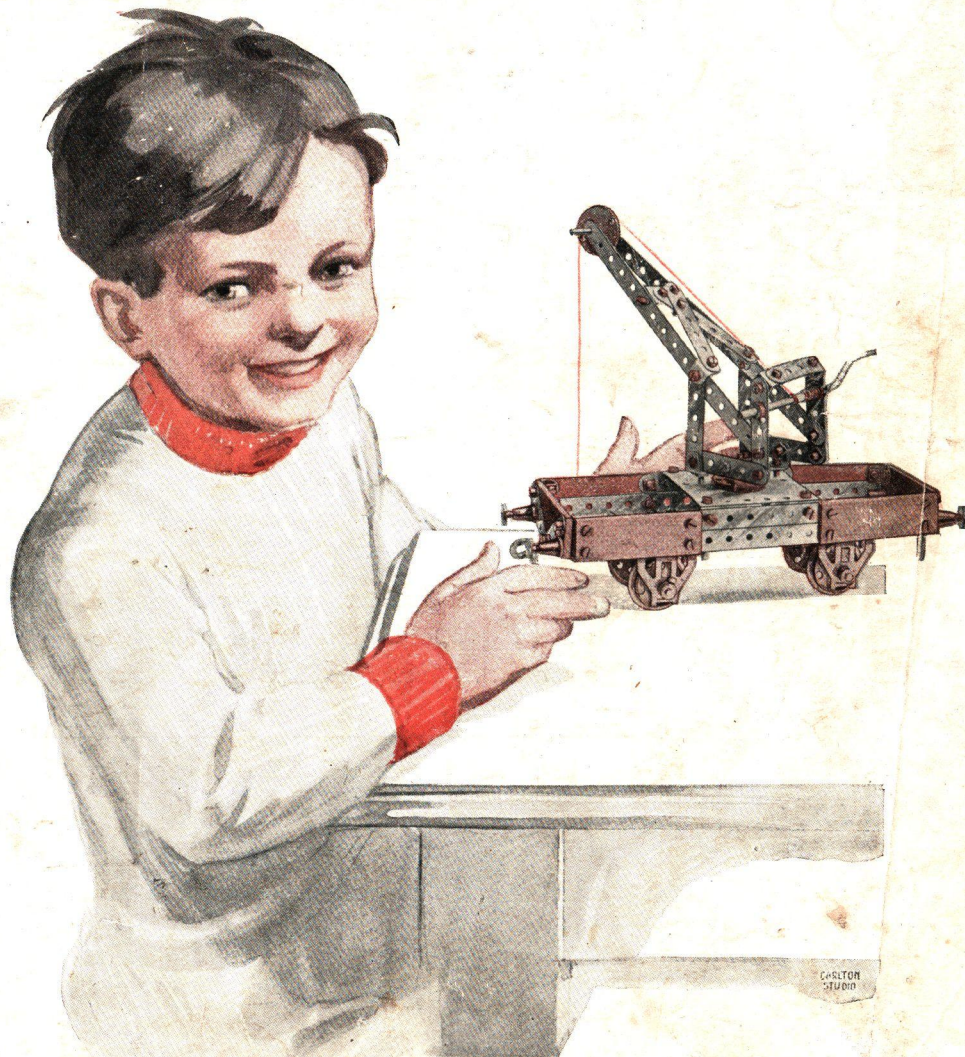


"PRIMUS" ENGINEERING



PRICE
SIX
PENCE

"Look - it's Wood and Metal!"

PRIMUS ENGINEERING

Invented and Manufactured by

W. BUTCHER & SONS, Ltd.,
Camera House, Farringdon Avenue,
London, E.C.

IDEAS and NEW MODELS.

The Manufacturers are always pleased to consider ideas for the improvement of Primus Engineering and suggestions for new parts, which, if adopted, will be paid for on a liberal scale.

At the same time suggestions for new models will be welcomed. Submit sketch or photograph first. Ideas adopted will be paid for.

PRIMUS ENGINEERING.

"After the war more men will be required to MAKE things—than to distribute them or keep books tidy."—"Daily Paper."

LET this be the keynote to your children's education. Men who can make things, not look at them. At all times men who could make things were more useful than the dilly-dalliers who could only hang around and look on; because even before the war we could all see the mechanical age was not only coming—it had already arrived! What's the use of a man who can't use tools, who can't oil a bearing, who can't temporise with an awkward screw, or jam a nail in without smashing his own? What sort of a fool will he feel when every man, woman and child is going to have something to do with Machinery and he can't fix up some trifle that has gone astray? Whether it's in his hobby or whether it's in his business, the future means the use of Machines—even to mend a Cricket Bat or a Tennis Racquet, you want to know how to use tools.

To do this, let your children start early, encourage them all you can, now and right on, and let it be a pleasure to them to learn.

Amongst other things the "Engineering Outfits" form the most practical means of demonstrating how hundreds of things are made; they teach the young and supple minds the art of contriving—that is, "how to make things do." It shows them how one thing can be made to suit many purposes. It explains the fundamental principles of mechanics in an easy and entertaining manner. It shows them how to build up things that move, and that is what they must learn if they wish to be useful men, not dummies.

"The chase was ever more exciting than the feast."

Who is the most useful man, the one who can make a Motor-Car or the one who sits and lolls in it and who knows not the sparking plug from a spanner? After the war, there's going to be no room for dummies, they will be relegated to back seats, and not many prizes reach the rear.

Every boy, and every girl as well, should have a box of "Engineering," it Amuses—Entertains—and, above all, Teaches.

GENERAL INSTRUCTIONS.

It is important to thoroughly understand how the various parts fit together, and therefore the beginner should commence by making up the simplest models shown in the list, afterwards the more elaborate ones will be quite easy.

All the parts are standardized, and extra parts can be supplied, so that any special series of the models may be completed together.

The Trucks and Carriages are designed to run on rails of No. 1 gauge, but as the width between the wheels may be altered, they can also be made to run on other gauges. A complete "mixed" train can be made up, if desired, by making use of supplementary parts.

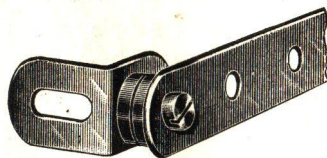
No less than 25 different Trucks and Carriages are shown, and many others may be made up by an intelligent boy.

ALWAYS COLLECT TOGETHER the parts required before commencing.

BRACKETS.

It is important to understand why one side has a hole and the other a slot. This is to allow for the thickness of the metal or wood strips to be joined on, and will be best understood by making up the simplest models.

WASHERS.



These play an important part in Mechanics: they are used in many Models to adjust the length of the screws, so that the corner pieces may fit quite square and not jamb on the opposing screw. They are also used to adjust the Brackets to width of some of the other fittings.

With such an extensive variety of parts, it will be well believed that the present illustrations only exhibit very few of the models that can be made up, and practically a whole railway plant can be produced, except the Engines.

The possibilities of other mechanical models are shown by the Dreadnought Battleship, Aeroplanes, Cranes, Steam Hammers and Vertical Saw, etc.

WOOD BASES FOR SCREWING MODELS TO.

Some of the models are shown screwed down to wood bases; these are not supplied in the boxes, as they are most likely always available and the size varies to suit the situation.

CONTENTS OF OUTFITS.

WOOD-WORK.

No.	Description of Parts.	No. 1	1s	2	2s	3	3s	4	5
1	Grooved side rails for carriage and truck	..	4	4	—	4	—	4	6
2	Grooved side rails with foot-board	..	—	—	—	—	2	2	2
3	Carriage ends	..	—	—	—	—	2	2	2
4	Buffer blocks	..	2	2	—	2	—	2	4
5	Right-hand window for carriage	..	—	—	—	—	2	2	2
6	Left-hand window for carriage	..	—	—	—	—	2	2	2
7	Carriage doors	..	—	—	—	—	4	4	4
8	Central window for carriage	..	—	—	—	—	2	2	2
9	Floor for carriage and truck	..	1	1	—	1	—	1	2
10	Roof for carriage, "brake," etc.	..	—	—	—	—	1	1	1
11	Posts for railings and signals	..	2	2	15	17	—	17	17
12	End rail for base of house	..	—	—	—	—	—	—	2
13	Side " " "	..	—	—	—	—	—	—	2

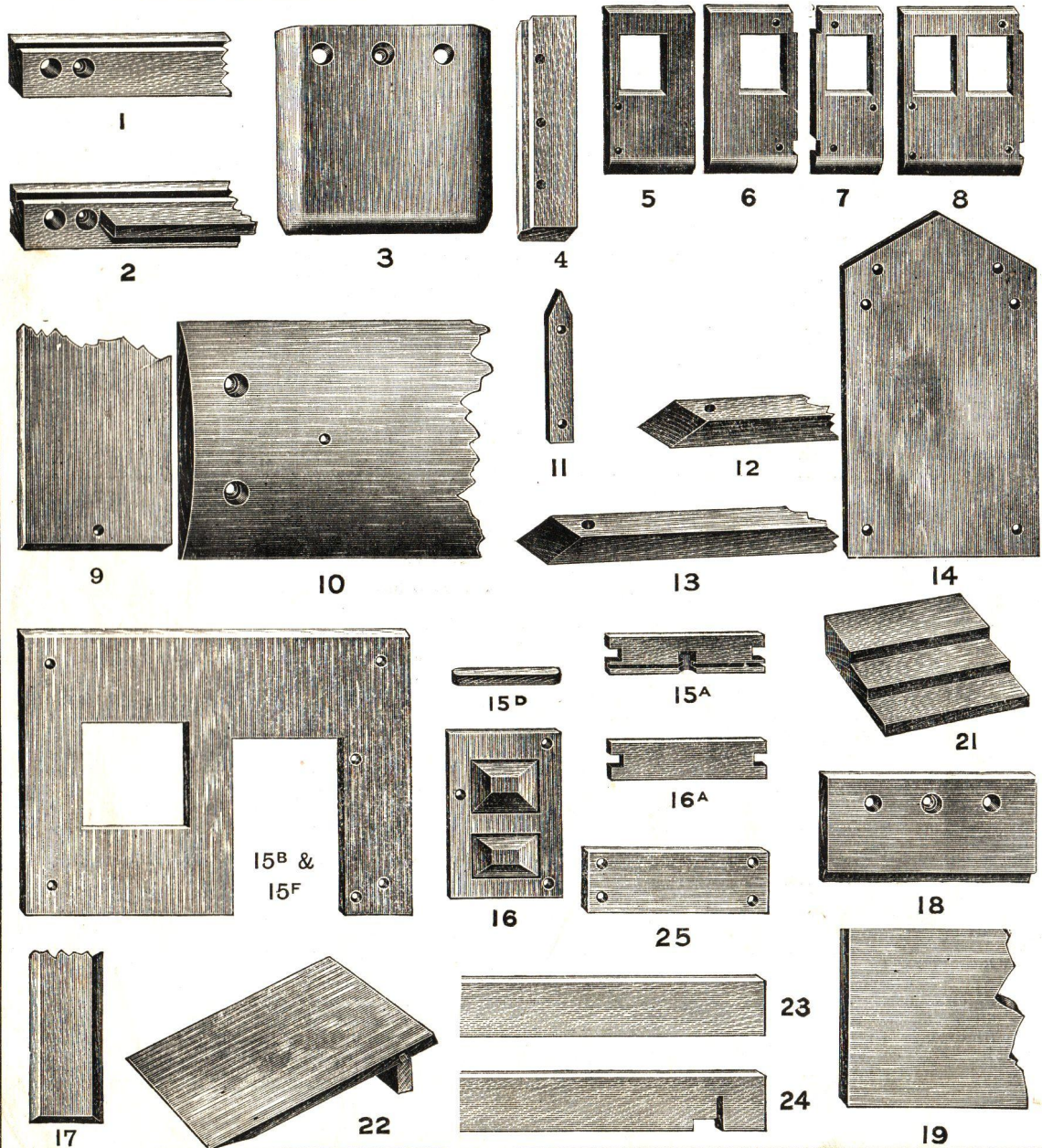
No.	Description of Parts.	No. 1	1s	2	2s	3	3s	4	5
14	Sides of Station house	..	—	—	—	—	—	—	2
15A	Window sills for house	..	—	—	—	—	—	—	4
15D	Window sash for house	..	—	—	—	—	—	—	2
15F	Front of house	..	—	—	—	—	—	—	1
15B	Back " "	..	—	—	—	—	—	—	1
16	Doors	..	—	—	—	—	—	—	2
16A	Lintels for house	..	—	—	—	—	—	—	2
17	Sides of goods truck	..	—	2	2	—	2	—	2
18	Ends " "	..	2	2	—	2	—	2	2
19	Baseboard for house and station	..	—	—	—	—	—	—	1
21	Steps for gate of station	..	—	—	1	1	—	1	1
22	Slope for platform approach	..	—	—	1	1	—	1	1
23	Plain platform plank	..	—	—	2	2	—	2	2
24	Fitted " "	..	—	—	2	2	—	2	2
25	3 in. x 1 in. drilled wood slips	..	8	8	16	9	25	—	25
26	Glass for windows	..	—	—	—	—	—	—	4

METAL-WORK.

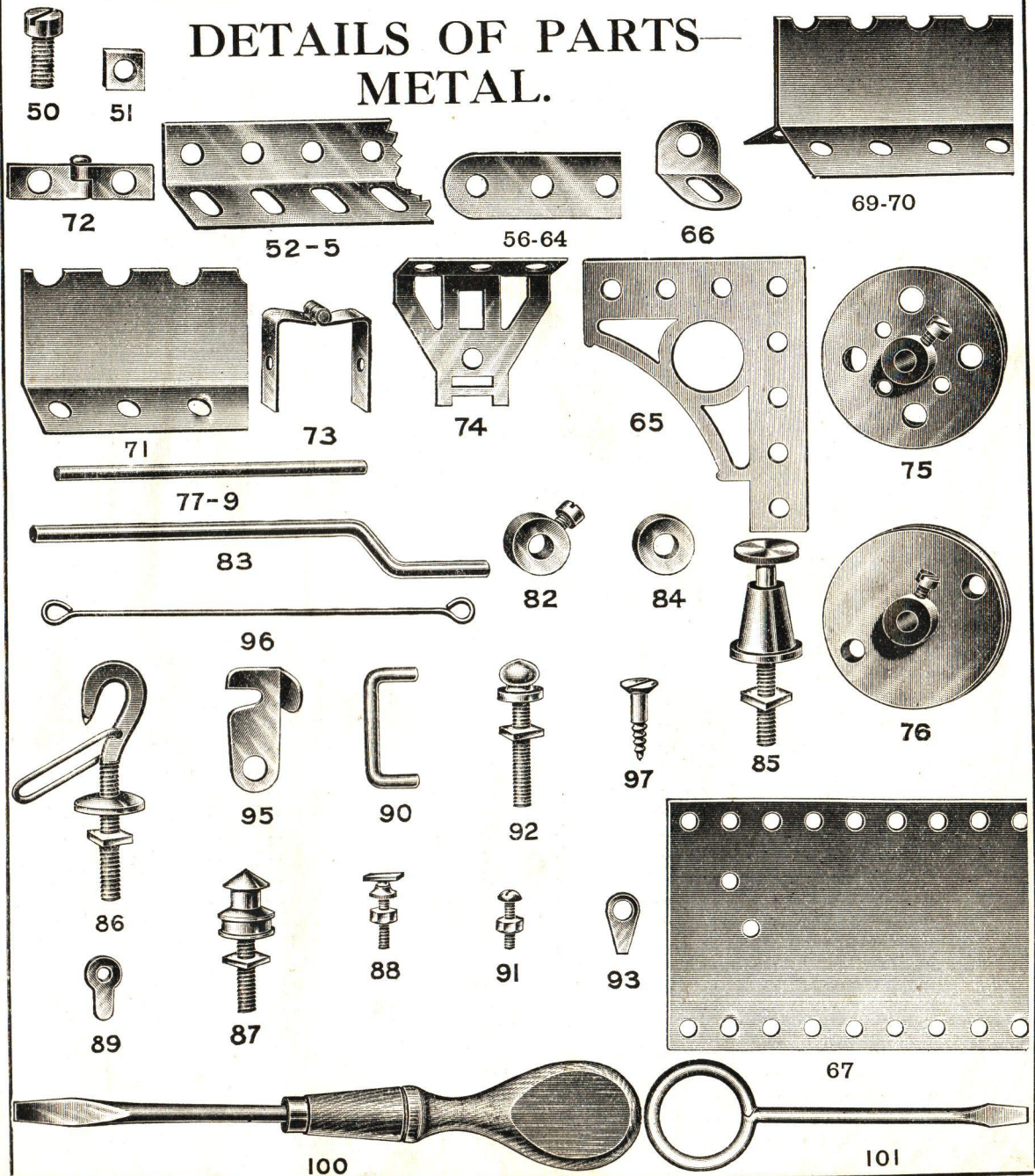
No.	Description of Parts.	No. 1	1s	2	2s	3	3s	4	5
50 & 51	Screws and nuts	.. 36	30	66	54	120	24	144	312
52	Angle Bars, 6 in.	..	—	—	—	—	—	—	4
53	" " 6½ in.	..	2	2	—	2	—	2	8
54	" " 8 in.	..	2	2	2	4	—	4	8
55	" " 12 in.	..	—	—	—	—	2	2	2
56	Metal strips, 2 in.	..	4	4	8	—	8	2	10
57	" " 2½ in.	..	6	—	6	2	8	—	8
58	" " 3 in.	..	—	—	—	4	4	4	8
59	" " 3½ in.	..	2	6	8	—	8	6	14
60	" " 4 in.	..	2	—	2	1	3	—	3
61	" " 5½ in.	..	—	—	—	4	4	—	4
62	" " 6½ in.	..	—	2	2	2	4	—	4
63	" " 8 in.	..	2	—	2	4	6	—	6
64	" " 12½ in.	..	—	—	—	3	3	—	3
65	Architraves	..	—	4	4	—	4	—	4
66	Brackets	..	12	4	16	22	38	2	40
67	Metal plates for trucks, roofs, etc., 8 in. x 3 in.	..	—	—	—	4	4	—	4
68	Metal plates for trucks, etc., 3 in. x 3 in.	..	3	—	3	—	3	11	14
69	Ridge tiles, 6½ in.	..	—	—	—	1	1	—	1
70	" " 8 in.	..	—	—	—	1	1	—	1
71	Eaves " 8 in.	..	—	—	—	4	4	—	4
72	Straight hinges	..	—	4	4	—	4	—	4
73	Bent hinges for carriage doors	..	—	—	—	—	8	8	8
74	Trunnions for wheels	..	4	—	4	—	4	4	8

No.	Description of Parts.	No. 1	1s	2	2s	3	3s	4	5
75	Flanged wheels with set screws	..	4	—	4	—	4	4	8
76	Grooved wheels with set screws for pulleys, etc.	..	—	—	4	4	—	4	4
77	Axle rods, 3½ in.	..	2	—	2	—	2	2	4
78	" " 2½ in.	..	—	2	2	—	2	4	6
79	" " 1½ in.	..	—	—	—	1	1	—	1
82	Collars and set screws	..	4	—	4	4	8	5	13
83	Handle axles	..	—	—	—	1	1	—	1
84	Washers	..	12	—	12	—	12	24	36
85	Buffers and nuts	..	—	4	4	—	4	—	4
86	Coupling hooks and nuts	..	—	2	2	1	3	—	3
87	Lamps and nuts	..	—	—	—	2	2	2	4
88	Carriage door handles and nuts	..	—	—	—	—	4	4	4
89	Turnbuttons for door handles and nuts	..	—	—	—	—	4	4	4
90	Carriage side rails	..	—	—	—	—	4	4	4
91	Carriage door screws and nuts	..	—	—	—	—	16	16	16
92	Knob screws and nuts	..	—	—	—	1	1	3	4
93	Turnbuttons for nuts	..	—	—	—	—	2	2	2
95	Catches	..	—	4	4	—	4	—	4
96	Signal post connecting rods	..	—	2	2	—	2	—	2
97	Wood screws	..	—	6	6	—	6	—	6
100	Screwdriver, wood handle	..	—	1	—	—	1	—	1
101	" " iron	..	1	—	—	—	—	—	—

DETAILS OF PARTS—WOOD.



DETAILS OF PARTS— METAL.



PRICES OF EXTRA PARTS.

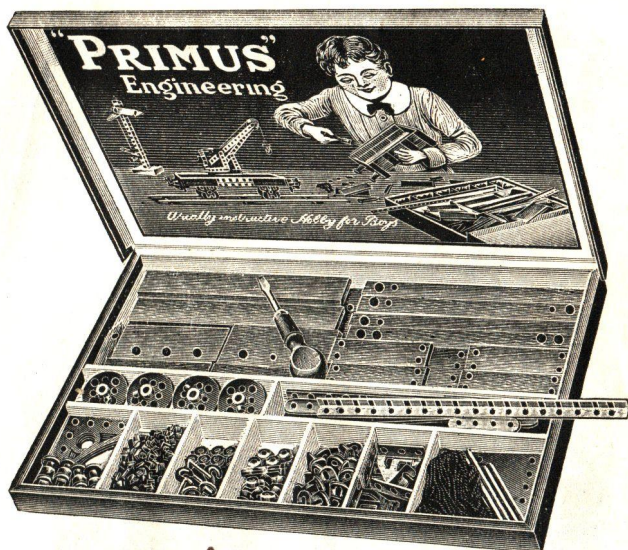
WOOD.

No.		PRICE.	No.		PRICE.
1	Grooved side rail	each 3d.	15D	Window sash	per doz. 6d.
2	Ditto, with footboard	" 4d.	15F	Front of house	each 6d.
3	Carriage ends	" 4d.	15B	Back " "	" 6d.
4	Buffer blocks	" 2d.	16	Doors " "	" 4d.
5	Right hand window	" 3d.	16A	" lintels	per doz. 6d.
6	Left " "	" 3d.	17	Truck sides	each 3d.
7	Carriage doors	" 3d.	18	" ends	" 4d.
8	Centre windows	" 4d.	19	House baseboard	" 9d.
9	Floor	" 3d.	21	Steps	" 2d.
10	Roof	" 6d.	22	Slope	" 3d.
11	Posts	per doz. 1/-	23	Platform centre	" 3d.
12	End rail of house	each 2d.	24	" sides	" 4d.
13	Side " " "	" 2d.	25	3 x 1 in. wood slips	per doz. 1/3
14	Sides of Station house	" 4d.	26	Glass for windows	" " 4d.
15A	Window sills	per doz. 6d.			

METAL.

No.		PRICE.	No.		PRICE.
50 & 51	Screws and nuts.. ..	per doz. 6d.	73	Bent hinges	per half doz. 8d.
51	Nuts only	" " 2d.	74	Trunnions	each 3d.
52	Angle bars, 6 in.	per half doz. 9d.	75	Flanged Wheels	" 9d.
53	" " 6½ in.	" " 9d.	76	Pulley wheels grooved	" 9d.
54	" " 8 in.	" " 1/-	77	Axles, 3½ in.	per half doz. 1/-
55	" " 12 in.	" " 1/6	78	" 2¾ in.	" " 9d.
56	Metal strips, 2 in.	" " 4d.	79	" 1½ in.	" " 6d.
57	" " 2½ in.	" " 4d.	82	Collars and screws	each 3d.
58	" " 3 in.	" " 4d.	83	Handle axles	" 3d.
59	" " 3½ in.	" " 4d.	84	Washers	per doz. 2d.
60	" " 4 in.	" " 5d.	85	Buffers and nuts	each 8d.
61	" " 5½ in.	" " 6d.	86	Coupling hooks	" 8d.
62	" " 6½ in.	" " 6d.	87	Lamps	" 6d.
63	" " 8 in.	" " 9d.	88	Carriage door handles and nuts	" 4d.
64	" " 12½ in.	" " 1/-	89	Turnbuttons for do.	per doz. 3d.
65	Architraves	" " 8d.	90	Carriage rails	per half doz. 3d.
66	Brackets	per doz. 6d.	91	Carriage door screws and nuts	per doz. 1/-
67	Metal plates, 8 x 3 in.	per half doz. 2/-	92	Knob screws and nuts	per half doz. 2/-
68	" " 3 x 3 in.	" " 1/-	93	Turnbuttons for do.	" " 3d.
69	Ridge tiles, 6½ in.	" " 2/-	95	Catches	" " 3d.
70	" " 8 in.	" " 2/6	96	Signal post rods	" " 6d.
71	Eaves, 8 in.	" " 2/6	97	Wood screws	per doz. 2d.
72	Straight hinges	per doz. 6d.	100 & 101	Screw drivers	each 4d.

PRICE LIST OF OUTFITS.



Primus outfits are complete and ready for use. They contain everything necessary for building a number of most instructive models. The booklet supplied with each outfit contains clear and concise directions.

No. 1.—Contains 140 Wood and Metal parts, and makes 41 models.. .. 7/6

No. 2.—Contains 267 Wood and Metal parts, and makes 70 models.. .. 12/6

These outfits contain a wider selection of parts than the preceding numbers, and consequently the models they make are larger and more imposing—and their possibilities greater. They are supplied in neat tray boxes, with the metal parts in a loose tray.

No. 3.—Contains 473 Wood and Metal parts, and makes 93 models .. £1 5 0

No. 4.—Contains 649 Wood and Metal parts, and makes 109 models .. £1 17 6

No. 5.—Contains 1131 Wood and Metal parts, and makes 128 models .. £2 10 0



PRICE LIST OF OUTFITS.

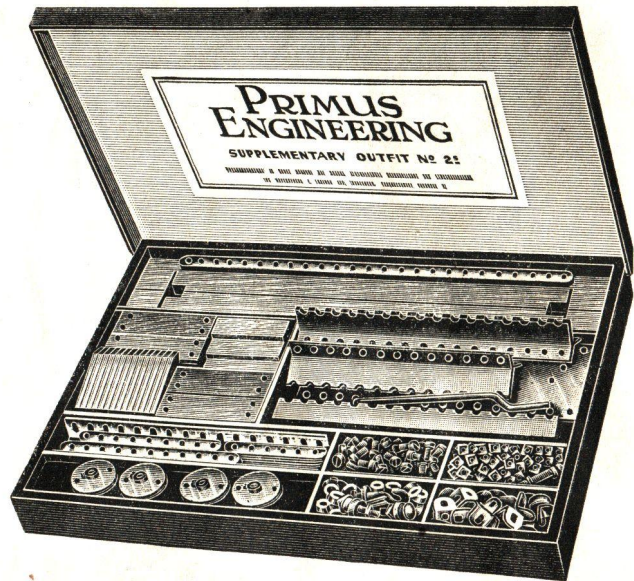
SUPPLEMENTARY OUTFITS.

These are not sold as working outfits, and for this reason do not contain either instructions, screw-driver or other tools. They contain those parts which make the difference between one outfit and that of the next higher price; thus the No. 1S outfit will convert the No. 1 into a No. 2, and opens up the possibility of endless variety and a wealth of new models.

No. 1S—Converts the No. 1 Outfit into the No. 2 6/6

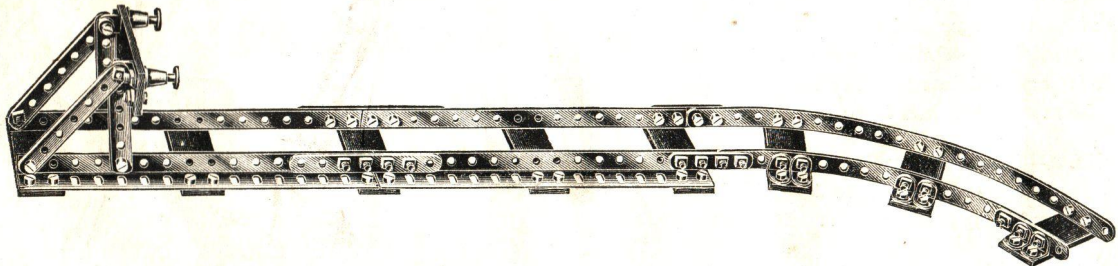
No. 2S—Converts the No. 2 Outfit into the No. 3 15/-

No. 3S—Converts the No. 3 Outfit into the No. 4 15/-

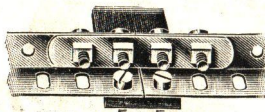


REALISTIC RAILWAY TRACK.

MADE WITH PRIMUS ENGINEERING.

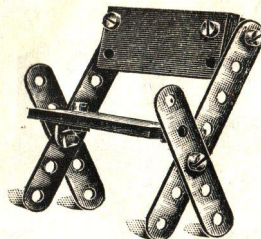


This illustration shows how the most realistic railway track can be made with Primus parts. Angle bars form the rails, which are bolted by means of nuts and screws on to the 3 x 1 in. wood slips which form excellent sleepers. The track is joined together by using 2 in. metal strips as illustration—and it should be noted that the heads of the screws be on the inside of the rails, otherwise the flange of the wheels will foul the nuts when passing. To make curves, use 8 and 12½ in. metal strips—the longer for the outer rail, the smaller on the inside, or lesser curve—and secure them to the sleepers with brackets. Buffer blocks can be erected at the terminus, and any ingenious boy will readily see the way to devise switches and cross-over points.



Shows how the rails are joined together.

MADE WITH **N^o. 1** OUTFIT.

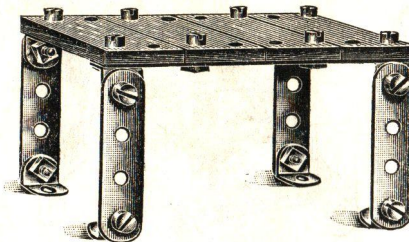


No. 1.

PLAIN SEAT.

No. 25 Wood slips, 3 × 1 in...	2
Nos. 50 & 51 Screws and nuts	8
No. 57 Metal strips, 2½ in.	2
No. 59 " " 3½ in.	2
No. 66 Brackets	4

The brackets should be fixed with the slot on to the wood.

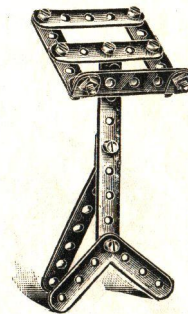


No. 2.

TABLE.

No. 25 Wood slips, 3 × 1 in.	4
Nos. 50 & 51 Screws and nuts	16
No. 56 Metal strips, 2 in.	2
No. 60 " " 4 in.	2
No. 66 Brackets	8

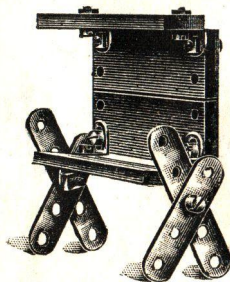
4 in. Metal Strips are screwed below the table to hold the top together.



No. 8.

MUSIC STAND.

No. 50 Screws	12
No. 51 Nuts	12
No. 56 Metal strips, 2 in.	2
No. 57 " " 2½ in.	6
No. 60 " " 4 in.	2
No. 66 Brackets	3

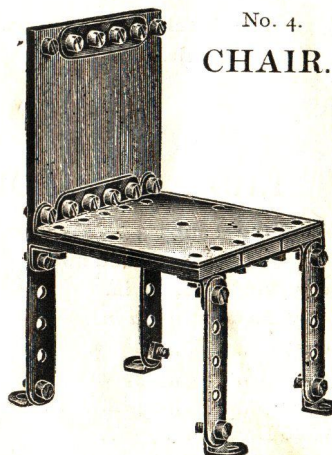


No. 3.

COVERED SEAT.

No. 25 Wood slips, 3 × 1 in.	4
Nos. 50 & 51 Screws and nuts	10
No. 56 Metal strips, 2 in.	4
No. 57 " " 2½ in.	2
No. 66 Brackets	6

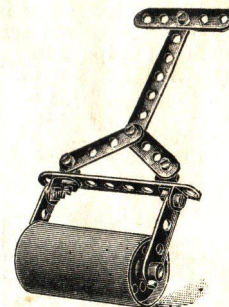
2 in. Strips are screwed behind the wood back for support.



No. 4.

CHAIR.

No. 25 Wood slips, 3 × 1 in.	6
Nos. 50 & 51 Nuts and screws	32
No. 56 Metal strips, 2 in.	4
No. 57 " " 2½ in.	4
No. 66 Brackets	10
No. 68 Metal plate, 3 × 3 in.	1



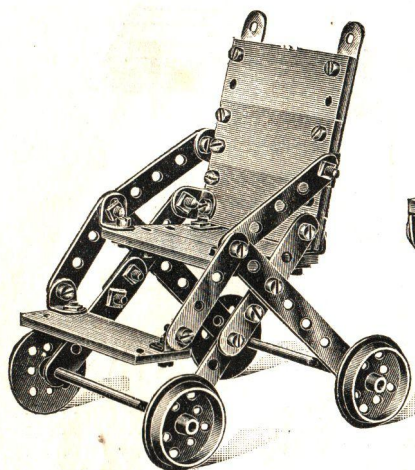
No. 9.

GARDEN ROLLER.

Nos. 50 & 51 Screws and nuts	8
No. 56 Metal strips, 2 in.	4
No. 57 " " 2½ in.	1
No. 59 " " 3½ in.	1
No. 60 " " 4 in.	1
No. 66 Brackets	4
No. 75 Flanged wheels	2
No. 77 Axle rod, 3½ in.	1
No. 82 Collars	2

The roller is made by covering the two flanged wheels with cardboard.

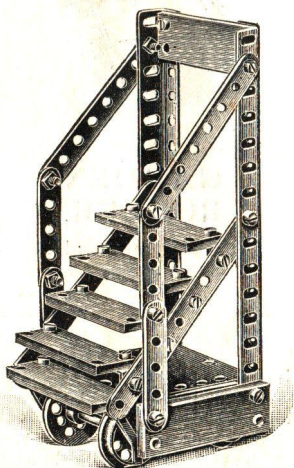
MADE WITH **N^o. 1** OUTFIT.



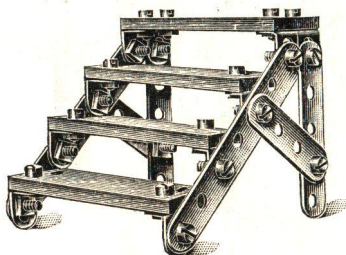
No. 5.

PUSH CHAIR.

No. 25 Wood slips, 3 × 1 in.	..	6
Nos. 50 & 51 Nuts and screws	..	30
No. 56 Metal strips, 2 in.	..	3
No. 57 " " 2½ in.	..	6
No. 59 " " 3½ in.	..	2
No. 60 " " 4 in.	..	2
No. 66 Brackets	..	10
No. 75 Flanged wheels	..	4
No. 77 Axle rods, 3½ in.	..	2



No. 42.

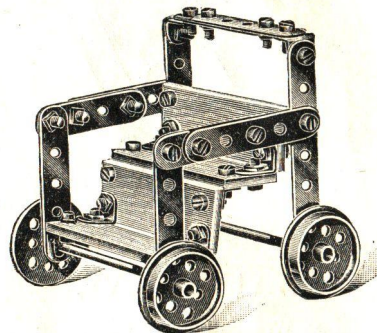


No. 7.

STEP LADDER.

No. 25 Wood slips, 3 × 1 in.	4
Nos. 50 & 51 Screws and nuts	22
No. 56 Metal Strips, 2 in.	2
No. 57 " " 2½ in.	2
No. 59 " " 3½ in.	2
No. 66 Brackets	10

Fix brackets to steps with slots at side.



No. 6.

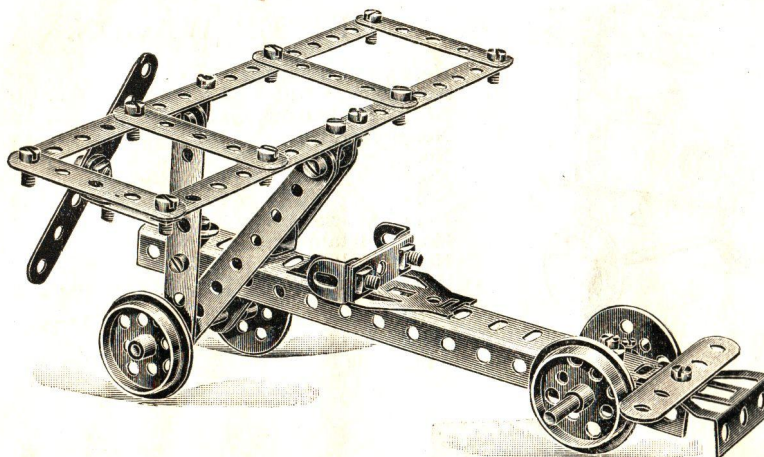
INVALID CHAIR.

No. 25 Wood slips, 3 × 1 in.	4
Nos. 50 & 51 Nuts and screws	30
No. 56 Metal strips, 2 in.	2
No. 57 " " 2½ in.	6
No. 59 " " 3½ in.	2
No. 66 Brackets	12
No. 77 Axle rod, 3½ in.	2
No. 75 Flanged wheels	4

LIBRARY LADDER ON WHEELS.

No. 25 Wood slips, 3 × 1 in.	..	..	..	..	..	8
Nos. 50 & 51 Screws and nuts	..	..	..	..	..	36
No. 54 Angle bars, 8 in.	..	..	..	..	..	2
No. 56 Metal strips, 2 in.	..	..	..	..	..	2
No. 57 " " 2½ in.	..	..	..	..	..	4
No. 59 " " 3½ in.	..	..	..	..	..	2
No. 60 " " 4 in.	..	..	..	..	..	2
No. 66 Brackets..	..	..	..	..	..	10
No. 68 Metal plate, 3 × 3 in.	..	..	..	..	..	1
No. 74 Trunnions	..	..	..	..	..	2
No. 75 Flanged wheels	..	..	..	..	..	4
No. 77 Axles, 3½ in.	..	..	..	..	..	2
No. 82 Collars and screws	..	..	..	..	..	2
No. 84 Washers..	..	..	..	..	..	2

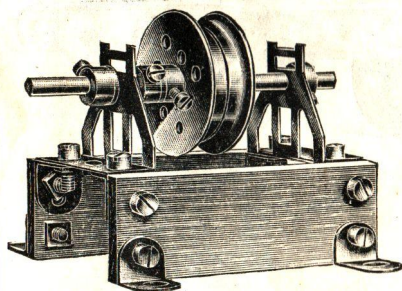
MADE WITH **N^o. 1** OUTFIT.



No. 13.

MONOPLANE.

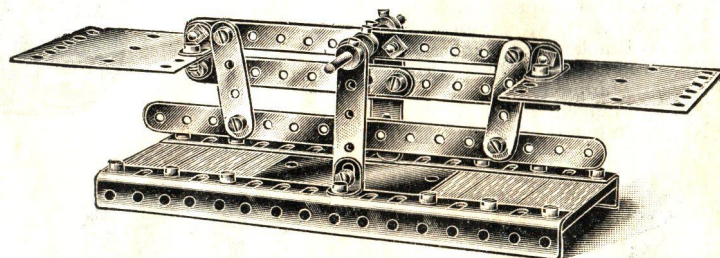
Nos. 50 & 51 Nuts and screws	26
No. 54 Angle bars, 8 in. ..	1
No. 56 Metal strips, 2 in. ..	1
No. 57 " " 2½ in. ..	5
No. 59 " " 3½ in. ..	2
No. 60 " " 4 in. ..	2
No. 63 " " 8 in. ..	2
No. 66 Brackets	8
No. 74 Trunnions	3
No. 75 Flanged wheels ..	4
No. 77 Axle rods, 3½ in. ..	2
No. 84 Washers	3



No. 23.

COUNTER SHAFT.

No. 25 Wood slips, 3 × 1 in. ...	2
Nos. 50 & 51 Nuts and screws ..	12
No. 66 Brackets	8
No. 74 Trunnions	2
No. 75 Flanged wheels	2
No. 77 Axle rod, 3½ in.	1
No. 82 Collars	3
No. 84 Washers	3

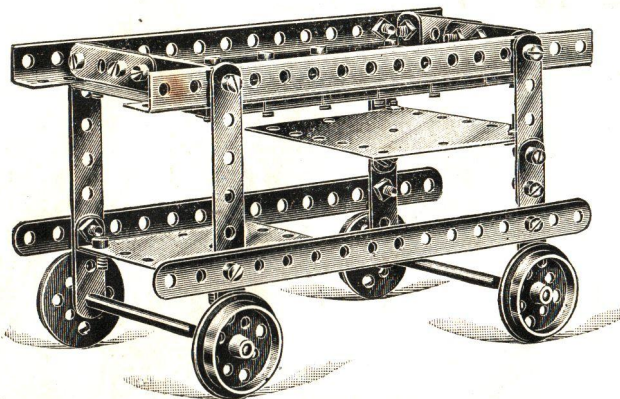


No. 10.

FRENCH BALANCE.

No. 25 Wood slips, 3 × 1 in.	6
Nos. 50 & 51 Nuts and screws	30
No. 54 Angle bars, 8 in.	2
No. 56 Metal strips, 2 in.	2
No. 57 " " 2½ in.	2
No. 59 " " 3½ in.	2
No. 60 " " 4 in.	2
No. 63 " " 8 in.	1
No. 66 Brackets	10
No. 68 Metal plates, 3 × 3 in.	3
No. 77 Axle rod, 3½ in.	1
No. 82 Collars	4

MADE WITH N^o. 1 OUTFIT.



No. 14.

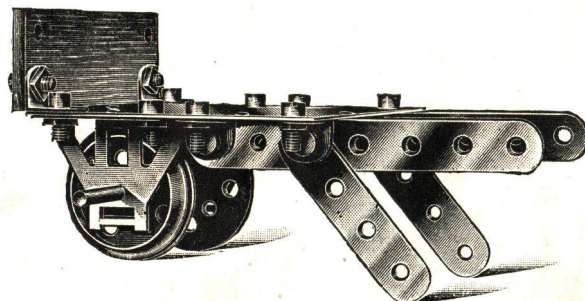
DINNER WAGON.

No. 25 Wood slips, 3 × 1 in.	..	6
Nos. 50 & 51 Nuts and screws	..	36
No. 54 Angle bars, 8 in.	..	2
No. 56 Metal strips, 2 in.	..	4
No. 57 " " 2½ in.	..	4
No. 60 " " 4 in.	..	2
No. 63 " " 8 in.	..	2
No. 66 Brackets	..	8
No. 68 Metal plates, 3 × 3 in.	..	2
No. 77 Axle rods, 3½ in.	..	2
No. 75 Flanged Wheels	..	4

The top table of the waggon is composed of the 3 × 1 in. slips, screwed to the 8 in. angle bars.

LUGGAGE BARROW.

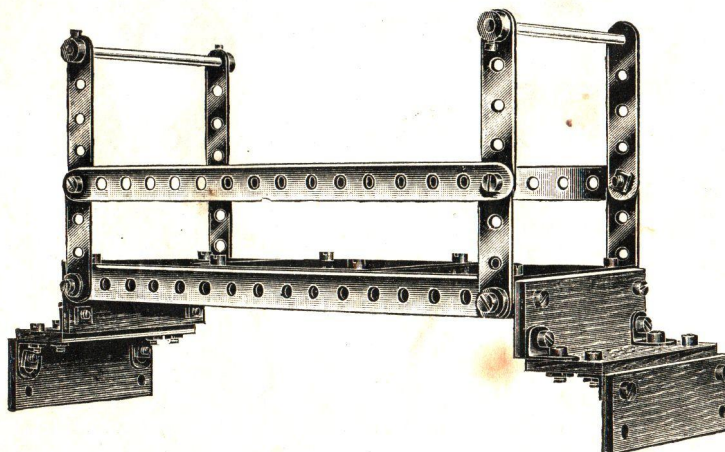
No. 25 Wood slip, 3 × 1 in.	..	..	1
Nos. 50 & 51 Nuts and screws	..	..	10
No. 56 Metal strips, 2 in.	..	..	2
No. 59 " " 3½ in.	..	..	2
No. 66 Brackets	..	..	6
No. 68 Metal plates, 3 × 3 in.	..	..	1
No. 74 Trunnions	..	..	2
No. 75 Flanged wheels	..	..	2
No. 77 Axle rod, 3½ in.	..	..	1



No. 15.

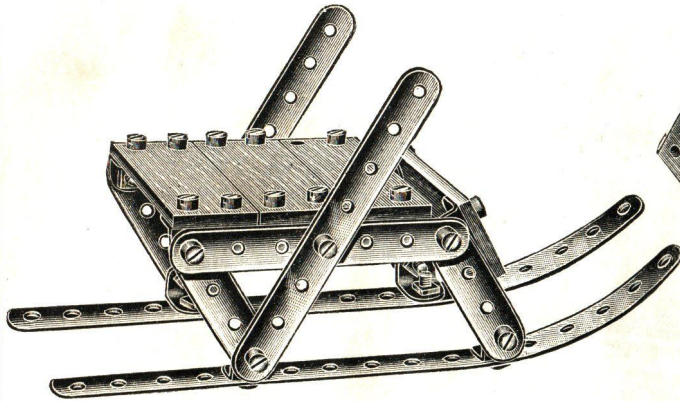
LOW LEVEL BRIDGE.

No. 25 Wood slips, 3 × 1 in.	..	6
Nos. 50 & 51 Nuts and screws	..	36
No. 54 Angle bars, 8 in.	..	2
No. 56 Metal Strips, 2 in.	..	4
No. 57 " " 2½ in.	..	4
No. 63 " " 8 in.	..	2
No. 66 Brackets	..	12
No. 68 Metal plates, 3 × 3 in.	..	3
No. 77 Axle rods, 3½ in.	..	2
No. 82 Collars	..	4
No. 84 Washers	..	8



No. 16.

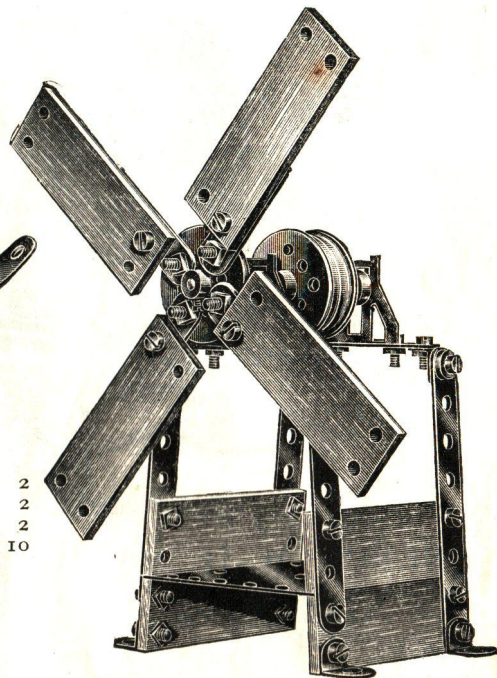
MADE WITH N^o. 1 OUTFIT.



No. 19.

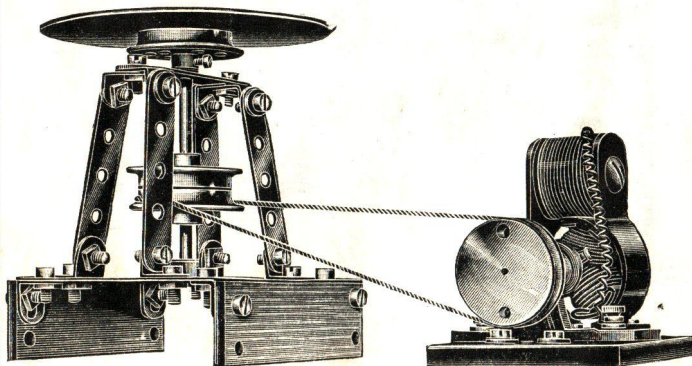
SLEDGE.

No. 25 Wood slips, 3 × 1 in. . . 4	No. 59 Metal strips, 3½ in. . . 2
Nos. 50 & 51 Nuts and screws . . . 26	No. 60 " " 4 in. . . 2
No. 56 Metal strips, 2 in. . . 4	No. 63 " " 8 in. . . 2
No. 57 " " 2½ in. . . 2	No. 66 Brackets . . . 10



No. 20.

WINDMILL.



No. 22.

CHAMELEON TOP.

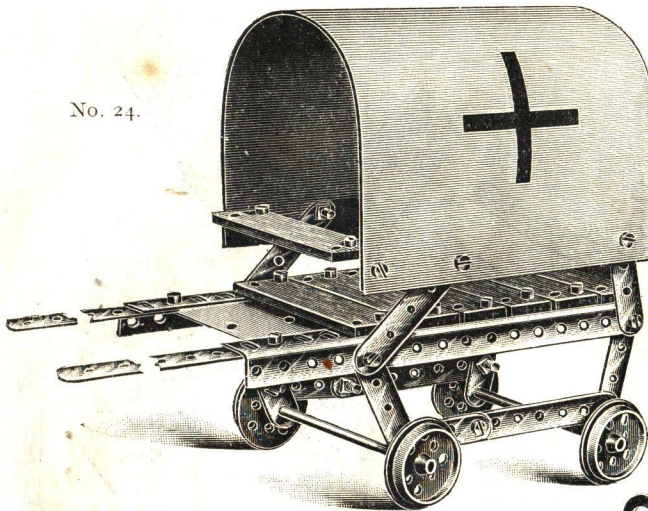
No. 25 Wood slips, 3 × 1 in. . . 2	No. 75 Flanged wheels . . . 3
Nos. 50 & 51 Nuts and screws . . . 22	No. 77 Axle rod, 3½ in. . . 1
No. 57 Metal strips, 2½ in. . . 5	No. 82 Collars . . . 1
No. 66 Brackets . . . 12	No. 84 Washers . . . 5
No. 68 Metal plate, 3 × 3 in. . . 1	

The Electric Motor shown driving this model is not included in the Outfit, but is stocked by all dealers.

No. 25 Wood slips, 3 × 1 in. . . 8
Nos. 50 & 51 Nuts and screws . . 32
No. 56 Metal strips, 2 in. . . 4
No. 57 " " 2½ in. . . 2
No. 59 " " 3½ in. . . 2
No. 60 " " 4 in. . . 2
No. 66 Brackets . . . 8
No. 68 Metal plate, 3 × 3 in. . . 1
No. 74 Trunnions . . . 2
No. 75 Flanged wheels . . . 3
No. 77 Axle rods, 3½ in. . . 1
No. 82 Collars . . . 2
No. 84 Washers . . . 10

MADE WITH **N^o. 1** OUTFIT.

No. 24.



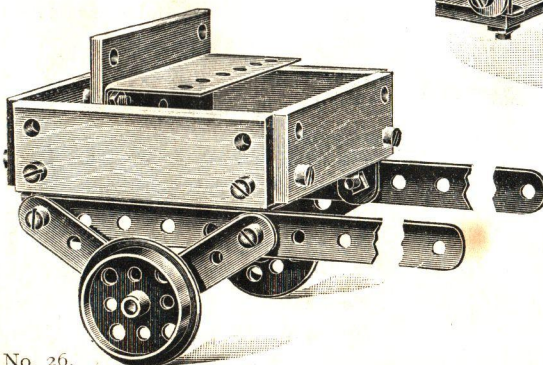
RED CROSS WAGON.

No. 25 Wood slips, 3 × 1 in.	8
Nos. 50 & 51 Nuts and screws	34
No. 54 Angle bars, 8 in.	2
No. 56 Metal strips, 2 in.	4
No. 57 " " 2½ in.	6
No. 59 " " 3½ in.	2
No. 60 " " 4 in.	2
No. 63 " " 8 in.	2
No. 66 Brackets	4
No. 68 Metal plate, 3 × 3 in.	1
No. 75 Flanged wheels	4
No. 77 Axle rod, 3½ in.	2

The Hood is made from cardboard screwed to the sides.

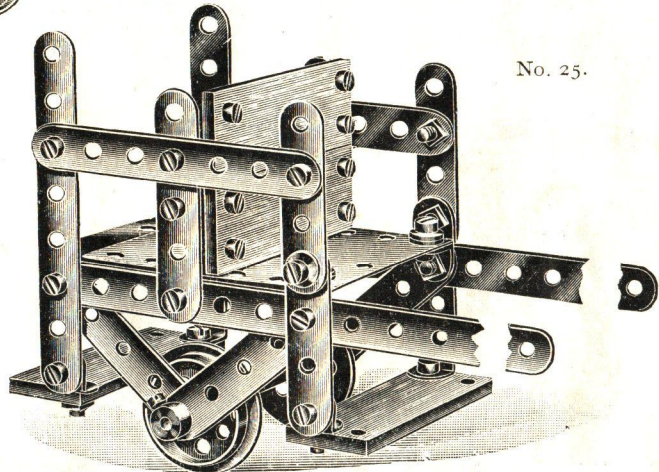
DOUBLE MAIL CART.

No. 25 Wood slips, 3 × 1 in.	4
Nos. 50 & 51 Nuts and screws	35
No. 56 Metal strips, 2 in.	4
No. 57 " " 2½ in.	6
No. 59 " " 3½ in.	2
No. 60 " " 4 in.	2
No. 63 " " 8 in.	2
No. 66 Brackets	12
No. 68 Metal plates, 3 × 3 in.	2
No. 75 Flanged wheels	2
No. 77 Axle rod, 3½ in.	1
No. 82 Collars	2
No. 84 Washers	12



No. 26.

No. 25.

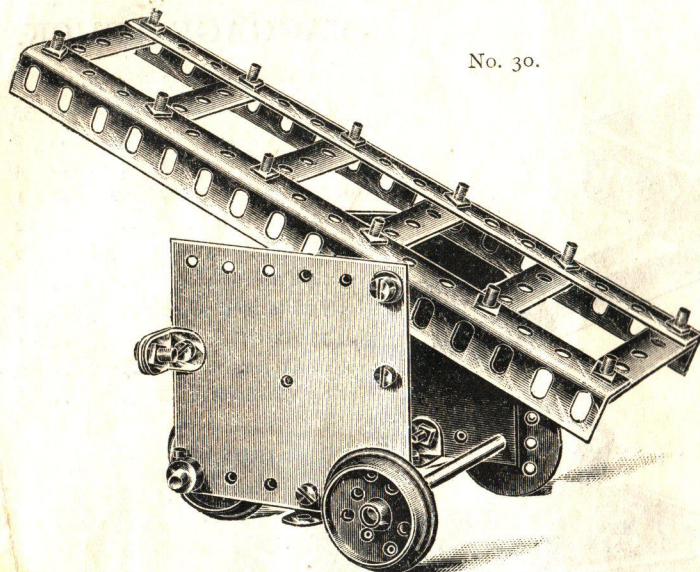


BELGIAN DOG CART.

No. 25 Wood slips, 3 × 1 in.	5
Nos. 50 & 51 Nuts and screws	20
No. 56 Metal strips, 2 in.	4
No. 63 " " 8 in.	2
No. 66 Brackets	12
No. 68 Metal plates, 3 × 3 in.	2
No. 75 Flanged wheels	2
No. 77 Axle rod, 3½ in.	1

The 8 in. metal strips form the shafts in these carts.

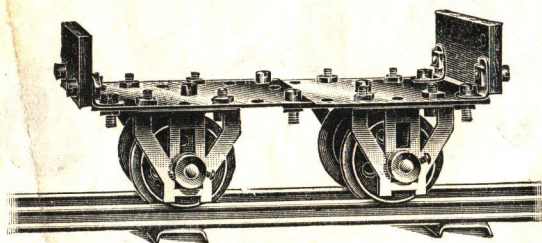
MADE WITH **N^o. 1** OUTFIT.



No. 30.

FIRE ESCAPE.

Nos. 50 & 51 Nuts and screws	..	24
No. 54 Angle bars, 8 in.	..	2
No. 57 Metal strips, 2½ in.	..	6
No. 59 „ „ 3½ in.	..	1
No. 60 „ „ 4 in.	..	1
No. 66 Brackets	..	4
No. 68 Metal plates, 3 × 3 in.	..	2
No. 75 Flanged wheels	..	4
No. 77 Axle rods, 3½ in.	..	2
No. 82 Collars	..	2
No. 84 Washers	..	2

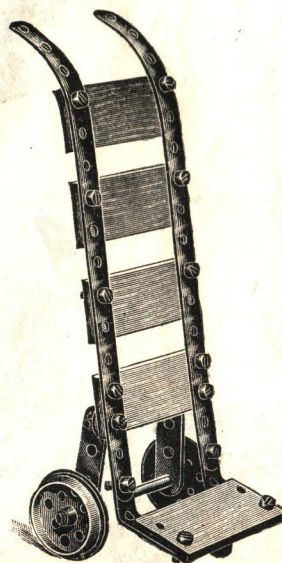


No. 28.

TROLLEY TRUCK.

No. 25 Wood slips, 3 × 1 in.	..	..	2
Nos. 50 & 51 Nuts and screws	..	..	20
No. 66 Brackets	..	..	4
No. 68 Metal plates, 3 × 3 in.	..	..	2
No. 74 Trunnions	..	..	4
No. 75 Flanged wheels	..	..	4
No. 82 Collars	..	..	4
No. 84 Washers	..	..	12

If this model is made with No. 2 Outfit, coupling hooks can be added.

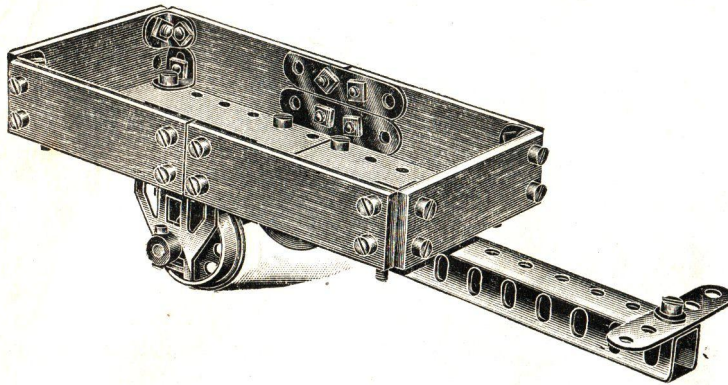


No. 33.

PORTER'S TRUCK.

No. 25 Wood slips, 3 × 1 in.	..	5
Nos. 50 & 51 Nuts and screws	..	16
No. 56 Metal strips, 2 in.	..	4
No. 63 Metal strips, 8 in.	..	2
No. 66 Brackets	..	2
No. 75 Flanged wheels	..	2
No. 77 Axle rods, 3½ in.	..	1

MADE WITH **N^o. 1** OUTFIT.



No. 31.

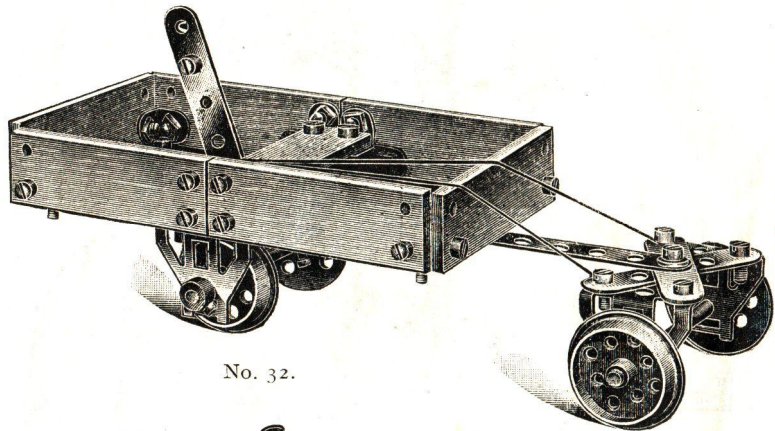
BAGGAGE TRUCK.

No. 25 Wood slips, 3 × 1 in. . .	6
Nos. 50 & 51 Nuts and screws . .	33
No. 54 Angle bars, 8 in. . .	2
No. 56 Metal strips, 2 in. . .	4
No. 57 „ „ 2½ in. . .	1
No. 66 Brackets . . .	12
No. 68 Metal plates, 3 × 3 in. . .	2
No. 74 Trunnions . . .	2
No. 75 Flanged wheels . . .	2
No. 77 Axle rod, 3½ in. . .	1
No. 82 Collars . . .	2
No. 84 Washers . . .	5

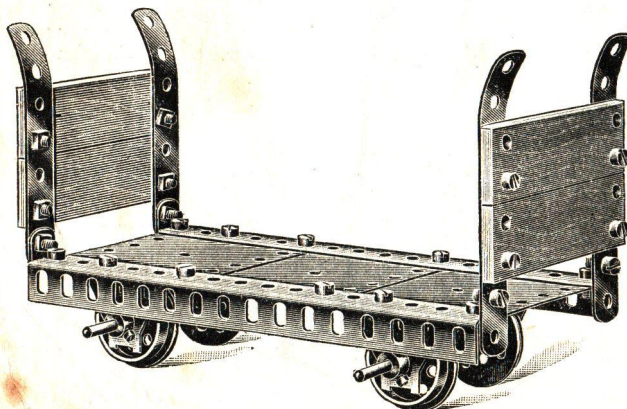
SKI CART.

No. 25 Wood slips, 3 × 1 in. . .	7
Nos. 50 & 51 Nuts and screws . .	36
No. 56 Metal strips, 2 in. . .	2
No. 57 „ „ 2½ in. . .	3
No. 63 „ „ 8 in. . .	1
No. 66 Brackets . . .	12
No. 68 Metal plates, 3 × 3 in. . .	2
No. 74 Trunnions . . .	4
No. 75 Flanged wheels . . .	4
No. 77 Axle rods, 3½ in. . .	2
No. 82 Collars . . .	2
No. 84 Washers . . .	3

Cord can be used for steering the wheels.



No. 32.

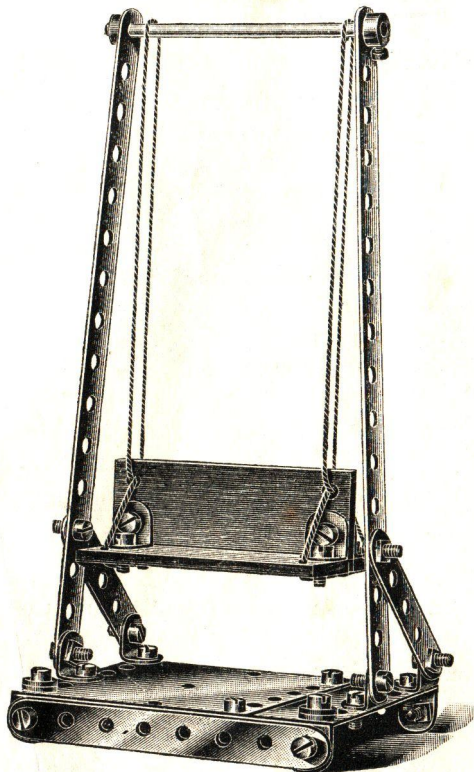


No. 27.

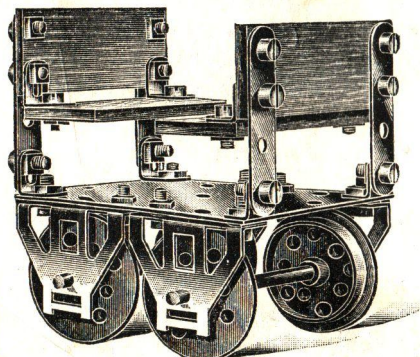
CHURN TROLLEY.

No. 25 Wood slips, 3 × 1 in. . .	4
Nos. 50 & 51 Nuts and screws . .	24
No. 54 Angle bars, 8 in. . .	2
No. 59 Metal strips, 3½ in. . .	2
No. 60 „ „ 4 in. . .	2
No. 66 Brackets . . .	4
No. 68 Metal plates, 3 × 3 in. . .	3
No. 74 Trunnions . . .	4
No. 75 Flanged wheels . . .	4
No. 77 Axle rods, 3½ in. . .	2
No. 82 Collars . . .	4

MADE WITH N^o. 1 OUTFIT.



No. 34.



No. 37.

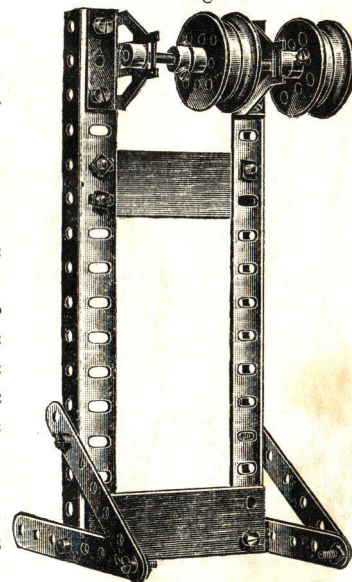
SWING.

No. 25 Wood slips, 3 × 1 in.	3
Nos. 50 & 51 Nuts and screws	24
No. 57 Metal strips, 2½ in.	2
No. 60 „ „ 4 in.	2
No. 63 „ „ 8 in.	2
No. 66 Brackets	12
No. 68 Metal plates, 3 × 3 in.	2
No. 77 Axle rod, 3½ in.	1
No. 82 Collars	2
No. 84 Washers	4

Cord is used to make the Swing.

SHAFTING AND COUNTER SHAFT, LOOSE PULLEY.

No. 25 Wood slips, 3 × 1 in.	2
Nos. 50 & 51 Nuts and screws	16
No. 54 Angle bars, 8 in.	2
No. 59 Metal strips, 3½ in.	2
No. 60. „ „ 4 in.	2
No. 74 Trunnions	2
No. 75 Flanged wheels.	4
No. 77 Axle rod, 3½ in.	1
No. 82 Collars	3
No. 84 Washers.	3



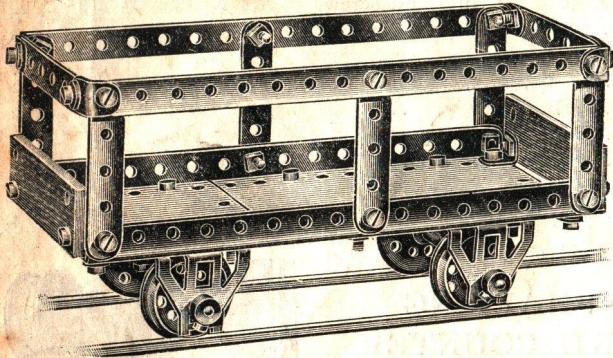
No. 35.

TWO-SEATED TRAILER.

No. 25 Wood slips, 3 × 1 in.	4
Nos. 50 & 51 Nuts and screws.	24
No. 56 Metal strips, 2 in.	4
No. 66 Brackets	8
No. 68 Metal plates, 3 × 3 in.	1
No. 74 Trunnions	4
No. 75 Flanged wheels	4
No. 77 Axle rods, 3½ in.	2
No. 84 Washers	12

MADE WITH **N^o. 1** OUTFIT.

TIMBER TRUCK.



No. 38.

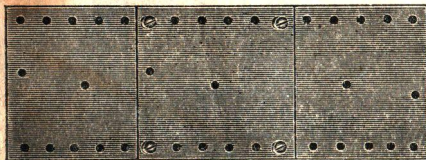
No. 25 Wood slips, 3 × 1 in.	..	..	2
Nos. 50 & 51 Nuts and screws	..	..	36
No. 54 Angle bars, 8 in.	..	..	2
No. 57 Metal strips, 2½ in...	..	..	6
No. 59 „ „ 3½ in...	..	..	2
No. 63 „ „ 8 in.	..	..	2
No. 66 Brackets	..	..	12
No. 68 Metal Plates, 3 × 3 in.	..	..	3
No. 74 Trunnions	..	..	4
No. 75 Flanged wheels	..	..	4
No. 77 Axles, 3½ in.	..	..	2
No. 82 Collars	..	..	4
No. 84 Washers	..	..	12

This truck should be made up first, and then those which follow will be better understood. Brackets are fitted INSIDE the angle bars to the slotted sides, with two washers on each screw.

The trunnions should be fitted on first.

The axles and wheels must be put in last and a washer placed between EACH collar and the FACE of trunnion to allow the axles to run easily.

The wheels can be adjusted to the gauge of the rails, but most of the models are best suited to No. 1 gauge.



BASE PLATES BOLTED TOGETHER.

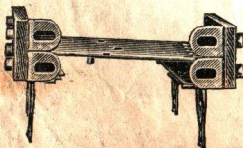
The base plates are composed of three of the square metal plates, and can be laid in loose and caught between the sides when they are pressed in and the end screws tightened up.

Or they can be bolted together (as shown in diagram) when the truck has an 8 in. base like the "Timber Truck."

To suit the Tourist Car, on page 26, which has a 6½ in. base, they can be shortened by bolting in other holes.

If they are bolted together a few more screws will be required than are specified.

As an alternative, the bases can be formed by bolting the square plates below the angle bars, using the screws which fix on the trunnions, but then all the screws will project inside.

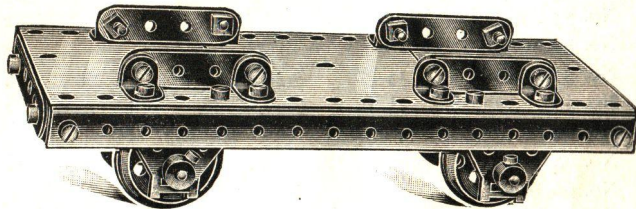


POSITION OF BRACKETS TO SECURE THE ENDS.

The Brackets are fitted on with the slots at the ENDS as shown; this allows a little play to introduce the base plates, and afterwards the sides can be pressed in and the screws tightened.

MADE WITH **N^o. 1** OUTFIT.

LOW LEVEL TRANSPORT TRUCK FOR BOILERS, HEAVY GIRDERS, Etc.



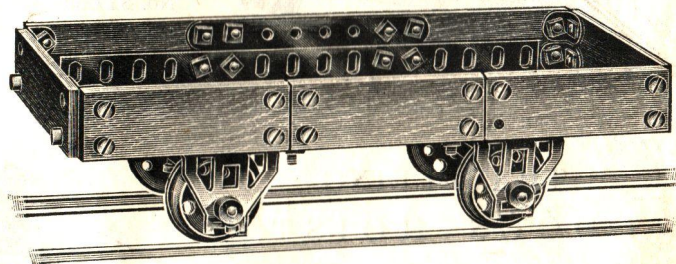
No. 39.

No. 25 Wood slips, 3 × 1 in.	..	8
Nos. 50 & 51 Nuts and screws	..	36
No. 54 Angle bars, 8 in.	..	2
No. 56 Metal strips, 2 in.	..	4
No. 60 " " 4 in.	..	2
No. 66 Brackets	..	8
No. 68 Metal plates, 3 × 3 in.	..	3
No. 74 Trunnions	..	4
No. 75 Flanged wheels	..	4
No. 77 Axles, 3½ in.	..	2
No. 82 Collars	..	4
No. 84 Washers	..	8

Nos. 50 & 51 Nuts and screws	..	24
No. 54 Angle bars, 8 in.	..	2
No. 56 Metal strips, 2 in.	..	4
No. 57 " " 2½ in.	..	2
No. 66 Brackets	..	12
No. 68 Metal plates, 3 × 3 in.	..	3
No. 74 Trunnions	..	4
No. 75 Flanged wheels	..	4
No. 77 Axles, 3½ in.	..	2
No. 82 Collars	..	4
No. 84 Washers	..	12

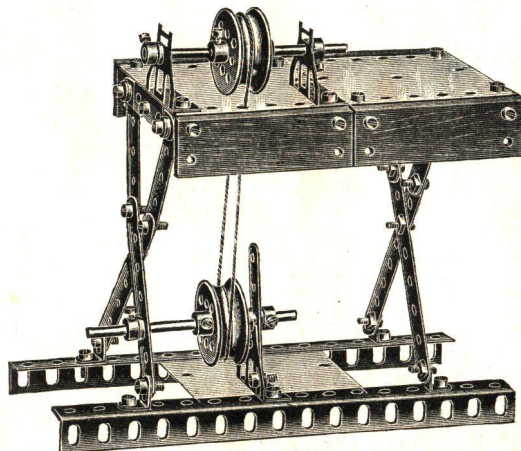
2 Washers are placed between each Bracket and the 8 in. Angle Bars where they are bolted on, to adjust the 2½ in. strips to the ends, as described on page 2.

BALLAST TRUCK.



No. 40.

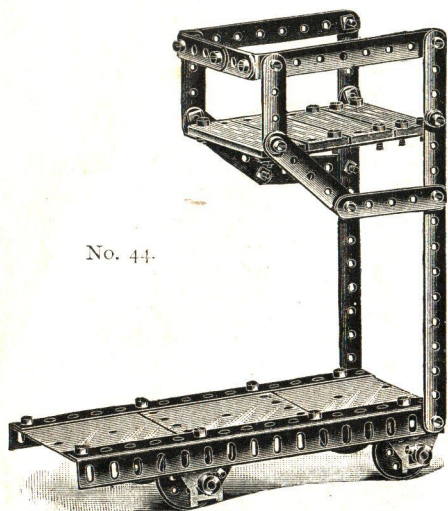
LATHE.



No. 43.

No. 25 Wood slips, 3 × 1 in.	..	..	..	4
Nos. 50 & 51 Screws and nuts	..	..	..	36
No. 54 Angle bars, 8 in.	..	..	..	2
No. 56 Metal strips, 2 in.	..	..	..	4
No. 57 " " 2½ in.	..	..	..	5
No. 59 " " 3½ in.	..	..	..	5
No. 60 " " 4 in.	..	..	..	2
No. 66 Brackets	..	..	..	12
No. 68 Metal plates, 3 × 3 in.	..	..	..	3
No. 74 Trunnions	..	..	..	4
No. 75 Flanged wheels	..	..	..	4
No. 77 Axles, 3½ in.	..	..	..	2
No. 82 Collars and screws	..	..	..	4
No. 82 Washers	..	..	..	9

MADE WITH N^o. 1 OUTFIT.

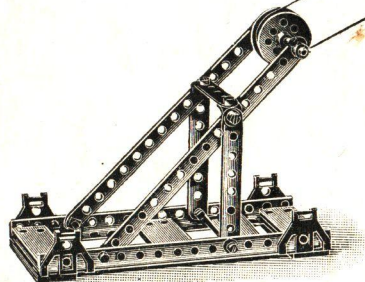


No. 44.

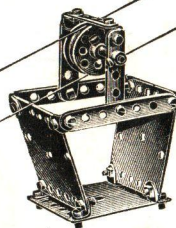
TOWER WAGON.

No. 25 Wood slips, 3 × 1 in.	..	..	..	..	5
Nos. 50 & 51 Screws and nuts	..	..	..	..	35
No. 54 Angle bars, 8 in.	..	..	..	..	2
No. 56 Metal strips, 2 in.	..	..	..	..	4
No. 57 " " 2½ in.	..	..	..	..	4
No. 59 " " 3½ in.	..	..	..	..	2
No. 60 " " 4 in.	..	..	..	..	2
No. 63 " " 8 in.	..	..	..	..	2
No. 66 Brackets	..	..	..	..	6
No. 68 Metal plates, 3 × 3 in.	..	..	..	..	3
No. 74 Trunnions	..	..	..	..	4
No. 75 Flanged wheels	..	..	..	..	4
No. 77 Axles, 3½ in.	..	..	..	..	2
No. 82 Collars and screws	..	..	..	..	4
No. 84 Washers	..	..	..	..	5

TRAVELLING GOODS HOIST.

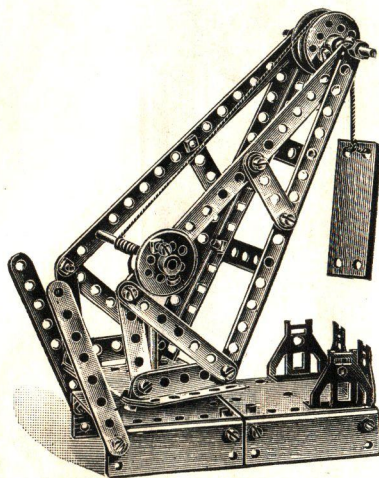


No. 45.



No. 25 Wood slips, 3 × 1 in.	..	..	..	..	7
Nos. 50 & 51 Screws and nuts	..	..	..	..	36
No. 54 Angle bars, 6 in.	..	..	..	..	2
No. 57 Metal strips, 2½ in.	..	..	..	..	4
No. 59 " " 3½ in.	..	..	..	..	2
No. 60 " " 4 in.	..	..	..	..	2
No. 63 " " 8 in.	..	..	..	..	2
No. 66 Brackets	..	..	..	..	12
No. 68 Metal plates, 3 × 3 in.	..	..	..	..	3
No. 74 Trunnions	..	..	..	..	4
No. 75 Flanged wheels	..	..	..	..	4
No. 77 Axles, 3½ in.	..	..	..	..	2
No. 82 Collars and screws	..	..	..	..	4
No. 84 Washers	..	..	..	..	10

MADE WITH **N^o. 1** OUTFIT.



No. 46.

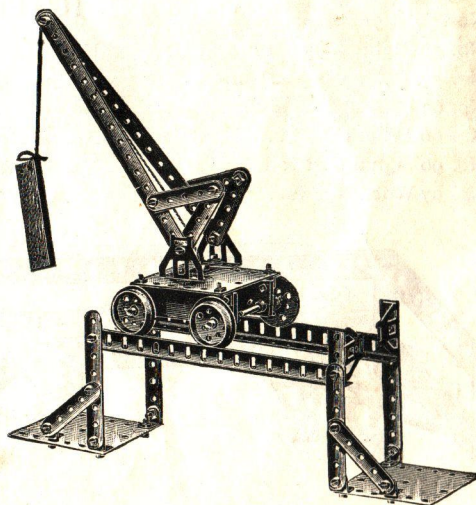
REVOLVING CRANE.

No. 25 Wood slips, 3 × 1 in.	..	..	..	..	5
Nos. 50 & 51 Screws and nuts	..	..	..	..	36
No. 54 Angle bars, 8 in.	..	..	..	..	2
No. 56 Metal strips, 2 in.	..	..	..	..	4
No. 57 „ „ 2½ in.	..	..	..	..	6
No. 59 „ „ 3½ in.	..	..	..	..	2
No. 60 „ „ 4 in.	..	..	..	..	2
No. 63 „ „ 8 in.	..	..	..	..	2
No. 66 Brackets	..	..	..	..	12
No. 68 Metal plates, 3 × 3 in.	..	..	..	..	3
No. 74 Trunnions	..	..	..	..	4
No. 75 Flanged wheels	..	..	..	..	4
No. 77 Axles, 3½ in.	..	..	..	..	2
No. 82 Collars and screws	..	..	..	..	4
No. 84 Washers	..	..	..	..	6

A long nail is used for centre pin.

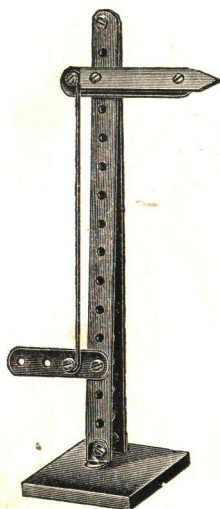
TRAVELLING CRANE.

No. 25 Wood slips, 3 × 1 in.	..	..	..	3
Nos. 50 & 51 Screws and nuts	..	..	..	36
No. 54 Angle bars, 8 in.	..	..	..	2
No. 56 Metal strips, 2 in.	..	..	..	1
No. 57 „ „ 2½ in.	..	..	..	6
No. 59 „ „ 3½ in.	..	..	..	2
No. 60 „ „ 4 in.	..	..	..	2
No. 63 „ „ 8 in.	..	..	..	2
No. 66 Brackets	..	..	..	10
No. 68, Metal plates, 3 × 3 in.	..	..	..	3
No. 74 Trunnions	..	..	..	4
No. 75 Flanged wheels	..	..	..	4
No. 77 Axles, 3½ in.	..	..	..	2
No. 82 Collars and screws	..	..	..	4
No. 84 Washers	..	..	..	12



No. 47.

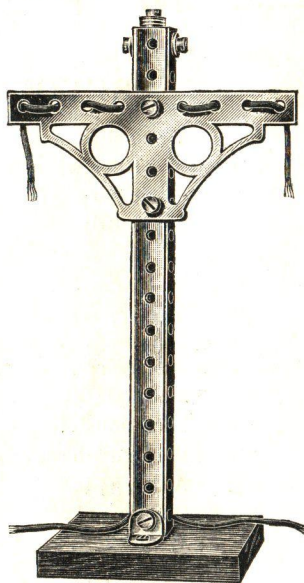
MADE WITH **N^o. 2** OUTFIT,
or Nos. 1 and 1S.



No. 102.

SIGNAL POST.

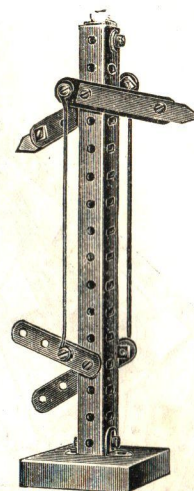
No. 11 Wood post	1
Nos. 50 & 51 Nuts and screws	7
No. 56 Metal strips, 2 in. ..	1
No. 57 " " 2½ in. ..	1
No. 63 " " 8 in. ..	2
No. 66 Brackets	2
No. 96 Signal post rod ..	1
No. 97 Wood screws.. ..	2



No. 104.

**DOUBLE ELECTRIC
LIGHT STANDARD.**

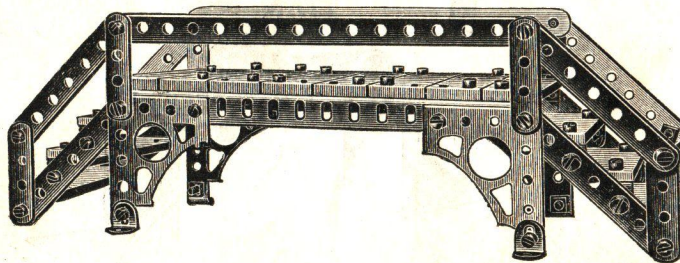
Nos. 50 & 51 Nuts and screws	7
No. 54 Angle bars, 8 in. ..	2
No. 65 Architraves	2
No. 66 Brackets	4
No. 84 Washers	6
No. 97 Wood screws.. ..	2



No. 103.

**DOUBLE
SIGNAL POST.**

No. 11 Wooden posts ..	2
Nos. 50 & 51 Nuts and screws	15
No. 54 Angle bars, 8 in. ..	2
No. 56 Metal strips, 2 in. ..	2
No. 57 " " 2½ in. ..	2
No. 66 Brackets	4
No. 84 Washers	3
No. 96 Signal post rods ..	2
No. 97 Wood screws ..	2



No. 107.

**LOW FOOT BRIDGE
(3 Steps).**

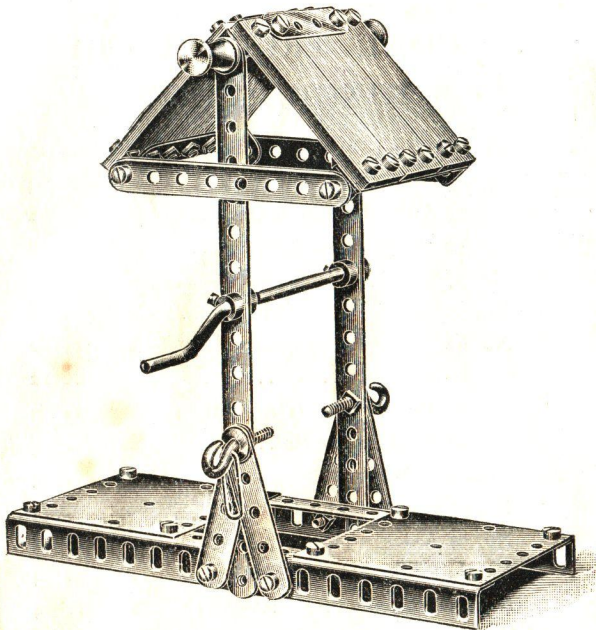
No. 25 Wood slips, 3 × 1 in. ..	14
Nos. 50 & 51 Nuts and screws	60
No. 54 Angle bars, 8 in. ..	2
No. 56 Metal strips, 2 in. ..	8
No. 59 " " 3½ in. ..	8
No. 63 " " 8 in. ..	2
No. 85 Architraves	4
No. 66 Brackets	16

MADE WITH
or Nos. 1

N^o. 2

OUTFIT,
and 1S.

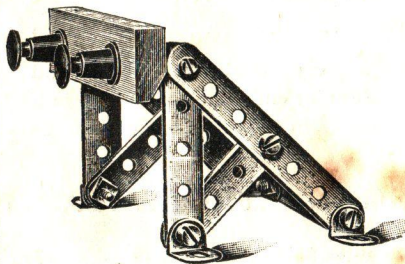
WELL WINCH.



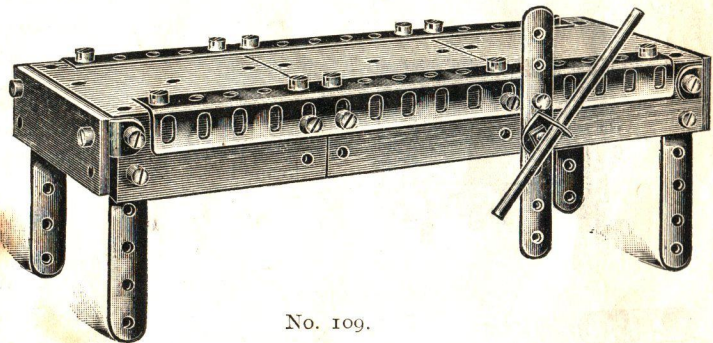
No. 105.

No. 25 Wood slips, 3 × 1 in.	..	..	6
Nos. 50 & 51 Nuts and screws	..	..	36
No. 54 Angle bars, 8 in.	..	..	2
No. 56 Metal strips, 2 in.	..	..	4
No. 57 " " 2½ in.	..	..	4
No. 60 " " 4 in.	..	..	2
No. 63 " " 8 in.	..	..	2
No. 66 Brackets	..	..	10
No. 68 Metal plates, 3 × 3 in.	..	..	2
No. 82 Collars	..	..	4
No. 83 Handle axle (extra)	..	..	1
No. 84 Washers	..	..	4
No. 85 Buffers and nuts	..	..	2
No. 86 Coupling hooks	..	..	2

Winding handle is 2d. extra.



No. 100.



No. 109.

BUFFER END.

No. 4 Wood buffer block	..	1
Nos. 50 & 51 Nuts and screws	..	10
No. 56 Metal strips, 2 in.	..	2
No. 57 " " 2½ in.	..	3
No. 59 " " 3½ in.	..	2
No. 66 Brackets	..	8
No. 85 Buffers and nuts	..	2

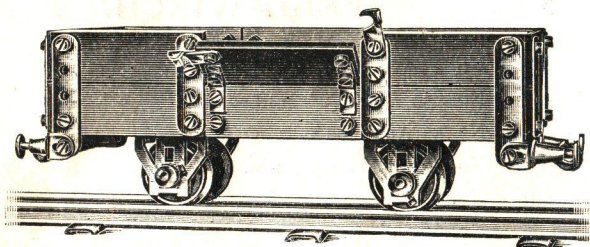
CARPENTER'S BENCH.

No. 25 Wood slips, 3 × 1 in.	..	..	8
Nos. 50 & 51 Nuts and screws	..	..	33
No. 54 Angle bars, 8 in.	..	..	2
No. 57 Metal strips, 2½ in.	..	..	4
No. 59 " " 3½ in.	..	..	1
No. 66 Brackets	..	..	5
No. 68 Metal plates, 3 × 3 in.	..	..	3
No. 77 Axle rod, 3½ in.	..	..	1

MADE WITH
or Nos. 1

N^o. 2 OUTFIT,
and 1S.

COAL TRUCK WITH HINGED SIDES.



No. 113.

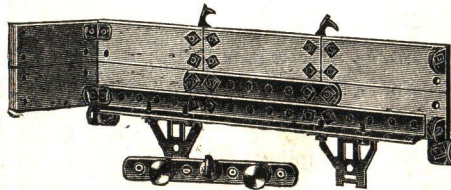


Diagram of inside, showing how the sides
are fitted up.

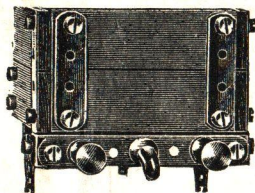
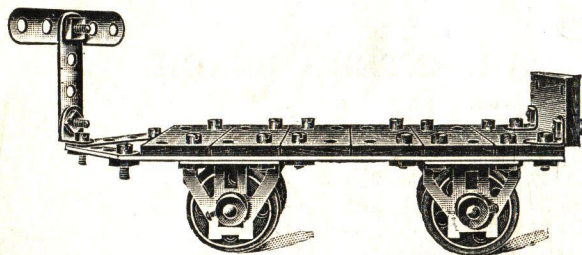


Diagram showing
how the end is
formed.



No. 114.

No. 25 Wood slips, 3 × 1 in. ..	..	..	16
Nos. 50 & 51 Nuts and screws ..	..	..	64
No. 54 Angle bars, 8 in. ..	..	..	2
No. 56 Metal strips, 2 in. ..	..	..	8
No. 57 " " 2½ in. ..	..	..	4
No. 59 " " 3½ in. ..	..	..	2
No. 60 " " 4 in. ..	..	..	2
No. 66 Brackets ..	..	..	12
No. 68 Metal Plates, 3 × 3 in. ..	..	..	3
No. 72 Straight hinges ..	..	..	4
No. 74 Trunnions ..	..	..	4
No. 75 Flanged wheels ..	..	..	4
No. 77 Axles, 3½ in. ..	..	..	2
No. 82 Collars ..	..	..	4
No. 84 Washers ..	..	..	4
No. 85 Buffers and nuts ..	..	..	4
No. 86 Coupling hooks ..	..	..	2
No. 95 Catches ..	..	..	4

This is a very handsome model and shows how the Buffer ends can be built up in a different manner from the other models.

LUGGAGE TROLLEY.

No. 25 Wood slips, 3 × 1 in. ..	..	..	7
Nos. 50 & 51 Nuts and screws ..	..	..	19
No. 56 Metal strips, 2 in. ..	..	..	3
No. 57 " " 2½ in. ..	..	..	1
No. 62 " " 6½ in. ..	..	..	2
No. 66 Brackets ..	..	..	3
No. 74 Trunnions ..	..	..	4
No. 75 Flanged wheels ..	..	..	4
No. 77 Axles, 3½ in. ..	..	..	2
No. 82 Collars ..	..	..	4

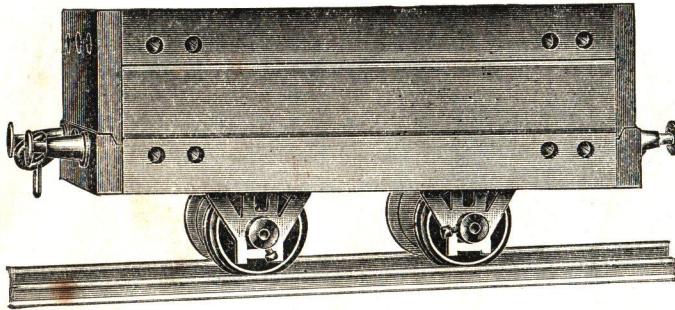
MADE WITH
or Nos. 1

No. 2

OUTFIT,
and 1S.

HEAVY GOODS TRUCK.

ALL WOOD, SIDES, ENDS AND
BUFFER BLOCKS.

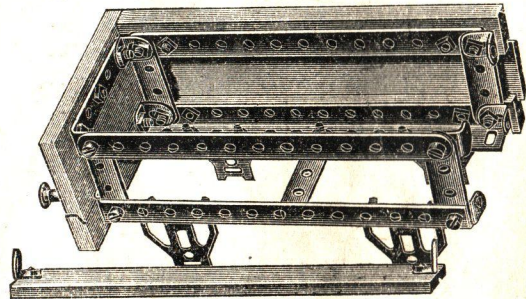


No. 116.

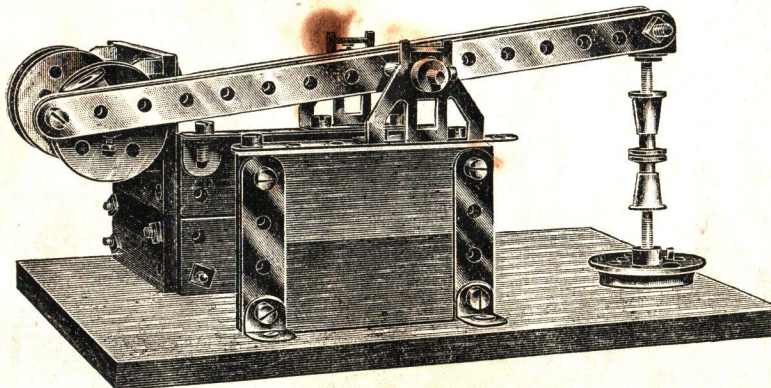
Inside showing how frame is built up. The wood floor has two brackets screwed on as shown; it is then placed inside with brackets downwards and secured, when the coupling hooks are pushed through.

Build up the whole metal frame first.

No. 1 Grooved side rails	..	4
No. 4 Buffer blocks	..	2
No. 9 Wood floor	..	1
No. 17 Truck sides	..	2
No. 18 Truck ends	..	2
Nos 50 & 51 Nuts and screws	..	36
No. 53 Ang'e bars, 6½ in.	..	2
No. 56 Metal strips, 2 in.	..	4
No. 57 " " 2½ in.	..	3
No. 62 " " 6½ in.	..	2
No. 66 Brackets	..	10
No. 74 Trunnions	..	4
No. 75 Flanged wheels	..	4
No. 78 Axles, 2½ in.	..	2
No. 82 Collars	..	4
No. 84 Washers	..	4
No. 85 Buffers and nuts	..	4
No. 86 Coupling hooks	..	2



HAMMER.

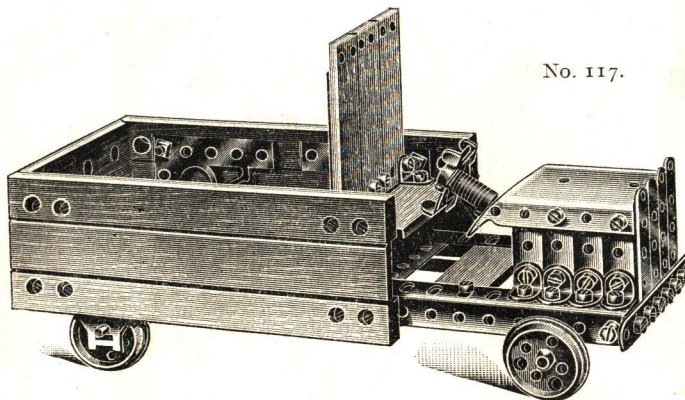


No. 108.

No. 25 Wood slips, 3 × 1 in.	7
Nos. 50 & 51 Nuts and screws	26
No. 56 Metal strips, 2 in.	4
No. 57 " " 2½ in.	4
No. 59 " " 3½ in.	2
No. 63 " " 8 in.	2
No. 66 Brackets	12
No. 74 Trunnions	4
No. 75 Flanged wheels	4
No. 77 Axle rods, 3½ in.	2
No. 82 Collars	4
No. 84 Washers	8
No. 85 Buffers and nuts	2
No. 97 Wood screws	6

This model can be worked by a motor or steam engine. If required to work by hand a handle axle can be procured, price 2d. each extra.

MADE WITH **N^o. 2** OUTFIT,
or Nos. 1 and 1S.



No. 117.

**ARMY SERVICE
MOTOR
TRANSPORT WAGON.**

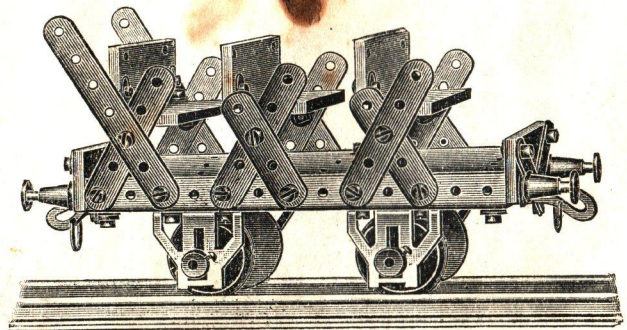
The Plate used for top of engine should be bent to fit. The steering wheel is made up of four catches, fixed with eight washers and two collars on a No. 78 axle rod. Four architraves are used to fix sides to angle bars.

No. 1 Grooved side rails	4	No. 65 Architraves	4
No. 17 Truck sides	2	No. 66 Brackets	16
No. 18 „ end	1	No. 68 Metal plates	3
No. 25 Wood slips, 3 × 1 in.	7	No. 74 Trunnions	4
Nos. 50 & 51 Nuts and screws	56	No. 75 Flanged wheels	4
No. 54 Angle bars, 8 in.	2	No. 77 Axle rods, 3½ in.	2
No. 56 Metal strips, 2 in.	8	No. 78 „ „ 2¾ in.	1
No. 57 „ „ 2½ in.	4	No. 82 Collars	4
No. 59 „ „ 3½ in.	2	No. 84 Washers	8
No. 60 „ „ 4 in.	2	No. 95 Catches	4

TOURIST CAR FOR SCENIC RAILWAYS.

No. 25 Wood slips, 3 × 1 in.	8
Nos. 50 & 51 Nuts and screws	50
No. 56 Metal strips, 2 in.	8
No. 57 „ „ 2½ in.	6
No. 59 „ „ 3½ in.	2
No. 53 Angle Bars, 6½ in.	2
No. 66 Brackets	16
No. 68 Metal plates, 3 × 3 in.	3
No. 74 Trunnions	4
No. 75 Flanged wheels	4
No. 77 Axles, 3½ in.	2
No. 82 Collars	4
No. 84 Washers	12
No. 85 Buffers and nuts	4
No. 86 Coupling hooks	2

NOTE.—2 Washers are placed over each screw that secures brackets to angle bars.



No. 115.

MADE WITH

or Nos. 1

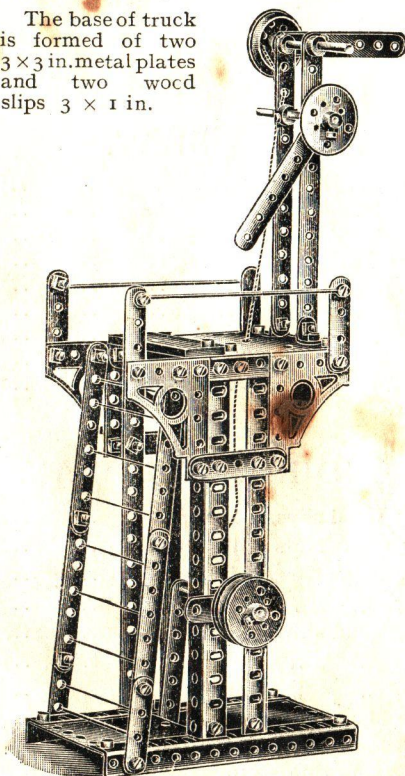
N^o. 2 OUTFIT,

and 1S.

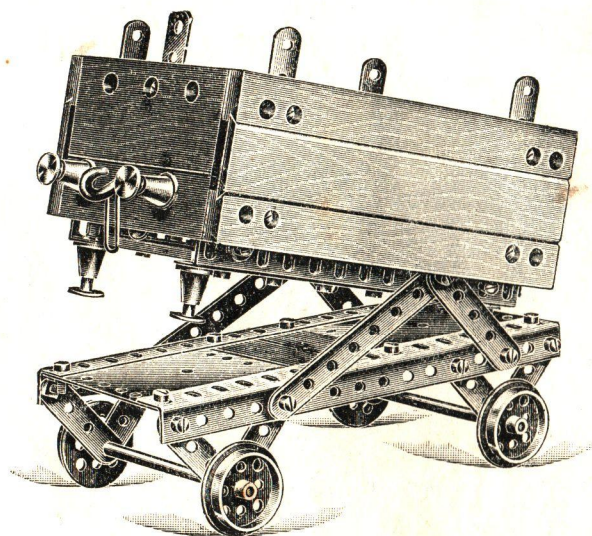
TIP WAGON.

No. 1 Grooved side rails	4
No. 4 Buffer blocks	1
No. 17 Truck sides	2
No. 18 " ends	2
No. 25 Wood slips, 3 × 1 in.	9
Nos. 50 & 51 Nuts and screws	48
No. 53 Angle bars, 6½ in.	2
No. 54 " " 8 in.	2
No. 56 Metal strips, 2 in.	8
No. 57 " " 2½ in.	2
No. 59 " " 3½ in.	5
No. 60 " " 4 in.	2
No. 66 Brackets.. .. .	2
No. 68 Metal plates, 3 × 3 in.	2
No. 75 Flanged wheels	4
No. 77 Axle rods, 3½ in.	2
No. 85 Buffers and nuts	4
No. 86 Coupling hook.. .. .	1

The base of truck is formed of two 3 × 3 in. metal plates and two wood slips 3 × 1 in.



No. 118.



No. 122.

SIGNAL GANTRY.

No. 25 Wood slip, 3 × 1 in.	1
Nos. 50 & 51 Nuts and screws	55
No. 53 Angle bars, 6½ in... .. .	2
No. 54 " " 8 in... .. .	2
No. 56 Metal strips, 2 in... .. .	8
No. 57 " " 2½ in.	5
No. 59 " " 3½ in.	5
No. 60 " " 4 in... .. .	2
No. 62 " " 6½ in.	2
No. 63 " " 8 in.	2
No. 65 Architraves	4
No. 66 Brackets	11
No. 68 Metal plates, 3 × 3 in.	3
No. 75 Flanged wheels	4
No. 77 Axle rod, 3½ in.	1
No. 78 " " 2½ in.	2
No. 82 Collars	4
No. 96 Signal rods	2

Cord is used to form the ladder, and for working the Signals.

MADE WITH

or Nos. 1

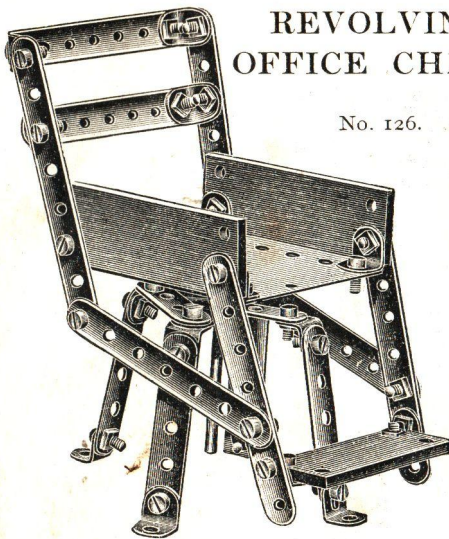
No. 2

OUTFIT,

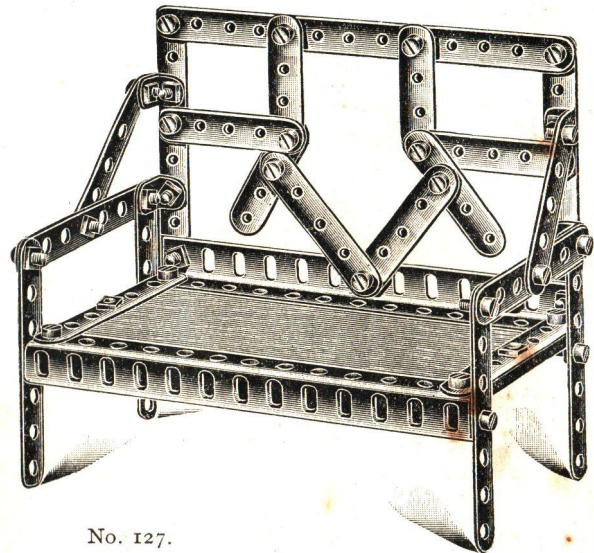
and 1S.

REVOLVING
OFFICE CHAIR.

No. 126.



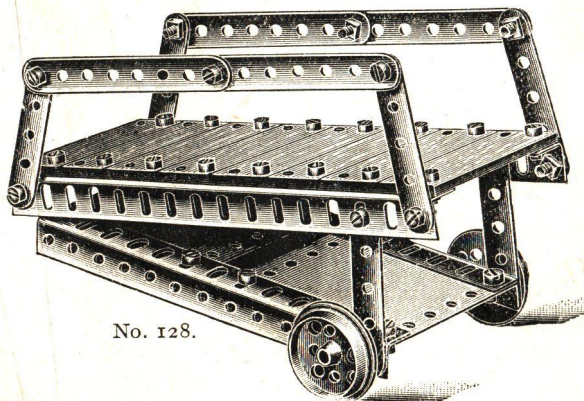
No. 25 Wood slips, 3 × 1 in.	..	..	3
Nos. 50 & 51 Nuts and screws	..	..	36
No. 56 Metal strips, 2 in.	..	..	1
No. 57 " " 2½ in.	..	..	6
No. 59 " " 3½ in.	..	..	6
No. 60 " " 4 in.	..	..	3
No. 75 Flanged wheels	..	..	1
No. 78 Axle rod, 2½ in.	..	..	1
No. 68 Metal plate, 3 × 3 in.	..	..	1
No. 66 Brackets	..	..	16
No. 82 Collars..	..	..	2



No. 127.

GARDEN SEAT.

No. 9 Floor	..	..	..	..	1
Nos. 50 & 51 Nuts and screws	..	..	..	..	35
No. 53 Angle bars, 6½ in.	..	..	..	..	2
No. 56 Metal strips, 2 in.	..	..	..	..	4
No. 57 " " 2½ in.	..	..	..	..	6
No. 59 " " 3½ in.	..	..	..	..	8
No. 60 " " 4 in.	..	..	..	..	2
No. 62 " " 6½ in.	..	..	..	..	1
No. 66 Brackets	..	..	..	..	8



No. 128.

LANDING GANGWAY.

No. 25 Wood slips, 3 × 1 in...	..	..	8
Nos. 50 & 51 Nuts and screws	..	..	38
No. 53 Angle bars, 6½ in.	..	..	2
No. 54 " " 8 in.	..	..	2
No. 57 Metal strips, 2½ in.	..	..	6
No. 59 " " 3½ in.	..	..	2
No. 60 " " 4 in.	..	..	2
No. 68 Metal plates, 3 × 3 in.	..	..	2
No. 75 Flanged wheels	..	..	2
No. 77 Axle rods, 3½ in.	..	..	1

MADE WITH

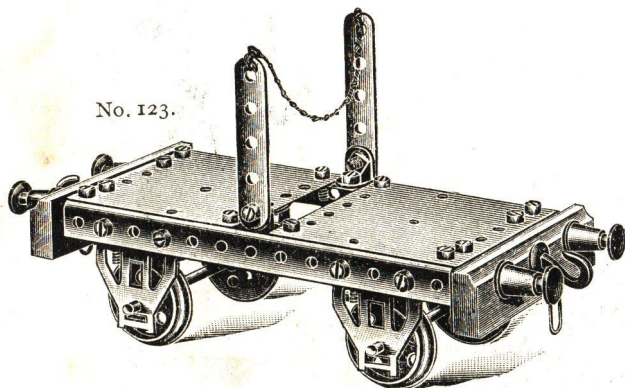
or Nos. 1

N^o. 2 OUTFIT,

and 1S.

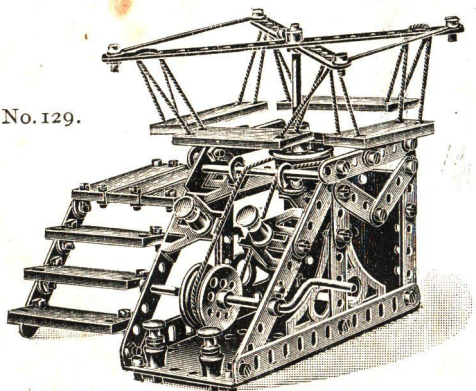
TIMBER WAGON.

No. 123.



No. 4 Buffer blocks	..	..	2
Nos. 50 & 51 Nuts and screws	..	..	32
No. 53 Angle bars, 6½ in.	..	..	2
No. 56 Metal strips, 2 in.	..	..	2
No. 57 „ „ 2½ in.	..	..	2
No. 66 Brackets	..	..	12
No. 68 Metal plates, 3 × 3 in.	..	..	2
No. 74 Trunnions	..	..	4
No. 75 Flanged wheels	..	..	4
No. 77 Axle rods, 3½ in.	..	..	2
No. 85 Buffers and nuts	..	..	4
No. 86 Coupling Hooks	..	..	2

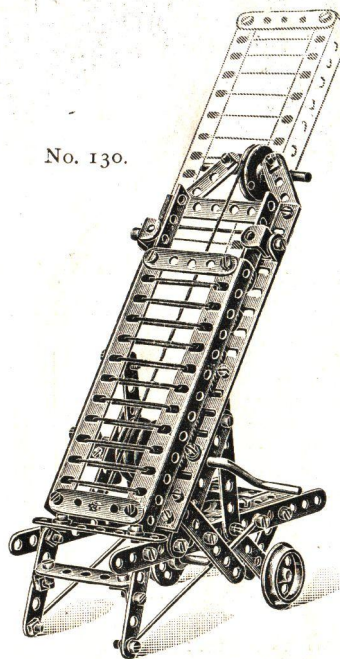
No. 129.

**ROUNDABOUT.**

No. 25 Wood slips, 3 × 1 in.	..	..	11
Nos. 50 & 51 Screws and nuts	..	..	61
No. 53 Angle bars, 6½ in.	..	..	2
No. 56 Metal strips, 2 in.	..	..	5
No. 57 „ „ 2½ in.	..	..	5
No. 59 „ „ 3½ in.	..	..	8
No. 60 „ „ 4 in.	..	..	2
No. 63 „ „ 8 in.	..	..	2
No. 65 Architraves	..	..	4
No. 66 Brackets	..	..	16
No. 68 Metal plates, 3 × 3 in.	..	..	3
No. 74 Trunnions	..	..	4
No. 75 Flanged wheels	..	..	4
No. 77 Axles, 3½ in.	..	..	2
No. 82 Collars and screws	..	..	4
No. 84 Washers	..	..	10
No. 85 Buffers and nuts	..	..	4
No. 96 Signal post rods	..	..	2

EXTENDING**LADDER.**

No. 130.

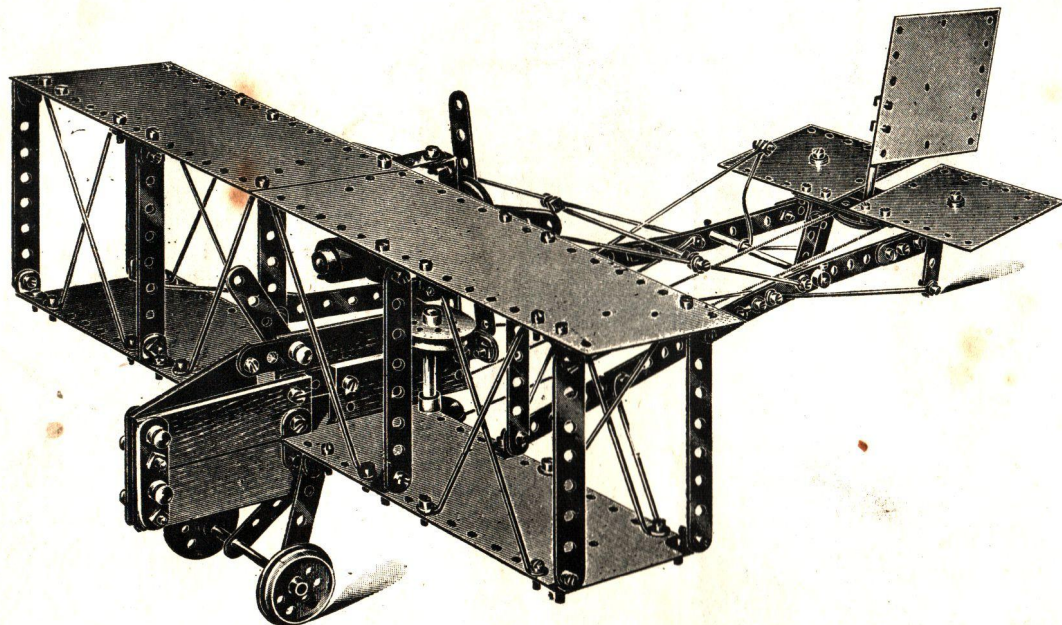


No. 50 & 51 Screws and nuts	..	..	53
No. 53 Angle bars, 6½ in.	..	..	2
No. 54 Angle bars, 8 in.	..	..	2
No. 56 Metal strips, 2 in.	..	..	4
No. 57 Metal strips, 2½ in.	..	..	6
No. 59 Metal strips, 3½ in.	..	..	5
No. 60 Metal strips, 4 in.	..	..	2
No. 63 Metal strips, 8 in.	..	..	2
No. 65 Architraves	..	..	2
No. 66 Brackets	..	..	16
No. 72 Straight hinges	..	..	1
No. 75 Flanged wheels	..	..	4
No. 77 Axles, 3½ in.	..	..	1
No. 78 „ 2½ in.	..	..	1
No. 82 Collars and screws	..	..	3
No. 84 Washers	..	..	12
No. 95 Catches	..	..	1
No. 96 Signal post rods	..	..	2

Extra parts required :

No. 76 Pulley wheels, grooved	..	..	1
No. 83 Handle axles	..	..	1

MADE WITH **N^o. 5** OUTFIT,
and Additional Parts.



No. 350.

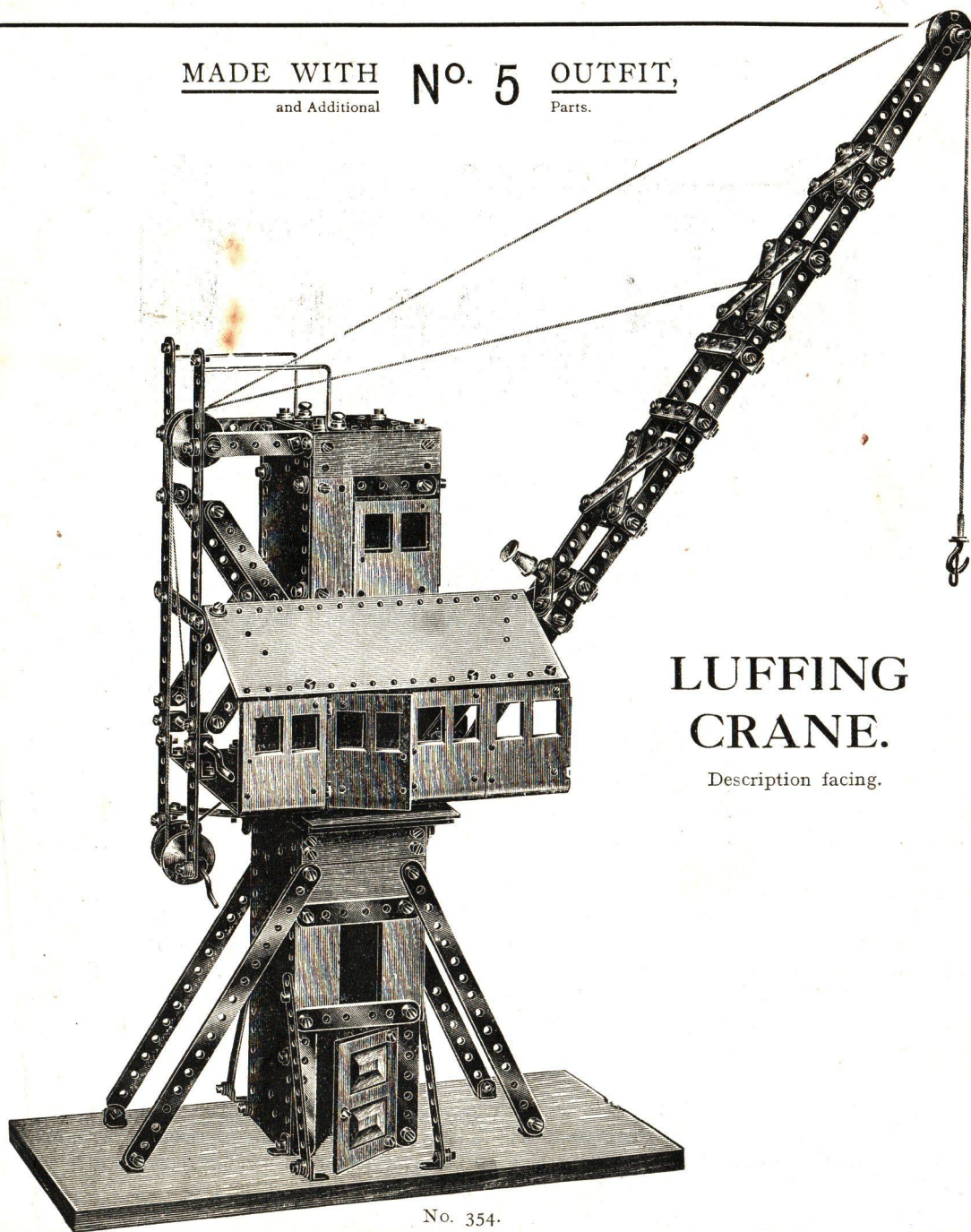
FARMAN BIPLANE

WITH CONTROL LEVERS OPERATING ELEVATING PLANES AND RUDDER.

	With No. 5 Outfit.	Additional parts.		With No. 5 Outfit.	Additional parts.
No. 25 Wood slips, 3 × 1 in.	.. 6	.. -	No. 75 Flanged wheels	.. 4	.. -
Nos. 50 & 51 Nuts and screws	.. 112	.. -	No. 76 Grooved wheels	.. 3	.. -
No. 56 Metal strips, 2 in...	.. 16	.. 1	No. 77 Axle rods, 3½ in.	.. 4	.. -
No. 57 " " 2½ in.	.. 4	.. -	No. 78 " " 2¾ in.	.. 2	.. -
No. 60 " " 4 in...	.. 3	.. 7	No. 82 Collars	.. 13	.. -
No. 64 " " 12½ in.	.. 2	.. -	No. 84 Washers	.. 20	.. -
No. 66 Brackets	.. 34	.. -	No. 92 Knob screws	.. 4	.. 1
No. 67 Metal plates, 8 × 3 in.	.. 4	.. -	No. 96 Signal post rods	.. 12	.. 18
No. 68 " " 3 × 3 in.	.. 3	.. -			

The planes are made with 8 × 3 in. metal plates, overlapping and screwed together. Signal post rods are used for the stays and as connecting rods for steering. Cord is used as illustration for operating the rudder.

MADE WITH **Nº. 5** OUTFIT,
and Additional Parts.



LUFFING CRANE.

Description facing.

No. 354.

MADE WITH **N^o. 5** OUTFIT,

and Additional

Parts.

BIG WHEEL.

		PARTS REQUIRED.			
		Parts from No. 5 Outfit.	Additional parts.	Parts from No. 5 Outfit.	Additional parts.
No. 3 Carriage ends	2	..	14	No. 64 Metal strips, 12½ in. ..	3 .. 19
No. 25 Wood slips, 3 × 1 in. ..	25	..	23	No. 66 Brackets	78 .. 66
Nos. 50 & 51 Nuts and screws ..	312	..	195	No. 68 Metal plates, 3 × 3 in. ..	10 .. 6
No. 53 Angle bars, 6½ in. ..	4	..	—	No. 74 Trunnions	2 .. —
No. 55 „ „ 12 in. ..	2	..	4	No. 75 Flanged wheels	2 .. —
No. 56 Metal strips, 2 in. ..	16	..	32	No. 77 Axle rods, 3½ in. ..	4 .. 12
No. 58 „ „ 3 in. ..	8	..	36	No. 82 Collars	13 .. 23
No. 60 „ „ 4 in. ..	3	..	29	No. 84 Washers	48 .. 22
No. 61 „ „ 5½ in. ..	4	..	—	No. 96 Signal post rods ..	4 .. 12
No. 63 „ „ 8 in. ..	12	..	32		

SPECIAL :—

1 Special 12 in. Axle rod, price 1s.

1 8 in. Angle bar cut in half, price 3d.

MEASUREMENTS :—

Height	28½ in.	Diameter of wheel	23 in.
Width	25 „	Depth of wheel	8½ „

The stand should be built and then the framework of the wheel.

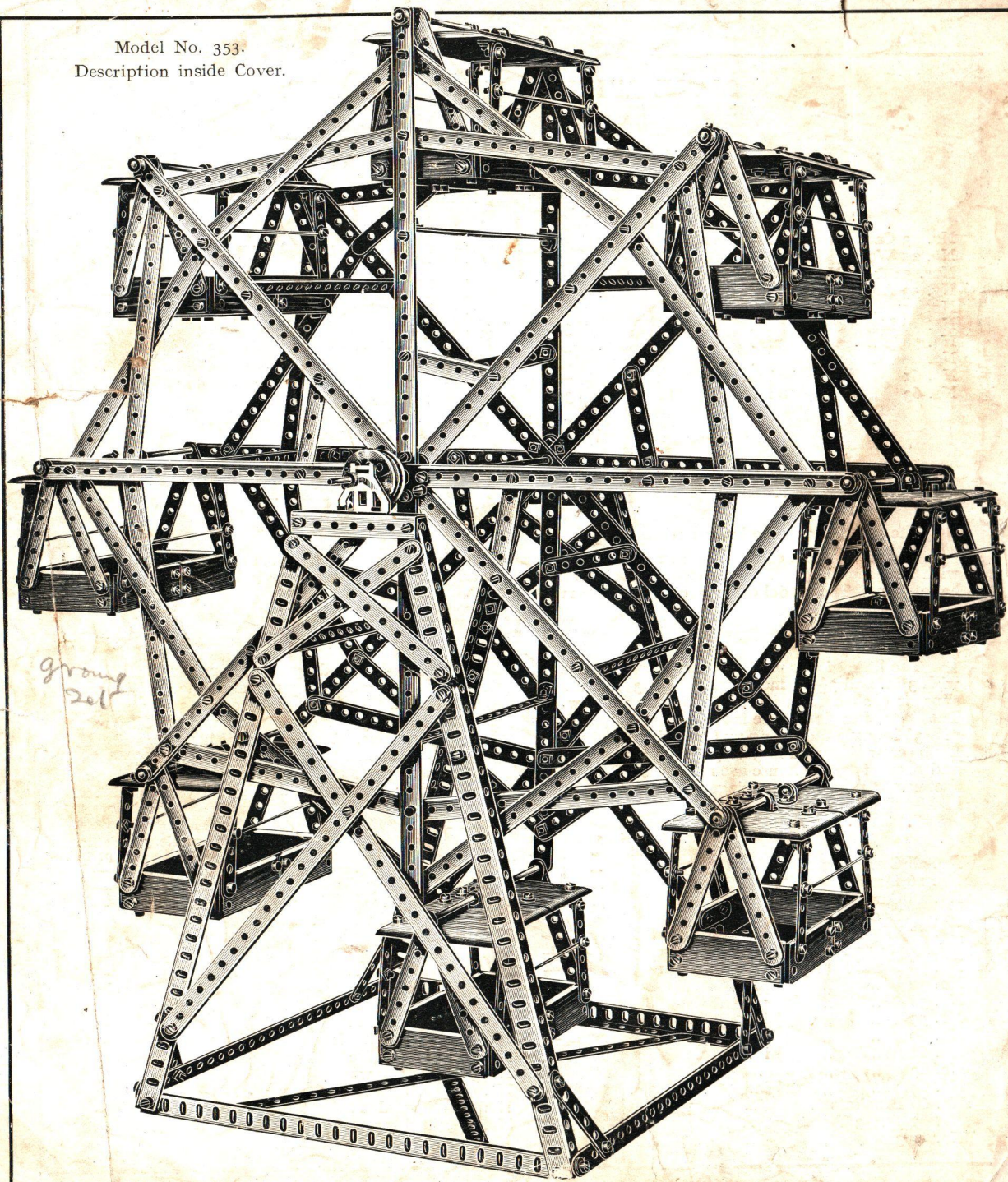
The roofs of the carriages are made with two carriage ends, placed lengthways, and are joined together with 2 in. metal strips. Two extra holes require to be made in each, for brackets to be fixed to for sides to hang from. The model otherwise is straightforward.

LUFFING CRANE.

The base of this model is composed of three 8 × 3 in. metal plates standing on end, and the front part with 3 in. and 3½ in. metal strips and 3 × 1 in. wood slips, and is supported by means of four 8½ in. metal slips at each corner, joined to brackets, screwed to the baseboard. The roof of base is a 3 × 3 in. plate. The floor of engine house is two 8 × 3 in. plates screwed together, and is joined to the lower part by means of a 3½ in. axle rod, using pulley and flanged wheels, as in earlier models. The balance is kept by using four knob screws inserted in 3 × 3 in. plate at a similar height to one flanged and one pulley wheel. The front and back of engine house are made with 8 × 3 in. plates, the lower parts of sides with 3 × 3 in. plates, and the upper part with carriage windows and 3 × 1 in. wood slips; the remainder is easily gleaned from illustration.

		PARTS REQUIRED.			
		Parts from No. 5 Outfit.	Additional parts.	Parts from No. 5 Outfit.	Additional parts.
No. 8 Centra lwindows	2	..	4	No. 72 Hinges	2 .. —
No. 16 Door	1	..	—	No. 73 Bent hinges	2 .. —
No. 18 Carriage ends	1	..	—	No. 75 Flanged wheel	1 .. —
No. 19 Baseboard	1	..	—	No. 76 Grooved wheels	4 .. 3
No. 25 Wood slips	8	..	—	No. 77 Axle rods, 3½ in. ..	2 .. —
Nos. 50 & 51 Nuts and screws ..	202	..	—	No. 79 „ „ 1½ in. ..	1 .. —
No. 56 Metal strips, 2 in. ..	14	..	—	No. 82 Collars	8 .. —
No. 57 „ „ 2½ in. ..	4	..	—	No. 83 Handle axle	1 .. 1
No. 58 „ „ 3 in. ..	8	..	3	No. 84 Washers	48 .. 90
No. 59 „ „ 3½ in. ..	6	..	—	No. 85 Buffers	1 .. —
No. 60 „ „ 4 in. ..	3	..	—	No. 86 Coupling hook	1 .. —
No. 61 „ „ 5½ in. ..	4	..	4	No. 88 Door handle	1 .. —
No. 63 „ „ 8 in. ..	4	..	—	No. 91 „ „ screws	16 .. 1
No. 64 „ „ 12½ in. ..	3	..	3	No. 92 Knob screws	4 .. 3
No. 66 Brackets	78	..	37	No. 96 Wire rods	3 .. —
No. 67 8 × 3 Plates	8	..	—	No. 97 Wood screws	8 .. —
No. 68 3 × 3 „ ..	4	..	—		

Model No. 353.
Description inside Cover.



MODEL OF BIG WHEEL.