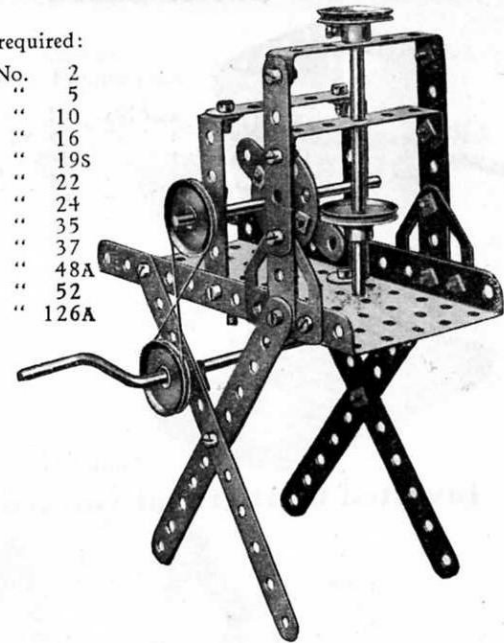
1 of No.	2
1 " "	3
9 " "	5
2 " "	10
2 " "	11
5 " "	12
2 " "	16
1 " "	19S
4 " "	22
1 " "	24
1 " "	35
1 " "	37
27 " "	48A
1 " "	52
1 " "	54
4 " "	90A
1 " "	126A



Model No. 0.91 Stamping Machine

Parts required:

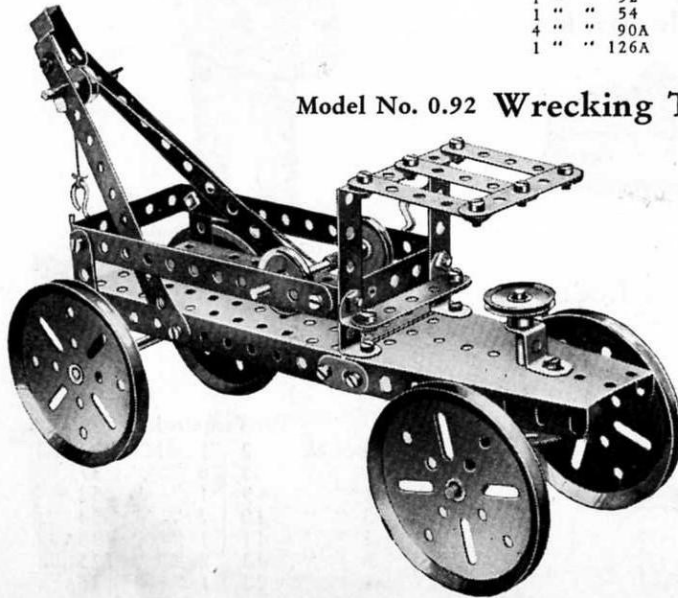
4 of No.	2
4 " "	5
2 " "	10
2 " "	16
1 " "	19S
4 " "	22
1 " "	24
2 " "	35
22 " "	37
4 " "	48A
1 " "	52
2 " "	126A



Model No. 0.92 Wrecking Truck

Parts required:

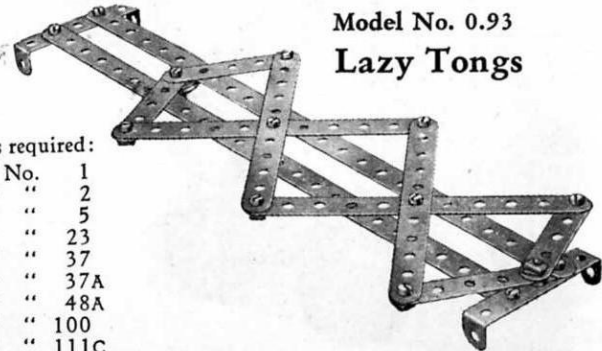
4 of No.	2
8 " "	5
2 " "	10
2 " "	12
2 " "	16
1 " "	17
1 " "	18A
1 " "	19S
3 " "	22
1 " "	23
1 " "	24
3 " "	35
29 " "	37
1 " "	44
5 " "	48A
1 " "	52
1 " "	54
1 " "	57
2 " "	125
4 " "	126



Model No. 0.93 Lazy Tong

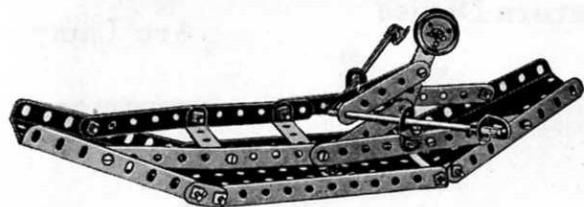
Parts required:

2 of No.	1
4 " "	2
4 " "	5
1 " "	23
12 " "	37
12 " "	37A
2 " "	48A
1 " "	100
2 " "	111C



See last page of this Manual for list of models built with your outfit.

Model No. 0.94 Rowing Boat



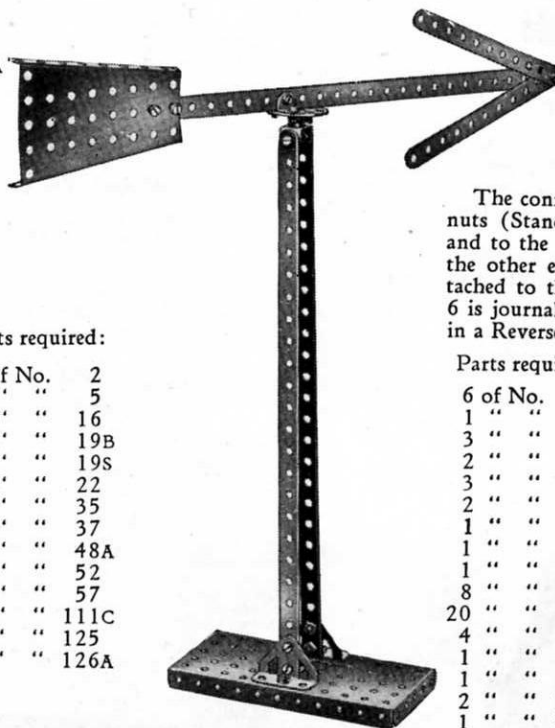
Parts required:

4 of No.	2	2 of No.	16	24 of No.	37
5 " "	5	1 " "	18A	4 " "	38
4 " "	10	2 " "	22A	3 " "	48A
7 " "	12	4 " "	35	1 " "	52
		2 of No.	54		

Model No. 0.95 Weather Vane

Parts required:

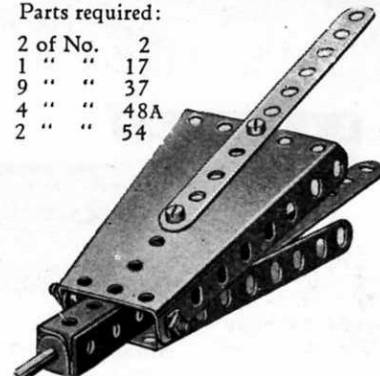
3 of No.	1	1 of No.	24	1 of No.	111C
2 " "	2	14 " "	37	2 " "	126
1 " "	11	1 " "	52		
2 " "	12	1 " "	54		



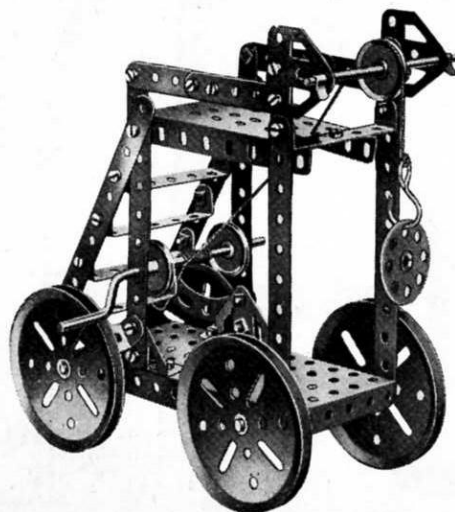
Model No. 0.96 Bellows

Parts required:

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



Model No. 0.97 Tower Wagon



Parts required:

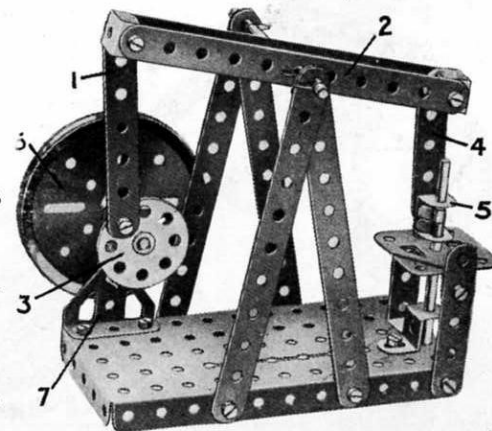
6 of No.	2
6 " "	5
3 " "	16
4 " "	19B
1 " "	19S
3 " "	22
2 " "	35
33 " "	37
5 " "	48A
1 " "	52
1 " "	57
1 " "	111C
1 " "	125
2 " "	126A

Model No. 0.98 Beam Engine

The connecting Strip 1 is attached pivotally by a bolt and two nuts (Standard Mechanism No. 262) to one end of the beam 2 and to the Bush Wheel 3. The Strip 4 is similarly connected to the other end of the Beam 2 and to the Double Bracket 5 attached to the piston rod. The short Rod carrying the Flywheel 6 is journalled in a 2½" Strip supported by the Trunnion 7 and in a Reversed Angle Bracket bolted to the 2½" Strip.

Parts required:

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

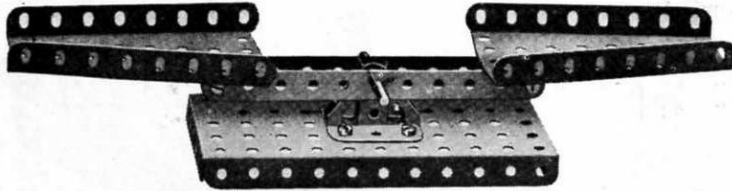


See last page of this Manual for list of models built with your outfit.

Model No. 0.99 Scales

Parts required:

2 of No.	2	1 of No.	18A	8 of No.	37	1 of No.	54
2 " "	12	2 " "	35	1 " "	52	2 " "	126

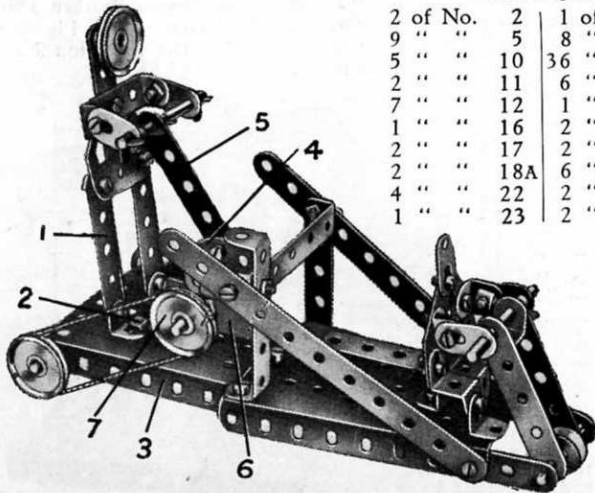


Model No. 0.102 Coaster

The figure 1 is loosely attached by lock-nutted bolts 2 to the Sector Plate 3 and is connected to the Bush Wheel 4 by the pivotally-attached 2½" Strip 5. The 1½" Rod carrying the Bush Wheel 4 is journaled in the Cranked Bent Strip 6, the 1" fast Pulley 7 being connected to the road wheel by a cord as shown.

Parts required:

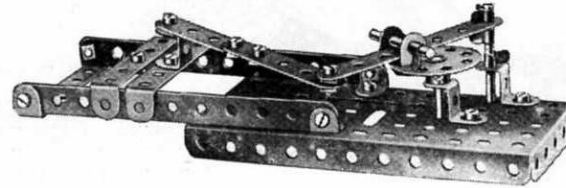
2 of No.	2	1 of No.	24
9 " "	5	8 " "	35
5 " "	10	36 " "	37
2 " "	11	6 " "	37A
7 " "	12	1 " "	48
1 " "	16	2 " "	48A
2 " "	17	2 " "	54
2 " "	18A	6 " "	111C
4 " "	22	2 " "	125
1 " "	23	2 " "	126A



Model No. 0.100 Quick Return Device

Parts required:

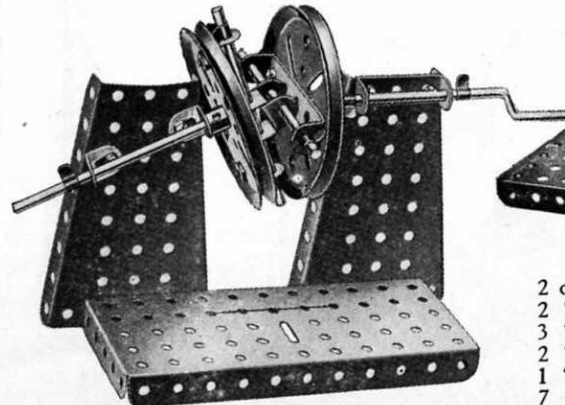
2 of No.	2	1 of No.	17	3 of No.	48A
1 " "	3	2 " "	18A	1 " "	52
2 " "	5	1 " "	24	3 " "	111C
2 " "	11	6 " "	35	2 " "	125
2 " "	12	15 " "	37		



Model No. 0.103

Hook's Coupling

This is a useful type of universal coupling which may be used to connect shafts that are not in line. It will transmit the rotation of one shaft to the other smoothly and steadily.

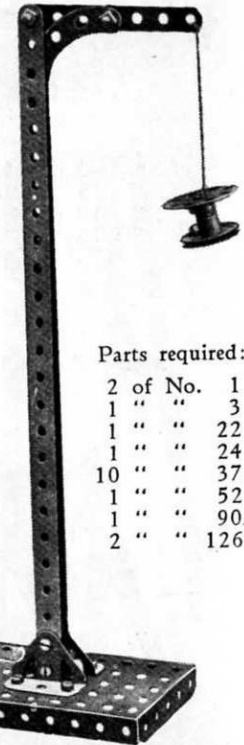


Model No. 0.101

Arc Lamp

Parts required:

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



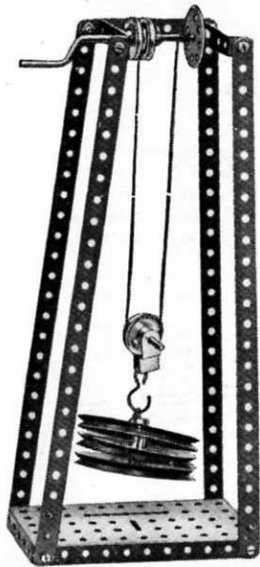
Parts required:

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

Model No. 0.104 Chinese Windlass

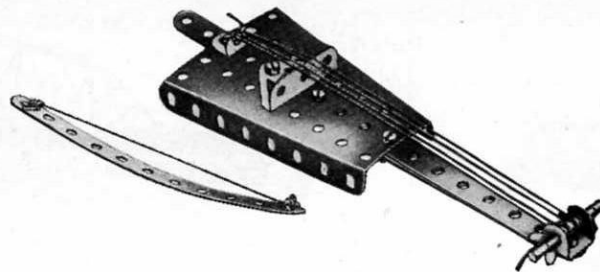
Parts required:

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



One end of the hoisting cord is wound on the shaft of the Crank Handle, the other end being wound in the opposite direction on a drum formed of a $\frac{1}{2}$ " loose Pulley Wheel clamped tightly between two 1" fast Pulleys. When the Crank Handle is turned, the cord is hauled in by the $\frac{1}{2}$ " Pulley and at the same time paid out by the Crank Handle, but owing to the difference in diameter of the $\frac{1}{2}$ " Pulley and the Crank Handle, the load on the Hook is gradually raised.

Model No. 0.105 Violin and Bow



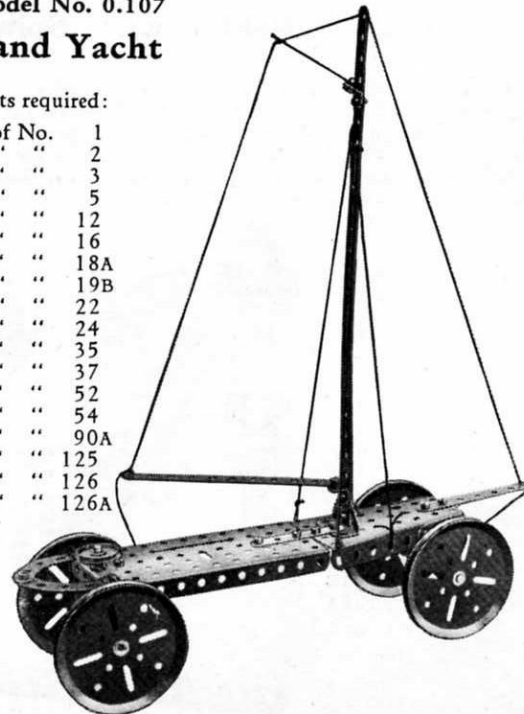
Parts required:

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

Model No. 0.107 Sand Yacht

Parts required:

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



Model No. 0.106 Bed Table



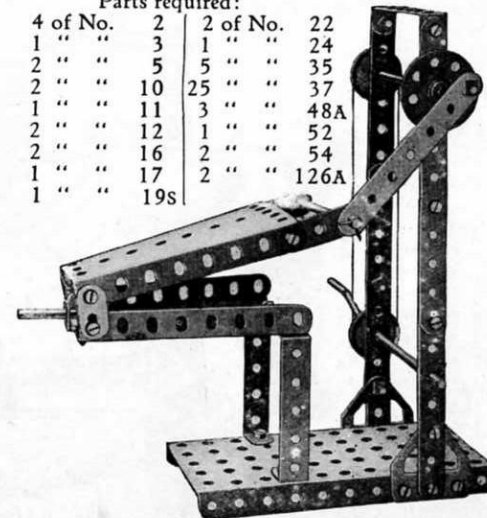
Parts required:

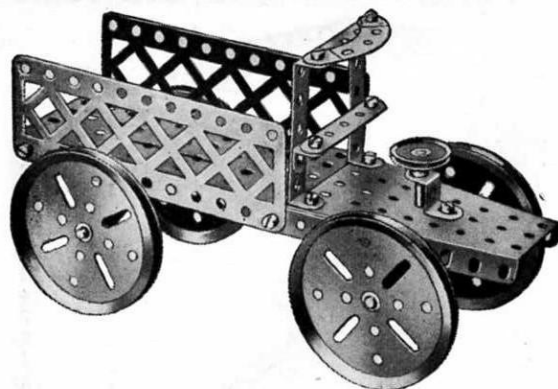
3 of No.	2
1 " "	3
1 " "	5
1 " "	11
5 " "	12
2 " "	16
1 " "	17
4 " "	22
1 " "	24
21 " "	37
4 " "	48A
1 " "	52
1 " "	126A

Model No. 0.108 Forge Bellows

Parts required:

4 of No.	2	2 of No.	22
1 " "	3	1 " "	24
2 " "	5	5 " "	35
2 " "	10	25 " "	37
1 " "	11	3 " "	48A
2 " "	12	1 " "	52
2 " "	16	2 " "	54
1 " "	17	2 " "	126A
1 " "	19S		

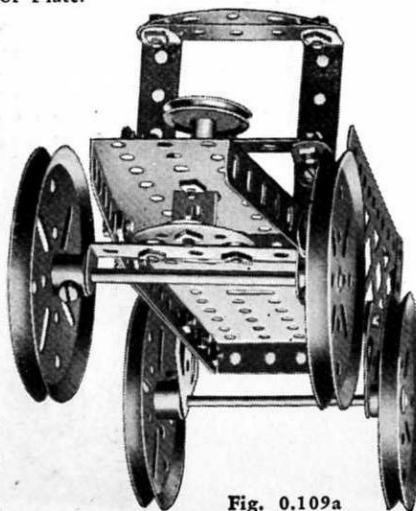


Model No. 0.109 Motor Truck

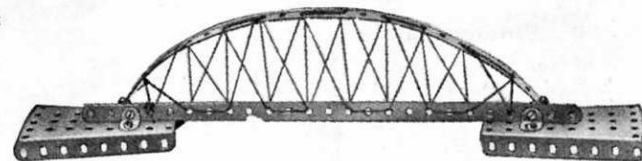
The front axle is journalled in the end holes of a $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip that is bolted to the face of a Bush Wheel. The latter is secured to the steering column (a 2" Rod), which is journalled in two Reversed Angle Brackets bolted to opposite sides of the Sector Plate.

Parts required:

2 of No.	2
2 " "	5
2 " "	12
2 " "	16
2 " "	18A
4 " "	19B
1 " "	22
1 " "	24
25 " "	37
2 " "	37A
2 " "	38
3 " "	48A
1 " "	52
1 " "	54
1 " "	90A
2 " "	100
1 " "	111C
2 " "	125
2 " "	126A

**Fig. 0.109a****Model No. 0.110 Bow Girder****Parts required:**

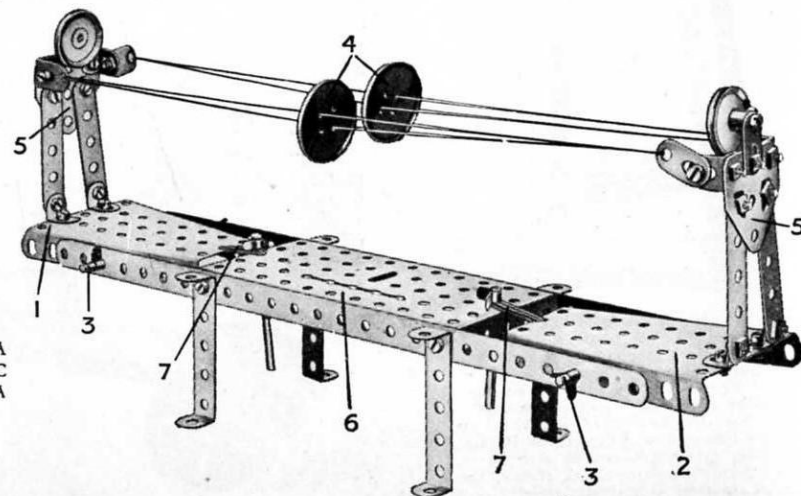
2 of No.	1
4 " "	12
6 " "	37
2 " "	54

**Model No. 0.111 Spinning Buttons**

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

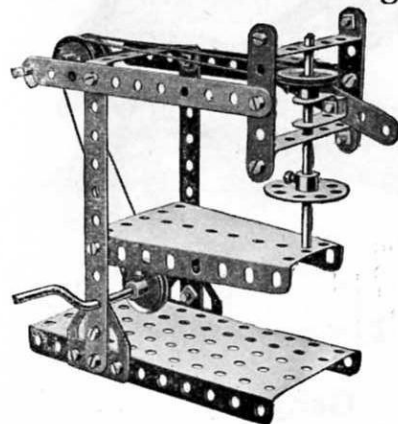
Parts required:

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



See last page of this Manual for list of models built with your outfit.

Model No. 0.112 Drilling Machine



Parts required:

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

Model No. 0.113 Overhead Crane

Parts required:

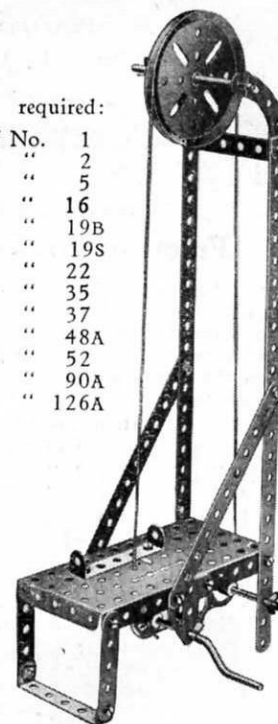
4 of No.	2
4 " "	5
2 " "	10
4 " "	12
1 " "	16
1 " "	18A
1 " "	19S
4 " "	22
1 " "	23
2 " "	35
25 " "	37
1 " "	38
6 " "	48A
1 " "	57
4 " "	90A
2 " "	100



Model No. 0.114 Band Saw

Parts required:

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

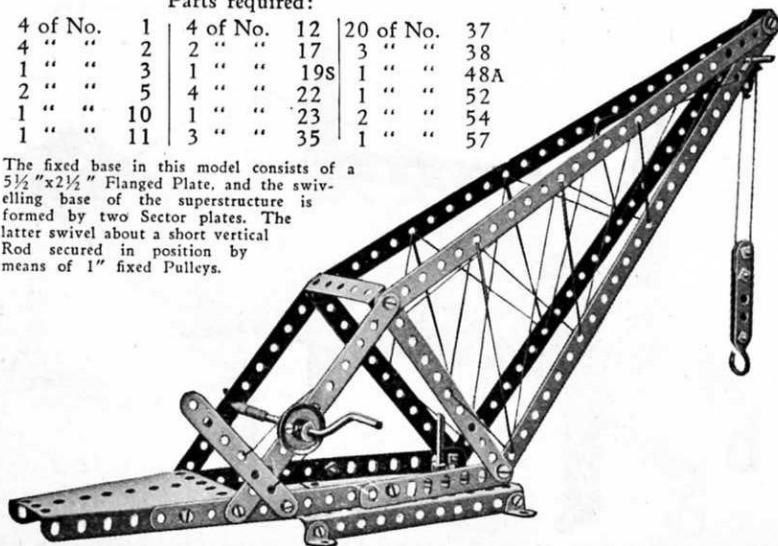


Model No. 0.115 Swivelling Jib Crane

Parts required:

4 of No.	1	4 of No.	12	20 of No.	37
4 " "	2	2 " "	17	3 " "	38
1 " "	3	1 " "	19S	1 " "	48A
2 " "	5	4 " "	22	1 " "	52
1 " "	10	1 " "	23	2 " "	54
1 " "	11	3 " "	35	1 " "	57

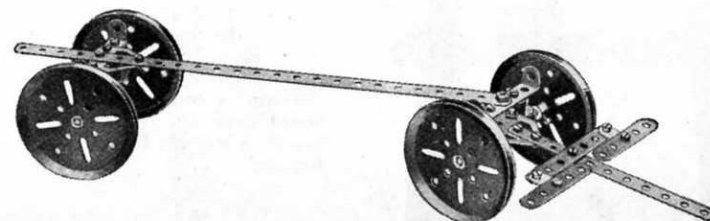
The fixed base in this model consists of a $5\frac{1}{2} \times 2\frac{1}{2}$ " Flanged Plate, and the swivelling base of the superstructure is formed by two Sector plates. The latter swivel about a short vertical Rod secured in position by means of 1" fixed Pulleys.



Model No. 0.116 Lumber Carrier

Parts required:

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



See last page of this Manual for list of models built with your outfit.

Model No. 0.117 Bow and Arrow

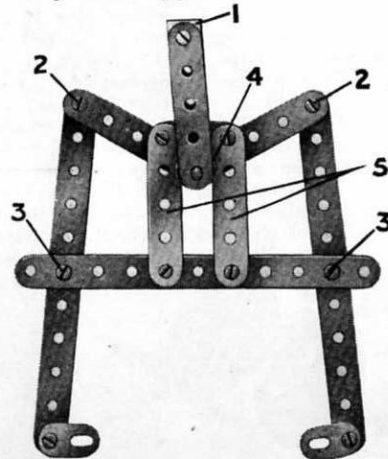
Parts required:
1 of No. 1, 1 of No. 16



Model No. 0.118 Friction Grip for Cranes

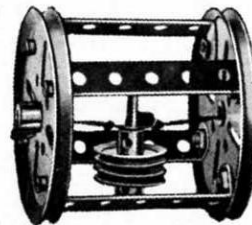
The hoisting cord is attached to the Double Bracket 1. The joints 2, 3 are lock-nutted, so that when the grip is raised the $\frac{1}{2}$ " loose Pulley Wheel 4 slides upward between the $2\frac{1}{2}$ " Strips 5, and the grip closes upon the block of wood or other material placed between its jaws.

Parts required:
3 of No. 2 | 1 of No. 22
8 " " | 2 " " 35
4 " " 10 | 12 " " 37
1 " " 11



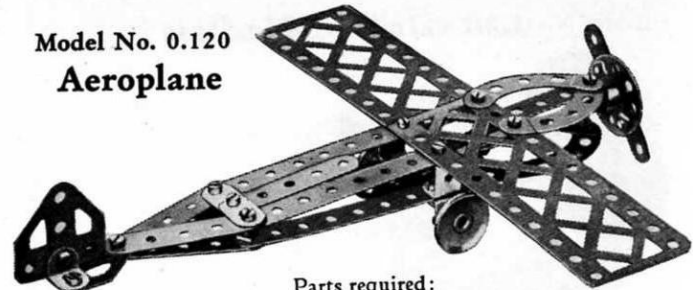
Model No. 0.119 Cum Bak

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



A short length of elastic is doubled and stretched between the centres of the 3" Pulley Wheels. A weight, consisting of two 1" fast Pulley Wheels and a $1\frac{1}{2}$ " Rod, is suspended from it in the middle of the drum. When the Cum Bak is rolled along any smooth level surface, the elastic becomes twisted and stores up sufficient energy to return the drum to its starting point. If the mechanism is concealed by a thin cardboard covering, the model will cause much amusement by its mystifying behaviour.

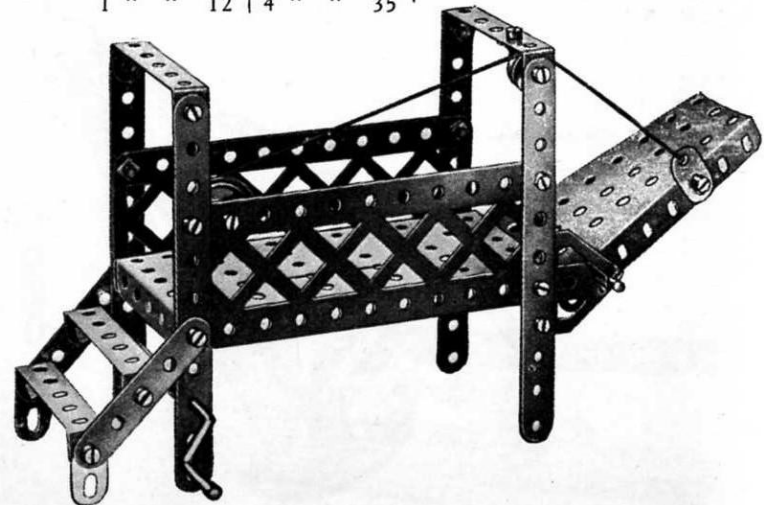
Model No. 0.120 Aeroplane



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

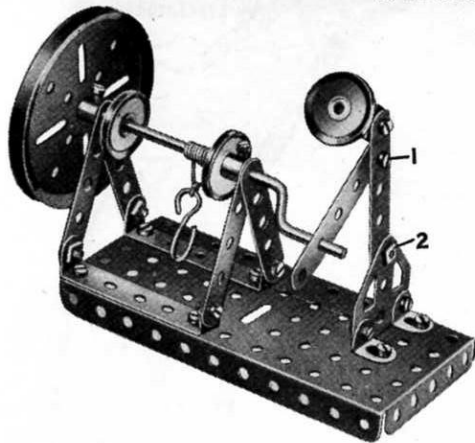
Model No. 0.121 Gangway

Parts required:
4 of No. 2 | 1 of No. 16 | 22 of No. 37 | 1 of No. 54
2 " " 5 | 1 " " 22 | 4 " " 48A | 2 " " 100
3 " " 10 | 1 " " 23 | 1 " " 52 | 2 " " 126A
1 " " 12 | 4 " " 35



See last page of this Manual for list of models built with your outfit.

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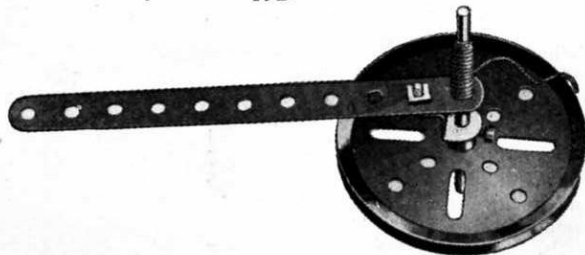
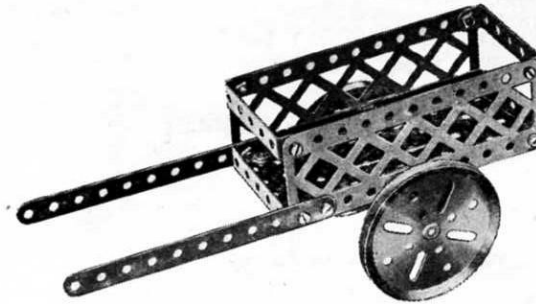
Model No. 0.122 Windlass**Parts required:**

6 of No.	5
3 " "	12
1 " "	19B
1 " "	19S
3 " "	22
13 " "	37
5 " "	37A
2 " "	48A
1 " "	52
1 " "	57
3 " "	111C
1 " "	126A

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

Model No. 0.124 Top**Parts required:**

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

**Model No. 0.123 Cart****Parts required:**

2 of No.	2
1 " "	16
2 " "	19B
14 " "	37
4 " "	48A
1 " "	52
2 " "	100
2 " "	126A

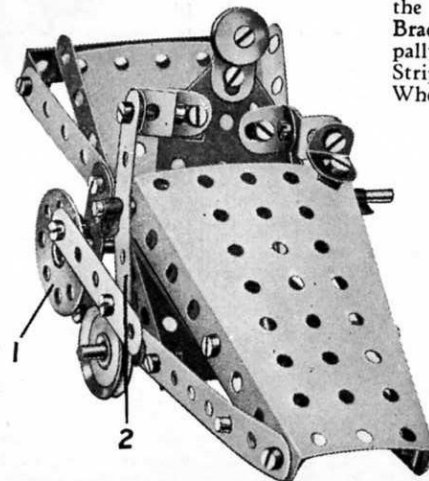
Model No. 0.125 The Invalid

When wheeled along the table the 'invalid' appears to push himself energetically along. His neck is a Flat Bracket; his right (or propelling) arm consists of one Angle Bracket and one $\frac{1}{2}$ " Reversed Angle Bracket, and his left arm—the hand of which is bolted loosely to the chair—is formed by three Angle Brackets. The chair is composed principally of two Sector Plates and four $5\frac{1}{2}$ " Strips, and it runs on three 1" Pulley Wheels—one in front and two at the back.

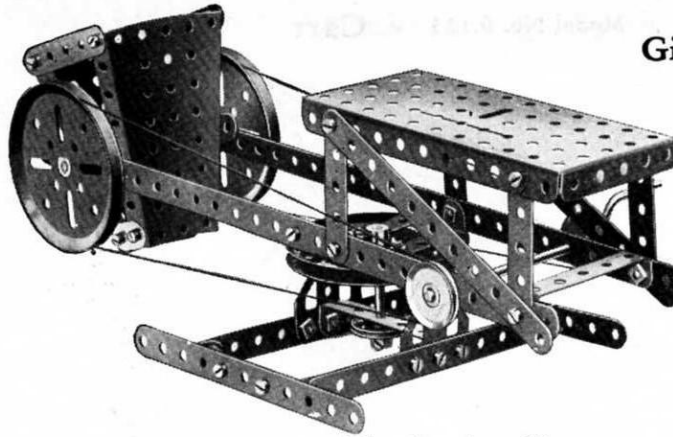
One of these (not visible in the illustration) drives by cord another 1" Pulley Wheel, the shaft of which also carries a Bush Wheel 1. As will be seen, a $2\frac{1}{2}$ " Strip is pivoted at one end to this Bush Wheel and at the other end to a second $2\frac{1}{2}$ " Strip 2, which, rocking about an Axle journaled through its centre hole, is again pivoted to the invalid's hand.

Parts required:

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



See last page of this Manual for list of models built with your outfit.



Model No. 0.126
Giant Foundry Ladle

Parts required:

2 of No.	1	1 of No.	23
6 " "	2	1 " "	24
7 " "	5	36 " "	37
2 " "	10	6 " "	37A
1 " "	16	4 " "	48A
1 " "	17	1 " "	52
3 " "	19B	2 " "	54
1 " "	19S	6 " "	111C
3 " "	22	2 " "	125

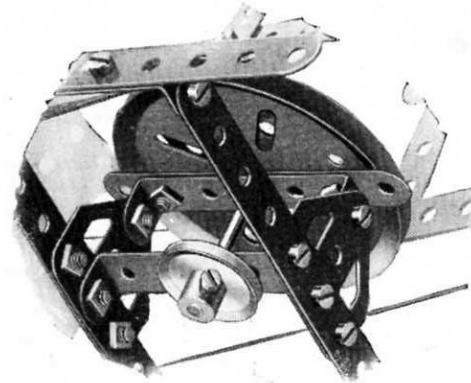
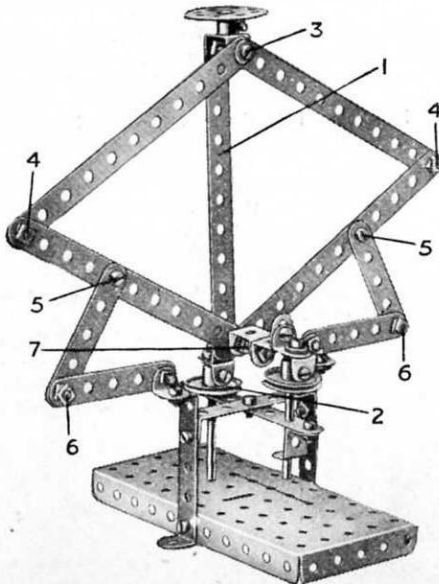


Fig. 0.126a

Model No. 0.127 Double Action Pump



Parts Required:

5 of No.	2
1 " "	3
4 " "	5
2 " "	11
6 " "	12
2 " "	17
2 " "	22
1 " "	24
14 " "	37
6 " "	37A
4 " "	38
3 " "	48A
1 " "	52
6 " "	111C
2 " "	125

The 5½" Strip 1 is attached to the 1" Pulley Wheel 2 by means of two Angle Brackets, through the lower of which passes the set-screw that secures the Pulley to its 2" Rod. Two washers are placed beneath the head of the bolt joining the Angle Brackets in order to prevent its shank from binding on the boss of the Pulley 2. The joints 3, 4, 5, 6, 7, are all lock-nutted, the remainder of the joints being quite rigid. When the Strip 1 descends, together with the first pump, the incidental distortion of the parallelogram 3, 4, 7, 4 causes the second pump to rise. Similarly, when the first pump rises, the second descends.

Model No. 0.128
Windmill

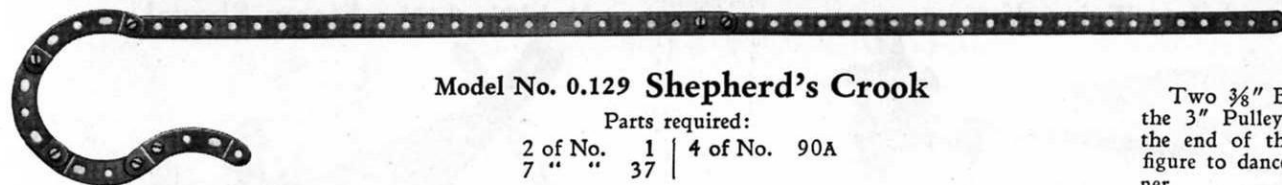


Parts required:

4 of No.	1	2 of No.	22
4 " "	2	1 " "	24
7 " "	5	4 " "	35
2 " "	12	20 " "	37
1 " "	16	3 " "	48A
1 " "	19S	1 " "	52

See last page of this Manual for list of models built with your outfit.

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**Model No. 0.129 Shepherd's Crook**

Parts required:

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

**Model No. 0.130 Large Rake**

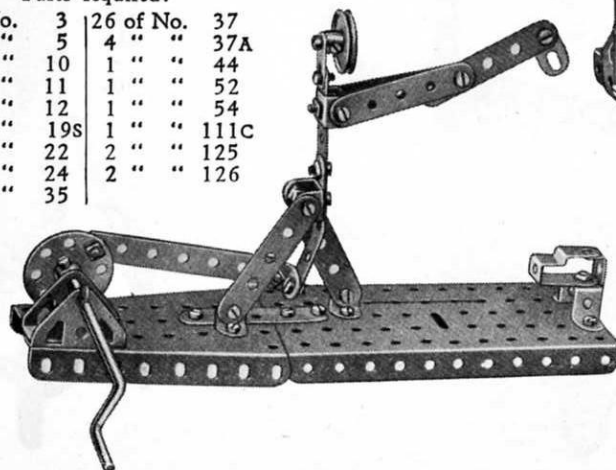
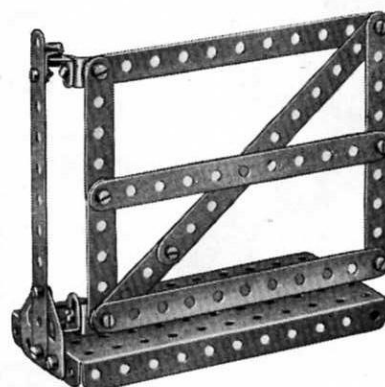
Parts required:

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

Model No. 0.131 Blacksmith

Parts required:

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

**Model No. 0.132 Model Gate**

Parts required:

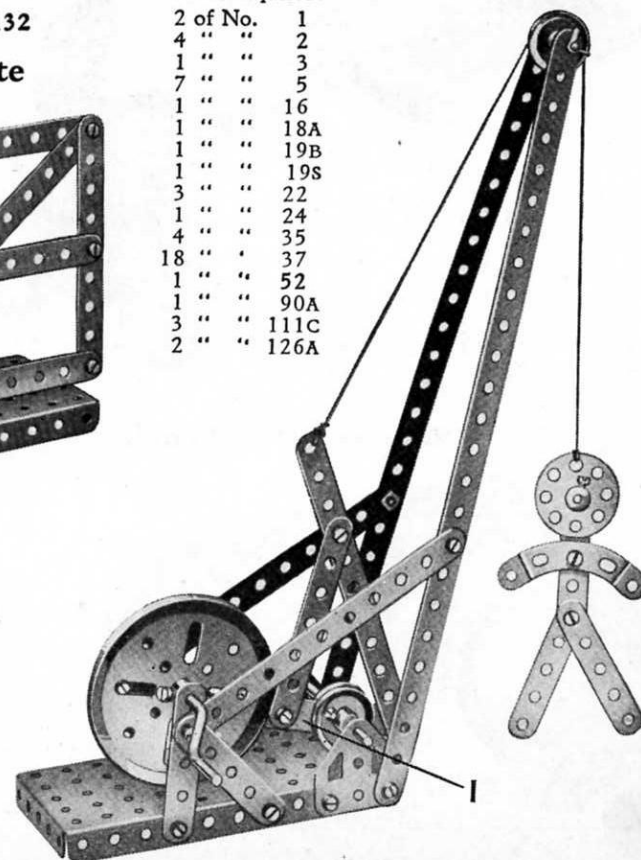
6 of No.	2
3 " "	5
5 " "	12
13 " "	37
4 " "	37A
1 " "	52
2 " "	111C
1 " "	126A

Model No. 0.133 Meccano Dancer

Two $\frac{3}{8}$ " Bolts, secured in opposite slots of the 3" Pulley Wheel, alternately press down the end of the $5\frac{1}{2}$ " Strip 1 and cause the figure to dance in a surprisingly likelike manner.

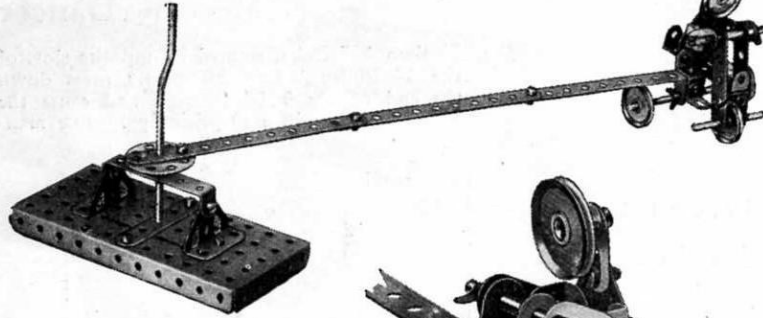
Parts required:

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



See last page of this Manual for list of models built with your outfit.

Model No. 0.134 Revolving Tricyclist



Parts required:

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

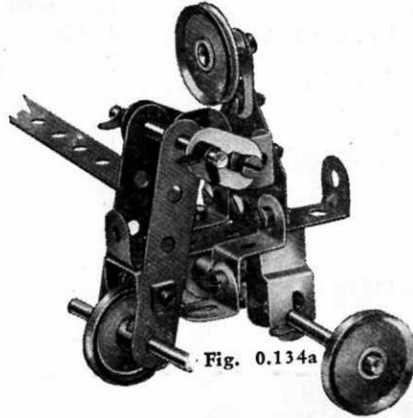
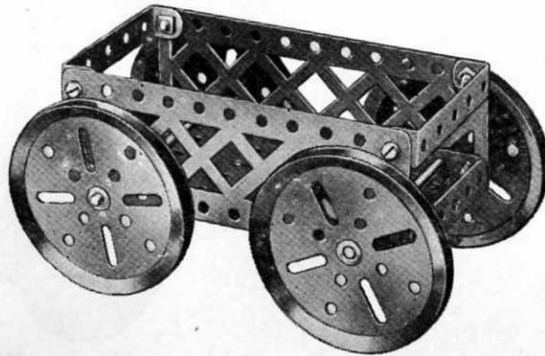


Fig. 0.134a

Model No. 0.136 Truck



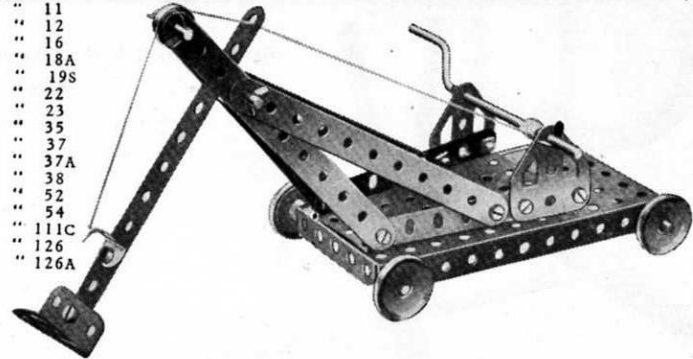
Part. required:

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

Parts required:

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

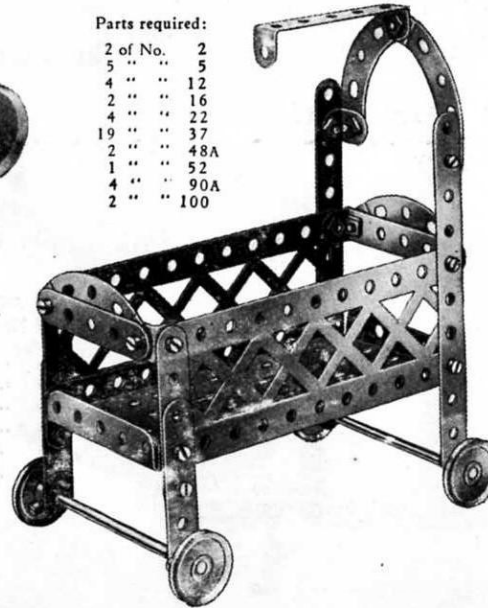
Model No. 0.135 Steam Shovel



Model No. 0.137 Cot

Parts required:

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

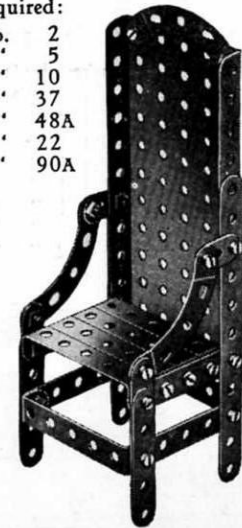


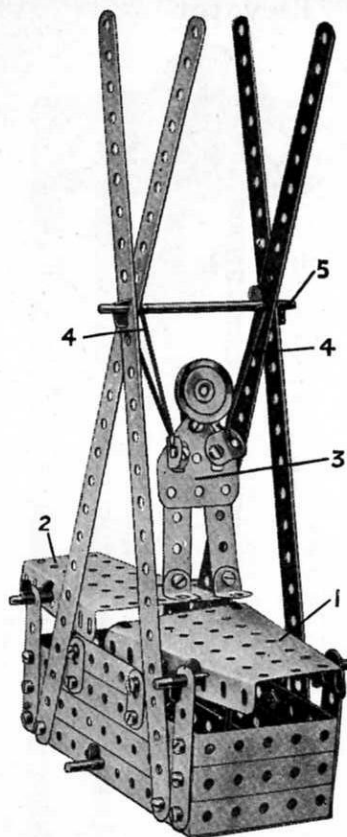
Model No. 0.138

Chair

Parts required:

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

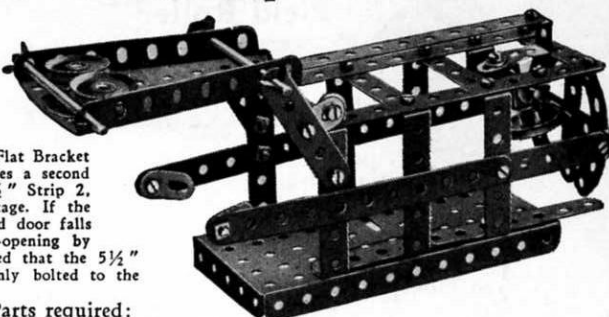


Model No. 0.139 A Sudden Appearance

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

Parts required:

4 of No.	1	8 of No.	35
8 "	2	29 "	37
9 "	5	6 "	48A
1 "	10	1 "	52
6 "	12	2 "	54
3 "	16	1 "	111C
1 "	22	1 "	126A

Model No. 0.140 Rat Trap

The "bait" consists of a 1" fast Pulley and a $\frac{1}{2}$ " loose Pulley suspended by means of a Hook from a Double Bracket 1. The latter is bolted to a $1\frac{1}{2}$ "x $\frac{1}{2}$ " Double Angle Strip that is free to turn on a 2" Rod journalled in a pair of Angle Brackets. A Flat Bracket bolted to the Double Bracket 1 engages a second Double Bracket on the end of the $5\frac{1}{2}$ " Strip 2, which is bolted to the door of the cage. If the "bait" is touched, the heavily-weighted door falls into place, and is prevented from re-opening by the Flat Brackets 3. It will be noticed that the $5\frac{1}{2}$ " Strips 4, which act as springs, are only bolted to the trap by their extreme ends.

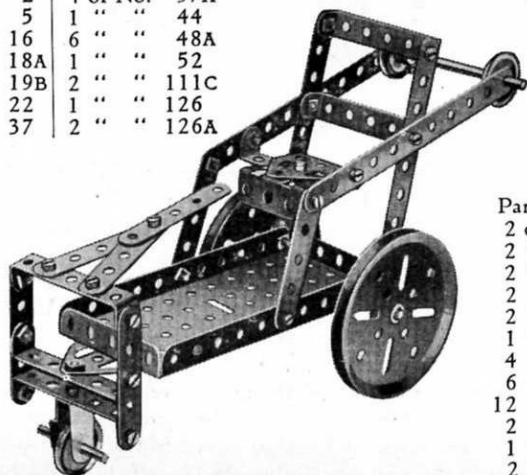
Parts required:

8 of No.	2	3 of No.	10	2 of No.	16	8 of No.	35	1 of No.	52
1 "	3	2 "	11	1 "	17	31 "	37	1 "	54
8 "	5	6 "	12	3 "	22	1 "	38	1 "	57
				1 "	23	1 "	48	2 "	90
				1 "	24	6 "	48A	3 "	111C

Model No. 0.141 Wheel Chair

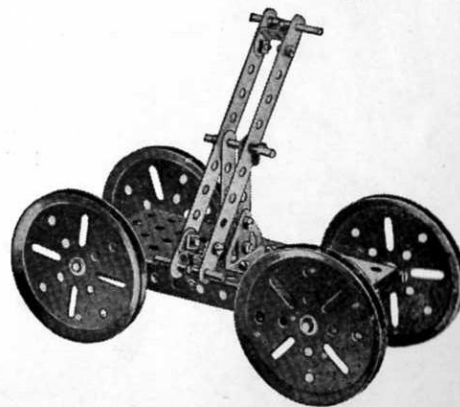
Parts required:

4 of No.	2	4 of No.	37A
7 "	5	1 "	44
1 "	16	6 "	48A
1 "	18A	1 "	52
2 "	19B	2 "	111C
3 "	22	1 "	126
24 "	37	2 "	126A



Parts required:

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

Model No. 0.142 Manual Fire Engine

See last page of this Manual for list of models built with your outfit.

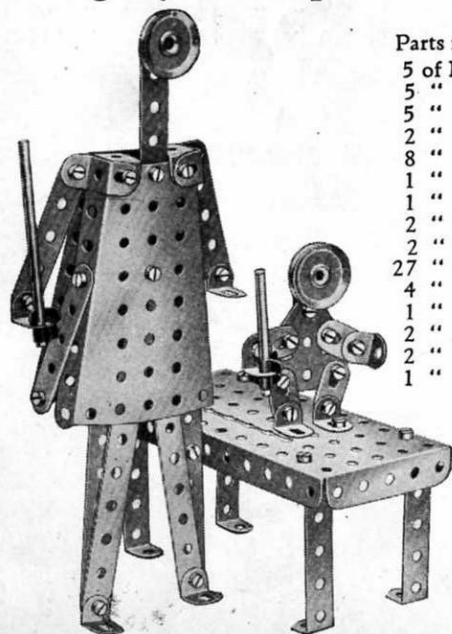
Model No. 0.143
Field Roller



Parts required:

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

Model No. 0.144
Dignity and Impudence



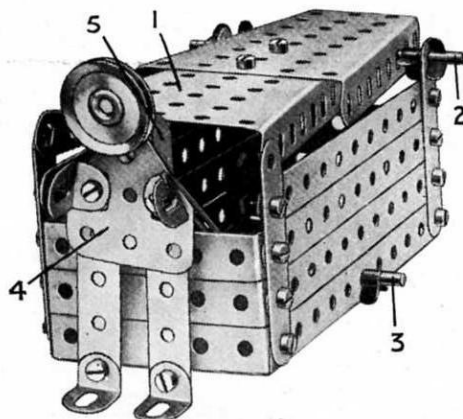
Parts required:

5 of No.	2
5 " "	5
5 " "	10
2 " "	11
8 " "	12
1 " "	16
1 " "	17
2 " "	22
2 " "	35
27 " "	37
4 " "	48A
1 " "	52
2 " "	111C
2 " "	125
1 " "	126A

Model No. 0.145
Disappearing Meccanitian

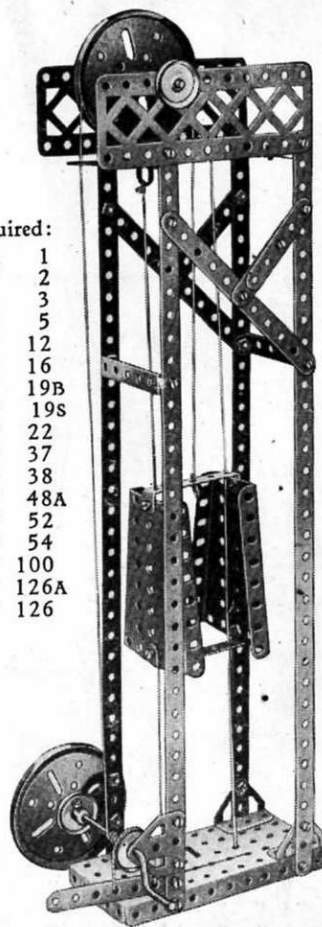
Parts required:

8 of No.	2	23 of No.	37
6 " "	5	1 " "	44
1 " "	10	6 " "	48A
4 " "	12	1 " "	52
2 " "	16	2 " "	54
1 " "	22	1 " "	111C
4 " "	35	1 " "	126A



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

Model No. 0.146
Elevator



Parts required:

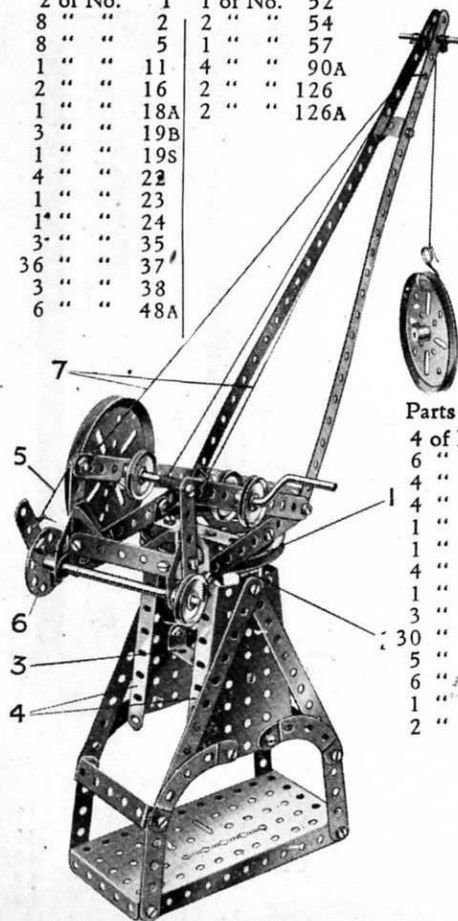
4 of No.	1
7 " "	2
1 " "	3
4 " "	5
1 " "	12
1 " "	16
2 " "	19B
1 " "	19S
4 " "	22
33 " "	37
3 " "	38
6 " "	48A
1 " "	52
2 " "	54
2 " "	100
2 " "	126A
2 " "	126

See last page of this Manual for list of models built with your outfit.

Model No. 0.147 Elevated Crane

Parts required:

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

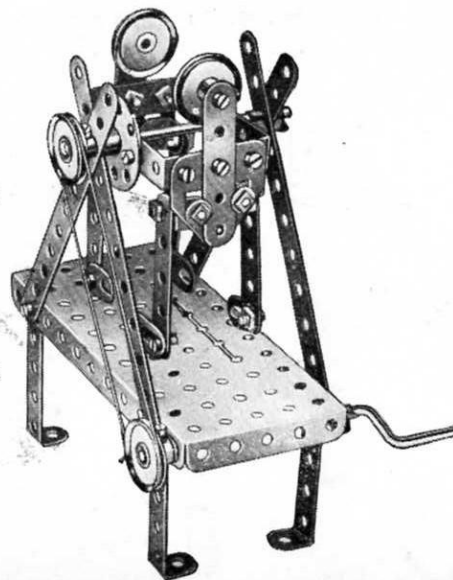


The base of the swiveling position of the crane consists of a 3" Pulley Wheel 1, which has a 3½" Axle Rod nipped in its boss. This Rod is journaled in two 2½" Double Angle Strips 2 and 3 secured between the Sector Plates 4. The brake cord 5 passes round the 3" Pulley as shown, and is tied to one of the holes in the Bush Wheel 6. The cords 7 serve merely to support the weight of the jib.

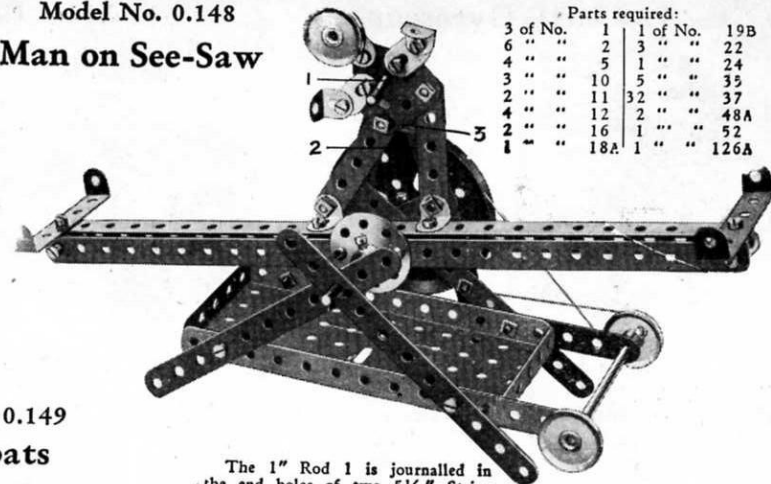
Model No. 0.149 Acrobats

Parts required:

4 of No.	2
6 " "	5
4 " "	10
4 " "	12
1 " "	16
1 " "	19S
4 " "	22
1 " "	24
3 " "	35
30 " "	37
5 " "	38
6 " "	48A
1 " "	52
2 " "	126A



Model No. 0.148 Man on See-Saw



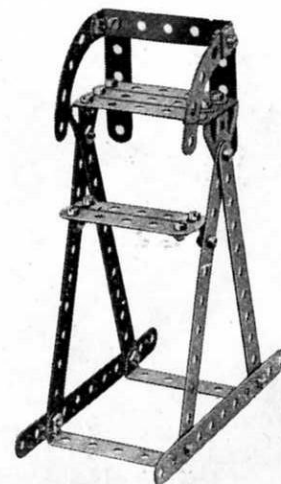
Parts required:			
3 of No.	1	1 of No.	19B
6 " "	2	3 " "	22
4 " "	5	1 " "	24
3 " "	10	5 " "	35
2 " "	11	32 " "	37
4 " "	12	2 " "	48A
2 " "	16	1 " "	52
1 " "	18A	1 " "	126A

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

Model No. 0.150 Umpire's Chair

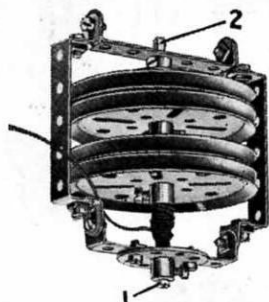
Parts required:

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



See last page of this Manual for list of models built with your outfit.

Model No. 0.151 Gyroscope

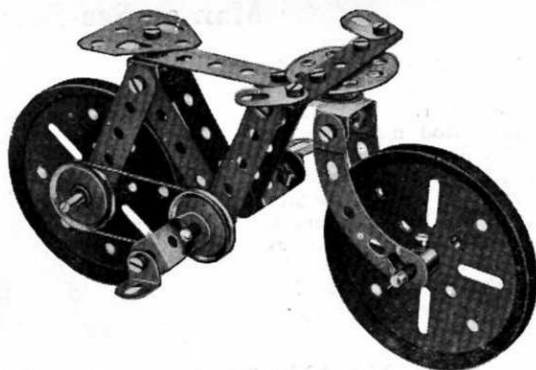


Parts required:

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

The $\frac{3}{4}$ " Bolt 1 is gripped by the set screw of the Bush Wheel. The lower end of the Rod 2 of the Gyroscope enters the boss of the Bush Wheel and rests on the shank of the bolt 1.

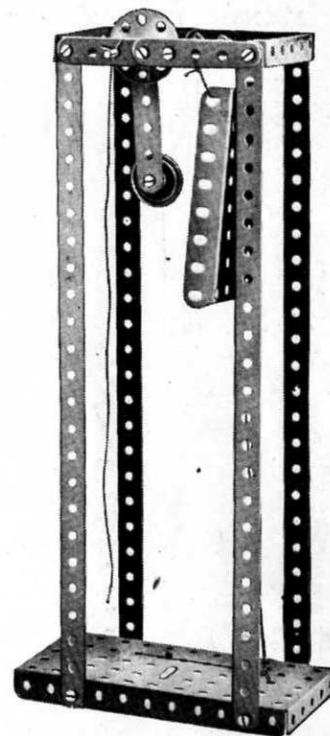
Model No. 0.152 Bicycle



Parts required:

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

Model No. 0.153 Fire Alarm



Model No. 0.154 Band Brake



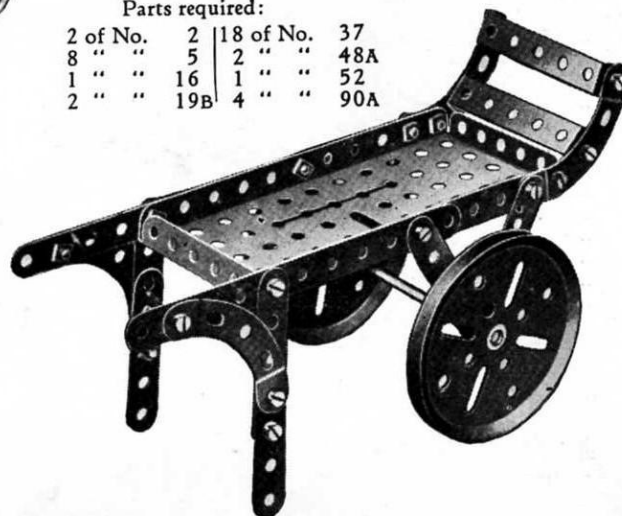
Parts required:

1 of No.	2	1 of No.	19A	10 of No.	37
2 " "	5	2 " "	22	1 " "	52
1 " "	12	1 " "	35	2 " "	54

Model No. 0.155 Luggage Truck

Parts required:

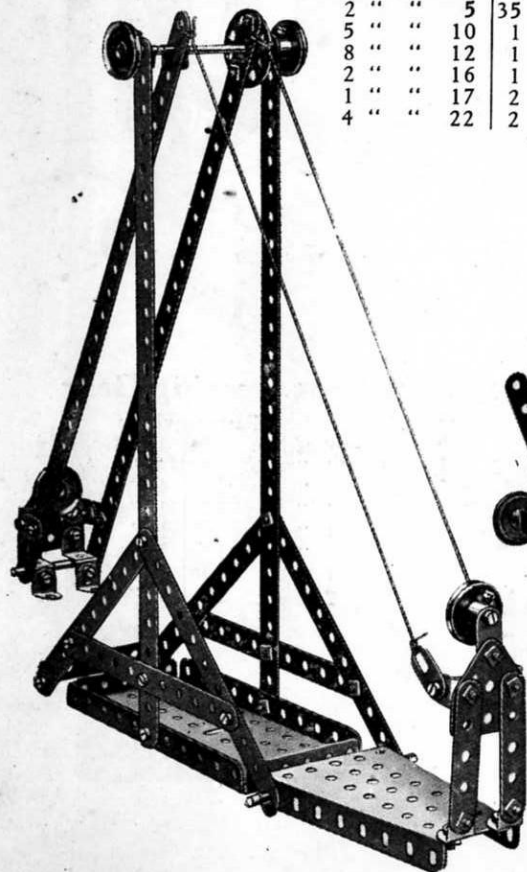
2 of No.	2	18 of No.	37
8 " "	5	2 " "	48A
1 " "	16	1 " "	52
2 " "	19B	4 " "	90A



Parts required:

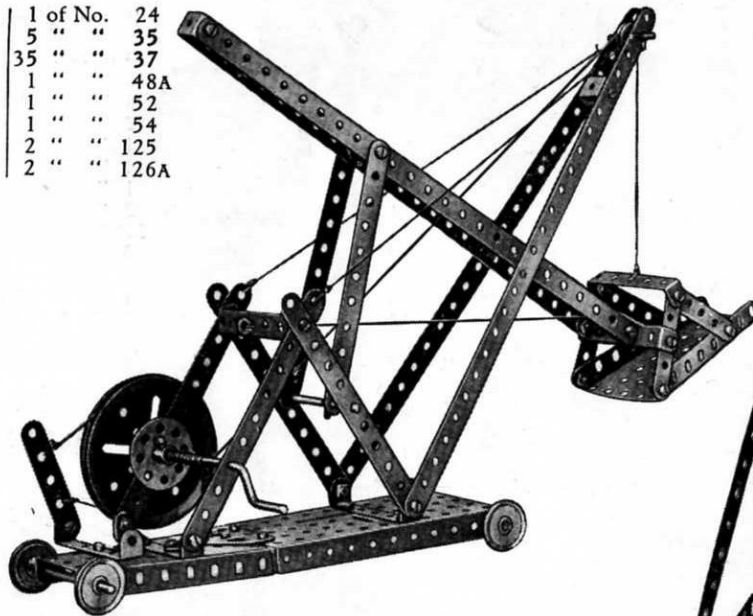
4 of No.	1	2 of No.	35
1 " "	3	13 " "	37
4 " "	5	2 " "	48A
1 " "	16	1 " "	52
1 " "	22	1 " "	54
1 " "	24		

See last page of this Manual for list of models built with your outfit.

Model No. 0.156 Boy on Swing

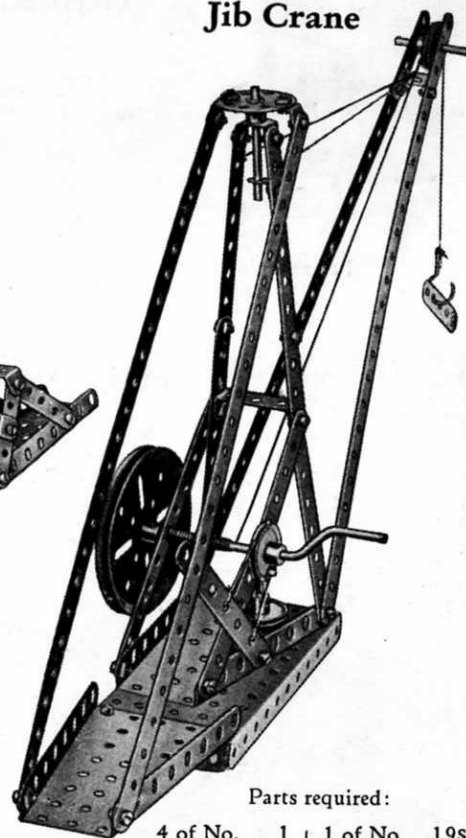
Parts required:

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

Model No. 0.157 Mechanical Shovel

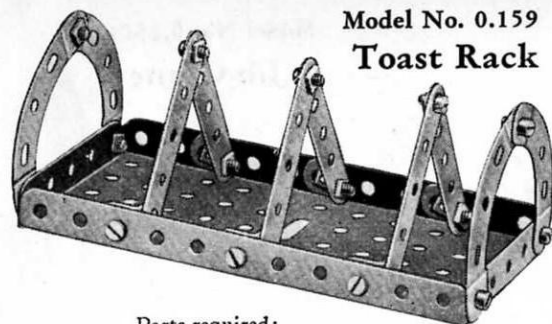
Parts required:

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

Model No. 0.158**Jib Crane**

Parts required:

4 of No.	1	1 of No.	19S
6 " "	2	4 " "	22
1 " "	3	1 " "	24
1 " "	5	23 " "	37
2 " "	10	1 " "	48
2 " "	11	1 " "	52
1 " "	16	2 " "	54
2 " "	17	1 " "	57
1 " "	19B		



Model No. 0.159
Toast Rack

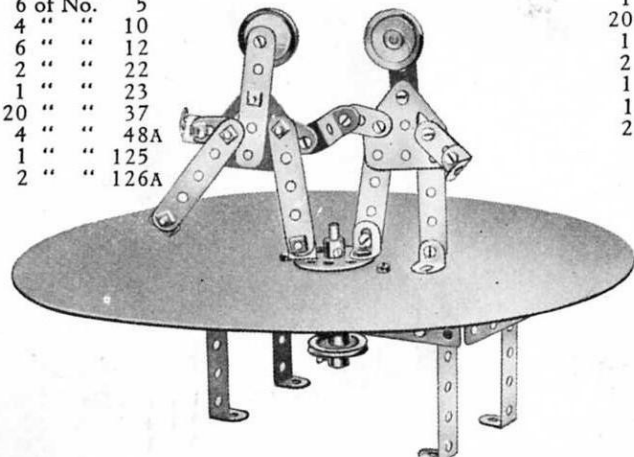
Parts required:

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

Model No. 0.162 Eccentric Dancers

Parts required:

6 of No.	5
4 "	"
4 "	10
6 "	12
2 "	22
1 "	23
20 "	37
4 "	48A
1 "	125
2 "	126A

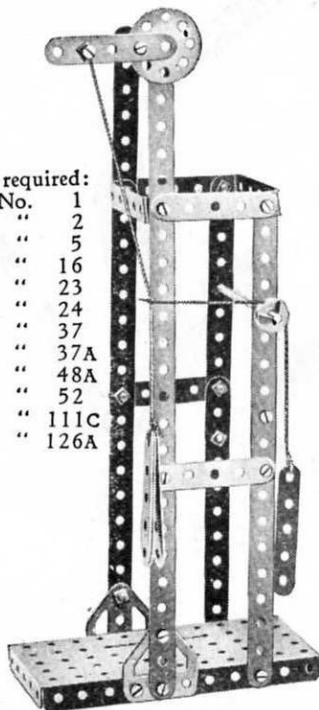


The right arms of the dancers are bolted loosely together by means of a Reversed Angle Bracket. Their outer "legs" should be lock-nutted to the Flat Trunnions. The model is operated by rotating a 1" Pulley beneath the dance-floor (a circular piece of cardboard mounted on a 5½" Flanged Plate). This Pulley is secured to a short Rod carrying the Bush Wheel on which the dancers are mounted. If desired the Pulley may be connected by cord to a Crank Handle suitably mounted at a distance.

Model No. 0.160
Crosshead
Demonstration
Model

Parts required:

2 of No.	1
4 "	2
9 "	5
2 "	16
1 "	23
1 "	24
20 "	37
1 "	37A
2 "	48A
1 "	52
1 "	111C
2 "	126A

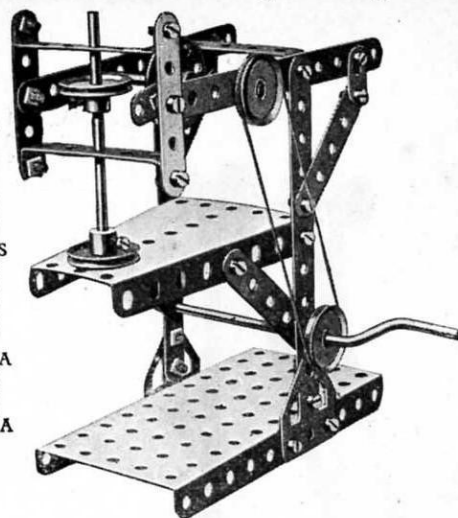


This is an apparatus for determining the forces that act at the crosshead of a reciprocating engine. The upper inclined length of cord represents the connecting Rod and the lower or vertical portion, the piston rod. The pull on the third cord indicates the pressure exerted on the slide bars on the engine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

Model No. 0.161 Drop Stamp

Parts required:

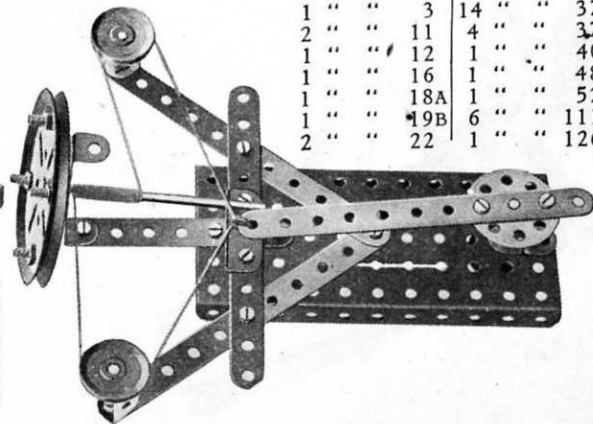
4 of No.	2
6 "	5
3 "	10
2 "	16
1 "	19S
4 "	22
1 "	24
2 "	35
27 "	37
3 "	48A
1 "	52
1 "	54
2 "	126A



Model No. 0.163 Boat Steering Gear

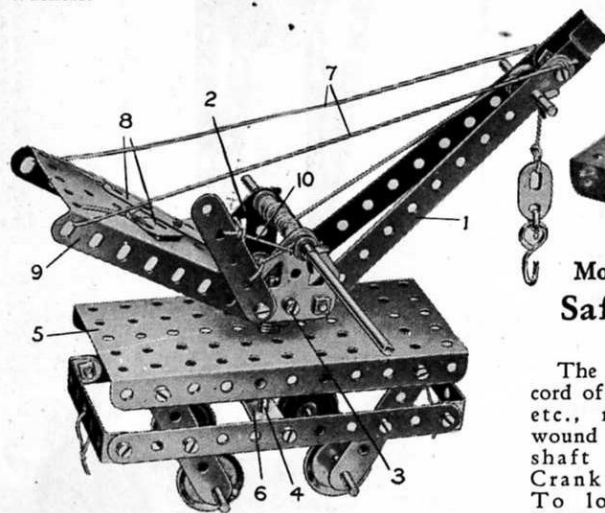
Parts required:

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



Model No. 0.164 Travelling Crane

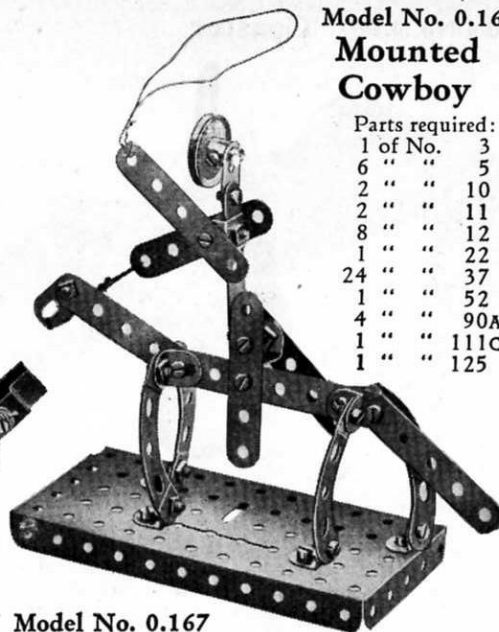
The jib 1 is pivoted to the Flat Trunnions 2, which are bolted at 3 to Angle Brackets secured to a Bush Wheel. The latter is nipped to a 2" Rod 4 passing through the Plate 5 and further supported in a Double Angle Strip 6. A Washer and Spring Clip mounted on the Rod 4 below the Strip 6 secure the crane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



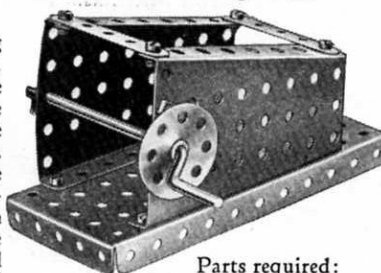
Parts required:			
4 of No.	2	1 of No.	19S
7 " "	5	4 " "	22
1 " "	10	1 " "	23
2 " "	12	1 " "	24
2 " "	16	5 " "	35
2 " "	17	27 " "	37
		6 " "	38
		1 of No.	44
		3 " "	48A
		1 " "	52
		1 " "	54
		1 " "	57
		2 " "	126A

Model No. 0.165 Mounted Cowboy

Parts required:	
1 of No.	3
6 " "	5
2 " "	10
2 " "	11
8 " "	12
1 " "	22
24 " "	37
1 " "	52
4 " "	90A
1 " "	111C
1 " "	125

**Model No. 0.167 Safety Catch For Winding Gear**

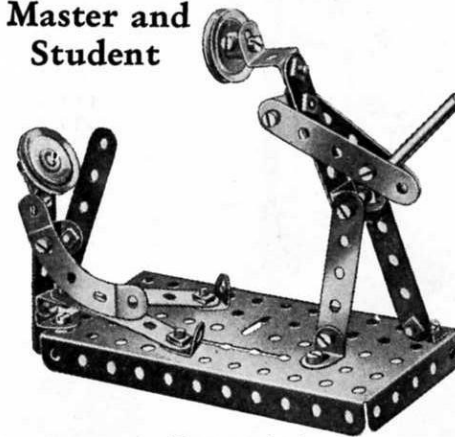
The hoisting cord of a crane, etc., may be wound on the shaft of the Crank Handle. To lock the handle in position, the Bush Wheel should be pushed inward so that one of its holes engages the shank of the ¾" Bolt 1.



Parts required:	
2 of No.	5
1 " "	19S
1 " "	24
1 " "	35
8 of No.	37
1 " "	52
2 " "	54
1 " "	111C

Model No. 0.166 Howitzer

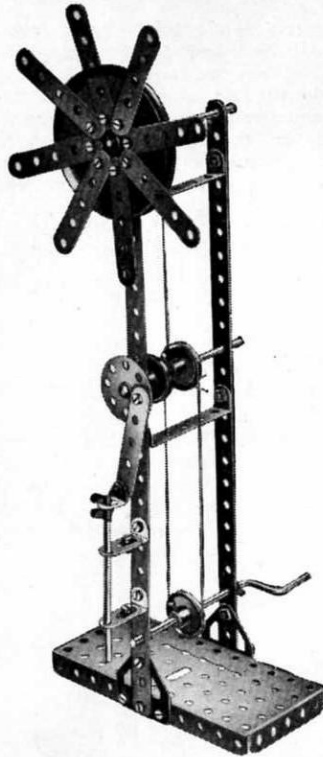
Parts required:			
2 of No.	2	1 of No.	16
6 " "	5	2 " "	19B
4 " "	10	2 " "	22
2 " "	11	2 " "	35
		14 of No.	37
		2 " "	38
		2 " "	111C
		2 " "	125

Model No. 0.168**Master and Student**

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

See last page of this Manual for list of models built with your outfit.

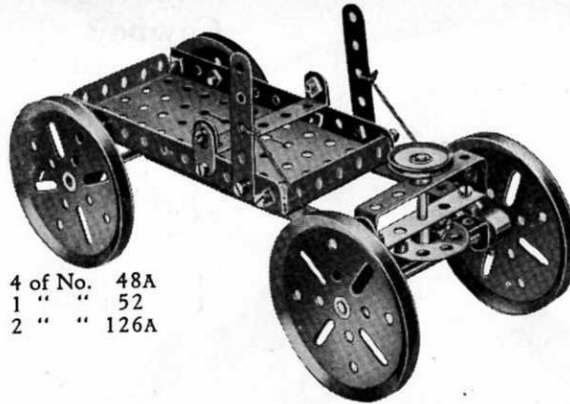
Model No. 0.169 Windmill Pump



Parts required:

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

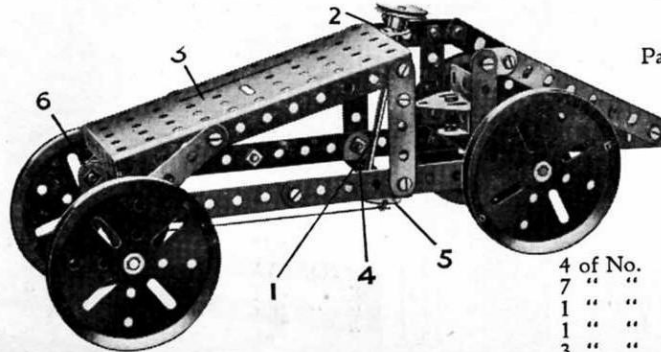
Model No. 0.170 Coaster



4 of No.	48A
1 " "	52
2 " "	126A

Model No. 0.171 Racing Motor Car

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

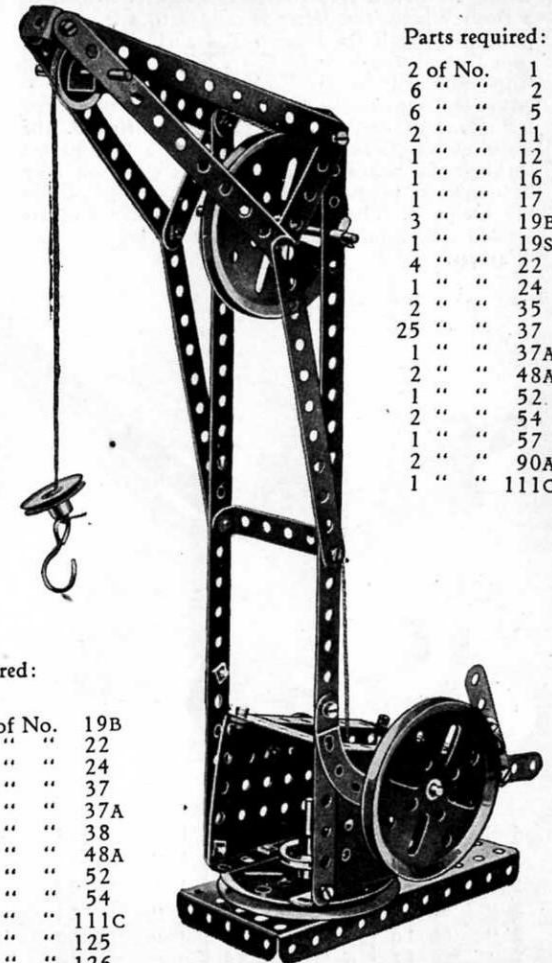


Parts required:

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

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

Model No. 0.172 Swivelling Crane

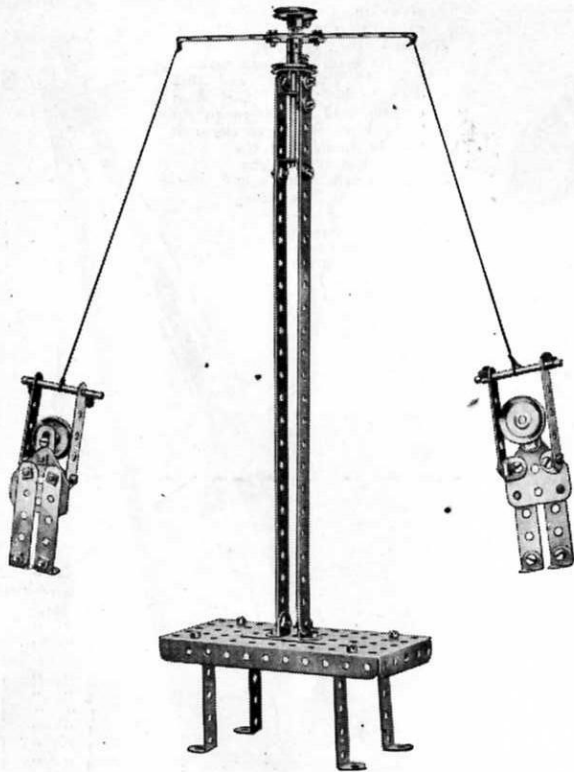


Parts required:

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

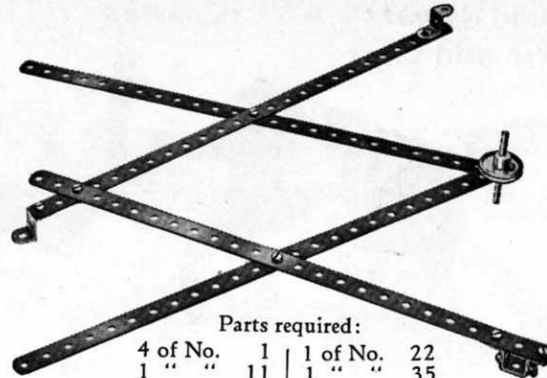
See last page of this Manual for list of models built with your outfit.

Model No. 0.173 Revolving Gymnasts



Parts required:

4 of No.	1	3 of No.	16	28 of No.	37
6 " "	2	1 " "	19S	1 " "	52
6 " "	5	4 " "	22	2 " "	111C
4 " "	10	1 " "	24	2 " "	126A
8 " "	12	7 " "	35		



Parts required:

4 of No.	1	1 of No.	22
1 " "	11	1 " "	35
2 " "	12	4 " "	37
1 " "	17	2 " "	125

Model No. 0.174 Pantograph

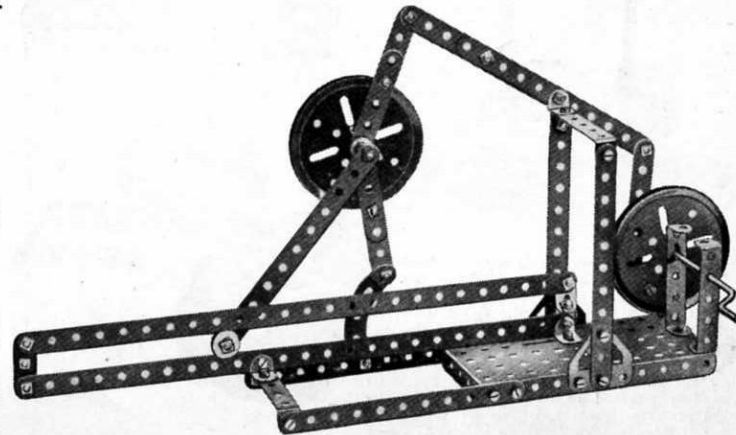
The pantograph enables plans, drawings, etc., to be reproduced on a larger or smaller scale than the original. If a pencil, suitably whittled down, is fixed in the Reversed Angle Bracket at the top of the illustration, and the $1\frac{1}{2}$ " Rod is made to follow the outlines of the drawing, the pencil will draw an accurately enlarged sketch. If the positions of the Rod and the pencil be reversed, the latter can be made to trace a reduced sketch of the original drawing.

Model No. 0.175 Double Action Piston Connection

The model should be carefully built up as shown, with lock-nuts at all working joints. It will be seen that the piston (which is represented by the $\frac{1}{2}$ " loose Pulley Wheel between the slide bars) moves backward and forward only once for every two complete revolutions of the wheel on the right, whereas the ordinary piston does so once for each revolution of the crankshaft. The 3" Pulley Wheel on the shaft of the Crank Handle carries a Double Bracket to which the $3\frac{1}{2}$ " Strip is pivoted by a bolt and two nuts (see Standard Mechanism No. 262).

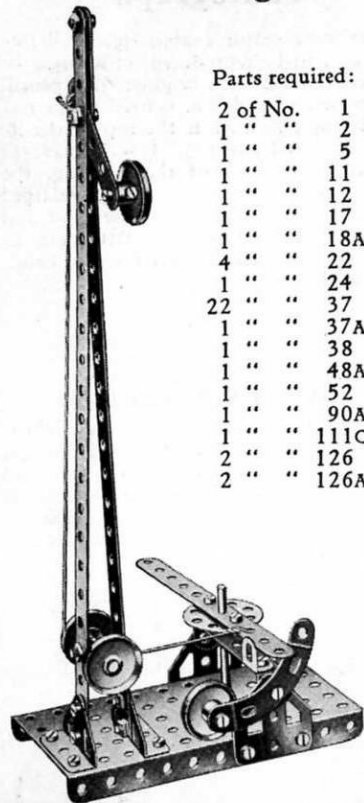
Parts required:

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



See last page of this Manual for list of models built with your outfit.

Model No. 0.176 Automatic Signal

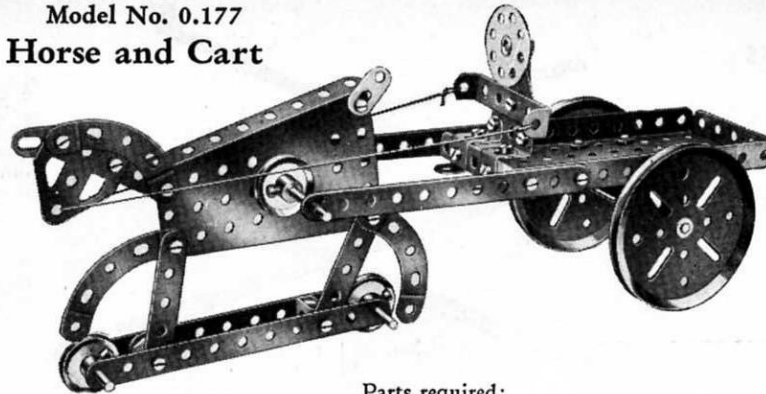


Parts required:

2 of No.	1
1 " "	2
1 " "	5
1 " "	11
1 " "	12
1 " "	17
1 " "	18A
4 " "	22
1 " "	24
22 " "	37
1 " "	37A
1 " "	38
1 " "	48A
1 " "	52
1 " "	90A
1 " "	111C
2 " "	126
2 " "	126A

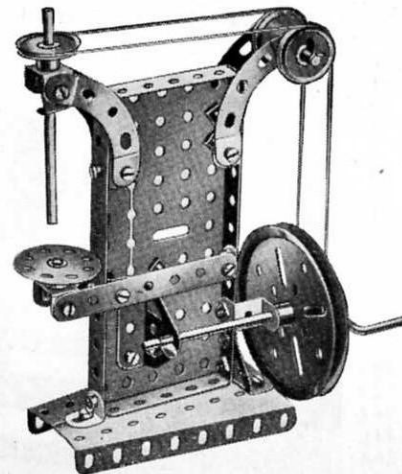
The weighted Curved Strip normally holds the end of the $5\frac{1}{2}$ " Strip against an Angle Bracket, allowing the signal arm to fall to the "all clear" position. Any train passing the signal, however, strikes the opposite end of the $5\frac{1}{2}$ " Strip, and by means of the cord shown, raises the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

Model No. 0.177 Horse and Cart



Parts required:

4 of No.	2	2 of No.	16	2 of No.	35	3 of No.	90A
3 " "	5	2 " "	18A	26 " "	37	1 " "	111C
3 " "	10	2 " "	19B	1 " "	48	2 " "	125
2 " "	11	4 " "	22	1 " "	52	2 " "	126
2 " "	12	1 " "	24	1 " "	54	2 " "	126A



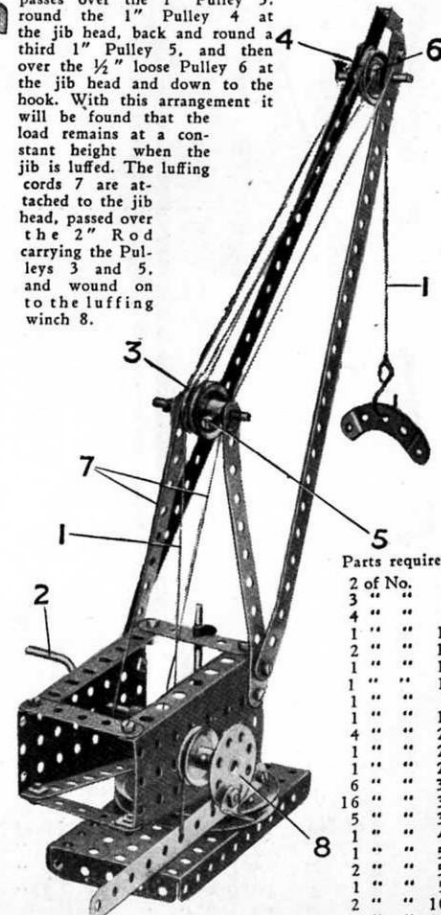
Model No. 0.178 Drill

Parts required:

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

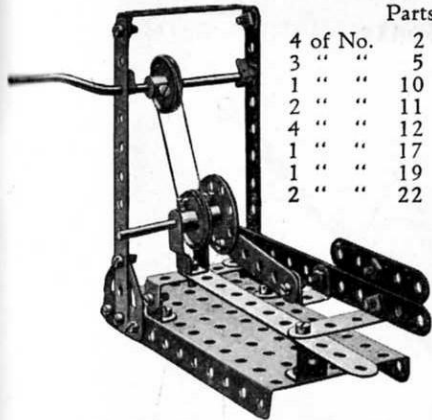
Model No. 0.179 Patent Luffing Crane

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



Parts required:

2 of No.	1
3 " "	2
4 " "	5
1 " "	12
2 " "	16
1 " "	17
1 " "	18A
1 " "	19S
4 " "	22
1 " "	23
1 " "	24
6 " "	35
16 " "	37
5 " "	38
1 " "	44
1 " "	52
2 " "	54
1 " "	57
2 " "	100
1 " "	126

Model No. 0.180 Sawing Machine

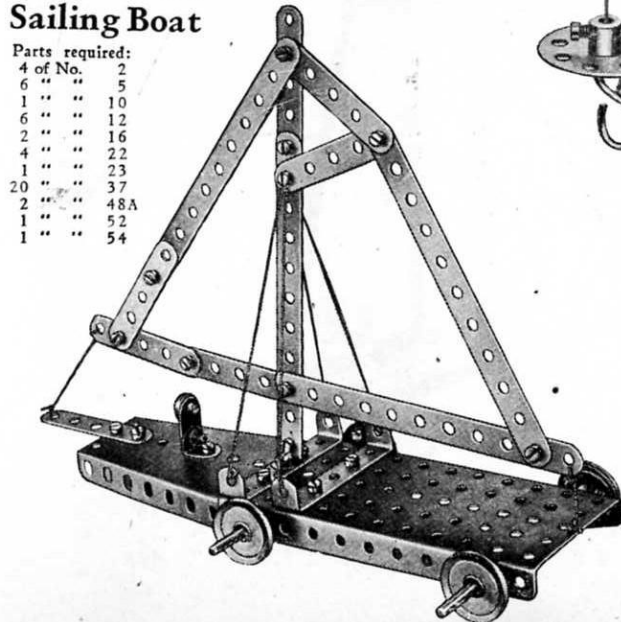
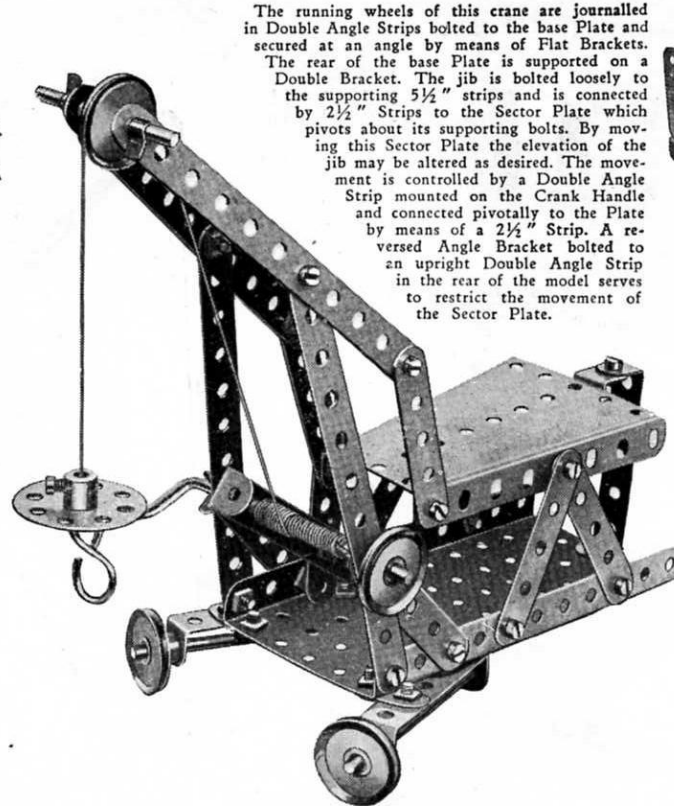
Parts required:

4 of No.	2	1 of No.	24
3 " "	5	2 " "	35
1 " "	10	23 " "	37
2 " "	11	1 " "	44
4 " "	12	2 " "	48A
1 " "	17	1 " "	52
1 " "	19	2 " "	126A
2 " "	22		

Model No. 0.181 Sailing Boat

Parts required:

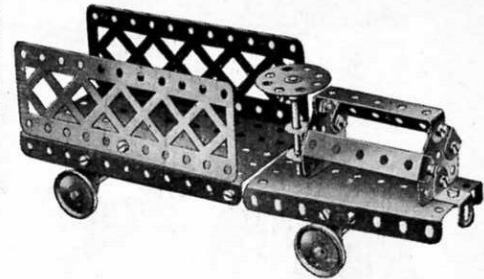
4 of No.	2
6 " "	5
1 " "	10
6 " "	12
2 " "	16
4 " "	22
1 " "	23
20 " "	37
2 " "	48A
1 " "	52
1 " "	54

**Model No. 0.182 Rotating Crane**

The running wheels of this crane are journaled in Double Angle Strips bolted to the base Plate and secured at an angle by means of Flat Brackets. The rear of the base Plate is supported on a Double Bracket. The jib is bolted loosely to the supporting $5\frac{1}{2}$ " strips and is connected by $2\frac{1}{2}$ " Strips to the Sector Plate which pivots about its supporting bolts. By moving this Sector Plate the elevation of the jib may be altered as desired. The movement is controlled by a Double Angle Strip mounted on the Crank Handle and connected pivotally to the Plate by means of a $2\frac{1}{2}$ " Strip. A reversed Angle Bracket bolted to an upright Double Angle Strip in the rear of the model serves to restrict the movement of the Sector Plate.

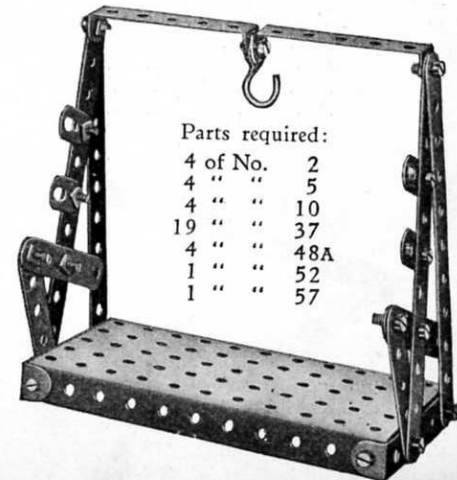
Parts required:

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

Model No. 0.183 Motor Truck

Parts required:

2 of No.	5	1 of No.	35
4 " "	10	3 " "	37
1 " "	11	4 " "	48A
2 " "	12	1 " "	52
2 " "	16	1 " "	54
1 " "	17	2 " "	100
4 " "	22	1 " "	125
1 " "	24	2 " "	126A

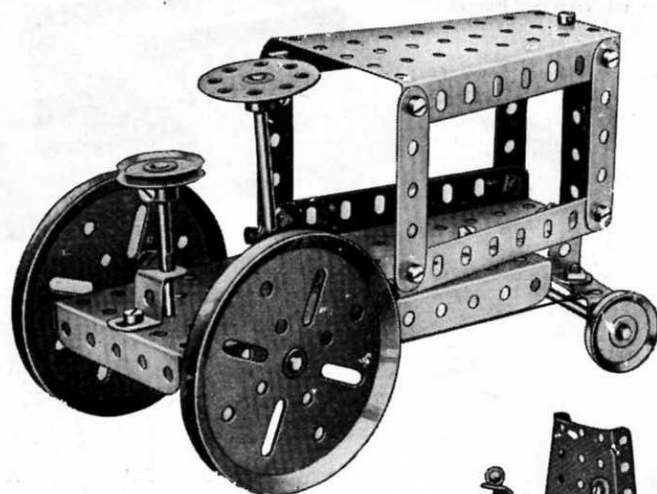
Model No. 0.184 Pen Rack

Parts required:

4 of No.	2
4 " "	5
4 " "	10
19 " "	37
4 " "	48A
1 " "	52
1 " "	57

See last page of this Manual for list of models built with your outfit.

Model No. 0.185 Fordson Tractor



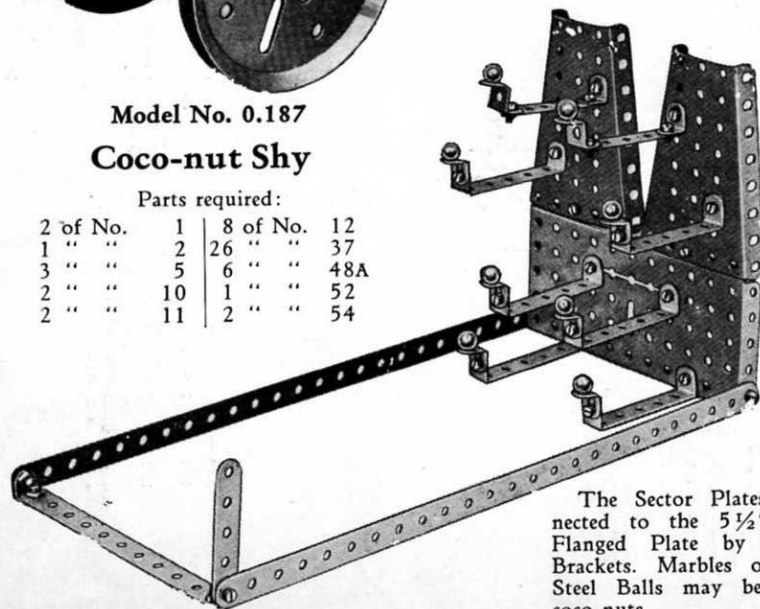
Parts required:

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

Model No. 0.187 Coco-nut Shy

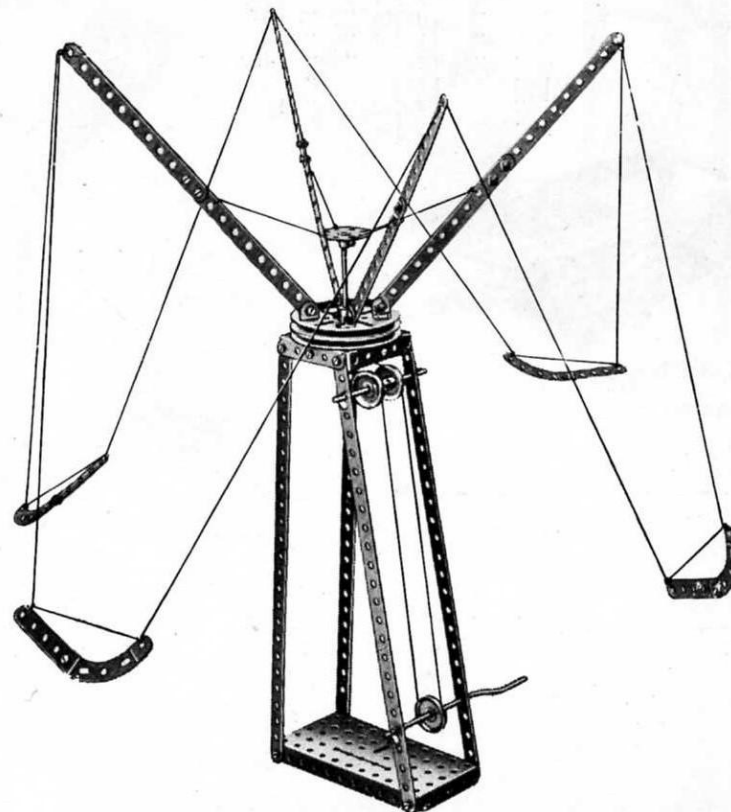
Parts required:

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



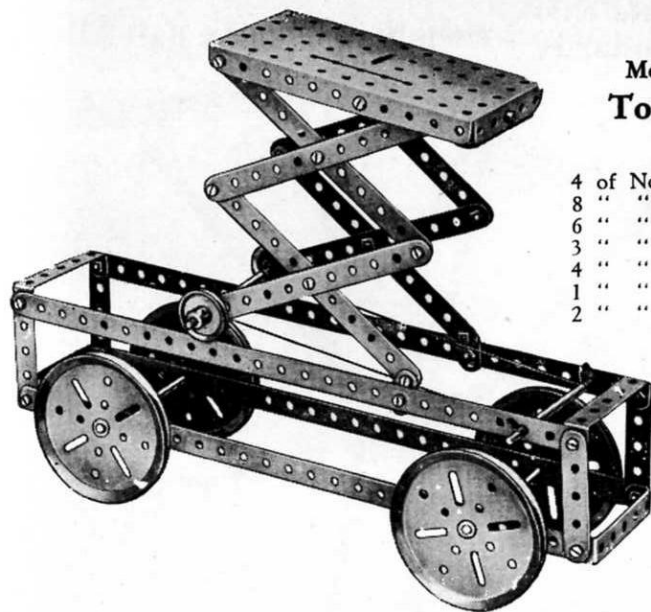
The Sector Plates are connected to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate by two Flat Brackets. Marbles or Meccano Steel Balls may be used for coco-nuts.

Model No. 0.186 Flying Boats



Parts required:

4 of No.	1	2 of No.	16	1 of No.	24
8 " "	2	2 " "	19B	3 " "	35
6 " "	5	1 " "	19S	36 " "	37
8 " "	12	4 " "	22	3 " "	48A



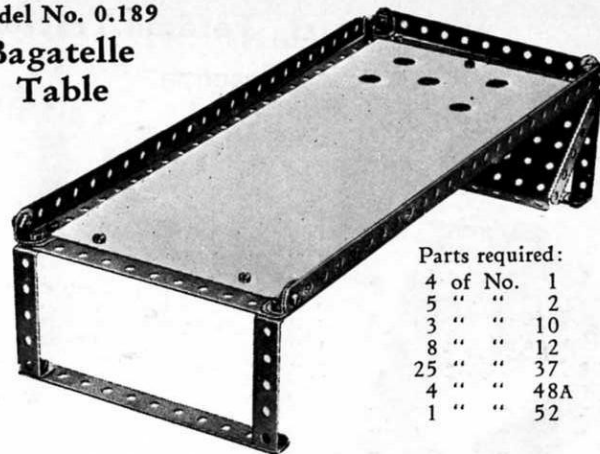
**Model No. 0.188
Tower Wagon**

Parts required:

4 of No.	1	2 of No.	35
8 " "	2	26 " "	37
6 " "	5	12 " "	37A
3 " "	16	1 " "	40
4 " "	19B	4 " "	48A
1 " "	19S	1 " "	52
2 " "	22		

Model No. 0.189

**Bagatelle
Table**



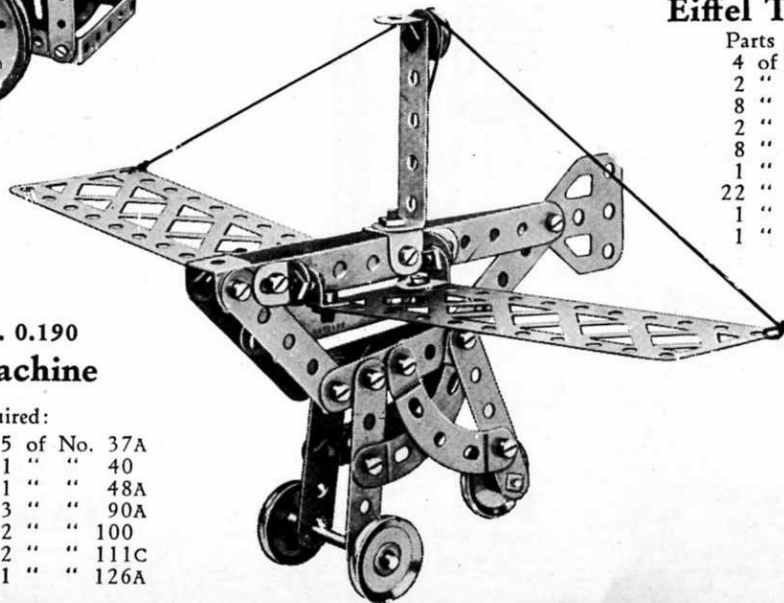
Parts required:

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

**Model No. 0.191
Eiffel Tower**

Parts required:

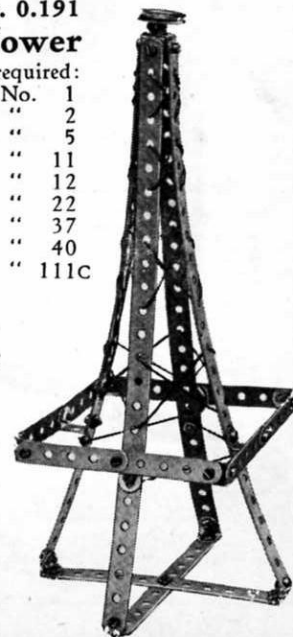
4 of No.	1
2 " "	2
8 " "	5
2 " "	11
8 " "	12
1 " "	22
22 " "	37
1 " "	40
1 " "	111C



**Model No. 0.190
Flying Machine**

Parts required:

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

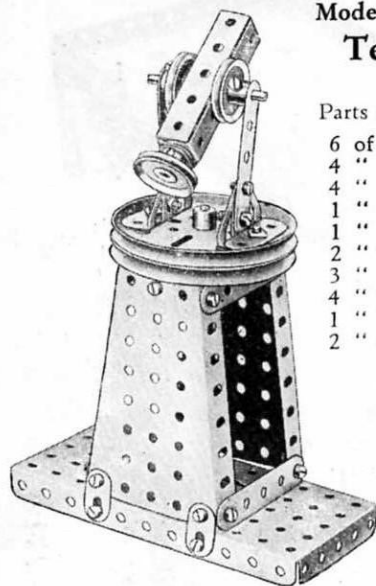


See last page of this Manual for list of models built with your outfit.

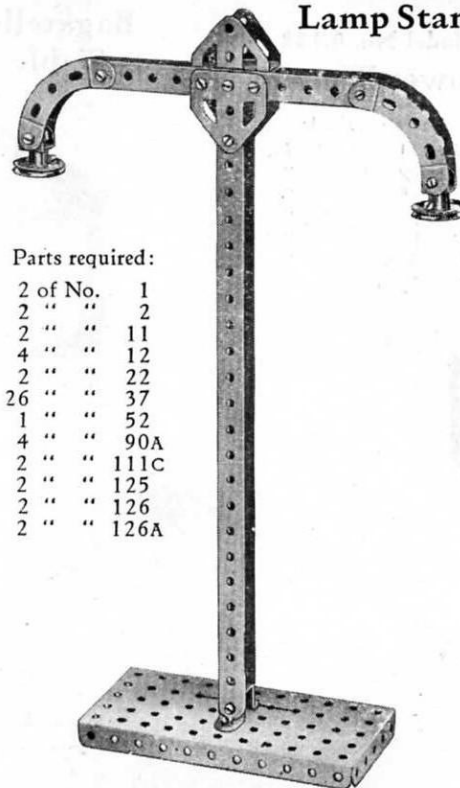
Model No. 0.192 Telescope

Parts required:

6 of No.	5
4 " "	10
4 " "	12
1 " "	17
1 " "	18A
2 " "	19B
3 " "	22
4 " "	48A
1 " "	52
2 " "	54



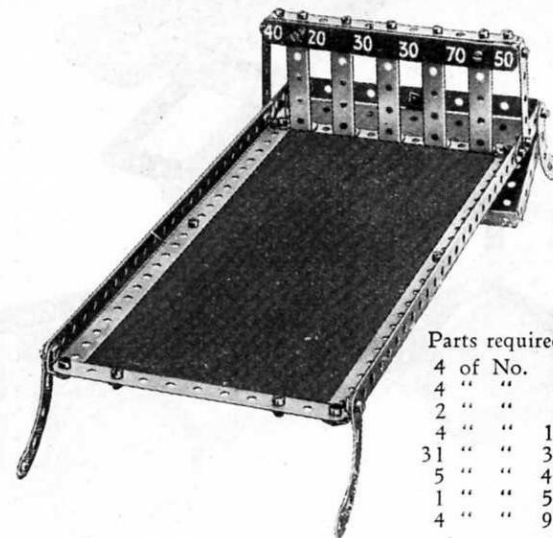
Model No. 0.193 Lamp Standard



Parts required:

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

Model No. 0.194 Box Ball Alley



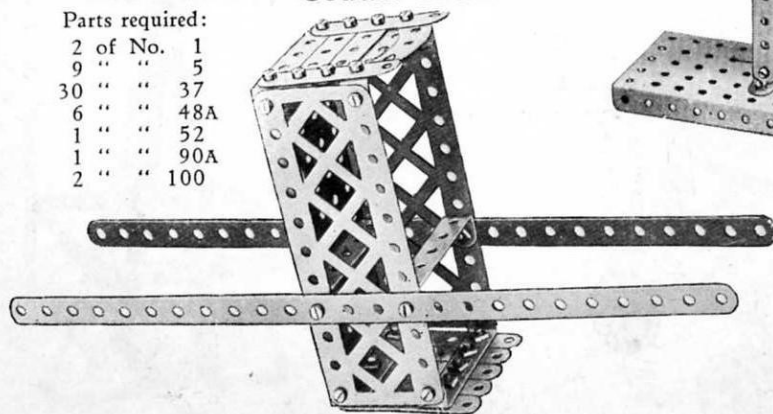
Parts required:

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

Model No. 0.195 Sedan Chair

Parts required:

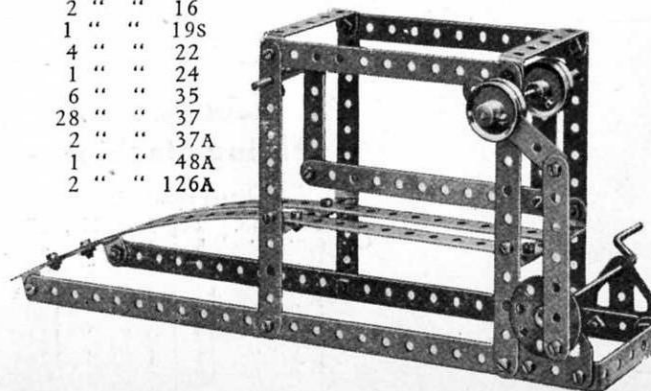
2 of No.	1
9 " "	5
30 " "	37
6 " "	48A
1 " "	52
1 " "	90A
2 " "	100



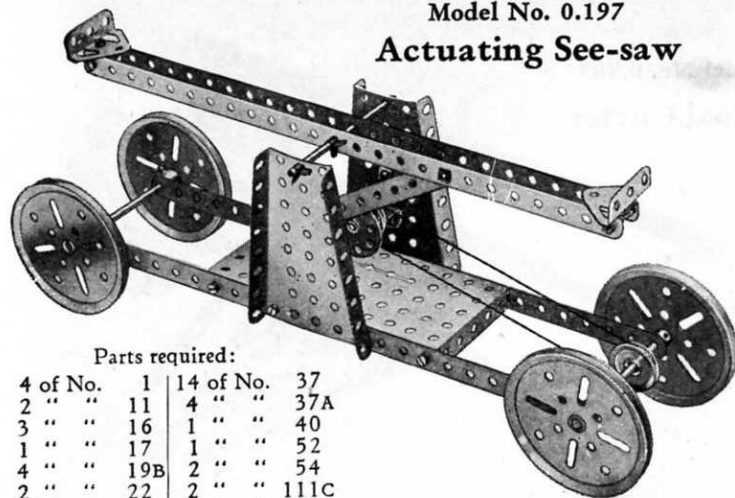
Model No. 0.196 Stone-Sawing Machine

Parts required:

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



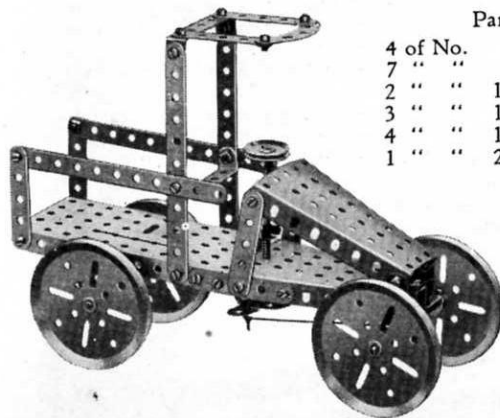
Model No. 0.197 Actuating See-saw



Parts required:

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

Model No. 0.200 Motor Truck



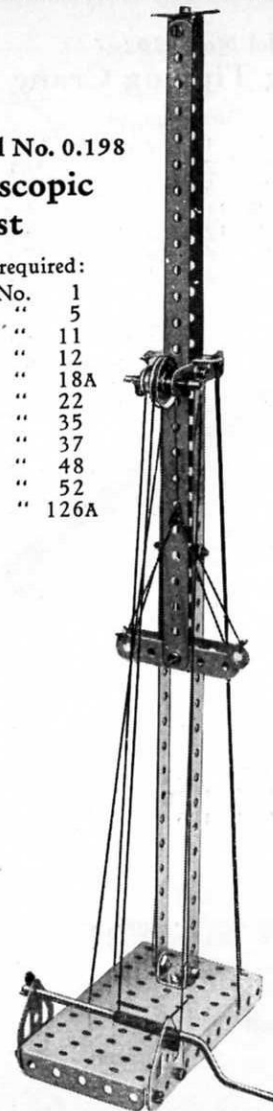
Parts required:

4 of No.	2	1 of No.	24
7 "	5	1 "	35
2 "	10	34 "	37
3 "	16	2 "	37A
4 "	19B	1 "	40
1 "	22	3 "	48A
		1 "	52
		2 "	54
		1 "	90A
		2 "	125
		2 "	126A

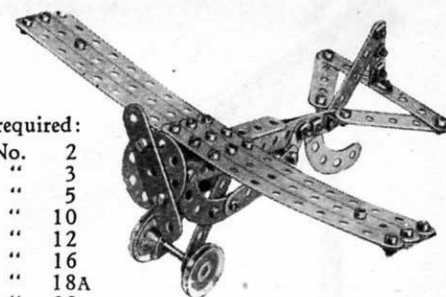
Model No. 0.198 Telescopic Mast

Parts required:

4 of No.	1
5 "	5
2 "	11
6 "	12
1 "	18A
1 "	22
4 "	35
16 "	37
1 "	48
1 "	52
2 "	126A



Model No. 0.199 Aeroplane



Parts required:

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

Model No. 0.201

Ladder on Wheels

Parts required:

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

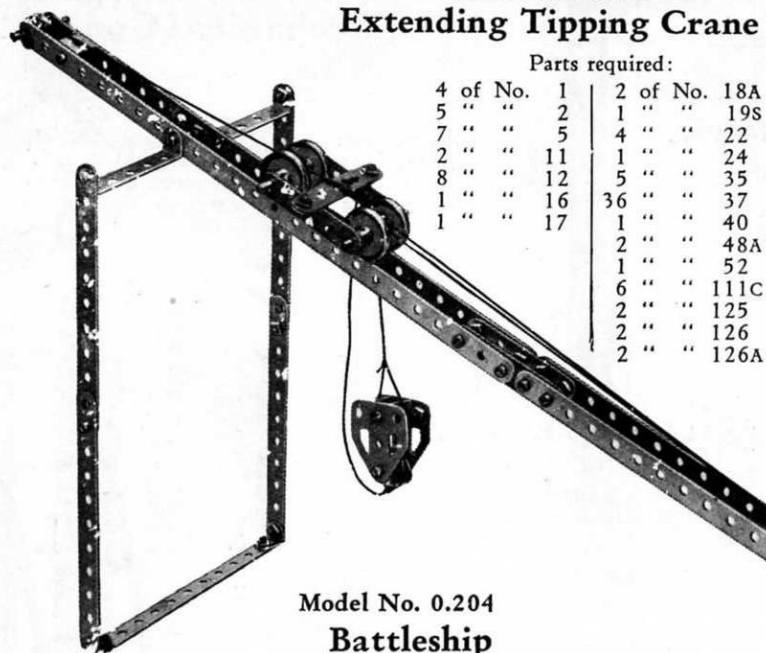


See last page of this Manual for list of models built with your outfit.

Model No. 0.202 Extending Tipping Crane

Parts required:

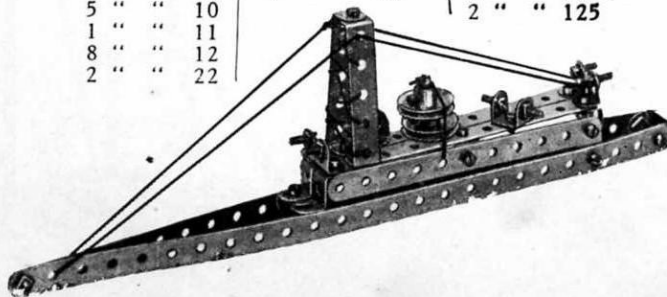
4 of No.	1	2 of No.	18A
5 " "	2	1 " "	19S
7 " "	5	4 " "	22
2 " "	11	1 " "	24
8 " "	12	5 " "	35
1 " "	16	36 " "	37
1 " "	17	1 " "	40
		2 " "	48A
		1 " "	52
		6 " "	111C
		2 " "	125
		2 " "	126
		2 " "	126A



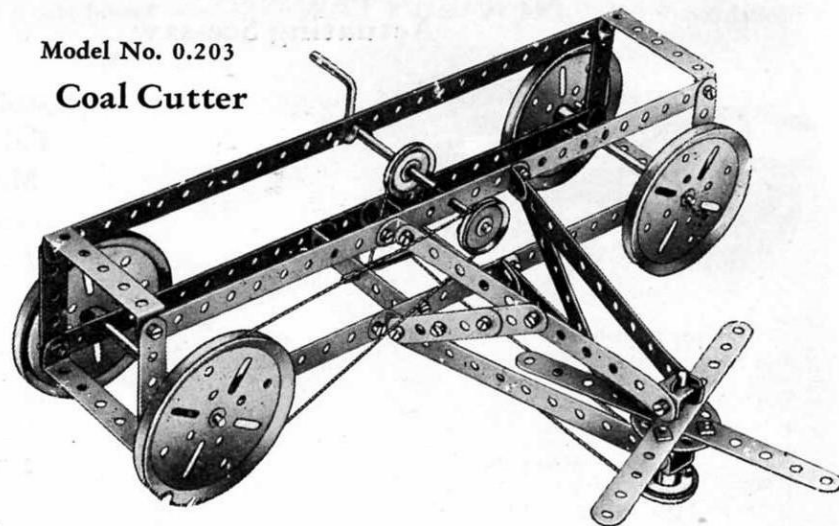
Model No. 0.204 Battleship

Parts required:

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

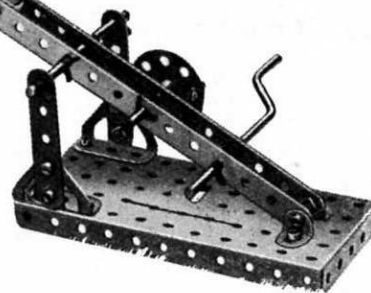


Model No. 0.203 Coal Cutter

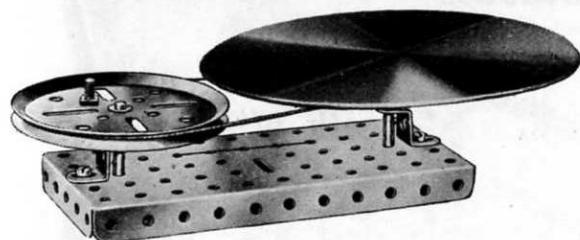


Parts required:

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



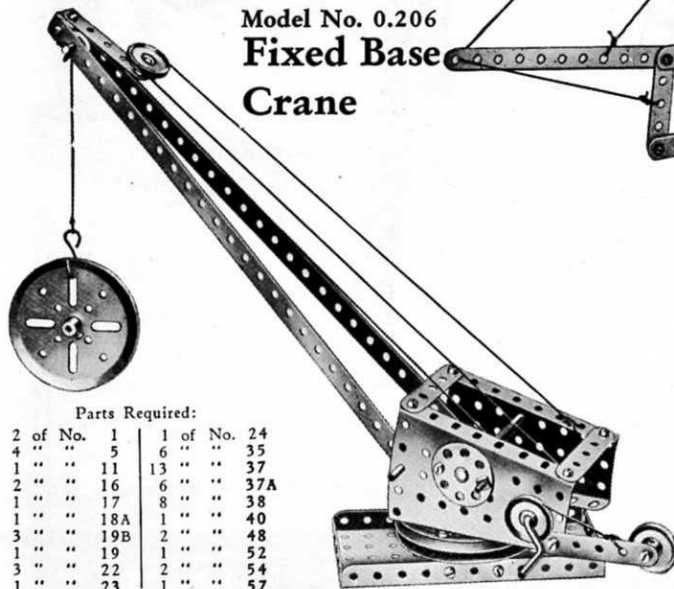
Model No. 0.205 Newton's Disc



Parts Required:

2 of No. 17	1 of No. 37A
1 " " 19B	1 " " 52
2 " " 22	1 " " 111C
1 " " 24	2 " " 125
2 " " 37	

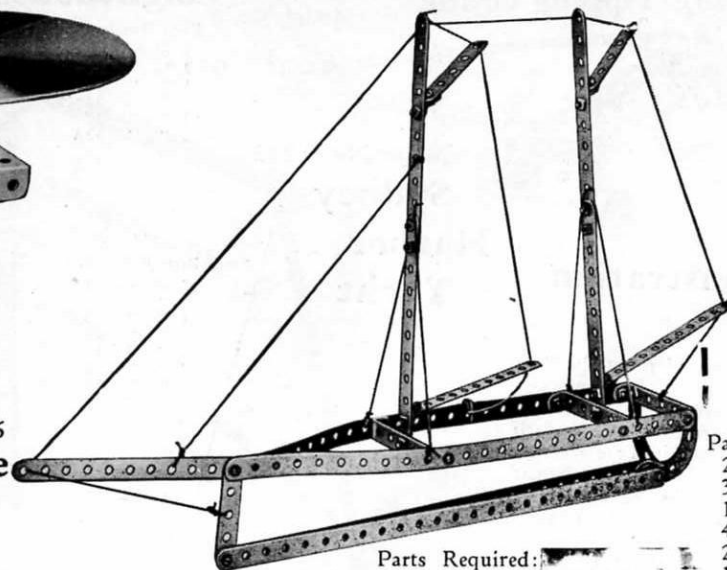
Model No. 0.206 Fixed Base Crane



Parts Required:

2 of No. 1	1 of No. 24
4 " " 5	6 " " 35
1 " " 11	6 " " 37
2 " " 16	13 " " 37A
1 " " 17	8 " " 38
1 " " 18A	1 " " 40
3 " " 19B	2 " " 48
1 " " 19	1 " " 52
3 " " 22	2 " " 54
1 " " 23	1 " " 57

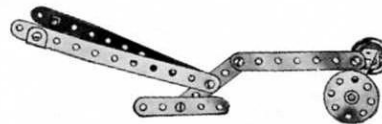
Model No. 0.207 Schooner



Parts Required:

4 of No. 1	4 of No. 12
7 " " 2	27 " " 37
3 " " 5	3 " " 48A
2 " " 11	2 " " 90A

Model No. 0.208 Plough



Parts Required:

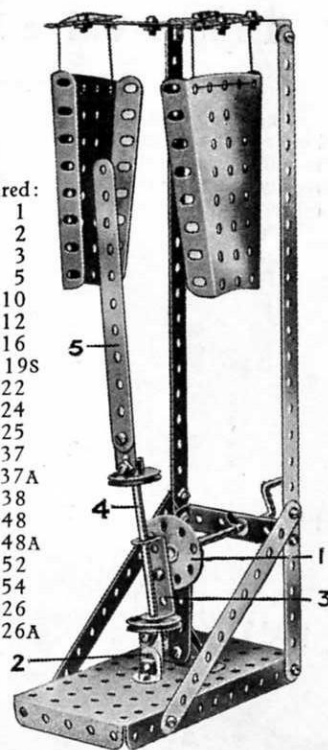
2 of No. 2	1 of No. 24
1 " " 3	7 " " 37
2 " " 5	2 " " 48A
1 " " 12	2 " " 111C
1 " " 22	

Model No. 0.209 Mechanical Gong

A Flat Bracket is connected pivotally to the base at 2 and is clamped rigidly to a 1" Pulley Wheel secured to the Rod (4). The latter passes through the 1½" Double Angle Strip (3) and carries at its upper end another Pulley to which is rigidly secured the striking arm (5). The Double Angle Strip (3) is pivoted to the Bush Wheel (1).

Parts Required:

2 of No. 1	1
3 " " 2	2
1 " " 3	3
4 " " 5	5
2 " " 10	10
1 " " 12	12
1 " " 16	16
1 " " 19S	19S
2 " " 22	22
1 " " 24	24
2 " " 25	25
26 " " 37	37
1 " " 37A	37A
2 " " 38	38
1 " " 48	48
2 " " 48A	48A
1 " " 52	52
2 " " 54	54
1 " " 126	126
1 " " 126A	126A

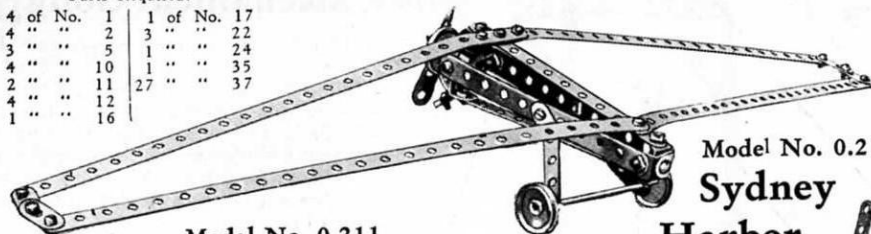


See last page of this Manual for list of models built with your outfit.

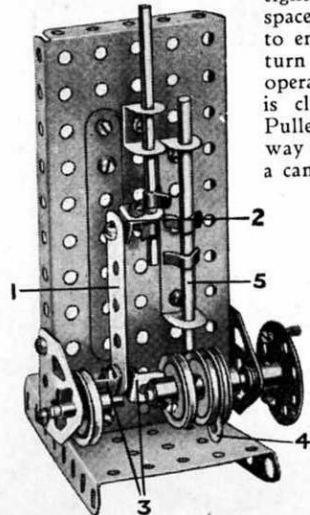
Model No. 0.210 Pterodactyl

Parts Required:

4 of No. 1	1 of No. 17
4 " " 2	3 " " 22
3 " " 5	1 " " 24
4 " " 10	1 " " 35
2 " " 11	27 " " 37
4 " " 12	
1 " " 16	

**Model No. 0.211 Tappet Valve Demonstration Model**

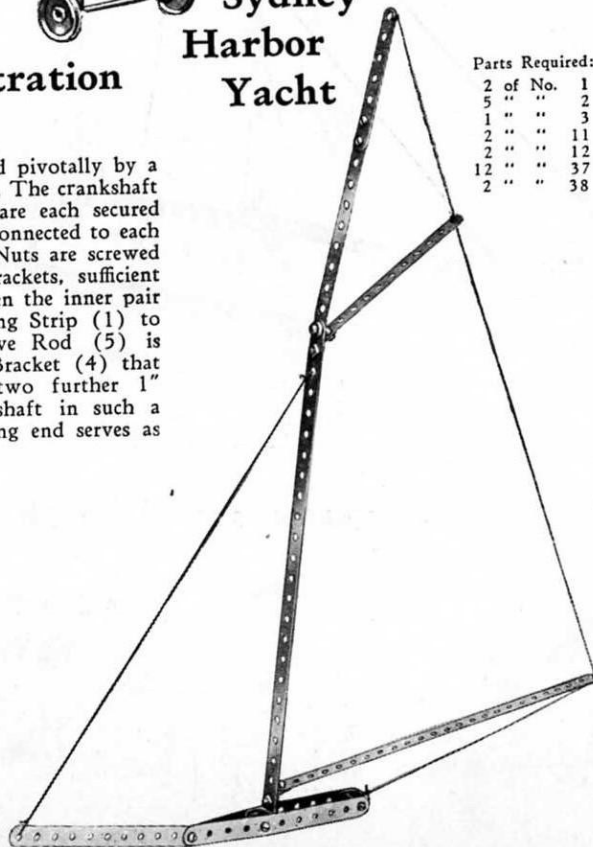
The upper end of the Strip (1) is connected pivotally by a Bolt and two Nuts to the crosshead Bracket (2). The crankshaft is built up as follows: Two Angle Brackets are each secured rigidly to the boss of a Pulley Wheel and are connected to each other by a $\frac{3}{8}$ " Bolt carrying three Nuts. The Nuts are screwed tightly against the Brackets, sufficient space being left between the inner pair to enable the connecting Strip (1) to turn freely. The valve Rod (5) is operated by the Flat Bracket (4) that is clamped between two further 1" Pulleys on the crankshaft in such a way that its protruding end serves as a cam.



Parts Required:

1 of No. 3	
1 " " 5	
1 " " 10	
1 " " 11	
3 " " 12	
2 " " 16	
1 " " 17	
1 " " 18A	
4 " " 22	
1 " " 24	
5 " " 35	
15 " " 37	
5 " " 37A	
4 " " 38	
1 " " 48A	
1 " " 52	
1 " " 54	
2 " " 111C	
2 " " 126A	

Model No. 0.212

Sydney Harbor Yacht

Model No. 0.213

Lighthouse

Parts Required:

4 of No. 1	
2 " " 11	
1 " " 17	
2 " " 22	
13 " " 37	
2 " " 48A	

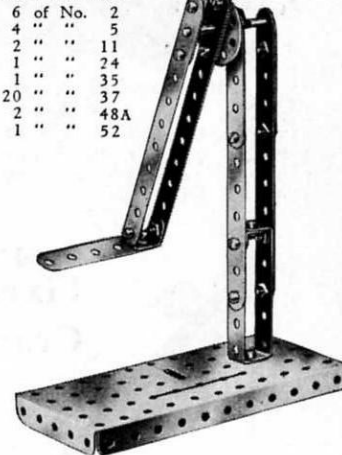
Parts Required:

2 of No. 1	
5 " " 2	
1 " " 3	
2 " " 11	
2 " " 12	
12 " " 37	
2 " " 38	

**Model No. 0.214 Silk Winder**

Parts Required:

6 of No. 2	
4 " " 5	
2 " " 11	
1 " " 24	
1 " " 35	
20 " " 37	
2 " " 48A	
1 " " 52	

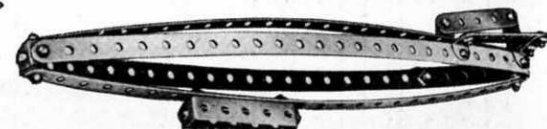


Model No. 0.215

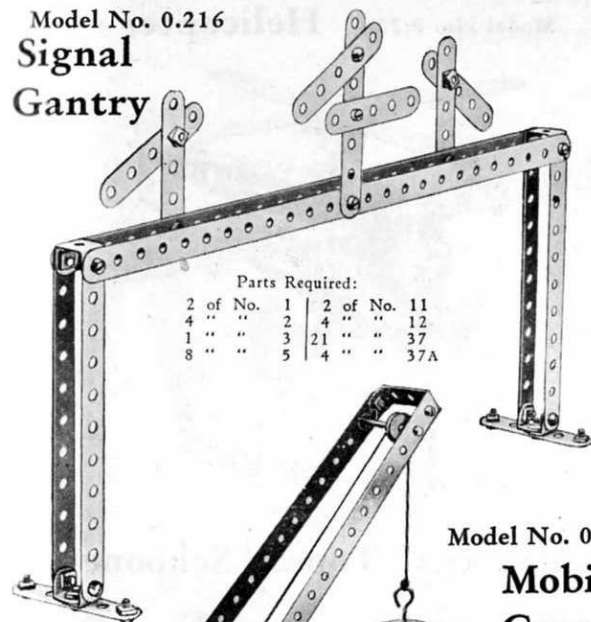
Airship

Parts Required:

4 of No. 1	8 of No. 12
3 " " 5	29 " " 37
3 " " 10	3 " " 48A
2 " " 11	2 " " 125



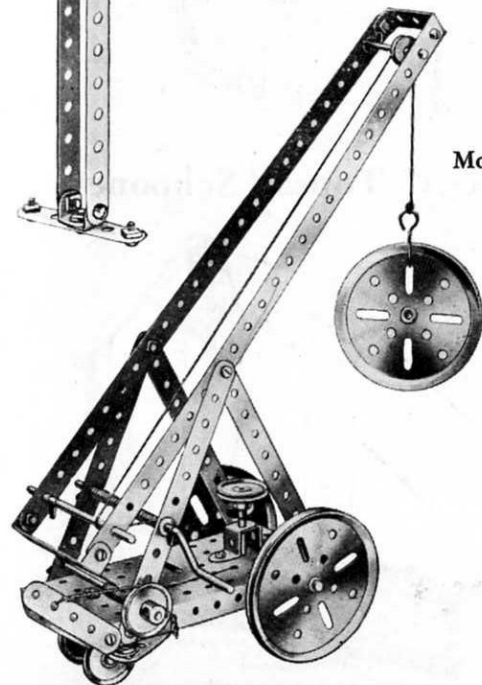
Model No. 0.216
**Signal
Gantry**



Parts Required:

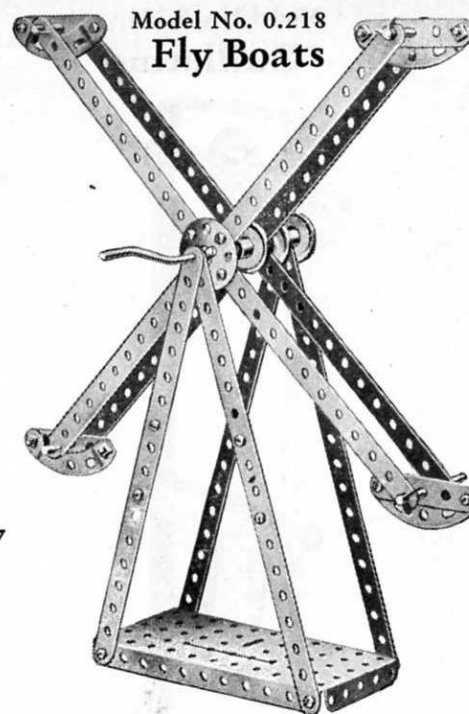
2 of No.	1	2 of No.	11
4 " "	2	4 " "	12
1 " "	3	21 " "	37
8 " "	5	4 " "	37A

Model No. 0.217
**Mobile
Crane**



Parts Required:

2 of No.	1
4 " "	2
1 " "	3
1 " "	5
1 " "	10
2 " "	12
3 " "	16
2 " "	17
3 " "	19B
1 " "	19
4 " "	22
1 " "	23
8 " "	35
16 " "	37
7 " "	37A
4 " "	38
1 " "	40
1 " "	44
1 " "	48
1 " "	48A
1 " "	52
1 " "	57
2 " "	125



Model No. 0.218
Fly Boats

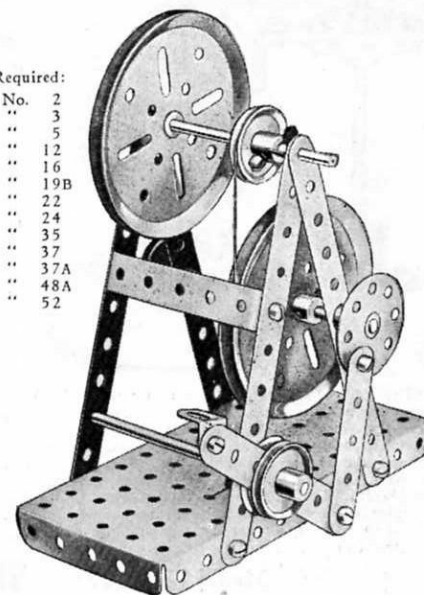
Parts Required:

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

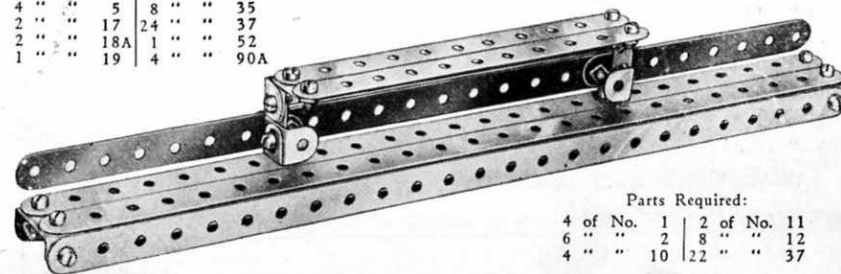
Model No. 0.219
Treadle Grindstone

Parts Required:

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



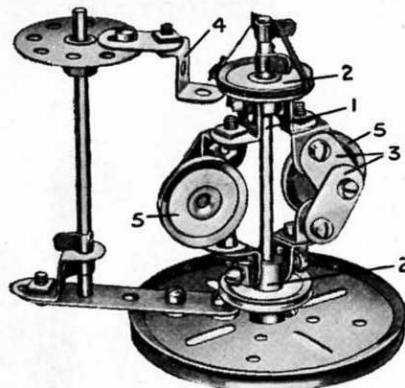
Model No. 0.220 **Way-Side Halt**



Parts Required:

4 of No.	1	2 of No.	11
6 " "	2	8 " "	12
4 " "	10	22 " "	37

Model No. 0.221 Gramophone Governor



Parts Required:

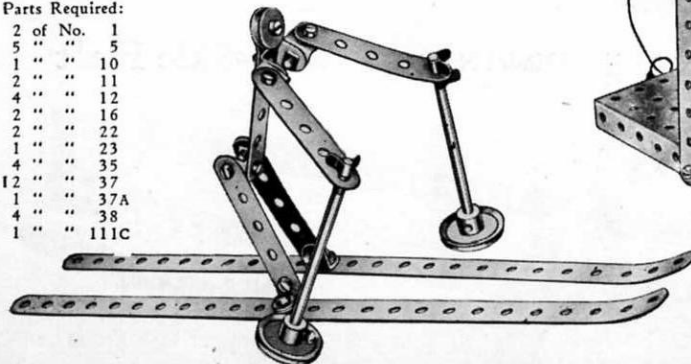
1 of No.	5
5 "	10
8 "	12
2 "	16
1 "	19B
4 "	22
1 "	24
4 "	35
17 "	37
4 "	37A
4 "	38
2 "	111C
2 "	126

The Rod (1), which is free to rotate in the 3 inch Pulley that forms the base, carries two 1-inch Pulleys (2), the upper one being free on the Rod and the lower one fixed. The Flat Brackets (3) are pivotally attached to the Angle Brackets and to the Pulleys (5) forming the governor weights. The upper Pulley (2) is connected to the top of the Rod by a small piece of elastic (not included in the Outfit). The drive is led to the lower Pulley (2), and on the governor reaching a certain speed the upper Pulley presses on the stop (4). The speed can be regulated by adjusting the height of the stop (4).

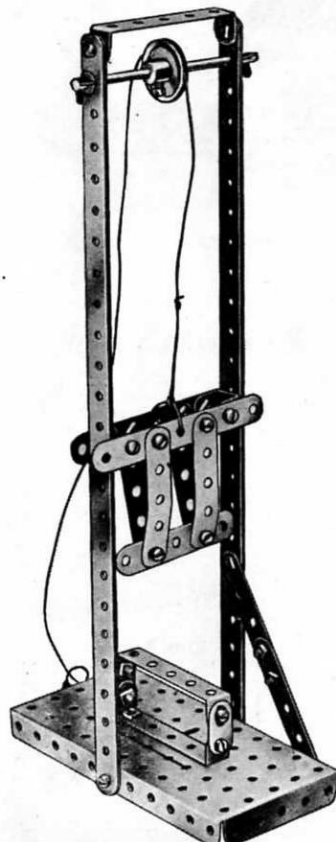
Model No. 0.222 Ski-er

Parts Required:

2 of No.	1
5 "	5
1 "	10
2 "	11
4 "	12
2 "	16
2 "	22
1 "	23
4 "	35
12 "	37
1 "	37A
4 "	38
1 "	111C



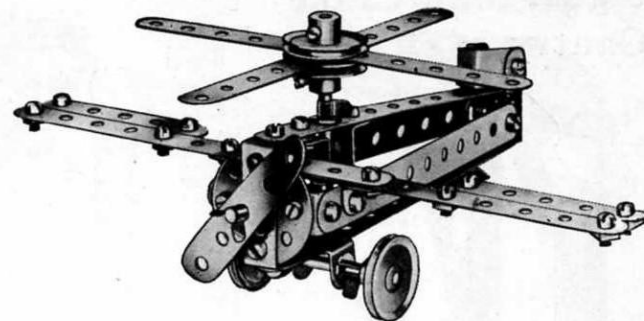
Model No. 0.223 Guillotine



Parts Required:

4 of No.	1	1 of No.	22
1 "	3	2 "	35
9 "	5	24 "	37
2 "	10	2 "	38
2 "	11	3 "	48A
1 "	16	1 "	52

Model No. 0.224 Helicopter



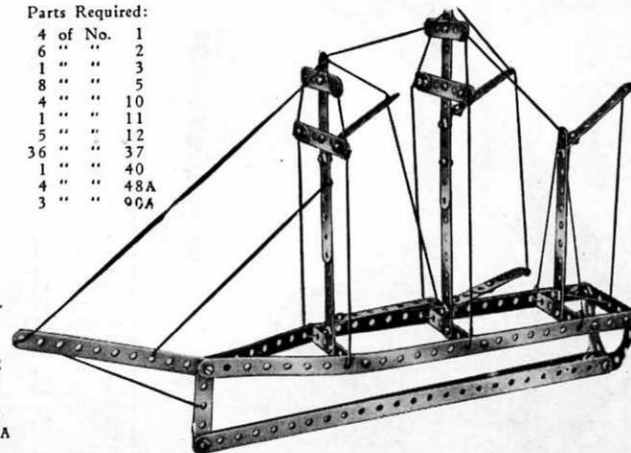
Parts Required:

8 of No.	2	2 of No.	17	5 of No.	38
3 "	5	4 "	22	1 "	44
5 "	10	1 "	24	1 "	48
2 "	11	5 "	35	2 "	125
8 "	12	31 "	37		

Model No. 0.225 Topsail Schooner

Parts Required:

4 of No.	1
6 "	2
1 "	3
8 "	5
4 "	10
1 "	11
5 "	12
36 "	37
1 "	40
4 "	48A
3 "	90A

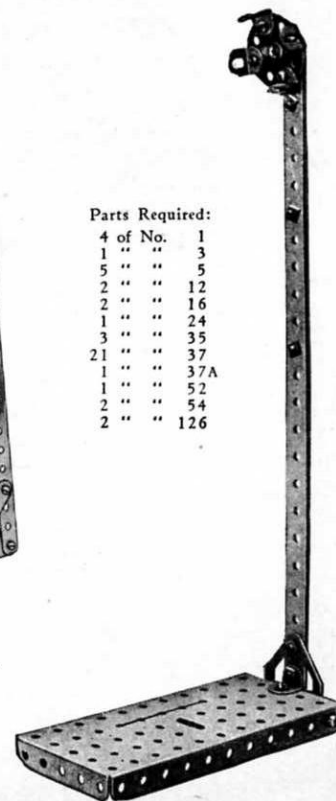


[illegible]

Parts Required:			
	2 of	No.	19B
	1 "	"	22
	1 "	"	24
	1 "	"	35
10	"	"	37
	1 "	"	37A
	1 "	"	52
	1 "	"	111C
	2 "	"	125
	2 "	"	126A

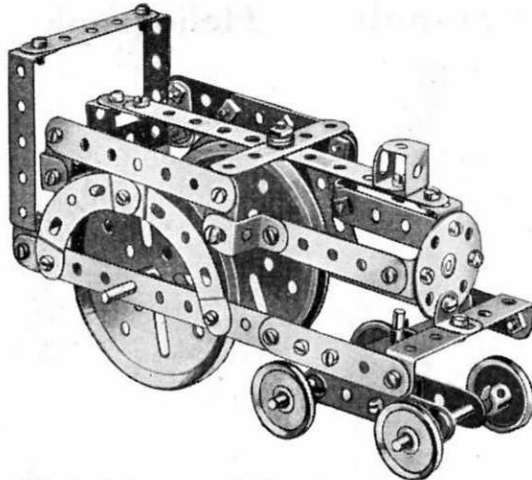
			Parts Required:					
4 of No.	1		4 of No.	17		6 of No.	48A	
4 "	2		1 "	22		1 "	52	
8 "	5		1 "	24		4 "	90A	
2 "	10		36 "	37				
6 "	12		5 "	38				

Parts Required:	
2 of No.	1
7 " "	12
1 " "	24
15 " "	37
1 " "	52
1 " "	111C



See last page of this Manual for list of models built with your outfit.

Model No. 0.231 Locomotive



Parts Required:

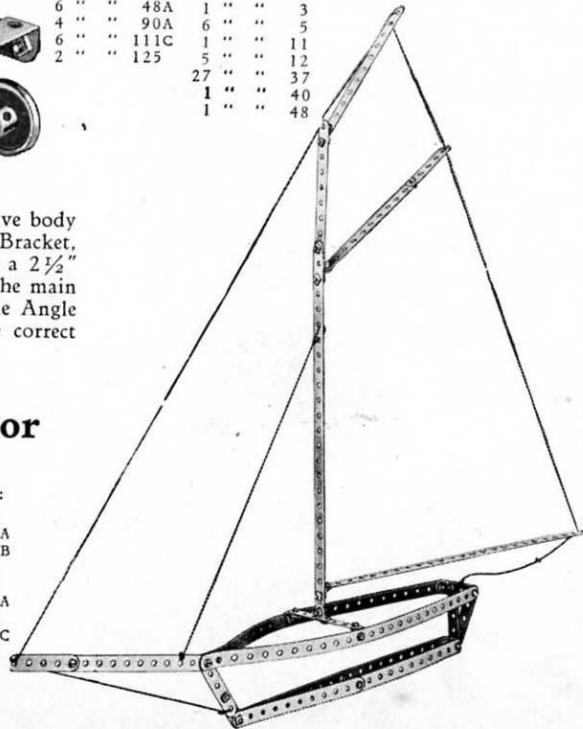
4 of No.	2
9 " "	5
5 " "	10
2 " "	11
6 " "	12
3 " "	16
1 " "	18A
2 " "	19B
4 " "	22
1 " "	24
8 " "	35
36 " "	37
6 " "	37A
6 " "	38
1 " "	48
6 " "	48A
4 " "	90A
6 " "	111C
2 " "	125

Model No. 0.233

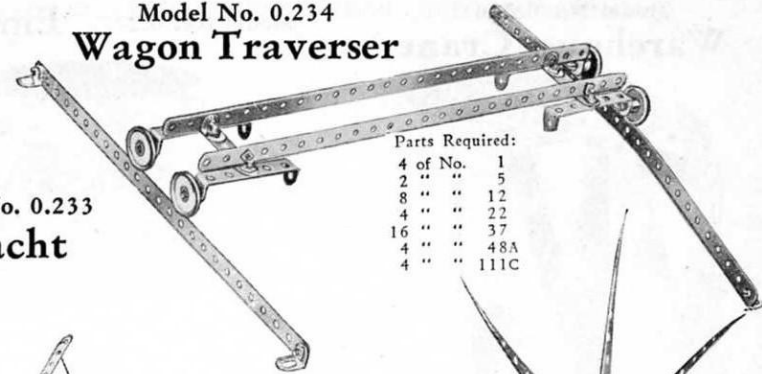
Yacht

Parts Required

4 of No.	1
8 " "	2
1 " "	3
6 " "	5
1 " "	11
5 " "	12
27 " "	37
1 " "	40
1 " "	48



Model No. 0.234 Wagon Traverser

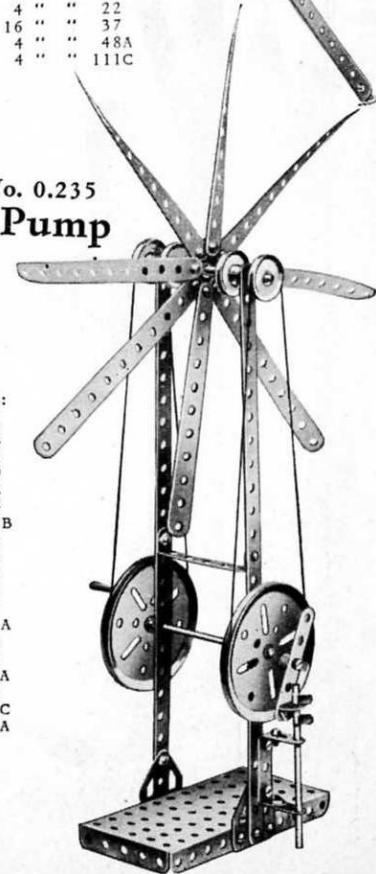


Parts Required:

4 of No.	1
2 " "	5
8 " "	12
4 " "	22
16 " "	37
4 " "	48A
4 " "	111C

Model No. 0.235

Wind Pump

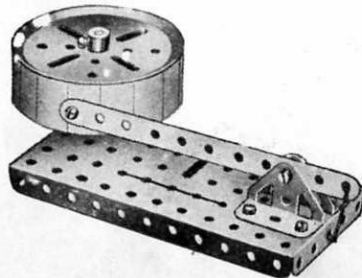


Parts Required:

2 of No.	1
8 " "	2
1 " "	5
2 " "	10
1 " "	12
2 " "	16
2 " "	19B
1 " "	19
4 " "	22
1 " "	24
2 " "	35
19 " "	37
4 " "	37A
8 " "	38
1 " "	48
1 " "	48A
1 " "	52
3 " "	111C
2 " "	126A

The bogie is connected pivotally to the locomotive body by means of a $1\frac{1}{2}$ " Rod journalled in a Double Bracket, which is secured in the centre of the bogie, and in a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip that is secured between the main side frames. Two Spring Clips between the Double Angle Strip and Double Bracket space the bogie at the correct distance.

Model No. 0.232 Vibration Indicator



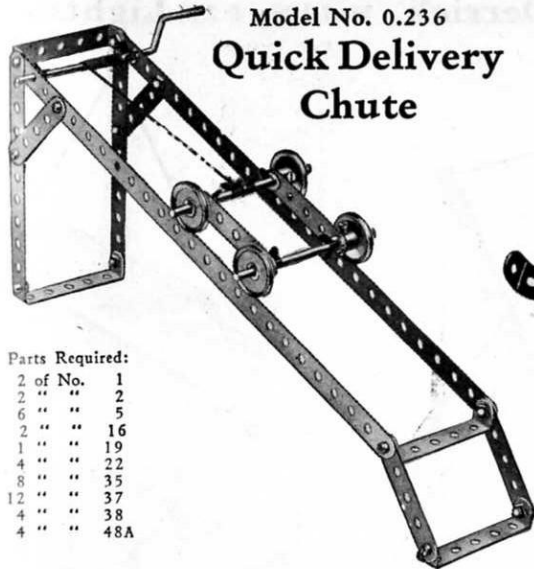
Parts Required:

1 of No.	2
1 " "	18A
3 " "	19B
1 " "	22
5 " "	37
3 " "	37A
1 " "	52
1 " "	111C
2 " "	126

See last page of this Manual for list of models built with your outfit.

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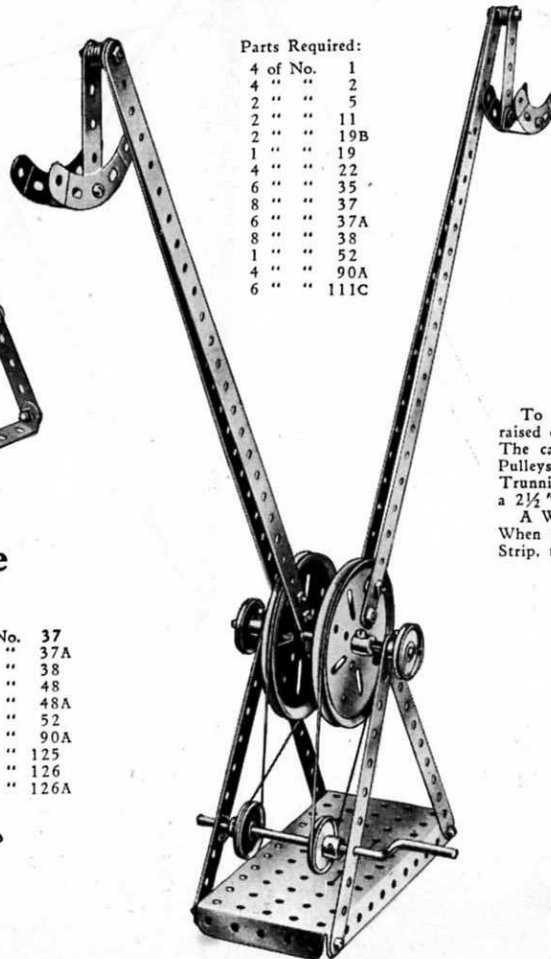
Model No. 0.236 Quick Delivery Chute



Parts Required:

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

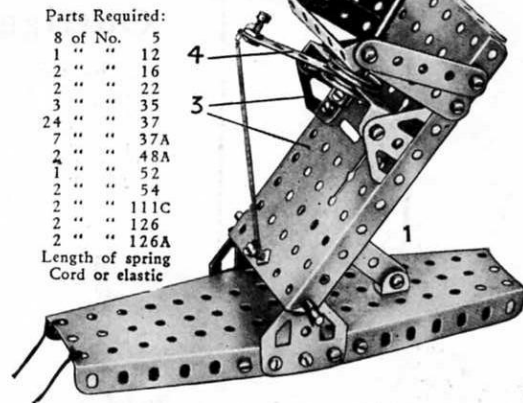
Model No. 0.238 Flip Flap



Parts Required:

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

Model No. 0.239 Catapult



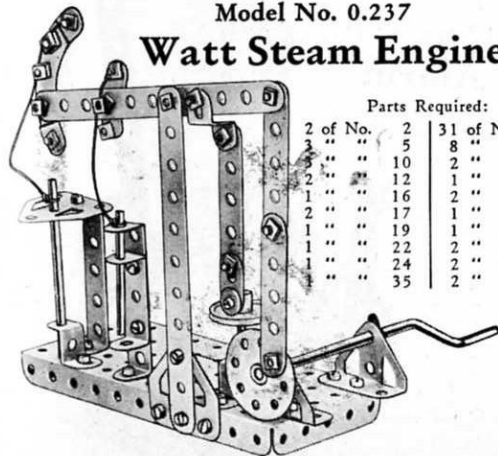
Parts Required:

8 of No.	5
1 " "	12
2 " "	16
2 " "	22
3 " "	35
24 " "	37
7 " "	37A
2 " "	48A
1 " "	52
2 " "	54
2 " "	111C
2 " "	126
2 " "	126A
Length of spring Cord or elastic	

To alter the range of this model the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate is raised or depressed and held in the desired position by the $2\frac{1}{2}$ " Strip (1). The catapult consists of a $3\frac{1}{2}$ " Rod (2) clamped by means of two 1" Pulleys to a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip that is lock-nutted to two Trunnions (3). A length of Spring Cord or elastic is attached at one end to a $2\frac{1}{2}$ " Strip 4, and at the other to the Flanged Plate.

A Washer is placed on the Rod (2) so that it rests on the Spring Clip. When the Rod is depressed, and released so that it hits the Double Angle Strip, the Washer flies through the air for a considerable distance.

Model No. 0.237 Watt Steam Engine



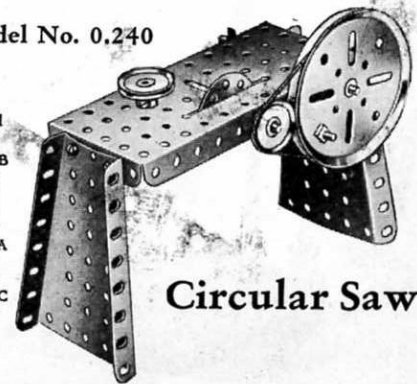
Parts Required:

2 of No.	2	31 of No.	37
3 " "	5	8 " "	37A
3 " "	10	2 " "	38
2 " "	12	1 " "	48
1 " "	16	2 " "	48A
2 " "	17	1 " "	52
1 " "	19	1 " "	90A
1 " "	22	2 " "	125
1 " "	24	2 " "	126
1 " "	35	2 " "	126A

Model No. 0.240

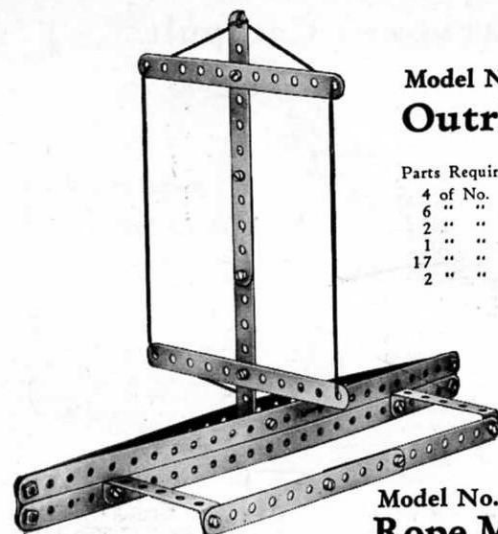
Parts Required

2 of No.	16
1 " "	19B
2 " "	22
1 " "	24
3 " "	35
6 " "	37
1 " "	37A
1 " "	52
2 " "	54
1 " "	111C
2 " "	125



Circular Saw

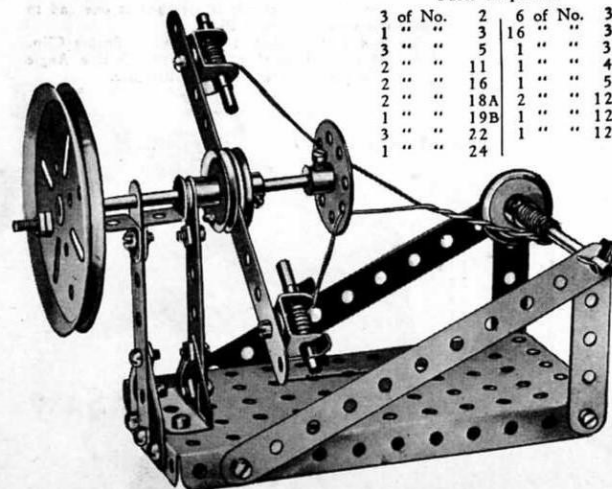
See last page of this Manual for list of models built with your outfit.



**Model No. 0.241
Outrigger**

Parts Required:

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

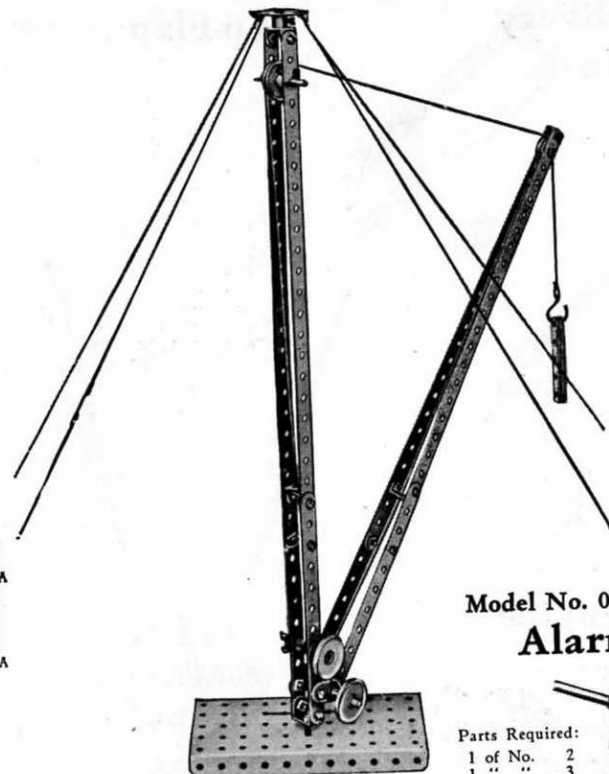


**Model No. 0.242
Rope Maker**

Parts Required:

3 of No.	2	6 of No.	35
1 " "	3	16 " "	37
3 " "	5	1 " "	37A
2 " "	11	1 " "	40
2 " "	16	1 " "	52
2 " "	18A	2 " "	125
1 " "	19B	1 " "	126
3 " "	22	1 " "	126A
1 " "	24		

Model No. 0.243 Mast Derrick

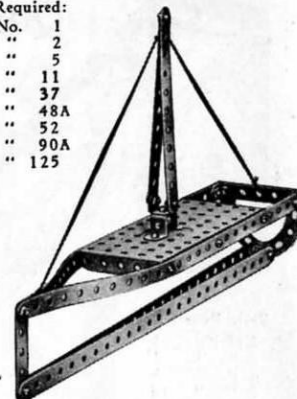


Parts Required			
4 of No.	1	1 of No.	23
4 " "	2	1 " "	24
9 " "	5	5 " "	35
2 " "	10	15 " "	37
2 " "	11	6 " "	37A
4 " "	12	1 " "	40
1 " "	17	1 " "	52
2 " "	18A	1 " "	57
3 " "	22	3 " "	111C

Model No. 0.244 Lightship

Parts Required:

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

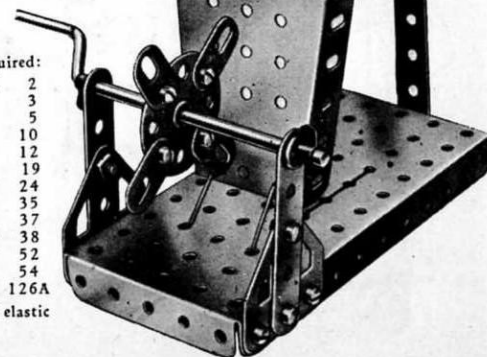


**Model No. 0.245
Alarm**

Parts Required:

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

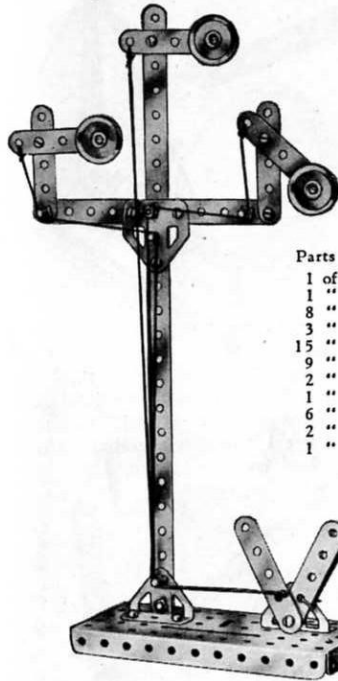
Length of elastic



See last page of this Manual for list of models built with your outfit.

89

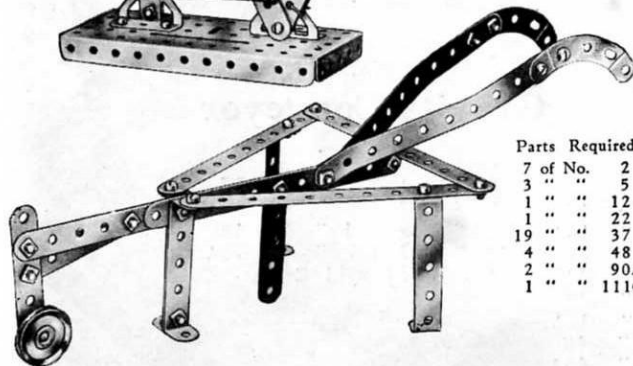
Model No. 0.246 Signal Gantry



Parts Required:

1 of No.	1
1 " "	2
8 " "	5
3 " "	22
15 " "	37
9 " "	37A
2 " "	38
1 " "	52
6 " "	111C
2 " "	126
1 " "	126A

Model No. 0.247 Scarifier



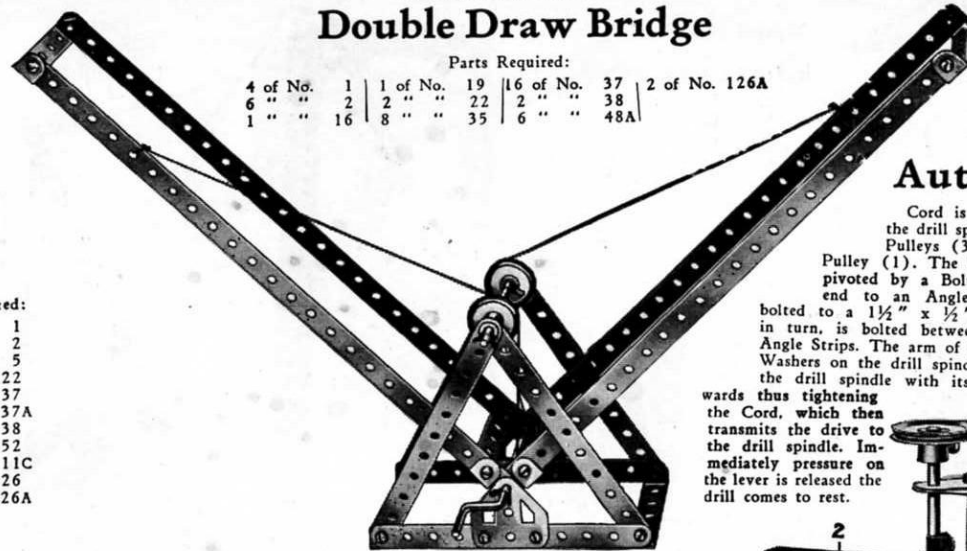
Parts Required

7 of No.	2
3 " "	5
1 " "	12
1 " "	22
19 " "	37
4 " "	48
2 " "	90A
1 " "	111C

Model No. 0.248 Double Draw Bridge

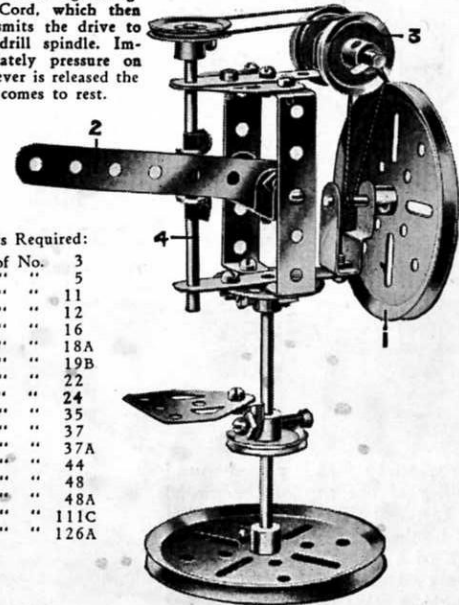
Parts Required:

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



Model No. 0.250 Automatic Drill

Cord is passed around the Pulley on the drill spindle (4) and thence over the Pulleys (3) and round the shaft of the Pulley (1). The lever (2) (a $3\frac{1}{2}$ " Strip) is pivoted by a Bolt and two Nuts at its inner end to an Angle Bracket, and the latter is bolted to a $1\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip which, in turn, is bolted between the vertical $2\frac{1}{2}$ " Double Angle Strips. The arm of the lever engages between two Washers on the drill spindle, and on pressing the lever, the drill spindle with its 1" Pulley is forced downwards thus tightening the Cord, which then transmits the drive to the drill spindle. Immediately pressure on the lever is released the drill comes to rest.



Parts Required:

1 of No.	3
2 " "	5
1 " "	11
1 " "	12
2 " "	16
2 " "	18A
2 " "	19B
4 " "	22
1 " "	24
4 " "	35
16 " "	37
1 " "	37A
1 " "	44
1 " "	48
2 " "	48A
1 " "	111C
2 " "	126A

Model No. 0.249 Buoy

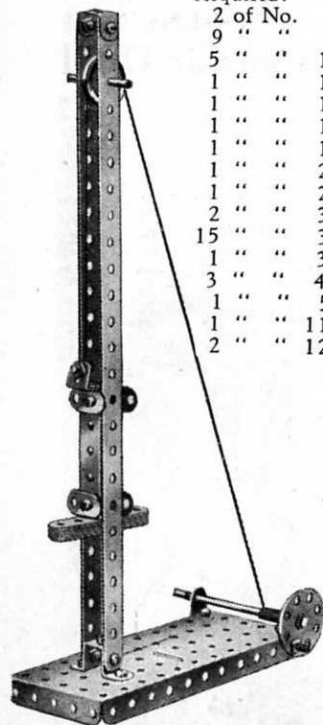
Parts Required

4 of No.	2
2 " "	11
1 " "	16
2 " "	19B
1 " "	22
13 " "	37
2 " "	38
2 " "	48A



See last page of this Manual for list of models built with your outfit.

Model No. 0.251 Pile Driver

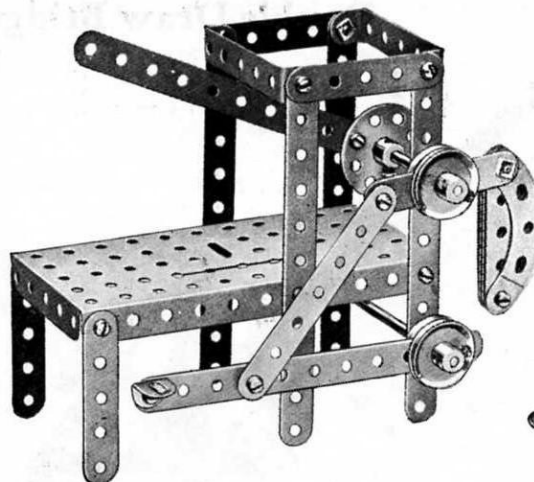


Parts Required:	
2 of No.	1
9 " "	5
5 " "	10
1 " "	11
1 " "	12
1 " "	16
1 " "	17
1 " "	22
1 " "	24
2 " "	35
15 " "	37
1 " "	37A
3 " "	48A
1 " "	52
1 " "	111C
2 " "	125

The winding cord is passed round the Pulley at the top of the model and is fastened to an Angle Bracket that is hooked under the protruding portion of a Flat Bracket bolted to the top of the driving head. When the Angle Bracket reaches the Pulley at the top it is pushed out a little, thus releasing the driving head.

Model No. 0.252 Foot Hammer

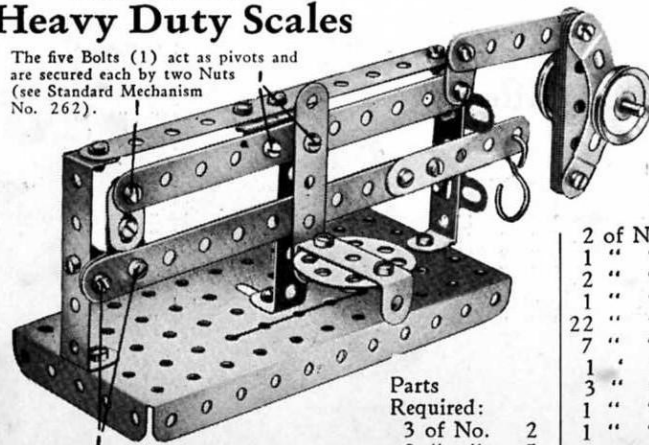
Parts Required:	
6 of No.	2
1 " "	3
9 " "	5
1 " "	12
2 " "	16
4 " "	22
1 " "	24
2 " "	35
15 " "	37
4 " "	37A
2 " "	38
2 " "	48A
1 " "	52
4 " "	90A



The treadle lever is connected pivotally to a $3\frac{1}{2}$ " Strip by a Bolt and two Nuts. The upper end of the Strip is similarly connected to a $2\frac{1}{4}$ " Strip that is clamped tightly between two Pulleys on the Rod. Pressure on the treadle causes the hammer to descend on the work. When the treadle is released the weight pulls the hammer back to its original position.

Model No. 0.253 Heavy Duty Scales

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

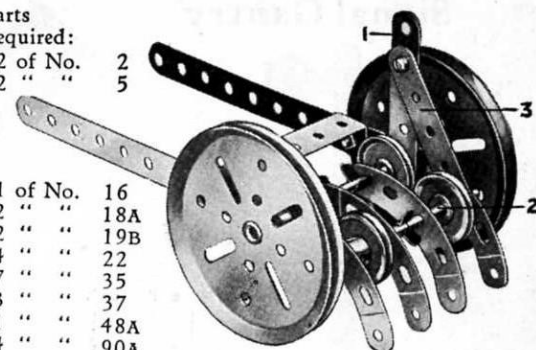


Parts Required:	
3 of No.	2
9 " "	5
5 " "	10
2 of No.	12
1 " "	18A
2 " "	24
1 " "	24
22 " "	37
7 " "	37A
1 " "	48
3 " "	48A
1 " "	52
1 " "	57
2 " "	90A
2 " "	111C

Model No. 0.254 Horse Rake

Parts Required:

2 of No.	2
2 " "	5



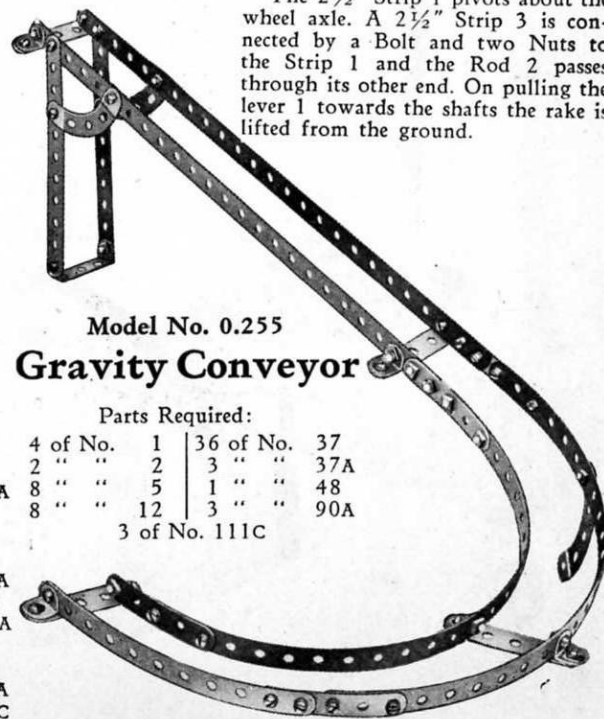
1 of No.	16
2 " "	18A
2 " "	19B
4 " "	22
7 " "	35
3 " "	37
1 " "	48A
4 " "	90A

The $2\frac{1}{2}$ " Strip 1 pivots about the wheel axle. A $2\frac{1}{2}$ " Strip 3 is connected by a Bolt and two Nuts to the Strip 1 and the Rod 2 passes through its other end. On pulling the lever 1 towards the shafts the rake is lifted from the ground.

Model No. 0.255 Gravity Conveyor

Parts Required:

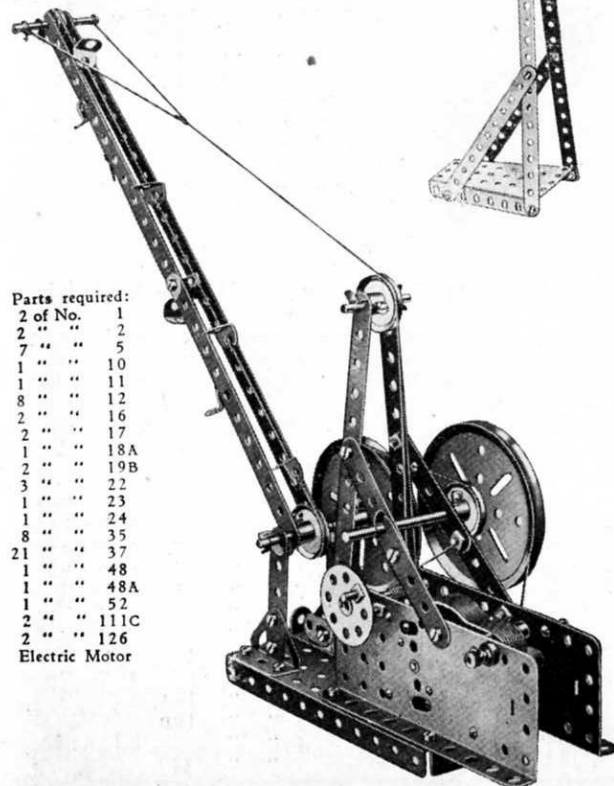
4 of No.	1	36 of No.	37
2 " "	2	3 " "	37A
8 " "	5	1 " "	48
8 " "	12	3 " "	90A
3 of No. 111C			



See last page of this Manual for list of models built with your outfit.

Model No. 1.1 Hay Elevator

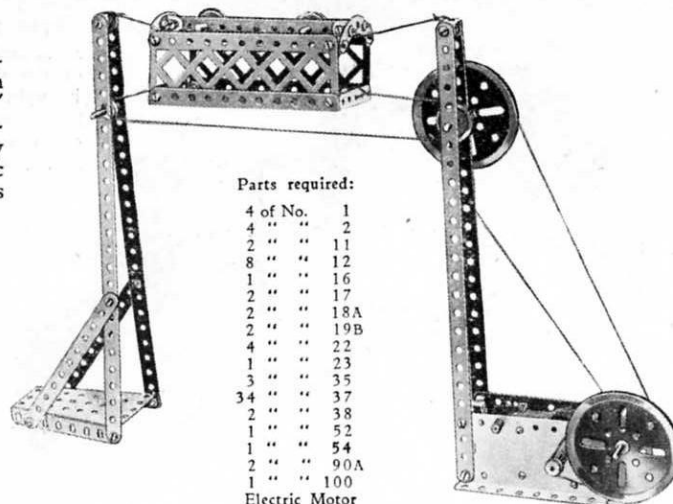
The arm is raised and lowered by operating the hand wheel on the left. When not in use, this wheel is held by a $\frac{3}{8}$ " bolt engaging one of its holes. The elevating mechanism is operated from a pulley on the armature spindle of the Electric Motor via belts and the Pulley Wheels shown.



Parts required:

2 of No.	1
2 "	2
7 "	5
1 "	10
1 "	11
8 "	12
2 "	16
2 "	17
1 "	18A
2 "	19B
3 "	22
1 "	23
1 "	24
8 "	35
21 "	37
1 "	48
1 "	48A
1 "	52
2 "	111C
2 "	126
Electric Motor	

Model No. 1.2 Overhead Ropeway



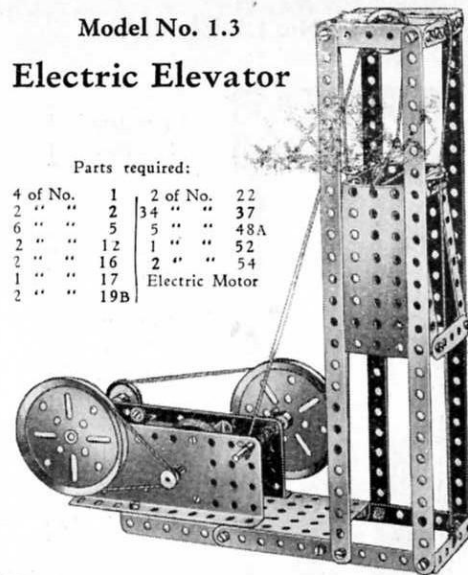
Parts required:

4 of No.	1
4 "	2
2 "	11
8 "	12
1 "	16
2 "	17
2 "	18A
2 "	19B
4 "	22
1 "	23
3 "	35
34 "	37
2 "	38
1 "	52
1 "	54
2 "	90A
1 "	100
Electric Motor	

Model No. 1.3 Electric Elevator

Parts required:

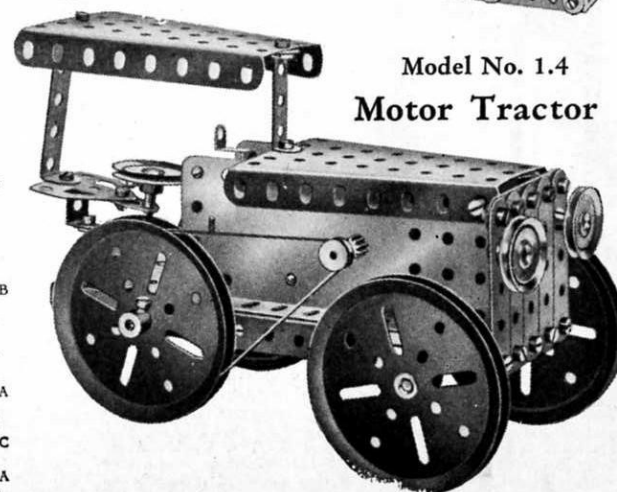
4 of No.	1	2 of No.	22
2 "	2	34 "	37
6 "	5	5 "	48A
2 "	12	1 "	52
2 "	16	2 "	54
1 "	17	Electric Motor	
2 "	19B		



Model No. 1.4 Motor Tractor

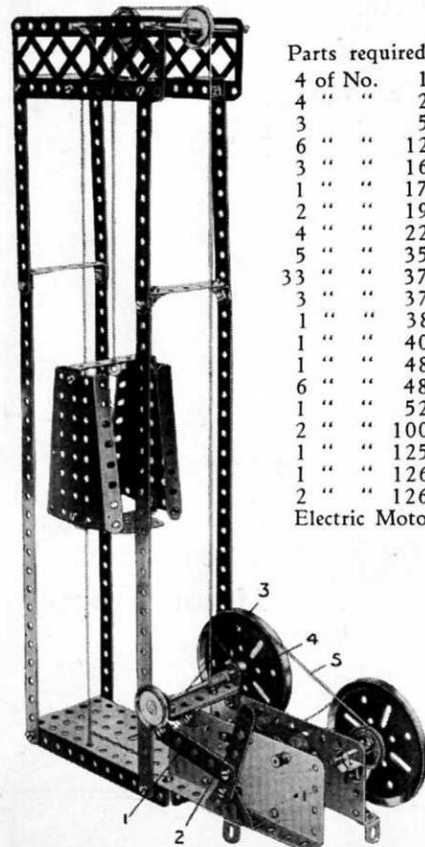
Parts required:

8 of No.	5
1 "	10
2 "	12
2 "	16
1 "	17
4 "	19B
3 "	22
1 "	24
3 "	35
23 "	37
1 "	48
2 "	48A
1 "	52
2 "	54
2 "	111C
2 "	125
1 "	126A
Electric Motor	



See last page of this Manual for list of models built with your outfit.

Model No. 1.5 Elevator

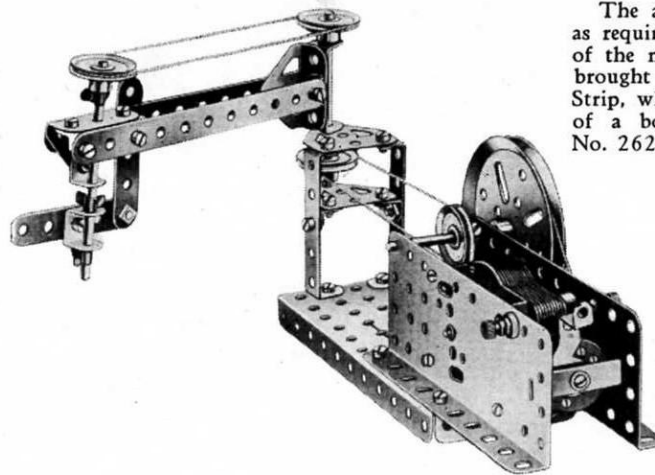


Parts required:

4 of No.	1
4 " "	2
3 " "	5
6 " "	12
3 " "	16
1 " "	17
2 " "	19B
4 " "	22
5 " "	35
33 " "	37
3 " "	37A
1 " "	38
1 " "	40
1 " "	48
6 " "	48A
1 " "	52
2 " "	100
1 " "	125
1 " "	126
2 " "	126A
Electric Motor	

The elevator is raised by means of the Electric Motor, which winds in the hoisting cord on the $3\frac{1}{2}$ " Axle Rod 3. The descent is accomplished by operating the lever 2, which is pivoted by means of the $2\frac{1}{2}$ " Strip 1 to the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip carrying the Rod 3. This Double Angle Strip is caused to swivel about the Bolt 4, which is provided with lock-nuts, and the Cord 5 is thus slackened sufficiently to allow the elevator to descend by its own weight without the necessity of stopping the Motor.

Model No. 1.6 Radial Drill



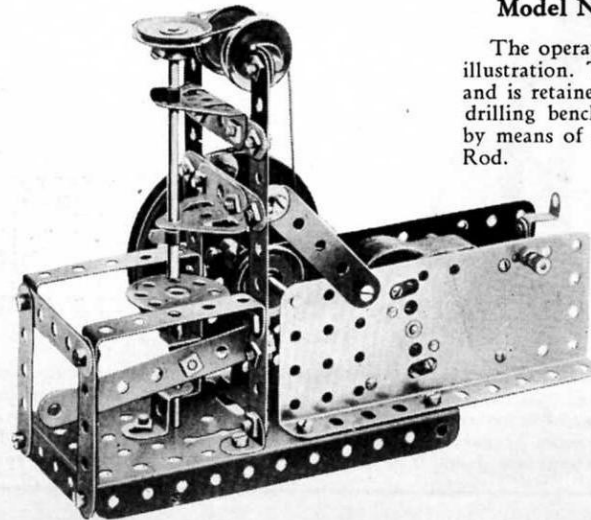
The arm that carries the drill can be swivelled as required without interfering with the operation of the machine. The drill itself may be raised or brought to bear on the work by means of a $2\frac{1}{2}$ " Strip, which is pivoted to a similar Strip by means of a bolt and lock-nuts (Standard Mechanism No. 262).

Parts required:

2 of No.	2	26 of No.	37
2 " "	5	2 " "	37A
1 " "	11	2 " "	38
6 " "	12	1 " "	48
2 " "	16	2 " "	48A
1 " "	17	1 " "	52
1 " "	19B	2 " "	126
4 " "	22	2 " "	126A
4 " "	35	Electric Motor	

Model No. 1.7 Drilling Machine

The operating mechanism is clearly shown in the illustration. The drill itself is in constant rotation, and is retained in position by Spring Clips, but the drilling bench may be raised or lowered as desired by means of a lever attached to its supporting Axle Rod.

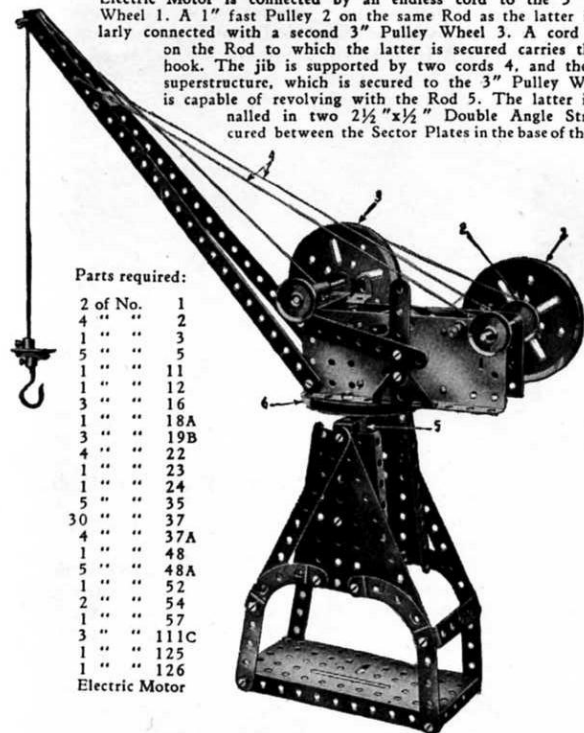


Parts required:

2 of No.	2	6 of No.	35
1 " "	3	31 " "	37
7 " "	5	2 " "	37A
1 " "	11	3 " "	38
7 " "	12	2 " "	48A
1 " "	16	1 " "	52
2 " "	17	1 " "	111C
1 " "	18A	1 " "	125
1 " "	19B	2 " "	126
4 " "	22	Electric Motor	
1 " "	24		

Model No. 1.8 Elevated Jib Crane

A 1" fast Pulley Wheel secured to the armature spindle of the Electric Motor is connected by an endless cord to the 3" Pulley Wheel 1. A 1" fast Pulley 2 on the same Rod as the latter is similarly connected with a second 3" Pulley Wheel 3. A cord wound on the Rod to which the latter is secured carries the load hook. The jib is supported by two cords 4, and the whole superstructure, which is secured to the 3" Pulley Wheel 6, is capable of revolving with the Rod 5. The latter is journaled in two 2½"x½" Double Angle Strips secured between the Sector Plates in the base of the model.



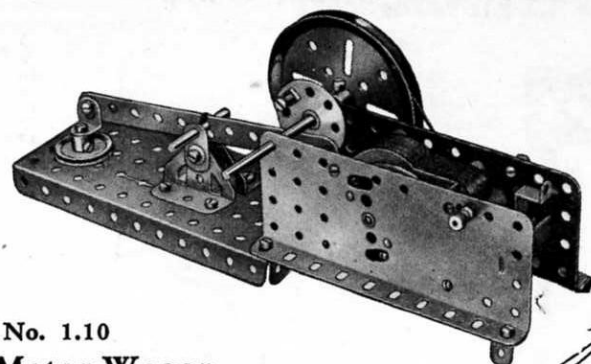
Parts required:

2 of No.	1
4 " "	2
1 " "	3
5 " "	5
1 " "	11
1 " "	12
3 " "	16
1 " "	18A
3 " "	19B
4 " "	22
1 " "	23
1 " "	24
5 " "	35
30 " "	37
4 " "	37A
1 " "	48
5 " "	48A
1 " "	52
2 " "	54
1 " "	57
3 " "	111C
1 " "	125
1 " "	126
Electric Motor	

Model No. 1.9 Automatic Hammer

Parts required:

1 of No.	2
2 " "	10
3 " "	12
1 " "	16
1 " "	18A
1 " "	19B
1 " "	22
1 " "	24
4 " "	35
11 " "	37
1 " "	52
3 " "	111C
2 " "	126
Electric Motor	



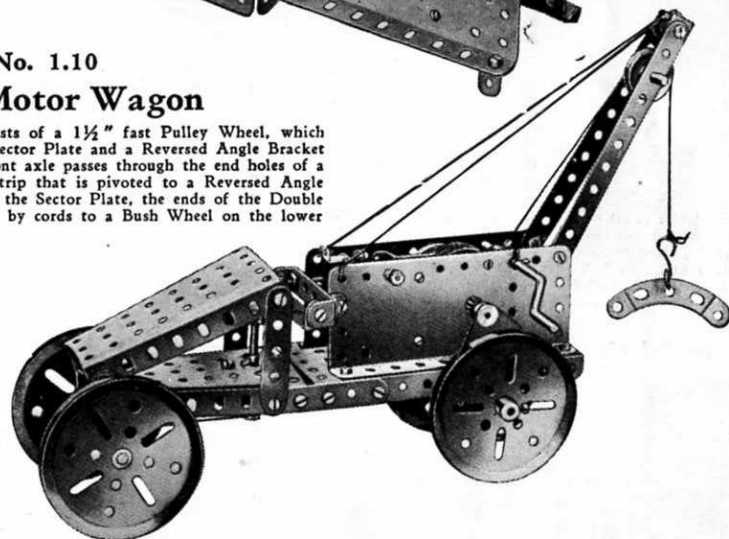
Model No. 1.10 Breakdown Motor Wagon

The steering wheel consists of a 1½" fast Pulley Wheel, which is journaled in the lower Sector Plate and a Reversed Angle Bracket bolted to the Plate. The front axle passes through the end holes of a 2½"x½" Double Angle Strip that is pivoted to a Reversed Angle Bracket on the underside of the Sector Plate, the ends of the Double Angle Strip being connected by cords to a Bush Wheel on the lower end of the steering column.

Parts required:

2 of No.	2	1 of No.	19S
4 " "	5	2 " "	22
2 " "	10	1 " "	24
1 " "	11	36 " "	35
1 " "	12	3 " "	37
2 " "	16	1 " "	48A
1 " "	17	2 " "	52
1 " "	18A	1 " "	54
4 " "	19B	2 " "	57
		2 " "	126A

Electric Motor



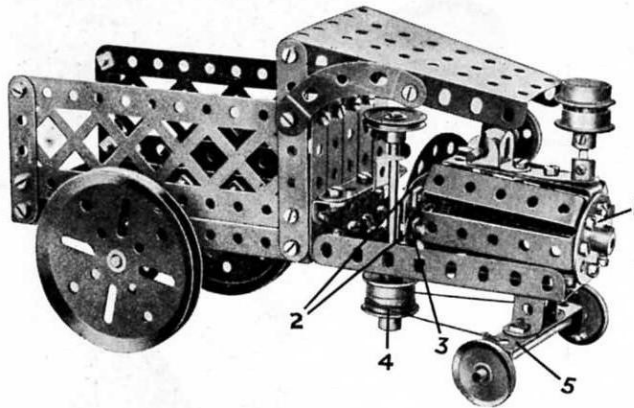
HOW TO CONTINUE

Do not consider that you have exhausted the possibilities of your present Meccano Outfit when you have made the models here illustrated. With the experience you have gained you can now become an inventor and design entirely new models to your own ideas. If you strike trouble we will gladly place all our knowledge and experience at your disposal. Write to "Engineer Dept.," Meccano Co., Inc., Elizabeth, N. J.

You will probably wish to make bigger and more elaborate models and you can do this either by purchasing a corresponding Meccano Accessory Outfit or some extra Meccano separate parts. You will find details and prices at the end of this book.

See last page of this Manual for list of models built with your outfit.

Model No. 2.1 Steam Truck

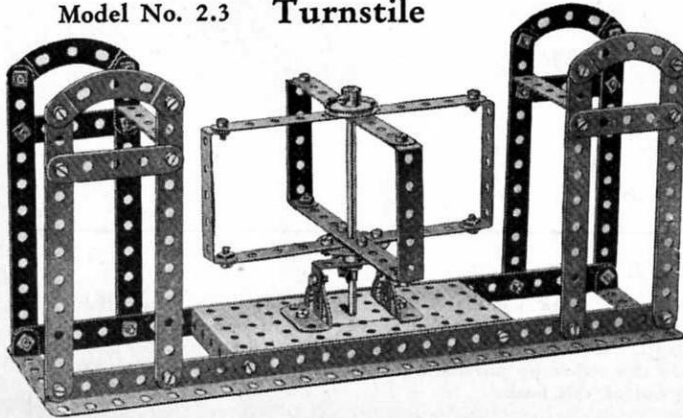


Parts required:

2 of No.	3
10 "	5
2 "	10
1 "	11
3 "	12
3 "	16
1 "	17
1 "	18A
2 "	19B
4 "	20B
3 "	22
1 "	22A
1 "	24
5 "	35
60 "	37
5 "	37A
1 "	45
8 "	48A
1 "	52
2 "	54
1 "	62
3 "	90A
2 "	100
4 "	111C
1 "	125
2 "	126A

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

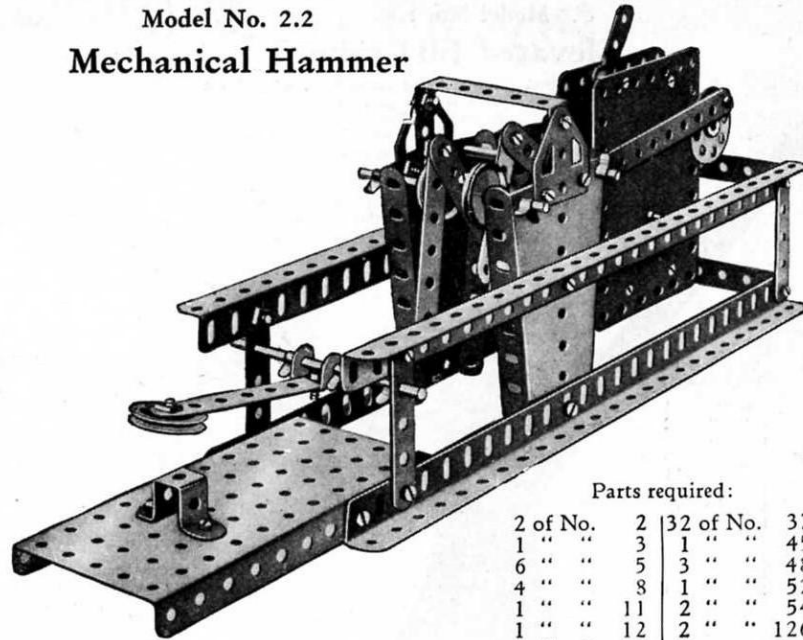
Model No. 2.3 Turnstile



Parts required:

12 of No.	2
5 "	5
1 "	15A
1 "	22
1 "	24
44 "	37
1 "	48
8 "	48A
1 "	52
4 "	90A
2 "	99
2 "	126

Model No. 2.2 Mechanical Hammer



Parts required:

2 of No.	2	32 of No.	37
1 "	3	1 "	45
6 "	5	3 "	48A
4 "	8	1 "	52
1 "	11	2 "	54
1 "	12	2 "	126A
3 "	16		
4 "	22		
1 "	22A		
1 "	24		
8 "	35		

Clockwork
Motor
(not included
in Outfit)

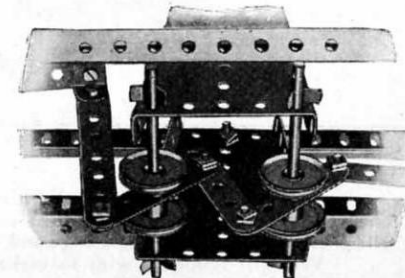
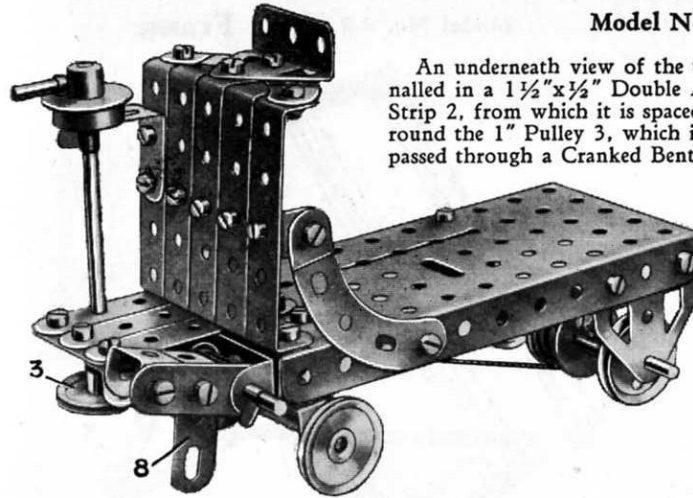


Fig. 2.2a

Model No. 2.4 Electric Truck

An underneath view of the truck is shown in Fig. 2.4a. The front axle is journalled in a $1\frac{1}{2}" \times \frac{1}{2}"$ Double Angle Strip 1 that is free to turn on a Double Bent Strip 2, from which it is spaced by a $\frac{1}{2}"$ loose Pulley. A length of cord is wrapped round the 1" Pulley 3, which is secured to the end of the steering column, and then passed through a Cranked Bent Strip 4 and secured to the Double Angle Strip 1 as shown. The brake cord 5 is attached to the Double Bent Strip 2, wrapped several times round the $\frac{3}{4}"$ Flanged Wheels 6, passed through the Angle Bracket 7, and is finally attached to the Crank 8. The operating pedal consists of Double Brackets bolted to another Crank that is secured to the same Rod as the Crank 8.



Parts required:

3 of No.	5	1 of No.	22A	7 of No.	48A
1 " "	6A	1 " "	23	1 " "	52
2 " "	11	4 " "	35	2 " "	62
1 " "	12	35 " "	37	3 " "	90A
1 " "	12A	2 " "	37A	1 " "	111C
3 " "	16	5 " "	38	1 " "	115
1 " "	17	1 " "	44	1 " "	126
3 " "	20B	1 " "	45	2 " "	126A
4 " "	22	1 " "	48		

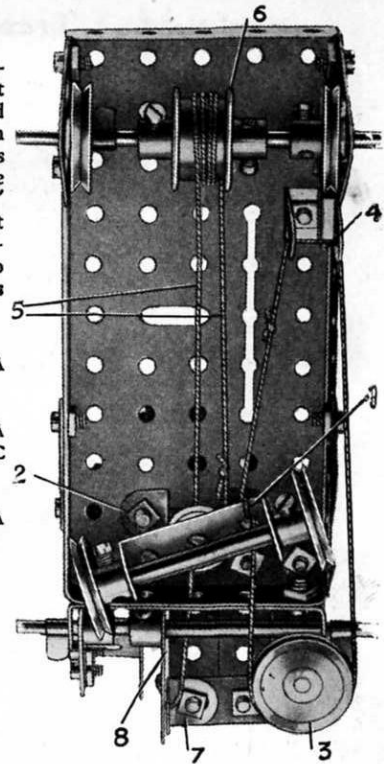
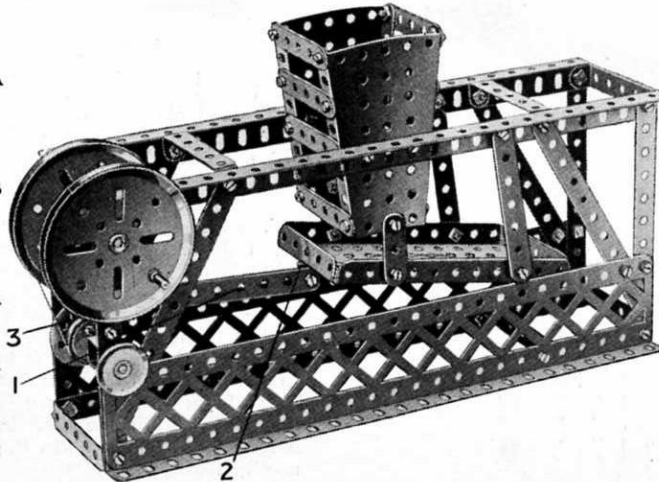


Fig. 2.4a

Parts required:

9 of No.	2
2 " "	3
8 " "	5
2 " "	6A
4 " "	8
1 " "	12
1 " "	16
1 " "	17
2 " "	19B
2 " "	22
1 " "	24
2 " "	35
54 " "	37
6 " "	37A
8 " "	38
1 " "	45
6 " "	48A
1 " "	52
2 " "	54
2 " "	99
6 " "	111C
1 " "	115

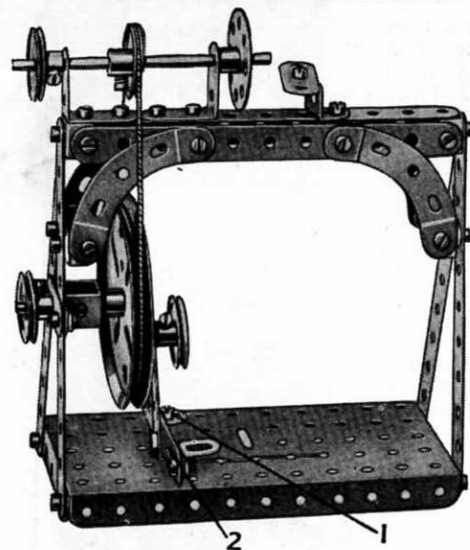
Model No. 2.5 Coal Sifter



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

See last page of this Manual for list of models built with your outfit.

Model No. 2.6 Treadle Lathe

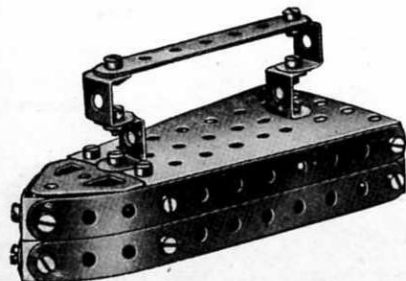


Parts required:

7 of No.	2
1 " "	3
1 " "	5
2 " "	6A
4 " "	11
6 " "	12
2 " "	12A
1 " "	16
1 " "	17
3 " "	19B
4 " "	22
1 " "	24
1 " "	35
34 " "	37
2 " "	37A
4 " "	38
1 " "	45
1 " "	52
4 " "	90A
1 " "	115
1 " "	125

Model No. 2.7 Smoothing Iron

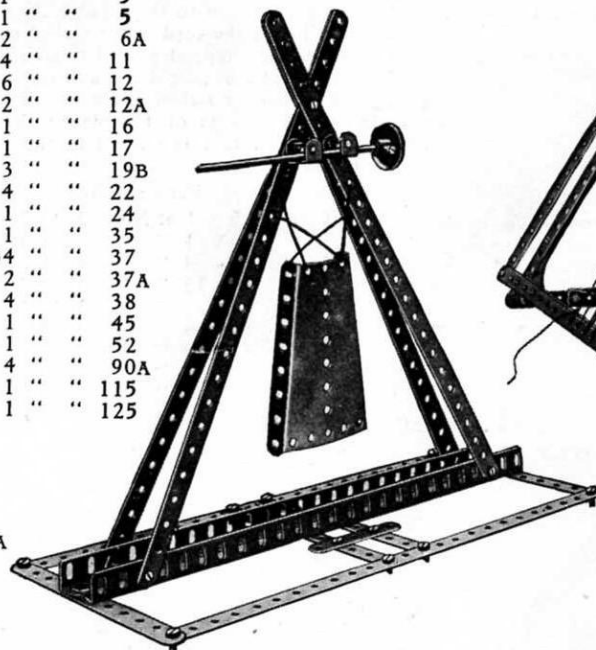
Parts required:			
4 of No.	2	2 of No.	12
2 " "	3	20 " "	37
6 " "	10	2 " "	38
4 " "	11	1 of No.	48A
		2 " "	54
		1 " "	126



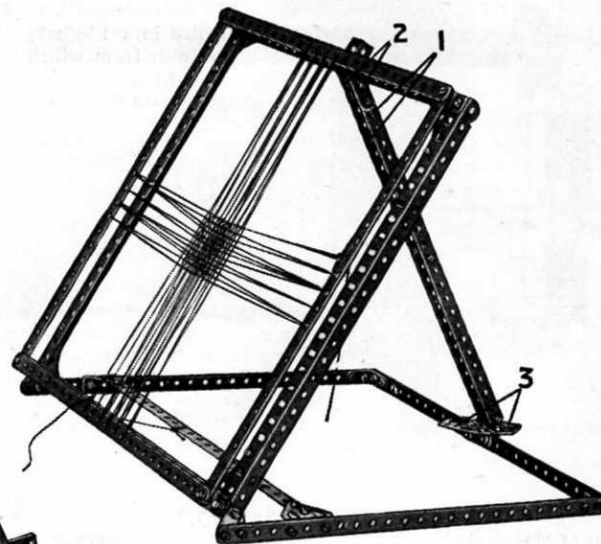
Model No. 2.8 Dinner Gong

Parts required:

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



Model No. 2.9 Mat Frame

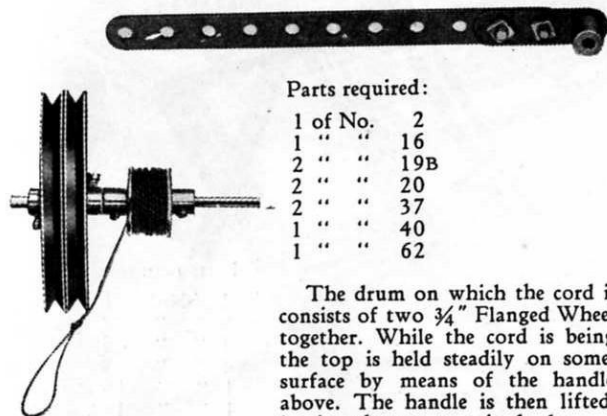


Parts required:

10 of No.	1	1 of No.	18A	4 of No.	90A
4 " "	8	54 " "	37	2 " "	111C
4 " "	10	2 " "	37A	1 " "	115
3 " "	11	2 " "	38	4 " "	125
5 " "	12	1 " "	45	2 " "	126
2 " "	12A	2 " "	62	2 " "	126A

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

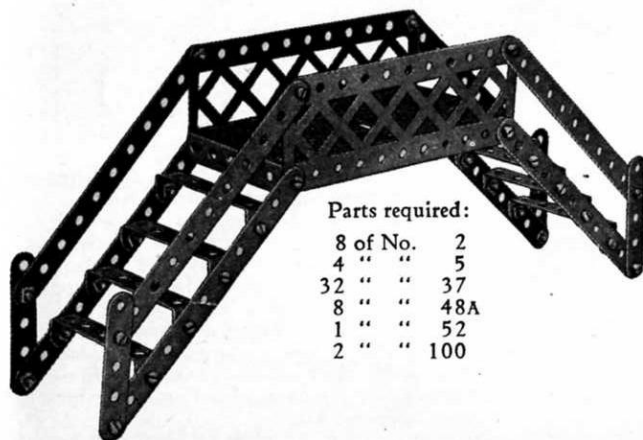
See last page of this Manual for list of models built with your outfit.

Model No. 2.10 Spinning Top

Parts required:

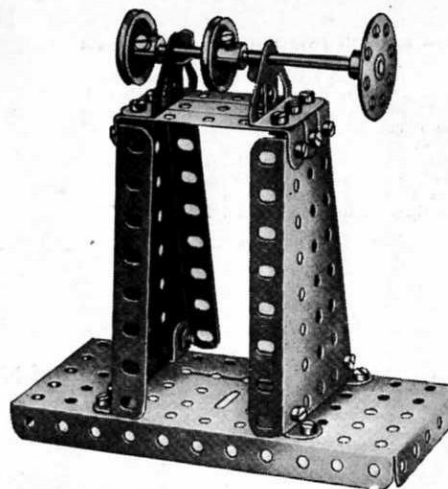
1 of No.	2
1 " "	16
2 " "	19B
2 " "	20
2 " "	37
1 " "	40
1 " "	62

The drum on which the cord is wound consists of two $\frac{3}{4}$ " Flanged Wheels butted together. While the cord is being pulled, the top is held steadily on some smooth surface by means of the handle shown above. The handle is then lifted off, allowing the top to spin freely.

Model No. 2.12 High Level Bridge

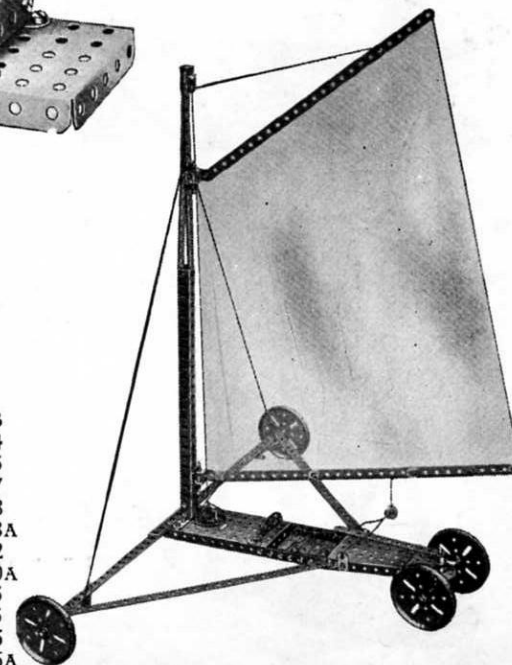
Parts required:

8 of No.	2
4 " "	5
32 " "	37
8 " "	48A
1 " "	52
2 " "	100

Model No. 2.11 Polishing Spindle

Parts required:

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

Model No. 2.13 Sand Yacht

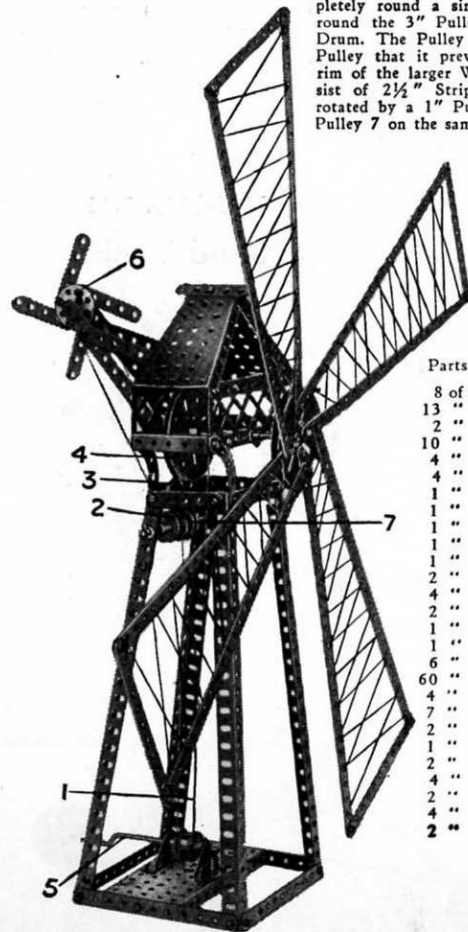
Parts required:

8 of No.	1	1 of No.	23
2 " "	2	1 " "	24
1 " "	5	12 " "	35
4 " "	8	60 " "	37
4 " "	10	9 " "	38
4 " "	11	8 " "	48A
12 " "	12	1 " "	62
2 " "	12A	1 " "	90A
3 " "	16	1 " "	115
1 " "	17	4 " "	125
2 " "	18A	1 " "	126
4 " "	19B	2 " "	126A

See last page of this Manual for list of models built with your outfit.

Model No. 2.14 Windmill

An endless cord 1 is given two or three turns round a drum consisting of two $\frac{3}{4}$ " Flanged Wheels secured to the shaft of the Crank Handle 5. It then passes completely round a similar drum 2, over a 1" Pulley 3, round the $\frac{3}{4}$ " Pulley Wheel 4, and back to the lower Drum. The Pulley 3 is so arranged parallel to the $\frac{3}{4}$ " Pulley that it prevents the cord from slipping off the rim of the larger Wheel. The smaller vanes, which consist of $2\frac{1}{4}$ " Strips bolted to a Bush Wheel 6, are rotated by a 1" Pulley Wheel connected with a similar Pulley 7 on the same Rod as the drum 2.



Parts required:

8 of No.	1
13 " "	2
2 " "	3
10 " "	5
4 " "	8
4 " "	12
1 " "	15
1 " "	15A
1 " "	16
1 " "	18A
1 " "	19S
2 " "	19B
4 " "	20
2 " "	22
1 " "	22A
1 " "	24
6 " "	35
60 " "	37
4 " "	37A
7 " "	38
2 " "	48A
1 " "	52
2 " "	54
4 " "	90A
2 " "	100
4 " "	111C
2 " "	126

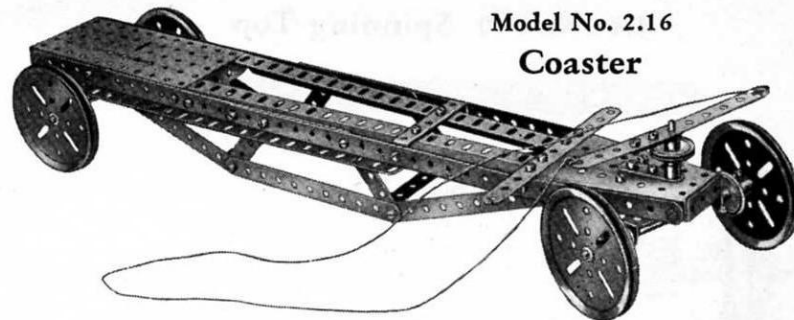
Model No. 2.15 Towel Horse



Parts required:

6 of No.	1
4 " "	2
2 " "	8
4 " "	10
4 " "	12
2 " "	22A
28 " "	37
2 " "	37A
8 " "	38
4 " "	90A
2 " "	111C

Model No. 2.16 Coaster



Parts required:

2 of No.	1
8 " "	2
4 " "	5
4 " "	8
1 " "	15
1 " "	15A
1 " "	17
4 " "	19B
3 " "	22
1 " "	23
1 " "	24
44 " "	37
4 " "	38
1 " "	48
4 " "	48A
1 " "	52
2 " "	54
2 " "	62
2 " "	126

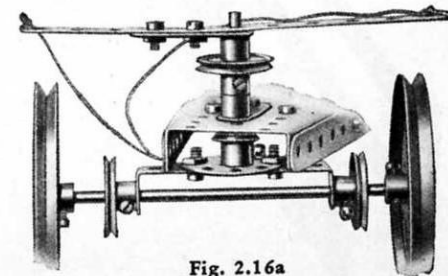
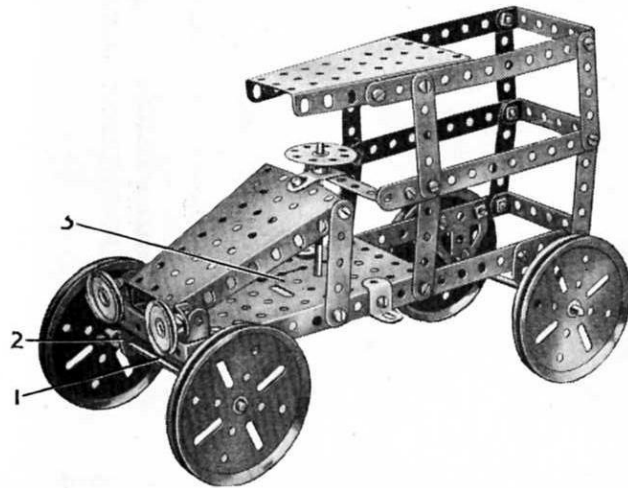


Fig. 2.16a

Model No. 2.17**Motor Van**

Parts required:

6 of No.	2	3 of No.	22	6 of No.	48A
10 " "	5	1 " "	24	1 " "	52
1 " "	10	5 " "	35	2 " "	54
2 " "	12	35 " "	37	3 " "	111C
1 " "	15	2 " "	37A	2 " "	125
1 " "	15A	1 " "	38	2 " "	126A
1 " "	16	1 " "	45		
4 " "	19B	1 " "	48		

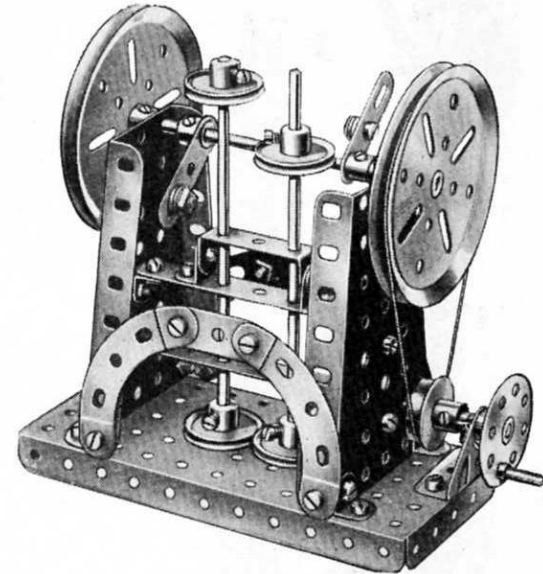


The Axle Rod 1 is journalled in a $2\frac{1}{2}$ "x $\frac{1}{2}$ " Double Angle Strip 2. The latter is bolted to a Double Bent Strip that is pivoted to the Flanged Plate 3 by a bolt and two nuts. Steering is effected by a cord attached to the ends of the Double Angle Strip 2 and passed round a 1" Pulley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

Model No. 2.18**Easel**

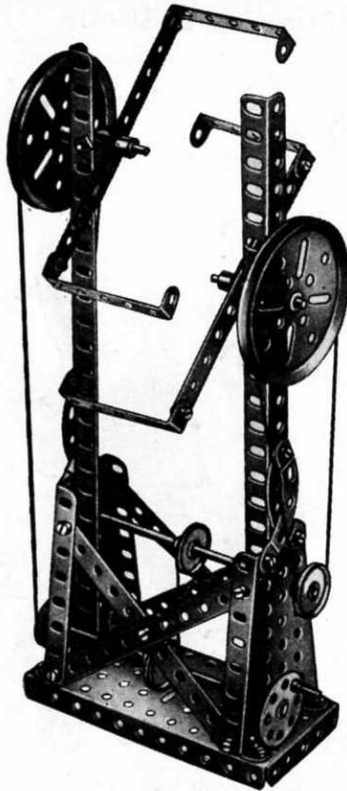
Parts required:

5 of No.	1
3 " "	2
2 " "	3
3 " "	5
4 " "	12
2 " "	12A
1 " "	15A
2 " "	22
19 " "	37
4 " "	38

**Model No. 2.19****Stamping Mill**

Parts required:

2 of No.	3	30 of No.	37
2 " "	6A	2 " "	37A
10 " "	12	11 " "	38
2 " "	15	1 " "	48
1 " "	15A	1 " "	52
1 " "	17	2 " "	54
2 " "	19B	2 " "	62
1 " "	20	4 " "	90A
4 " "	22	2 " "	111C
1 " "	24	1 " "	115
1 " "	35	1 " "	126

Model No. 2.20 Candy Puller

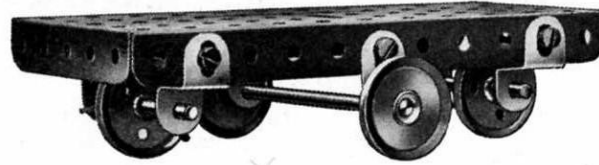
Parts required:

6 of No.	2	36 of No.	37
2 " "	8	4 " "	38
6 " "	12	4 " "	48A
2 " "	15	1 " "	52
2 " "	17	2 " "	54
2 " "	19B	2 " "	62
4 " "	22	4 " "	90A
1 " "	24	1 " "	115
3 " "	35		

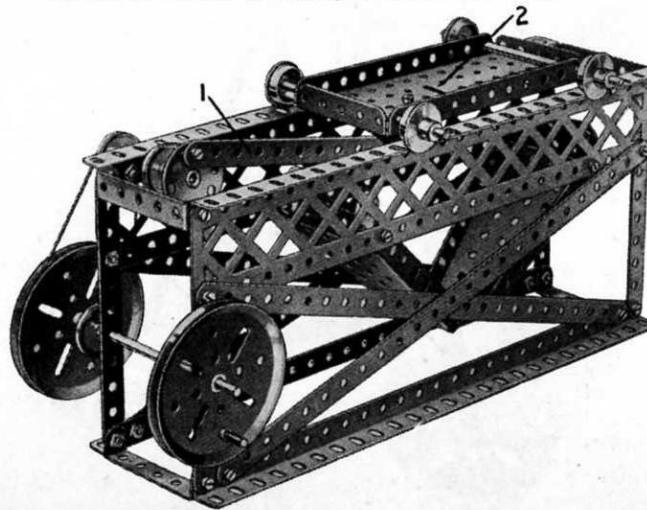
Model No. 2.21 Revolving Truck

Parts required:

1 of No.	16	4 of No.	35
2 " "	17	6 " "	37
2 " "	22	1 " "	52
2 " "	22A	4 " "	125

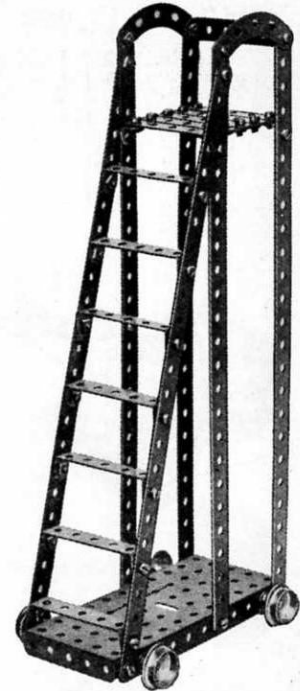
**Model No. 2.22 Sifter**

The 5 1/2" Strip 1 is pivoted by a bolt and two nuts (S.M. 262) to the Bush Wheel and also to a Trunnion bolted to the under-surface of the Flanged Plate 2. The Rod carrying the Bush Wheel is journaled in one of the side Girders and through a Double Bent Strip.



Parts required:

4 of No.	1
5 " "	2
4 " "	5
2 " "	6A
4 " "	8
4 " "	10
2 " "	15
1 " "	15A
1 " "	17
2 " "	19B
4 " "	20
3 " "	22
1 " "	24
4 " "	35
36 " "	37
4 " "	37A
1 " "	38
1 " "	44
4 " "	48A
1 " "	52
2 " "	54
2 " "	99
2 " "	111C
1 " "	115
1 " "	126

Model No. 2.23 Ladder on Wheels

Parts required:

6 of No.	1
7 " "	5
4 " "	12
2 " "	16
4 " "	20
40 " "	37
4 " "	38
8 " "	48A
1 " "	52
2 " "	90A

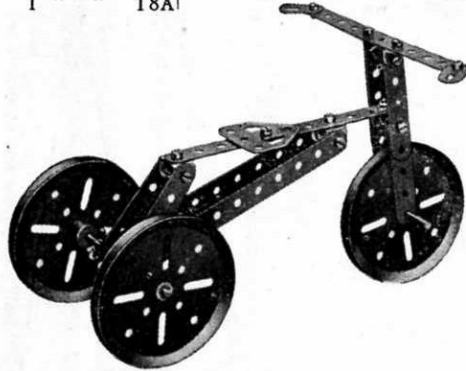
See last page of this Manual for list of models built with your outfit.

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Model No. 2.24**Tricycle**

Parts required:

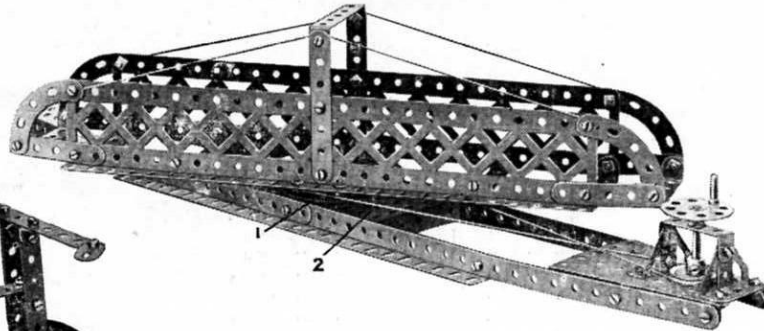
4 of No.	2	3 of No.	19B
6 " "	5	2 " "	35
2 " "	10	15 " "	37
3 " "	11	2 " "	37A
2 " "	12	1 " "	111C
1 " "	16	1 " "	126A
1 " "	18A		



Parts required:

2 of No.	2	1 of No.	35
2 " "	5	23 " "	37
2 " "	6A	2 " "	37A
2 " "	10	3 " "	48A
1 " "	11	1 " "	52
3 " "	16	2 " "	54
4 " "	19B	2 " "	100
1 " "	22	1 " "	111C
1 " "	24	2 " "	126A

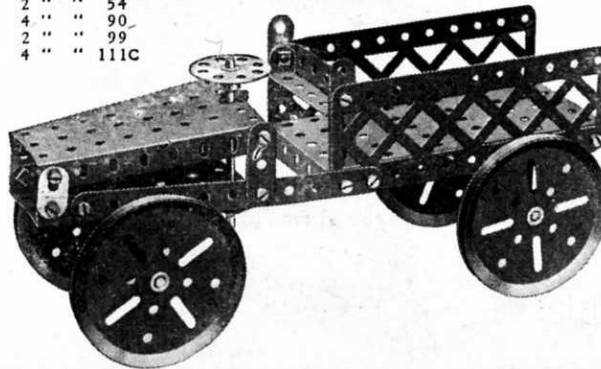
The front axle is journalled in a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip that is pivoted by means of a bolt and lock-nuts (Standard Mechanism No. 263) to a Double Bracket bolted to the lower Sector Plate. A cord passes completely round a 1" Pulley secured to the lower end of the steering column, and is tied to the ends of the Double Angle Strip.

Model No. 2.25**Turntable**

Parts required:

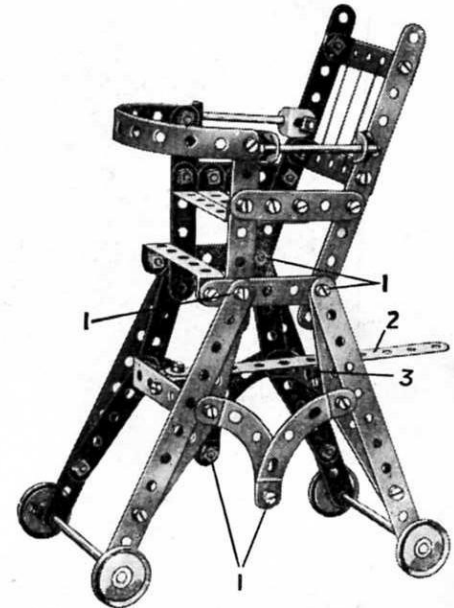
4 of No.	1
2 " "	3
8 " "	5
4 " "	8
1 " "	17
1 " "	18A
1 " "	19B
3 " "	22
1 " "	24
45 " "	37
4 " "	37A
4 " "	38
1 " "	48
7 " "	48A
1 " "	52
2 " "	54
4 " "	90
2 " "	99
4 " "	111C

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

Model No. 2.27
Motor Truck**Model No. 2.26****Baby Chair**

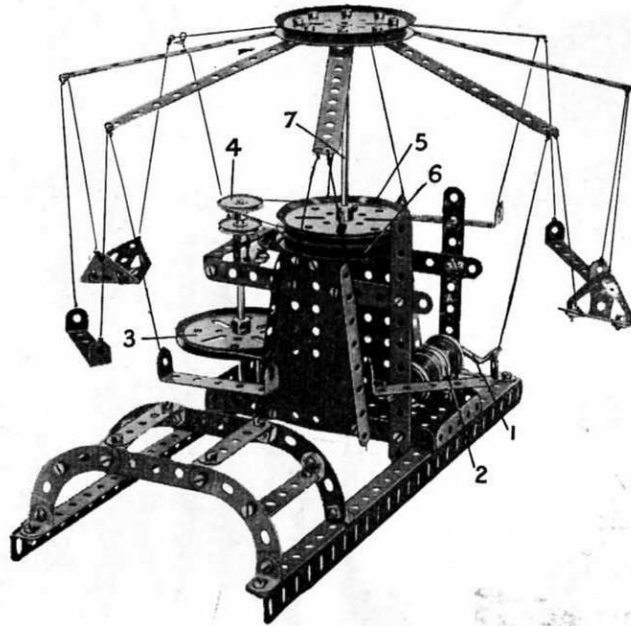
Parts required:

8 of No.	2	4 of No.	35
2 " "	3	35 " "	37
12 " "	5	2 " "	37A
6 " "	12	4 " "	38
2 " "	16	8 " "	48A
2 " "	17	4 " "	90A
4 " "	22	1 " "	115



The bolts 1 are all provided with lock-nuts (see Standard Mechanism No. 263) so that the various Strips are able to pivot about them. Different holes in the $5\frac{1}{2}$ " Strip 2 can be made to engage a Threaded Pin secured to an Angle Bracket bolted at the point 3, so that the height of the chair may be varied as desired.

Model No. 2.28 Roundabout



When the Crank Handle 1 is turned, the drum 2 (formed by butting together two $\frac{3}{4}$ " Flanged Wheels) turns the 3" Pulley Wheel 3 by means of an endless cord. The 1" fast Pulley Wheel 4 similarly turns a second 3" Pulley Wheel 5 resting on another 3" Pulley Wheel 6 (see Fig. 2.28a). The end of the Axle Rod 7 is quite free to revolve in the boss of the lower 3" Pulley Wheel 6.

Parts required:

13 of No.	2	4 of No.	22
6 " "	5	1 " "	24
2 " "	8	48 " "	37
12 " "	12	7 " "	48A
2 " "	12A	1 " "	52
2 " "	15	2 " "	54
1 " "	19	4 " "	90A
4 " "	19B	2 " "	126
2 " "	20	2 " "	126A

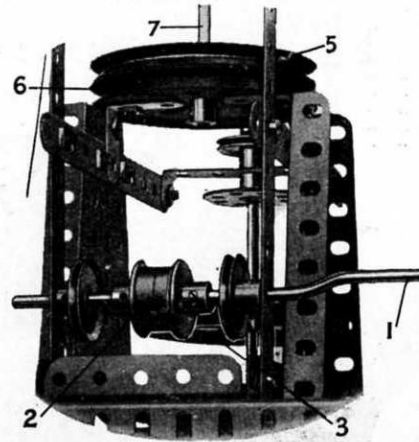
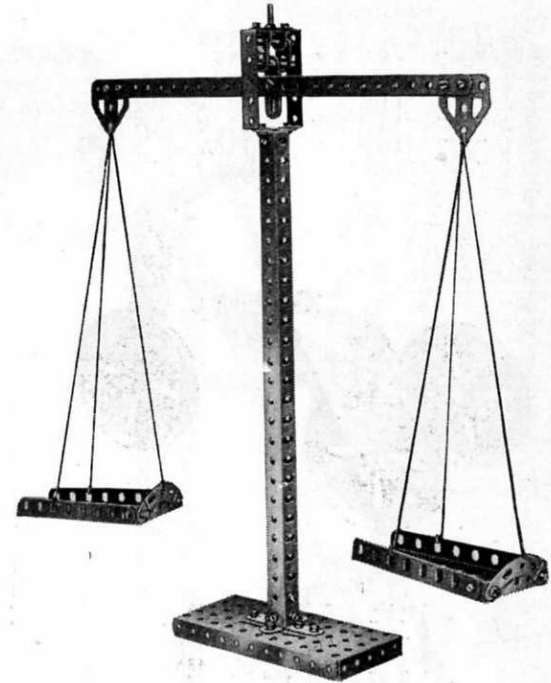


Fig. 2.28a

Model No. 2.29 Scales



Parts required:

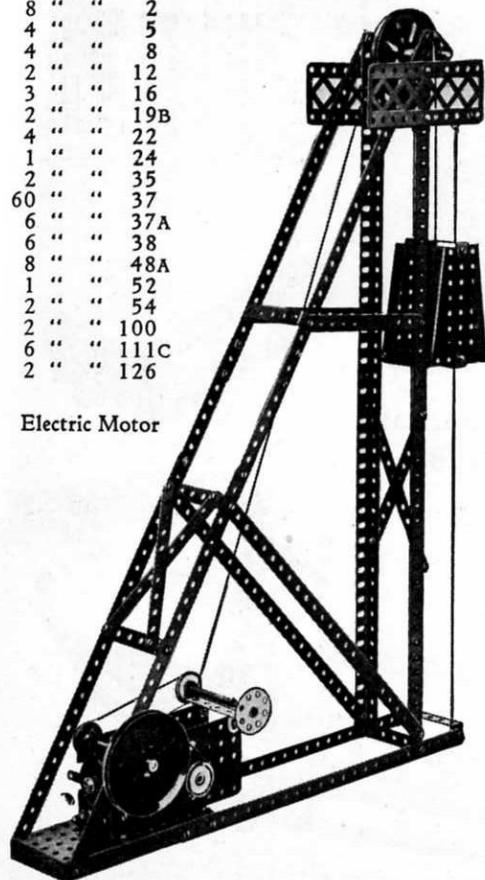
2 of No.	1	4 of No.	38
1 " "	6A	1 " "	40
2 " "	8	1 " "	45
2 " "	10	4 " "	48
1 " "	11	1 " "	52
2 " "	12	2 " "	54
2 " "	12A	2 " "	62
2 " "	18A	2 " "	90A
2 " "	35	1 " "	115
31 " "	37	2 " "	126A

Model No. 2.30
Pit Head Gear
 (Electrically Operated)

Parts required:

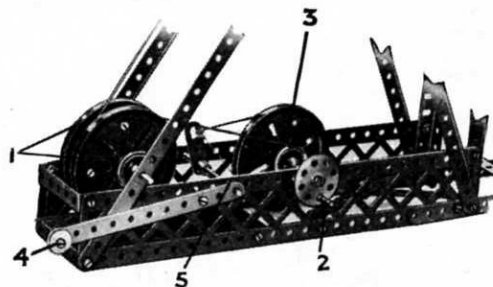
8 of No.	1
8 " "	2
4 " "	5
4 " "	8
2 " "	12
3 " "	16
2 " "	19B
4 " "	22
1 " "	24
2 " "	35
60 " "	37
6 " "	37A
6 " "	38
8 " "	48A
1 " "	52
2 " "	54
2 " "	100
6 " "	111C
2 " "	126

Electric Motor



Model No. 2.31
Pit Head Gear
 (Hand Operated)

Model No. 2.31 is an alternative construction of the base of model No. 2.30, and shows how the Electric Motor may be dispensed with if necessary. Two 3" Pulley Wheels 1 are bolted together by four Double Brackets to form a drum on which the hoisting cord is wound. The cage is raised or lowered on operation of the handle 2, which is connected to the winding drum by an ordinary belt drive. The cage is prevented from overhauling by a band brake that acts on the groove of a third 3" Pulley Wheel 3. The brake normally is applied by the weight of the $\frac{1}{2}$ " loose Pulley Wheel 4, which is secured to the end of a $5\frac{1}{2}$ " Strip that is bolted to the Crank 5.



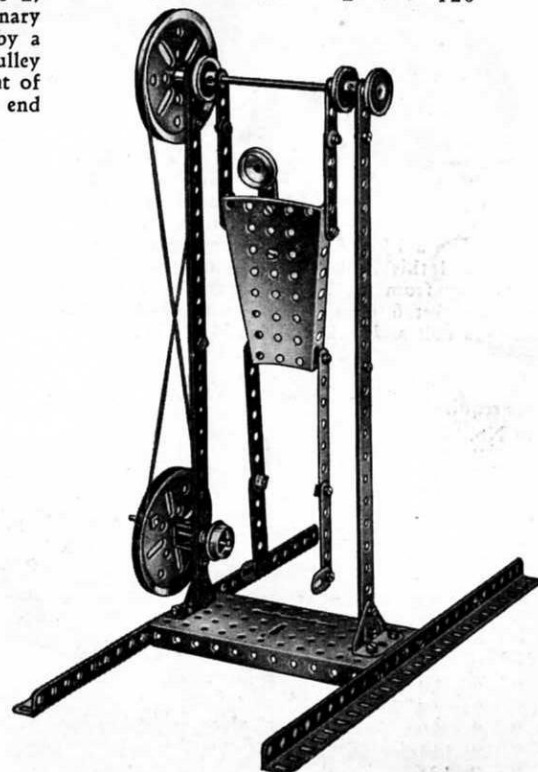
Parts required:

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

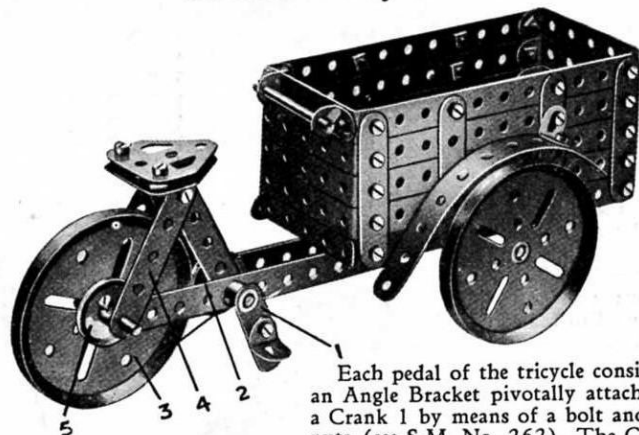
Model No. 2.32 Acrobat

Parts required:

4 of No.	1	30 of No.	37
2 " "	3	4 " "	37A
5 " "	5	5 " "	38
2 " "	8	1 " "	45
2 " "	10	1 " "	52
1 " "	15	1 " "	54
2 " "	19B	2 " "	62
2 " "	20	1 " "	115
3 " "	22	2 " "	126



Model No. 2.33 Carrier Tricycle



Each pedal of the tricycle consists of an Angle Bracket pivotally attached to a Crank 1 by means of a bolt and two nuts (see S.M. No. 262). The Cranks are secured to a $1\frac{1}{2}$ " Axle Rod carrying a 1" fast Pulley Wheel 2. A cord passes round this Pulley and around the 3" Pulley Wheel 3, which is spaced away from the $2\frac{1}{2}$ " Strips 4 by a 1" fast Pulley Wheel 5. The Double Bracket 6 (Fig. 2.33a) is attached pivotally to the lower framework by a bolt and lock-nuts (S.M. 263).

Parts required:

12 of No.	2
12 " "	5
2 " "	11
6 " "	12
1 " "	16
1 " "	17
2 " "	18A
3 " "	19B
2 " "	22
45 " "	37
6 " "	37A
8 " "	48A
1 " "	52
2 " "	62
2 " "	90A
3 " "	111C
2 " "	126

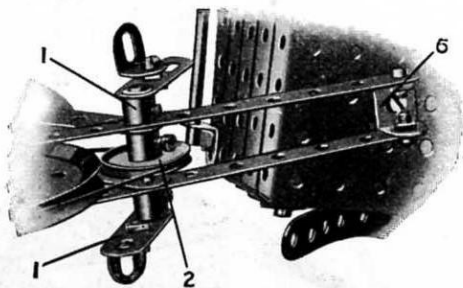
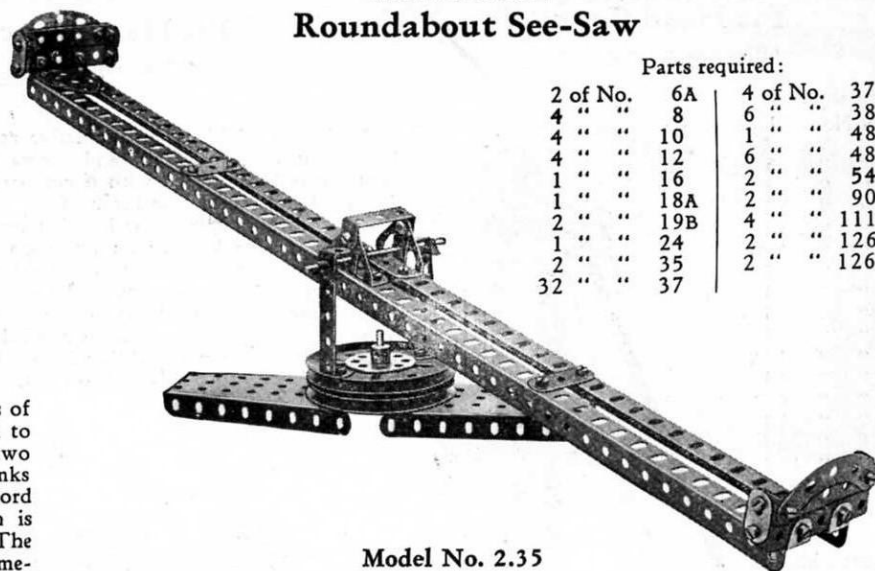


Fig. 2.33a

Model No. 2.34 Roundabout See-Saw



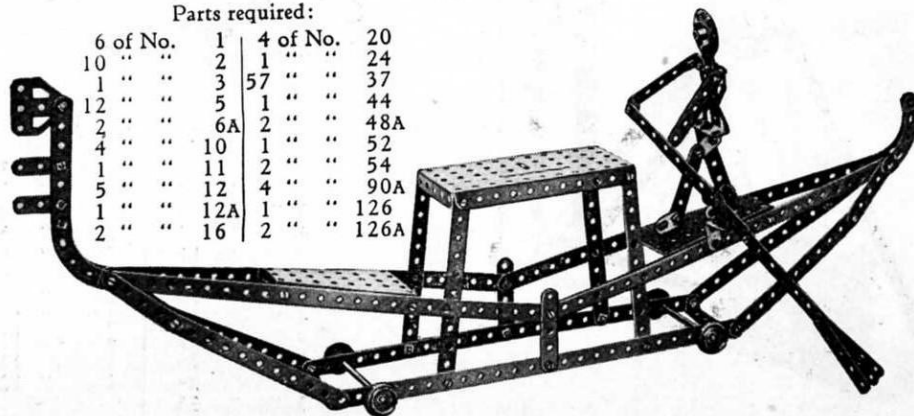
Parts required:

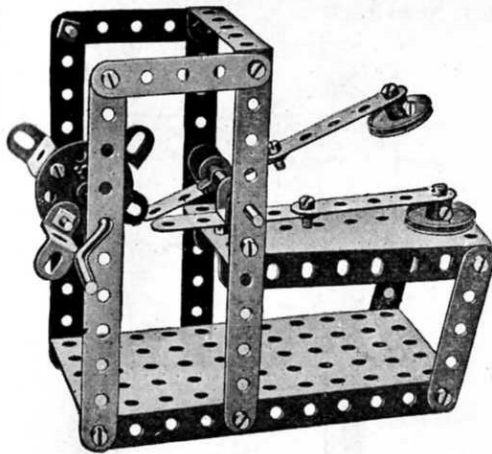
2 of No.	6A	4 of No.	37A
4 " "	8	6 " "	38
4 " "	10	1 " "	48
4 " "	12	6 " "	48A
1 " "	16	2 " "	54
1 " "	18A	2 " "	90A
2 " "	19B	4 " "	111C
1 " "	24	2 " "	126
2 " "	35	2 " "	126A
32 " "	37		

Model No. 2.35 Gondola

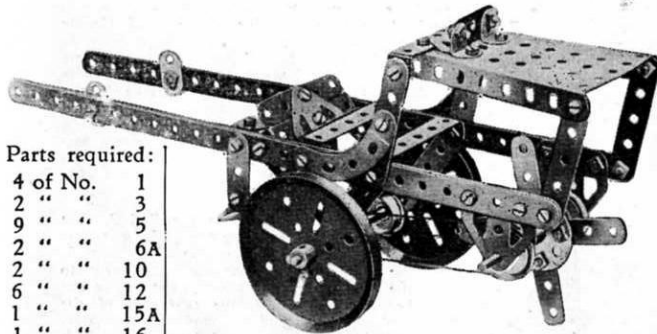
Parts required:

6 of No.	1	4 of No.	20
10 " "	2	1 " "	24
1 " "	3	57 " "	37
12 " "	5	1 " "	44
2 " "	6A	2 " "	48A
4 " "	10	1 " "	52
1 " "	11	2 " "	54
5 " "	12	4 " "	90A
1 " "	12A	1 " "	126
2 " "	16	2 " "	126A

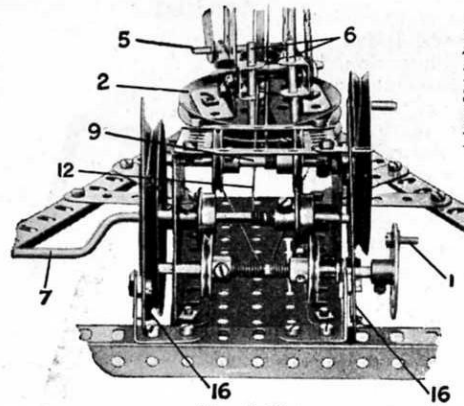


Model No. 2.36 Double Drop Hammer**Parts required:**

4 of No.	2
8 " "	5
2 " "	11
1 " "	16
1 " "	19
4 " "	22
1 " "	24
4 " "	35
23 " "	37
6 " "	38
2 " "	48A
1 " "	52
1 " "	54
2 " "	111C
4 " "	125

Model No. 2.37 Hay Tedder**Parts required:**

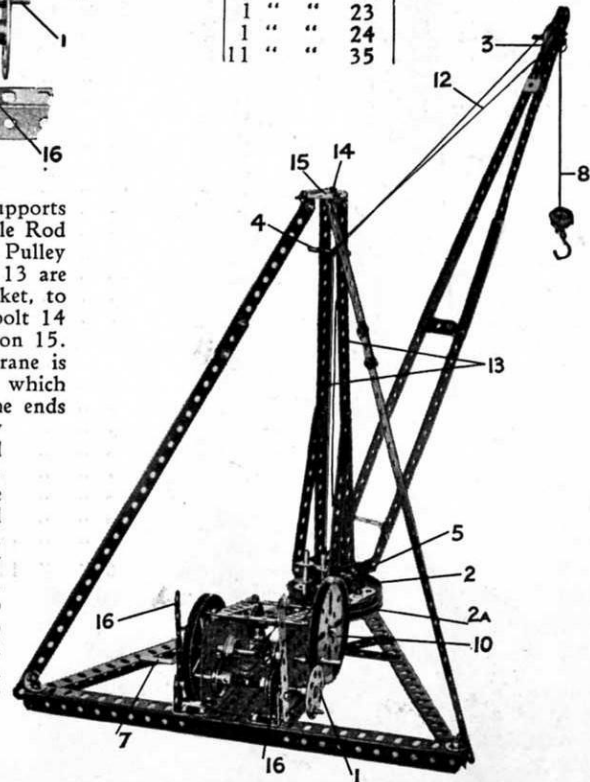
4 of No.	1						
2 " "	3						
9 " "	5						
2 " "	6A						
2 " "	10						
6 " "	12						
1 " "	15A						
1 " "	16						
2 " "	19B						
2 " "	20						
2 " "	22	34 of No.	37	4 of No.	48A	6 of No.	111C
1 " "	24	6 " "	37A	1 " "	54	2 " "	126
2 " "	35	4 " "	38	3 " "	90A	2 " "	126A

Model No. 2.38 Dwarf Derrick**Fig. 2.38a**

The 3" Pulley Wheel 2, which supports the jib, is free to turn on a short Axle Rod secured in the boss of the lower 3" Pulley Wheel 2a. The vertical 12½" Strips 13 are bolted at their tops to a Double Bracket, to the centre hole of which is secured a bolt 14 that is free to turn in the Flat Trunnion 15.

The swivelling movement of the crane is carried out by turning the handle 1, which simultaneously winds and unwinds the ends of a cord passing round the 3" Pulley Wheel 2 (see Fig. 2.38a). The cord 12, which is tied to the Flat Bracket 3 at the head of the jib, passes over the 2" Rod 4, under a similar Rod 5, and between two vertical 2" Rods 6, which acts as guides, and is finally wound on to the Crank Handle 7. Hence on operation of the latter the jib is raised or lowered. The cord 8 also passes round the Rods 4, 5 and 6, and is wound on to the Rod 9. Operation of the handle 10 raises and lowers the Hook. The cords 8 and 12 are prevented from unwinding by band-and-pulley brakes 16.

Parts required:		8 of No.		11 of No.		58 of No.		37	
1	2 of No.	10	2	2 of No.	11	3	" "	37A	
2	" "	11	4	" "	12	5	" "	38	
3	" "	12	6	" "	12A	1	" "	52	
4	" "	16	2	" "	17	2	" "	54	
5	" "	18A	3	" "	19A	1	" "	57	
6A	" "	19B	4	" "	20	1	" "	111C	
8	" "	22	4	" "	23	1	" "	115	
	" "	24	1	" "	24	2	" "	126	
	" "	35	11	" "					

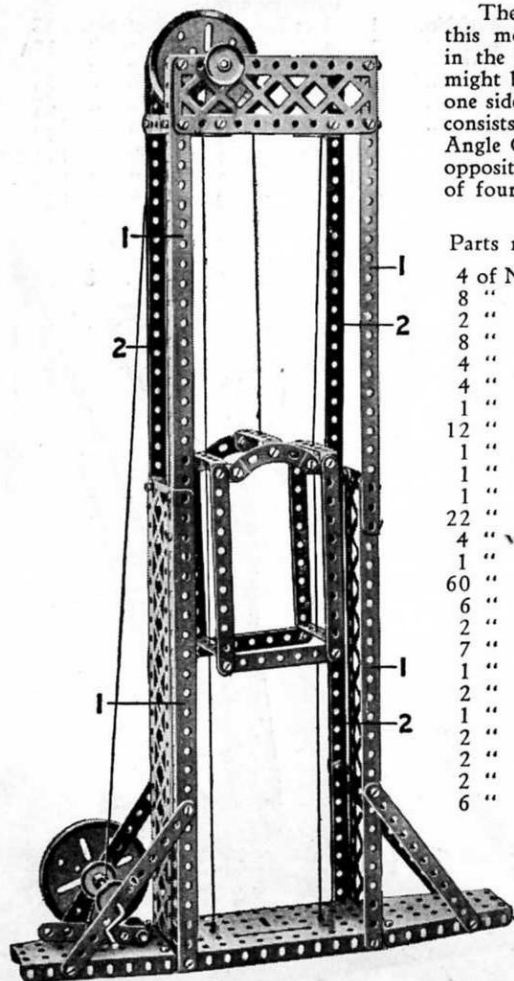


Model No. 2.39 Elevator

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

Parts required:

4 of No.	1
8 " "	2
2 " "	3
8 " "	5
4 " "	8
4 " "	10
1 " "	11
12 " "	12
1 " "	16
1 " "	18A
1 " "	19S
22 " "	19B
4 " "	22
1 " "	35
60 " "	37
6 " "	37A
2 " "	38
7 " "	48A
1 " "	52
2 " "	54
1 " "	62
2 " "	90A
2 " "	99
2 " "	100
6 " "	111C



Model No. 2.40 Fire Escape

Parts required:

2 of No.	1	4 of No.	8
12 " "	2	2 " "	10
1 " "	3	7 " "	12
10 " "	5	2 " "	12A
		4 " "	16
		4 " "	19B
		1 " "	19S
		3 " "	22
		1 " "	23
		1 " "	24
		5 " "	35
		60 " "	37
		6 " "	37A
		9 " "	38
		1 " "	44
		6 " "	111C
		1 " "	115
		2 " "	125

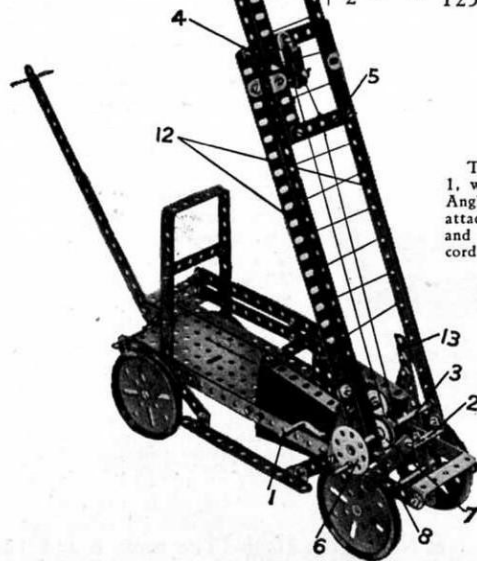


Fig. 2.40

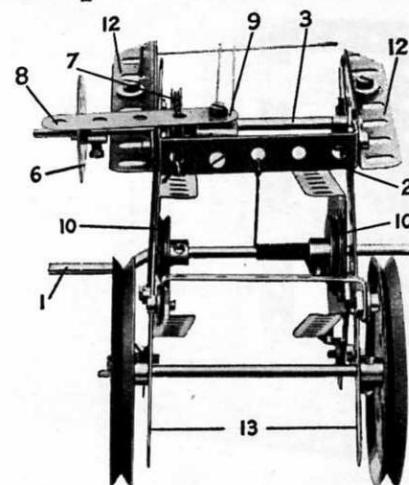


Fig. 2.40a

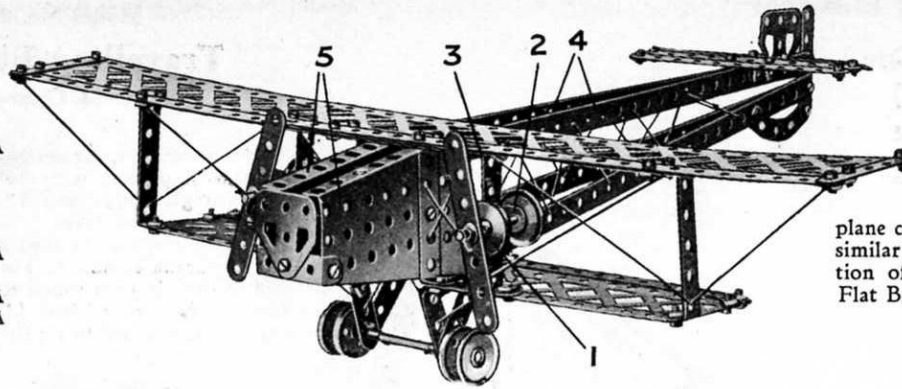
The ladder is elevated on operation of the Crank Handle 1, which winds in a cord tied to the Double Angle Strip 2. Angle Brackets bolted to the 12½" Angle Girders 12 are attached pivotally to the 5½" Strips 13 by means of bolts and nuts (S.M. 262), and the action of winding in the cord thus causes the ladder to swing upward. It is prevented from falling by the friction of the 1" Pulley Wheels 10 (Fig. 2.40a), which press against the two Sector Plates. When the ladder is fully elevated, its lower ends act as brakes to prevent the road wheels from revolving.

A second cord is wound upon the Rod 3. One end is then carried over the ½" loose Pulley Wheel 4 and tied to the 2½" Strip 5, the opposite end being carried directly to the same Strip and secured to it. When the handle 6 is turned, the two ends of the cord are wound and unwound simultaneously, and the ladder is extended or shortened as required. A permanent brake is provided by a cord passing over the 1" Pulley Wheel 7 and having both its ends secured to the 2½" Strip 8. The Strip 8 is bolted firmly to the Angle Bracket 9 (Fig. 2.40a) and keeps the brake continuously in action.

Model No. 2.41 Aeroplane

Parts required:

7 of No.	1	4 of No.	22
2 " "	2	2 " "	22A
2 " "	3	8 " "	35
7 " "	5	58 " "	37
2 " "	6A	6 " "	38
8 " "	10	1 " "	48
2 " "	11	6 " "	48A
8 " "	12	2 " "	54
1 " "	16	1 " "	90A
2 " "	17	2 " "	126A
2 " "	20B		



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

Model No. 2.42 Anti-Aircraft Gun

The general construction of the model will be made clear by reference to Figures 2.42a and 2.42b. Rotation of the handle 1 causes the gun to revolve on the 3" Pulley Wheel 2. The barrel of the gun is so balanced on the Axle Rod 3 that it tends to fall by its own weight, but is prevented from doing so by a cord 4 tied to the gun close to the breech and wound on the $3\frac{1}{2}$ " Rod 5. By turning the Pulley Wheels 6 the muzzle is raised or allowed to fall.

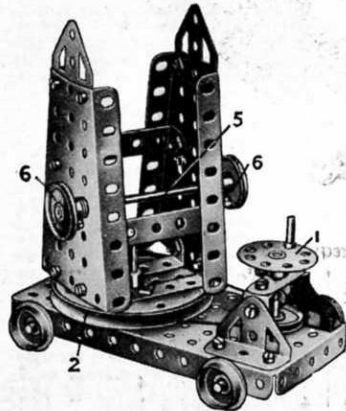


Fig. 2.42a

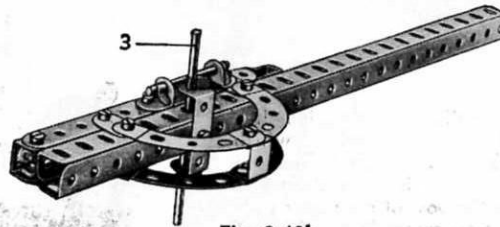
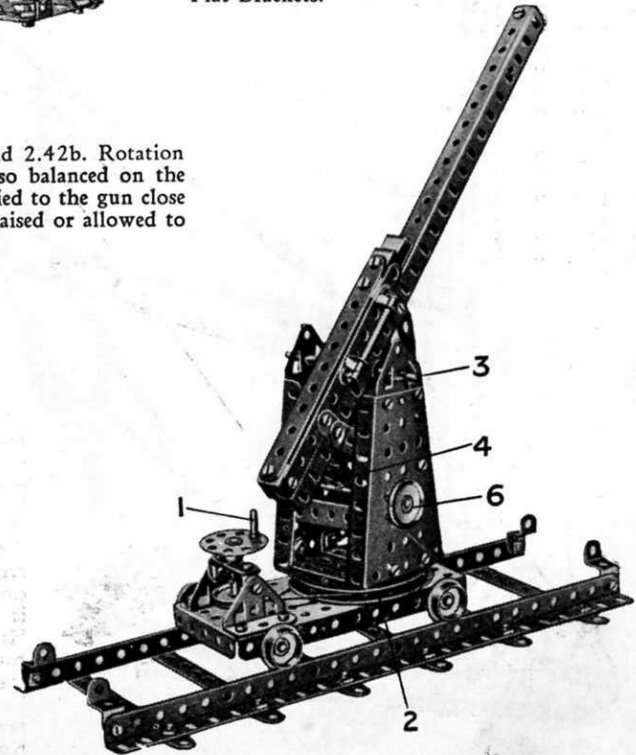


Fig. 2.42b

Parts required:

9 of No.	2	1 of No.	19B	4 of No.	48A
1 " "	6A	4 " "	20	1 " "	52
4 " "	8	4 " "	22	2 " "	54
4 " "	10	1 " "	24	4 " "	90A
3 " "	11	8 " "	35	1 " "	115
5 " "	12	57 " "	37	2 " "	126
4 " "	16	6 " "	38	2 " "	126A
2 " "	17	1 " "	45		



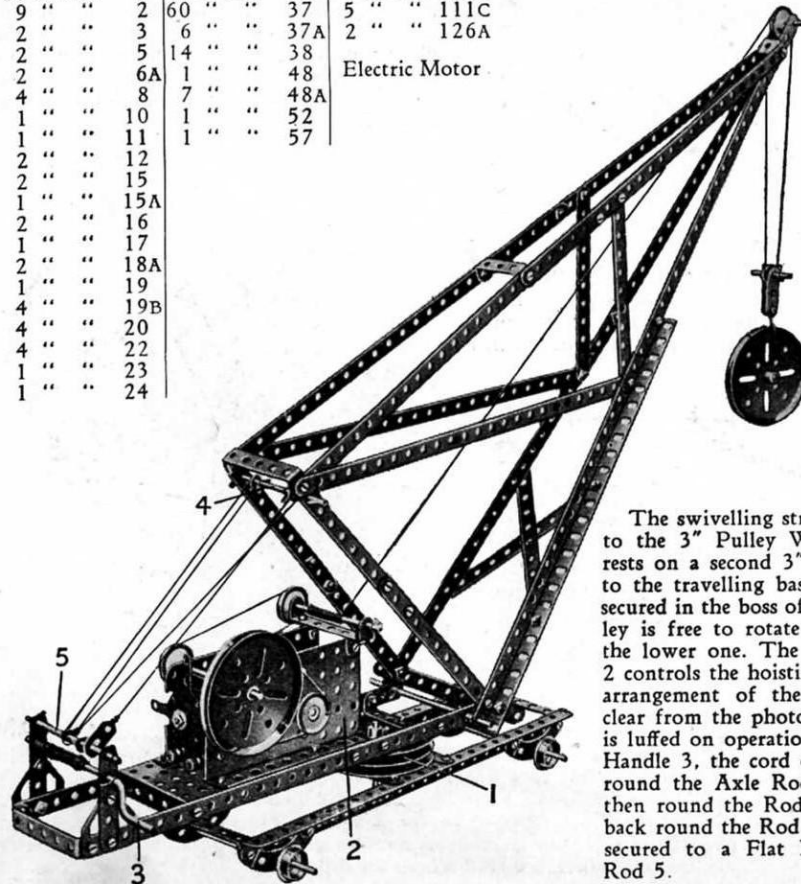
Model No. 2.43

Travelling Jib Crane **(Electrically Operated)**

Parts required:

10 of No.	1	14 of No.	35	4 of No.	90A
9 " "	2	60 " "	37	5 " "	111C
2 " "	3	6 " "	37A	2 " "	126A
2 " "	5	14 " "	38		
2 " "	6A	1 " "	48		
4 " "	8	7 " "	48A		
1 " "	10	1 " "	52		
1 " "	11	1 " "	57		
2 " "	12				
2 " "	15				
1 " "	15A				
2 " "	16				
1 " "	17				
2 " "	18A				
1 " "	19				
4 " "	19B				
4 " "	20				
4 " "	22				
1 " "	23				
1 " "	24				

Electric Motor

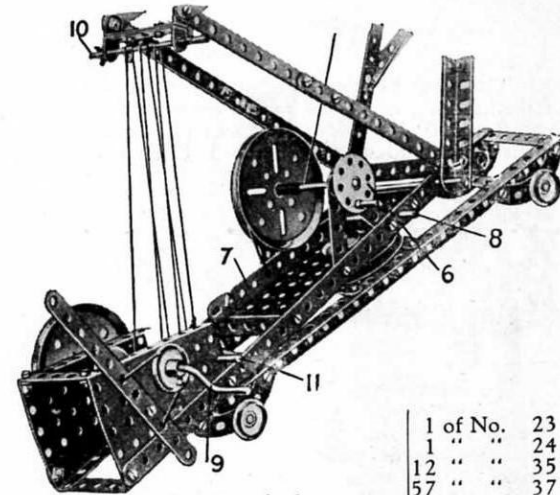


The swivelling structure is bolted to the 3" Pulley Wheel 1, which rests on a second 3" Pulley secured to the travelling base. A short rod secured in the boss of the upper Pulley is free to rotate in the boss of the lower one. The Electric Motor 2 controls the hoisting gear and the arrangement of the drive will be clear from the photograph. The jib is luffed on operation of the Crank Handle 3, the cord of which passes round the Axle Rod 4 in the jib, then round the Rod 5 in the base, back round the Rod 4 and is finally secured to a Flat Bracket on the Rod 5.

Model No. 2.44

Travelling Jib Crane **(Hand Operated)**

Model No. 2.44 is similar to Model No. 2.43 except that it is fitted for hand operation, thus dispensing with the necessity of the Electric Motor. In this case the hoisting cord is operated by the hand wheel 6, the Rod of which is controlled by a band brake 7. The end hole of the lever of the latter is pivotally mounted on the Rod 8. The luffing movement of the jib is effected by the Crank Handle 9. The operating cord passes round the Rod 10 attached to the jib, then round Rod 11 in the base of the model, again round Rod 10, back round Rod 11, and once more round Rod 10. The end of the cord is then tied to a Flat Bracket on the Rod 11.



Parts required:

		1 of No.	23
		1 " "	24
		12 " "	35
		57 " "	37
		1 " "	48
		7 " "	48A
		1 " "	52
		2 " "	54
		1 " "	57
		1 " "	62
		4 " "	90A
		1 " "	111C
		1 " "	115

10 of No.	1	1 of No.	15
11 " "	2	1 " "	15A
2 " "	3	5 " "	16
6 " "	5	2 " "	18A
2 " "	6A	1 " "	19
4 " "	8	4 " "	19B
3 " "	10	4 " "	20
1 " "	11	4 " "	22

Model No. 2.45

Try-Your-Strength Machine

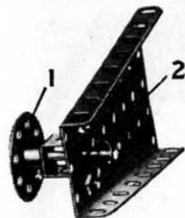


Fig. 2.45a

Parts required:

6 of No.	1	60 of No.	37
6 " "	2	6 " "	37A
1 " "	3	4 " "	38
2 " "	5	1 " "	45
2 " "	6A	1 " "	48
4 " "	8	1 " "	48A
2 " "	10	1 " "	52
10 " "	12	2 " "	54
2 " "	18A	3 " "	90A
1 " "	23	2 " "	100
1 " "	24	2 " "	126
3 " "	35		

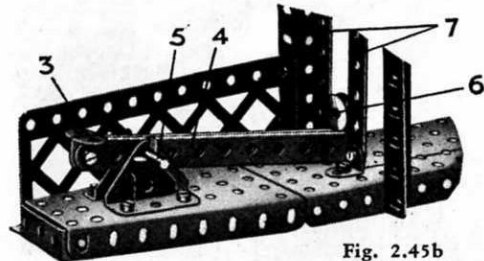
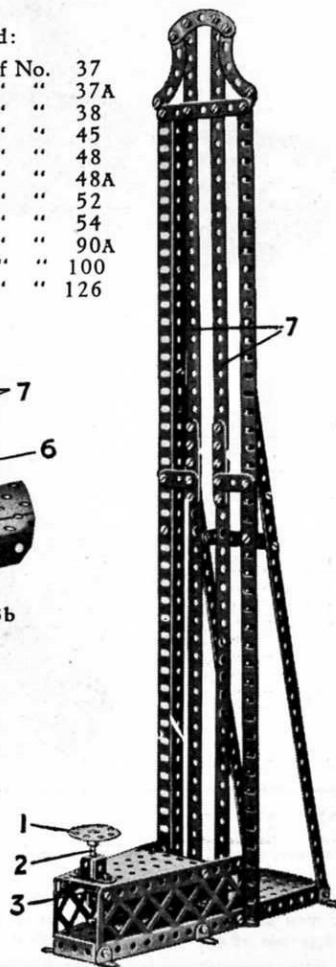


Fig. 2.45b

The Bush Wheel 1 is secured to a short Axle Rod 2, the lower end of which rests on a pair of Angle Brackets 3 bolted to the ends of four $5\frac{1}{2}$ " Strips 4. The Strips 4 are pivoted as shown (Fig 2.45B) on a $1\frac{1}{2}$ " Rod 5, and on their opposite ends rests a $\frac{1}{2}$ " loose Pulley Wheel 6. When the Bush Wheel 1 is struck, the $5\frac{1}{2}$ " Strips fling the Pulley Wheel 6 upward, but the wheel is guided by the vertical $12\frac{1}{2}$ " Strips 7. The weight of the Strips 4 then causes the Bush Wheel to resume its original position.

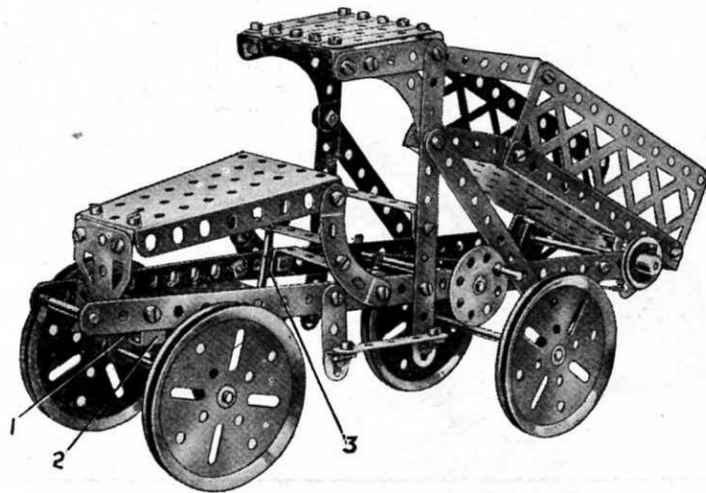


Model No. 2.46

Tipping Wagon

Parts required:

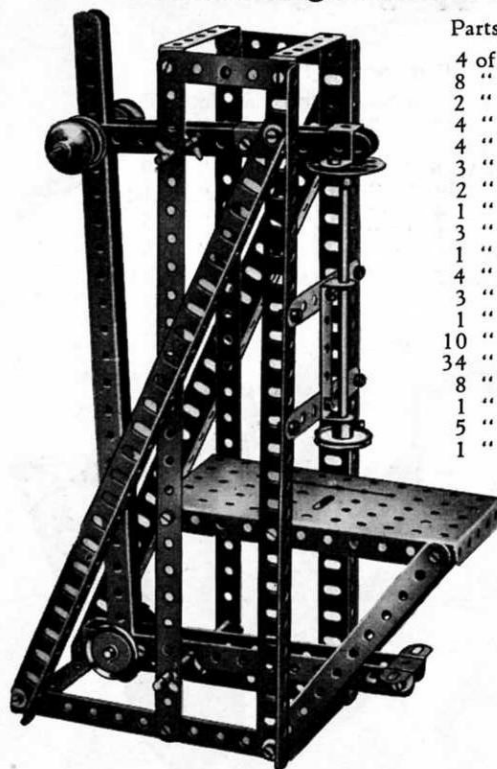
2 of No.	1	4 of No.	19B	1 of No.	52
4 " "	2	4 " "	22	2 " "	54
11 " "	5	1 " "	24	4 " "	90A
2 " "	6A	6 " "	35	2 " "	100
6 " "	12	59 " "	37	3 " "	111C
4 " "	16	4 " "	37A	1 " "	115
1 " "	17	1 " "	45	2 " "	126
1 " "	18A	7 " "	48	1 " "	126A
			48A		



The front axle is journaled in a $2\frac{1}{2}$ "x $\frac{1}{2}$ " Double Angle Strip 1 which in turn is bolted to a Double Bent Strip 2. The Double Bent Strip is pivoted to the Sector Plate by a bolt and two nuts. Cord passing over a 1" Pulley Wheel attached to the Rod 3 is fastened to the ends of the Double Angle Strip 1, and by rotating another Pulley, which represents the steering wheel, the road wheels are deflected.

See last page of this Manual for list of models built with your outfit.

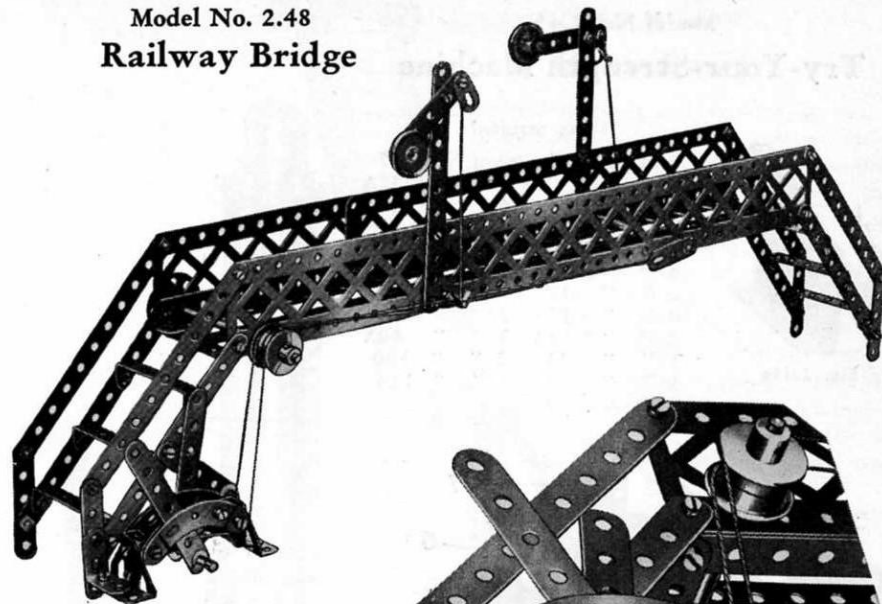
Model No. 2.47 Embossing Machine



Parts required:

4 of No.	1
8 " "	2
2 " "	3
4 " "	5
4 " "	8
3 " "	11
2 " "	12
1 " "	15
3 " "	16
1 " "	18A
4 " "	20
3 " "	22
1 " "	24
10 " "	35
34 " "	37
8 " "	38
1 " "	45
5 " "	48A
1 " "	52

Model No. 2.48 Railway Bridge



Parts required:

2 of No.	1	1 of No.	24
10 " "	2	3 " "	35
2 " "	3	60 " "	37
8 " "	5	3 " "	37A
4 " "	8	6 " "	38
2 " "	10	7 " "	48A
3 " "	11	2 " "	62
2 " "	12A	4 " "	90
1 " "	15A	2 " "	99
1 " "	16	2 " "	100
1 " "	18A	3 " "	111C
2 " "	20	1 " "	115
2 " "	22	2 " "	126

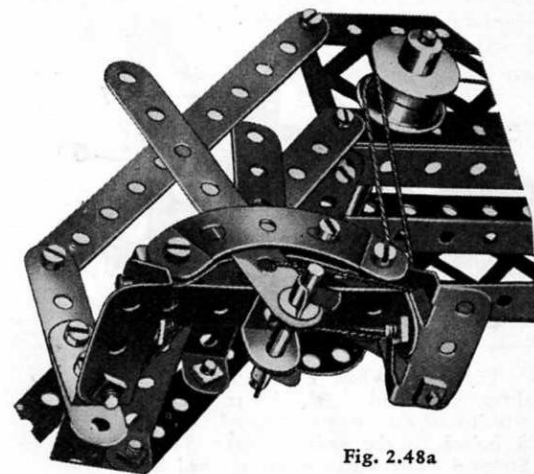


Fig. 2.48a

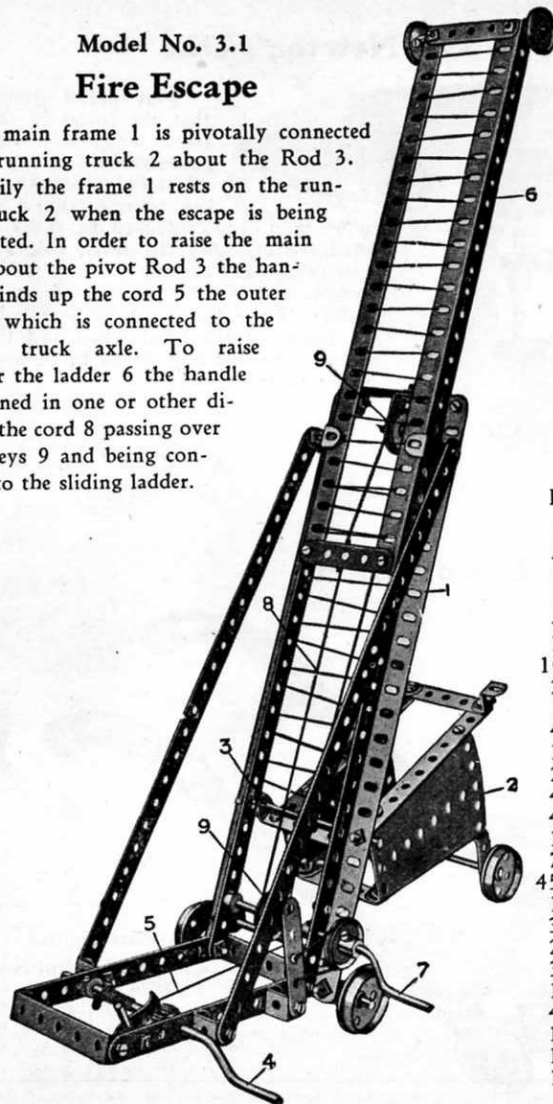
HOW TO CONTINUE

Do not consider that you have exhausted the possibilities of your present Meccano Outfit when you have made the models here illustrated. With the experience you have gained you can now become an inventor and design entirely new models to your own ideas. If you strike trouble we will gladly place all our knowledge and experience at your disposal. Write to "Engineer Dept.," Meccano Co., Inc., Elizabeth, N. J.

You will probably wish to make bigger and more elaborate models and you can do this either by purchasing a corresponding Meccano Accessory Outfit or some extra Meccano separate parts. You will find all details and prices at the end of this book.

Model No. 3.1**Fire Escape**

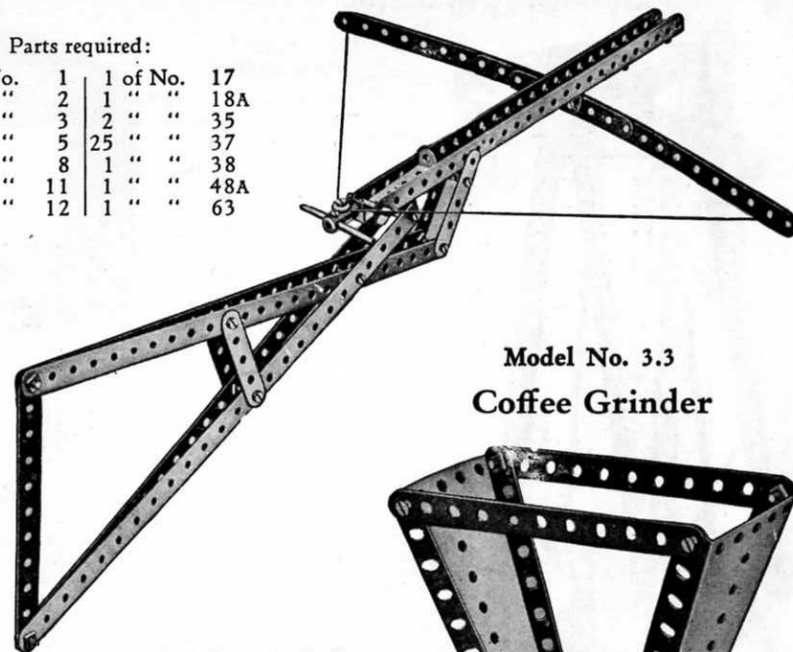
The main frame 1 is pivotally connected to the running truck 2 about the Rod 3. Ordinarily the frame 1 rests on the running truck 2 when the escape is being transported. In order to raise the main frame about the pivot Rod 3 the handle 4 winds up the cord 5 the outer end of which is connected to the running truck axle. To raise or lower the ladder 6 the handle 7 is turned in one or other direction, the cord 8 passing over the pulleys 9 and being connected to the sliding ladder.

**Parts required:**

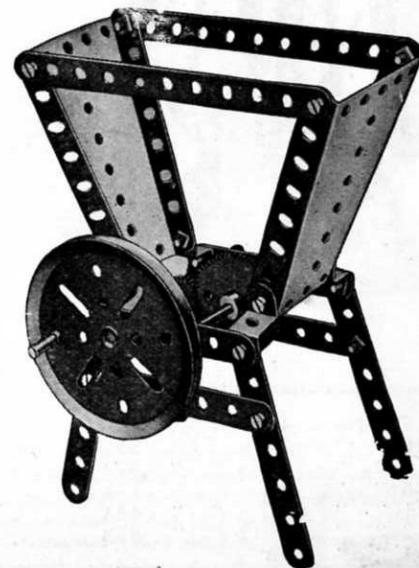
2 of No.	1
4 " "	2
1 " "	3
6 " "	5
4 " "	8
3 " "	11
10 " "	12
2 " "	12A
1 " "	15A
4 " "	16
1 " "	18A
2 " "	19
4 " "	20
4 " "	22
1 " "	22A
7 " "	35
45 " "	37
1 " "	44
3 " "	48A
2 " "	54
3 " "	59
1 " "	115
4 " "	125
1 " "	147A
1 " "	147B
1 " "	148

Model No. 3.2 Crossbow**Parts required:**

5 of No.	1	1 of No.	17
2 " "	2	1 " "	18A
1 " "	3	2 " "	35
4 " "	5	25 " "	37
2 " "	8	1 " "	38
2 " "	11	1 " "	48A
1 " "	12	1 " "	63

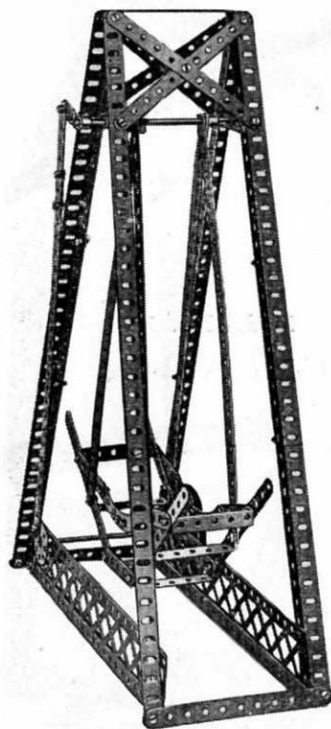
**Model No. 3.3
Coffee Grinder****Parts required:**

2 of No.	2
6 " "	3
2 " "	4
2 " "	16
1 " "	19B
1 " "	26
1 " "	27A
16 " "	37
2 " "	54
3 " "	59
1 " "	115
4 " "	125



See last page of this Manual for list of models built with your outfit.

Model No. 3.4 Swing



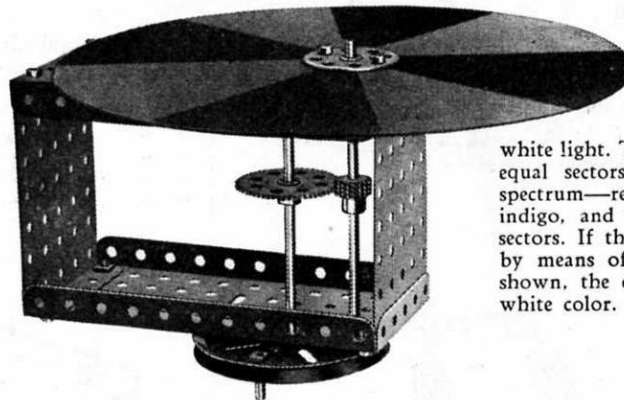
Parts required:

2 of No.	15
1 " "	19B
1 " "	24
1 " "	26
1 " "	27A
10 " "	37
1 " "	38
2 " "	52
2 " "	53
2 " "	59
1 " "	115

Parts required:

7 of No.	1	1 of No.	24
10 " "	2	2 " "	35
8 " "	5	56 " "	37
8 " "	8	4 " "	37A
1 " "	10	6 " "	48A
2 " "	15	1 " "	48B
1 " "	19B		

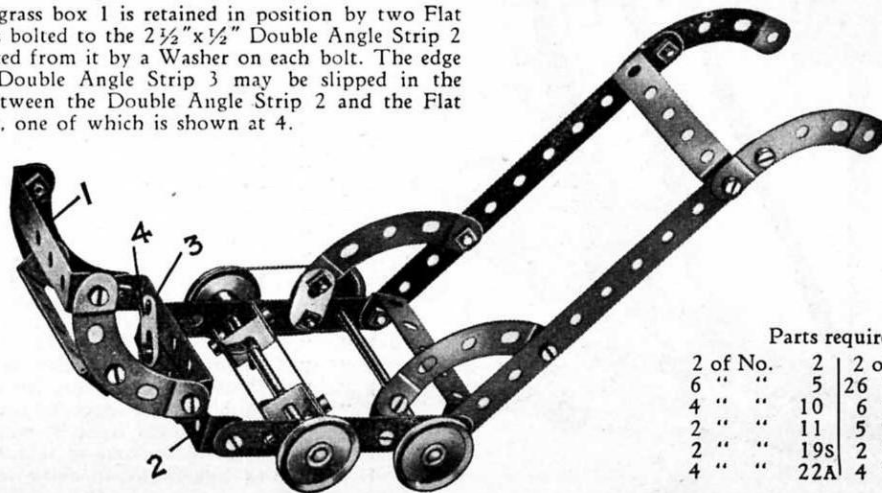
Model No. 3.5 Newton's Disc



This model demonstrates that the colors of the spectrum, which are most simply produced by directing a ray of white light through a prism, can be re-combined to form white light. The cardboard disc is divided into equal sectors, and the seven colors of the spectrum—red, orange, yellow, green, blue, indigo, and violet—are painted on separate sectors. If the disc is rotated at a high speed by means of the hand wheel and the gears shown, the disc appears to be of a greyish-white color.

Model No. 3.6 Lawn Mower

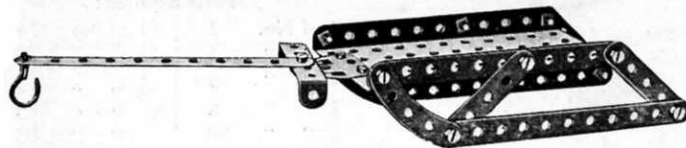
The grass box 1 is retained in position by two Flat Brackets bolted to the $2\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip 2 but spaced from it by a Washer on each bolt. The edge of the Double Angle Strip 3 may be slipped in the space between the Double Angle Strip 2 and the Flat Brackets, one of which is shown at 4.



Parts required:

2 of No.	2	2 of No.	35
6 " "	5	26 " "	37
4 " "	10	6 " "	38
2 " "	11	5 " "	48A
2 " "	19S	2 " "	90
4 " "	22A	4 " "	90A

Model No. 3.7 Horse Sleigh



Parts required:

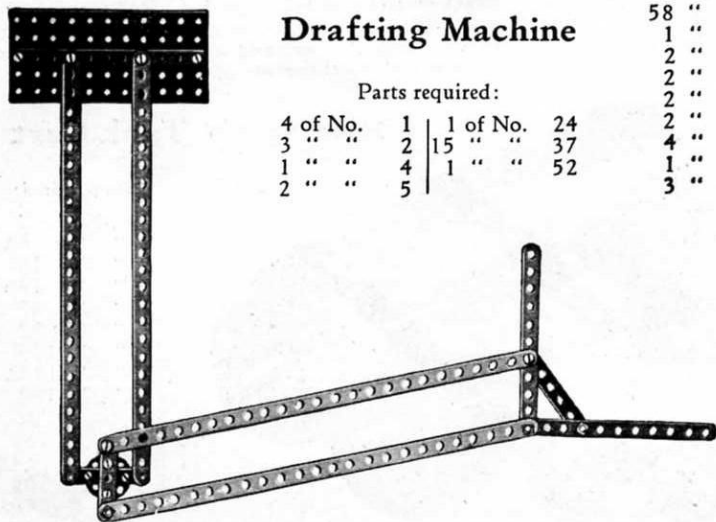
3 of No.	2	13 of No.	37	1 of No.	57
4 " "	5	1 " "	48A	2 " "	90
1 " "	23	1 " "	52	1 " "	126A

Model No. 3.8

Drafting Machine

Parts required:

4 of No.	1	1 of No.	24
3 " "	2	15 " "	37
1 " "	4	1 " "	52
2 " "	5		



Model No. 3.9 Demonstration Scales

Parts required:

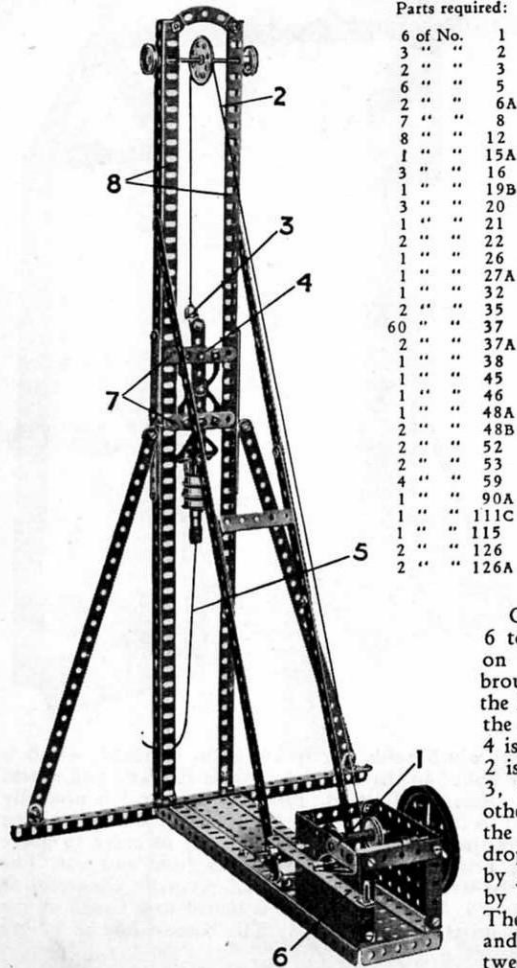
3 of No.	1
4 " "	2
6 " "	3
1 " "	4
2 " "	5
8 " "	8
4 " "	11
6 " "	12
2 " "	12A
2 " "	17
1 " "	18A
1 " "	22
2 " "	35
58 " "	37
1 " "	44
2 " "	52
2 " "	53
2 " "	59
2 " "	62
4 " "	90
1 " "	125
3 " "	126A



The only feature of this model which needs description is the standard, which is built up of two Angle Girders 1 bolted to the base 2 by Angle Brackets and spaced apart at the top by a $2\frac{1}{2}$ " Strip obliquely disposed. The balance lever 3 is pivotally carried in Curved Strips 4 bolted to the top of two Angle Girders 5 sliding between the Girders 1. The Girders 5 are themselves bolted together and in order to guide them as they slide vertically Flat Trunnions 6 are bolted at the front and rear. The balance is raised by depressing the lever 8 pivoted at 9 and pivotally connected at 11 to the vertically sliding Girders 5. The indicator 10 is bolted to a Crank at the rear, the boss of which is fitted on the rivet Rod 11. The connections at 12 are lock-nutted to allow free action.

See last page of this Manual for list of models built with your outfit.

Model No. 3.10 Pile Driver

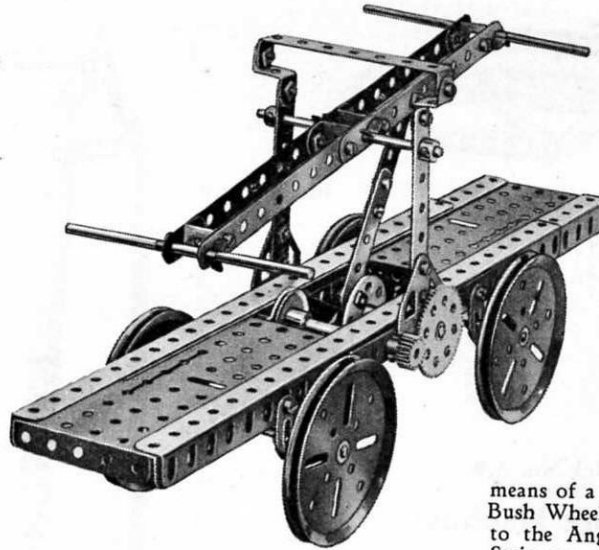


Parts required:

6 of No.	1
3 " "	2
2 " "	3
6 " "	5
2 " "	6A
7 " "	8
8 " "	12
1 " "	15A
3 " "	16
1 " "	19B
3 " "	20
1 " "	21
2 " "	22
1 " "	26
1 " "	27A
2 " "	32
60 " "	35
2 " "	37
2 " "	37A
1 " "	38
1 " "	45
1 " "	46
1 " "	48A
2 " "	48B
2 " "	52
2 " "	53
4 " "	59
1 " "	90A
1 " "	111C
1 " "	115
2 " "	126
2 " "	126A

On moving the hand lever 6 to the right a $\frac{1}{2}$ " Pinion on the hoisting shaft is brought into engagement with the 57-teeth Gear Wheel 1 on the driving shaft and the ram 4 is raised. The hoisting cord 2 is tied to an Angle Bracket 3, which lodges under another angle bracket bolted to the ram. The latter may be dropped whenever required by jerking the cord 5, thereby releasing the Brackets 3. The Strips 7 are duplicated, and the Girders 8 slide between their ends.

Model No. 3.11 Hand Trolley

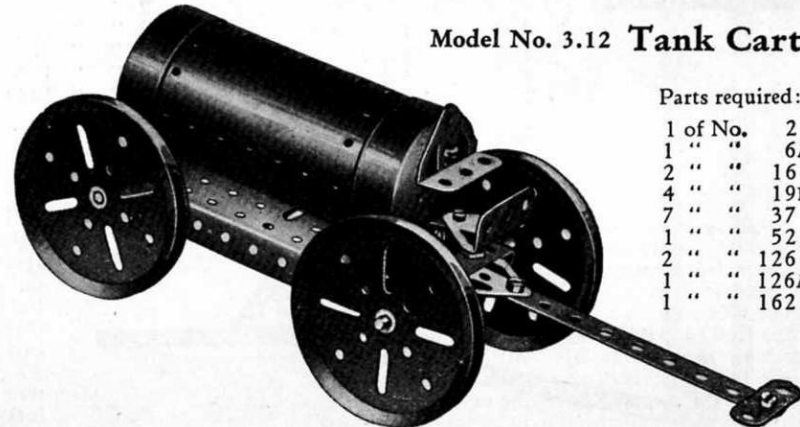


Parts required:

4 of No.	2	1 of No.	24
4 " "	3	1 " "	26
4 " "	5	1 " "	27A
2 " "	8	6 " "	35
8 " "	10	40 " "	37
4 " "	11	1 " "	45
2 " "	15A	1 " "	48B
4 " "	16	2 " "	52
1 " "	18A	3 " "	59
4 " "	19B	4 " "	90A
2 " "	22	2 " "	125
		2 " "	126A

The arm 1 is pivoted at its lower end to the Bush Wheel 2 and at its upper end to the hand lever 3, a bolt and two nuts being used to pivot the arm in each case. The drive is transmitted from the 1" Pulley Wheel 4 to a similar Pulley on the axle of the road wheels by means of a crossed belt. The $1\frac{1}{2}$ " Rod carrying the Bush Wheel 2 is journaled in the Strip 5 fastened to the Angle Girder, and also in a Double Bent Strip secured to the inside of the Girder.

Model No. 3.12 Tank Cart



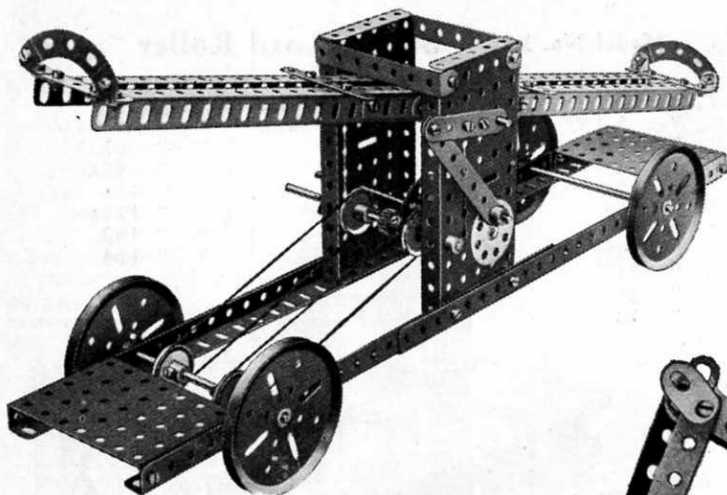
Parts required:

1 of No.	2
1 " "	6A
2 " "	16
4 " "	19B
7 " "	37
1 " "	52
2 " "	126
1 " "	126A
1 " "	162

Model No. 3.13 Actuated See-Saw

Parts required:

1 of No. 3	4 of No. 19B	43 of No. 37	2 of No. 62
6 " " 5	4 " " 22	2 " " 37A	2 " " 90A
8 " " 8	1 " " 24	2 " " 48A	1 " " 111C
4 " " 12	1 " " 26	2 " " 52	1 " " 115
2 " " 15	1 " " 27A	2 " " 53	
3 " " 15A	2 " " 35	3 " " 59	

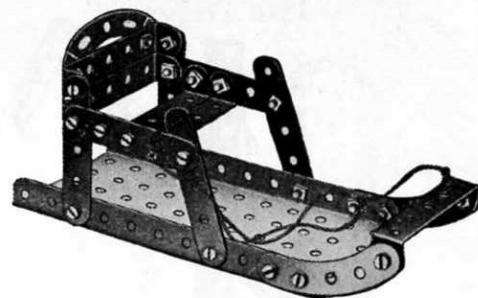


The model is actuated by the motion of one pair of travelling wheels. The axle to which these wheels are secured carries two 1" fast Pulley Wheels, which are connected by endless cords to similar Pulleys on the same Rod as a $\frac{1}{2}$ " Pinion Wheel. This $\frac{1}{2}$ " Pinion meshes with a 57-teeth Gear Wheel secured to the Rod of a Bush Wheel, and the latter is connected by means of a $5\frac{1}{2}$ " Strip to an extended Crank (a $2\frac{1}{2}$ " Strip and a Crank bolted together) secured to the pivotal Rod of the see-saw.

Model No. 3.14 Toboggan

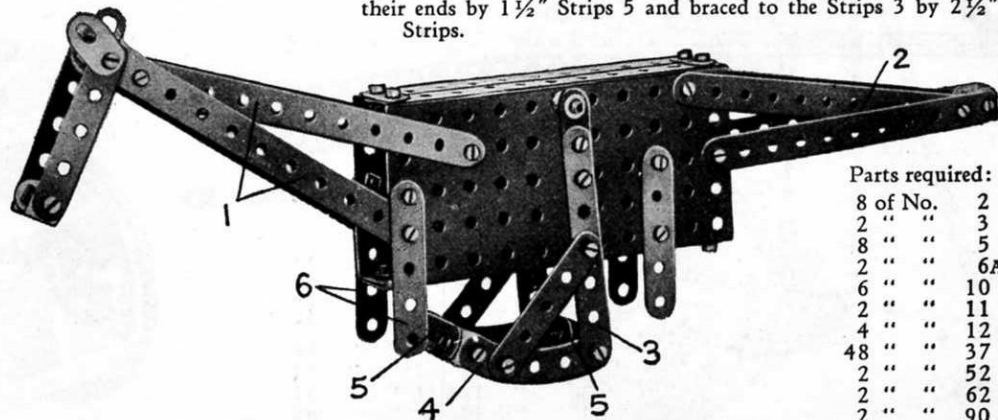
Parts required:

6 of No. 5	
20 " " 37	
5 " " 48A	
1 " " 52	
2 " " 90	
1 " " 90A	

**Model No. 3.15 The Meccangaroo**

When placed upon an incline the "Meccangaroo" will "walk" with a quaint action. The positions of the various strips in relation to the body should be reproduced as accurately as possible, for the successful working of the model depends upon them.

The animal rocks about a short Rod secured between the rocker-frame which does duty as "legs." This frame consists of two $3\frac{1}{2}$ " Strips 3 bolted at their upper ends to Cranks in which the short Rod is secured, and at their lower ends to two $2\frac{1}{2}$ " large radius Curved Strips 4, which are connected together at their ends by $1\frac{1}{2}$ " Strips 5 and braced to the Strips 3 by $2\frac{1}{2}$ " Strips.

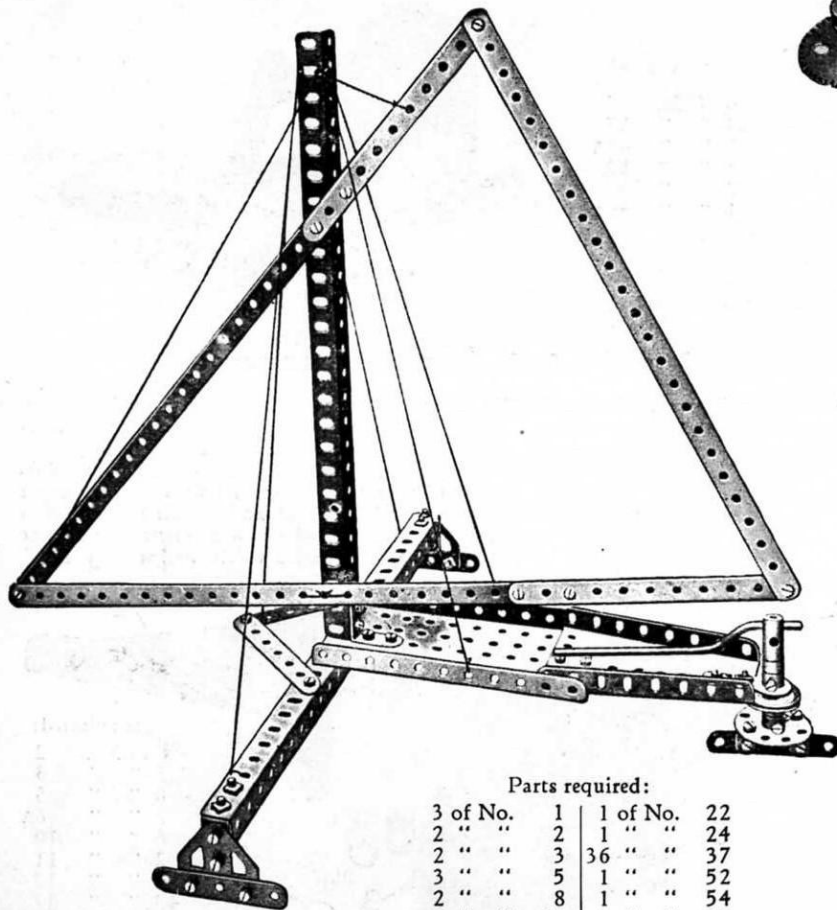


Parts required:

8 of No. 2	
2 " " 3	
8 " " 5	
2 " " 6A	
6 " " 10	
2 " " 11	
4 " " 12	
48 " " 37	
2 " " 52	
2 " " 62	
2 " " 90	

See last page of this Manual for list of models built with your outfit.

Model No. 3.16 Ice Yacht



Parts required:

3 of No.	1	1 of No.	22
2 " "	2	1 " "	24
2 " "	3	36 " "	37
3 " "	5	1 " "	52
2 " "	8	1 " "	54
2 " "	12	1 " "	59
3 " "	12A	1 " "	62
1 " "	17	1 " "	63
1 " "	19	2 " "	126A

Model No. 3.17 Pastry Designer



Parts required:

2 of No.	2	3 of No.	11	1 of No.	22A	9 of No.	37
3 " "	5	1 " "	17	1 " "	27A	2 " "	59

Model No. 3.18 Steam Road Roller

Parts required:

2 of No.	2	1 of No.	24	8 of No.	48A	3 of No.	53
7 " "	5	57 " "	37	1 " "	48B	4 " "	59
2 " "	11	11 " "	38			1 " "	62
1 " "	12	1 " "	45			4 " "	90A
2 " "	12A					1 " "	126
3 " "	16					1 " "	126A
1 " "	17					1 " "	162
4 " "	19B					1 " "	164
1 " "	21						
3 " "	22						
1 " "	23						

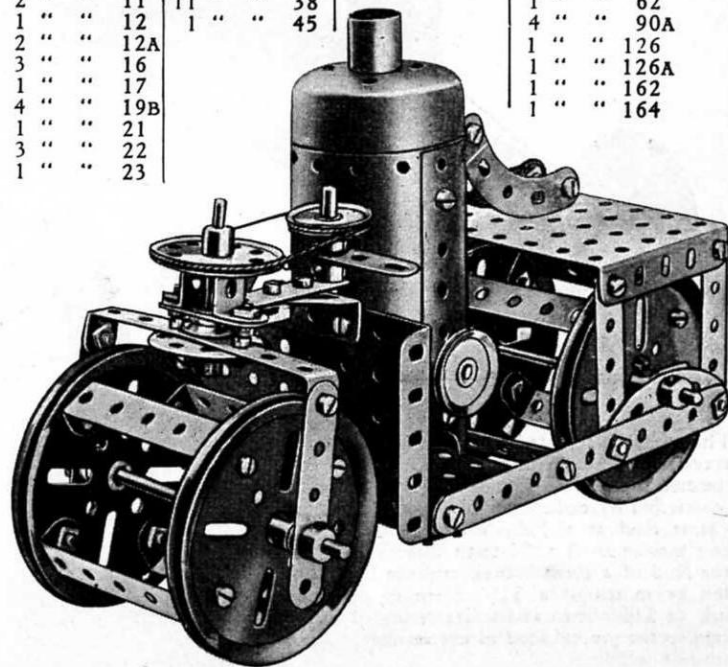


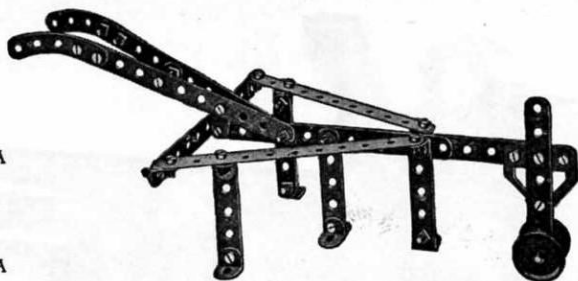
Fig. 3.19a

See last page of this Manual for list of models built with your outfit.

Model No. 3.21 Cultivator

Parts required:

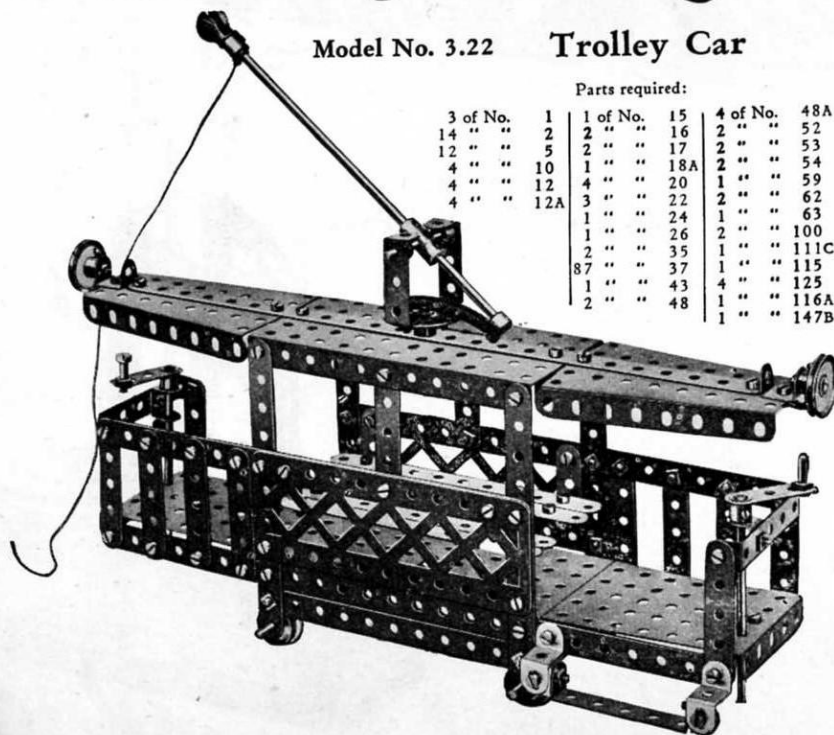
7 of No.	2
1 " "	3
4 " "	5
1 " "	10
14 " "	12
1 " "	18A
2 " "	22
31 " "	37
2 " "	38
2 " "	90
1 " "	126A



Model No. 3.22 Trolley Car

Parts required:

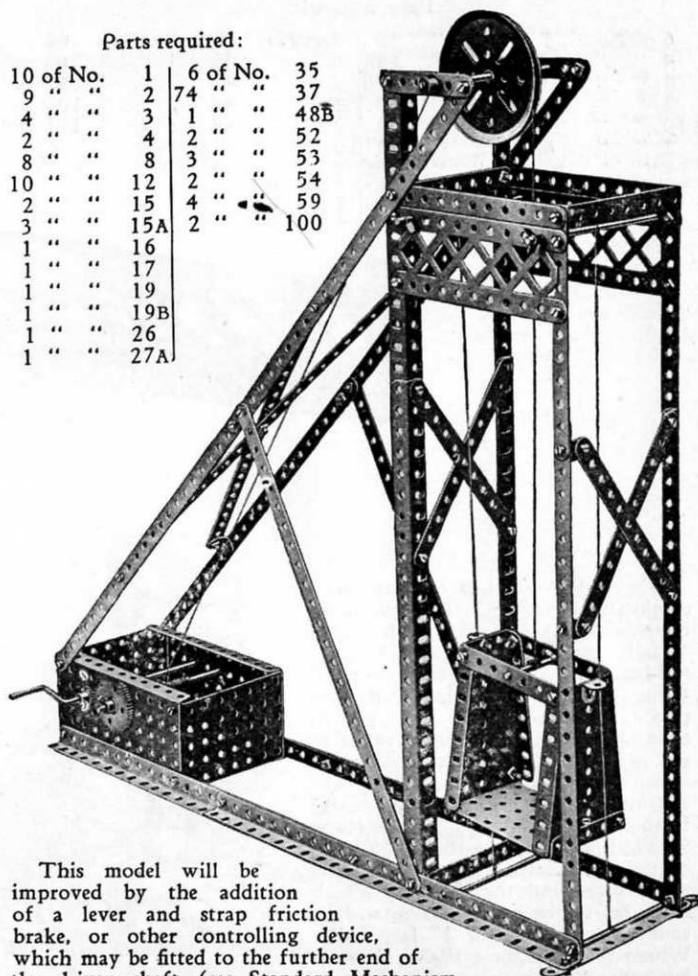
3 of No.	1	1 of No.	15	4 of No.	48A
14 " "	2	2 " "	16	2 " "	52
12 " "	5	2 " "	17	2 " "	53
4 " "	10	1 " "	18A	2 " "	54
4 " "	12	4 " "	20	1 " "	59
4 " "	12A	3 " "	22	2 " "	62
		1 " "	24	1 " "	63
		1 " "	26	2 " "	100
		2 " "	35	1 " "	111C
		87 " "	37	1 " "	115
		1 " "	43	4 " "	125
		2 " "	48	1 " "	116A
				1 " "	147B



Model No. 3.23 Pit Head Gear

Parts required:

10 of No.	1	6 of No.	35
9 " "	2	74 " "	37
4 " "	3	1 " "	48B
2 " "	4	2 " "	52
8 " "	8	3 " "	53
10 " "	12	2 " "	54
2 " "	15	4 " "	59
3 " "	15A	2 " "	100
1 " "	16		
1 " "	17		
1 " "	19		
1 " "	19B		
1 " "	26		
1 " "	27A		



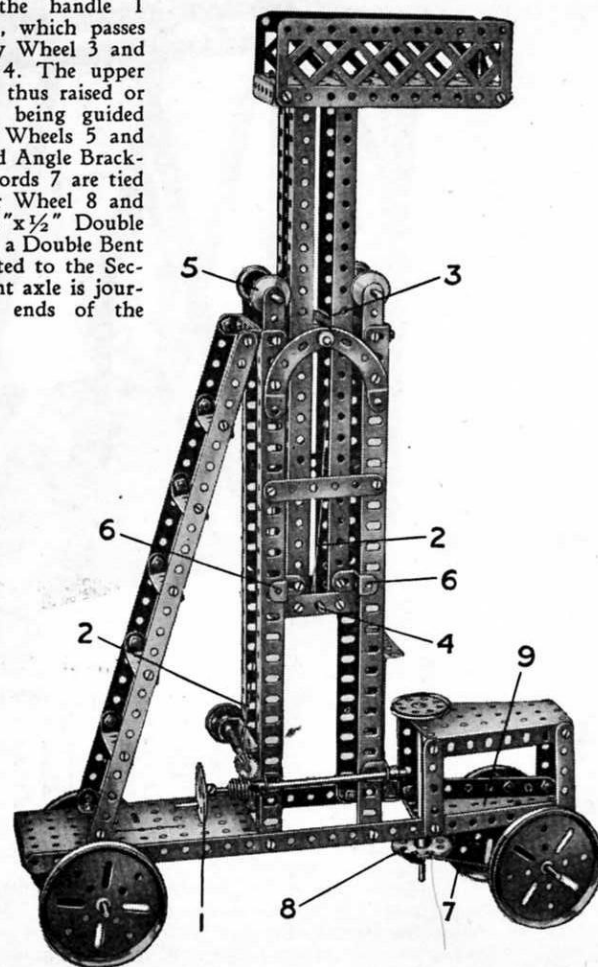
This model will be improved by the addition of a lever and strap friction brake, or other controlling device, which may be fitted to the further end of the driven shaft (see Standard Mechanism No. 81).

Model No. 3.24 Tower Wagon

When operated the handle 1 winds in the cord 2, which passes over a 1" fast Pulley Wheel 3 and is tied to the Rod 4. The upper part of the tower is thus raised or lowered as required, being guided by the $\frac{3}{4}$ " Flanged Wheels 5 and two pairs of Reversed Angle Brackets 6. The steering cords 7 are tied to the 57-teeth Gear Wheel 8 and to the end of a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip bolted to a Double Bent Strip, which is pivoted to the Sector Plate 9. The front axle is journalled through the ends of the Double Angle Strip.

Parts required:

4 of No.	1
2 " "	4
6 " "	5
2 " "	6A
8 " "	8
8 " "	12
1 " "	15
3 " "	15A
4 " "	16
1 " "	17
4 " "	19B
4 " "	20
1 " "	21
2 " "	22
1 " "	24
1 " "	26
1 " "	27A
1 " "	32
3 " "	35
84 " "	37
2 " "	37A
1 " "	45
8 " "	48A
2 " "	52
1 " "	53
2 " "	54
3 " "	59
4 " "	90A
1 " "	98
2 " "	100
1 " "	111C
1 " "	115
4 " "	125



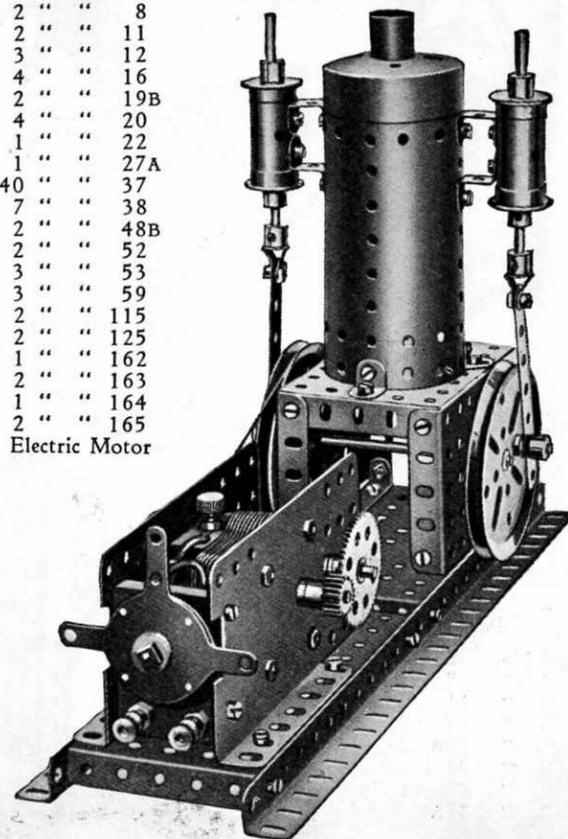
Model No. 3.25

Two-Cylinder Vertical Steam Engine

Parts required:

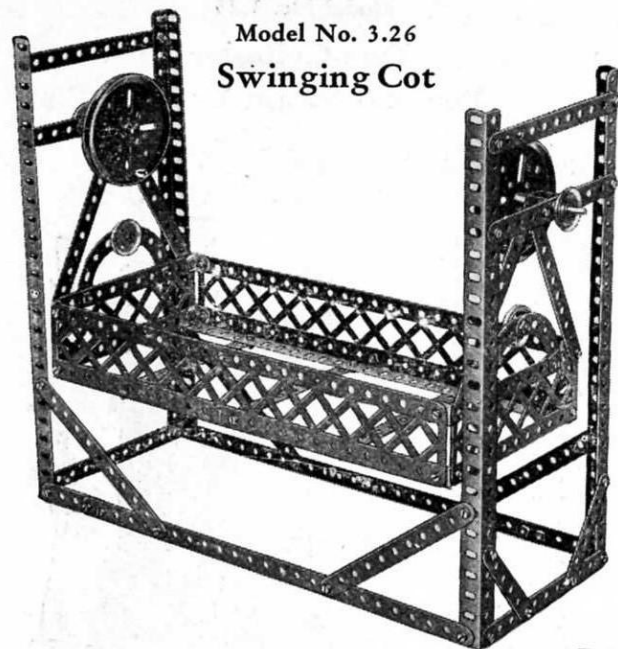
2 of No.	3
2 " "	8
2 " "	11
3 " "	12
4 " "	16
2 " "	19B
4 " "	20
1 " "	22
1 " "	27A
40 " "	37
7 " "	38
2 " "	48B
2 " "	52
3 " "	53
3 " "	59
2 " "	115
2 " "	125
1 " "	162
2 " "	163
1 " "	164
2 " "	165

Electric Motor



See last page of this Manual for list of models built with your outfit.

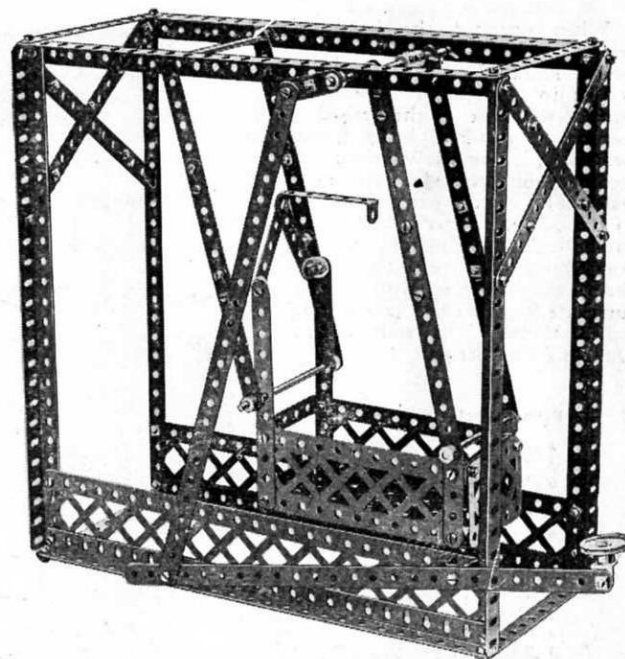
Model No. 3.26
Swinging Cot



Parts required:

2 of No.	1
18 " "	2
6 " "	3
2 " "	5
8 " "	8
3 " "	12
1 " "	15
1 " "	15A
3 " "	16
1 " "	22
10 " "	35
68 " "	37
6 " "	37A
8 " "	38
1 " "	45
3 " "	48A
1 " "	52
4 " "	59
2 " "	62
1 " "	53
1 " "	98
2 " "	99
2 " "	100
4 " "	111C

Model No. 3.28 Swing Boat



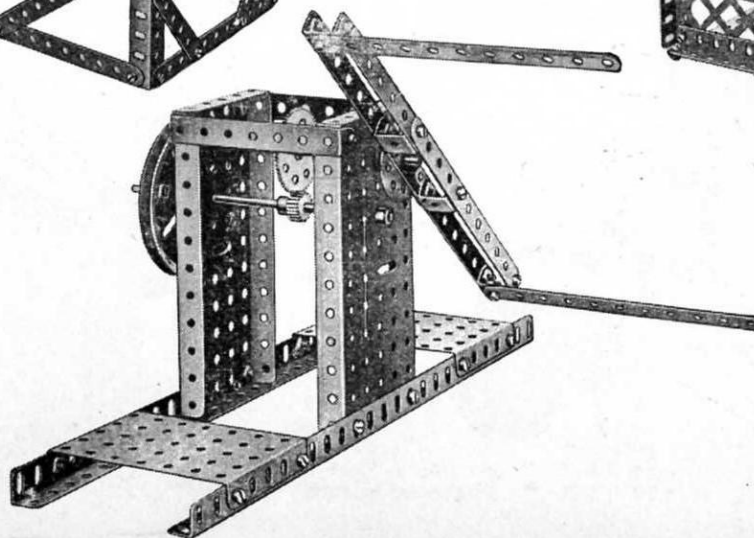
Parts required:

2 of No.	1	2 of No.	22A
17 " "	2	64 " "	37
4 " "	5	2 " "	37A
6 " "	8	2 " "	45
8 " "	12	4 " "	90A
2 " "	17	2 " "	99
2 " "	19B	2 " "	100
2 " "	22	2 " "	111C

Model No. 3.27
Lace Jennier

Parts required:

6 of No.	2	28 of No.	37
2 " "	8	4 " "	38
4 " "	11	2 " "	48B
2 " "	15	2 " "	52
1 " "	19B	2 " "	53
1 " "	24	2 " "	59
1 " "	26	1 " "	115
1 " "	37A		

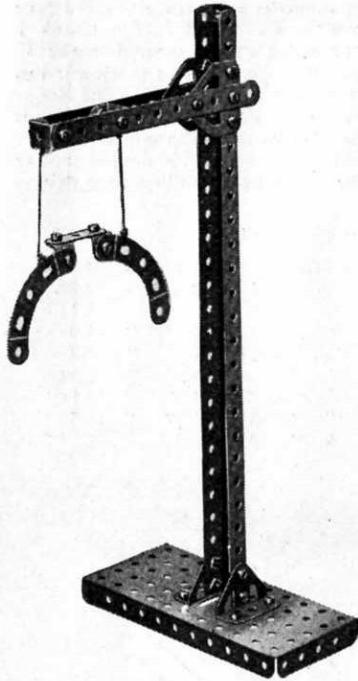


See last page of this Manual for list of models built with your outfit.

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Model No. 3.29

Railway Gauge

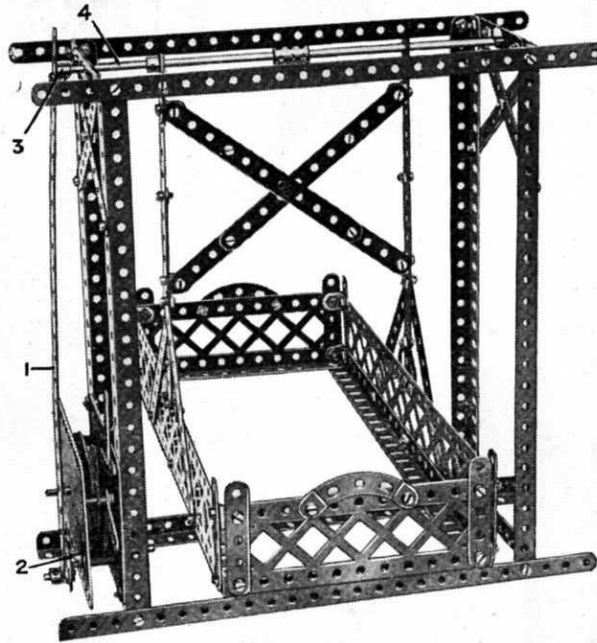


Parts required:

2 of No.	2
1 " "	6A
2 " "	8
2 " "	11
2 " "	12
25 " "	37
1 " "	53
2 " "	90A
2 " "	126
2 " "	126A

Model No. 3.30 Auto Swing Boat

The connecting Strip 1 is attached pivotally at one end to a Threaded Pin secured to the Bush Wheel 2 on the driving spindle of the Motor, and at the other end by means of bolt and lock-nuts to a Crank 3 mounted on the shaft 4, which operates the swing boat.

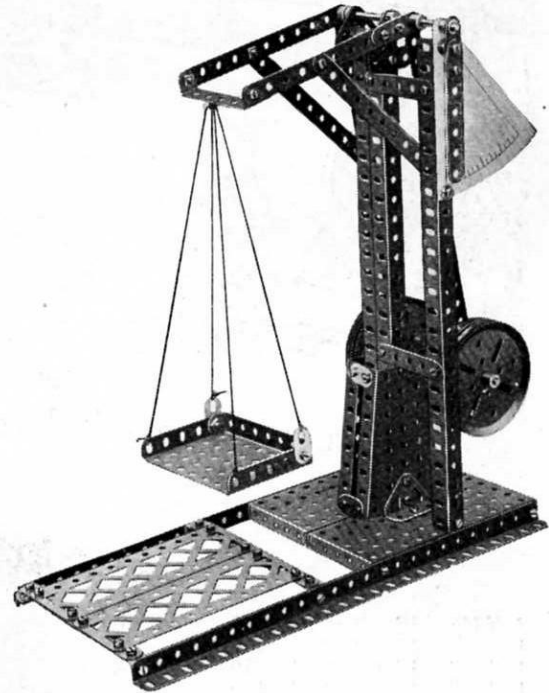


Parts required:

3 of No.	1	1 of No.	24	2 of No.	99
16 " "	2	2 " "	35	2 " "	100
6 " "	3	86 " "	37	1 " "	111C
8 " "	5	2 " "	37A	1 " "	115
8 " "	8	1 " "	59	2 " "	126A
1 " "	10	2 " "	62	Clockwork	
12 " "	12	1 " "	63	Motor (not in-	
2 " "	15	2 " "	90A	cluded in outfit)	

Model No. 3.31

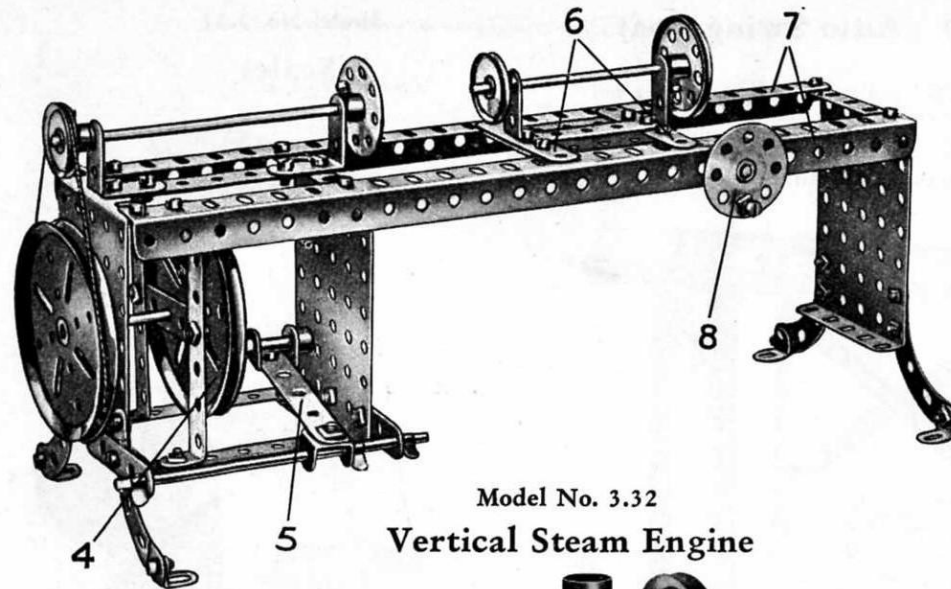
Scales



Parts required:

10 of No.	2	2 of No.	48A
1 " "	3	1 " "	48B
2 " "	5	2 " "	52
5 " "	8	1 " "	53
7 " "	10	2 " "	54
5 " "	12	4 " "	59
2 " "	15A	2 " "	62
4 " "	19B	2 " "	100
67 " "	37	2 " "	126
2 " "	38	2 " "	126A

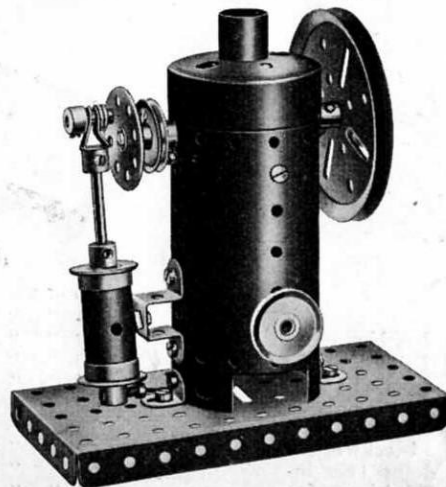
See last page of this Manual for list of models built with your outfit.



Model No. 3.32
Vertical Steam Engine

Parts required:

2 of No.	12	1 of No.	45
1 " "	16	1 " "	52
1 " "	17	1 " "	59
1 " "	19B	1 " "	115
2 " "	20B	1 " "	162
3 " "	22	1 " "	163
1 " "	24	1 " "	164
9 " "	37	1 " "	166
2 " "	38		



Model No. 3.33 Lathe

The arrangement of the treadle is shown in detail in Fig. 3.33A. The Crank 1 is provided with a Flat Bracket, the round hole of which coincides with the elongated hole of the Crank, and receives the short Rod 2. The Crank 1 is free to turn about a Threaded Pin 3, secured to the 3" Pulley Wheel 4, and once the latter is set in motion it can be kept in rotation by working the treadle 5. The Strips 6 of the saddle (Fig. 3.33) are duplicated and their ends form slots to receive the Flanges of the Angle Girders 7. The hand wheel 8 is a dummy one, but if desired it may be arranged to operate the saddle by an endless rope device.

Parts required:

3 of No.	3	1 of No.	18A	1 of No.	46
10 " "	5	2 " "	19B	2 " "	48B
2 " "	8	1 " "	21	3 " "	53
2 " "	11	2 " "	22	4 " "	59
4 " "	12	1 " "	24	1 " "	62
2 " "	12A	3 " "	35	4 " "	90A
2 " "	15A	44	37	1 " "	111C
2 " "	16	2 " "	37A	1 " "	115
1 " "	17	4 " "	38		

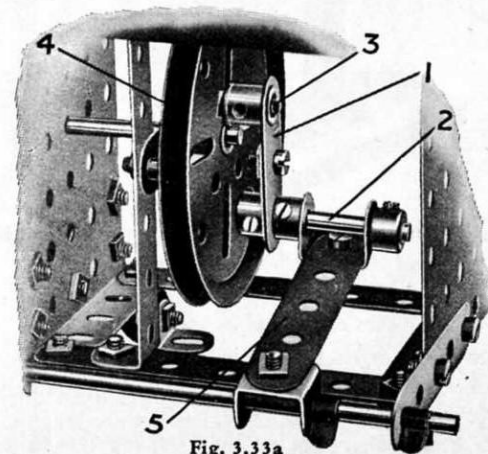


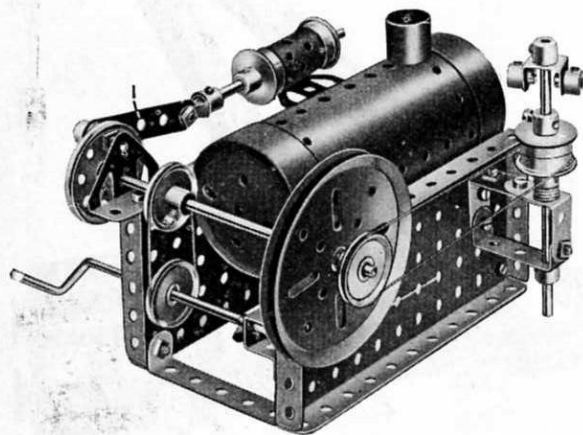
Fig. 3.33a

See last page of this Manual for list of models built with your outfit.

Model No. 3.34 Horizontal Engine

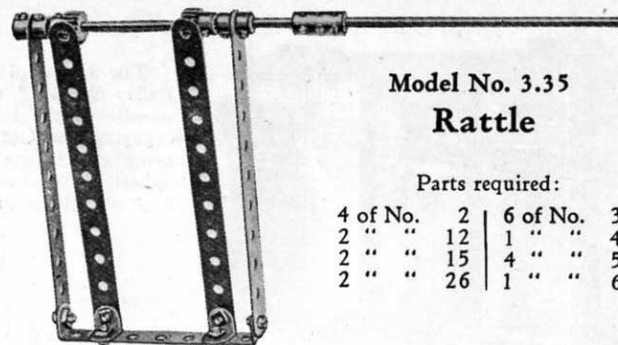
Parts required:

1 of No.	5	1 of No.	21	4 of No.	59
1 " "	6A	3 " "	22	1 " "	115
2 " "	12A	1 " "	35	1 " "	116
2 " "	15A	25 " "	37	2 " "	126
1 " "	16	7 " "	38	1 " "	126A
1 " "	18A	1 " "	45	1 " "	162
1 " "	19	1 " "	48	1 " "	163
1 " "	19B	4 " "	48A	1 " "	164
4 " "	20B	2 " "	52	1 " "	166



The $2\frac{1}{2}$ " Strip 1, forming the connecting rod, is attached to the $1\frac{1}{2}$ " Pulley Wheel by means of a Threaded Pin. The latter is fastened in one hole of the $1\frac{1}{2}$ " Pulley Wheel, and two Washers are placed upon it between the Strip 1 and the wheel. The connecting rod is held in place by a Collar locked to the end of the Threaded Pin.

The Boiler is attached to the framework by means of two $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips attached by their centre holes to the side of the Boiler opposite the chimney. When the Boiler is placed in the position shown, the whole is secured by bolting the Double Angle Strips to the side Flanged Plates.

**Model No. 3.35 Rattle**

Parts required:

4 of No.	2	6 of No.	37
2 " "	12	1 " "	48B
2 " "	15	4 " "	59
2 " "	26	1 " "	63

Model No. 3.36 Oil Cake Chopper

Parts required:

4 of No.	3	1 of No.	52
6 " "	10	2 " "	53
1 " "	15	2 " "	54
1 " "	19B	1 " "	59
4 " "	22	2 " "	90A
24 " "	37	1 " "	115
2 " "	48B	2 " "	125

Fig. 3.36A shows the hand wheel and shaft removed from the model. It will be seen that the chopping mechanism is represented by Flat Brackets clamped between two pairs of 1" fixed Pulley Wheels.

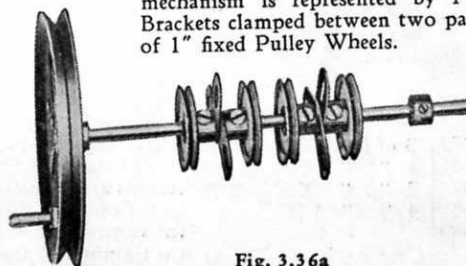
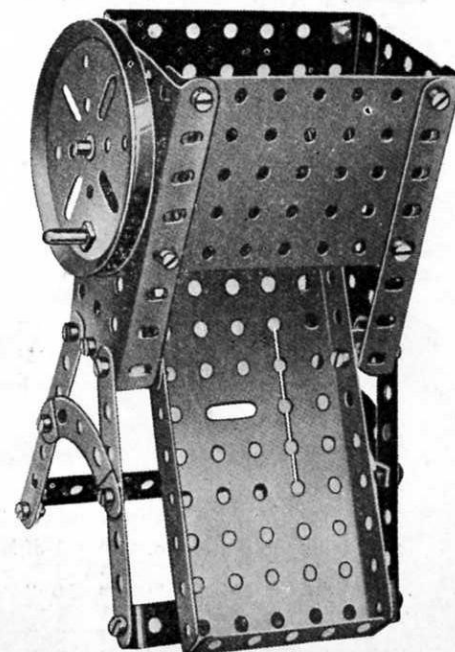


Fig. 3.36a



See last page of this Manual for list of models built with your outfit.

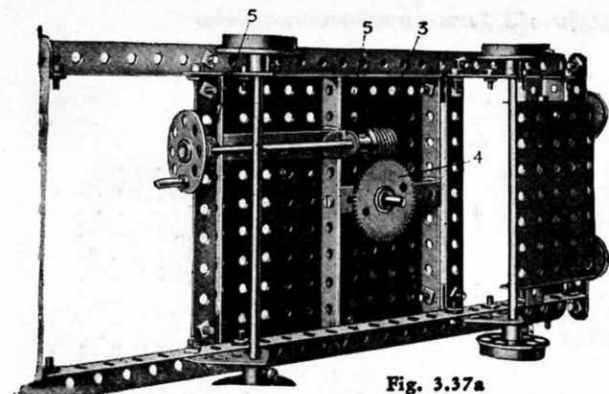


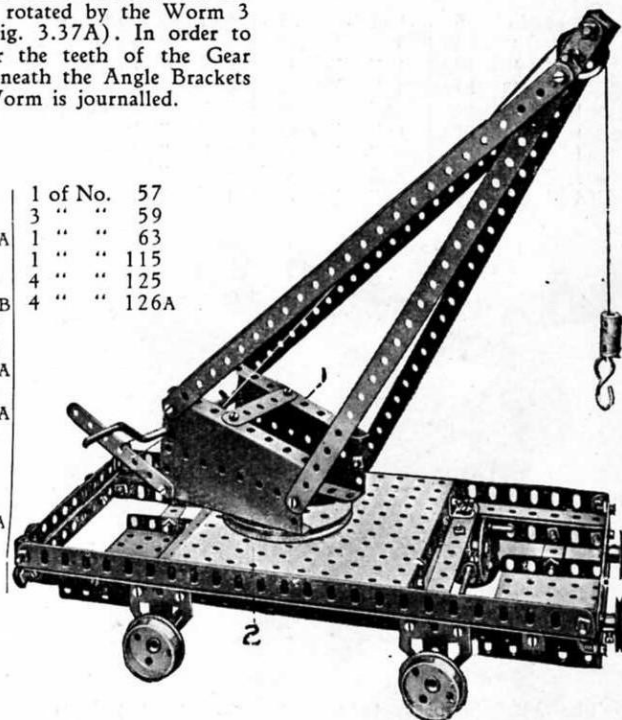
Fig. 3.37a

Model No. 3.37 Railway Wrecking Car

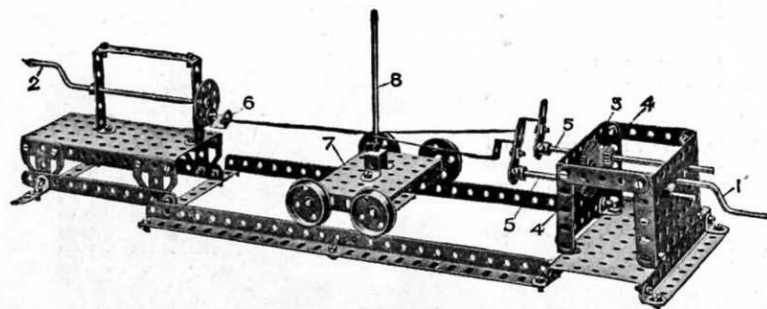
The flanges of the Sector Plates 1 are bolted to the 3" Pulley Wheel 2 upon which the crane swivels, and the spindle of the Pulley Wheel is rotated by the Worm 3 engaging the Gear Wheel 4 (Fig. 3.37A). In order to bring the Worm centrally over the teeth of the Gear Wheel 4, Washers are placed beneath the Angle Brackets 5 in which the spindle of the Worm is journaled.

Parts required:

4 of No.	1	14 of No.	12	1 of No.	57
6 " "	2	2 " "	15	3 " "	59
1 " "	3	1 " "	15A	1 " "	63
2 " "	5	2 " "	17	1 " "	115
4 " "	8	1 " "	19	4 " "	125
1 " "	11	1 " "	19B	4 " "	126A
		4 " "	20		
		4 " "	22		
		1 " "	22A		
		1 " "	24		
		1 " "	27A		
		1 " "	32		
		3 " "	35		
		70 " "	37		
		2 " "	38		
		2 " "	48A		
		2 " "	52		
		2 " "	53		
		2 " "	54		



Model No. 3.38 Wire Rope Maker



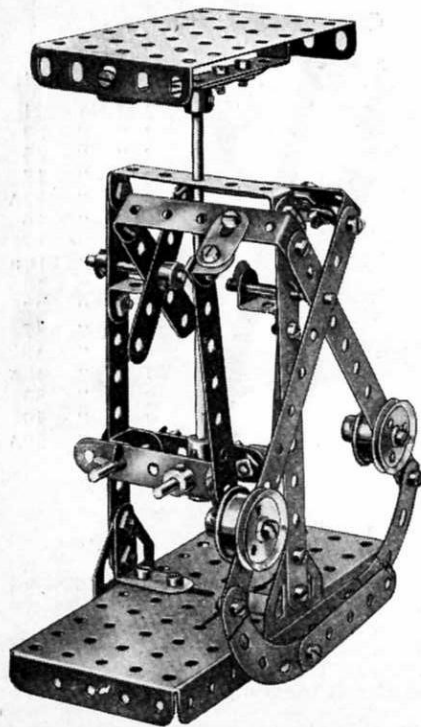
Parts required:

6 of No.	2	2 of No.	15	1 of No.	27A	3 of No.	53
1 " "	3	3 " "	15A	3 " "	35	4 " "	59
2 " "	5	2 " "	19	50 " "	37	2 " "	62
2 " "	8	4 " "	20	1 " "	45	4 " "	126A
3 " "	11	1 " "	24	2 " "	48A		
12 " "	12	2 " "	26	2 " "	52		

The strands are twisted from both ends by the handles 1 and 2 of the fixed parts. The Handle 1 rotates through a large Gear Wheel 3 two Pinions 4 on the Rods 5 carrying Cranks to which the strands are attached. The other ends of the strands are connected to a Double Bent Strip 6 on a Bush Wheel which is rotated in the opposite direction by a Crank Handle 2. The carriage 7 runs on rails and the vertical Rod 8 is kept just at the formation of the twisted rope and so controls the tightness of the twist.

Model No. 3.39 Letter Balance

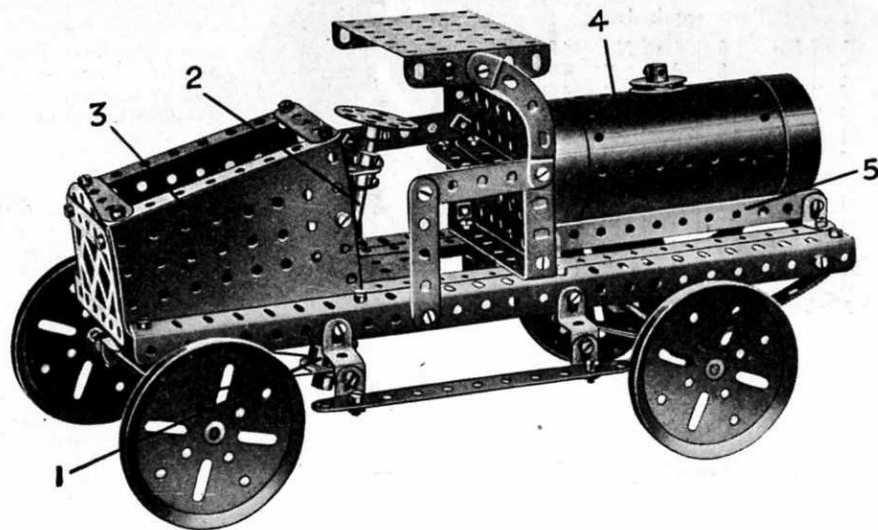
Parts required:			
4 of No.	2	2 of No.	18A
2 " "	3	2 " "	20
6 " "	5	2 " "	22A
2 " "	10	4 " "	35
1 " "	11	37 " "	37
4 " "	12	6 " "	37A
2 " "	12A	2 " "	48A
1 " "	15	1 " "	48B
2 " "	17	1 " "	52
1 of No.	53	4 " "	59
		1 " "	62
		1 " "	63
		2 " "	90A
		2 " "	111
		4 " "	111C
		2 " "	125
		2 " "	126A



Model No. 3.40 Tank Truck

Parts required:

2 of No.	1
7 " "	2
6 " "	3
10 " "	5
1 " "	6A
2 " "	8
2 " "	11
12 " "	12
2 " "	12A
2 " "	15
1 " "	15A
4 " "	19B
2 " "	20
1 " "	22
1 " "	24
4 " "	35
75 " "	37
3 " "	37A
4 " "	38
1 " "	48
1 " "	48A
1 " "	48B
1 " "	52
2 " "	53
4 " "	54
3 " "	59
1 " "	90A
2 " "	98
2 " "	111C
4 " "	125
2 " "	126
1 " "	162



It should be noted that the steering cord is given a complete turn around the two $\frac{3}{4}$ " Flanged Wheels 1 to prevent slipping. The steering column 2 is journaled in the end of a $1\frac{1}{2}$ " Strip, the other end of which is bolted to a $2\frac{1}{2}$ "x $\frac{1}{2}$ " Double Angle Strip secured between the two Sector Plates 3. The front road wheels are secured to a 5" Rod that is journaled in the end holes of a $3\frac{1}{2}$ "x $\frac{1}{2}$ " Double Angle Strip. The ends of the steering cord are tied to this strip, which is pivoted by means of a bolt and lock-nuts (S.M. 263) to the central hole of a $1\frac{1}{2}$ "x $\frac{1}{2}$ " Double Angle Strip. The latter is bolted between a pair of Trunnions attached to the underside of the $5\frac{1}{2}$ "x $2\frac{1}{2}$ " Flanged Plate. The tank 4 merely rests on the $5\frac{1}{2}$ " Strips 5.



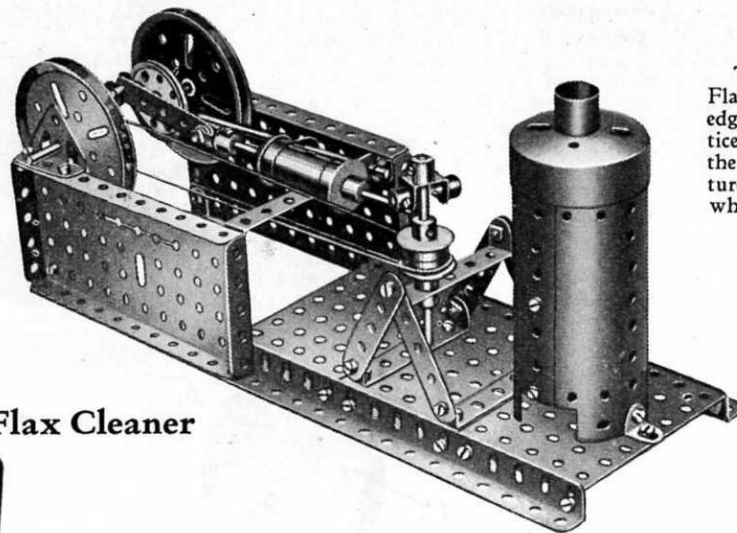
Fig. 3.40a

See last page of this Manual for list of models built with your outfit.

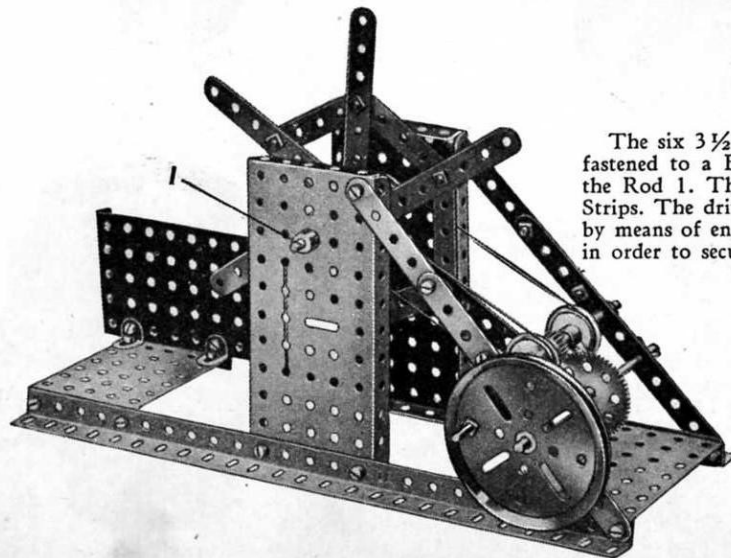
Model No. 3.41 Single Cylinder Horizontal Engine

Parts required:

5 of No.	5	1 of No.	48
2 " "	8	3 " "	48A
2 " "	12	2 " "	48B
3 " "	15	2 " "	52
1 " "	19	3 " "	53
2 " "	19B	3 " "	59
4 " "	20	1 " "	116
1 " "	21	2 " "	126
1 " "	22	1 " "	162
2 " "	35	1 " "	163
37 " "	37	1 " "	165



Model No. 3.42 Flax Cleaner



The six $3\frac{1}{2}$ " Strips forming the rotating frame are fastened to a Bush Wheel that in turn is attached to the Rod 1. The $3\frac{1}{2}$ " Strips are braced by six $2\frac{1}{2}$ " Strips. The drive is transmitted from Rod 2 to Rod 1 by means of endless cords. Two separate cords are used in order to secure a more positive drive.

Parts required:

4 of No.	2	1 of No.	26
6 " "	3	1 " "	27A
6 " "	5	1 " "	35
2 " "	8	34 " "	37
2 " "	12	3 " "	38
3 " "	15A	2 " "	52
1 " "	19B	3 " "	53
4 " "	22	4 " "	59
1 " "	24	1 " "	115

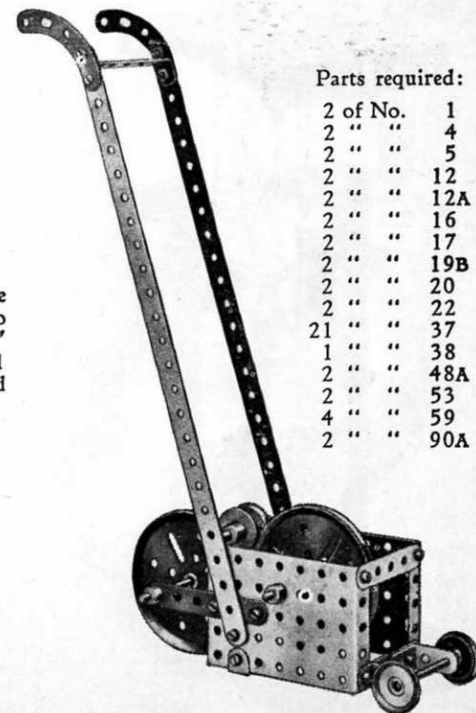
Model No. 3.43

Marker

The small roller, which consists of two $\frac{3}{4}$ " Flanged Wheels secured to a short Rod, rests on the edges of the two 3" Pulley Wheels. In actual practice the container is filled with whitewash, in which the inner wheel is partially immersed and the mixture is transferred via the roller to the outer wheel, which does the actual marking.

Parts required:

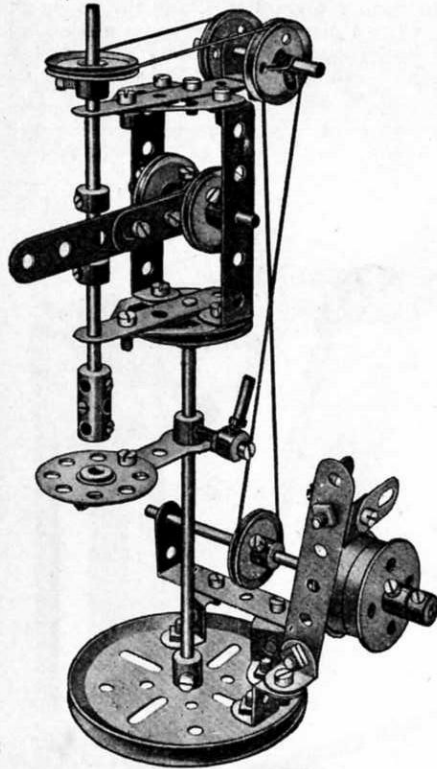
2 of No.	1
2 " "	4
2 " "	5
2 " "	12
2 " "	12A
2 " "	16
2 " "	17
2 " "	19B
2 " "	20
2 " "	22
21 " "	37
1 " "	38
2 " "	48A
2 " "	53
4 " "	59
2 " "	90A



See last page of this Manual for list of models built with your outfit.

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Model No. 3.44 Drilling Machine



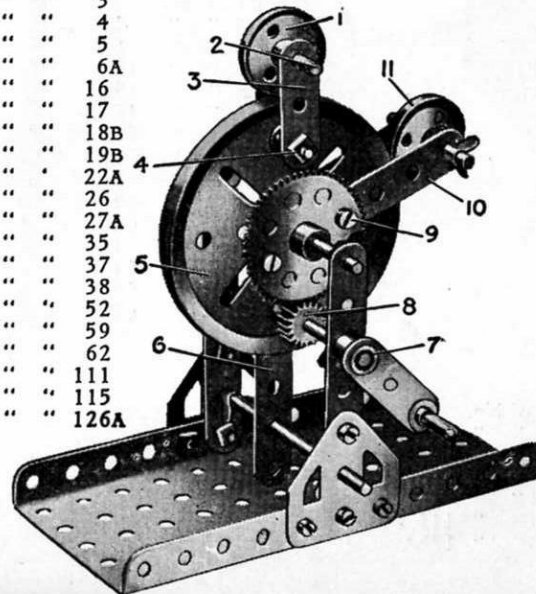
Parts required:		
2 of No.	4	2 of No.
2 "	5	1 "
2 "	10	4 "
2 "	11	2 "
1 "	12	1 "
1 "	15	2 "
2 "	15A	21 "
2 "	17	1 "
1 "	19B	1 "
2 of No.	20	2 of No.
2 "	21	5 "
2 "	22	5 "
2 "	22A	6 "
1 "	24	1 "
1 "	35	1 "
2 "	37	1 "
2 "	44	3 "
1 "	46	2 "
2 of No.	48A	
5 "	59	
2 "	62	
1 "	63	
1 "	111	
1 "	115	
2 "	125	
2 "	126A	

Model No. 3.45 Strip-Bending Machine

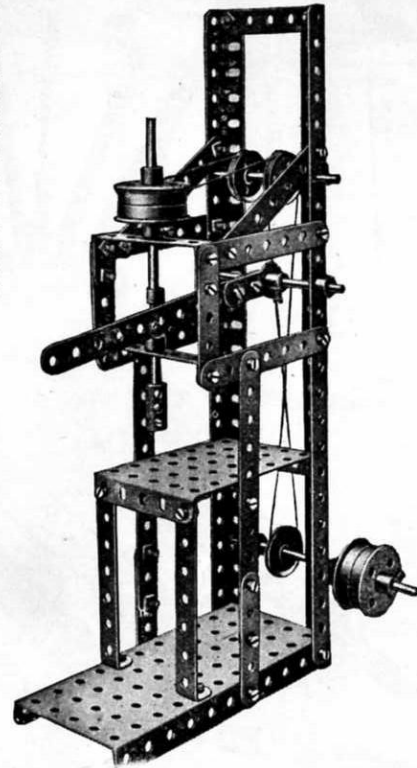
This model represents a device for bending bars or rods of metal to circular form, and may be put to practical purpose in shaping strips of tin or similar material. A loose pulley 1 is spaced by a Collar and Washers in the centre of the short Rod 2 journalled in a $1\frac{1}{2}$ " Strip 3. The latter is secured to the end of a $\frac{3}{4}$ " Bolt 4 and spaced away from the 3" Pulley 5 by means of a number of Washers. The opposite end of the Rod is supported by a $5\frac{1}{2}$ " Strip 6. The handle 7 is secured to a $3\frac{1}{2}$ " Rod carrying a $\frac{1}{2}$ " Pinion 8. This engages with a 57-teeth Gear Wheel 9 mounted on another $3\frac{1}{2}$ " Rod which is free to revolve in the boss of the wheel 5. The Gear Wheel 9 carries a 3" Strip 10 forming one of the bearings for a short Rod carrying a second 1" loose Pulley 11. The latter is also spaced by means of a Collar and Washers so that it lies immediately above the groove of the Pulley Wheel 5. The material to be shaped is passed between the two loose Pulleys at the top of the Wheel 5, and on rotation of the handle 7 the arm 10 is caused to move downward, so forcing the object to the same curvature as the circumference of the Wheel.

Parts required:

1 of No.	2
2 "	3
1 "	4
1 "	5
1 "	6A
2 "	16
1 "	17
2 "	18B
1 "	19B
2 "	22A
1 "	26
1 "	27A
6 "	35
10 "	37
10 "	38
1 "	52
4 "	59
1 "	62
1 "	111
1 "	115
2 "	126A

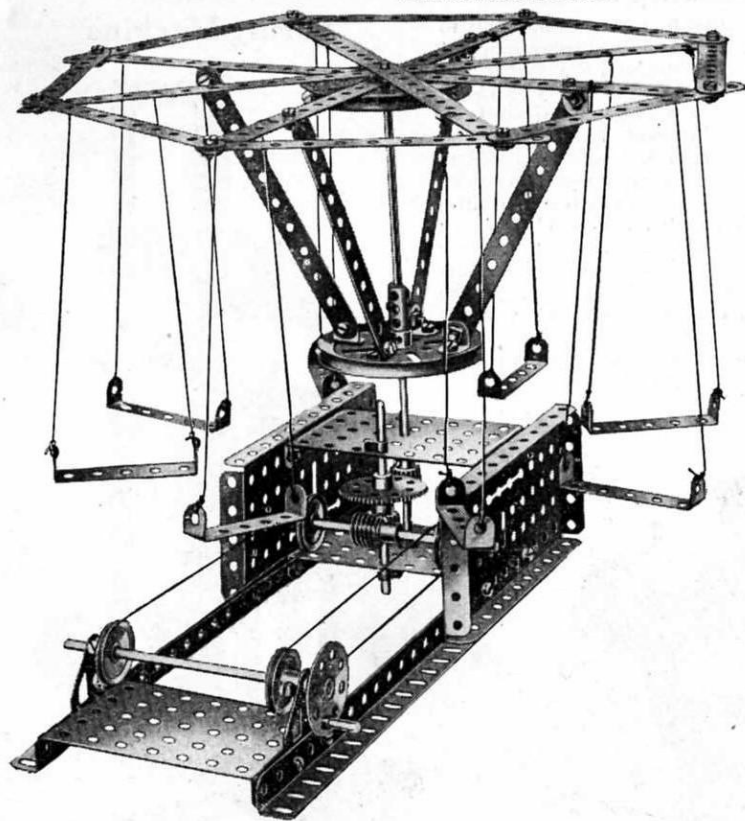


Model No. 3.46 Boring Machine



Parts required:

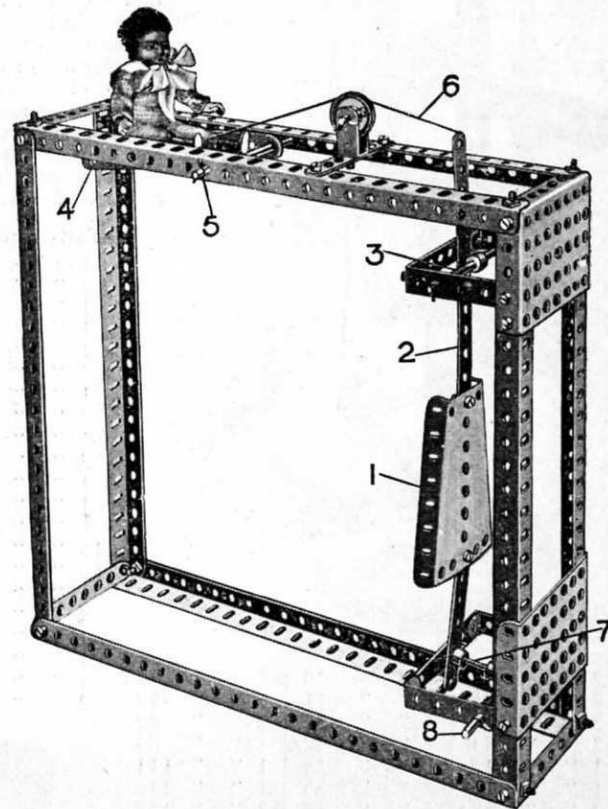
3 of No.	2	4 of No.	20	2 of No.	48B
6 "	3	1 "	22	1 "	52
5 "	5	2 "	22A	1 "	53
2 "	8	3 "	35	4 "	59
2 "	11	38 "	37	1 "	62
2 "	15	1 "	46	1 "	63
2 "	16	2 "	48A		

Model No. 3.47 Roundabout

Parts required:			
4 of No.	1	2 of No.	19B
12 " "	2	4 " "	22
2 " "	8	1 " "	24
8 " "	12	2 " "	26
1 " "	15	1 " "	27A
3 " "	15A	1 " "	32
1 " "	16	2 " "	35
36 of No.	37	8 " "	48A
		2 " "	52
		3 " "	53
		2 " "	59
		1 " "	115
		2 " "	126A

Model No. 3.48 Drop the Nigger

The Sector Plate 1 is a target, which, when hit, allows the nigger to be dropped. The Plate 1 is carried on the Strip 2 pivoted at 3, and the weight of the nigger supported on another Sector Plate 4 pivoted at 5 by means of the cord 6 keeps the lower end of the Strip 2 hard against a short Rod 7 pivoted at 8. When the target is hit and knocked back the Rod 7 is released and falls about its pivot, allowing the Sector Plate 4 with the nigger to drop.

**Parts required:**

1 of No.	1
6 " "	3
8 " "	8
1 " "	12
3 " "	15A
1 " "	17
1 " "	22
6 " "	35
33 " "	37
1 " "	44
4 " "	48A
2 " "	53
2 " "	54
3 " "	59
1 " "	63

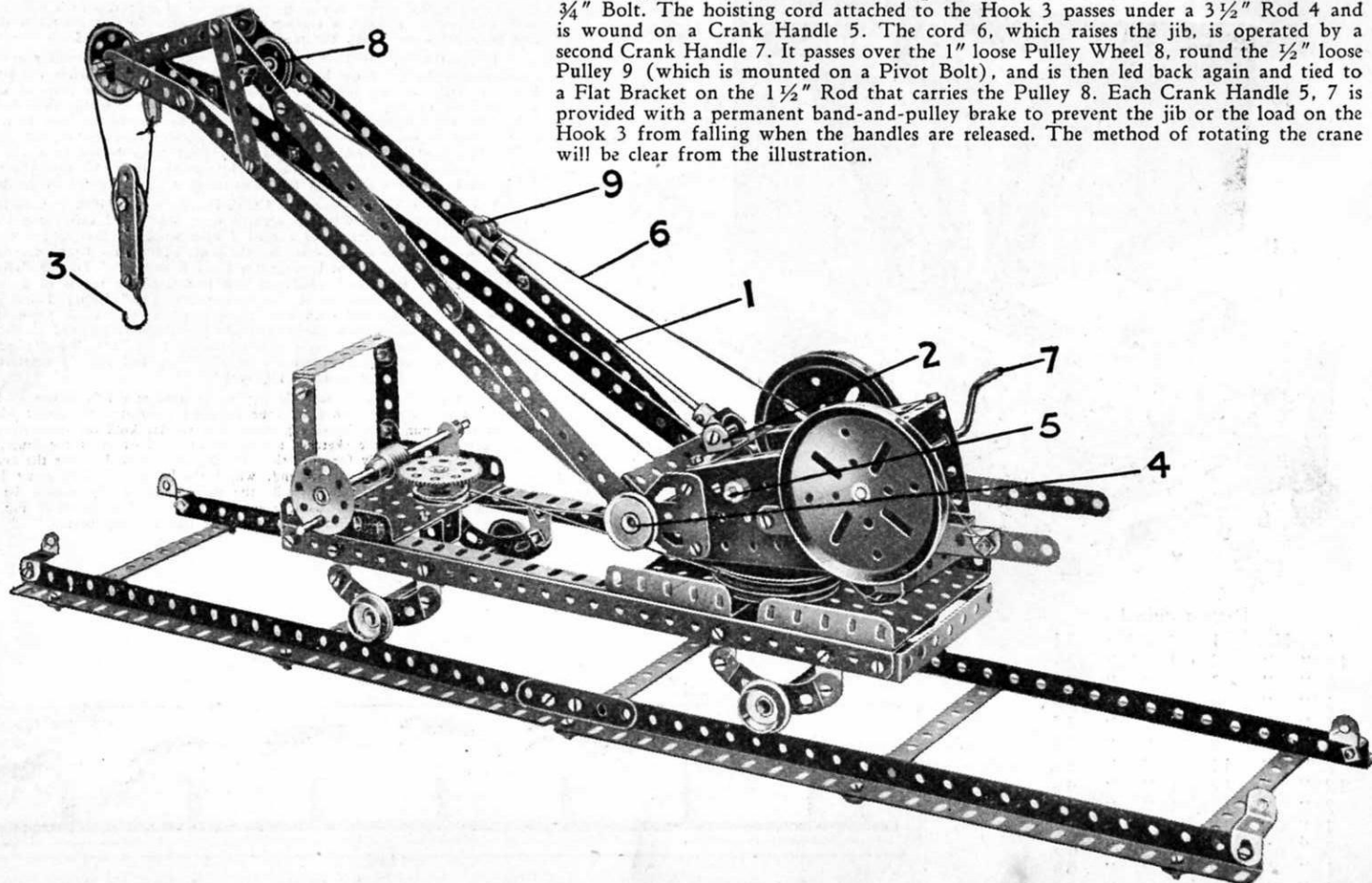
Model No. 3.49

Railway Breakdown Crane

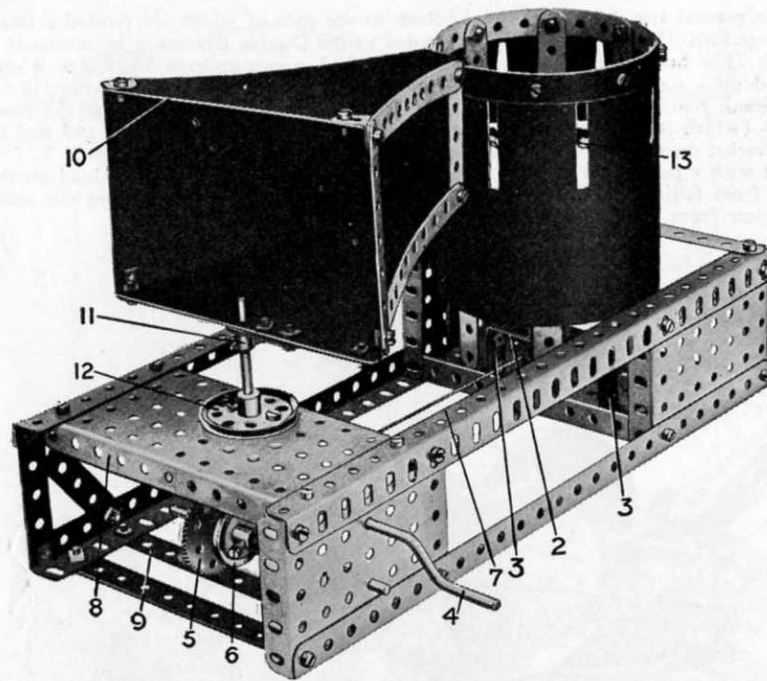
The pivotal arm 1 consists of a 5" Rod, to the ends of which are secured a small and a large Fork Piece, the latter being pivoted to the Double Bracket 2 by means of a $\frac{3}{4}$ " Bolt. The hoisting cord attached to the Hook 3 passes under a $3\frac{1}{2}$ " Rod 4 and is wound on a Crank Handle 5. The cord 6, which raises the jib, is operated by a second Crank Handle 7. It passes over the 1" loose Pulley Wheel 8, round the $\frac{1}{2}$ " loose Pulley 9 (which is mounted on a Pivot Bolt), and is then led back again and tied to a Flat Bracket on the $1\frac{1}{2}$ " Rod that carries the Pulley 8. Each Crank Handle 5, 7 is provided with a permanent band-and-pulley brake to prevent the jib or the load on the Hook 3 from falling when the handles are released. The method of rotating the crane will be clear from the illustration.

Parts required:

2 of No.	1
11 "	2
2 "	3
2 "	4
12 "	5
6 "	8
2 "	10
2 "	11
3 "	12
2 "	12A
1 "	15
3 "	15A
1 "	16
2 "	17
2 "	18A
1 "	19
4 "	19B
1 "	19S
4 "	20
1 "	21
4 "	22
2 "	22A
1 "	23
1 "	24
1 "	27A
1 "	32
6 "	35
84 "	37
6 "	37A
2 "	38
1 "	45
1 "	46
3 "	48A
2 "	48B
3 "	53
2 "	54
1 "	57
3 "	59
4 "	90A
1 "	111
6 "	111C
1 "	115
1 "	116
1 "	116A
4 "	125
2 "	126A
1 "	147B



Model No. 3.50 Kinetograph



Parts required:

1 of No.	1	2 of No.	22
17 " "	2	1 " "	24
6 " "	3	1 " "	26
1 " "	4	1 " "	27A
3 " "	5	28 " "	37
4 " "	8	12 " "	38
2 " "	11	1 " "	45
12 " "	12	1 " "	46
2 " "	12A	1 " "	48A
1 " "	15A	2 " "	52
2 " "	16	3 " "	53
1 " "	19	4 " "	59
1 " "	21	2 " "	62

Most Meccano boys probably are aware of the principles of the Kinetograph, but for the benefit of those who have not seen one in action, we may mention that it is a device which imparts an appearance of animation to a series of pictures, each differing slightly from the other and passed in rapid succession before the eyes. In this respect it resembles the remarkable principle upon which the modern cinematograph is based.

In constructing the Meccano model the following details will prove useful:—The drum consists of a $12\frac{1}{2}$ " Strip bent to form a circle, with its ends overlapping one hole, and bolted to eight vertical $5\frac{1}{2}$ " Strips forming the sides. Two pairs of opposite $5\frac{1}{2}$ " Strips are connected by $3\frac{1}{2}$ " Strips and Angle Brackets bolted in the third holes from their lower ends. The $3\frac{1}{2}$ " Strips cross at right angles to one another and are bolted in the centre to a Bush Wheel, in the boss of which is secured a short Rod forming the pivot of the revolving drum. This Rod is journaled in a Double Bent Strip bolted to a $2\frac{1}{2}$ "x1" Double Angle Strip 2. This, in turn, is secured to the base of the model by two 1"x1" Angle Brackets 3. A further bearing for the short Rod consists of a Crank bolted in the base of the model.

The drum is rotated from the Crank Handle 4, on which is mounted a $\frac{1}{2}$ " Pinion engaging a 57-teeth Gear Wheel 5 secured to a $3\frac{1}{2}$ " Rod carrying a Pulley Wheel 6. The latter is connected by means of a cord 7 to a similar Wheel nipped to the vertical spindle of the drum. Bearings are provided for the inner ends of the Crank Handle and $3\frac{1}{2}$ " Rod by a Double Angle Strip bolted between the Plate 8 and $5\frac{1}{2}$ " Strip 9. The sighting box 10 is built up from a framework of Strips and is secured by means of a Crank 11 to a short vertical Rod rigidly mounted in the boss of the $1\frac{1}{2}$ " Pulley 12. The four sides of the framework 10 are covered with some black material; stiff black paper suitable for this purpose may be obtained from any stationers. The drum is enclosed in the same way, but the covering paper should be cut in a strip measuring $12\frac{1}{2}$ "x4 $\frac{1}{2}$ " and pierced with slots spaced $1\frac{1}{2}$ " apart (from centre to centre) so that they fall exactly between the upright $5\frac{1}{2}$ " Strips. The slots should measure $1\frac{1}{2}$ "x $\frac{1}{2}$ ".

The type of drawing suitable for use in this model is shown in Fig. 3.50a, and the dimensions indicated therein should be followed carefully. No doubt Meccano boys will be able to devise numerous amusing pictures of a similar kind for themselves. The strip of stout white paper carrying the sketches is inserted in the bottom of the drum, as indicated at 13. The model is now ready for operation. Placing the frame 10 over the eyes, the line of vision is directed through the narrow end, where the Strips are held apart by means of Double Brackets, and through the slots in the drum. The latter should be rotated rapidly by operating the handle 4, and as it revolves, the little dog shown in Fig. 3.50a will be seen jumping over the fence with a most realistic and amusing action.

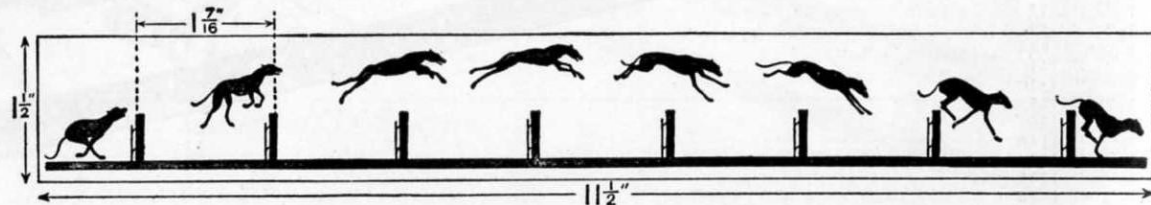
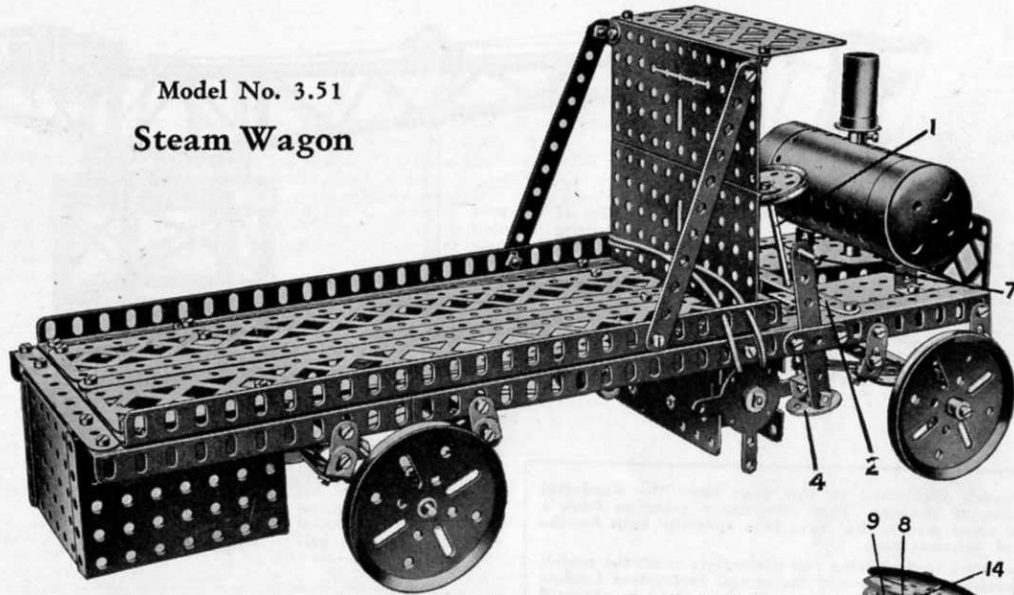


Fig. 3.50a

See last page of this Manual for list of models built with your outfit.

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Model No. 3.51
Steam Wagon



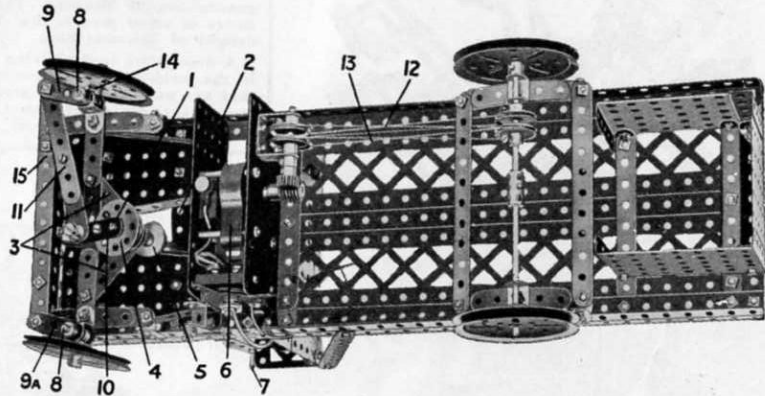
The steering column 1 is journalled in bearings consisting of a $5\frac{1}{2}$ " Strip 2 and two $2\frac{1}{2}$ " Strips 3 (Fig. 3.51a), and carries the Bush Wheel 4, which is secured rigidly to it. A $\frac{3}{4}$ " Flanged Wheel 5 supports the weight of the steering column 1. The stub axles of the front road wheels consist of $\frac{3}{4}$ " Bolts, on which the road wheels are spaced by Washers 14. These bolts serve in the place of set-screws to secure two Collars to the 1" Rod 8. A pair of Cranks 9, 9a secured to the Rods 8 are joined by two $5\frac{1}{2}$ " Strips 15 overlapped eight holes. A $1\frac{1}{2}$ " Strip 10, bolted to the face of the Bush Wheel 4, is connected pivotally by a composite $4\frac{1}{2}$ " Strip 11 (a $3\frac{1}{2}$ " Strip and a $2\frac{1}{2}$ " Strip overlapped three holes) to the end of the Crank 9. When the steering wheel is turned, the Strip 11 moves the Cranks 9, 9a, thereby deflecting the front road wheels.

The Electric Motor 6 is controlled by raising and depressing the handle 7. Duplicate drive transmission belts 12 and 13 are used in order to secure a more dependable drive to the rear axle.

Parts required:

14 of No.	2	4 of No.	19B	2 of No.	54
6 "	3	3 "	20	4 "	59
6 "	5	1 "	21	2 "	62
2 "	6A	4 "	22	1 "	63
6 "	8	1 "	23	2 "	99
8 "	10	1 "	24	2 "	100
3 "	11	1 "	26	2 "	111
10 "	12	79 "	37	1 "	115
2 "	12A	10 "	38	4 "	125
1 "	15	2 "	48B	1 "	147B
3 "	16	2 "	52	1 "	162
2 "	18A	3 "	53	1 "	163

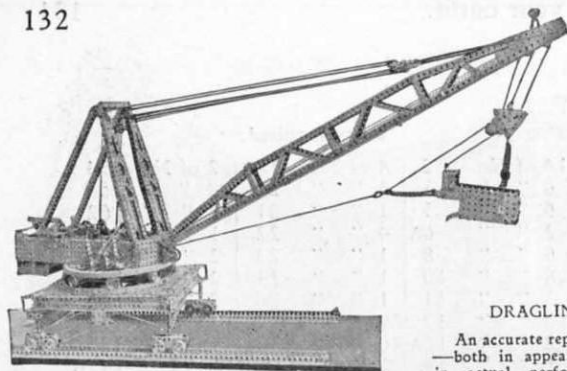
Electric Motor



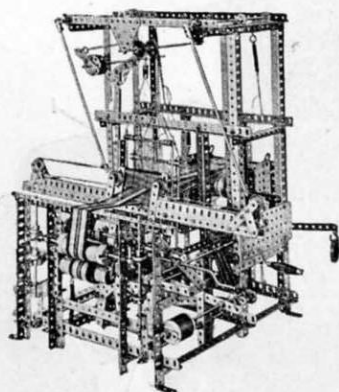
HOW TO CONTINUE

Do not consider that you have exhausted the possibilities of your present Meccano Outfit when you have made the models here illustrated. With the experience you have gained you can now become an inventor and design entirely new models to your own ideas. If you strike trouble we will gladly place all our knowledge and experience at your disposal. Write to "Engineer Dept.," Meccano Co., Inc., Elizabeth, N. J.

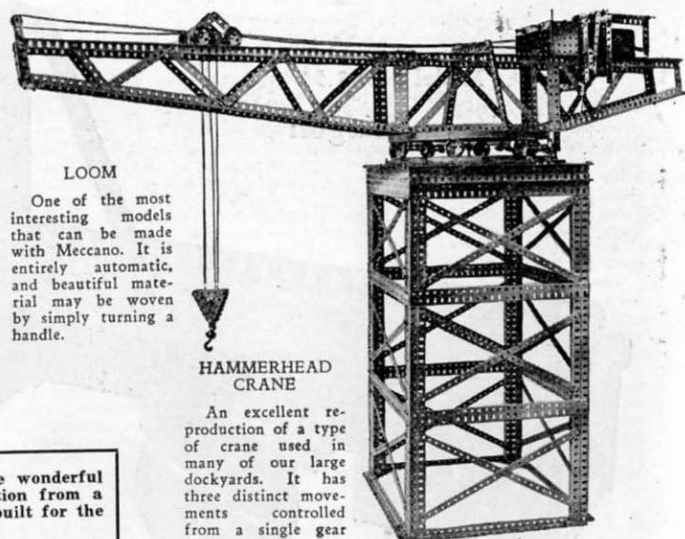
You will probably wish to make bigger and more elaborate models and you can do this either by purchasing a corresponding Meccano Accessory Outfit or some extra Meccano separate parts. You will find details and prices at the end of this book.

**DRAGLINE**

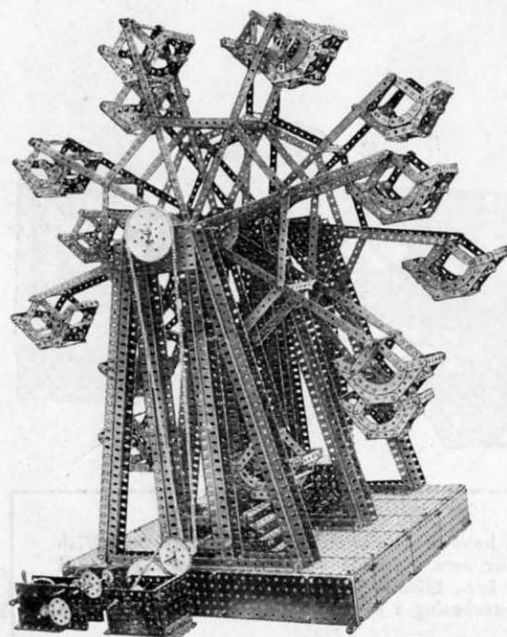
An accurate reproduction—both in appearance and in actual performance—of the heaviest dragline in the world.

**LOOM**

One of the most interesting models that can be made with Meccano. It is entirely automatic, and beautiful material may be woven by simply turning a handle.

**HAMMERHEAD CRANE**

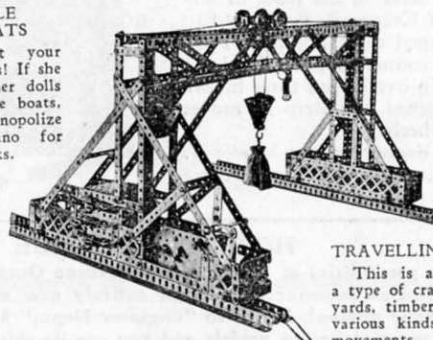
An excellent reproduction of a type of crane used in many of our large dockyards. It has three distinct movements controlled from a single gear box.

**DOUBLE FLYBOATS**

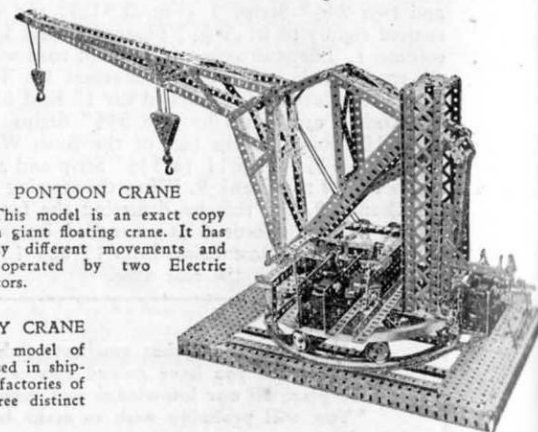
Don't let your sister see this! If she once gives her dolls a ride in the boats, she will monopolize your Meccano for several weeks.

The models illustrated on this page show the wonderful possibilities of Meccano. They comprise a selection from a range of super models that have been specially built for the delight of Meccano boys.

A descriptive leaflet giving full particulars of all the models in the series and the prices of the special Instruction Leaflets that are published in connection with them, may be obtained from your dealer or direct from Meccano Co., Inc., 1004 Elizabeth Avenue, Elizabeth, New Jersey, free of charge.

**TRAVELLING GANTRY CRANE**

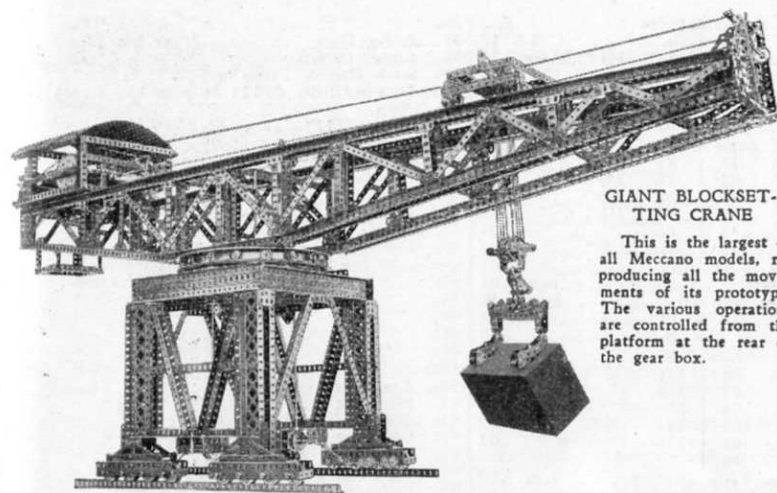
This is an interesting model of a type of crane that is used in shipyards, timber yards, and factories of various kinds. It has three distinct movements.

**PONTOON CRANE**

This model is an exact copy of a giant floating crane. It has many different movements and is operated by two Electric Motors.

Super Meccano Models

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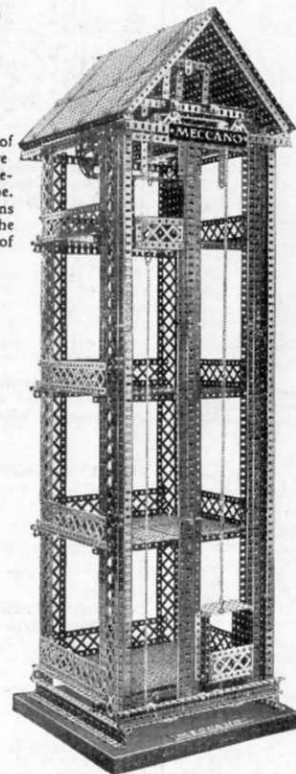
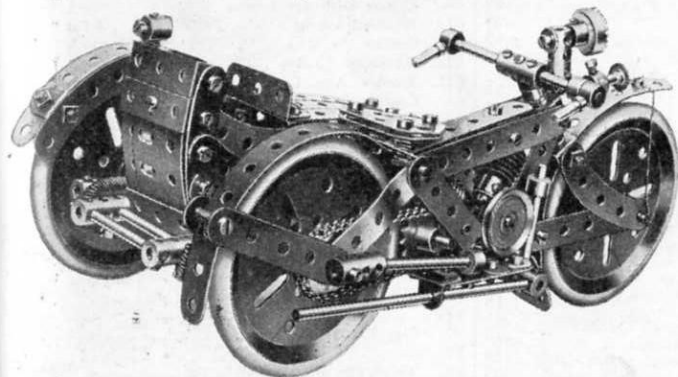


GIANT BLOCKSETTING CRANE

This is the largest of all Meccano models, reproducing all the movements of its prototype. The various operations are controlled from the platform at the rear of the gear box.

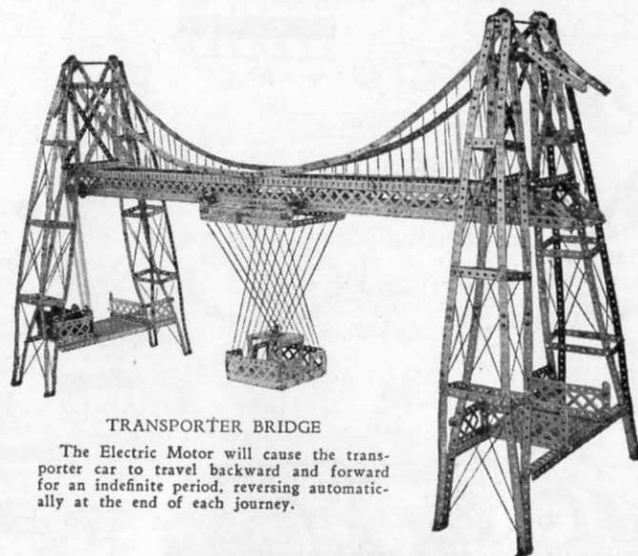
MOTORCYCLE AND SIDECAR

This model is an excellent example of Meccano miniature engineering, and affords a remarkable testimonial to the adaptability of the system. Its construction is a severe test of model-building skill.



WAREHOUSE

The two lifts continue to rise and descend automatically without any attention once the mechanism is set in motion.

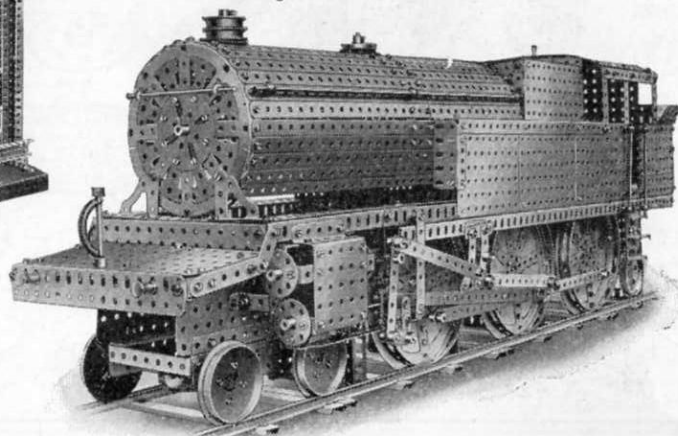


TRANSPORTER BRIDGE

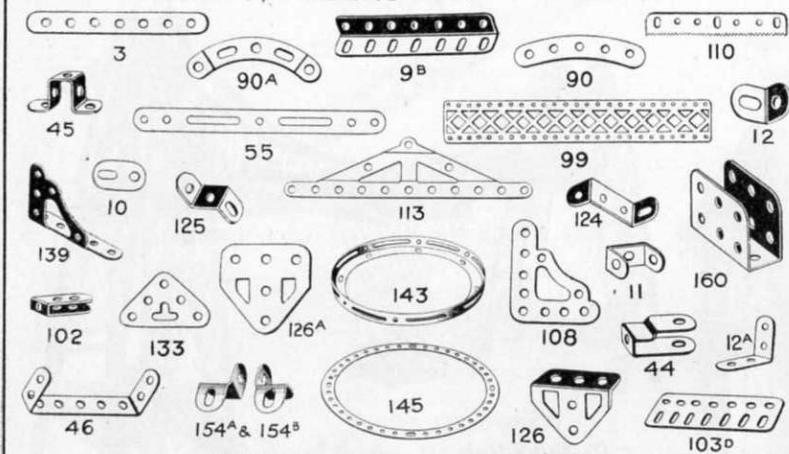
The Electric Motor will cause the transporter car to travel backward and forward for an indefinite period, reversing automatically at the end of each journey.

4-6-2 TANK LOCOMOTIVE

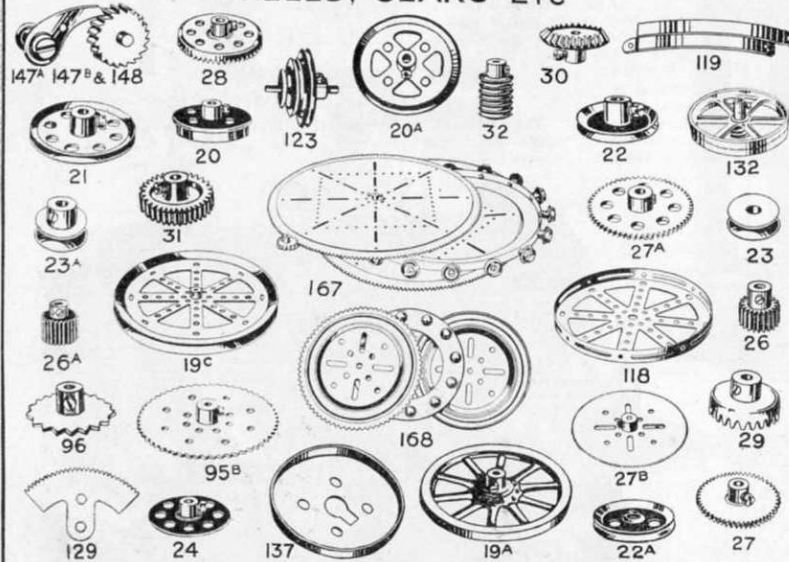
This splendid tank locomotive runs under its own power, and is equipped with a working model of Walschaert's Valve gear.



STRIPS, GIRDERS AND BRACKETS



WHEELS, GEARS ETC



No.		Perforated Strips		No.		No.	
1.	12 1/2"	1/2 doz.	.30	3.	3 1/2"	1/2 doz.	.10
1a.	9 1/2"	"	.25	4.	3"	"	.10
1b.	7 1/2"	"	.20	5.	2 1/2"	"	.06
2.	5 1/2"	"	.15	6.	2"	"	.06
2a.	4 1/2"	"	.10	6a.	1 1/2"	"	.06
				Angle Girders			
7.	24 1/2"	each	.25	9a.	4 1/2"	1/2 doz.	.30
7a.	18 1/2"	"	.20	9b.	3 1/2"	"	.30
8.	12 1/2"	1/2 doz.	.50	9c.	3"	"	.30
8a.	9 1/2"	"	.45	9d.	2 1/2"	"	.25
8b.	7 1/2"	"	.40	9e.	2"	"	.25
9.	5 1/2"	"	.35	9f.	1 1/2"	"	.25
10.	Flat Brackets	"	"	"	"	"	.05
11.	Double Brackets	"	each	"	"	"	.03
12.	Angle Brackets, 1/2" x 1/2"	"	dozen	"	"	"	.10
12a.	"	"	1/2 doz.	"	"	"	.15
12b.	"	"	"	"	"	"	.10
				Axle Rods			
13.	11 1/4"	each	.05	16a.	2 1/2"	2 for	.02
13a.	8"	"	.05	16b.	3"	"	.03
14.	6 1/4"	"	.04	17.	2"	3 for	.03
15.	5"	"	.03	18a.	1 1/2"	"	.02
15a.	4 1/4"	2 for	.05	18b.	1"	"	.02
16.	3 1/4"	"	.04				
19.	Crank Handles, Large	"	each	"	"	"	.10
19a.	Wheels, 3" diam. with set screws	"	"	"	"	"	.45
20.	Flanged Wheels, 1 1/2" diam.	"	"	"	"	"	.20
20b.	"	"	"	"	"	"	.15
				Pulley Wheels			
19b.	3" dia. with centre boss and set screw	"	"	"	"	"	.25
19c.	6"	"	"	"	"	"	1.00
20a.	2"	"	"	"	"	"	.20
21.	1 1/2"	"	"	"	"	"	.15
22.	1"	"	"	"	"	"	.10
23a.	1/2"	"	"	"	"	"	.10
22a.	1"	"	"	"	"	"	.05
23.	1/2"	"	"	"	"	"	.05
24.	Bush Wheels	"	"	"	"	"	.15
25.	Pinion Wheels, 3/4" diam.	"	"	"	"	"	.20
25a.	"	"	"	"	"	"	.30
26.	"	"	"	"	"	"	.15
26a.	"	"	"	"	"	"	.25
				Gear Wheels			
27.	50 teeth to gear with 3/4" pinion	"	"	"	"	"	.20
27a.	57	"	"	"	"	"	.20
27b.	133	"	"	"	"	"	.65
28.	Contrate Wheels, 1 1/2" diam.	"	"	"	"	"	.30
29.	"	"	"	"	"	"	.20
30.	Bevel Gears, 7/8", 26 teeth	"	"	"	"	"	.30
30a.	"	"	"	"	"	"	.25
30c.	"	"	"	"	"	"	.65
31.	Gear Wheels, 1", 38	"	"	"	"	"	.40
32.	Worm Wheels	"	"	"	"	"	.20
34.	Spanners	"	"	"	"	"	.05
34b.	Box Spanners	"	"	"	"	"	.20
				No.			
				35.	Spring Clips	per box (doz.)	.15
				36.	Screw Drivers	each	.10
				36a.	Screw Drivers, Extra Long	"	.25
				37.	Nuts and Bolts, 7/32"	per box (doz.)	.15
				37a.	Nuts	"	.05
				37b.	Bolts, 7/32"	"	.10
				38.	Washers	"	.05
				40.	Hanks of Cord	each	.05
				41.	Propeller Blades	per pair	.15
				43.	Springs	each	.05
				44.	Cranked Bent Strips	"	.03
				45.	Double	"	.03
				46.	Double Angle Strips, 2 1/2" x 1"	1/2 doz.	.20
				47.	"	"	.30
				47a.	"	"	.35
				48.	"	"	.10
				48a.	"	"	.15
				48b.	"	"	.20
				48c.	"	"	.30
				48d.	"	"	.30
				50a.	Eye Pieces, with boss	each	.15
				52.	Perforated Flanged Plates, 5 1/2" x 2 1/2"	"	.20
				52a.	Flat Plates, 5 1/2" x 3 1/2"	"	.15
				53.	Perforated Flanged Plates, 3 1/2" x 2 1/2"	"	.15
				53a.	Flat Plates, 4 1/2" x 2 1/2"	"	.12
				54.	Perforated Flanged Sector Plates	"	.15
				55.	Perforated Strips, slotted, 5 1/2" long	"	.05
				55a.	"	"	.03
				56a.	Instruction Manuals, No. 0-40	"	.50
				56b.	"	No. 50-70	.75
				56c.	"	No. 0	.15
				56d.	Meccano Standard Mechanisms Manual	"	.50
				57.	Hooks	"	.01
				57a.	"	Scientific	.02
				57b.	"	Loaded	.15
				58.	Spring Cord	per length	.30
				59.	Collars with Set Screws	each	.05
				61.	Windmill Sails	4 for	.25
				62.	Cranks	each	.10
				62a.	Threaded Cranks	"	.12
				62b.	Double Arm Cranks	"	.10
				63.	Couplings	"	.15
				63a.	Octagonal Couplings	"	.20
				63b.	Strip Couplings	"	.20
				63c.	Threaded Couplings	"	.20
				64.	Threaded Bosses	"	.06
				65.	Centre Forks	"	.05
				66.	Weights, 50 grammes	"	.20
				67.	"	25 grammes	.15
				68.	Woodscrews, 1/2"	doz.	.10
				69.	Set Screws	"	.10
				69a.	Grub Screws, 5/32"	"	.10
				69b.	"	7/32"	.10
				70.	Flat Plates, 5 1/2" x 2 1/2"	each	.15
				72.	"	2 1/2" x 2 1/2"	.10
				76.	Triangular Plates, 2 1/2"	"	.05
				77.	"	1"	.04

of Meccano Parts

Screwed Rods							
No.	\$	No.	\$	No.	\$	No.	\$
78. 11½"	each .25	80a. 3½"	each .05	123. Cone Pulleys	each .50		
79. 8"	each .15	80b. 4½"	each .08	124. Reversed Angle Brackets, 1"	½ doz. .15		
79a. 6"	each .10	81. 2"	each .03	125. Trunnions	each .08		
80. 5½"	each .10	82. 1"	each .02	126a. Flat Trunnions	each .05		
89. 5½" Curved Strips, 10" radius	each .05			127. Simple Bell Cranks	each .05		
89a. 3"	each .05			128. Boss Bell Cranks	each .10		
				129. Rack Segments, 3" diam.	each .20		
				130. Triple Throw Eccentrics	each .40		
90. 2½"	each .05			131. Dredger Buckets	each .10		
90a. 2½"	each .25			132. Flywheels, 2¼" diam.	each .75		
				133. Corner Brackets	each .05		
94. Sprocket Chain	per 40" length .25			134. Crank Shafts, 1" stroke	each .05		
95. Sprocket Wheels, 2" diam.	each .20			135. Theodolite Protractors	each .06		
95a. " " 1½"	each .15			136. Handrail Supports	each .10		
95b. " " 3"	each .30			137. Wheel Flanges	each .15		
96. " " 1"	each .10			138. Ship's Funnels	each .15		
96a. " " ¾"	each .10			138a. Cunard type	each .25		
97. Braced Girders, 3½" long	½ doz. .20			139. Flanged Brackets (right)	each .10		
97a. " " 3"	each .18			139a. " (left)	each .10		
98. " " 2½"	each .15			140. Universal Couplings	each .30		
99. " " 12½"	each .75			141. Wire Lines (for suspending clock weights)	each .15		
99a. " " 9½"	each .60			142a. Dunlop Tire, 2"	4 for .50		
99b. " " 7½"	each .55			142b. " 3"	each .75		
100. " " 5½"	each .50			143. Circular Girders, 5½" diam.	each .55		
100a. " " 4½"	each .35			144. Dog Clutches	each .30		
101. Heads, for looms	doz. .30			145. Circular Strips, 7" diam. over all	each .50		
102. Single Bent Strips	each .05			146. Plates, 6" diam.	each .60		
103. Flat Girders, 5½" long	½ doz. .25			147a. Pawls	each .06		
103a. " " 9½"	each .35			147b. Pivot Bolt with 2 nuts	each .06		
103b. " " 12½"	each .40			148. Ratchet Wheels	each .30		
103c. " " 4½"	each .25			150. Crane Grabs	each .25		
103d. " " 3½"	each .25			151. Pulley Blocks, Single Sheave	each .25		
103e. " " 3"	each .20			152. " Two	each .35		
103f. " " 2½"	each .20			153. " Three	each .50		
103g. " " 2"	each .15			154a. Corner Angle Brackets, ½", right	½ doz. .25		
103h. " " 1½"	each .15			hand	each .25		
103k. " " 7½"	each .30			154b. Corner Angle Brackets, ½" left hand	each .25		
104. Shuttles, for looms	each 1.20			155. Rubber Rings, ¾"	each .03		
105. Reed Hooks, for looms	each .10			156. Pointers, 2½" over all, with boss	each .15		
106. Wood Rollers	each .40			157. Fans, 2" diam.	each .15		
106a. Sand Rollers	each .45			159. Circular Saws	each .50		
107. Tables for Designing Machines	each .25			160. Channel Bearings, 1½"x1"x½"	each .15		
108. Architraves	each .07			162. Boiler, complete with ends	each .50		
109. Face Plates, 2½" diam.	each .15			162a. Boiler ends	each .15		
110. Rack Strips, 3½"	each .10			163. Sleeve Pieces	pair .15		
111. Bolts, ¾"	each .02			164. Chimney Adaptors	each .12		
111a. " ½"	2 for .15			165. Swivel Bearings	each .25		
111c. " ¾"	doz. .15			166. End	each .15		
113. Girder Frames	each .10			167. Geared Roller Bearings	each 12.50		
114. Hinges	per pair .20			167a. Roller Races, geared, 192 teeth	each 3.00		
115. Threaded Pins	each .05			167b. Ring Frames for Rollers	each 2.00		
116. Fork Pieces, Large	each .10			167c. Pinions for Roller Bearings, 16 teeth	each .75		
116a. " Small	each .10			168. Ball Bearings, 4" diam.	each 3.00		
117. Steel Balls, ¾" diam.	each .02			168a. Ball Races, flanged	each .50		
118. Hub Disc, 5½" diam.	each .50			168b. " geared	each .75		
119. Channel Segments (8 to circle, 11½" diam.)	each .15			168c. Ball Casings, complete with balls	each 1.75		
120b. Compression Springs	each .03			169. Digger Buckets	each .75		
122. Miniature Loaded Sacks	each .05			170. Eccentrics, ½" throw	each .30		



There Is No Limit to Meccano Model-Building

The following is a list of the models shown in this and other manuals which can be built with the several Meccano Outfits. However, remember that with the experience gained in building the

models shown in this manual you can build many, many others of your own invention. The fun of Model-Building is truly unlimited.

No. 0.	Meccano Outfit builds Models No. 00.1 to 00.472
No. 5.	" " " " No. 00.1 to 00.496
No. 10.	" " " " No. 00.1 to 0.255
No. 20.	" " " " No. 00.1 to 1.10

No. 30.	Meccano Outfit builds Models No. 00.1 to 2.48
No. 40.	" " " " No. 00.1 to 3.51
No. 50.	" " " " No. 00.1 to 4.57
No. 60.	" " " " No. 00.1 to 5.43
No. 70.	" " " " No. 00.1 to 6.47

MECCANO PRICE LIST

MECCANO OUTFITS

For convenience Meccano parts are sold in Outfits of varying size. The quality and finish of the parts are of the same high standard throughout the series. Each Outfit listed below is complete with necessary tools and illustrated instructions.

No. 0.	Meccano Outfit	\$1.50
No. 10.	Meccano Outfit	3.50
No. 5.	Special Meccano Outfit (with electric motor)	5.00
No. 20.	Meccano Outfit (with reversing electric motor)	7.50
No. 30.	Meccano Outfit (with reversing electric motor)	10.00
No. 40.	Meccano Outfit (with reversing electric motor)	15.00
No. 50.	Meccano Outfit (with reversing electric motor)	25.00
No. 60.	Meccano Outfit (with reversing electric motor)	35.00
No. 70.	Meccano Outfit (with reversing electric motor)	55.00

ACCESSORY OUTFITS

Each of the Complete Outfits may be converted into the one next larger by the purchase of the connecting Accessory Outfit. In this way, no matter with what Outfit you commence, you can build it up by degrees until it equals the largest Outfit made.

No. 0a.	(Converts a No. 0 into a No. 10)	\$2.00
No. 20a.	(Converts a No. 10 into a No. 30)	
	less electric motor and rubber tires	2.50
No. 20a.	(Converts a No. 20 into a No. 30)	2.50
No. 30a.	(Converts a No. 30 into a No. 40)	5.00
No. 40a.	(Converts a No. 40 into a No. 50)	10.00
No. 50a.	(Converts a No. 50 into a No. 60)	7.50
No. 60a.	(Converts a No. 60 into a No. 70)	20.00

Meccano Motors and Transformer

The Meccano Motors are especially designed to operate Meccano models and are simple, strong and durable. They can be built right into the model and form a rigid part of it.

E-2. Electric Motor, reversing, with pulley and pinion—\$4.50

S1. Meccano Clockwork Motor, reversing \$3.00

Type B Transformer for operating Meccano Electric Motors direct from the house current. Safe and convenient; has no moving parts. For 110 volts, 60 cycles alternating current only. Each \$2.50.

MECCANO

Hornby's Original System, First Patented 1901

PATENTED IN THE UNITED STATES

Nov. 18, 1913	Feb. 15, 1916	Oct. 9, 1917	Dec. 14, 1920
Nov. 23, 1915	Aug. 1, 1916	Dec. 24, 1918	Apr. 11, 1922
Dec. 21, 1915	Aug. 29, 1916	Feb. 11, 1919	May 15, 1923
Jan. 4, 1916	Oct. 24, 1916	Oct. 19, 1920	Jan. 18, 1927
			Mar. 1, 1927

Design Patent July 4, 1916

PATENTED THROUGHOUT THE WORLD

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 do the corresponding engineering elements in actual practice. No other system of model construction can be correct, and other toys which attempt the same object by other methods must avail themselves of 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.

MECCANO

THE TOY THAT MADE ENGINEERING FAMOUS

For every one boy who plays with any other construction toy a thousand play with Meccano.

These are the Meccano Factories and distributing centres.

Meccano Ltd., Liverpool

Meccano Ltd., Paris

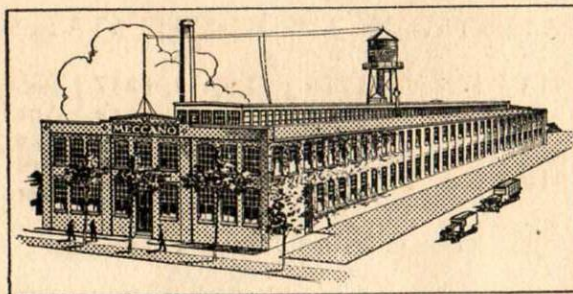
Meccano Ltd., Toronto

Meccano Agencies:

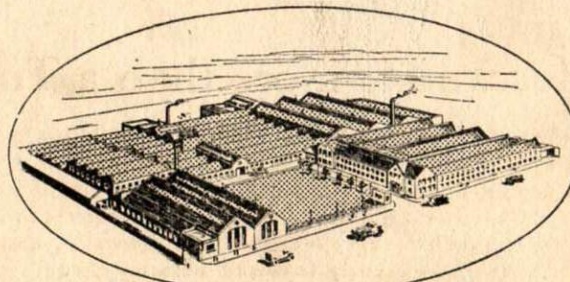
Algiers,	Bogota,
Amsterdam,	Bombay,
Auckland,	Brussels,
Barcelona,	Buenos Aires,
Basle,	Cape Town.



London Warehouse



Head offices and factory, Elizabeth, N. J.



Factory, Liverpool

New York Showroom

200 Fifth Avenue

Meccano Agencies:

Constantinople,	Malta,
Durban,	Monte Video,
Genoa,	Oslo,
Iquitos,	Stockholm,
Johannesburg,	Sydney.



Factory—Paris