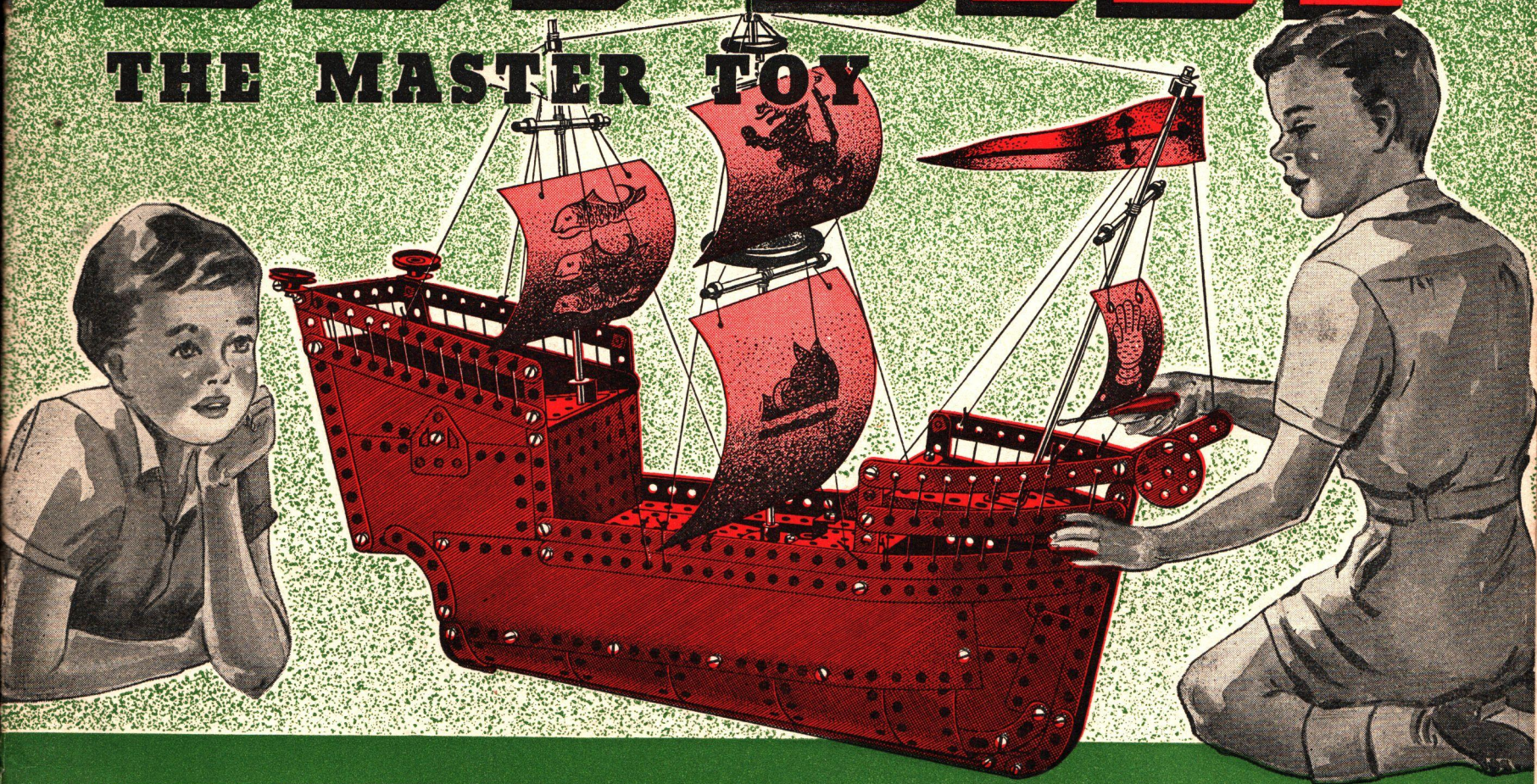


EZY-BILT

THE MASTER TOY



INSTRUCTION BOOK FOR SETS 6, 7 and 8

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EZY-BILT

THE MASTER TOY

Illustrated on the following pages are suggestions for models you may construct with Ezy-Bilt Sets 6, 7, 8. The number of models you may create is not by any means limited to these ninety illustrations. The more ingenuity you have, the greater the number of interesting models you can produce.

The Building Instructions are arranged in an order that guides your progress from the simple models through to the intricate working models.

INSTRUCTIONS FOR USE

All Ezy-Bilt pieces are pierced to take the standard-sized nuts and screws supplied. Any two pieces can be bolted together at any point by lining up the appropriate holes.

Hold the nut in line with the holes and engage the screw. Tighten up the screw enough to hold the pieces firmly together, but do not attempt to over-tighten or damage to the screw-cut or screw-thread may occur.

WHEELS

When a wheel is wanted to revolve freely on its axle, use the wheel that has no boss and screw. If the wheel

has to turn the axle, use the bossed wheel, again taking care to screw firmly but not so tightly that threads or screw cuts are damaged.

BELT DRIVES ON WORKING MODELS

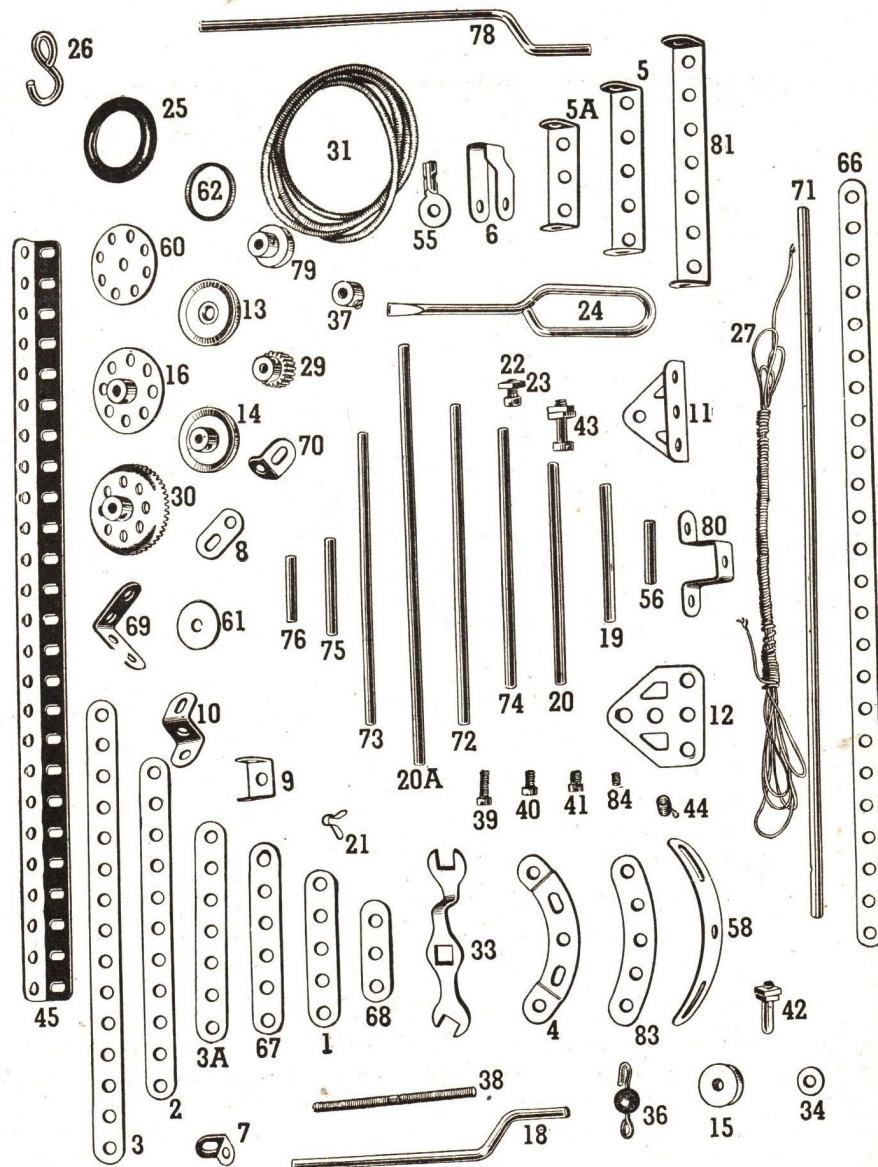
Use the string or spring cord supplied to make belt drives between wheels. The best knot to use when using string (one that every Boy Scout can tie) is the reef knot, which will not slip, and is still very easy to untie. To make belt-driven wheels rotate in opposite directions, simply loop the string over the wheels so that it crosses.

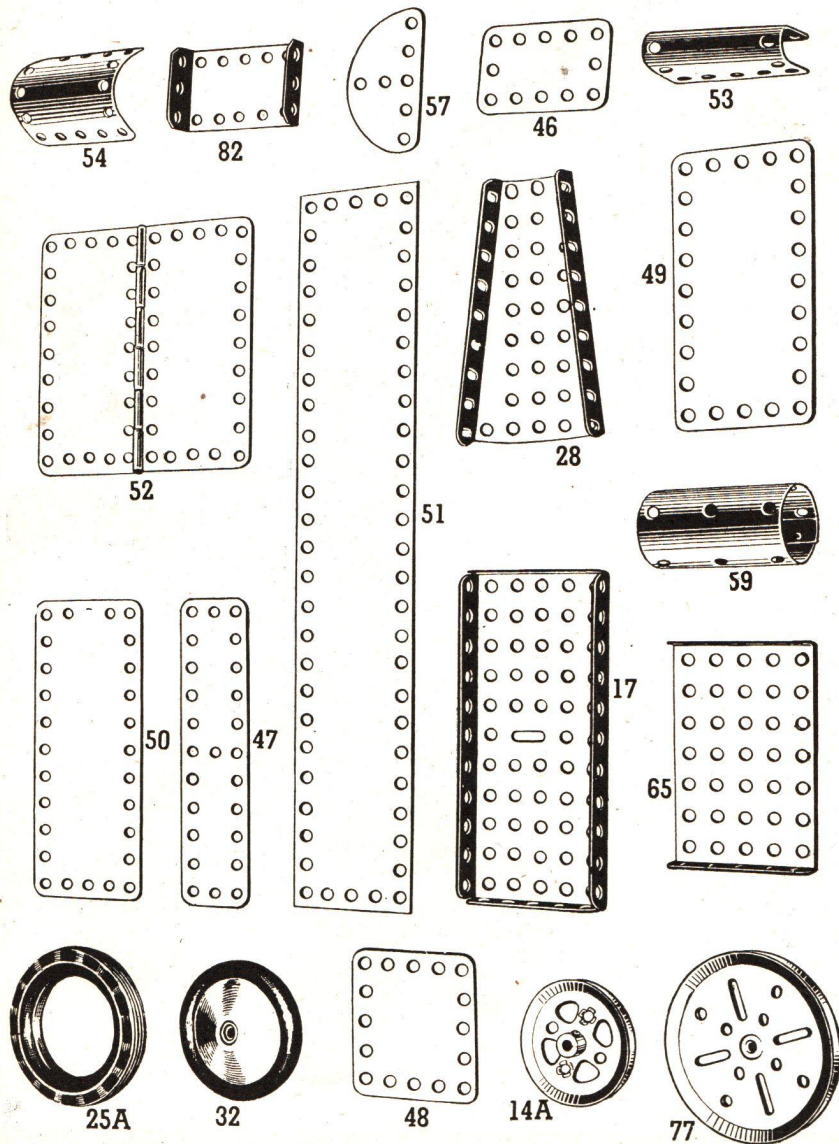
EZY-BILT PROGRESS

When you have gained confidence and skill in constructing the illustrated models, you will no doubt wish to design your own models. Should your plans demand more components than are supplied with your Set, duplicates of any Ezy-Bilt parts may be purchased from any Ezy-Bilt dealer in the Commonwealth.

CONTENTS OF EZY-BILT SETS 6 TO 8

Part No.	Description and Size	Quantities		
		Set 6	Set 7	Set 8
1	Perforated Strips 2½"	10	12	12
2	Perforated Strips 5½"	8	14	14
3	Perforated Strips 7½"	4	4	4
3a	Perforated Strips 3½"	2	2	4
4	Curved Strip, Cranked, 2½" x 1-3/8" radius	4	4	4
5	Double Angle Strips, 2½" x ½"	6	8	8
5a	Double Angle Strips, 1½" x ½"	2	2	2
6	Crank Bent Strips	1	1	1
7	Angle Bracket, ½" x ½"	10	12	16
8	Flat Bracket	6	8	8
9	Double Bracket	3	4	4
10	Reversed Angle Bracket ½"	3	4	4
11	Angle Trunnion	2	2	2
12	Flat Trunnion	2	2	4
13	Pulley Wheel, 1" without Boss	2	2	2
14	Pulley Wheel, 1" with Boss	5	5	5
14a	Wheels, 2" with Boss	4	4	4
15	Pulley Wheel, Brass, ½" without Boss	1	1	1
16	Bush Wheel	1	1	1
17	Base Plate, 5½" x 2½"	1	1	1
18	Crank Handle 3½"	1	1	1
19	Axle Rod 2"	4	4	4
20	Axle Rod 3½"	4	4	4
20a	Axle Rod 6½"	2	2	2
21	Spring Clips	12	14	14
22	Nuts 5/32"	81	91	111
23	Bolts ¼" x 5/32"	75	85	105
24	Screw Driver	1	1	1
25	1" Tyres, Rubber	4	4	4
25a	Rubber Tyres 2"	4	4	4
26	Plain Hooks	—	—	—
27	Hank of Cord	1	1	2
28	Flanged Sector Plate	2	2	2
29	Brass Cog, ½" x ¼"	1	1	1
30	Brass Con. Wheel 1½"	1	1	1
31	30" Spring Cord	1	1	1
32	Road Wheels	4	4	4
33	Spanner	2	2	2
34	Washers	8	14	20
36	Hook Loaded Small	1	1	1
37	Collars with Set Screws	—	—	4
38	Screw Rods 3"	—	2	2
39	Bolt ¾"	—	—	2
40	Bolt ½"	—	2	2
41	Bolt 3/8"	6	6	6





CONTENTS OF EZY-BILT SETS 6 TO 8

Part No.	Description and Size	Quantities		
		Set 6	Set 7	Set 8
42	Threaded Pin	—	1	1
43	Pivot Bolt with 2 nuts	—	1	1
44	Anchoring Spring for Cord	1	1	1
45	Angle Girder 12½"	—	4	4
46	Flexible Plates, 2½" x 1½"	2	4	4
47	Flexible Plates, 5½" x 1½"	2	4	4
48	Flexible Plates, 2½" x 2½"	4	4	6
49	Flexible Plates, 4½" x 2½"	2	2	2
50	Flexible Plates, 5½" x 2½"	2	4	4
51	Strip Plates, 12½" x 2½"	—	—	2
52	Hinged Flat Plates, 4½" x 2½"	—	1	1
53	Curved Plate U-Section, 2½" x 2½" x 9/32" radius	2	2	2
54	Curved Plate U-Section, 2½" x 2½" x 1-11/16" radius	2	2	2
55	Rod and Strip Connector	1	1	2
56	Rod Connector	1	1	2
57	Semi-Circular Plate 2½"	2	2	2
58	Formed Slotted Strip 3"	4	4	4
59	Cylinders 2½"	—	1	1
60	Discs 1½"	2	4	4
61	Discs ¾"	2	2	2
62	Driving Band, 3" light	1	1	1
63	Driving Band, 6" light	—	1	1
64	Driving Band, 10" light	—	—	1
65	Flanged Plate, 3½" x 2½"	—	—	2
66	Perforated Strips 12½"	4	10	12
67	Perforated Strips 3"	—	—	2
68	Perforated Strips 1½"	—	2	2
69	Angle Bracket, 1" x 1"	—	2	2
70	Obtuse Angle Bracket, ½" x ½"	4	4	6
71	Axle Rod 1½"	—	—	1
72	Axle Rod 5"	—	2	2
73	Axle Rod 4½"	—	1	1
74	Axle Rod 4"	2	2	2
75	Axle Rod 1½"	2	4	4
76	Axle Rod 1"	1	1	1
77	Pulley Wheel, 3" with Boss	2	2	2
78	Crank Handle 5"	—	—	1
79	Pulley Wheel, Brass, ½" with Boss	—	—	1
80	Double Bent Strips	—	1	1
81	Double Angle Strips, 3½" x ½"	—	—	2
82	Base Plate, 2½" x 1½"	1	1	1
83	Curved Strip, Plain, 2½" x 2-3/8" radius	—	—	2
84	Grub Screw	18	18	23



6.30 ELEVATED CABIN CRANE

Pivot the superstructure of the model on a Rod which is secured in the boss of the 3" Pulley. Two $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips, one bolted midway down the Flanged Sector Plates and one at the top form bearings for the Rod.

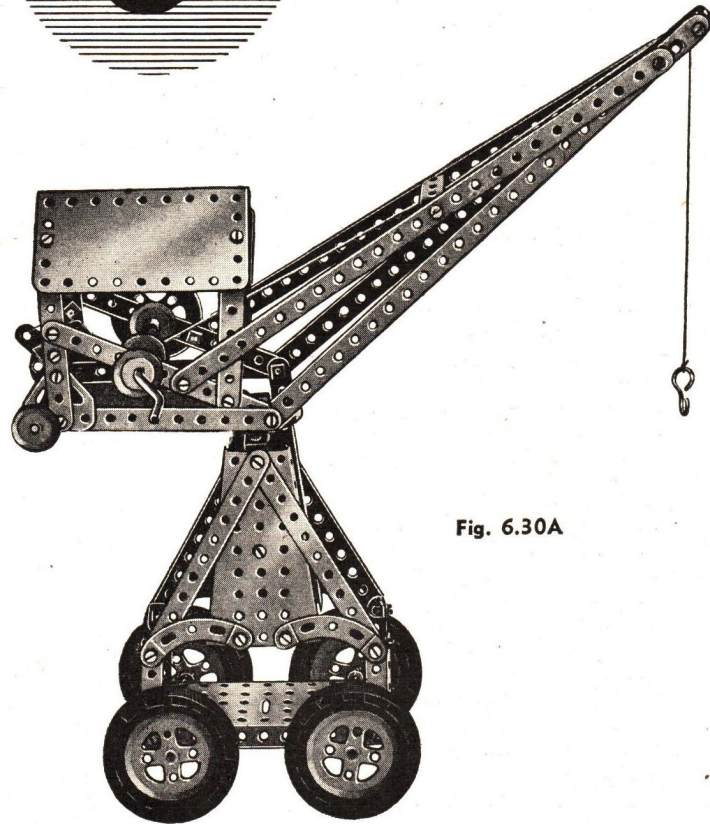
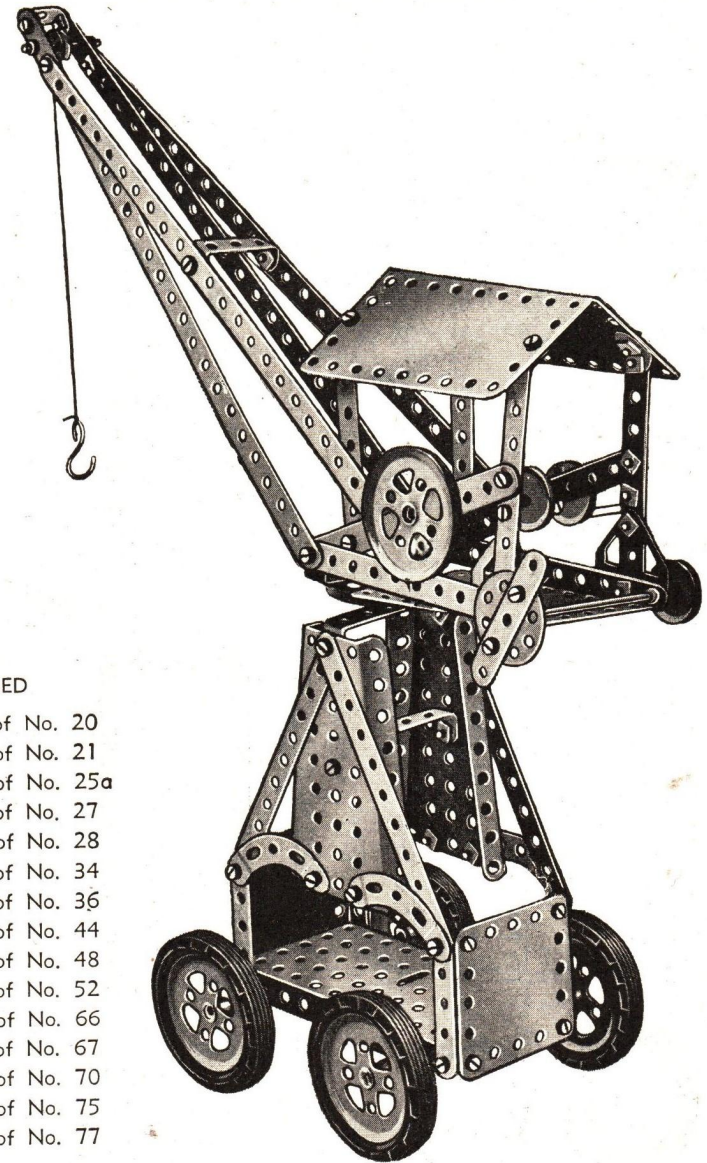


Fig. 6.30A

PARTS REQUIRED

9 of No. 1	2 of No. 20
8 of No. 2	4 of No. 21
4 of No. 4	4 of No. 25a
6 of No. 5	1 of No. 27
1 of No. 5a	2 of No. 28
2 of No. 7	4 of No. 34
1 of No. 9	1 of No. 36
2 of No. 11	1 of No. 44
2 of No. 12	3 of No. 48
4 of No. 14	1 of No. 52
4 of No. 14a	4 of No. 66
1 of No. 15	1 of No. 67
1 of No. 16	3 of No. 70
1 of No. 17	1 of No. 75
1 of No. 18	2 of No. 77



6.26 ROAD RACER

Use two $\frac{3}{8}$ " bolts as stub axles for the front wheels. Pass them through the free holes of the Flat Brackets bolted to the chassis members and lock them in the bosses of the wheels. Treat the rear wheels similarly, but use two Washers to space the Flat Brackets from the chassis. Fasten the tonneau cover to the top of the driver's seat with an Obtuse Angle Bracket.

Build the driver's seat from two Trunnions and two Flat Trunnions bolted to a $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Double Angle Strip.

A Bush Wheel represents the steering wheel, which is fastened to a 1" Rod. Secure the Rod with Spring Clips to an Angle Bracket under the instrument panel.

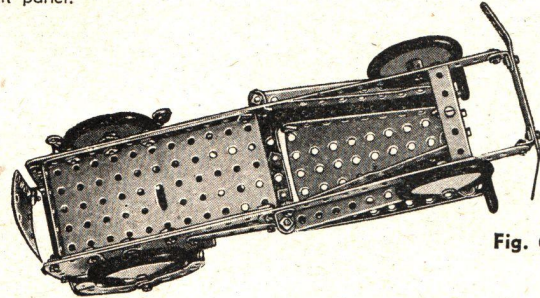
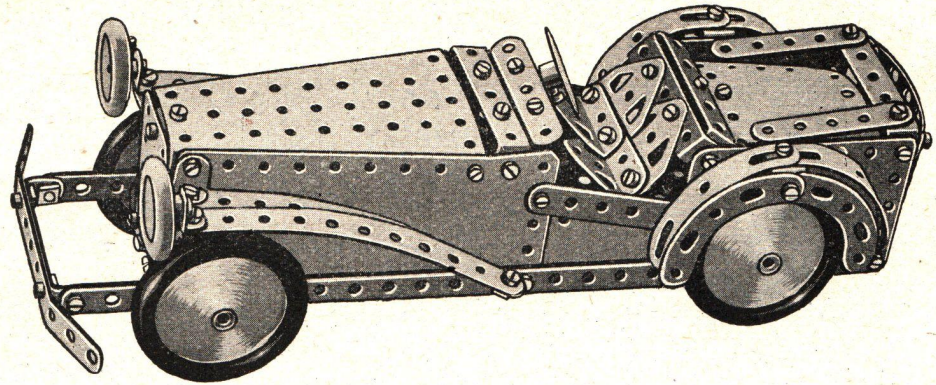
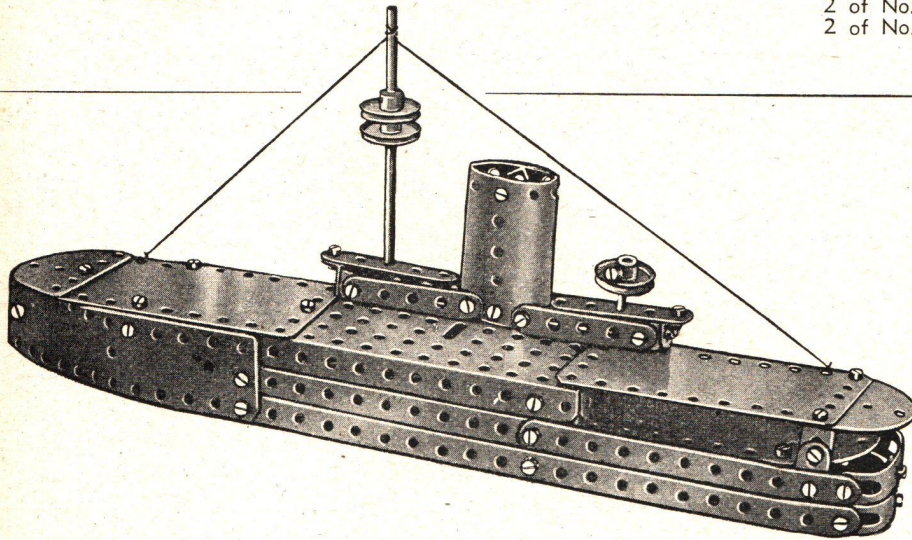


Fig. 6.26A

PARTS REQUIRED

9 of No. 1	2 of No. 11	4 of No. 32	1 of No. 56
5 of No. 2	2 of No. 12	7 of No. 34	4 of No. 58
4 of No. 4	3 of No. 14	6 of No. 41	2 of No. 60
6 of No. 5	1 of No. 16	2 of No. 46	2 of No. 66
1 of No. 6	1 of No. 17	2 of No. 48	1 of No. 67
6 of No. 7	1 of No. 20	2 of No. 50	3 of No. 70
4 of No. 8	2 of No. 21	2 of No. 53	1 of No. 76
2 of No. 9	2 of No. 25	1 of No. 54	1 of No. 82
2 of No. 10	1 of No. 28	1 of No. 55	



6.2 FLAT TOP

Use Flat Trunnions to fasten the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plates of the decking to the strips forming the sides.

PARTS REQUIRED

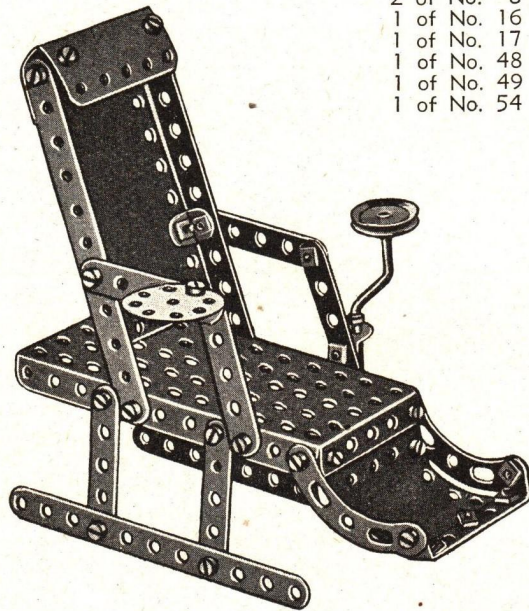
6 of No. 1	2 of No. 12	2 of No. 47
4 of No. 2	3 of No. 14	2 of No. 49
1 of No. 5	2 of No. 16	1 of No. 50
6 of No. 7	1 of No. 17	2 of No. 53
4 of No. 8	1 of No. 21	2 of No. 57
2 of No. 9	2 of No. 41	4 of No. 58
1 of No. 11	2 of No. 46	1 of No. 74



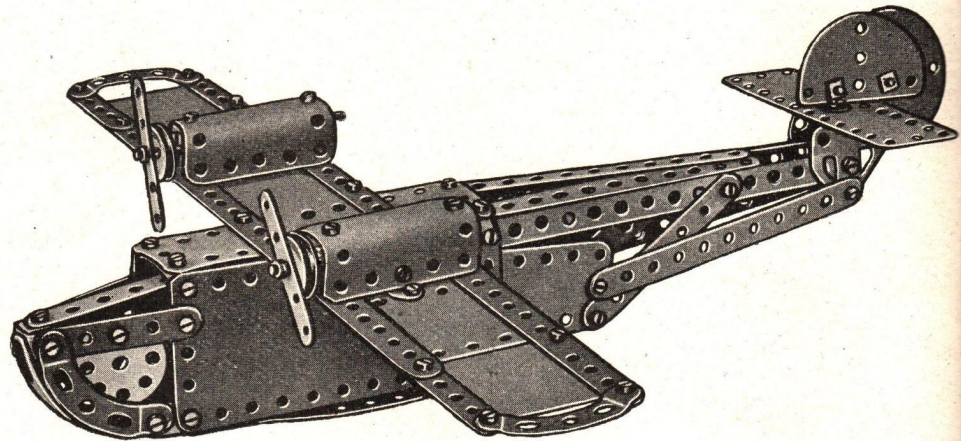
6.6 SURGERY CHAIR

PARTS REQUIRED

8 of No.	1
4 of No.	2
3 of No.	4
1 of No.	5
4 of No.	7
2 of No.	8
1 of No.	16
1 of No.	17
1 of No.	48
1 of No.	49
1 of No.	54



6.12 AIR-SEA RESCUE PLANE



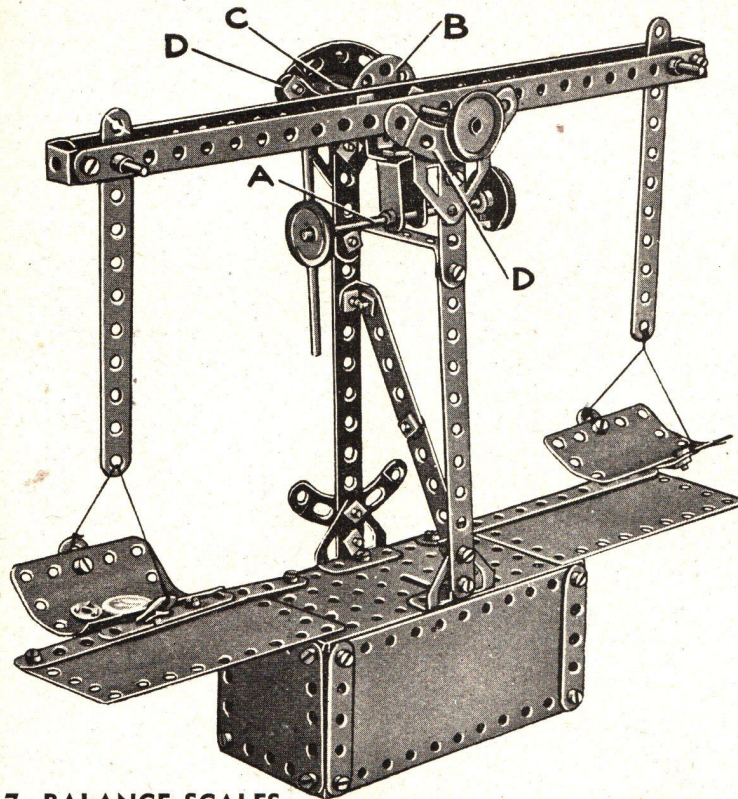
The photograph will clearly illustrate the construction of the hull. Fasten the strips and curved strips to a double bracket to form the bow. Use 1" fast pulleys to represent the motors, and U-section curved plates as the nacelles.

Fasten them to the wings by $\frac{1}{2}$ " x $\frac{1}{2}$ " angle brackets. $3\frac{1}{2}$ " rods form the propeller shafts and $2\frac{1}{2}$ " double angle strips bolted to inside-top of the nacelles form the shaft bearings.

Use a double bracket and two flat trunnions to support the tail-plane unit. A $5\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plate forms the tail-plane, and bolted to it is an angle bracket which supports the $2\frac{1}{2}$ " semi-circular flat plate forming the fin and rudder.

PARTS REQUIRED

9 of No. 1	2 of No. 8	2 of No. 14	2 of No. 46	2 of No. 53
6 of No. 2	2 of No. 9	2 of No. 20	2 of No. 47	2 of No. 57
4 of No. 4	1 of No. 10	4 of No. 21	2 of No. 48	2 of No. 58
2 of No. 5	2 of No. 11	2 of No. 25	2 of No. 49	2 of No. 60
8 of No. 7	2 of No. 12	6 of No. 41	2 of No. 50	2 of No. 66



6.7 BALANCE SCALES

The Bush Wheel B forms the centre of the balance. One of the 12½" Strips that form the beam is bolted across the Bush Wheel. The 3½" Rod C is locked in the boss of the Bush Wheel and on two Curved Strips D. The balance may be adjusted by the weights on Rod A, which is pushed through the two holes of a Cranked Bent Strip, which is fastened to the Bush Wheel by a Reversed Angle Bracket. The scale-pans are suspended on 2" Rods secured by Spring Clips.

PARTS REQUIRED

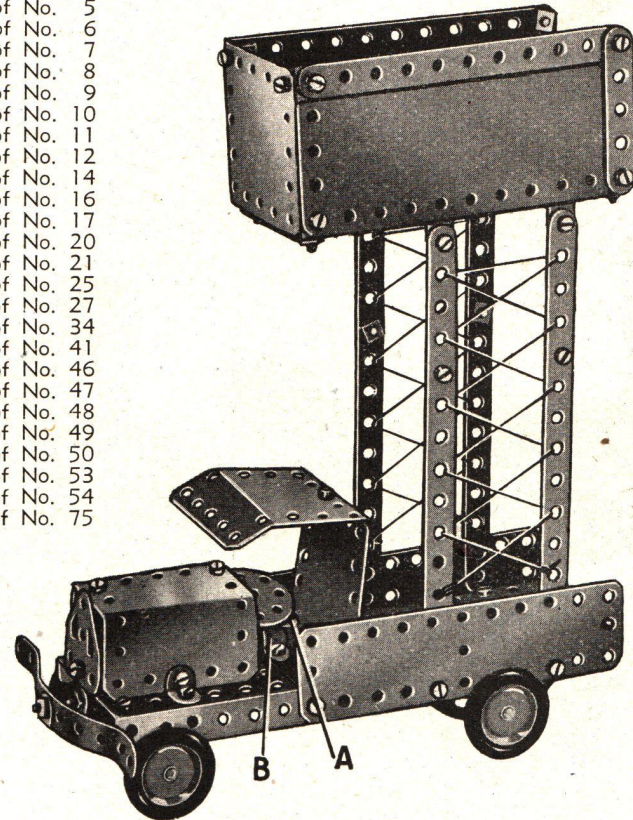
9 of No. 1	1 of No. 10	2 of No. 20	2 of No. 50
6 of No. 2	2 of No. 11	6 of No. 21	2 of No. 54
4 of No. 4	2 of No. 12	1 of No. 27	1 of No. 56
2 of No. 5	4 of No. 14	5 of No. 34	2 of No. 58
1 of No. 6	1 of No. 16	4 of No. 41	2 of No. 66
5 of No. 7	1 of No. 17	2 of No. 48	2 of No. 74
2 of No. 9	2 of No. 19	2 of No. 49	

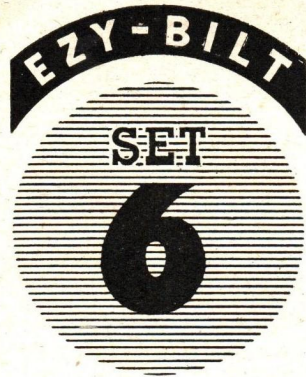
6.8 TRAM REPAIR WAGON

Use a Cranked Bent Strip (A) and a 2½" Curved Strip to form the seat. To form the bearing which carries the Rod from the steering wheel, bolt a Reversed Angle Bracket (B) in one of the elongated holes of the Curved Strip.

PARTS REQUIRED

6 of No. 1
6 of No. 2
3 of No. 4
2 of No. 5
1 of No. 6
8 of No. 7
1 of No. 8
2 of No. 9
2 of No. 10
2 of No. 11
1 of No. 12
4 of No. 14
1 of No. 16
1 of No. 17
2 of No. 20
1 of No. 21
4 of No. 25
1 of No. 27
4 of No. 34
5 of No. 41
2 of No. 46
2 of No. 47
2 of No. 48
2 of No. 49
2 of No. 50
2 of No. 53
1 of No. 54
1 of No. 75



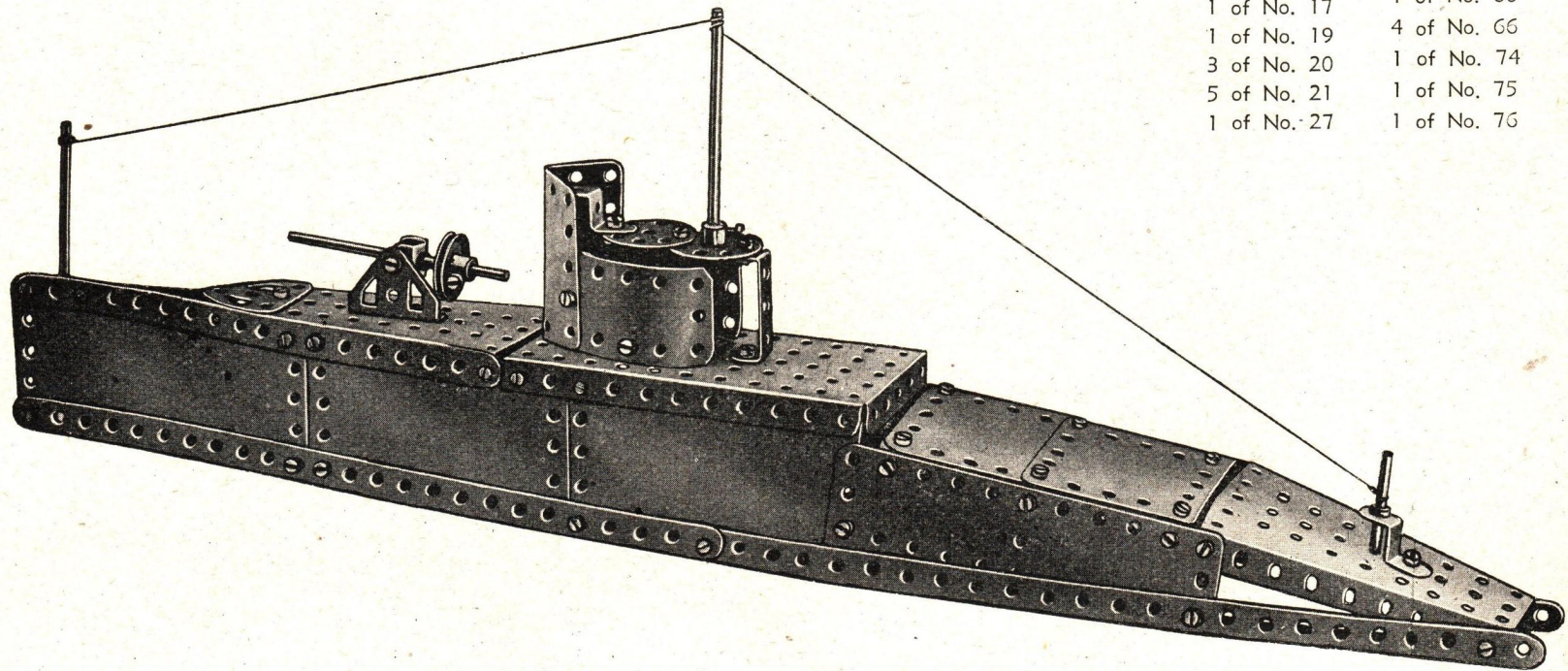


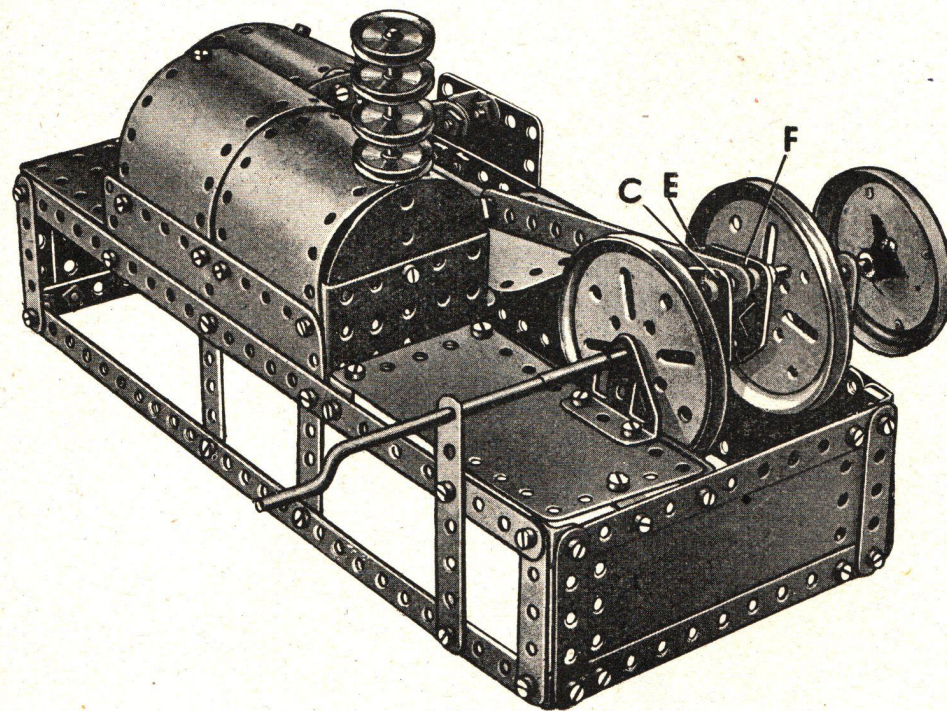
6.24. UNDERSEA CRAFT

Remove the centre pin from a Hinged Flat Plate and use the two halves in construction of the hull. Brace the hull by fastening a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip across the base at the third bolt from the stern in the $12\frac{1}{2}$ " Strip. Secure the periscope Rod below the decking with a Spring Clip.

PARTS REQUIRED

3 of No. 1	2 of No. 28
4 of No. 5	2 of No. 46
1 of No. 5a	2 of No. 47
1 of No. 6	2 of No. 48
2 of No. 7	2 of No. 49
1 of No. 9	2 of No. 50
2 of No. 10	1 of No. 52
2 of No. 11	1 of No. 53
2 of No. 12	1 of No. 55
4 of No. 14	1 of No. 56
1 of No. 16	1 of No. 60
1 of No. 17	4 of No. 66
1 of No. 19	1 of No. 74
3 of No. 20	1 of No. 75
5 of No. 21	1 of No. 76
1 of No. 27	





PARTS REQUIRED

9 of No. 1	2 of No. 11	1 of No. 32	2 of No. 50	1 of No. 60
7 of No. 2	2 of No. 12	3 of No. 34	1 of No. 52	4 of No. 66
4 of No. 4	5 of No. 14	6 of No. 41	2 of No. 53	2 of No. 67
6 of No. 5	1 of No. 16	1 of No. 44	2 of No. 54	1 of No. 74
4 of No. 7	1 of No. 17	2 of No. 46	1 of No. 55	1 of No. 76
4 of No. 8	1 of No. 19	2 of No. 47	1 of No. 56	2 of No. 77
2 of No. 9	3 of No. 20	4 of No. 48	2 of No. 57	1 of No. 82
2 of No. 10	6 of No. 21	2 of No. 49		

6.43 STEAM POWER UNIT

Remove the centre pin from a Hinged Flat Plate and use the two pieces in the construction of the side walls B. Lock-nut Bolt A on the piston arm to permit rotation. To form one side of the crank, bolt the Flat Trunnion C to the Bush Wheel D. Fasten the Bush Wheel and the 3" Pulley to the 2" Rod and use a Rod Connector to attach the Crank Handle. Bolt a 1½" Disc E to a Trunnion F and a Reversed Angle Bracket to form the other side of the crank. Fix a Spring Clip in position so that the Reversed Angle Bracket will cause the Rod, on which the 3" Pulley and the Road Wheel are fixed, to rotate with the action of the Crankshaft. Build the cylinder from two 1.11/16" radius Curved Plates and two U-Section Curved Plates. Fasten the complete unit to the 5½" x 2½" Base Plate.

Form the boiler from two 5½" x 2½" Flexible Plates, two 5½" x 1½" Flexible Plates, two 2½" x 1½" Flexible Plates, and two Semi-Circular Plates. Form the chimney from a 4" Rod and 1" Pulleys held in place with Cord Anchoring Springs.

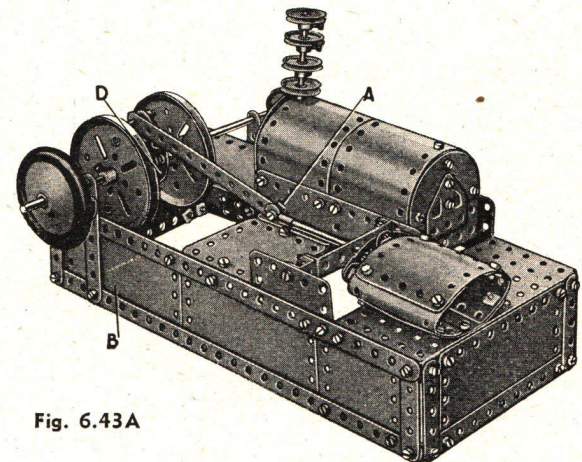


Fig. 6.43A

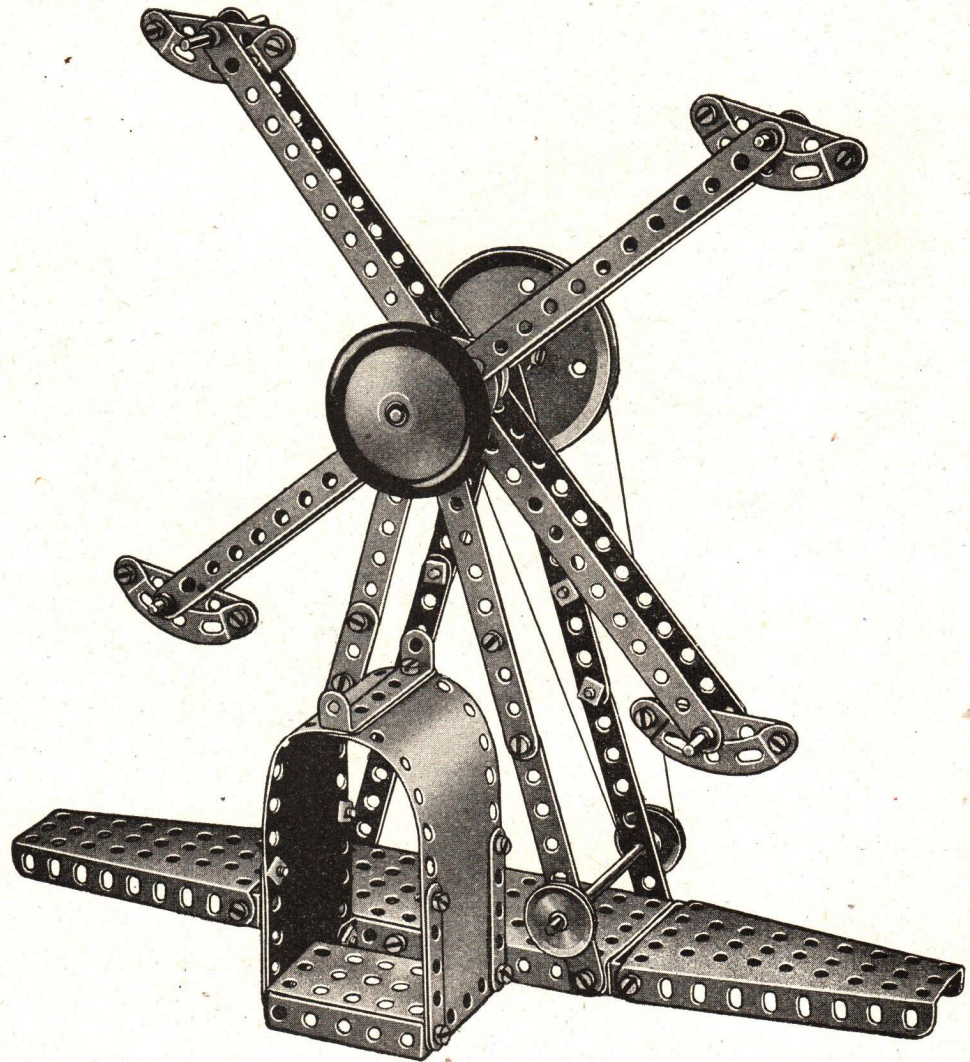


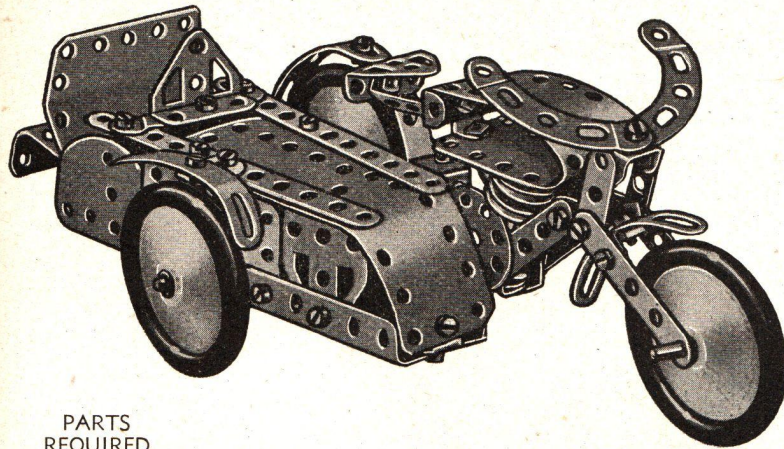
6.44 SWING BOATS

Use a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate as the base of the model. Lock a Bush Wheel to the main shaft and bolt the beams to it. Assemble the boats from a $2\frac{1}{2}$ " Strip and a $2\frac{1}{2}$ " small radius Curved Strip. Allow them to swing on a Rod secured by Spring Clips.

PARTS REQUIRED

8 of No. 1	2 of No. 19	2 of No. 50
8 of No. 2	8 of No. 21	4 of No. 66
4 of No. 4	1 of No. 27	2 of No. 74
6 of No. 5	2 of No. 28	2 of No. 75
3 of No. 14	1 of No. 32	1 of No. 77
1 of No. 16	1 of No. 44	1 of No. 82
1 of No. 17		





PARTS REQUIRED

8 of No.	1
5 of No.	2
4 of No.	4
3 of No.	5
1 of No.	5a
8 of No.	7
5 of No.	8
2 of No.	9
1 of No.	10
2 of No.	11
2 of No.	12
3 of No.	14
2 of No.	19
1 of No.	20
1 of No.	21
1 of No.	28
3 of No.	32
2 of No.	34
1 of No.	41
2 of No.	46
2 of No.	47
1 of No.	48
2 of No.	53
1 of No.	54
2 of No.	57
4 of No.	58
2 of No.	60
1 of No.	67
1 of No.	70
1 of No.	75

6.41 SIDECAR OUTFIT

Form the front of the sidecar with a $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plate. The Bolt in the nose is fixed to a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip which is in turn bolted to the $4\frac{1}{2}''$ Flanged Sector Plate which forms the bottom of the sidecar. By a similar attachment a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip is used to secure the tool-box at the rear of the sidecar.

Mount two 1" Pulleys on a 2" Rod to form the engine cylinders. Journal one end of the Rod in the Strip which forms the petrol tank support and the other end between the two Bolts which fasten the $1\frac{1}{2}''$ Discs to the frame.

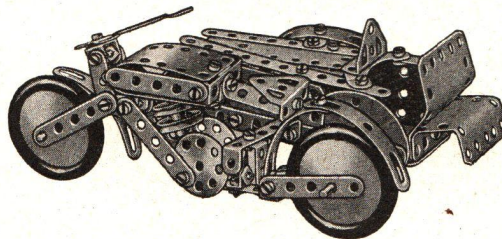


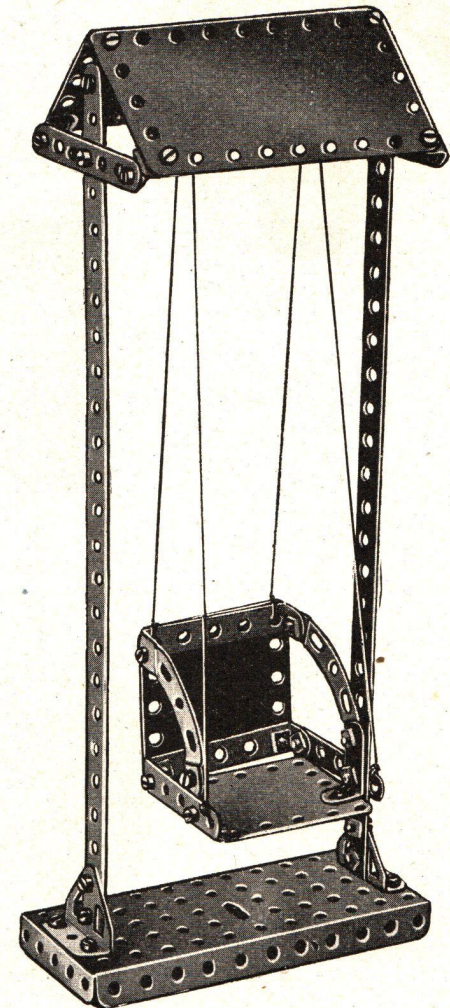
Fig. 6.41A

6.5 CHILD'S SWING

To form the cross piece at the top of the two uprights, bolt two $2\frac{1}{2}''$ Strips, overlapped one hole, and two $\frac{1}{2}'' \times \frac{1}{2}''$ Angle Brackets to the top of the upright $12\frac{1}{2}''$ strips.

PARTS REQUIRED

6 of No.	1
2 of No.	4
2 of No.	5
8 of No.	7
2 of No.	8
2 of No.	11
1 of No.	17
1 of No.	27
2 of No.	48
2 of No.	49
2 of No.	66



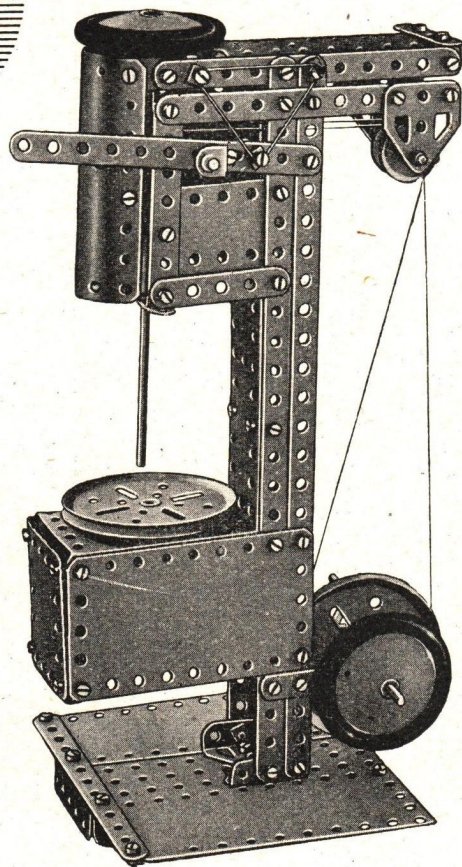
PARTS
REQUIRED

7 of No.	1
6 of No.	2
1 of No.	5
1 of No.	5 _a
8 of No.	7
1 of No.	10
2 of No.	11
2 of No.	12
4 of No.	14
1 of No.	15
1 of No.	17
1 of No.	18
2 of No.	19
1 of No.	20
6 of No.	21
1 of No.	28
2 of No.	32
4 of No.	41
1 of No.	46
2 of No.	47
2 of No.	48
2 of No.	49
2 of No.	50
2 of No.	53
1 of No.	56
4 of No.	66
2 of No.	67
2 of No.	70
1 of No.	74
2 of No.	77

6.28 WORKSHOP DRILL

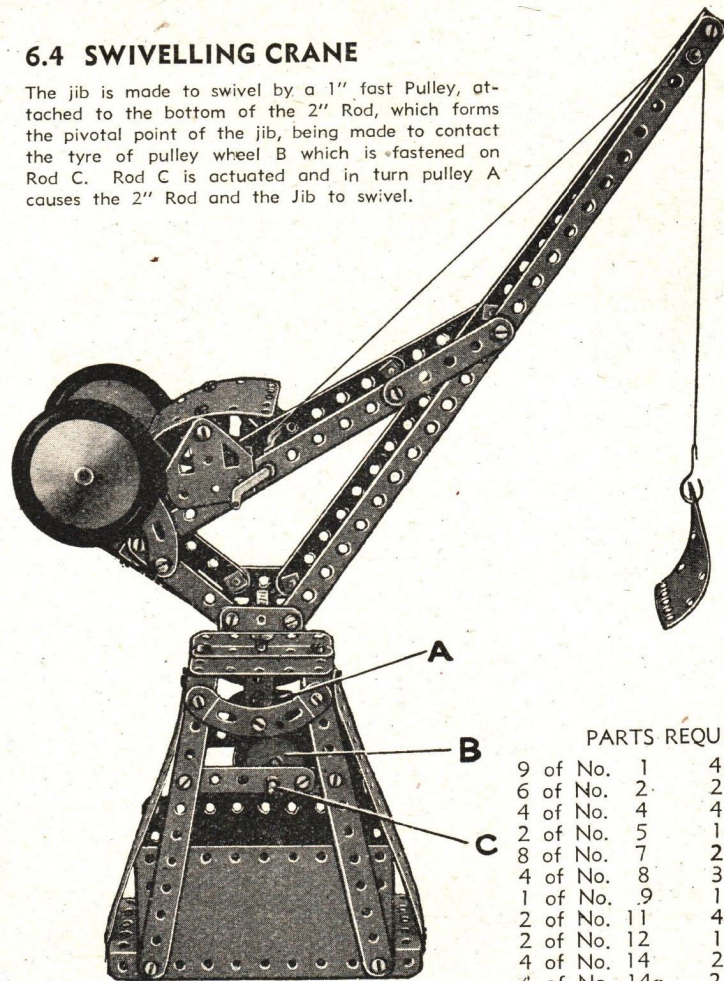
Pass a 2" Rod through a hole in the pressure lever and lock it with a Spring Clip on the outside of the Reverse Angle Bracket.

Cause the Rod to engage between two 1" fast Pulleys on the drill shaft, so that the action of the pressure lever will control the height of the drill.



6.4 SWIVELLING CRANE

The jib is made to swivel by a 1" fast Pulley, attached to the bottom of the 2" Rod, which forms the pivotal point of the jib, being made to contact the tyre of pulley wheel B which is fastened on Rod C. Rod C is actuated and in turn pulley A causes the 2" Rod and the Jib to swivel.



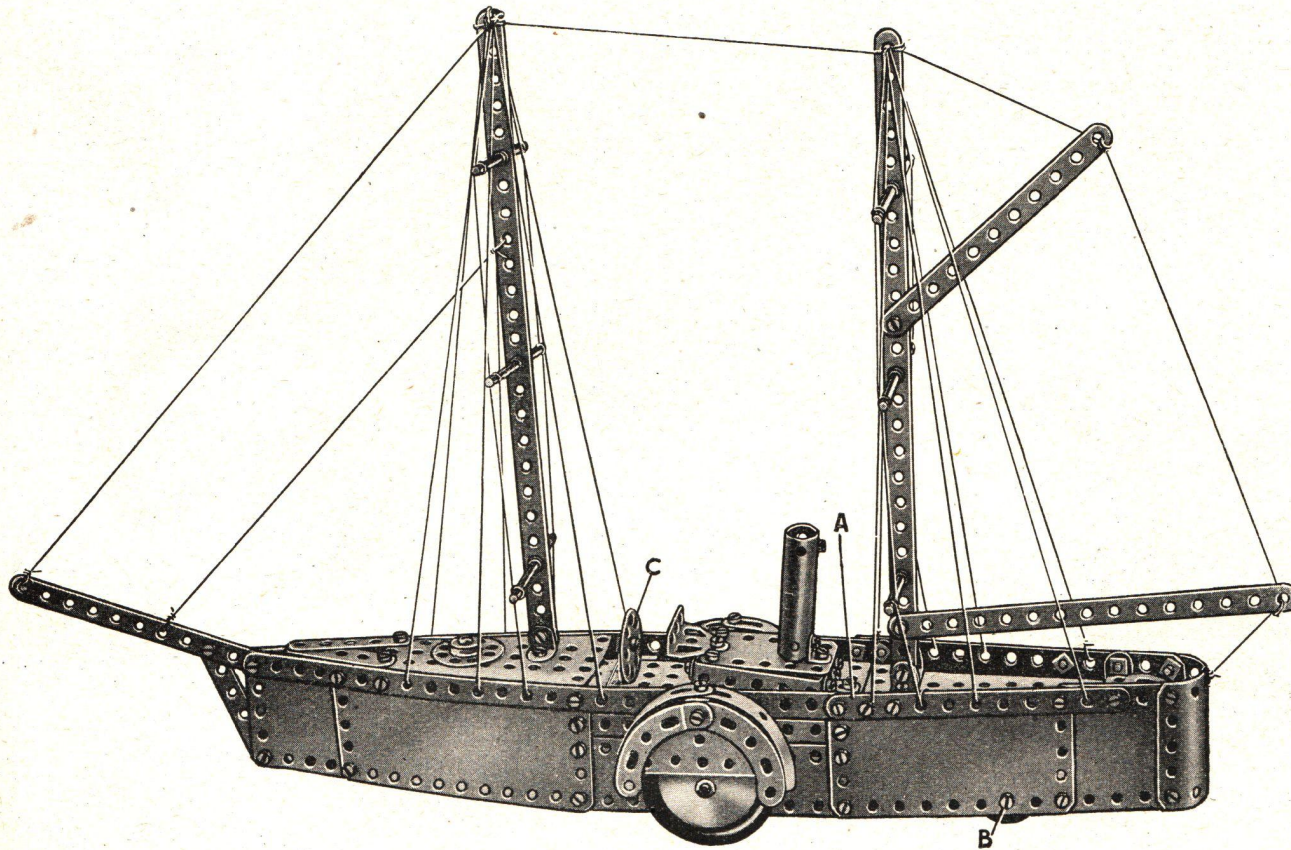
PARTS REQUIRED

9 of No.	1	4 of No.	21
6 of No.	2	2 of No.	25
4 of No.	4	4 of No.	25 _a
2 of No.	5	1 of No.	27
8 of No.	7	2 of No.	32
4 of No.	8	3 of No.	34
1 of No.	9	1 of No.	36
2 of No.	11	4 of No.	41
2 of No.	12	1 of No.	44
4 of No.	14	2 of No.	46
4 of No.	14 _a	2 of No.	47
1 of No.	15	1 of No.	48
1 of No.	16	2 of No.	49
1 of No.	17	1 of No.	53
1 of No.	18	2 of No.	54
1 of No.	19	2 of No.	66
2 of No.	20	1 of No.	75

6.27 PADDLE STEAMER

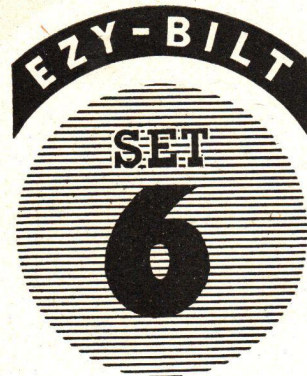
Use a Flanged Sector Plate as the foredeck. $12\frac{1}{2}$ " Strips form the gunnel. Use a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate as the main deck and to the stern of this fasten by Flat Bracket a Flanged Sector Plate A. Use a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip as a brace across the deck to the sides of the ship. Two $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates, bolted to the rear of the Flanged Sector Plate form the aft decking.

Mount the Road Wheels on a compound rod made up from a $1\frac{1}{2}$ " and a $2\frac{1}{2}$ " Rod joined with a Rod Connector. Journal the rod in the sides of the hull as shown. Inside the hull on $\frac{3}{8}$ " bolts B, support 1" Pulleys with Rubber Rings. Pass the Bolts B through the holes in the bosses of the pulleys. Lock-nut a $1\frac{1}{4}$ " Disc C to a Trunnion to represent the helm.



PARTS REQUIRED

5 of No.	1
5 of No.	2
4 of No.	4
5 of No.	5
7 of No.	7
1 of No.	8
2 of No.	9
2 of No.	10
2 of No.	11
2 of No.	12
2 of No.	14
1 of No.	15
1 of No.	17
1 of No.	19
4 of No.	20
6 of No.	21
4 of No.	25
1 of No.	27
2 of No.	28
2 of No.	32
5 of No.	34
4 of No.	41
2 of No.	46
2 of No.	47
4 of No.	48
2 of No.	49
2 of No.	50
1 of No.	53
2 of No.	54
1 of No.	56
2 of No.	57
4 of No.	58
2 of No.	60
2 of No.	61
4 of No.	66
2 of No.	74
1 of No.	75
1 of No.	82



6.38 ROAD LOCOMOTIVE

Use a U-Section Curved Plate to form the cylinder. Fasten it to the boiler with an Obtuse Angle Bracket. The holes of two Angle Brackets which are bolted to the top of the cylinder form bearings for the piston. Lock-nut the Bolts A which pass through the compound strip made up from two Flat Brackets. Form the chimney by bending a U-Section Curved Plate so that its ends overlap. The separated halves of a Hinged Flat Plate may be used as Flat Plates B in the construction of the roof.

Support the front axle with a $1\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip. Pivot it on a lock-nutted Bolt which passes through the centre hole of the Double Bent Strip made up from two Reversed Angle Brackets. Wind the Cord which guides the front axle twice around the lower end of the steering wheel Rod.

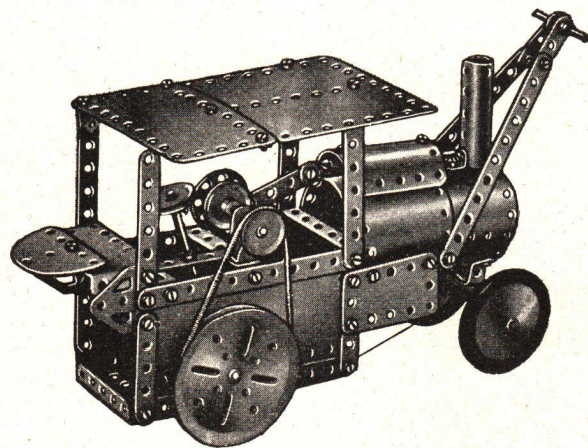
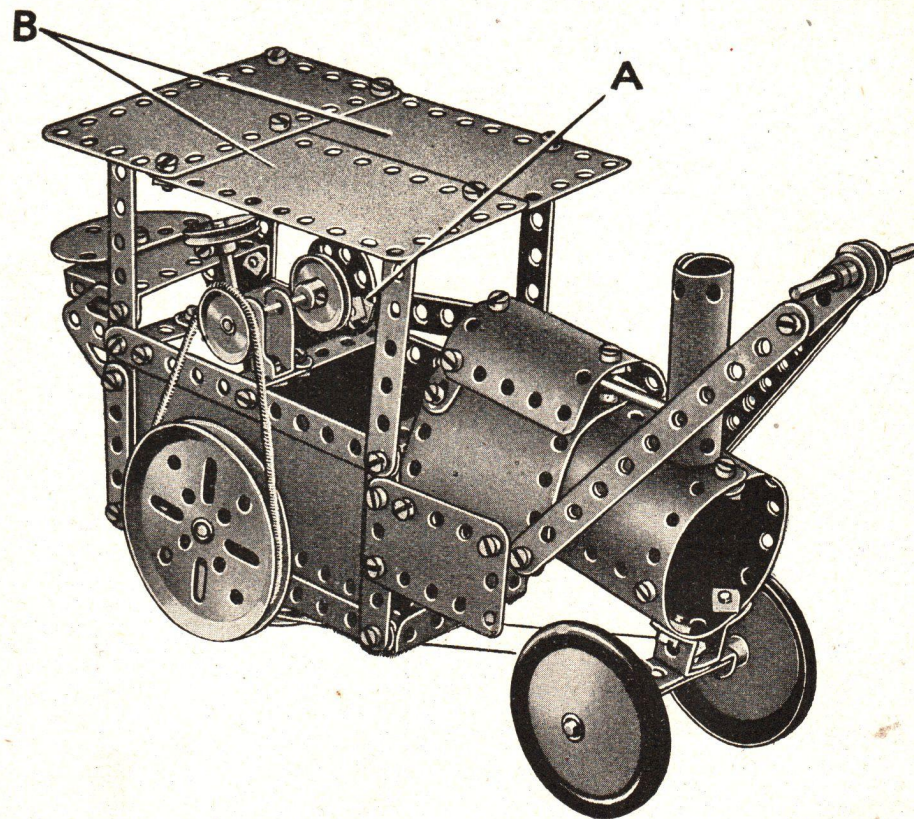


Fig. 6.38A

PARTS REQUIRED

5 of No. 1	2 of No. 12	1 of No. 27	2 of No. 49	2 of No. 53
8 of No. 2	5 of No. 14	4 of No. 32	2 of No. 50	1 of No. 61
5 of No. 5	1 of No. 15	8 of No. 34	1 of No. 52	2 of No. 67
1 of No. 5a	1 of No. 16	1 of No. 36	2 of No. 53	2 of No. 70
1 of No. 6	1 of No. 17	2 of No. 41	1 of No. 54	2 of No. 74
5 of No. 7	2 of No. 19	1 of No. 44	1 of No. 55	1 of No. 75
4 of No. 8	4 of No. 20	2 of No. 46	1 of No. 56	2 of No. 77
2 of No. 10	8 of No. 21	2 of No. 47	1 of No. 57	1 of No. 82
2 of No. 11	1 of No. 25	1 of No. 48		

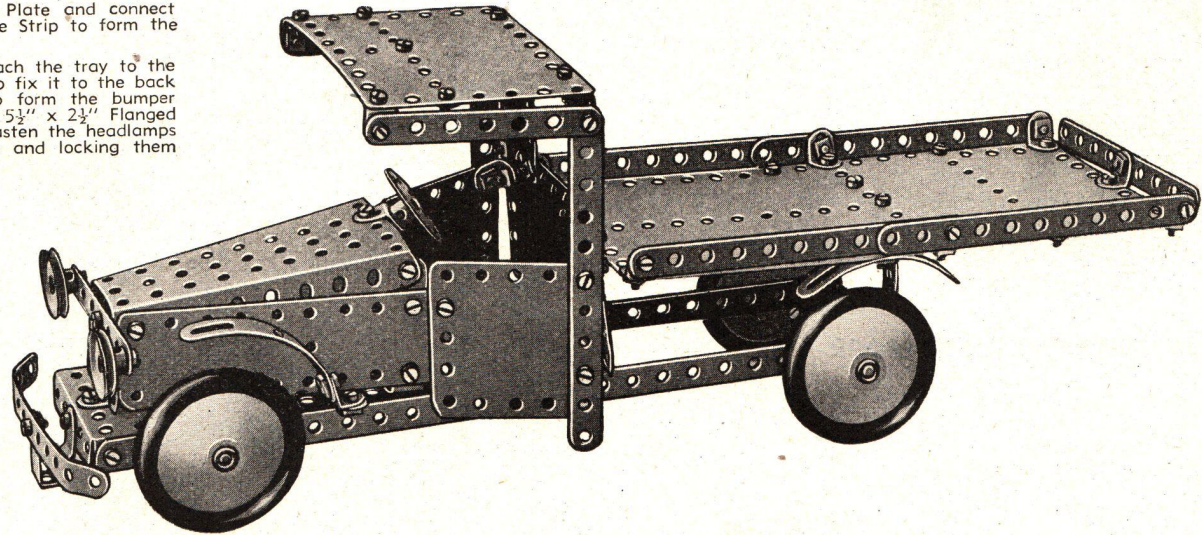
6.45 MARKET GARDENER'S LORRY

Bolt two 12½" Strips to a 5½" x 2½" Base Plate and connect their free ends with a 2½" x ½" Double Angle Strip to form the chassis.

Use two 2½" x ½" Double Angle Strips to attach the tray to the chassis. Use a ½" x ½" Double Angle Strip to fix it to the back of the cab. Curve a 5½" Strip to shape to form the bumper and attach it by a Cranked Bent Strip to the 5½" x 2½" Flanged Plate which forms the front of the chassis. Fasten the headlamps by passing 3/8" Bolts through the 2½" Strip and locking them in the bosses of the Pulleys.

PARTS REQUIRED

8 of No. 1	2 of No. 28
7 of No. 2	4 of No. 32
4 of No. 5	5 of No. 34
1 of No. 5a	4 of No. 41
1 of No. 6	2 of No. 46
8 of No. 7	2 of No. 47
2 of No. 8	4 of No. 48
2 of No. 9	2 of No. 49
2 of No. 10	2 of No. 50
2 of No. 11	1 of No. 52
1 of No. 12	4 of No. 58
3 of No. 14	2 of No. 66
1 of No. 16	2 of No. 67
1 of No. 17	3 of No. 70
1 of No. 20	2 of No. 74
5 of No. 21	

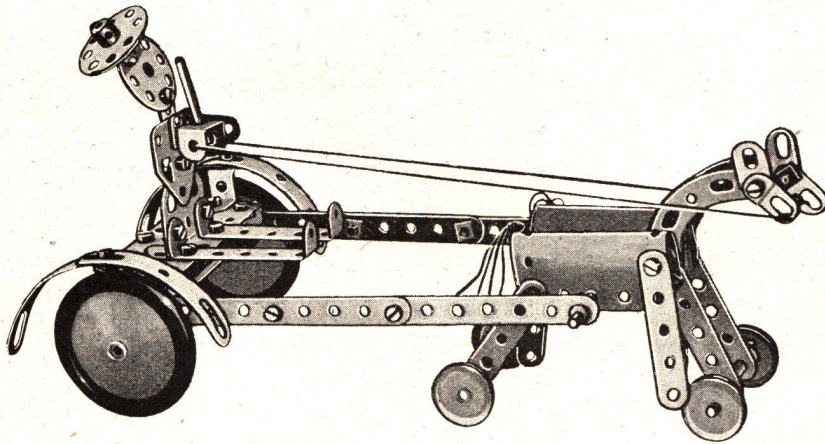


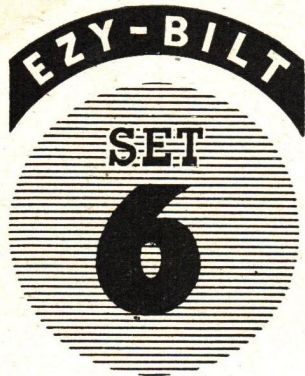
6.10 TROTTING GIG

Use two 2½" x ½" Flexible Plates, overlapped two holes, to make the seat of the gig. Use 3" Formed Slotted Strips to form the mudguards and support them with Reversed Angle Brackets spaced from the seat by three washers. Use Angle Trunnions as Axle bearings and form the axle from two 2" Rods joined by a Rod Connector. Use a 2" Rod for the whip and attach it to a Double Bracket by Spring Clips. Attach the lash by a Cord Anchoring Spring. Use short lengths of Cord to represent the horses' tails.

PARTS REQUIRED

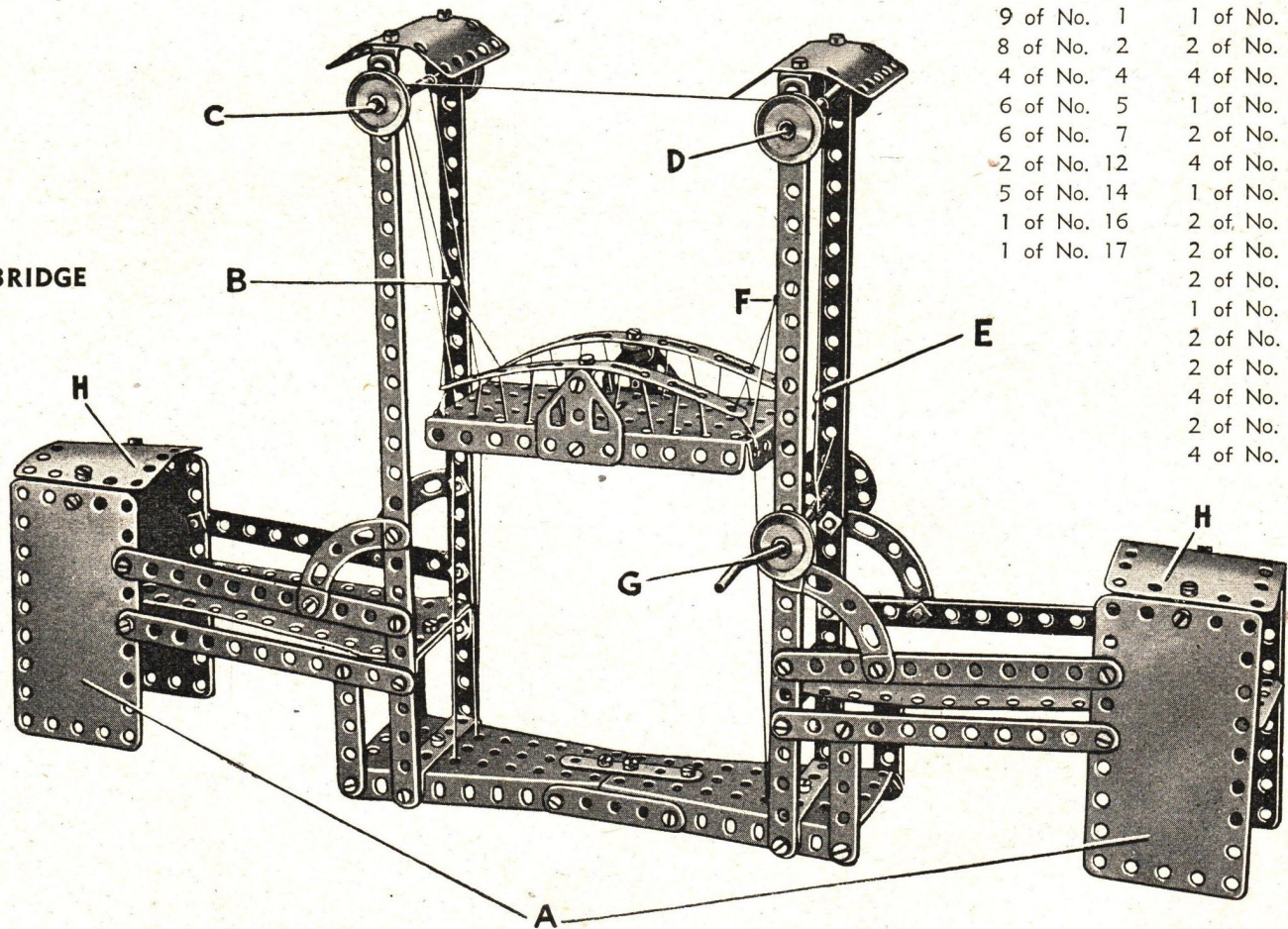
8 of No. 1	2 of No. 10	6 of No. 21	2 of No. 46
4 of No. 2	2 of No. 11	4 of No. 25	2 of No. 53
4 of No. 4	2 of No. 12	1 of No. 27	1 of No. 56
2 of No. 5	4 of No. 14	2 of No. 32	4 of No. 58
1 of No. 6	1 of No. 16	6 of No. 34	1 of No. 60
1 of No. 7	2 of No. 19	3 of No. 41	1 of No. 74
5 of No. 8	2 of No. 20	1 of No. 44	1 of No. 75
1 of No. 9			





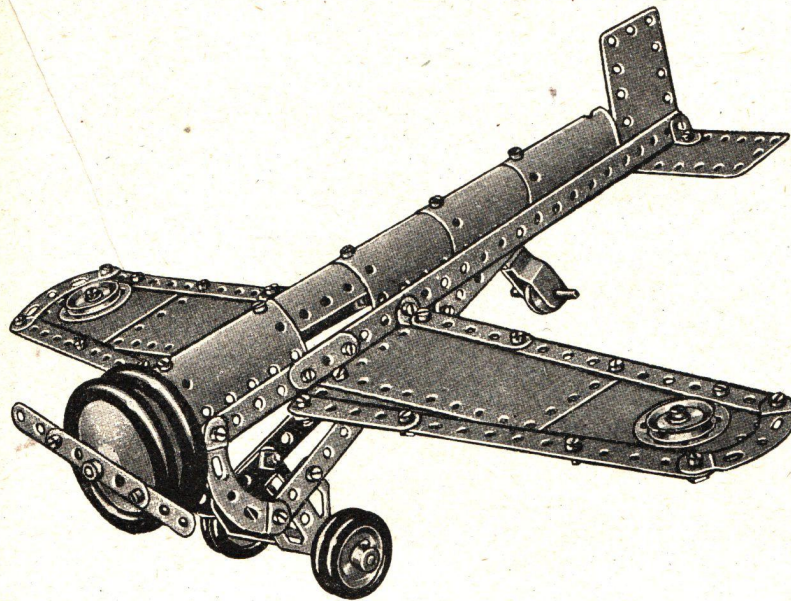
6.36 VERTICAL LIFT BRIDGE

Remove the centre pin from a hinged flat plate and use the two halves as the sides of the arches A. Use $4\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates as the other sides of the arches, and attach the $1.11/16$ " radius curved plates H with obtuse angle brackets. Space the two U-section curved plates which form the heads of the towers, away from the supporting $2\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strips by two washers. Retain the crank handle G in position with a bush wheel and a 1" pulley. Wind cord around the shaft of the crank handle G. At E knot a second cord to it. Lead them both over Rod D. Lead one of them to where it is tied at point F. Lead the other cord over rod C to where it is tied at B to the supporting cords. Run guide cords from rods C and D through holes in the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " base plate.



PARTS REQUIRED

9 of No. 1	1 of No. 18
8 of No. 2	2 of No. 20
4 of No. 4	4 of No. 21
6 of No. 5	1 of No. 27
6 of No. 7	2 of No. 28
2 of No. 12	4 of No. 34
5 of No. 14	1 of No. 44
1 of No. 16	2 of No. 48
1 of No. 17	2 of No. 49
	2 of No. 50
	1 of No. 52
	2 of No. 53
	2 of No. 54
	4 of No. 66
	2 of No. 67
	4 of No. 70



6.17 MONOPLANE

Use two Angle Brackets to fasten a Bush Wheel to the nose of the plane. Lock a 2" Rod in the boss and support two Road Wheels and a compound strip on the Rod to form the engine nacelles and propeller.

Use Trunnions and $\frac{1}{2}$ " x $\frac{1}{2}$ " Angle Brackets to attach the wings to the fuselage. A Cranked Bent Strip forms the tail-wheel strut. Attach it to the fuselage by a Double Bracket. Use two Flat Trunnions to form the landing wheel struts.

PARTS REQUIRED

9 of No. 1	2 of No. 11	2 of No. 32	2 of No. 53
6 of No. 2	2 of No. 12	5 of No. 34	2 of No. 54
4 of No. 4	4 of No. 14	6 of No. 41	2 of No. 57
2 of No. 5	1 of No. 15	2 of No. 46	2 of No. 58
1 of No. 6	1 of No. 16	2 of No. 47	2 of No. 60
8 of No. 7	1 of No. 19	2 of No. 48	2 of No. 61
4 of No. 8	1 of No. 20	1 of No. 49	2 of No. 66
1 of No. 9	5 of No. 21	2 of No. 50	1 of No. 75
2 of No. 10	4 of No. 25		

6.3 SHIP'S ENGINE

Bolts at the shoulders of piston arms to be lock-nutted. $\frac{3}{8}$ " Bolts at base of arms to be double-locked. The piston arms must be free to actuate with crank-shaft.

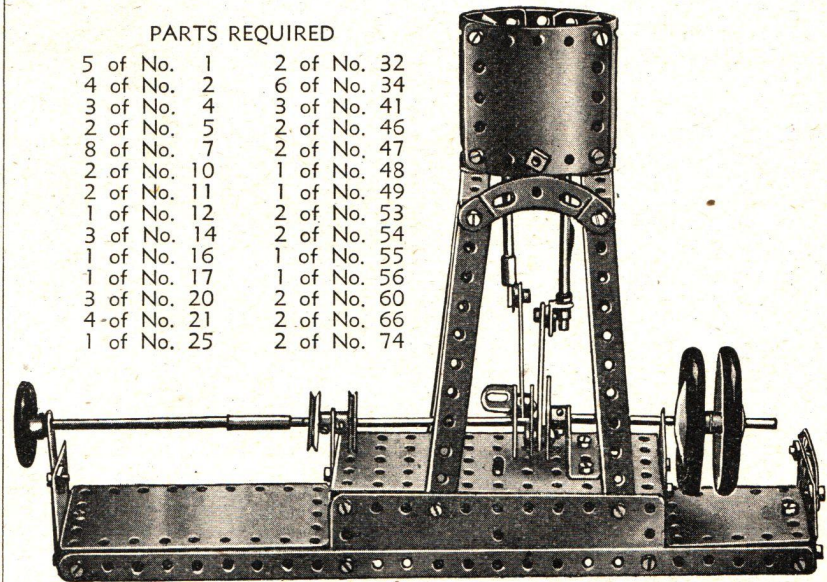
The piston rods, inside the cylinder, slide in guides formed by a $2\frac{1}{2}$ " Strip and a Trunnion.

The pulley-shaft is driven by bolting a $\frac{1}{2}$ " x $\frac{1}{2}$ " Angle Bracket to the piston disc in a manner that will cause it to strike a Spring Clip on the end of the pulley shafting as the disc revolves. Join the crankshaft and pulley shaft with a Rod Connector. Build the cylinder from two U-Section Curved Plates joined by two $1\frac{11}{16}$ " radius Curved Plates. Attach the complete cylinder to the piston-rod housing with a 3-8" bolt.

A Flat Trunnion and a Trunnion, as shown, form the crankshaft bearings. The pulley-shafting is supported by $2\frac{1}{2}$ " strips.

PARTS REQUIRED

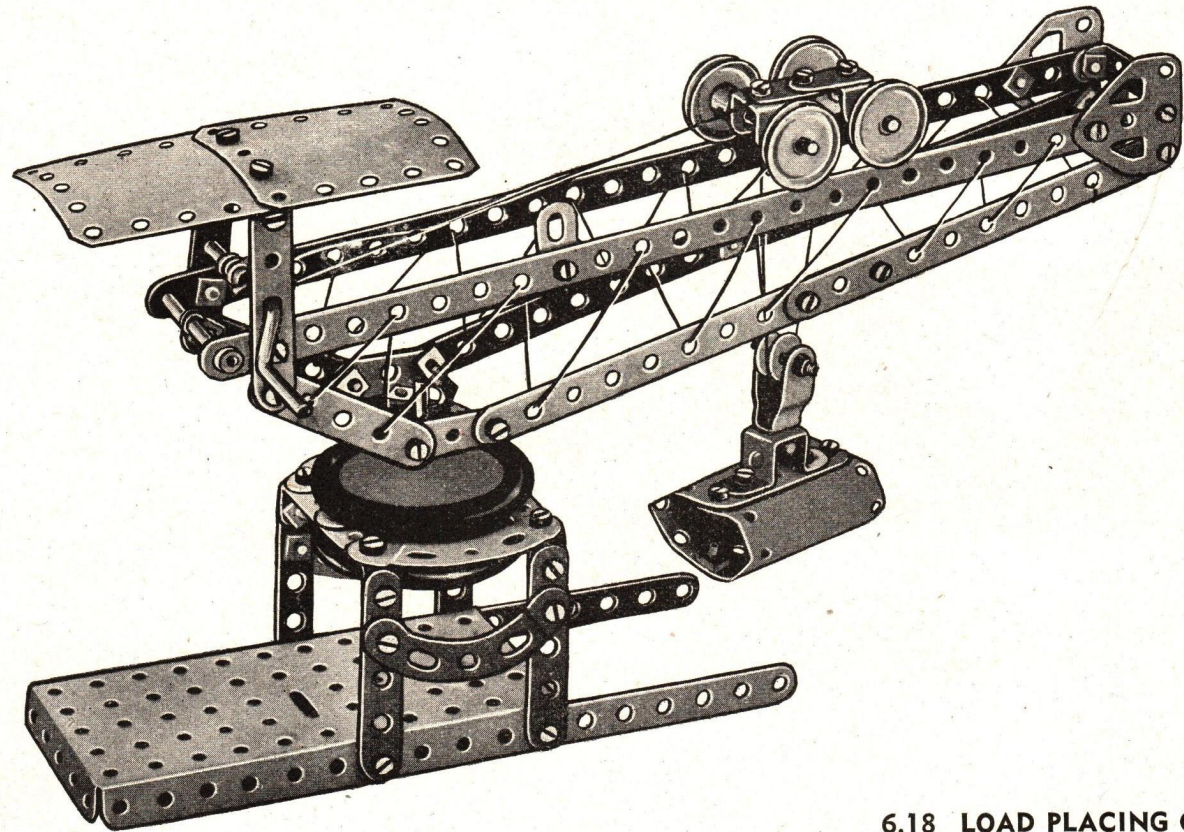
5 of No. 1	2 of No. 32
4 of No. 2	6 of No. 34
3 of No. 4	3 of No. 41
2 of No. 5	2 of No. 46
8 of No. 7	2 of No. 47
2 of No. 10	1 of No. 48
2 of No. 11	1 of No. 49
1 of No. 12	2 of No. 53
3 of No. 14	2 of No. 54
1 of No. 16	1 of No. 55
1 of No. 17	1 of No. 56
3 of No. 20	2 of No. 60
4 of No. 21	2 of No. 66
1 of No. 25	2 of No. 74





PARTS REQUIRED

8 of No. 1	2 of No. 20
6 of No. 2	6 of No. 21
4 of No. 4	1 of No. 27
2 of No. 5	2 of No. 32
1 of No. 6	6 of No. 34
4 of No. 7	4 of No. 41
5 of No. 8	1 of No. 44
2 of No. 9	2 of No. 46
2 of No. 10	2 of No. 47
2 of No. 11	1 of No. 48
2 of No. 12	2 of No. 50
4 of No. 14	2 of No. 53
1 of No. 15	2 of No. 54
1 of No. 16	2 of No. 66
1 of No. 17	1 of No. 74
1 of No. 18	1 of No. 75
2 of No. 19	

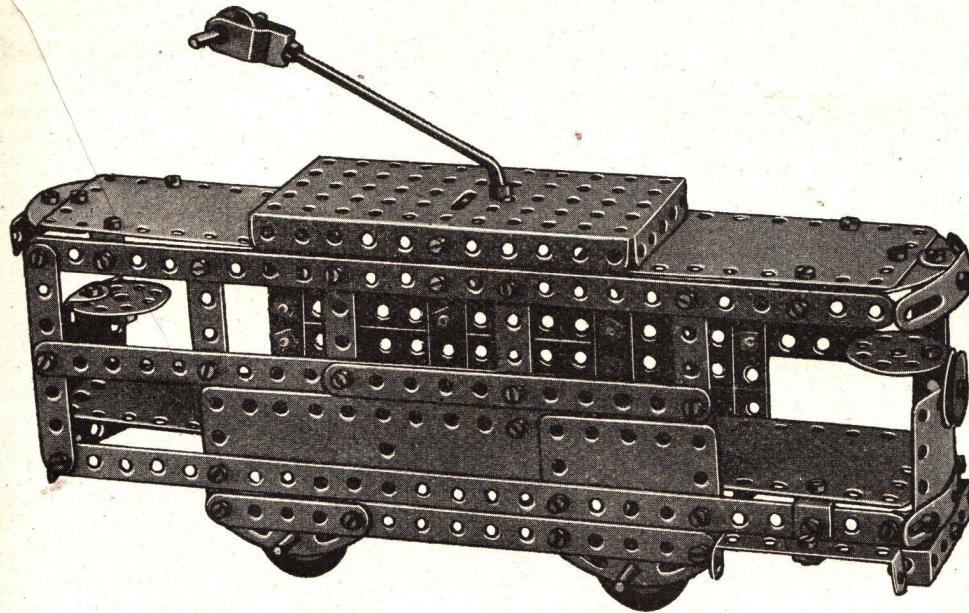


6.18 LOAD PLACING CRANE

Construct the travelling bogie from two Flat Brackets joined together with Double Brackets fastened by $3/8"$ Bolts. Use $2"$ Rods for the axles and $1"$ Fixed Pulleys for the wheels. The $12\frac{1}{2}"$ Strips of the top of the jib provide the rails for the bogie. Build up the top of the tower by placing a Road Wheel above and below the $2\frac{1}{2}" \times 1\frac{1}{2}"$ Flexible Plate. Pass a Rod through the bosses of the two Road Wheels. Form the base of the jib by bolting two Angle Trunnions to a Bush Wheel. The Bush Wheel and the jib will swivel on the Rod held in the Road Wheels.

Fasten a Cord to the $3/8"$ Bolt at the rear of the bogie. Wind it three times around the Crank Handle, lead it under the bogie, around the Rod in the nose of the jib, and attach to the front of the bogie.

Fasten a second Cord to the Rod at the rear of the jib. Pass it over the rear axle of the bogie, under the brass pulley of the grab, over the front axle of the bogie, around the Rod in the nose of the Jib and attach it to the front of the travelling bogie. Use a Cord Anchoring Spring to hold the Pulley and Rod in the Cranked Bent Strip forming the grab.



6.46 ELECTRIC TRAM

Journal the axles in the centre holes of $2\frac{1}{2}$ " small radius Curved Strips which are bolted to the chassis. Use a Crank Handle for the trolley and a $\frac{1}{2}$ " loose Pulley supported by a $1\frac{1}{2}$ " Rod which passes through the holes of a Cranked Bent Strip, as the current "pick-up." Fasten the components in position with Spring Clips and Cord Anchoring Springs.

PARTS REQUIRED

9 of No. 1	1 of No. 17	2 of No. 49
8 of No. 2	1 of No. 18	2 of No. 50
4 of No. 4	2 of No. 20	2 of No. 54
6 of No. 5	5 of No. 21	2 of No. 57
1 of No. 6	4 of No. 25	4 of No. 58
4 of No. 7	4 of No. 34	2 of No. 60
5 of No. 8	6 of No. 41	2 of No. 61
2 of No. 10	1 of No. 44	4 of No. 66
2 of No. 11	2 of No. 46	2 of No. 67
4 of No. 14	2 of No. 47	4 of No. 70
1 of No. 15	1 of No. 48	1 of No. 75

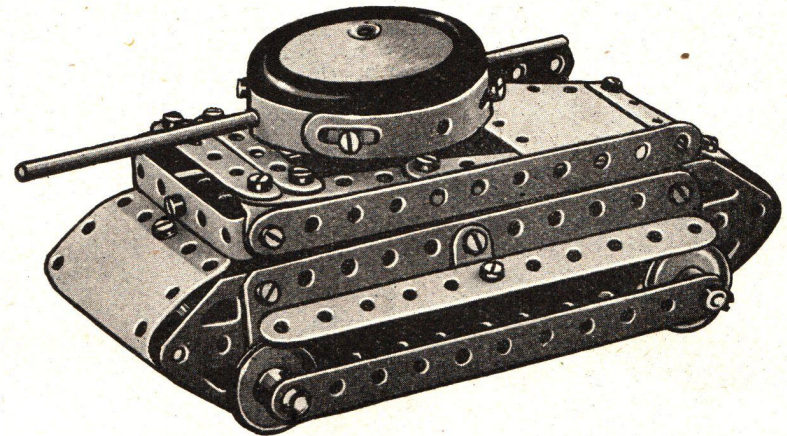
6.19 COMBAT TANK

Construct the gun-turret by first bolting a $2\frac{1}{2}$ " Strip across a Bush Wheel. Form a circle by bolting four 3" Formed Slotted Strips together. Attach the circle to the $2\frac{1}{2}$ " Strip by Angle Brackets. Then bolt two more Angle Brackets to the Bush Wheel. Push two Rods through the Formed Slotted Strips and through the holes of the Angle Brackets. Fasten them in position with Spring Clips.

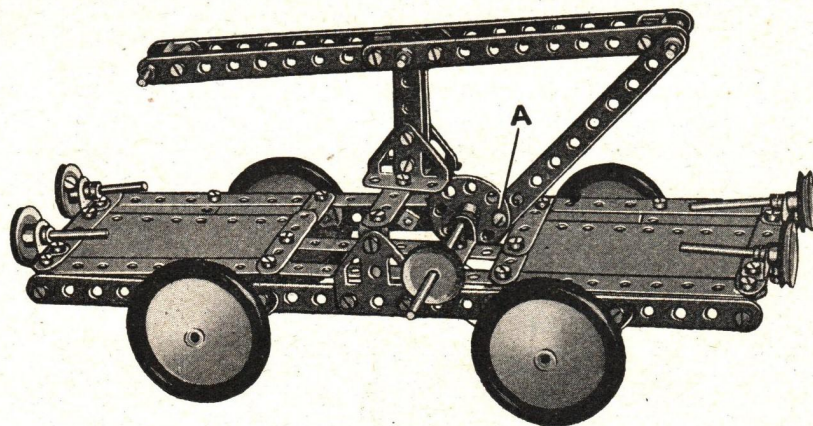
The Turret swivels on a $3\frac{1}{2}$ " Rod that is locked in the boss of the Bush Wheel, passes through the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate, then through a hole in a Reversed Angle Bracket. A Cord Anchoring Spring holds the Rod in position. Fasten a Road Wheel to the top of the Rod to complete the turret.

PARTS REQUIRED

7 of No. 1	1 of No. 10	1 of No. 19	2 of No. 47
6 of No. 2	2 of No. 11	2 of No. 20	1 of No. 48
1 of No. 4	2 of No. 12	6 of No. 21	2 of No. 53
1 of No. 5	4 of No. 14	1 of No. 32	4 of No. 58
8 of No. 7	1 of No. 16	1 of No. 34	2 of No. 74
2 of No. 8	1 of No. 17	1 of No. 44	



EZY-BILT **SET** **6**



6.42 DOUBLE ACTION TROLLEY CAR

Use $12\frac{1}{2}$ " strips as the side members of the chassis. Attach each of the platforms by angle brackets. Lock-nut bolt A to the bush wheel to allow a cranking motion. Transmit the drive by a cord belt running from the drive shaft to a 1" pulley on the front axle. Join a $3\frac{1}{2}$ " and a 2" rod with a rod connector to form the axle.

PARTS REQUIRED

8 of No. 1	4 of No. 14	4 of No. 48
6 of No. 2	1 of No. 16	2 of No. 49
4 of No. 4	2 of No. 19	1 of No. 56
2 of No. 5	3 of No. 20	1 of No. 60
1 of No. 5a	8 of No. 21	4 of No. 66
8 of No. 7	4 of No. 32	2 of No. 67
2 of No. 9	2 of No. 34	1 of No. 74
2 of No. 11	4 of No. 41	2 of No. 75
2 of No. 12		

6.34 COMBAT BI-PLANE

Form the nose by joining two 3" Formed Slotted Strips with a bolt through their slotted holes. Bolt a Reversed Angle Bracket inside the nose and an Obtuse Angle Bracket outside the nose to form the propeller shaft housing. Retain the $3\frac{1}{2}$ " Rod which forms the shaft by Spring Clips. Remove the centre pin from a Hinged Flat Plate and use the two parts as the lower mainplanes A. Fasten the Semi-Circular Plate B to the fuselage by a Double Bracket C. Space the plate from the bracket by three washers. Use Flat Trunnions as the sides of the cockpit. Use 1" fast pulleys to form the front and rear of the cockpit. Fasten them by passing bolts through the U-section curved plates and screwing them into the bosses of the pulleys.

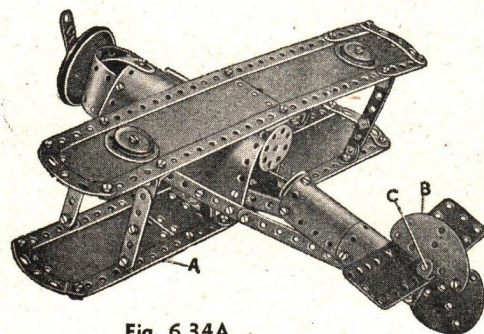
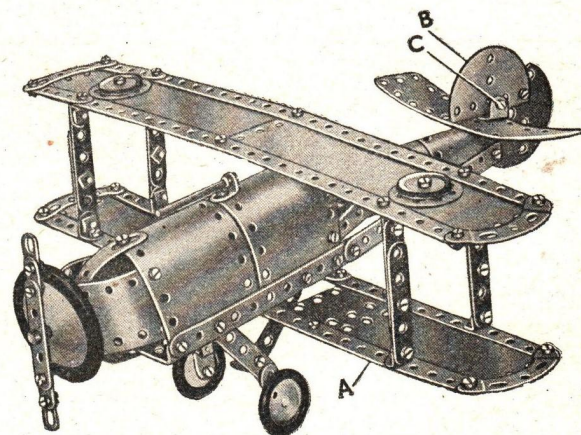


Fig. 6.34A

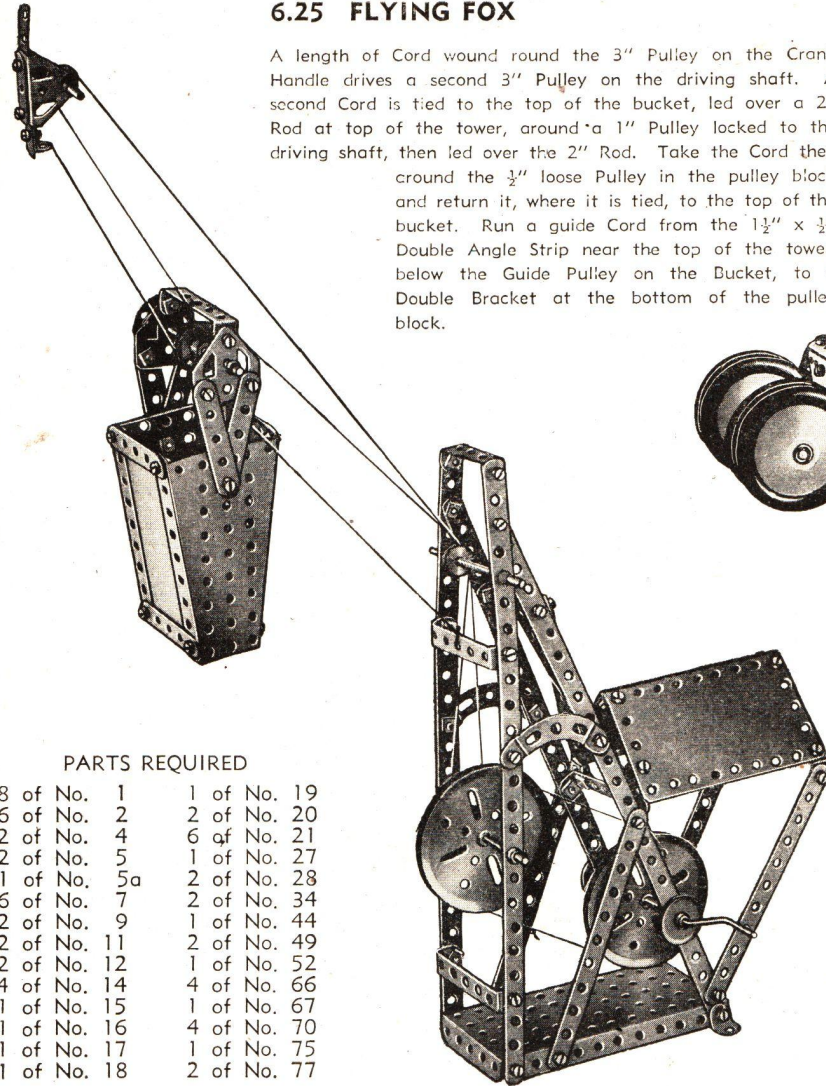
PARTS REQUIRED

9 of No. 1	1 of No. 20	1 of No. 52
6 of No. 2	6 of No. 21	2 of No. 53
4 of No. 4	2 of No. 25	1 of No. 55
4 of No. 5	1 of No. 27	2 of No. 57
1 of No. 5a	1 of No. 32	2 of No. 58
8 of No. 7	5 of No. 34	2 of No. 60
6 of No. 8	5 of No. 41	2 of No. 61
2 of No. 9	2 of No. 46	4 of No. 66
2 of No. 10	1 of No. 47	2 of No. 67
2 of No. 12	4 of No. 48	3 of No. 70
4 of No. 14	2 of No. 49	1 of No. 75
2 of No. 19	2 of No. 50	



6.25 FLYING FOX

A length of Cord wound round the 3" Pulley on the Crank Handle drives a second 3" Pulley on the driving shaft. A second Cord is tied to the top of the bucket, led over a 2" Rod at top of the tower, around a 1" Pulley locked to the driving shaft, then led over the 2" Rod. Take the Cord then around the $\frac{1}{2}$ " loose Pulley in the pulley block and return it, where it is tied, to the top of the bucket. Run a guide Cord from the $1\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip near the top of the tower, below the Guide Pulley on the Bucket, to a Double Bracket at the bottom of the pulley block.

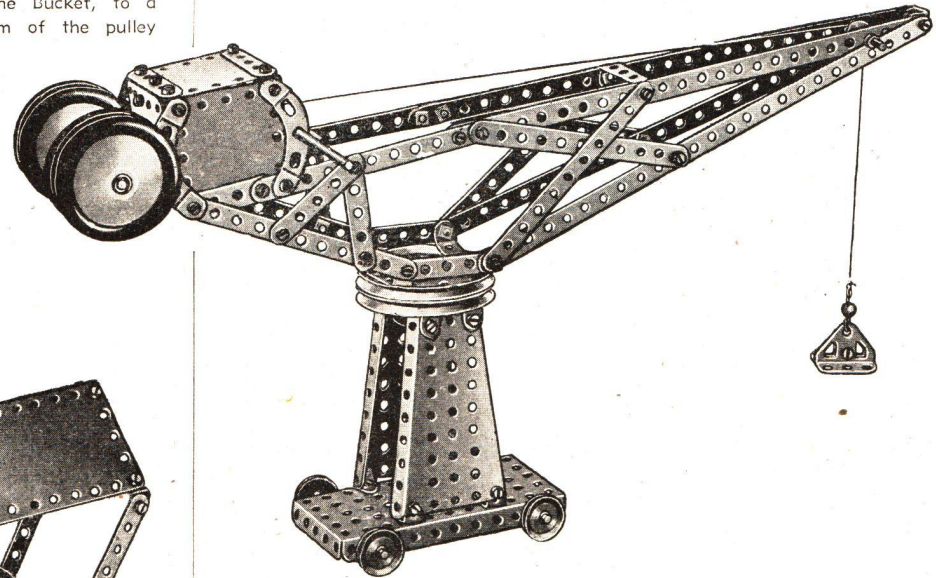


PARTS REQUIRED

8 of No. 1	1 of No. 19
6 of No. 2	2 of No. 20
2 of No. 4	6 of No. 21
2 of No. 5	1 of No. 27
1 of No. 5a	2 of No. 28
6 of No. 7	2 of No. 34
2 of No. 9	1 of No. 44
2 of No. 11	2 of No. 49
2 of No. 12	1 of No. 52
4 of No. 14	4 of No. 66
1 of No. 15	1 of No. 67
1 of No. 16	4 of No. 70
1 of No. 17	1 of No. 75
1 of No. 18	2 of No. 77

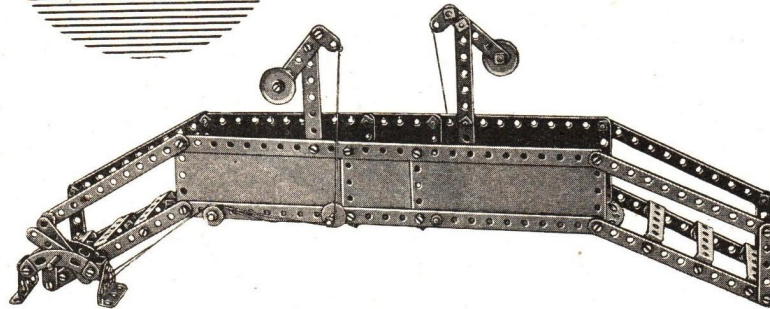
6.33 GIANT REVOLVING CRANE

The boom of the crane is bolted to the upper 3" Pulley. The lower 3" Pulley is bolted to two $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips fixed to narrow ends of two Flanged Sector Plates. A $1\frac{1}{2}$ " Rod is held in the boss of the upper 3" Pulley, but free to turn in the boss of the lower Pulley. A Bush Wheel at bottom of Rod holds the crane boom in position. The four Road Wheels are fixed to a 4" Rod passing through the holes of two Flat Trunnions bolted to $2\frac{1}{2}$ " small radius curved Strips.



PARTS REQUIRED

9 of No. 1	4 of No. 14	2 of No. 28
8 of No. 2	1 of No. 15	4 of No. 32
4 of No. 4	1 of No. 16	1 of No. 36
6 of No. 5	1 of No. 17	1 of No. 44
1 of No. 5a	1 of No. 18	4 of No. 48
8 of No. 7	2 of No. 20	4 of No. 66
1 of No. 9	4 of No. 21	1 of No. 74
2 of No. 11	4 of No. 25	2 of No. 75
2 of No. 12	1 of No. 27	2 of No. 77



6.35 SIGNAL BRIDGE

To operate the signals, attach cords to the lowest holes in the signal-levers, run the cords as illustrated and attach to the Flat Brackets on the signal arms.

Construct the lever box from two Angle Trunnions, two Cranked Curved Strips, two Double Brackets and a $2\frac{1}{2}$ " Strip. Pass a 2" Rod through the centre hole of the $2\frac{1}{2}$ " Strip and through the lower hole of a Reversed Angle Bracket bolted to the rear Cranked Curved Strip. This Rod will form the pivotal point for the two signal levers.

Withdraw the pin from a Hinged Flat Plate and use the two halves, with two $5\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates, as the floor of the bridge.

PARTS REQUIRED

9 of No. 1	8 of No. 21
8 of No. 2	1 of No. 27
4 of No. 4	2 of No. 34
6 of No. 5	2 of No. 41
1 of No. 6	2 of No. 47
6 of No. 7	3 of No. 48
2 of No. 8	2 of No. 49
2 of No. 9	2 of No. 50
1 of No. 10	1 of No. 52
2 of No. 11	1 of No. 60
2 of No. 14	2 of No. 61
1 of No. 15	4 of No. 66
1 of No. 19	2 of No. 67
2 of No. 20	1 of No. 74

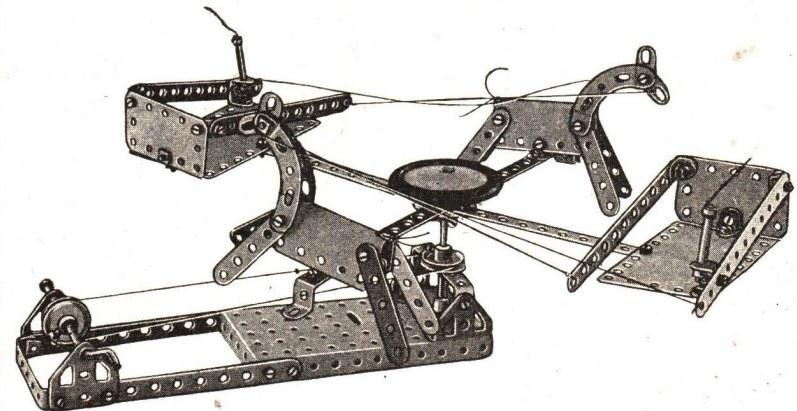
6.20 MERRY-GO-ROUND

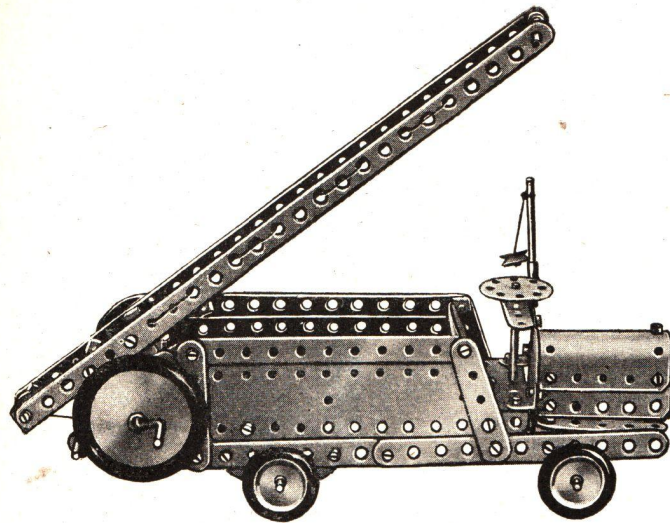
The illustration shows clearly how the drive is transmitted by a Cord from the 1" fast Pulley on the Crank Handle to the 1" fast Pulley on the pivot rod.

Use 2" Rods as the whips and attach them to Double Brackets by Spring Clips. Attach the lash by a Cord Anchoring Spring. Use short lengths of Cord to represent the horses' tails.

PARTS REQUIRED

8 of No. 1	2 of No. 10	1 of No. 19	4 of No. 41
6 of No. 2	2 of No. 11	1 of No. 20	2 of No. 46
4 of No. 4	2 of No. 12	6 of No. 21	2 of No. 49
2 of No. 5	4 of No. 14	1 of No. 27	2 of No. 53
8 of No. 7	1 of No. 16	1 of No. 32	2 of No. 66
4 of No. 8	1 of No. 17	4 of No. 34	1 of No. 75
2 of No. 9	1 of No. 18		





PARTS REQUIRED

8 of No. 1	2 of No. 20
6 of No. 2	6 of No. 21
4 of No. 4	4 of No. 25
2 of No. 5	1 of No. 27
7 of No. 7	2 of No. 32
5 of No. 8	5 of No. 34
2 of No. 9	6 of No. 41
2 of No. 10	1 of No. 44
2 of No. 11	2 of No. 46
2 of No. 12	2 of No. 47
4 of No. 14	2 of No. 48
1 of No. 15	1 of No. 50
1 of No. 16	1 of No. 53
1 of No. 17	1 of No. 55
1 of No. 18	1 of No. 57
1 of No. 19	2 of No. 66
	2 of No. 74

6.16 FIRE ENGINE AND LADDER

Pass the shaft of the Crank Handle through the holes at the narrow ends of two Flat Trunnions bolted to the lower end of the ladder. Form the bonnet from a U-Section Curved Plate and two $2\frac{1}{2}'' \times \frac{1}{2}''$ Flexible Plates fastened to the chassis by Reversed Angle Brackets.

Use a $3\frac{1}{2}''$ Rod as the steering column. Pass it through the free hole in the Flat Bracket forming the dash-board and anchor it below the Flexible Plate forming the floor.

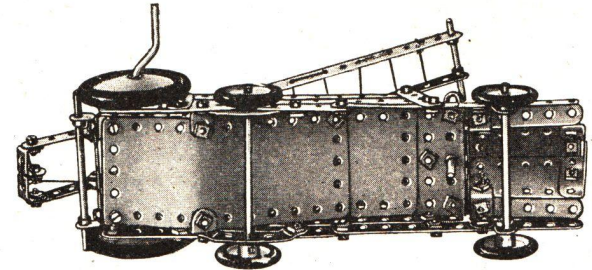


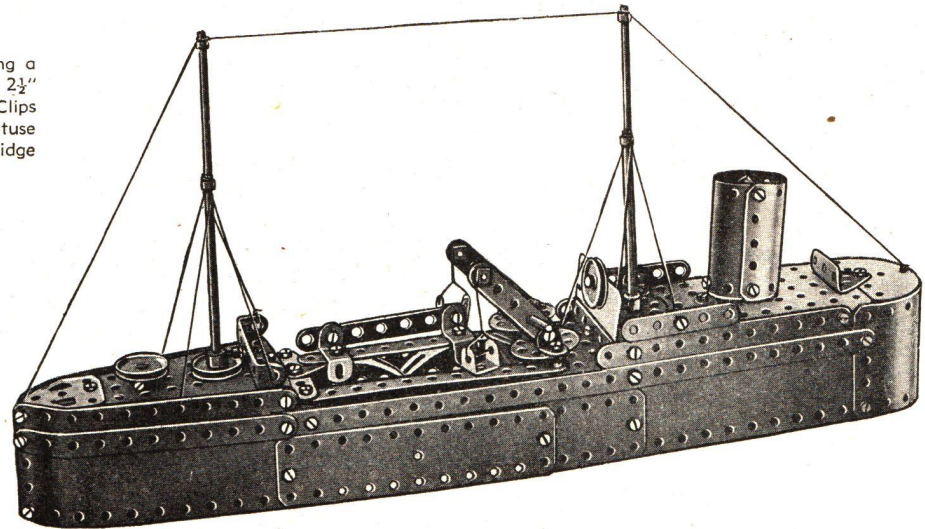
Fig. 6.16A

6.23 DREDGER SHIP

Construct the deck-cranes by attaching a 1" Pulley to a 2" Rod, then placing a $1\frac{1}{2}''$ Disc over the Pulley. Bolt Angle Brackets to the disc and pivot the $2\frac{1}{2}''$ Strips of the jib by lock-nutting them to the Angle Brackets. Spring Clips on the tops of the 2" Rods hold the completed units in place. Use an Obtuse Angle Bracket to attach the rear Formed Slotted Strip of the hopper bridge to the front of the $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Plate.

PARTS REQUIRED

9 of No. 1	2 of No. 19	2 of No. 50
6 of No. 2	4 of No. 20	2 of No. 53
3 of No. 5	8 of No. 21	2 of No. 54
8 of No. 7	2 of No. 25	1 of No. 55
4 of No. 8	1 of No. 27	1 of No. 56
2 of No. 9	1 of No. 28	2 of No. 57
2 of No. 10	4 of No. 34	2 of No. 58
1 of No. 11	5 of No. 41	2 of No. 60
2 of No. 12	2 of No. 46	2 of No. 66
4 of No. 14	2 of No. 47	2 of No. 67
1 of No. 16	2 of No. 48	2 of No. 70
1 of No. 17	2 of No. 49	2 of No. 75
		1 of No. 82



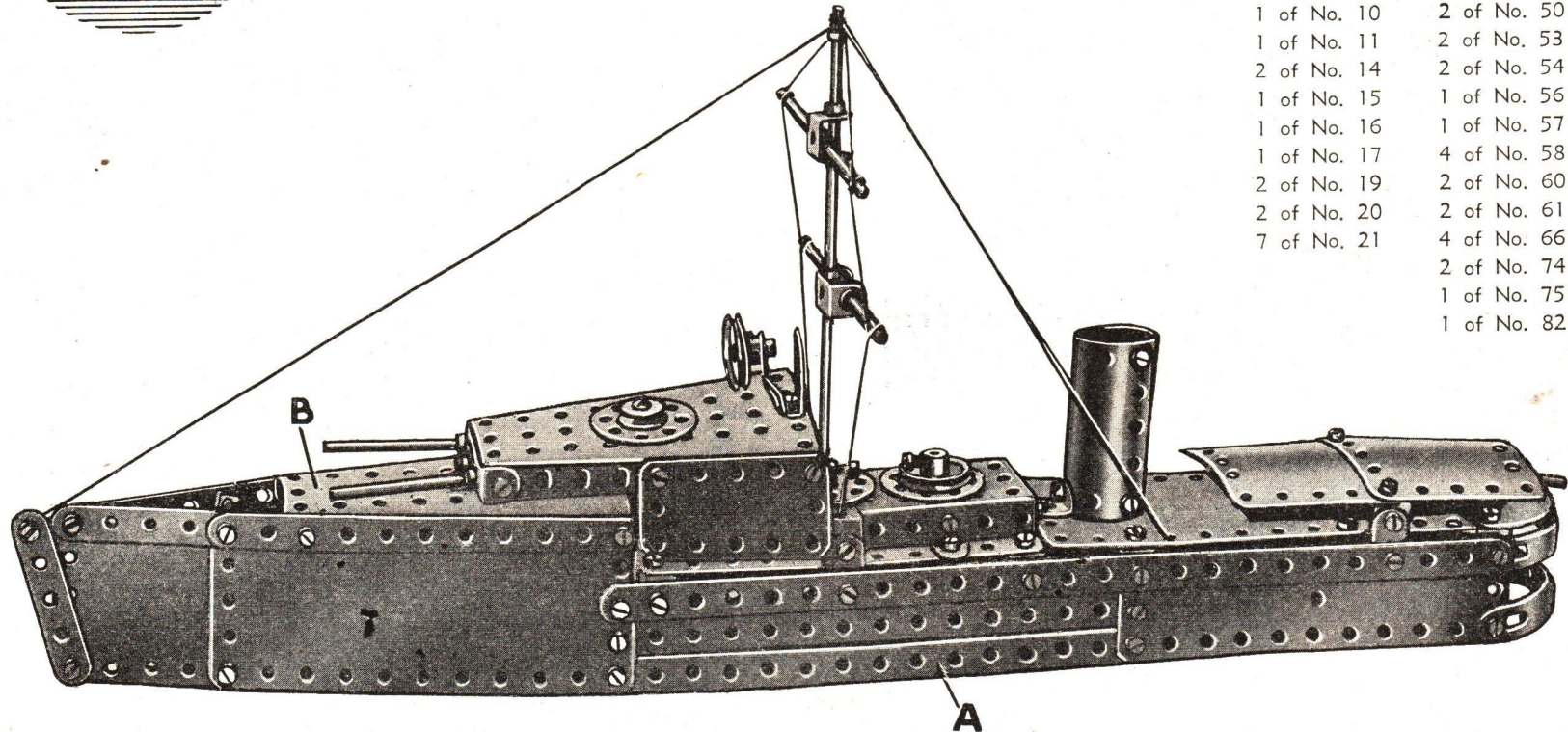


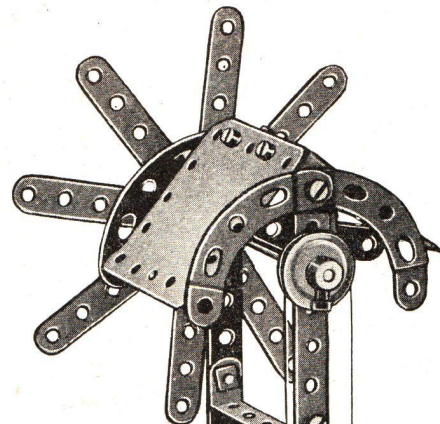
6.39 FRIGATE

Construct the bows of the ship from $2\frac{1}{2}'' \times 2\frac{1}{2}''$ and $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates. Bolt these to the $12\frac{1}{2}''$ Strip A and the Flanged Sector Plate B. Bend two U-Section Curved Plates so that their ends overlap two holes to form the funnel. Fasten it to the deck with two Angle Brackets. Represent the forward gun turret with a Flanged Sector Plate. Use a $\frac{1}{2}'' \times \frac{1}{2}''$ Angle Bracket to fasten it to the forward deck. Bolt a $1\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip to the narrow end of the Flanged Sector Plate B to form the gun housing. 2" Rods represent the guns and are held in position with Spring Clips. Use a $1\frac{1}{2}''$ Rod as the rear gun and hold it in position with a Spring Clip and a Cord Anchorage Spring in a Trunnion. Pass a $\frac{3}{8}''$ Bolt through the centre hole of the Flanged Sector Plate and lock it in position in the boss of the Pulley which forms the small gun mounting amidships.

PARTS REQUIRED

8 of No. 1	1 of No. 27
4 of No. 2	2 of No. 28
5 of No. 5	4 of No. 41
1 of No. 5a	1 of No. 44
1 of No. 6	2 of No. 46
7 of No. 7	2 of No. 47
4 of No. 8	2 of No. 48
2 of No. 9	2 of No. 49
1 of No. 10	2 of No. 50
1 of No. 11	2 of No. 53
2 of No. 14	2 of No. 54
1 of No. 15	1 of No. 56
1 of No. 16	1 of No. 57
1 of No. 17	4 of No. 58
2 of No. 19	2 of No. 60
2 of No. 20	2 of No. 61
7 of No. 21	4 of No. 66
	2 of No. 74
	1 of No. 75
	1 of No. 82





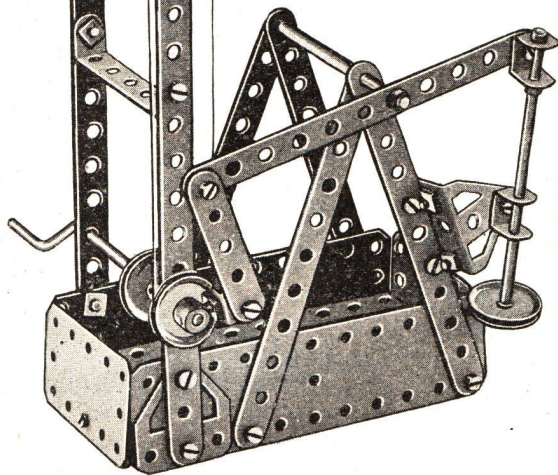
6.21 WINDMILL PUMPING PLANT

To obtain the up-and-down motion of the pumping shaft, secure the $3\frac{1}{2}$ " Rod, through the Double Brackets, to the $5\frac{1}{2}$ " Strip as illustrated. Pivot the Strip on a Rod secured in the apex of the triangles formed by the $5\frac{1}{2}$ " strip.

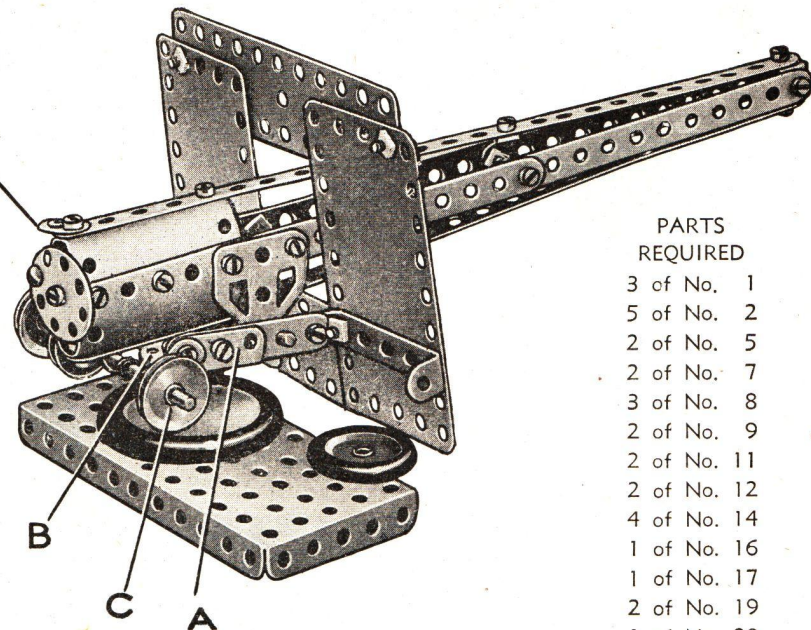
Bolt an Angle Bracket spaced by two washers, to the boss of the 1" Pulley on the Crankshaft. Use a $2\frac{1}{2}$ " Strip to connect the Angle Bracket to the free end of the $5\frac{1}{2}$ " Strip. When the Crankshaft is operated it will in turn cause the pumping shaft to oscillate.

PARTS REQUIRED

9 of No. 1
5 of No. 2
4 of No. 4
2 of No. 5
7 of No. 7
2 of No. 9
1 of No. 11
2 of No. 12
3 of No. 14
1 of No. 16
1 of No. 17
1 of No. 18
2 of No. 20
4 of No. 21
1 of No. 27
2 of No. 34
2 of No. 46
2 of No. 47
2 of No. 48
2 of No. 66
2 of No. 74



D



6.15 LONG RANGE GUN

Form the gun shield from Flexible Plates. Fasten them with Double Angle Strips and $2\frac{1}{2}$ " Strips to the two Trunnions A. Bolt the Trunnions to Bush Wheel B. The gun swivels on a 2" Rod held in the boss of the Bush Wheel. Pass the Rod through the Road Wheel and the centre hole of the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate. Fasten it with a Cord Anchoring Spring.

Control the elevation of the gun from the Pulley on Rod C. Wind cord around the Rod and tie it to the Flat Bracket and Washer shown as D.

PARTS REQUIRED

3 of No. 1
5 of No. 2
2 of No. 5
2 of No. 7
3 of No. 8
2 of No. 9
2 of No. 11
2 of No. 12
4 of No. 14
1 of No. 16
1 of No. 17
2 of No. 19
1 of No. 20
4 of No. 21
1 of No. 25
1 of No. 27
1 of No. 32
5 of No. 34
2 of No. 41
1 of No. 44
1 of No. 46
1 of No. 47
2 of No. 49
2 of No. 53
1 of No. 60
2 of No. 66



6.29 MECHANICAL SHOVEL

Fasten Cord A to the Crank Handle which is journalled in the sides of the cab. Pass it round the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip above the cabin and tie it to the jib at B. Tie Cord C to the bucket and pass it over the 1" Pulley E, then wind it around Rod F. Raise or lower the bucket by operating handle H.

Pivot the bucket arm on Rod D. Pass it through the holes in the $12\frac{1}{2}$ " Strips which form the arms. Attach Road Wheels to each end of the Rod.

Bolt a 3" Pulley Wheel G to the base. Attach the upper 3" Pulley to the Flanged Sector Plate I to which the cab is bolted.

Lock a $1\frac{1}{2}$ " Rod in the boss of Pulley Wheel G so that the upper part of the model is free to swivel.

Build up the cab from the flanges of the Flanged Sector Plates. Form the platform from two $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates. Make up the axles from $3\frac{1}{2}$ " Rods joined in pairs by a Rod Connector and a Rod and Strip Connector.

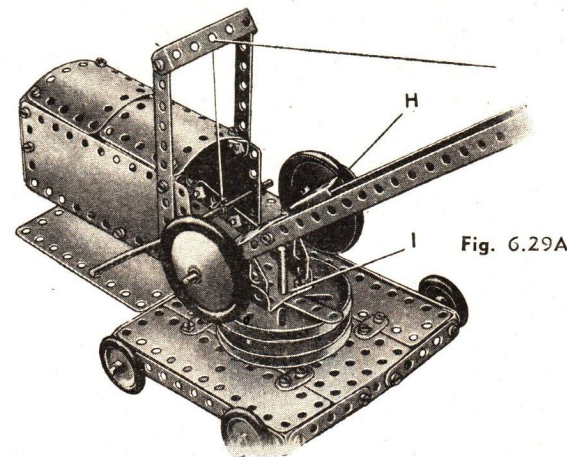
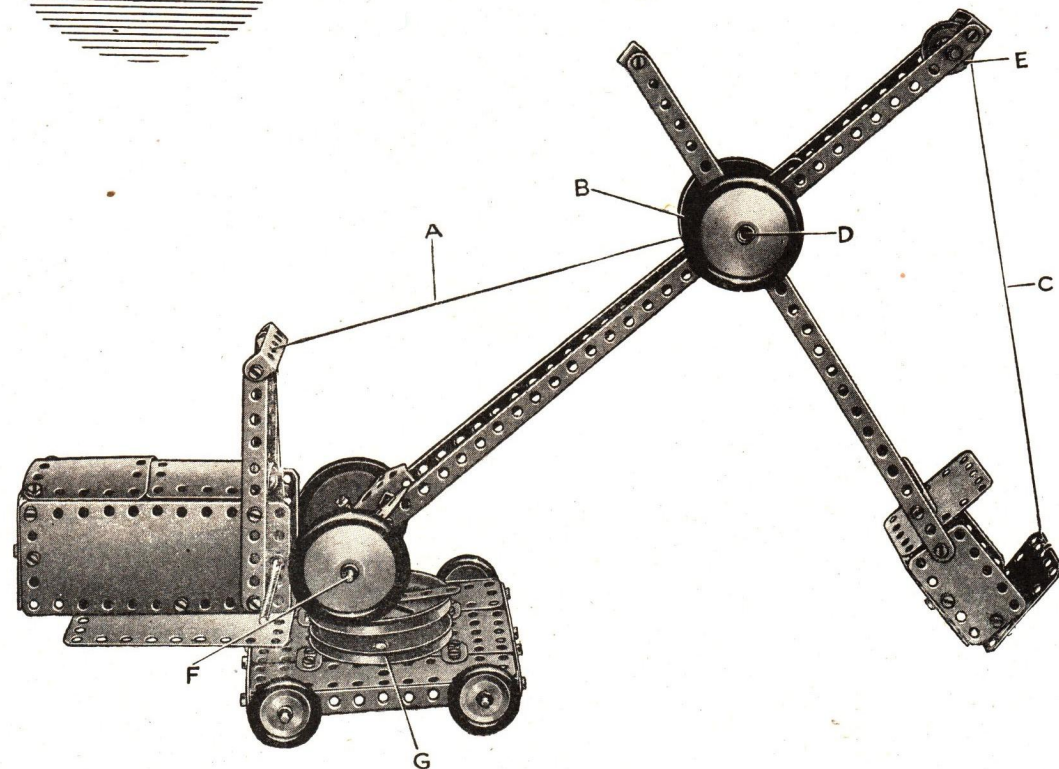
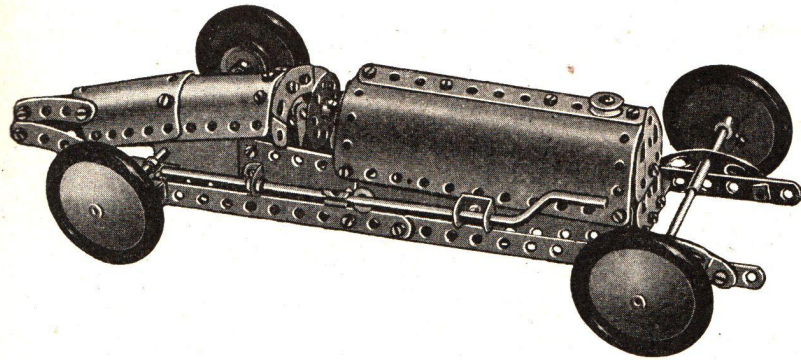


Fig. 6.29A



PARTS REQUIRED

5 of No. 1	2 of No. 19	4 of No. 48
6 of No. 2	8 of No. 21	2 of No. 49
6 of No. 5	4 of No. 20	2 of No. 50
1 of No. 5a	4 of No. 25	2 of No. 54
6 of No. 7	1 of No. 27	1 of No. 55
4 of No. 8	1 of No. 28	1 of No. 56
1 of No. 9	4 of No. 32	1 of No. 57
2 of No. 11	4 of No. 34	4 of No. 66
2 of No. 12	5 of No. 41	4 of No. 70
5 of No. 14	1 of No. 44	1 of No. 74
1 of No. 16	2 of No. 46	1 of No. 75
1 of No. 17	2 of No. 47	2 of No. 77
1 of No. 18		



6.37 SPEED CAR

Form the bonnet from two $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates and connect the bonnet to the chassis with two $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates. Extend the chassis with $5\frac{1}{2}''$ Strips and $2\frac{1}{2}''$ Strips to form the tail. Shape the streamlined cowl by bolting together $1-11/16''$ radius Curved Plates and U-Section Curved Plates as shown. Join a $4''$ and a $2''$ Rod with a Rod Connector to form the front axle. The centre holes of two small radius Curved Strips form bearings for the axle. Use two $3\frac{1}{2}''$ Rods as rear axles and journal them separately in a bearing on each side of the tail. Form the bearings by bolting a Reversed Angle Bracket to the chassis and a Flat Bracket to the side of the car. Hold the Rods in position with Spring Clips.

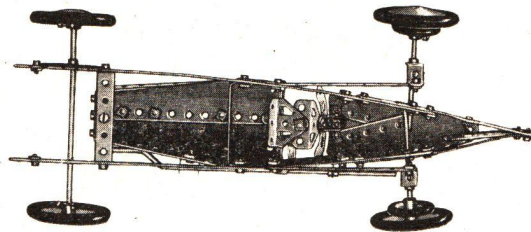


Fig. 6.37A

PARTS REQUIRED

3 of No. 1	1 of No. 16
5 of No. 2	1 of No. 18
4 of No. 4	1 of No. 19
2 of No. 5	2 of No. 20
1 of No. 5a	8 of No. 21
4 of No. 7	4 of No. 25
4 of No. 8	4 of No. 32
1 of No. 9	7 of No. 34
2 of No. 10	4 of No. 41
2 of No. 11	2 of No. 46
2 of No. 12	2 of No. 47
4 of No. 14	2 of No. 50
1 of No. 15	2 of No. 53
	2 of No. 54
	1 of No. 55
	1 of No. 56
	2 of No. 66
	1 of No. 70
	2 of No. 74

6.32 STEAM LOCOMOTIVE

The building of this model begins with the chassis. The Flat Brackets A should be bolted to the $12\frac{1}{2}''$ Strips B before Flanged Sector Plate C is attached. The $1\frac{1}{2}''$ Discs E turn on $3/8''$ Bolts lock-nutted in the end holes of two $2\frac{1}{2}''$ small radius Curved Strips, bolted to the $12''$ Strips forming the side members of the frame.

The roof of the cab is of two $1-11/16''$ radius curved plates, overlapping three holes and attached by an Angle Bracket to a small radius Curved Strip. The curved Strip is bolted to Angle Brackets bolted to the two front cab frame $2\frac{1}{2}''$ Strips. A $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Plate is the back of the cab and Flat Trunnions H form the sides.

Centre and rear of the boiler are constructed with $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates bent and bolted to the centre section. The $3/8''$ bolt F, part of the safety valve, is fixed by a Nut and Flat Bracket G is fitted over and secured by a Nut. The buffers D are lock-nutted to a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Double Angle Strip bolted to the Flanges of the Flanged Sector Plate C.

PARTS REQUIRED

9 of No. 1	4 of No. 25
5 of No. 2	1 of No. 28
3 of No. 4	4 of No. 32
4 of No. 5	7 of No. 34
1 of No. 5a	1 of No. 36
1 of No. 6	5 of No. 41
6 of No. 7	2 of No. 46
5 of No. 8	2 of No. 47
2 of No. 9	2 of No. 48
2 of No. 10	2 of No. 50
2 of No. 11	2 of No. 54
2 of No. 12	1 of No. 55
5 of No. 14	1 of No. 57
1 of No. 15	2 of No. 58
4 of No. 20	2 of No. 60
4 of No. 21	2 of No. 61
	4 of No. 66
	4 of No. 70
	1 of No. 74
	1 of No. 82

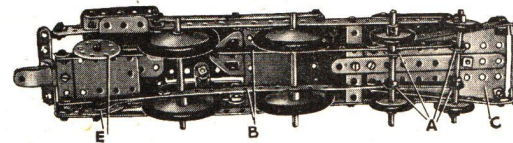
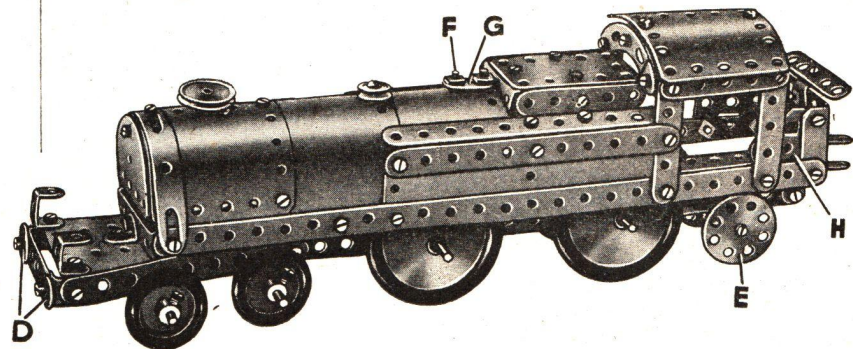


Fig. 6.32A





6.31 OVERHEAD CRANE

The walls of the cab are two $2\frac{1}{2}$ " x 2" Flexible Plates overlapping one hole. The cab roof, of two 1-11/16" Curved Plates, is joined to the walls by Obtuse Angle Brackets at each corner.

The hoisting gear consists of a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flanged Plate to which a $1\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip and a Double Bracket are bolted. Bearings for the 1" Pulley Wheels pass through the holes in these parts. A bolt through the centre hole in Flanged Plate G holds a Cranked Bent Strip vertically underneath the Flanged Plate. A 1" Rod through the lower holes of the Cranked Bent Strip is held by Spring Clips.

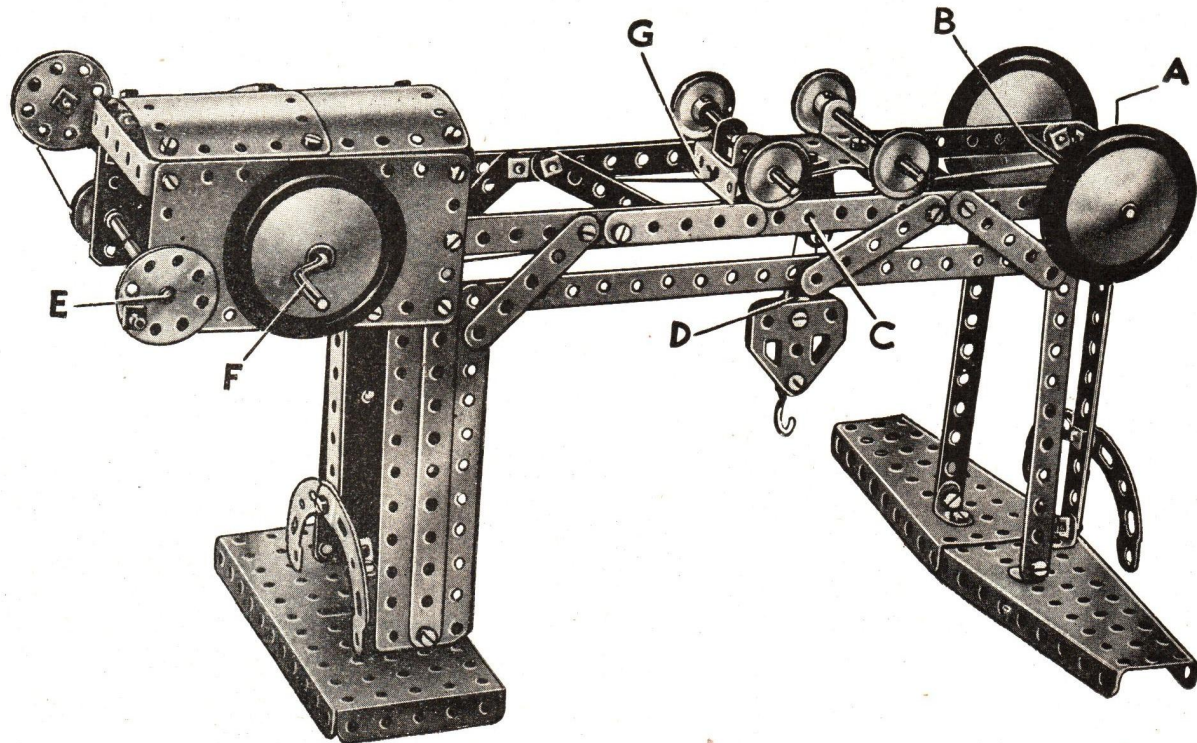
The pulley block is two Flat Trunnions connected at the wide

end by a $\frac{3}{8}$ " Bolt carrying a $\frac{1}{2}$ " loose Pulley D on its shank between the Flat Trunnions.

The cord operating the hoisting gear carriage is fixed to the front of the carriage, passed around Rod B that carries two 3" Pulleys, then to Crank Handle F, wound around it several times and finally attached to the rear of the Flanged Plate. The hoisting cord is secured to Rod E, on which is a Bush Wheel, and wound round a number of times. Then it is carried over the 1" Rod through the Cranked Bent Strip underneath Flanged Plate G, round Pulley D, back over the 1" Rod, and fastened at A. The Bush Wheel on the far side of Rod E is part of the band brake operated by a $2\frac{1}{2}$ " Strip bolted through the second hole to the cab wall. A large Bush Wheel is attached to the end of the $2\frac{1}{2}$ " Strip.

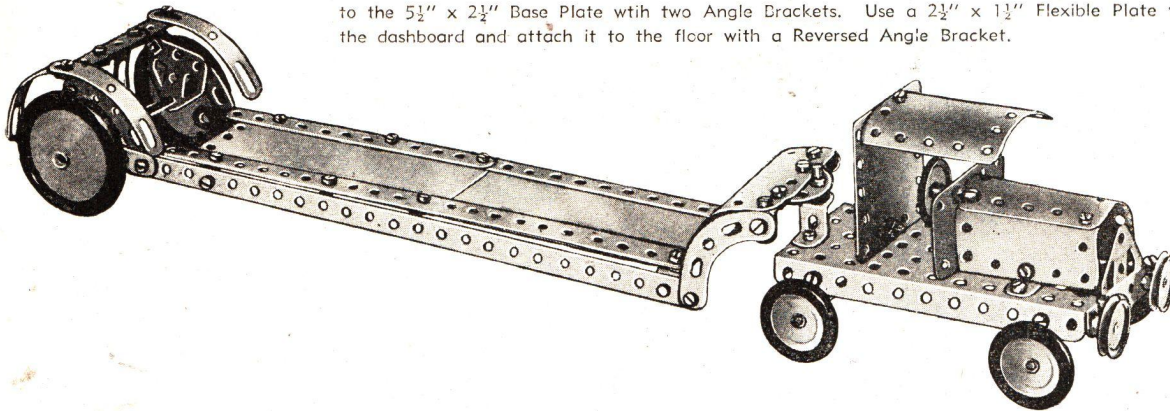
PARTS REQUIRED

9 of No. 1	2 of No. 28
6 of No. 2	3 of No. 32
4 of No. 4	8 of No. 34
4 of No. 5	1 of No. 36
1 of No. 5a	4 of No. 41
1 of No. 6	1 of No. 46
6 of No. 7	2 of No. 47
1 of No. 8	4 of No. 48
1 of No. 9	2 of No. 54
2 of No. 12	1 of No. 55
5 of No. 14	2 of No. 60
1 of No. 15	4 of No. 66
1 of No. 16	4 of No. 70
1 of No. 17	1 of No. 74
1 of No. 18	1 of No. 75
3 of No. 20	1 of No. 76
8 of No. 21	2 of No. 77
1 of No. 27	1 of No. 82



6.13 AIR FORCE LORRY

Use two U-Section Curved Plates, overlapped by three holes to form the bonnet. Attach them to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate with two Angle Brackets. Use a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plate for the dashboard and attach it to the floor with a Reversed Angle Bracket.



PARTS REQUIRED

5 of No. 1	2 of No. 20
6 of No. 2	2 of No. 21
4 of No. 4	4 of No. 25
2 of No. 5	2 of No. 32
8 of No. 7	1 of No. 34
4 of No. 8	1 of No. 44
2 of No. 9	1 of No. 46
2 of No. 10	2 of No. 48
1 of No. 11	2 of No. 50
2 of No. 12	2 of No. 53
4 of No. 14	2 of No. 54
1 of No. 16	4 of No. 58
1 of No. 17	2 of No. 66
1 of No. 19	1 of No. 74

PARTS REQUIRED

7 of No. 1	6 of No. 41
6 of No. 2	1 of No. 44
1 of No. 4	2 of No. 46
2 of No. 5	2 of No. 47
7 of No. 7	2 of No. 48
5 of No. 8	1 of No. 49
1 of No. 9	1 of No. 50
2 of No. 11	1 of No. 53
2 of No. 12	2 of No. 54
4 of No. 14	1 of No. 55
1 of No. 16	1 of No. 57
1 of No. 17	4 of No. 58
2 of No. 19	1 of No. 60
2 of No. 20	1 of No. 61
6 of No. 21	2 of No. 66
1 of No. 27	2 of No. 74
2 of No. 32	1 of No. 75

6.14 NAVY CRUISER

Fasten the side strips of the hull by bolts to a Trunnion. Use a Trunnion to form the rear gun mounting. Fasten it to the centre hole of the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip. Use a Trunnion as the forward gun mounting also, but fasten it by a Double Bracket to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate.

Construct the turret by bolting a Bush Wheel to the deck, securing a $3\frac{1}{2}$ " Rod in the boss and placing two Road Wheels on it, as illustrated.

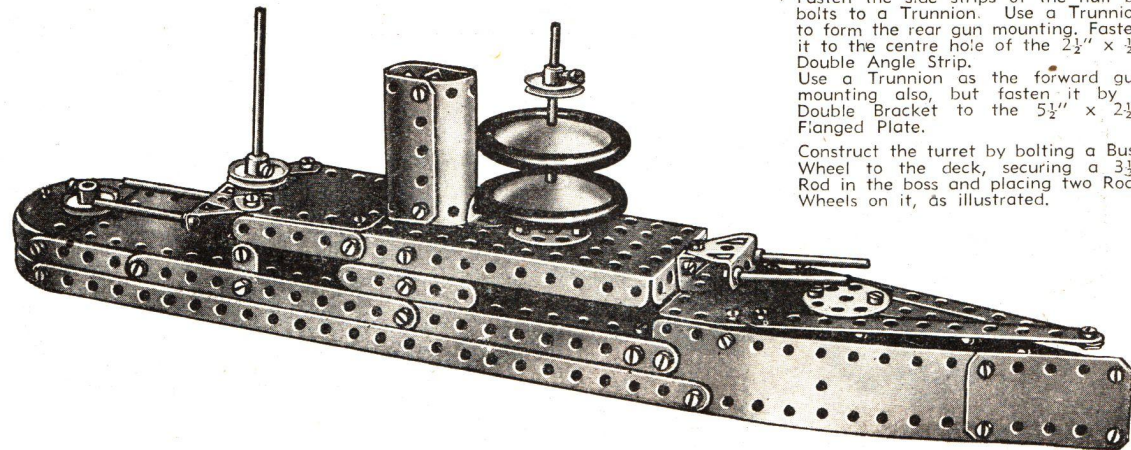
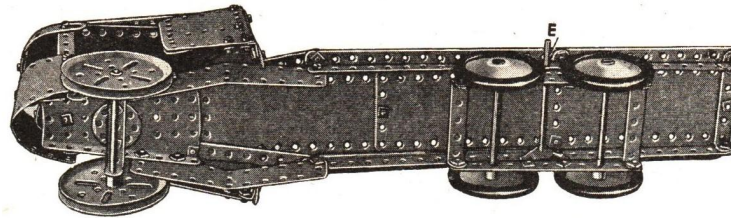




Fig. 6.40A

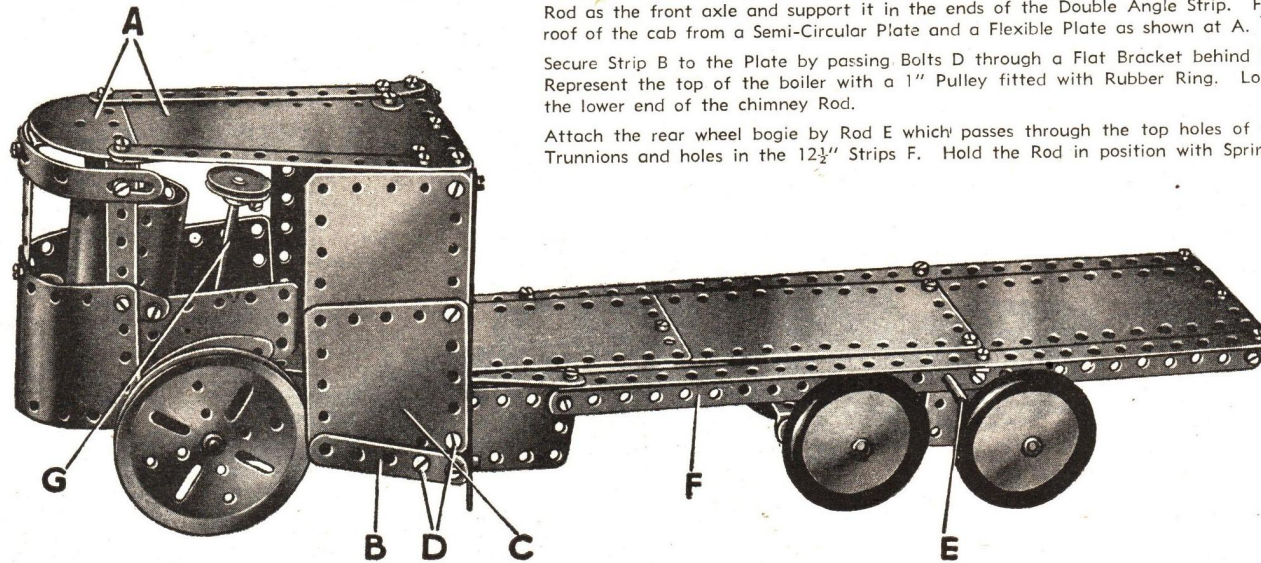


6.40 GIANT STEAM WAGGON

Two U-Section Curved Plates form the boiler. Fasten them to the Flanged Sector Plate which forms the floor of the cab with a $1\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip. Pass the steering column (G) through the bottom of the cab where it is held in the boss of a Bush Wheel. Bolt a $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strip to the Bush Wheel. Use a 4'' Rod as the front axle and support it in the ends of the Double Angle Strip. Form the roof of the cab from a Semi-Circular Plate and a Flexible Plate as shown at A.

Secure Strip B to the Plate by passing Bolts D through a Flat Bracket behind Plate C. Represent the top of the boiler with a 1'' Pulley fitted with Rubber Ring. Lock it to the lower end of the chimney Rod.

Attach the rear wheel bogie by Rod E which passes through the top holes of the Flat Trunnions and holes in the $12\frac{1}{2}''$ Strips F. Hold the Rod in position with Spring Clips.



PARTS REQUIRED

6 of No.	1
8 of No.	2
4 of No.	4
6 of No.	5
1 of No.	5a
8 of No.	7
4 of No.	8
2 of No.	9
2 of No.	10
1 of No.	11
2 of No.	12
5 of No.	14
1 of No.	15
1 of No.	16
1 of No.	17
4 of No.	20
8 of No.	21
1 of No.	25
1 of No.	28
4 of No.	32
8 of No.	34
2 of No.	41
2 of No.	46
2 of No.	47
4 of No.	48
2 of No.	49
2 of No.	50
2 of No.	53
2 of No.	54
1 of No.	57
4 of No.	58
4 of No.	66
2 of No.	67
2 of No.	70
2 of No.	74
2 of No.	77
1 of No.	82

6.1 RECORD BREAKER

Use the $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Base Plate for the front part of the chassis. Bolt the two $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates to the third hole from the front of the chassis members as shown. At the rear, overlap the two $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates by one hole of the $5\frac{1}{2}''$ strips which form the chassis.

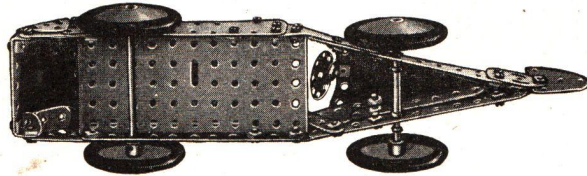
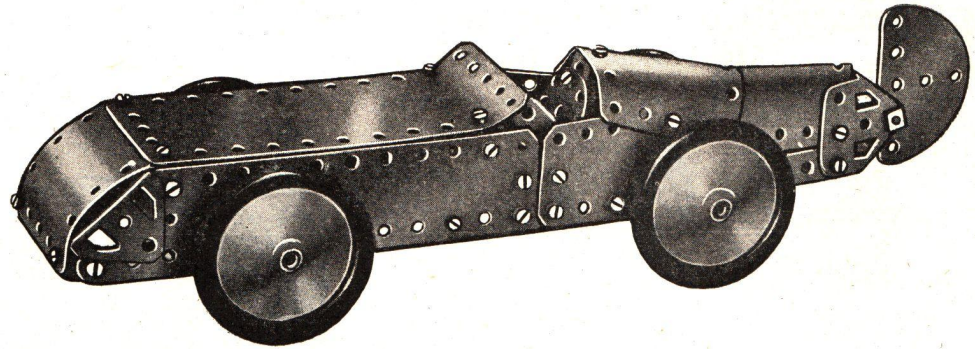


Fig. 6.1A



PARTS REQUIRED

6 of No. 1	2 of No. 8	1 of No. 17	4 of No. 34	2 of No. 53
2 of No. 2	2 of No. 11	2 of No. 20	2 of No. 46	1 of No. 54
1 of No. 5	2 of No. 12	2 of No. 21	2 of No. 47	2 of No. 57
3 of No. 7	4 of No. 14	4 of No. 25	1 of No. 50	1 of No. 60

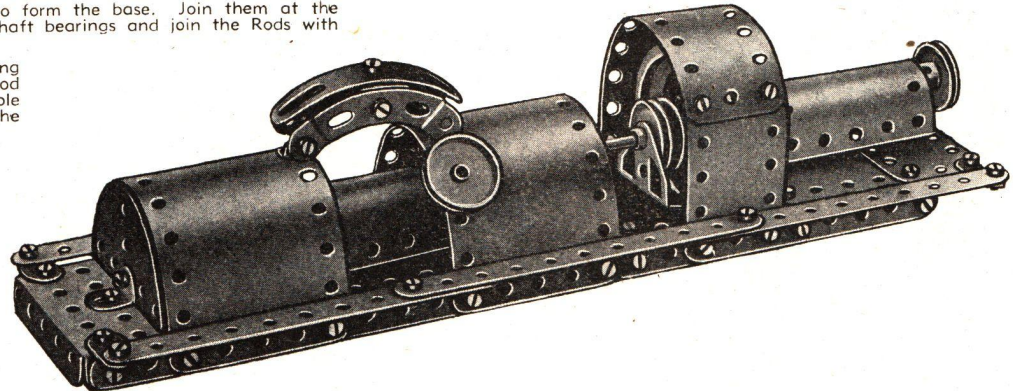
6.9 GENERATING PLANT

Bolt two $12\frac{1}{2}''$ Strips to the flanges of a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Base Plate to form the base. Join them at the ends with $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips. Use Trunnions for the shaft bearings and join the Rods with Rod Connector.

Attach the U-Section Curved Plate to the base-plates with a Spring Clip attached to the end of a 2'' Rod. Pass one end of the Rod through the base plate, and the other end through the centre hole in the top of the plate. Attach a Spring Clip to the Rod below the base-plate.

PARTS REQUIRED

8 of No. 1	1 of No. 17	1 of No. 49
6 of No. 2	1 of No. 20	2 of No. 50
4 of No. 4	4 of No. 21	2 of No. 53
2 of No. 5	2 of No. 32	1 of No. 56
8 of No. 7	1 of No. 34	2 of No. 57
3 of No. 8	1 of No. 41	1 of No. 58
2 of No. 9	1 of No. 46	2 of No. 66
2 of No. 10	1 of No. 47	1 of No. 74
2 of No. 11	1 of No. 48	1 of No. 75
4 of No. 14		





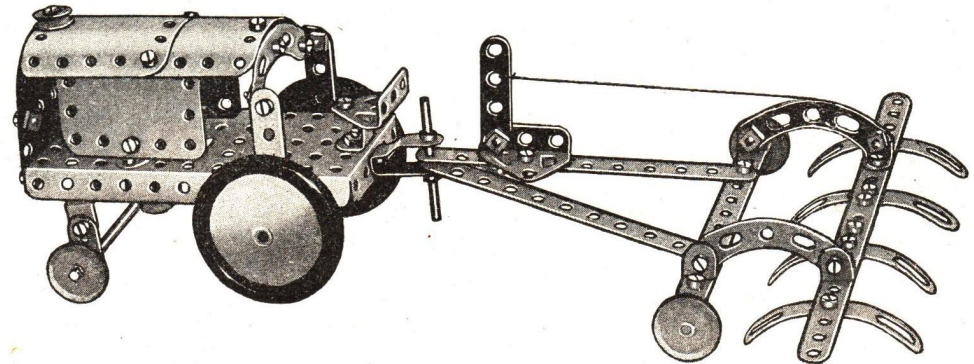
6.22 TRACTOR AND PLOUGH

Pass the rear axle through the bottom holes of the two $2\frac{1}{2}$ " Strips which are bolted to the flanges of the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate.

Form the engine from two U-Section Curved Plates overlapped by two holes and bolted together.

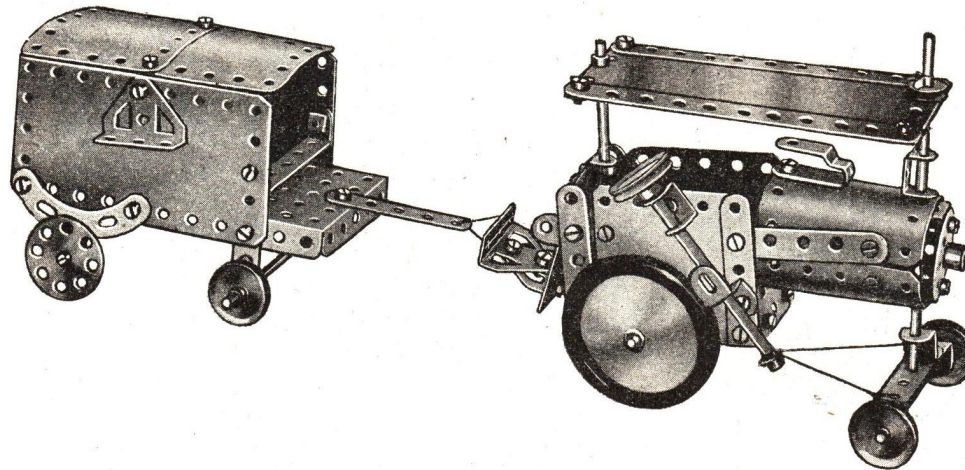
Attach the wheels to the plough tripod by $\frac{3}{8}$ " Bolt and Reversed Angle Brackets.

The illustration shows clearly how the lever operates the lifting movement of the plough. The three pivotal Bolts are lock-nutted.



PARTS REQUIRED

3 of No. 1	8 of No. 7	4 of No. 14	4 of No. 25	2 of No. 53
5 of No. 2	5 of No. 8	1 of No. 15	2 of No. 32	2 of No. 54
4 of No. 4	2 of No. 9	1 of No. 17	6 of No. 34	1 of No. 57
1 of No. 5	2 of No. 10	2 of No. 20	5 of No. 41	4 of No. 58
1 of No. 6	2 of No. 11	2 of No. 21	1 of No. 46	1 of No. 75



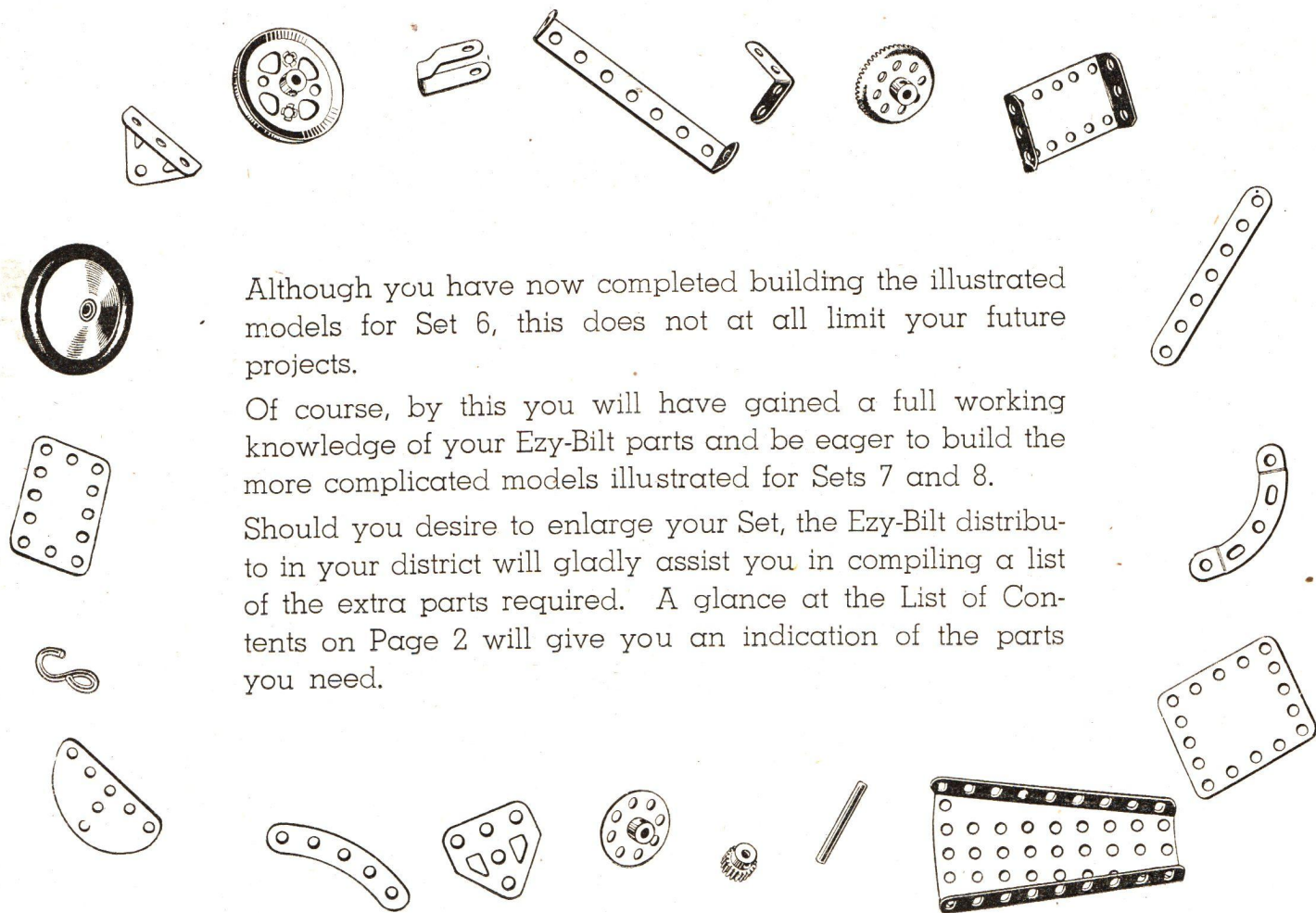
6.11 STEAM CAR AND WAGON

Bolt two Angle Brackets to the Bush Wheel which forms the front part of the boiler. The Rod which passes through the two free holes of the Angle Brackets holds the Bush Wheel in position and extends to form a pivotal point for the axle. A 2" Rod is connected by a Rod Connector to form the chimney.

Wind Cord around the lower part of the steering column and tie the ends to the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip which forms the front axle housing. Be sure to wind the cord tightly or it will slip when the wheel is operated.

PARTS REQUIRED

9 of No. 1	1 of No. 16	2 of No. 48
4 of No. 2	1 of No. 17	2 of No. 49
2 of No. 4	2 of No. 19	1 of No. 50
2 of No. 5	2 of No. 20	2 of No. 53
1 of No. 6	4 of No. 21	2 of No. 54
8 of No. 7	3 of No. 25	1 of No. 55
5 of No. 8	1 of No. 27	1 of No. 56
2 of No. 9	2 of No. 32	1 of No. 57
2 of No. 10	6 of No. 34	2 of No. 60
2 of No. 11	4 of No. 41	2 of No. 61
2 of No. 12	1 of No. 44	2 of No. 74
4 of No. 14	2 of No. 46	1 of No. 75
1 of No. 15		



Although you have now completed building the illustrated models for Set 6, this does not at all limit your future projects.

Of course, by this you will have gained a full working knowledge of your Ezy-Bilt parts and be eager to build the more complicated models illustrated for Sets 7 and 8.

Should you desire to enlarge your Set, the Ezy-Bilt distributor in your district will gladly assist you in compiling a list of the extra parts required. A glance at the List of Contents on Page 2 will give you an indication of the parts you need.



7.18 MOAT BRIDGE

Pivot the bridge on a 5" Rod which passes through the holes one from the end of the span. The Rod is supported in two Reversed Angle Brackets bolted to the 12½" Girders forming the supports.

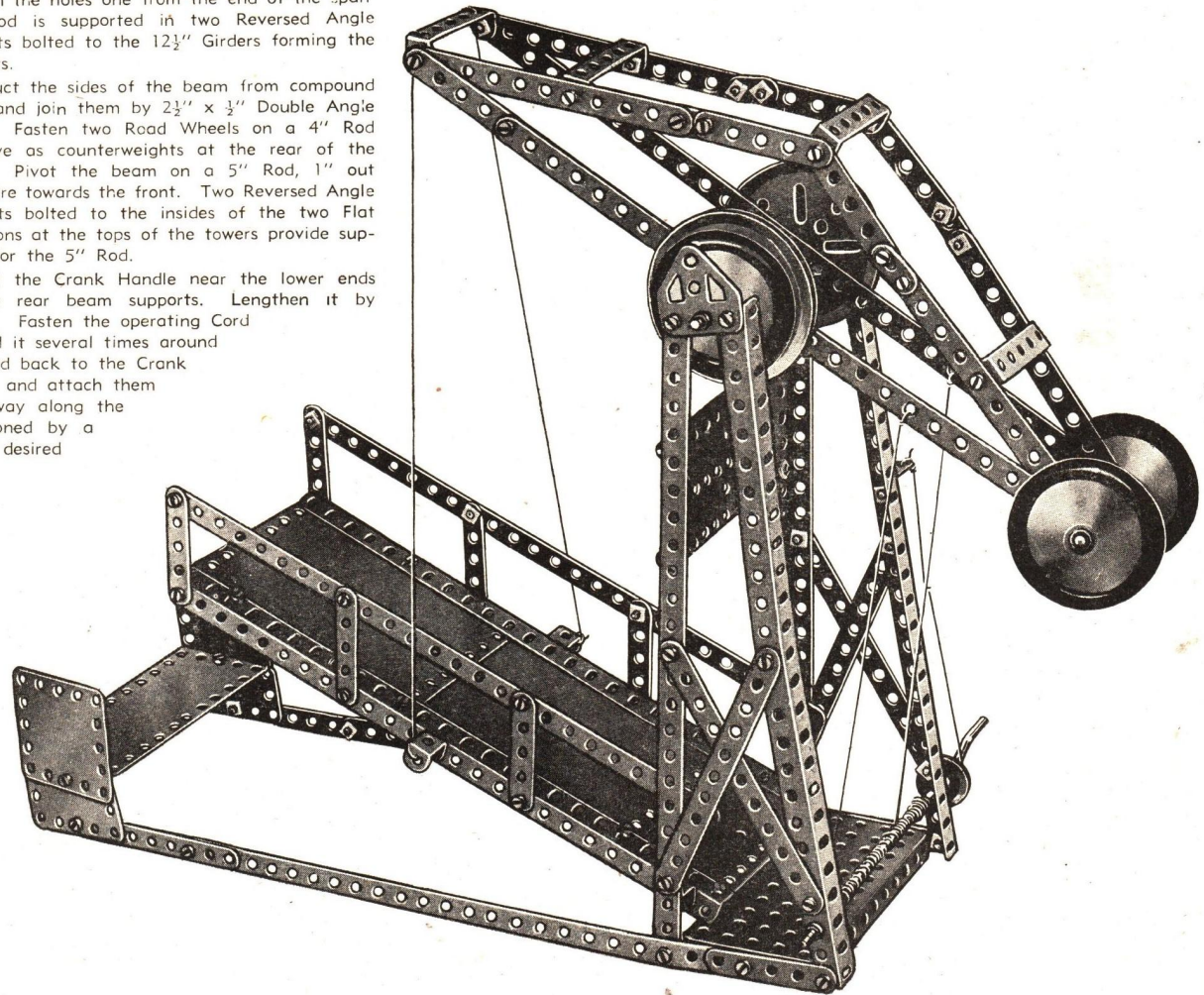
Construct the sides of the beam from compound strips and join them by 2½" x ½" Double Angle Strips. Fasten two Road Wheels on a 4" Rod to serve as counterweights at the rear of the beam. Pivot the beam on a 5" Rod, 1" out of centre towards the front. Two Reversed Angle Brackets bolted to the insides of the two Flat Trunnions at the tops of the towers provide supports for the 5" Rod.

Journal the Crank Handle near the lower ends of the rear beam supports. Lengthen it by

joining it on a 3½" Rod by a Rod Connector. Fasten the operating Cord to the Crank Handle by a Spring Clip. Wind it several times around the shaft, then take it through the beam and back to the Crank Handle. Tie Cords to the front of the beam and attach them to Double Brackets which are fastened midway along the span. A Cord band brake which is tensioned by a Driving Band will hold the moat in the desired position.

PARTS REQUIRED

10 of No. 1	4 of No. 45
13 of No. 2	2 of No. 46
7 of No. 5	2 of No. 47
8 of No. 7	4 of No. 48
5 of No. 8	2 of No. 49
2 of No. 9	4 of No. 50
4 of No. 10	1 of No. 56
2 of No. 12	1 of No. 63
1 of No. 14	10 of No. 66
1 of No. 17	2 of No. 67
1 of No. 18	1 of No. 69
1 of No. 20	2 of No. 72
4 of No. 21	1 of No. 74
1 of No. 27	2 of No. 77
4 of No. 32	



7.14 GIANT TURRET TANK

Use Angle Girders as the main members of the base. Join the top pair by three $5\frac{1}{2}$ " Strips and the lower pair by a $5\frac{1}{2}$ " Strip at the front and compound strips of two $2\frac{1}{2}$ " Strips overlapped one hole at the centre and rear. The two halves of a Hinged Flat Plate will serve as flat plates in filling in the decking and rear.

Fit a reversed Angle Bracket to the inside of the Flanged Plate in the revolving gun turret. Use a $3\frac{1}{2}$ " Rod to represent the gun and lock it to the Reversed Angle Bracket with Spring Clips. Fix a $5\frac{1}{2}$ " Rod to the boss of the $3\frac{1}{2}$ " Pulley to which the turret is bolted. Secure it in the boss of the Road Wheel at the top of the tower and pass the lower end through the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate and through a Double Bent Strip. Lock a $1\frac{1}{2}$ " Pulley on the Rod to retain the complete unit in position.

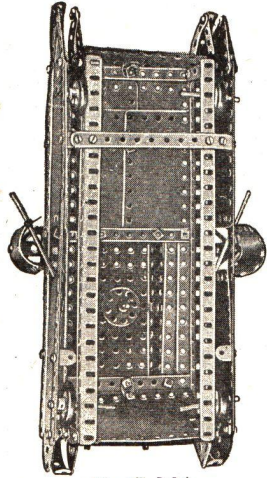
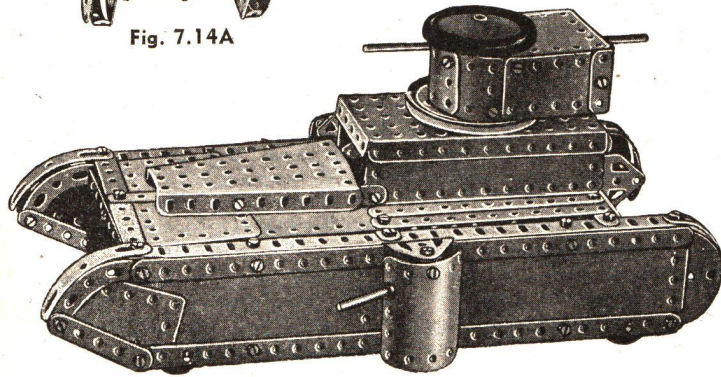


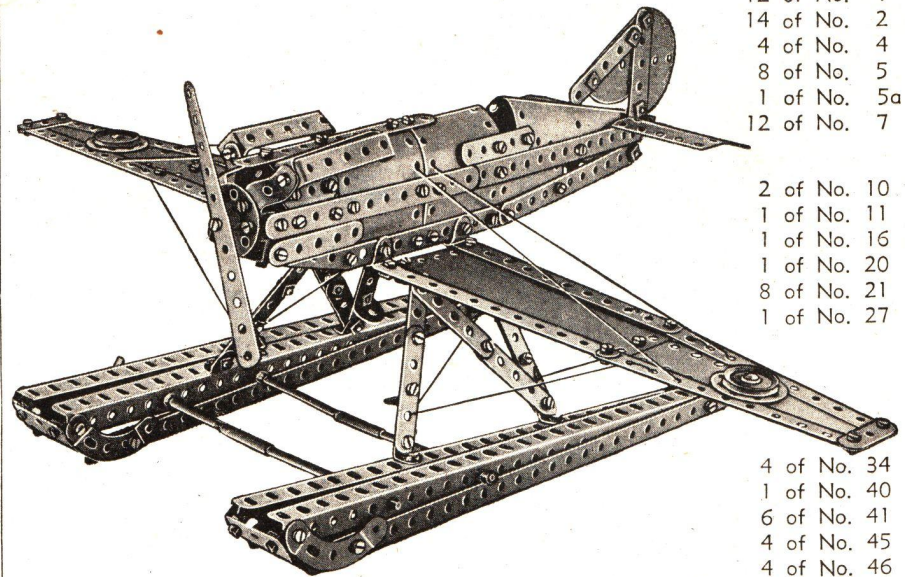
Fig. 7.14A



PARTS REQUIRED

11 of No. 1	3 of No. 46
8 of No. 2	4 of No. 47
4 of No. 4	3 of No. 48
6 of No. 5	2 of No. 49
6 of No. 7	4 of No. 50
1 of No. 10	1 of No. 52
2 of No. 11	2 of No. 53
2 of No. 12	2 of No. 57
5 of No. 14	4 of No. 58
1 of No. 17	4 of No. 66
2 of No. 20	1 of No. 70
8 of No. 21	2 of No. 72
4 of No. 25	1 of No. 74
2 of No. 28	4 of No. 75
1 of No. 32	1 of No. 77
2 of No. 34	1 of No. 80
4 of No. 45	1 of No. 82

7.1 FLOAT PLANE



PARTS REQUIRED

12 of No. 1	
14 of No. 2	
4 of No. 4	
8 of No. 5	
1 of No. 5a	
12 of No. 7	
2 of No. 10	
1 of No. 11	
1 of No. 16	
1 of No. 20	
8 of No. 21	
1 of No. 27	
4 of No. 34	
1 of No. 40	
6 of No. 41	
4 of No. 45	
4 of No. 46	
4 of No. 47	
2 of No. 49	
2 of No. 50	
2 of No. 53	
2 of No. 54	
1 of No. 55	
1 of No. 56	
2 of No. 57	
2 of No. 60	
2 of No. 61	
8 of No. 66	
2 of No. 67	
2 of No. 68	
2 of No. 69	
4 of No. 70	
1 of No. 73	
2 of No. 74	

The $\frac{1}{2}$ " Bolt which holds the $12\frac{1}{2}$ " Strips together at the tail also holds the $3\frac{1}{2}$ " Strip on the rudder. Space it on each side with two Washers. Fasten the leading edge of the wing to the fuselage with a Trunnion. Fix the trailing edge to the $1\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip which spaces the underside of the fuselage. Attach the floats by Obtuse Angle Brackets. Join two 4" Rods with a Rod Connector to form the front tie-rod. Join a $4\frac{1}{2}$ " Rod and a $3\frac{1}{2}$ " Rod with a Rod and Strip Connector to form the rear tie-rod. Bolt a $12\frac{1}{2}$ " Strip between the two $12\frac{1}{2}$ " Angle Girders which form the tops of the floats.

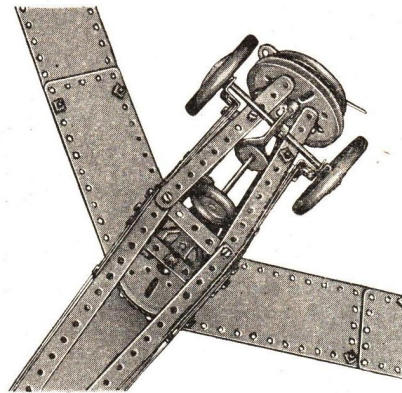
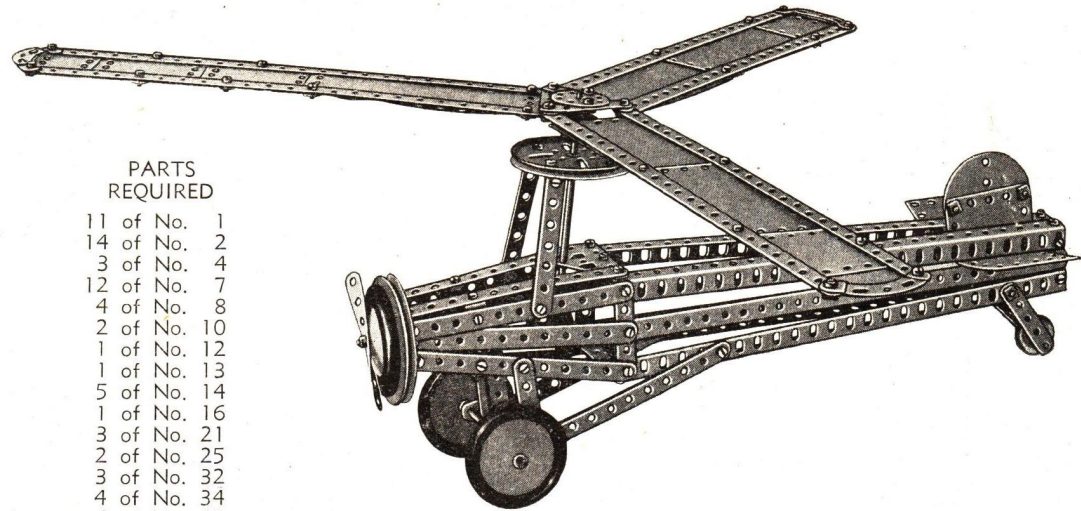


Fig. 7.12A

PARTS
REQUIRED

11	of	No.	1
14	of	No.	2
3	of	No.	4
12	of	No.	7
4	of	No.	8
2	of	No.	10
1	of	No.	12
1	of	No.	13
5	of	No.	14
1	of	No.	16
3	of	No.	21
2	of	No.	25
3	of	No.	32
4	of	No.	34
6	of	No.	41
4	of	No.	45
4	of	No.	46
2	of	No.	47
4	of	No.	48
2	of	No.	49
4	of	No.	50
2	of	No.	57
1	of	No.	62
8	of	No.	66
2	of	No.	67
2	of	No.	68
1	of	No.	69
4	of	No.	70
2	of	No.	72
1	of	No.	73
1	of	No.	75
2	of	No.	77

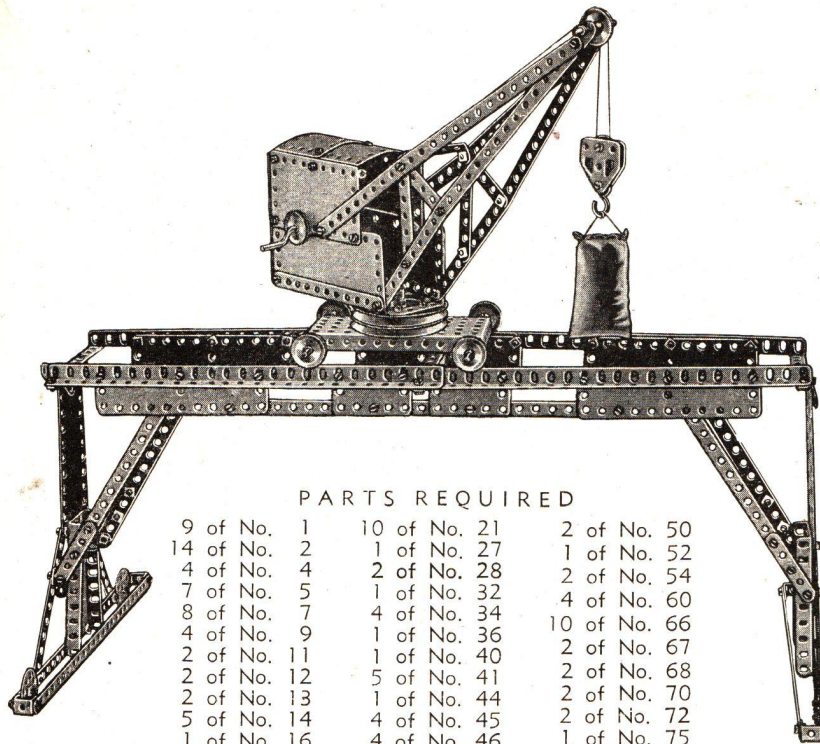


7.12 HELICOPTER

Use $12\frac{1}{2}$ " angle girders to form the fuselage. Join them with a $1\frac{1}{2}$ " strip on each side of the tail. Attach the tail plane to the angle girders by an angle bracket and use an obtuse angle bracket to fix the stabilisers to the tail plane. Bolt two $5\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plates face to face, round off the ends with semi-circular plates to form the fin.

Attach the $12\frac{1}{2}$ " strips of the rotor blades to the hub by making a triangle of $2\frac{1}{2}$ " strips as a brace. Bolt two of the strips to the bush wheel.

Use a flat bracket fastened to a 1 " x 1 " angle bracket as a bearing for the propellor shaft. Take the drive from a 1 " pulley on the landing wheels axle to a 1 " pulley on the propellor shaft. Transmit the drive to the rotor by causing a 1 " pulley fitted with rubber ring to contact a second 1 " pulley fitted with rubber ring, which is locked on the lower end of the rotor shaft.



PARTS REQUIRED

9 of No. 1	10 of No. 21	2 of No. 50
14 of No. 2	1 of No. 27	1 of No. 52
4 of No. 4	2 of No. 28	2 of No. 54
7 of No. 5	1 of No. 32	4 of No. 60
8 of No. 7	4 of No. 34	10 of No. 66
4 of No. 9	1 of No. 36	2 of No. 67
2 of No. 11	1 of No. 40	2 of No. 68
2 of No. 12	5 of No. 41	2 of No. 70
2 of No. 13	1 of No. 44	2 of No. 72
5 of No. 14	4 of No. 45	1 of No. 75
1 of No. 16	4 of No. 46	1 of No. 76
1 of No. 17	4 of No. 47	2 of No. 77
1 of No. 18	2 of No. 48	1 of No. 82
1 of No. 19	2 of No. 49	

7.5 OVERHEAD TROLLEY CRANE

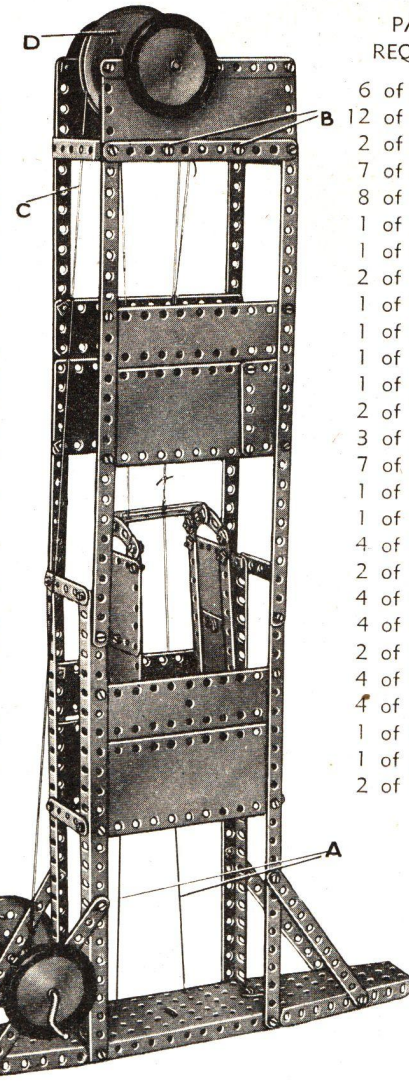
Withdraw the pin from a Hinged Flat Plate and use the two halves as part of the end supports for the gantry. Bolt and lock-nut four $1\frac{1}{4}$ " Discs to the base girders so that the crane may be moved along the ground.

Use two $12\frac{1}{2}$ " Angle Girders to form each of the truck rails. Overlap them three holes and bolt together. Use Angle Trunnions to connect the truck rails to the supports.

Tie the lowering cable to a Cord Anchoring Spring on the Crank Handle and pass it over the 1" loose Pulley at the jib head, through the pulley block, and fasten as illustrated.

7.16 TOWER ELEVATOR

Connect the two Flanged Sector Plates to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate by Angle Brackets, the bolts of which also hold the four $12\frac{1}{2}$ " Angle Girders. Tie the guide Cords A to Washers under the Base Plate and to Angle Brackets held by Bolts B. Tie Cord C to a Washer and pass it through the centre hole of the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip at the head of the tower. Lead it then over 3" Pulley D and fasten it finally to a Cord Anchoring Spring on the Crank Handle which is journaled in one of the $5\frac{1}{2}$ " bracing strips. Pass a length of Cord around the 3" Pulley E and tie it to the $3\frac{1}{2}$ " Strip representing the brake lever. Lock-nut the lever to a Trunnion which is bolted to a Flat Trunnion.



PARTS REQUIRED

6 of No. 1
12 of No. 2
2 of No. 4
7 of No. 5
8 of No. 7
1 of No. 11
1 of No. 12
2 of No. 14
1 of No. 15
1 of No. 17
1 of No. 18
1 of No. 27
2 of No. 28
3 of No. 32
7 of No. 34
1 of No. 41
1 of No. 44
4 of No. 45
2 of No. 46
4 of No. 47
4 of No. 48
2 of No. 49
4 of No. 50
4 of No. 66
1 of No. 67
1 of No. 74
2 of No. 77



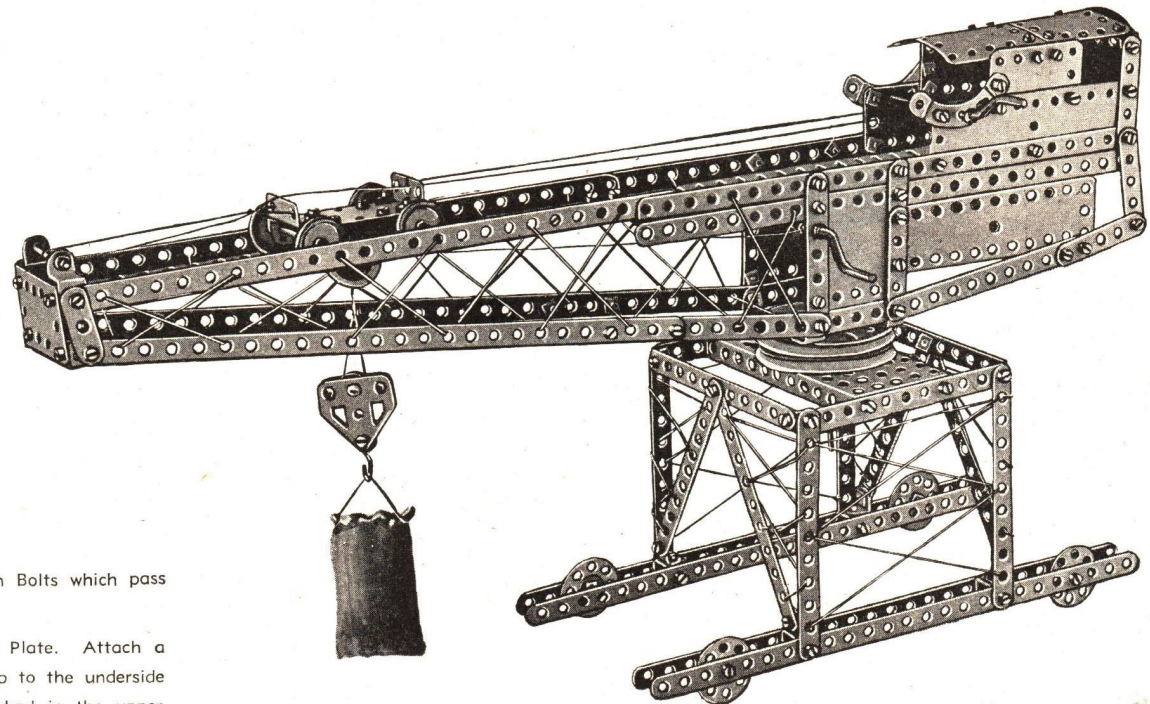
7.3 SHIPYARD CRANE

$1\frac{1}{4}$ " Discs represent the wheels. Lock-nut them on Bolts which pass through the Base Strips.

Bolt the lower 3" Pulley to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate. Attach a second 3" Pulley by a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip to the underside of the jib. Pass a $3\frac{1}{2}$ " Rod, from where it is locked in the upper Pulley, through the boss of the lower Pulley to form the pivotal point.

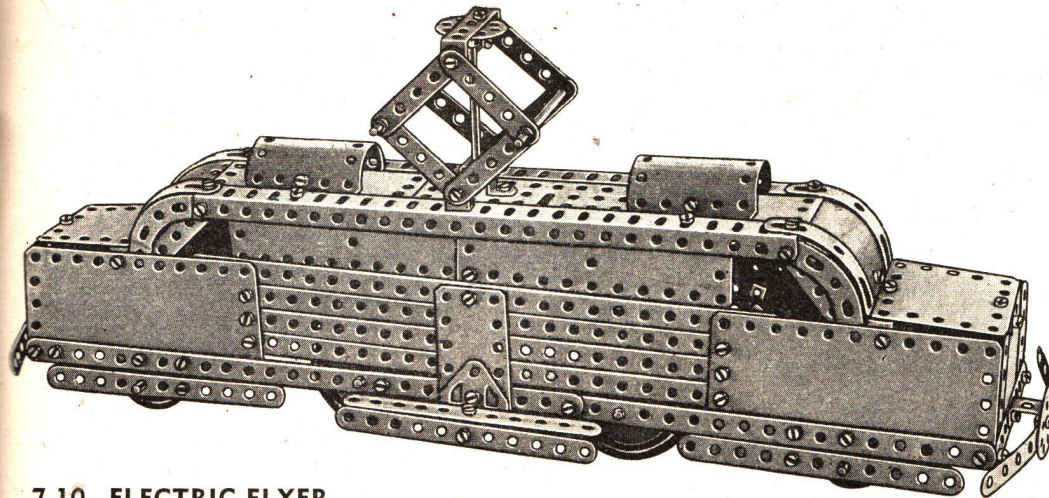
The Angle Girders at the top of the jib form the guide rails for the hoisting carriage. Tie a Cord to the front end of the carriage, take it over a $3\frac{1}{2}$ " Rod at the jib head and wind it six times around the Crank Handle. Tie it then to the rear of the carriage.

Tie a second Cord to the Cord Anchoring Spring on the $3\frac{1}{2}$ " Rod which carries the Bush Wheel and the Road Wheel. Lead it around one of the 1" loose Pulleys in the carriage, around the $\frac{1}{2}$ " loose Pulley in the pulley block, then back over the second 1" Pulley to where it is tied to the $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plate.



PARTS REQUIRED

12 of No. 1	2 of No. 12	10 of No. 21	4 of No. 45	2 of No. 68
14 of No. 2	2 of No. 13	1 of No. 27	3 of No. 46	2 of No. 69
3 of No. 4	5 of No. 14	1 of No. 32	4 of No. 47	4 of No. 70
7 of No. 5	1 of No. 15	11 of No. 34	4 of No. 48	1 of No. 74
1 of No. 5a	1 of No. 16	1 of No. 36	1 of No. 49	1 of No. 75
12 of No. 7	1 of No. 17	1 of No. 40	2 of No. 54	1 of No. 76
4 of No. 9	1 of No. 18	6 of No. 41	4 of No. 60	2 of No. 77
2 of No. 10	2 of No. 19	1 of No. 42	10 of No. 66	1 of No. 80
2 of No. 11	3 of No. 20	1 of No. 44	2 of No. 67	1 of No. 82



7.10 ELECTRIC FLYER

Join two 2" Rods with a Rod Connector to form the front axle. Construct each side of the pantograph from four 2½" Strips. Lock-nut then in pairs to a 2½" x ½" Double Angle Strip at the top and an Angle Bracket at the bottom. Pivot then on 3½" Rods and stretch a Driving Band between the Rods. Lock a Bush Wheel to the 5" Rod which passes through a Double Bent Strip and the 5½" x 2½" Base Plate. Use Angle Brackets to attach the two U-Section Curved Plates to the roof.

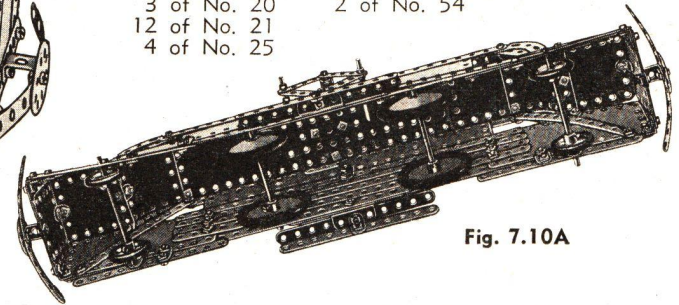


Fig. 7.10A

7.6 STREAMLINED COACH

Use two 12½" Angle Girders as the main members of the chassis. Join them at each end with 3½" Strips. Use 5½" Strips as supports for the roof. Form the stream-lined rear from a 5½" x 1½" Flexible Plate, a 5½" x 2½" Flexible Plate and two 1.11/16" Radius Curved Plates.

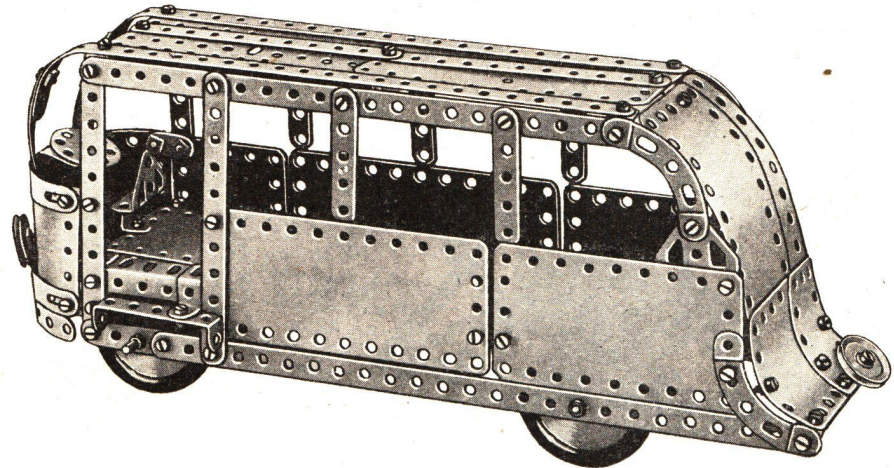
Secure the axles outside the chassis members with Spring Clips. Provide a hub bearing on the inner side of the wheels by using Washers and Spring Clips.

PARTS REQUIRED

9 of No. 1	2 of No. 12	3 of No. 48
10 of No. 2	2 of No. 13	2 of No. 49
2 of No. 3a	1 of No. 14	4 of No. 50
4 of No. 4	1 of No. 16	4 of No. 66
1 of No. 5	1 of No. 17	2 of No. 68
5 of No. 7	4 of No. 32	2 of No. 69
7 of No. 8	2 of No. 45	1 of No. 72
2 of No. 9	1 of No. 46	1 of No. 74
1 of No. 10	3 of No. 47	4 of No. 83
1 of No. 11		

PARTS REQUIRED

12 of No. 1	4 of No. 32	1 of No. 56
14 of No. 2	4 of No. 34	4 of No. 58
4 of No. 4	2 of No. 40	2 of No. 60
5 of No. 5	6 of No. 41	1 of No. 62
12 of No. 7	1 of No. 44	10 of No. 66
8 of No. 8	4 of No. 45	2 of No. 67
2 of No. 9	2 of No. 46	2 of No. 69
6 of No. 11	4 of No. 47	2 of No. 70
4 of No. 14	4 of No. 48	1 of No. 72
1 of No. 16	2 of No. 49	2 of No. 74
1 of No. 17	4 of No. 50	1 of No. 80
2 of No. 19	2 of No. 53	
3 of No. 20	2 of No. 54	
12 of No. 21		
4 of No. 25		





7.15 CONTRACTOR'S CRANE

The main structure of the jib will be clear from the illustrations. The jib pivots on a $1\frac{1}{2}$ " rod locked in the boss of the upper 3" pulley at the base of the structure. The lower 3" pulley is bolted to the base.

Control the swivelling of the jib by a cord wound around the 5" rod A, and taken around the 3" pulley at the base of the jib.

Control the hoisting movement from crank handle B. Wind the cord a few times around the crank handle, then pass it under the 2" rod near the base of the jib, then over the 1" loose pulley on the $1\frac{1}{2}$ " rod at the top of the jib. Lead the cord through the pulley block and tie it to an angle bracket bolted to the jib.

Control the luffing movement of the jib from rod C. Attach a bush wheel and a threaded pin to the rod to form a handle.

Tie the cord to a flat bracket on the 2" rod passed through the jib post and lead it around the 1" pulley on the jib. Pass it around the $\frac{1}{2}$ " loose pulley on the 2" rod and lead it back over the second 1" pulley on the jib. Lead it then over the 2" rod and wind it around rod C.

PARTS REQUIRED

2 of No. 1	1 of No. 8
10 of No. 2	1 of No. 9
2 of No. 4	2 of No. 11
1 of No. 5	2 of No. 12
1 of No. 5a	2 of No. 13
1 of No. 6	5 of No. 14
6 of No. 7	1 of No. 15
	1 of No. 16
	1 of No. 17
	1 of No. 18
	2 of No. 19
	3 of No. 20
	14 of No. 21
	1 of No. 27
	2 of No. 28
	10 of No. 34
	1 of No. 36
	4 of No. 41

1 of No. 42
1 of No. 43
1 of No. 44
3 of No. 45
1 of No. 52
1 of No. 56
2 of No. 60
10 of No. 66
2 of No. 67
2 of No. 69
4 of No. 70
1 of No. 72
2 of No. 75

1 of No. 76
2 of No. 77
1 of No. 82

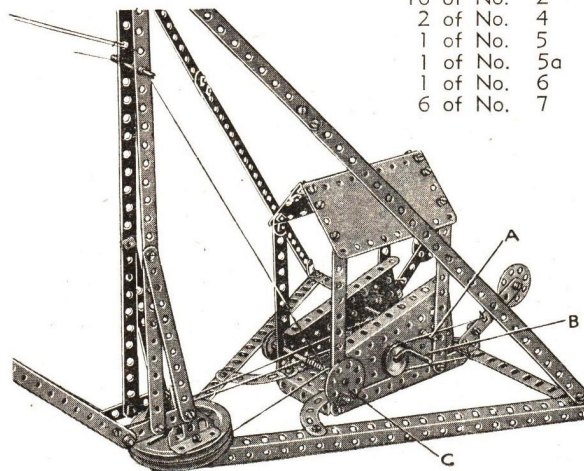
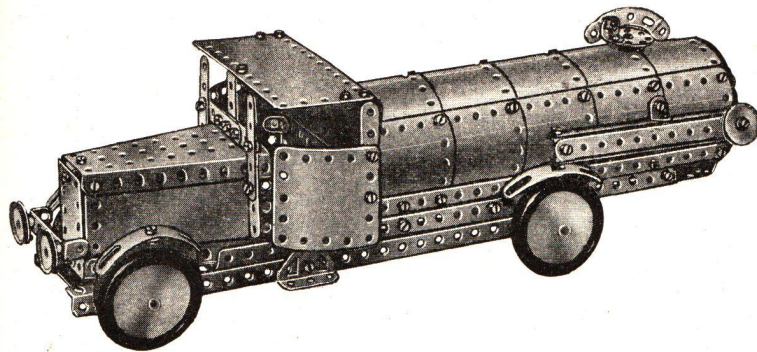


Fig. 7.15A



7.2 TANKER LORRY

Overlap two 12½" Angle Girders by 18 holes and bolt them together to form the chassis. Use Flanged Sector Plates as the top and bottom of the bonnet, and 4½" x 2½" Flexible Plates bolted to the flanges form the sides. Lock-nut a 1½" Disc to the Flanged Sector Plates to represent the steering wheel.

Form the roof and back of the cab with a Hinged Flat Plate and two 2½" x 1½" Flexible Plates overlapped one hole. Fasten the cab to the chassis by Angle Brackets. A 1½" x ½" Double Angle Strip forms the centre wind-screen pillar and secures the roof to the bonnet.

Form the top of the tanker with four 5½" x 2½" Flexible Plates and a 5½" x 1½" Flexible Plate.

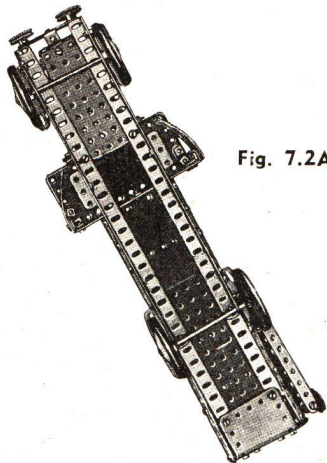


Fig. 7.2A

PARTS REQUIRED

8 of No. 1	2 of No. 40
7 of No. 2	5 of No. 41
4 of No. 4	4 of No. 45
1 of No. 5	4 of No. 46
1 of No. 5a	3 of No. 47
10 of No. 7	4 of No. 48
3 of No. 9	2 of No. 49
2 of No. 10	4 of No. 50
2 of No. 11	1 of No. 52
2 of No. 12	2 of No. 53
1 of No. 13	2 of No. 54
3 of No. 14	2 of No. 57
1 of No. 15	4 of No. 58
1 of No. 16	1 of No. 60
1 of No. 17	1 of No. 67
4 of No. 21	2 of No. 69
2 of No. 28	4 of No. 70
4 of No. 32	2 of No. 72
9 of No. 34	1 of No. 82

7.17 FERRIS WHEEL

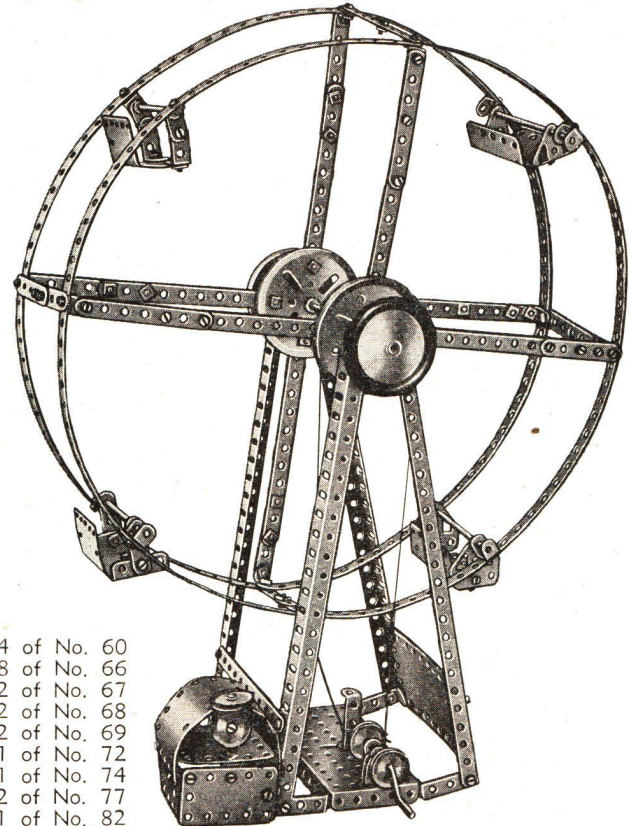
Construct the rims of the wheel from 12½" Strips overlapped three holes and bolted together. Connect the rims by 4" compound strips and form the spokes from 6½" Compound Strips.

Secure the spokes to the inner holes of a 3" Pulley and a Bush Wheel on the axle shaft. Fasten together a 5" and a 4" Rod to form the axle shaft. 1½" Discs secured to the ends of the 12½" Angle Girders serve as bearings for the shaft. Assemble the base by bolting 5½" Strips to the shorter flanges of a 5½" x 2½" Base Plate. Extend the length of the Base Plate with a Flanged Sector Plate.

Take the driving Cord from a 1" Pulley on the shaft of the Crank Handle to a 3" Pulley on the axle shaft. Journal the Crank Handle in the holes of a Cranked Bent Strip bolted to the Flanged Sector Plate and in the upper hole of a 1½" x ½" Double Angle Strip which is attached to the 5½" x 2½" Flanged Plate. Attach the pay-box to the model by 2½" x ½" Double Angle Strips.

PARTS REQUIRED

11 of No. 1	
14 of No. 2	
4 of No. 5	
1 of No. 5a	
1 of No. 6	
12 of No. 7	
5 of No. 8	
4 of No. 9	
1 of No. 10	
2 of No. 11	
2 of No. 12	
2 of No. 13	
3 of No. 14	
1 of No. 15	
1 of No. 16	
1 of No. 17	
1 of No. 18	
4 of No. 20	
9 of No. 21	
1 of No. 27	
1 of No. 28	
2 of No. 32	
12 of No. 34	
3 of No. 41	
1 of No. 43	
4 of No. 45	
4 of No. 46	
2 of No. 48	
3 of No. 50	
2 of No. 53	
2 of No. 54	
1 of No. 56	
1 of No. 57	
2 of No. 58	
4 of No. 60	
8 of No. 66	
2 of No. 67	
2 of No. 68	
2 of No. 69	
1 of No. 72	
1 of No. 74	
2 of No. 77	
1 of No. 82	





7.8 TOWER BRIDGE

Withdraw the centre-pin from a Hinged Flat Plate and use one of the halves in the construction of one of the towers as the illustration shows.

Join the two towers across the top by using four Angle Girders, and across the bottom by using two $12\frac{1}{2}$ " Strips.

Space the U-Section Curved Plates from the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips by three washers.

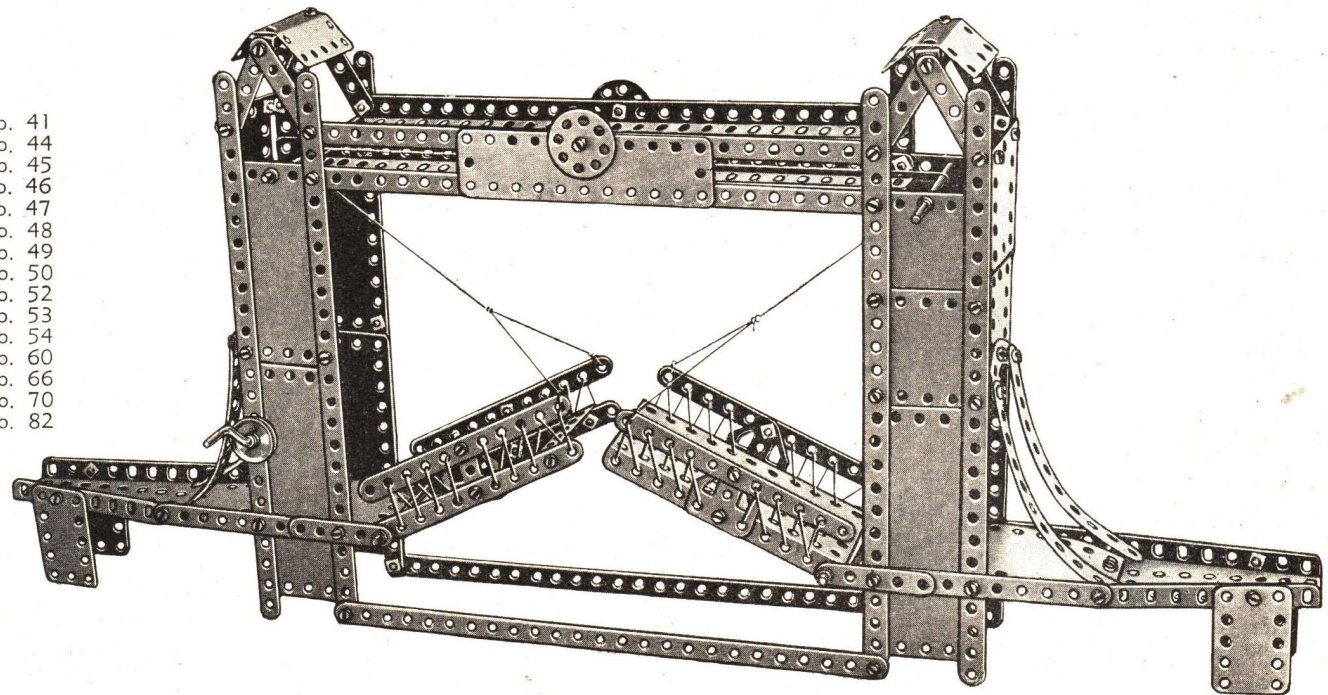
Construct the left-hand half of the span from a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate, fitted with Flat Trunnions and $5\frac{1}{2}$ " Strips as illustrated. The

right-hand span is made from the other half of the Hinged Flat Plate, two $5\frac{1}{2}$ " Strips, a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip, and Angle Brackets as the illustration shows.

To raise and lower the spans, fasten a cord to a Cord Anchoring Spring on the Crank Handle. Take the cord over the Rod at top of the tower and connect it to the left-hand span as shown. Run another cord from the right-hand span over the Rod at top of right-hand tower, across span and knot to the first Cord inside the tower.

PARTS REQUIRED

12 of No. 1	2 of No. 41
14 of No. 2	1 of No. 44
4 of No. 4	4 of No. 45
8 of No. 5	4 of No. 46
10 of No. 7	4 of No. 47
2 of No. 11	4 of No. 48
2 of No. 12	2 of No. 49
2 of No. 14	4 of No. 50
1 of No. 17	1 of No. 52
1 of No. 18	2 of No. 53
4 of No. 20	2 of No. 54
8 of No. 21	2 of No. 60
1 of No. 27	10 of No. 66
2 of No. 28	4 of No. 70
8 of No. 34	1 of No. 82



7.7 ROUND-ABOUT

Build up the base of the model by bolting two $12\frac{1}{2}$ " Angle Girders to the end flange of a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate. Join them at the other ends with a $5\frac{1}{2}$ " Strip. Provide bearings for the turntable by bolting a Double Bent Strip and a Bush Wheel, one above and one below the Flanged Plate.

Form the horses' heads from two Flat Brackets which are bolted to the necks formed by $2\frac{1}{2}$ " small radius Curved Strips. Use $1-11/16$ " radius Curved Plates as backs for the cars. Attach them to the Flanged Sector Plates by Angle Brackets. Use $12\frac{1}{2}$ " Strips to brace the platform. Bolt them to the 3 " Pulley. Pass the 4 " Rod, on which the turntable pivots, through the centre holes of the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips. Fasten the 3 " Pulley on the Rod and use a 1 " Pulley to clamp the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips in position. Fasten a second 3 " Pulley below the first one on the same Rod and pass the Rod through the Double Bent Strip, the Bush Wheel and the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate. Use a Spring Clip to retain it in position.

Separated halves of a Hinged Flat Plate may be used as plates A.

PARTS REQUIRED

8 of No. 1	2 of No. 11	5 of No. 14	4 of No. 32
13 of No. 2	2 of No. 13	1 of No. 16	2 of No. 34
4 of No. 4		1 of No. 17	2 of No. 41
8 of No. 5		3 of No. 20	4 of No. 45
10 of No. 7		5 of No. 21	4 of No. 46
4 of No. 8		4 of No. 25	4 of No. 47
4 of No. 10		1 of No. 27	4 of No. 48
4 of No. 9		2 of No. 28	2 of No. 49
			4 of No. 50
			1 of No. 52
			2 of No. 53
			2 of No. 54
			4 of No. 60
			6 of No. 66
			1 of No. 72
			1 of No. 74
			2 of No. 77
			1 of No. 80

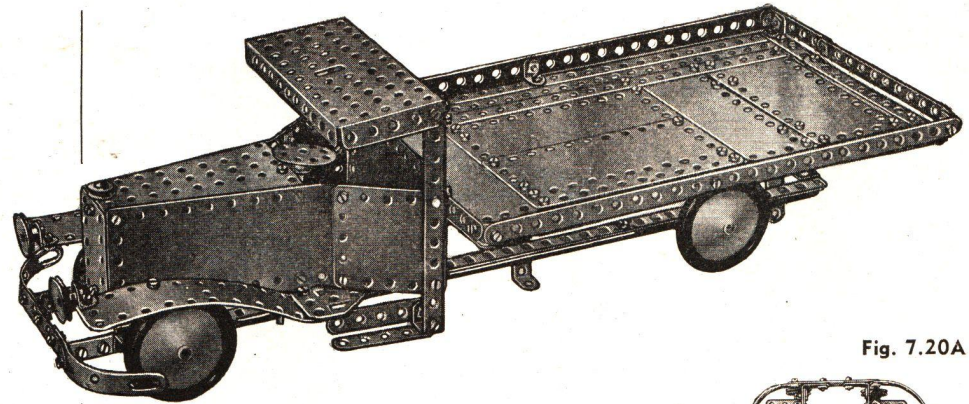
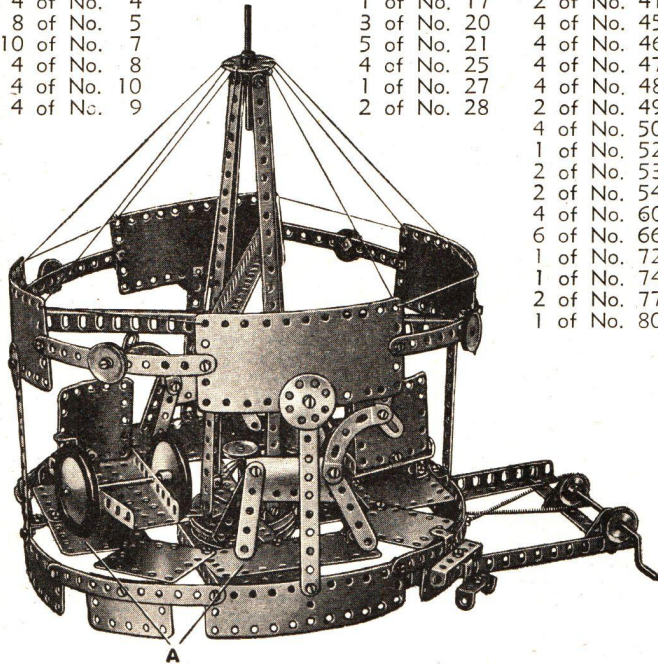


Fig. 7.20A

7.20 GARDENER'S LORRY

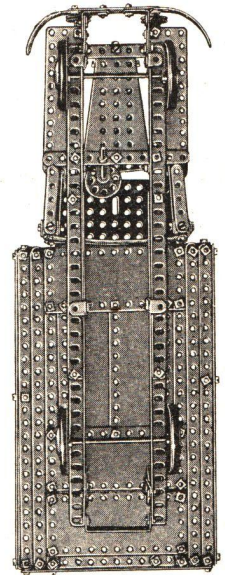
Build the chassis from two side members, each consisting of two $12\frac{1}{2}$ " Angle Girders overlapped 14 holes. Join them at each end with $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips. Mount the front Road Wheels on a 5 " Rod passing through the side members of the chassis. Journal the rear axle in a similar manner, but build up the axle from a $3\frac{1}{2}$ " and a $1\frac{1}{2}$ " Rod joined by a Rod Connector. Use Flanged Sector Plates to form the top and bottom for the radiator and bonnet. Use $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates for the sides of the bonnet. Bolt a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flanged Plate to the narrow ends of the Flanged Sector Plate. A $\frac{1}{2}$ " Pulley represents the Radiator cap.

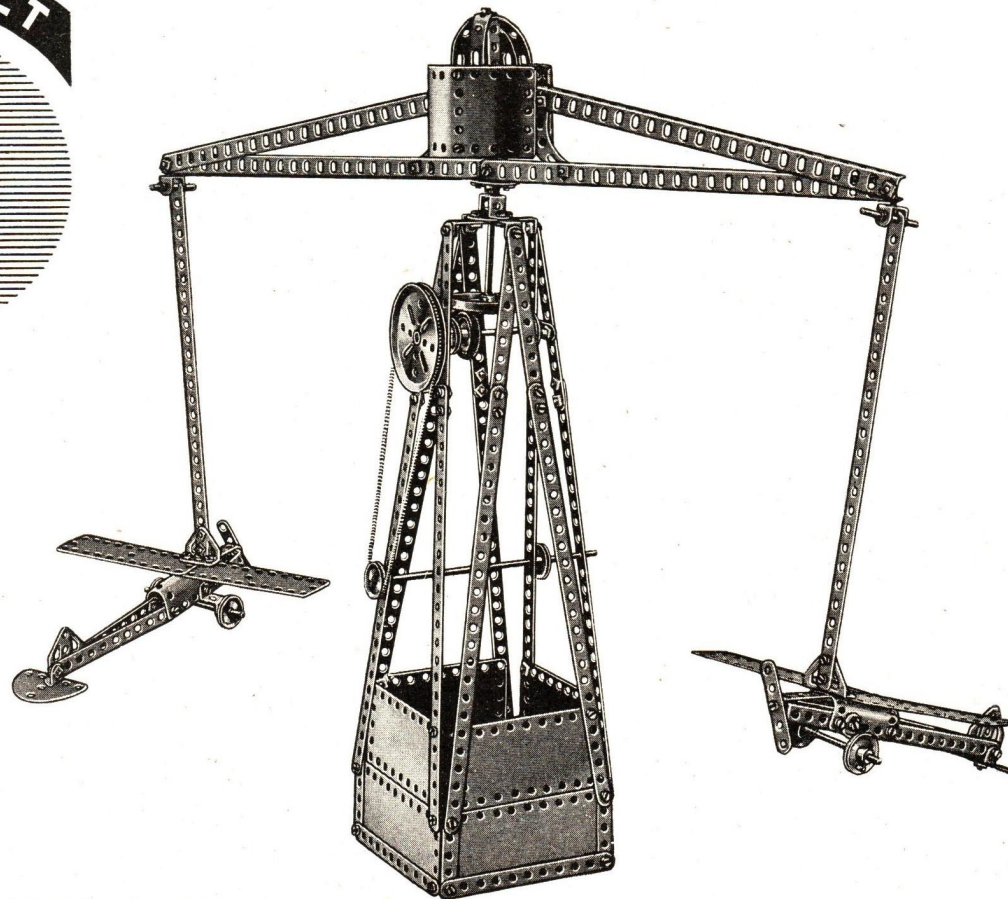
Bolt the bumper to the front end of the chassis by 1 " x 1 " Angle Brackets and $1\frac{1}{2}$ " Strips.

Attach the tray to the chassis by using $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips at the front and Trunnions and $2\frac{1}{2}$ " Strips at the rear.

PARTS REQUIRED

9 of No. 1	1 of No. 17	2 of No. 47
12 of No. 2	1 of No. 19	2 of No. 49
8 of No. 5	1 of No. 20	4 of No. 50
8 of No. 7	4 of No. 21	1 of No. 52
2 of No. 8	2 of No. 25	2 of No. 54
12 of No. 9	2 of No. 28	1 of No. 56
2 of No. 10	4 of No. 32	2 of No. 58
2 of No. 11	12 of No. 34	10 of No. 66
2 of No. 12	2 of No. 40	1 of No. 67
2 of No. 14	6 of No. 41	2 of No. 68
1 of No. 15	4 of No. 45	2 of No. 69
1 of No. 16	3 of No. 46	1 of No. 70
		1 of No. 72
		1 of No. 74
		2 of No. 77
		1 of No. 82





7.4 FLY-ABOUT

Withdraw the pin from a hinged flat plate and use the two halves as the base of the model.

Lengthen the crank handle by joining it to a $3\frac{1}{2}$ " rod with a rod connector.

Fasten a road wheel to the lower end of the 4" rod to which the revolving beam is attached.

The drive is then taken from a 1" fast pulley on the crank-

shaft to a 3" pulley on a 5" rod journalled below the road wheel. Fasten a 1" pulley, fitted with tyre, to this rod so that when the rod and pulley revolve, the contact of the tyre will rotate the road wheel and the overhead beam.

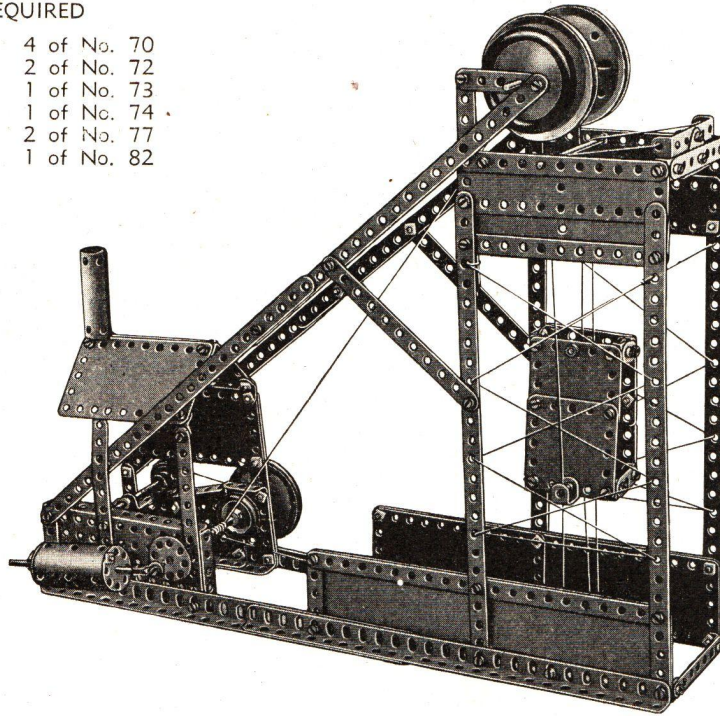
Join the top girders of the beam with an obtuse angle bracket.

PARTS REQUIRED

10 of No. 1	4 of No. 45
14 of No. 2	4 of No. 47
3 of No. 4	2 of No. 48
8 of No. 5	2 of No. 49
1 of No. 5a	4 of No. 50
10 of No. 7	1 of No. 52
3 of No. 8	2 of No. 53
2 of No. 9	2 of No. 54
4 of No. 10	1 of No. 56
2 of No. 11	2 of No. 57
2 of No. 12	4 of No. 58
2 of No. 13	3 of No. 60
4 of No. 14	10 of No. 66
1 of No. 16	2 of No. 67
1 of No. 17	2 of No. 68
1 of No. 18	2 of No. 69
3 of No. 20	1 of No. 70
10 of No. 21	1 of No. 72
3 of No. 25	1 of No. 74
1 of No. 27	2 of No. 75
1 of No. 28	2 of No. 77
1 of No. 32	1 of No. 80
6 of No. 34	1 of No. 82
4 of No. 41	

PARTS REQUIRED

11 of No. 1	4 of No. 70
14 of No. 2	2 of No. 72
7 of No. 5	1 of No. 73
1 of No. 5a	1 of No. 74
5 of No. 7	2 of No. 77
2 of No. 8	1 of No. 82
2 of No. 9	
2 of No. 10	
1 of No. 11	
1 of No. 12	
1 of No. 13	
5 of No. 14	
1 of No. 15	
1 of No. 16	
1 of No. 17	
1 of No. 18	
1 of No. 19	
1 of No. 20	
9 of No. 21	
2 of No. 25	
1 of No. 27	
1 of No. 28	
3 of No. 32	
10 of No. 34	
1 of No. 38	
1 of No. 40	
3 of No. 41	
1 of No. 42	
1 of No. 44	
4 of No. 45	
3 of No. 46	
4 of No. 47	
4 of No. 48	
1 of No. 49	
4 of No. 50	
1 of No. 52	
1 of No. 53	
1 of No. 55	
1 of No. 59	
2 of No. 60	
1 of No. 62	
10 of No. 66	
2 of No. 67	
1 of No. 68	
2 of No. 69	



7.19 MINESHAFT GEAR

Build the rear side of the engine-house from a Flanged Sector Plate and a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Base Plate. Bolt them to the Angle Girder that forms part of the base of the model. Bolt and lock-nut the $2\frac{1}{2}$ " Cylinder to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate. Fit $1\frac{1}{4}$ " Discs on each end by passing a 3" Screwed Rod through the cylinder and screwing the nuts up tightly. Use a $4\frac{1}{2}$ " Rod fitted with a Rod and Strip Connector as a piston. Link it to the fly-wheel by using a Cord Anchoring Spring on a Threaded Pin.

A guide for the ascent and descent of the cage is provided, as illustrated, by running a cord from the $5\frac{1}{2}$ " Rod at the top of the shaft to a $\frac{1}{2}$ " Pulley secured between Spring Clips on the $3\frac{1}{2}$ " Rod journaled in two Reversed Angle Brackets at the bottom of the shaft. Tie the elevator Cord to a hole in the 1" loose Pulley in the top of the cage. Pass it over the 1" fast Pulley between the two 3" Pulleys at top of the shaft. Carry it then to the engine-house and wind it six times around the 5" Rod. Run the Cord finally around the $\frac{1}{2}$ " Pulley at the base of the shaft and connect it to another hole in the 1" loose Pulley.

PARTS REQUIRED

6 of No. 1	4 of No. 47
12 of No. 2	4 of No. 48
7 of No. 5	2 of No. 49
1 of No. 5a	4 of No. 50
1 of No. 6	1 of No. 55
11 of No. 7	1 of No. 56
4 of No. 9	1 of No. 57
3 of No. 10	4 of No. 58
2 of No. 11	1 of No. 59
2 of No. 12	2 of No. 60
4 of No. 14	6 of No. 66
1 of No. 16	1 of No. 67
2 of No. 19	1 of No. 68
1 of No. 17	1 of No. 69
3 of No. 20	2 of No. 72
1 of No. 28	2 of No. 75
3 of No. 32	2 of No. 77
3 of No. 34	
1 of No. 38	
2 of No. 41	
1 of No. 44	
4 of No. 45	
4 of No. 46	

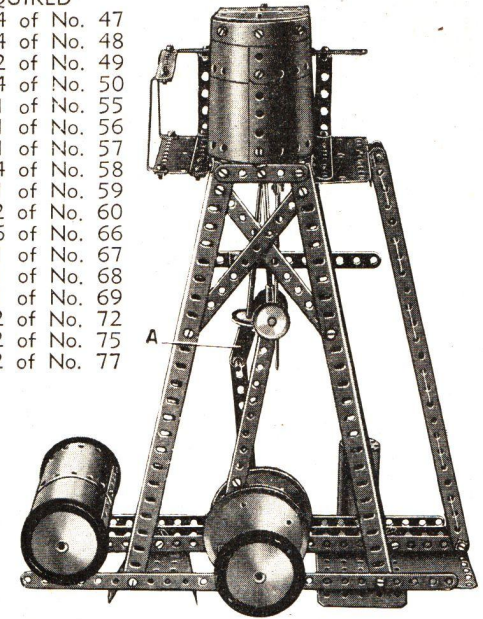
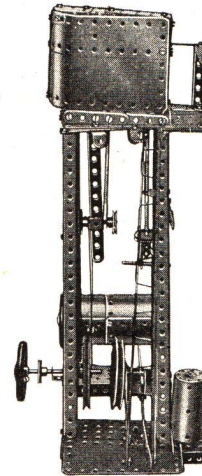


Fig. 7.11A



7.11 PUMPING PLANT

Bolt a Flat Trunnion to a Reversed Angle Bracket to form the crankshaft bearing at the rear. A second Flat Trunnion and a $1\frac{1}{4}$ " Disc form the bearings on the front side. Secure a $3\frac{1}{2}$ " Rod in the rear bearings with a 1" Pulley and a Spring Clip. In the other bearings retain a 2" Rod with a Bush Wheel and a Spring Clip. 3" Pulleys form the crank webs which are fastened to the inner ends of these Rods. Push a 2" Rod through the outer hole of one of these Pulleys and into a Reversed Angle Bracket bolted to the second Pulley. Hold the Rod in position with four Spring Clips. Overlap two $5\frac{1}{2}$ " Strips by seven holes to form the main connecting rod. Provide a guide for the piston rod by bolting together two $5\frac{1}{2}$ " Strips. Pivot a Double Bracket to the connecting rod with a $1\frac{1}{2}$ " Rod to form the crosshead. Join two $3\frac{1}{2}$ " Rods with a Rod Connector to form the slide valve. Hold it in the Cranked Bent Strip with a Cord Anchoring Spring and a 1" Pulley. Pivot the $5\frac{1}{2}$ " Rod which forms the valve connecting rod on Bolt A. Lock-nut the connection to allow a rotary motion.



7.13 POWER LOADING PLATFORM

Build the roof of the control cab by bolting the $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Curved Plates to the $1-11/16''$ radius Curved Plates, which are overlapped three holes. Bend a U-Section Curved Plate to shape to form the chimney. Build up a pulley from two $\frac{3}{4}''$ Discs spaced by two Washers. Use two Spring Clips to lock the compound Pulley on the same $4''$ Rod as the Road Wheels.

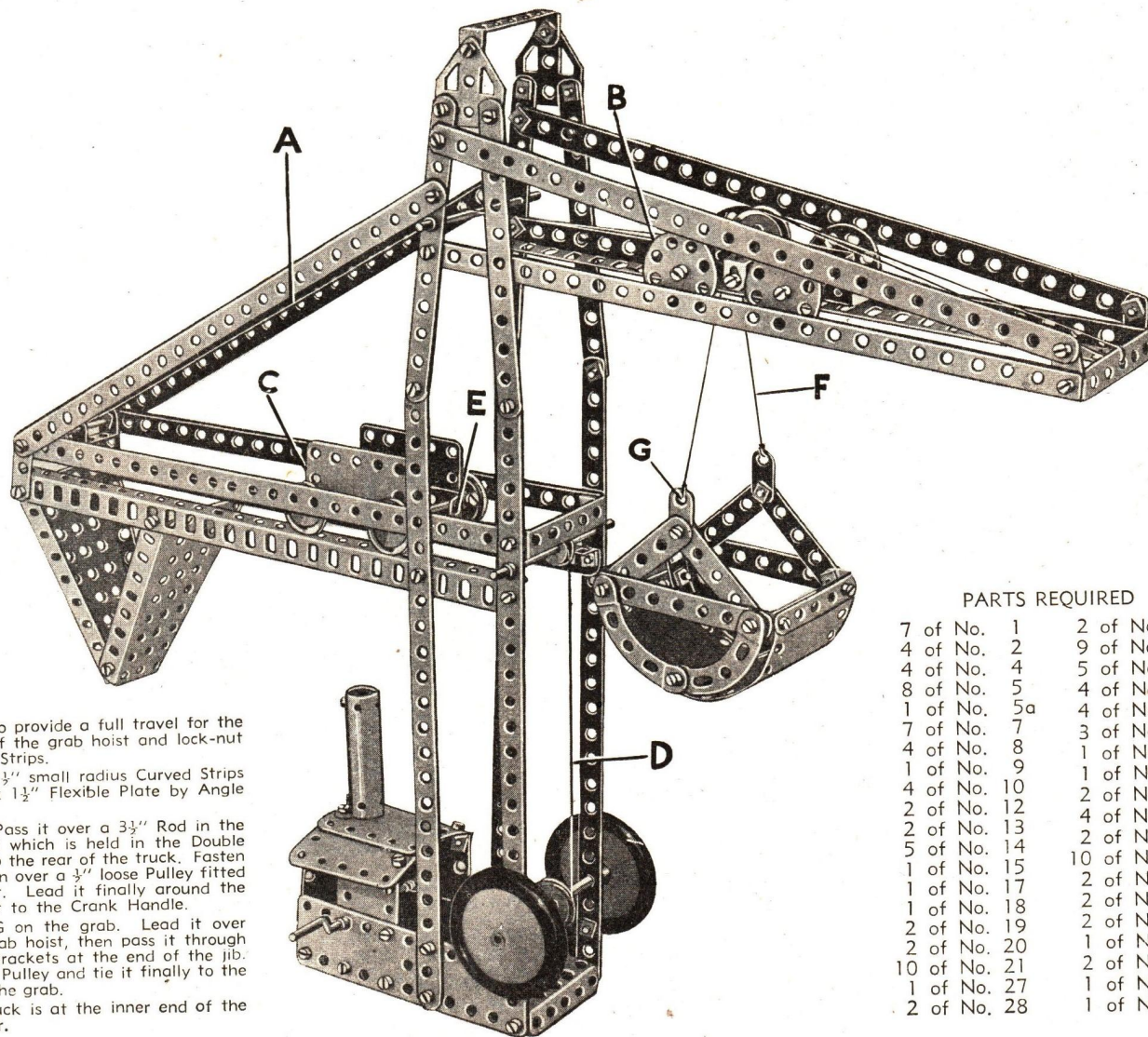
The Angle Girders form rails for the grab hoist and truck. Bolt the Girders to the rear Strips only, so as to provide a full travel for the truck. Use $1\frac{1}{2}''$ Discs as the wheels of the grab hoist and lock-nut them to the $2\frac{1}{2}'' \times \frac{1}{2}''$ Double Angle Strips.

Assemble the grab crane by bolting $2\frac{1}{2}''$ small radius Curved Strips to the $3\frac{1}{2}''$ Strips. Attach the $5\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plate by Angle Brackets.

Tie Cord A to the grab hoist at B. Pass it over a $3\frac{1}{2}''$ Rod in the tower, then lead it round a $1\frac{1}{2}''$ Rod which is held in the Double Bracket by Spring Clips. Tie it at C to the rear of the truck. Fasten Cord D to the truck at E. Lead it then over a $\frac{3}{4}''$ loose Pulley fitted to the $3\frac{1}{2}''$ Rod midway up the tower. Lead it finally around the built-up Pulley at the base and tie it to the Crank Handle.

Fasten Cord F to the Flat Bracket G on the grab. Lead it over one of the $1''$ loose Pulleys on the grab hoist, then pass it through the end holes of the $1'' \times 1''$ Angle Brackets at the end of the jib. Take it then over the second $1''$ loose Pulley and tie it finally to the other Flat Bracket which is bolted to the grab.

Adjust the operating Cord so that truck is at the inner end of the rails when the grab reaches the tower.



PARTS REQUIRED

7 of No. 1	2 of No. 32
4 of No. 2	9 of No. 34
4 of No. 4	5 of No. 41
8 of No. 5	4 of No. 45
1 of No. 5a	4 of No. 46
7 of No. 7	3 of No. 47
4 of No. 8	1 of No. 48
1 of No. 9	1 of No. 53
4 of No. 10	2 of No. 54
2 of No. 12	4 of No. 60
2 of No. 13	2 of No. 61
5 of No. 14	10 of No. 66
1 of No. 15	2 of No. 67
1 of No. 17	2 of No. 68
1 of No. 18	2 of No. 69
2 of No. 19	1 of No. 74
2 of No. 20	2 of No. 75
10 of No. 21	1 of No. 80
1 of No. 27	1 of No. 82
2 of No. 28	

PARTS REQUIRED

6 of No. 1	2 of No. 40
12 of No. 2	6 of No. 41
2 of No. 4	1 of No. 42
6 of No. 5	1 of No. 43
1 of No. 5a	1 of No. 44
10 of No. 7	4 of No. 45
5 of No. 8	4 of No. 46
1 of No. 9	4 of No. 47
3 of No. 10	4 of No. 48
2 of No. 12	2 of No. 49
2 of No. 13	4 of No. 50
5 of No. 14	1 of No. 52
1 of No. 15	1 of No. 55
1 of No. 16	1 of No. 59
1 of No. 17	4 of No. 60
1 of No. 18	1 of No. 61
1 of No. 19	1 of No. 63
4 of No. 20	6 of No. 66
14 of No. 21	2 of No. 67
1 of No. 27	2 of No. 68
2 of No. 28	1 of No. 72
4 of No. 32	2 of No. 75
14 of No. 34	1 of No. 76
1 of No. 36	2 of No. 77

7.9 RAILWAY WRECK CRANE

Make two U-section girders from angle girders and join them at each end with $3\frac{1}{2}$ " strips and angle brackets. Use flat brackets to attach a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " strip plate, overlapped one hole, to the angle girders. Fasten the jib frame-work to the 3" pulley, on which it pivots, by using $\frac{3}{8}$ " bolts spaced with two washers.

Use the $3\frac{1}{2}$ " rod as the pivotal point for the front bogie. Space the bogie between a road wheel and a 1" pulley, as shown. Similarly, pivot the rear bogie on a 2" rod. Connect the bogies by a driving band.

Control the luffing of the jib with a built-up crank handle which consists of a double bracket fitted with an angle bracket carrying a pivot bolt. Bolt the double bracket to the rod with the bolt holding the angle bracket.

Control the slewing movement by winding a belt of cord around the upper 3" pulley in the jib and passing it several times around the rod connected to the road wheel in the side of the cab.

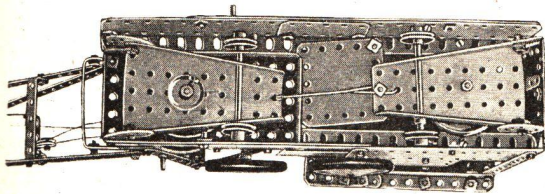
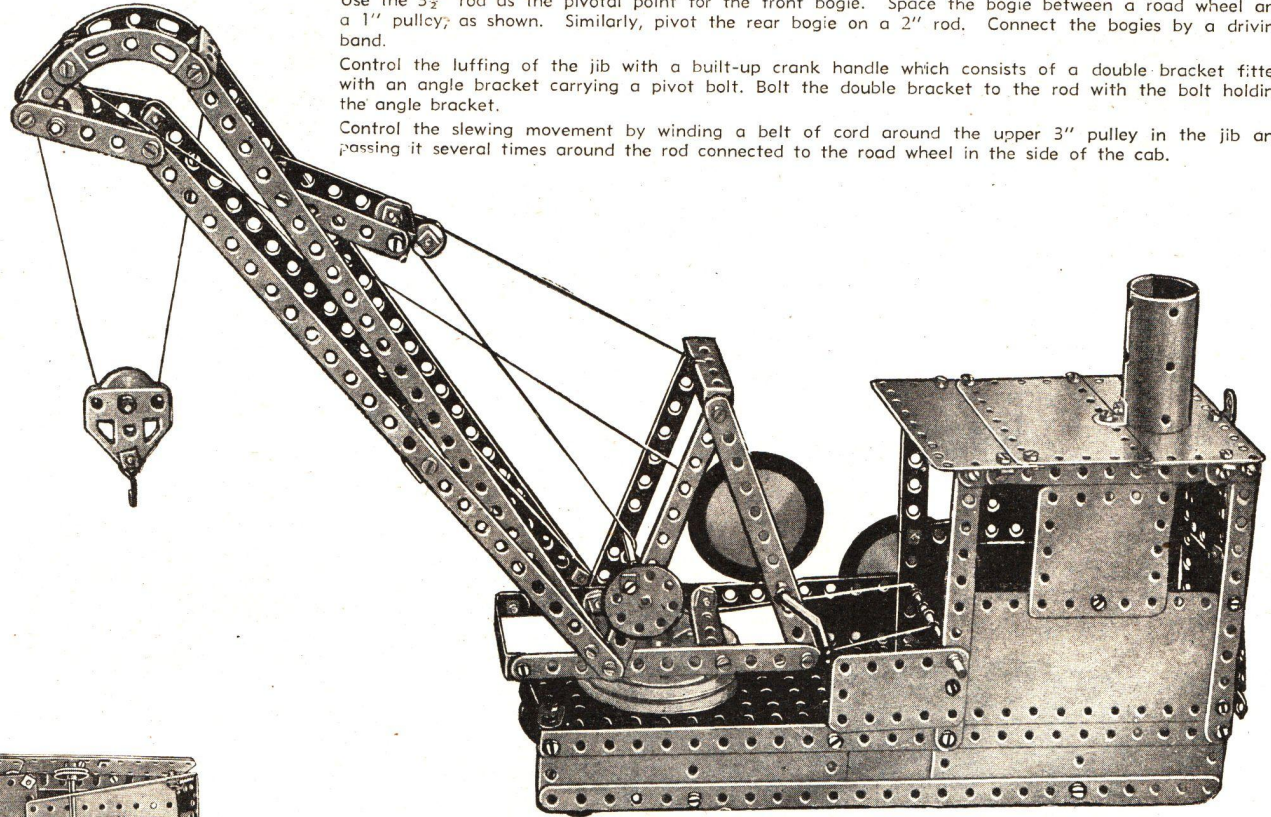


Fig. 7.9A



8.24 ELECTRIC TRACTOR AND TRUCKS

Construct the chassis of the tractor by spacing two $12\frac{1}{2}$ " Strips with $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips. Attach a 3" Pulley by a $\frac{3}{4}$ " Bolt to the front Strip. Bolt a Hinged Flat Plate to the chassis to form the top and side of the rear portion of the tractor.

Make the centre portion of the floor with a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate. Bolt a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flanged Plate to the two $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips which space the sides. Insert a Threaded Pin in its centre hole and

attach to it a Bush Wheel carrying a Pivot Bolt to represent control quadrant.

Overlap two $5\frac{1}{2}$ " Strips by nine holes to form the sides of the truck chassis. Join the two sides of the front truck with $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips at each end. Join the sides of the rear truck with $2\frac{1}{2}$ " Strips and Angle Brackets. Form the sides of the trucks by bolt-

ing together with Double Brackets and a $5\frac{1}{2}$ " Strip two $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates.

Lock-nut Bolts A to the $2\frac{1}{2}$ " Strips and lock-nut the $\frac{3}{8}$ " Bolts, which form axles for the $1\frac{1}{4}$ " Discs representing wheels of the rear truck.

Collar B represents an amperage gauge.

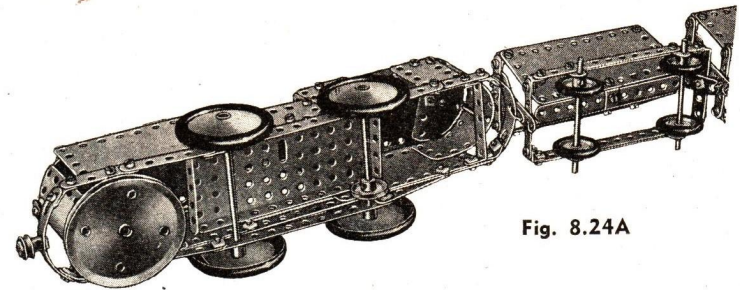
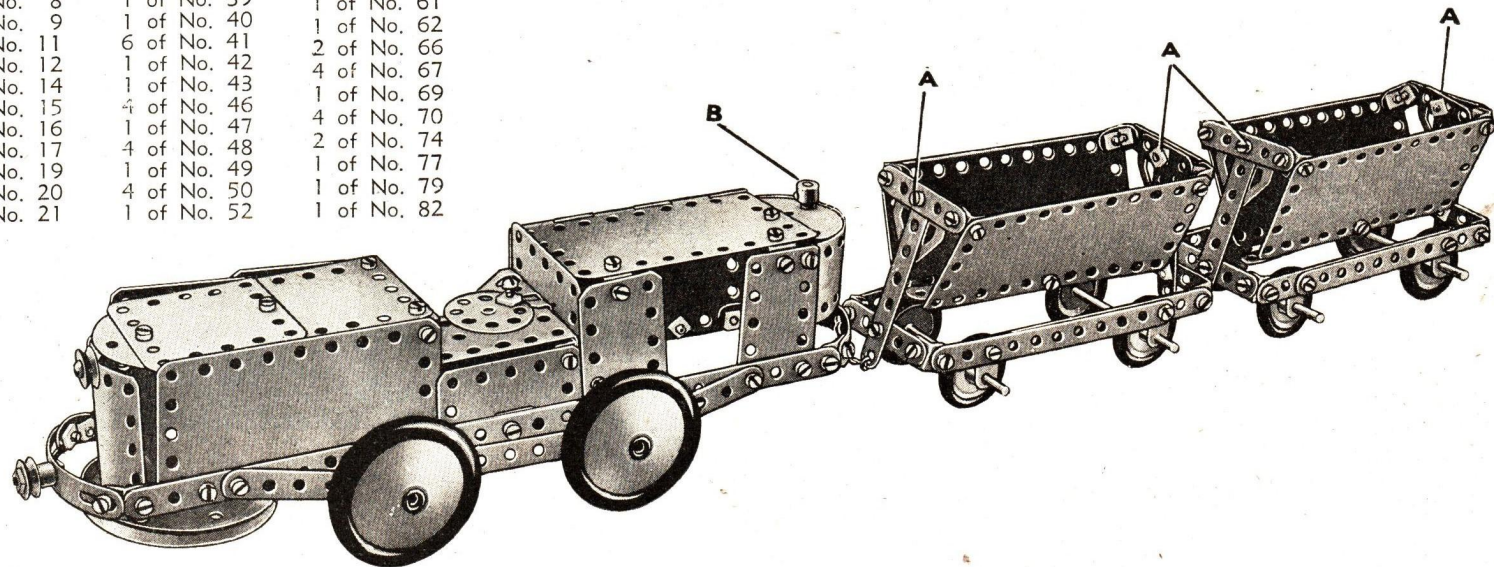


Fig. 8.24A

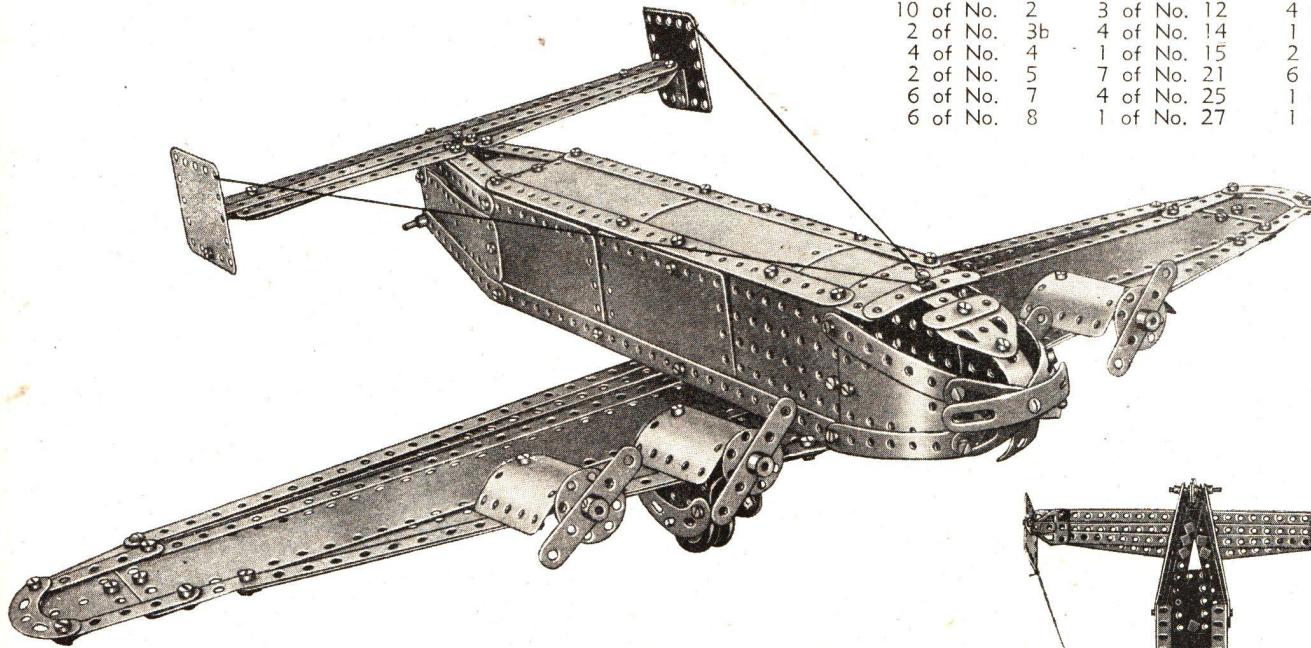
PARTS REQUIRED

10 of No. 1	4 of No. 25	2 of No. 54
12 of No. 2	4 of No. 32	2 of No. 57
8 of No. 5	8 of No. 34	2 of No. 58
16 of No. 7	2 of No. 37	4 of No. 60
8 of No. 8	1 of No. 39	1 of No. 61
2 of No. 9	1 of No. 40	1 of No. 62
1 of No. 11	6 of No. 41	2 of No. 66
4 of No. 12	1 of No. 42	4 of No. 67
5 of No. 14	1 of No. 43	1 of No. 69
1 of No. 15	4 of No. 46	4 of No. 70
1 of No. 16	1 of No. 47	2 of No. 74
1 of No. 17	4 of No. 48	1 of No. 77
1 of No. 19	1 of No. 49	1 of No. 79
3 of No. 20	4 of No. 50	1 of No. 82
2 of No. 21	1 of No. 52	



PARTS REQUIRED

11 of No. 1	4 of No. 10	3 of No. 34	2 of No. 45
10 of No. 2	3 of No. 12	4 of No. 37	4 of No. 46
2 of No. 3b	4 of No. 14	1 of No. 39	4 of No. 47
4 of No. 4	1 of No. 15	2 of No. 40	5 of No. 48
2 of No. 5	7 of No. 21	6 of No. 41	2 of No. 49
6 of No. 7	4 of No. 25	1 of No. 42	4 of No. 50
6 of No. 8	1 of No. 27	1 of No. 43	2 of No. 51
			1 of No. 52
			2 of No. 53
			2 of No. 54
			1 of No. 55
			2 of No. 57
			4 of No. 58
			4 of No. 60
			2 of No. 65
			12 of No. 66
			4 of No. 67
			2 of No. 68
			2 of No. 69
			6 of No. 70
			3 of No. 75
			2 of No. 83



8.1 AIR LINER

Use $12\frac{1}{2}$ " angle girders as the main stringers for the fuselage. Use obtuse angle brackets to connect the fuselage top to the sides. Taper the tail of the fuselage with $5\frac{1}{2}$ " strips and $5\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plates. Join the upper strips with two angle brackets. Use two $3\frac{1}{2}$ " strips and a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plate to form each side of the forward part of fuselage. Bolt four formed slotted strips together to form the nose.

Use $12\frac{1}{2}$ " strips to form the leading and trailing edges of the main-planes. Use semi-circular plates to complete the tips.

Use $1-11/16$ " radius curved plates and $2\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates as the engine nacelles. Connect them to the main-planes by reversed angle brackets. Attach, by angle brackets, $1\frac{1}{4}$ " discs to the front of the nacelles. The $3/8$ " bolts then will act as propellor shafts. Bolt U-section curved strips to form landing wheel supports

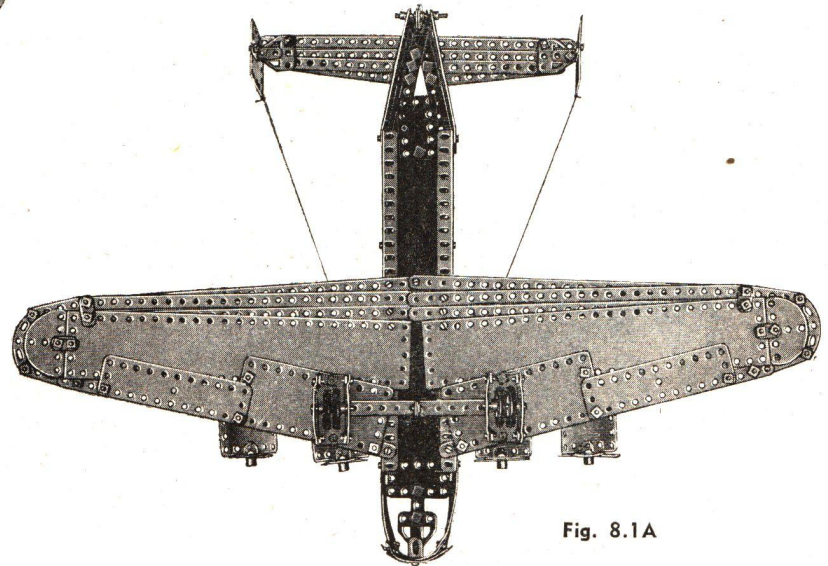


Fig. 8.1A



8.23 JIG-SAW

To form main framework of model, join four $12\frac{1}{2}$ " Angle Girders at their lower ends by compound strips consisting of two $5\frac{1}{2}$ " Strips. Overlap Strips spacing the sides two holes and Strips spacing the front and rear four holes. Extend base down with $5\frac{1}{2}$ " x $1\frac{1}{2}$ " and $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates joined at corners by Angle Brackets bolted at the rear of model. At top, space Angle Girders at front and rear by $5\frac{1}{2}$ " Strips, at the sides by $12\frac{1}{2}$ " Strips. Bolt so that they extend five holes to the front of the table. Bolt four $12\frac{1}{2}$ " Strips to the frame of the base and $5\frac{1}{2}$ " and $12\frac{1}{2}$ " Strips to the upper. To support the operating handle, a supplementary framework is also built.

Bolt a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate across the $12\frac{1}{2}$ " Strips at side of table. Bolt the two $12\frac{1}{2}$ " x $2\frac{1}{2}$ " Strip Plates to the Flanged Plate and join by Angle Brackets to the ends of the $12\frac{1}{2}$ " Strips, the Bolts carrying also two Flat Trunnions. Extend table to front by a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flanged Plate, bolted to a $5\frac{1}{2}$ " Strip and to the ends of two $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Double Angle Strips.

Saw frame consists of 2 long arms. Bolt two $12\frac{1}{2}$ " Strips together. Bolt one of the arms between two $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plates. Lock-nut the other at its end to an N-shaped piece of two $2\frac{1}{2}$ " Strips and two $3\frac{1}{2}$ " Strips braced across by a $2\frac{1}{2}$ " Strip as shown. To construct tension device for saw blade, lock-nut a Double Bent Strip to upper arm. Pass a 3" Screwed Rod through holes in the Double Bent Strip and screw a Collar to each of the ends. Engage shanks of 2 Bolts in plain holes of collars. Pass Screwed Rod through a hole in two Flat Trunnions, bolted to flanges of the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plates. On each side of Flat Trunnions attach 2 Collars by Grub Screws to Screwed Rod. Pass a 6" Rod through end holes of the 1" x 1" Angle Brackets which are bolted to Trunnion attached to the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plates. Journal the Rod in the 2 Flat Trunnions as shown. To assemble operating handle fasten 2" Rod in boss of a Bush Wheel attached to $5\frac{1}{2}$ " Strip. Bolt the Strip across a 3" Pulley locked on end of $4\frac{1}{2}$ " Rod which is journalled in the two $12\frac{1}{2}$ " Strips. To opposite end of $4\frac{1}{2}$ " Rod, attach 3" Pulley B, pivotally connected by Strip A to lower arm of frame. Pivot lower end of $5\frac{1}{2}$ " Strip on Threaded Pin and hold in place with Spring Clip. Pivot upper end on Pivot Bolt carrying 6 washers on shank to lower arm of saw frame.

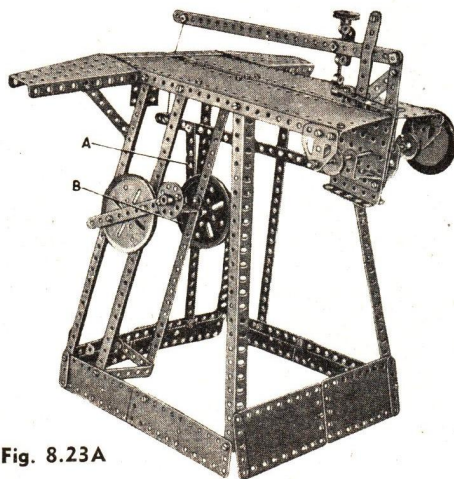
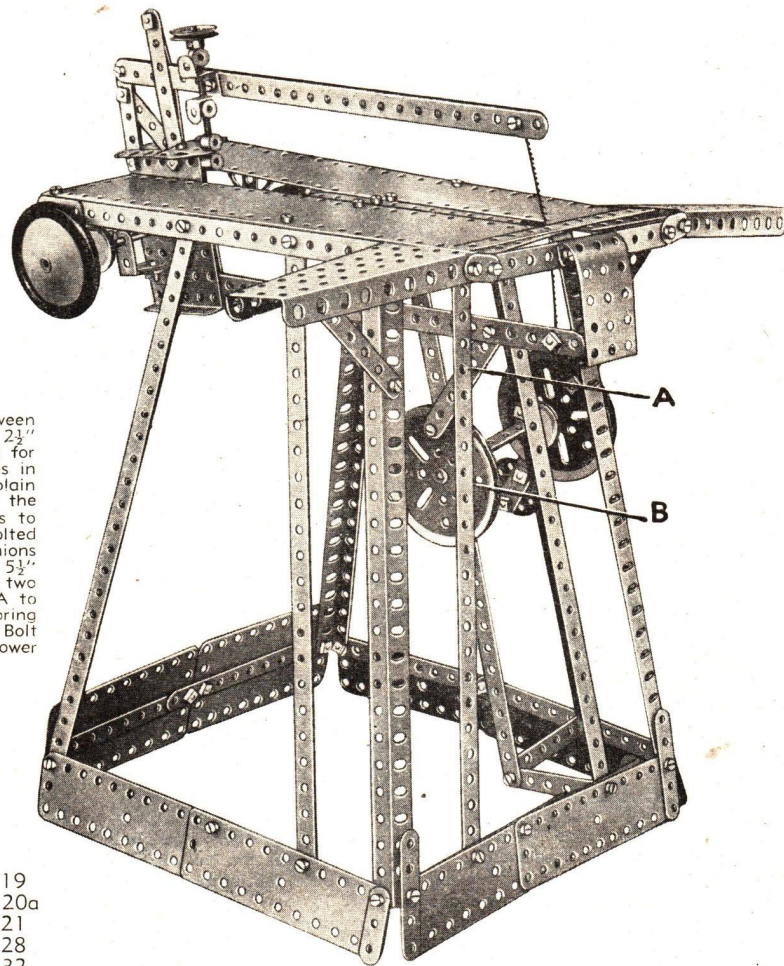


Fig. 8.23A



PARTS REQUIRED

8 of No. 1	1 of No. 19
14 of No. 2	1 of No. 20a
6 of No. 5	1 of No. 21
1 of No. 5a	2 of No. 28
7 of No. 7	2 of No. 32
2 of No. 8	13 of No. 34
4 of No. 11	4 of No. 37
2 of No. 12	1 of No. 38
4 of No. 14	1 of No. 40
1 of No. 16	6 of No. 41
1 of No. 17	1 of No. 42

1 of No. 43
4 of No. 45
4 of No. 46
4 of No. 47

2 of No. 49
2 of No. 51
2 of No. 65

12 of No. 66
4 of No. 67
2 of No. 68

2 of No. 69
1 of No. 73
2 of No. 77
1 of No. 80
1 of No. 82

8.18 CHAIR-A-WHEEL

Withdraw the centre pin from a Hinged Flat Plate and use the halves as flat plates C. Bolt Strips A across the 3" Pulley which is secured on the 6½" Rod. Bolt Strips B across a Bush Wheel which is also secured on the 6½" Rod.

Fasten 2½" x ½" Double Angle Strips inside the flanges of a 3½" x 2½" Flanged Plate in building two of the chairs. Form supporting arms from two 3" Strips and two 3½" Strips. Pass a 4" Rod through the end holes of these Strips and through the end holes of Strips A and B. Form the backs from U-Section Curved Plates and the sides from 2½" small radius Curved Strips.

Build each of the other two chairs from a Flanged Sector Plate, 2½" x 1½" Flexible Plates and 2½" Strips. Form the back from two Flat Trunnions which are bolted to a 2½" x ½" Double Angle Strip secured in the Flanged Sector Plate.

Journal the Crank Handle in a 1" x 1" Angle Bracket and the 12½" x 2½" Strip Plate which forms the rear side of the base. Bolt the 1" x 1" Angle Bracket to Plate C. Take the drive from a 1" Pulley on the shaft of the Crank Handle to a 3" Pulley on the 6½" Axle Rod.

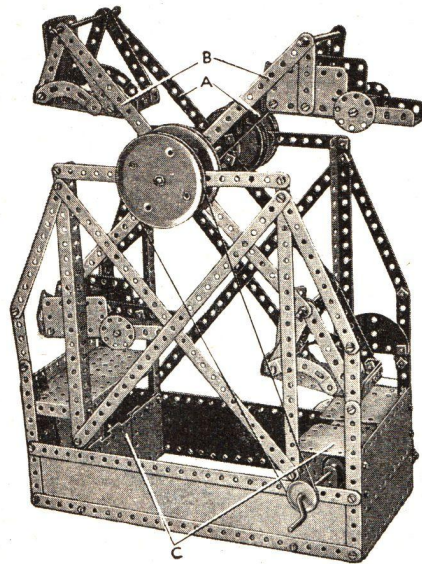
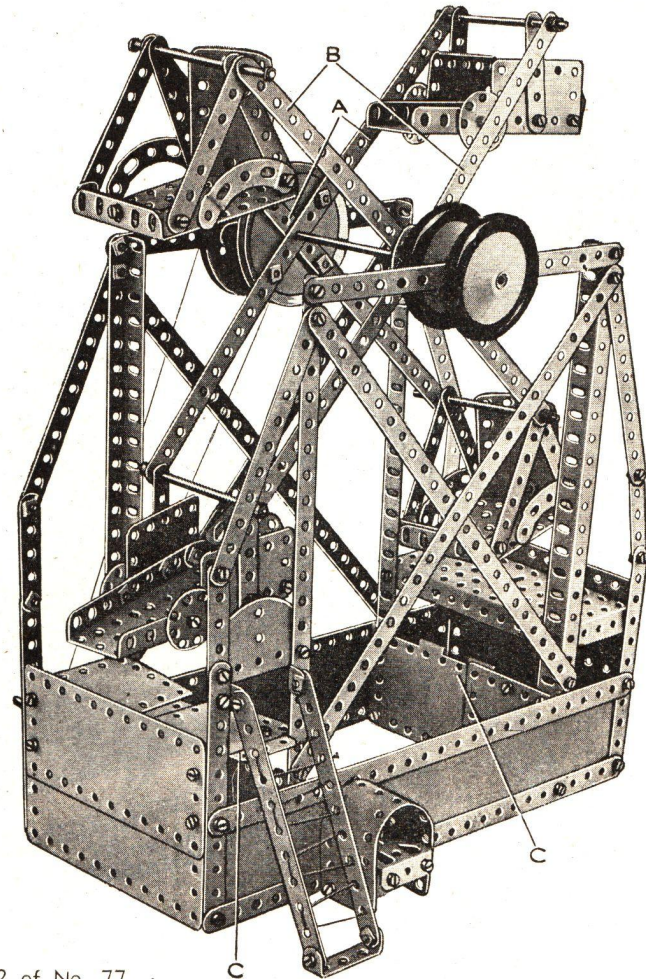


Fig. 8.18A

PARTS REQUIRED

12 of No. 1	8 of No. 34
14 of No. 2	3 of No. 37
2 of No. 3b	6 of No. 41
4 of No. 4	4 of No. 45
8 of No. 5	4 of No. 46
2 of No. 5a	2 of No. 47
8 of No. 7	4 of No. 48
1 of No. 11	4 of No. 50
4 of No. 12	2 of No. 51
3 of No. 14	1 of No. 52
1 of No. 16	2 of No. 53
1 of No. 17	1 of No. 57
1 of No. 18	4 of No. 60
1 of No. 20a	2 of No. 65
2 of No. 20	12 of No. 66
14 of No. 21	4 of No. 67
1 of No. 27	2 of No. 68
2 of No. 28	1 of No. 69
2 of No. 32	2 of No. 74



2 of No. 77
1 of No. 79
2 of No. 81



8.15 GOLDEN HIND

Commence building the model from the keel. Bolt four $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates and one $5\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plate to one of the two Angle Girders which form the keel of the vessel. Bolt two Formed Slotted Strips to the Angle Girders at the stern. Extend the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates at the rear by attaching two $5\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates which overlap each other by one hole. Bolt two $12\frac{1}{2}$ " x $2\frac{1}{2}$ " Strip Plates

to each side of the vessel as shown. Then curve up the sides and join them across the stern by overlapping two $2\frac{1}{2}$ " Strips by one hole and attaching them by Angle Brackets. Extend the keel at the bows with two $5\frac{1}{2}$ " Strips fastened together by Angle Brackets and $2\frac{1}{2}$ " large radius Curved Strips at the base of the stern. Fill in the stern by bolting two Semi-Circular Plates to a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flanged Plate and attaching them to the sides by Flat Brackets. This Bolt will also hold two 1-11/16" radius Curved Plates.

Use one detached half of a Hinged Flat Plate as the poop deck and the other half as one side of the poop. Bolt a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate across in front of the forecabin and attach to each side of it a $12\frac{1}{2}$ " Strip. Attach the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate to the ends of the Strips by Angle Brackets. An $11\frac{1}{2}$ " Rod represents the mainmast. It is secured in the boss of a Bush Wheel bolted to the deck. The spars are represented by a 5" Rod and a $4\frac{1}{2}$ " Rod. Join a 5" Rod to a $3\frac{1}{2}$ " Rod to form the mast on the poop. Pass this mast through a hole in a Reversed Angle Bracket bolted to the poop, through a hole in the deck and hold it in position with a Spring Clip.

Lash the spars to the masts with Cord. The rigging will be clear from the illustration. Insignias may be drawn or painted on the paper sails. The topsail is 5 " x $5\frac{1}{2}$ " x $3\frac{1}{2}$ ". The mainsail is $5\frac{1}{2}$ " x $6\frac{1}{2}$ " x 5 ". The foresail is $3\frac{1}{2}$ " x 4 " x $2\frac{1}{2}$ ". The sail on the aft mast is 5 " x $5\frac{1}{2}$ " x $4\frac{1}{2}$ ".

PARTS REQUIRED

12 of No.	1
14 of No.	2
2 of No.	3b
4 of No.	4
7 of No.	5
2 of No.	5a
13 of No.	7
5 of No.	8
4 of No.	10
3 of No.	12
3 of No.	14
1 of No.	16
1 of No.	17
3 of No.	20
1 of No.	20a
13 of No.	21
1 of No.	25
2 of No.	27
1 of No.	28
1 of No.	32
4 of No.	34
3 of No.	41
4 of No.	45
4 of No.	46
3 of No.	47
4 of No.	48
2 of No.	49
4 of No.	50
2 of No.	51
1 of No.	52

2 of No.	53
2 of No.	54
1 of No.	55
2 of No.	56
2 of No.	57
2 of No.	58
2 of No.	60
2 of No.	65
6 of No.	66
3 of No.	67
2 of No.	68
1 of No.	70

1 of No.	71
2 of No.	72
1 of No.	73
1 of No.	74
8 of No.	81
1 of No.	82
2 of No.	83

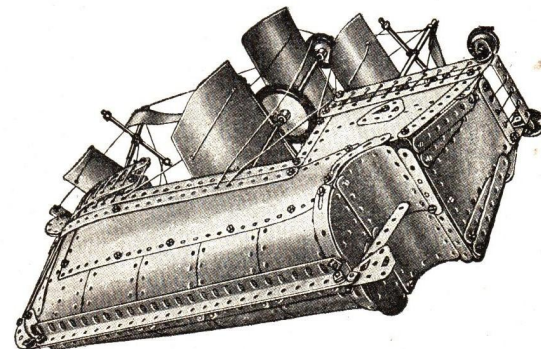
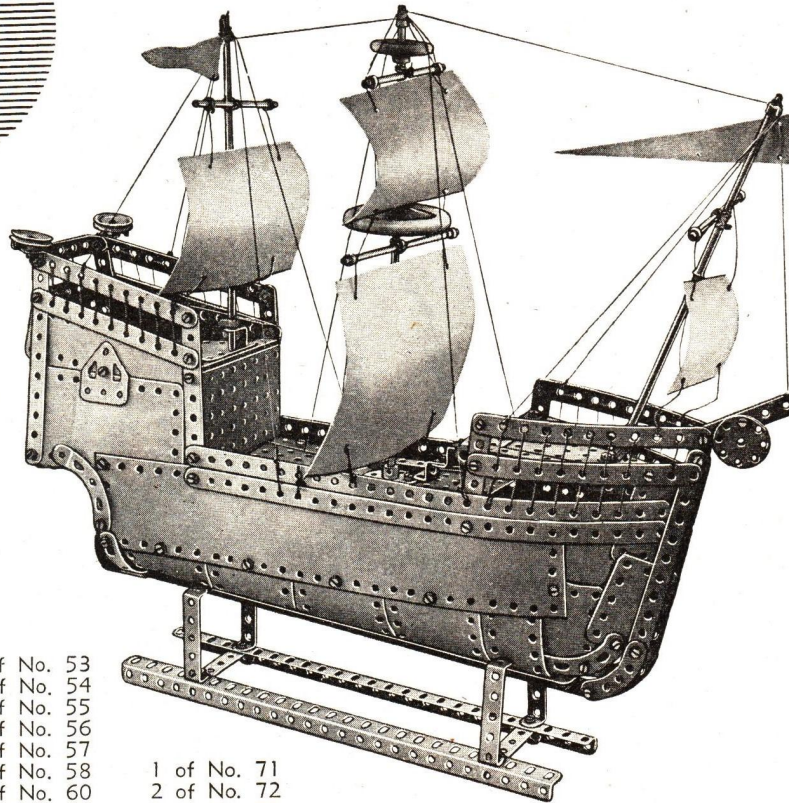


Fig. 8.15A

8.11 TRIPOD CRANE

Build the sides of the jib from 12½" strips and join them across with flat brackets. Extend them at the lower ends by using 2½" strips on one side and 3" strips overlapped two holes on the other side. Space the upper ends of the 12½" strips by a double bracket. The jib pivots on two 3/8" bolts (A) passed through the end holes and lock-nutted to a 1½" x ½" double angle strip. Attach the double angle strip to the base of the cab.

The cab swivels on a rod passing through the centre of a 3" pulley (D) which is attached to a 1½" x ½" double angle strip bolted to the flanges of the cab floor.

Pass a large crank handle through the side of the cab and journal it in a hole of the 3½" x 2½" flanged plate fastened to the inside of the cab. Make a fixture for the ½" fast pulley midway up the jib by passing a 1½" rod through the 5½" strips and screwing two 3" screwed rods into the tapped holes of two collars attached to the ends of the rod. The pulley turns on a rod similarly attached to the free ends of the screwed rods.

Bolt four 1½" discs to the free end of the brake lever (E) to act as a counter-weight. The brake lever is a 3½" strip which pivots on a lock-nutted ½" bolt (B). Use two washers on the shank of the bolt as spacers. Tie a cord to the brake rod, as shown, lead it around a 1" pulley on the rod which passes through the side of the cab and attach it finally to a reversed angle bracket.

Bolt the 1" pulleys (C) to the base of the tripod with 3/8" bolts spaced with two washers.

Wind a cord around the 5" rod which carries the bush wheel, pass it around the ½" fast pulley in the jib and tie it finally to the 5½" strip across the front of the cab. This arrangement will control the luffing of the jib when the bush wheel is actuated. To control the hoisting movement, wind a second cord around the crank handle, pass it between the roof and the 5½" strip and over the 1" loose pulley on the 2" rod at the jib-head. Lead it then around the 1" pulley on the pulley block and tie the end to the jib.

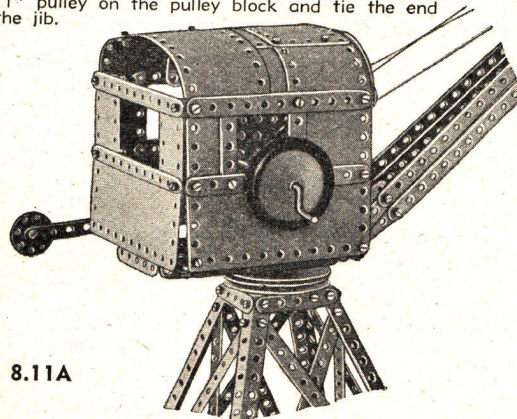
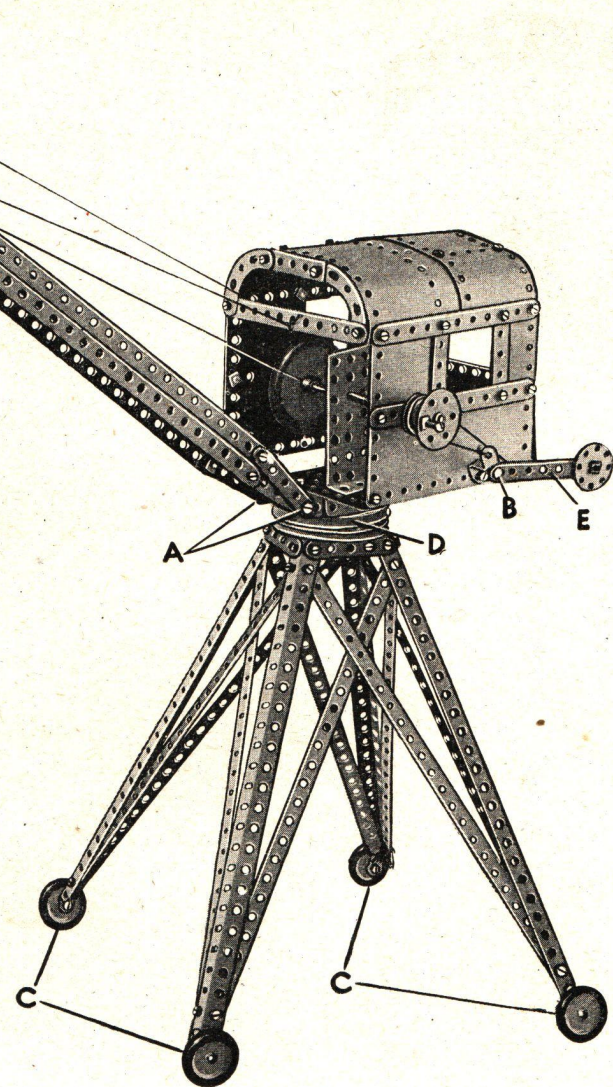


Fig. 8.11A

PARTS REQUIRED

12 of No. 1	2 of No. 40
13 of No. 2	6 of No. 41
2 of No. 3b	1 of No. 43
2 of No. 4	4 of No. 45
1 of No. 5	4 of No. 46
1 of No. 5a	2 of No. 47
12 of No. 7	3 of No. 48
4 of No. 8	2 of No. 49
1 of No. 9	4 of No. 50
1 of No. 10	1 of No. 60
2 of No. 12	1 of No. 61
2 of No. 13	1 of No. 65
5 of No. 14	12 of No. 66
1 of No. 16	1 of No. 67
1 of No. 17	6 of No. 70
2 of No. 19	1 of No. 72
4 of No. 25	2 of No. 75
2 of No. 32	1 of No. 76
2 of No. 34	2 of No. 77
1 of No. 36	1 of No. 78
4 of No. 37	1 of No. 79
2 of No. 38	



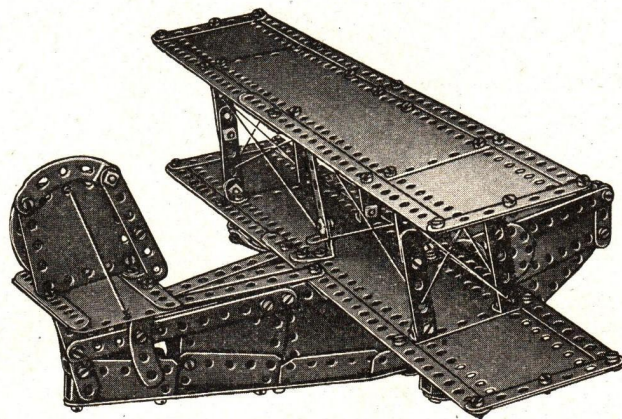
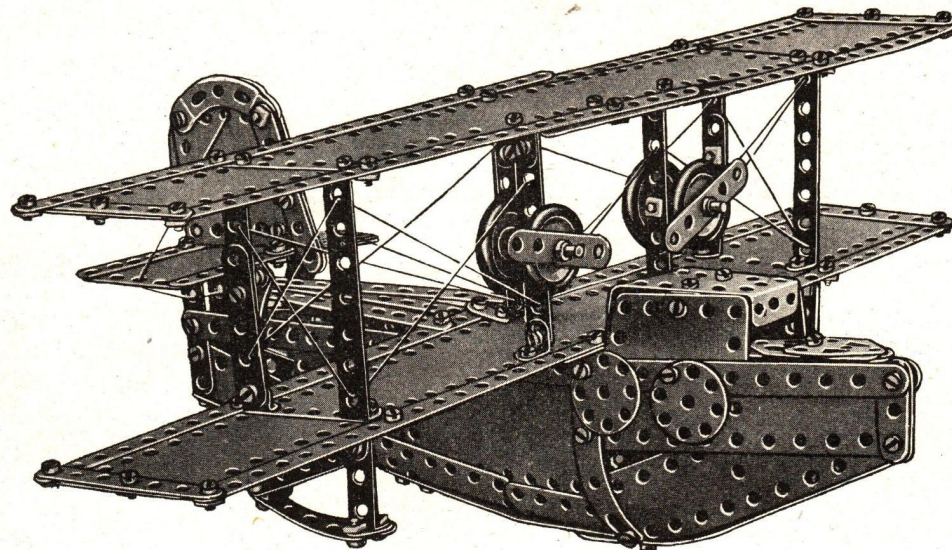
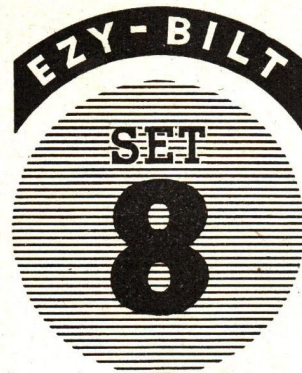


Fig. 8.22A

8.22 NAVY FLYING BOAT

Build the fuselage of Flexible Plates. This is shown by the illustration, and each side is identical. Use a $12\frac{1}{2}'' \times 2\frac{1}{2}''$ Strip Plate for the lower wing, extending it at each end with flat Plates obtained by removing the centre pin from a Hinged Flat Plate. Frame the wing with $12\frac{1}{2}''$ and $3\frac{1}{2}''$ Strips. Attach the wing to the fuselage with Angle Brackets. Construct the top wing similarly, but with the following difference. When extending the $12\frac{1}{2}'' \times 2\frac{1}{2}''$ Strip Plate, use $4\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates in place of the Hinged Flat Plates.

Brace the wing with $3\frac{1}{2}'' \times 1\frac{1}{2}''$ Double Angle Strips from the lower wing, also by double Angle Strips built up from Strips and Angle Brackets. Support the propellers on 2" Rods journalled in Double Brackets and bolted to the inner wing supports.

Bolt two $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flexible Plates to the sides of the fuselage in front of the wings to construct the control cabin. Then across the top join them with a $2\frac{1}{2}'' \times 1\frac{1}{2}''$ Flanged Plate.

To construct the tail plane, secure a $5\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plate by Angle Brackets to two $2\frac{1}{2}''$ large radius Curved Strips bolted to the end of the fuselage. Attach two $2\frac{1}{2}'' \times 2\frac{1}{2}''$ Flexible Plates to the tail plane by an Angle Bracket. This forms the rudder. To give the rudder a curved outline, bolt to it two small $2\frac{1}{2}''$ small radius Curved Strips.

PARTS REQUIRED

12 of No.	1
11 of No.	2
2 of No.	3b
4 of No.	4
3 of No.	5
2 of No.	5a
14 of No.	7
10 of No.	8
4 of No.	9
1 of No.	10
2 of No.	12
2 of No.	13
2 of No.	14
2 of No.	19
4 of No.	21
2 of No.	25
1 of No.	27
14 of No.	34
2 of No.	39
1 of No.	40
6 of No.	41
4 of No.	46
4 of No.	47
2 of No.	48
2 of No.	49
3 of No.	50
2 of No.	51
1 of No.	52
2 of No.	53
2 of No.	54
4 of No.	58
4 of No.	60
11 of No.	66
4 of No.	67
2 of No.	68
1 of No.	69
3 of No.	70
2 of No.	81
1 of No.	82
2 of No.	83

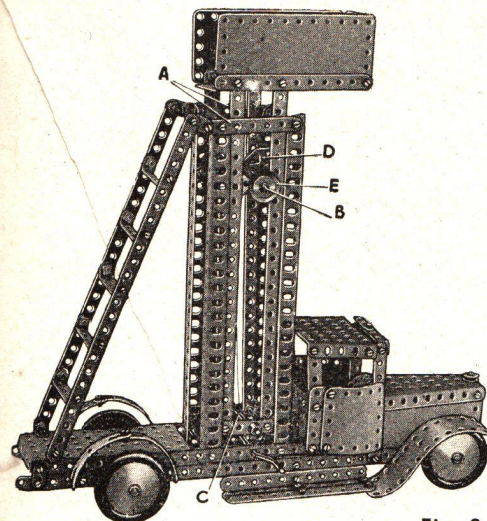


Fig. 8.25A

8.25 CABLE REPAIR WAGGON

Bolt two 12½" Strips together by Flat Brackets to form each side member of the chassis. Join the side members at the rear with a 5½" x 2½" Base Plate, and at the front with a Flanged Sector Plate. Build up the bonnet by bolting 4½" x 2½" Flexible Plates to the flanges of the Flanged Sector Plates. Fasten a second Flanged Sector Plate to form the top of the bonnet. Secure a 3½" x 2½" Flanged Plate to the chassis by a 2½" x ¾" Double Angle Strip to form the base of the cab. Overlap two 2½" x 1½" Flexible Plates by three holes to form the back of the cab. Support them by Angle Brackets bolted to the two 5½" Strips. Bolt a 2½" x 1½" Flexible Plate to the lower end of each of the 5½" Strips. Then, to shape the doors, bolt a 1-11/16" radius Curved Plate to the 2½" x 1½" Flexible Plate. Overlap by two holes and space

the two plates apart with two Washers on each Bolt. Fasten a second 3½" x 2½" Flanged Plate to the upper ends of the 5½" Strips. Use Reversed Angle Brackets to attach it to two more 5½" Strips reaching to the chassis.

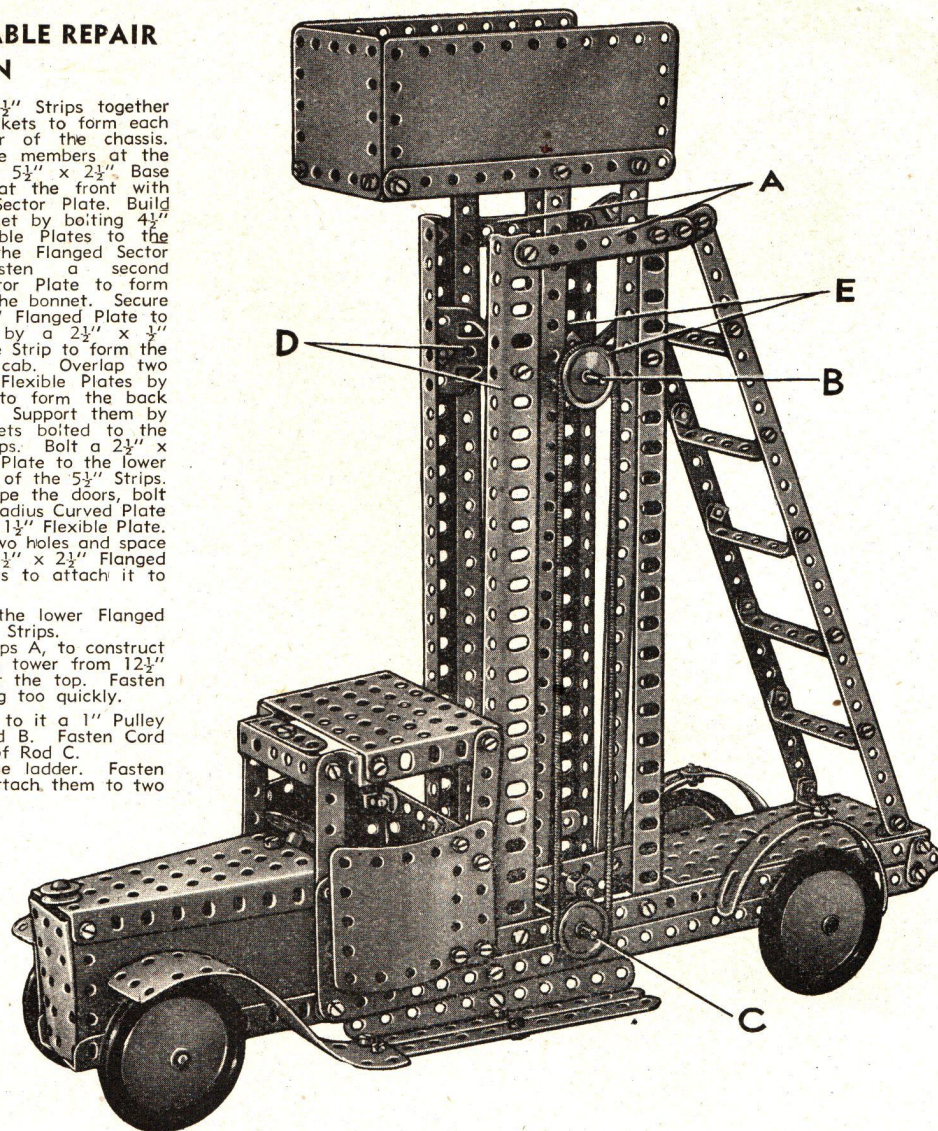
Fix the front Road Wheels on a 3½" Rod journalled in the flanges of the lower Flanged Sector Plates. Journal the 5" Rod forming the rear axle in the lower 12½" Strips.

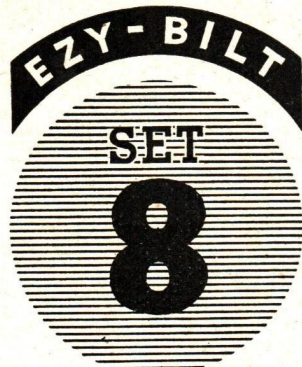
Bolt four Angle Girders to the chassis and connect them at the top by Strips A, to construct the framework in which the tower is elevated. Build up each side of the tower from 12½" Strips connected at the bottom by a 3" strip and secured to the stand at the top. Fasten Flat Trunnions to the Angle Girders at D to prevent the tower from moving too quickly.

Journal the Crank Handle in the upper 12½" Strip of the chassis. Attach to it a 1" Pulley and connect it by Driving Band to one of the Pulleys, E on the 3½" Rod B. Fasten Cord to a Cord Anchoring Spring on Rod B and tie its other end to the centre of Rod C. Bolt 2½" x ¾" Double Angle Strips between two 12½" Strips to form the ladder. Fasten the Strips at the base to the 5½" x 2½" Base Plate by Angle Brackets. Attach them to two Flat Brackets bolted to Strips A at the top.

PARTS REQUIRED

12 of No. 1	1 of No. 15	1 of No. 44	1 of No. 64
8 of No. 2	1 of No. 16	4 of No. 45	2 of No. 65
2 of No. 3b	1 of No. 17	4 of No. 46	10 of No. 66
8 of No. 5	1 of No. 18	2 of No. 47	2 of No. 67
1 of No. 5a	4 of No. 20	1 of No. 48	1 of No. 68
9 of No. 7	6 of No. 21	2 of No. 49	2 of No. 69
6 of No. 8	2 of No. 28	3 of No. 50	1 of No. 70
2 of No. 9	4 of No. 32	1 of No. 53	1 of No. 72
4 of No. 10	16 of No. 34	2 of No. 54	1 of No. 81
4 of No. 12	4 of No. 37	4 of No. 58	1 of No. 82
3 of No. 14	2 of No. 41		





PARTS REQUIRED

10 of No. 1	4 of No. 45
14 of No. 2	4 of No. 47
2 of No. 3b	4 of No. 48
4 of No. 4	2 of No. 49
8 of No. 5	4 of No. 50
16 of No. 7	2 of No. 51
4 of No. 8	2 of No. 65
2 of No. 9	12 of No. 66
2 of No. 11	2 of No. 67
4 of No. 32	2 of No. 68
2 of No. 39	4 of No. 70
2 of No. 40	1 of No. 81
6 of No. 41	

8.14 HARBOR BRIDGE

To build each of the towers, join two $5\frac{1}{2}$ " strips at top and bottom with $2\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strips, bolt $5\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates attached by angle brackets to the inside. Attach a road wheel to the top of each tower by passing a $\frac{3}{8}$ " bolt through an angle bracket attached at the $2\frac{1}{2}$ " small radius curved strips. Join the towers at each end of the bridge with three $5\frac{1}{2}$ " strips.

Use two $12\frac{1}{2}$ " strips joined in the form of a girder with two angle girders to form each side of the span.

Connect the two sides by a $3\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip at the centre and $3\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plates held by the same bolts as the $12\frac{1}{2}$ " strips. Use two $4\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates, over-lapped one hole as the roadway in the centre of the span. Make up the remainder of the roadway from $12\frac{1}{2}$ " x $2\frac{1}{2}$ " strip plates, which are attached to the flanged plates, at one end, and at the other clamped between flat brackets and angle girders. Bolt $5\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plates to the angle girders to form the sides of the roadway at each end of the span. Attach the span to the towers by a trunnion as shown.

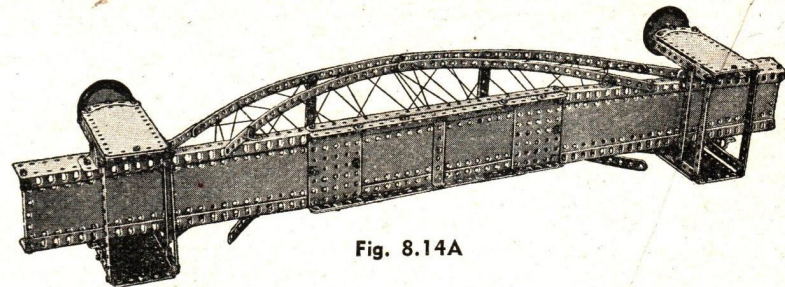
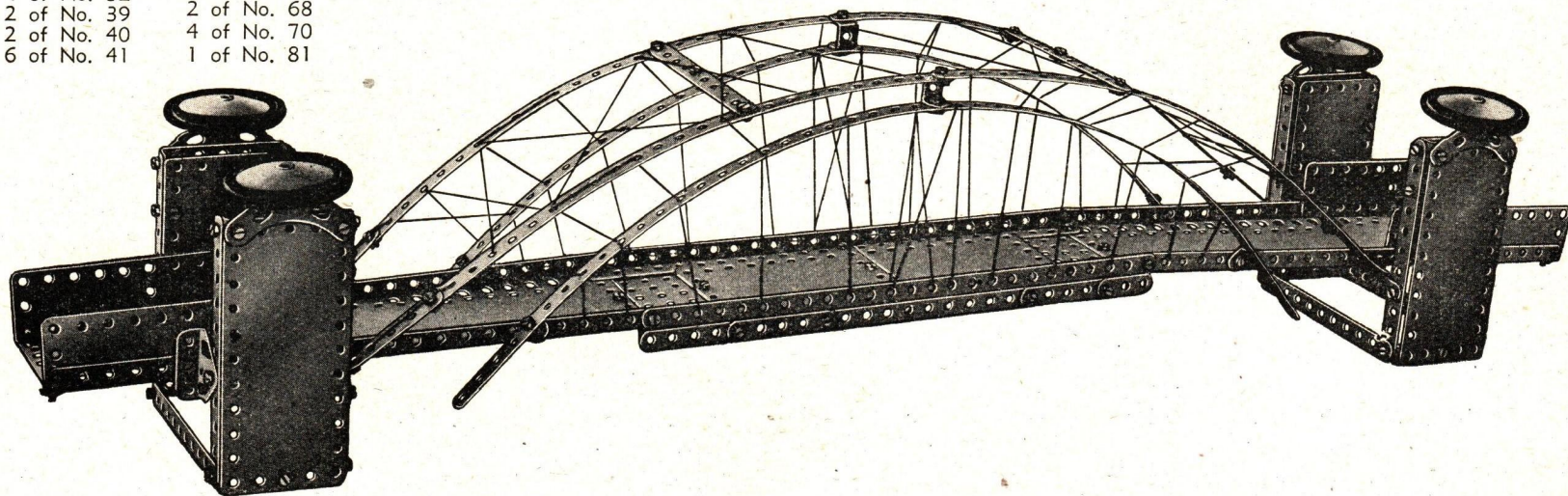


Fig. 8.14A



8.17 DUTCH WINDMILL

Construct the main frame of the windmill from four angle girders, connected at the base by $5\frac{1}{2}$ " strips and at the top by $2\frac{1}{2}$ " strips. Fill in the sides with $12\frac{1}{2}$ " x $2\frac{1}{2}$ " strip plates, but use flexible plates at the front in order to leave a doorway opening. Build a platform in front of the doorway by fastening a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate by angle brackets to the front $5\frac{1}{2}$ " strip. In forming the top housing, bolt two flanged sector plates together by the flanges at their narrow ends. Bolt two $5\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates across the flanges as illustrated. A $2\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip forms a brace at each end between the flexible plates. The corner bolts also hold $2\frac{1}{2}$ " small radius curved strips which are bolted at their other ends to the angle girders of the main frame.

Build a special structure to carry the directional vanes. Fasten two strips, made up of a $5\frac{1}{2}$ " and a $2\frac{1}{2}$ " strip, to a double angle strip which is bolted to the flexible plate. Brace the structure with two $2\frac{1}{2}$ " large radius curved strips bolted to a double angle strip which is also attached to the flexible plate. Bolt $2\frac{1}{2}$ " strips, representing the vanes, to a bush wheel which is fixed to the 2" rod journalled and secured with a cord anchoring spring in the top holes of the compound strips.

Take the driving band from the 1" pulley on the shaft of the crank handle to a second 1" pulley on a 5" rod in the middle of the frame. Run a separate driving band from a $\frac{1}{2}$ " fast pulley on the 5" rod to a 3" pulley on the main driving shaft. Run a third driving band from a 1" pulley on the main driving shaft to the rod carrying directional vanes.

PARTS REQUIRED

12 of No. 1	1 of No. 16	4 of No. 41	2 of No. 68
14 of No. 2	1 of No. 17	4 of No. 45	1 of No. 69
2 of No. 3b	1 of No. 18	2 of No. 47	1 of No. 71
4 of No. 4	1 of No. 19	4 of No. 50	1 of No. 72
5 of No. 5	2 of No. 21	2 of No. 51	2 of No. 77
1 of No. 5a	1 of No. 27	1 of No. 62	1 of No. 79
1 of No. 7	2 of No. 28	1 of No. 63	2 of No. 81
1 of No. 11	1 of No. 32	1 of No. 65	1 of No. 82
2 of No. 12	2 of No. 34	8 of No. 66	2 of No. 83
3 of No. 14	4 of No. 37	4 of No. 67	

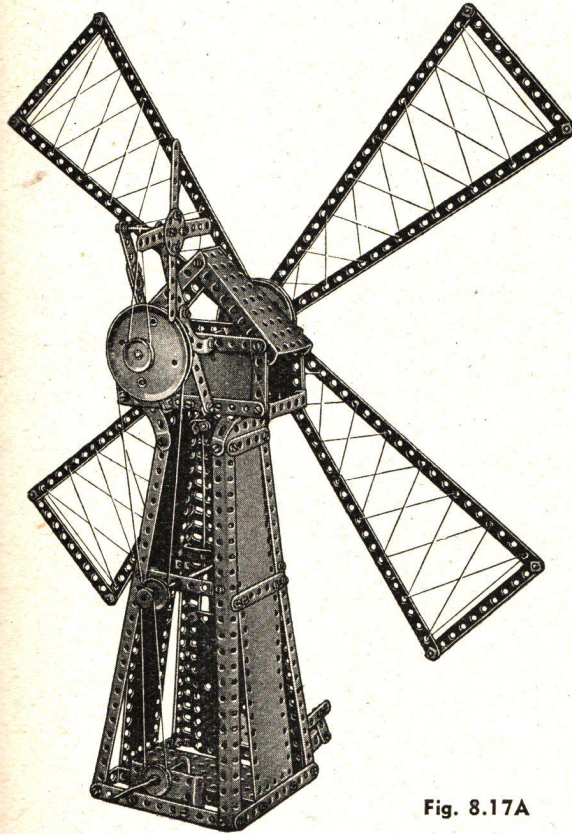
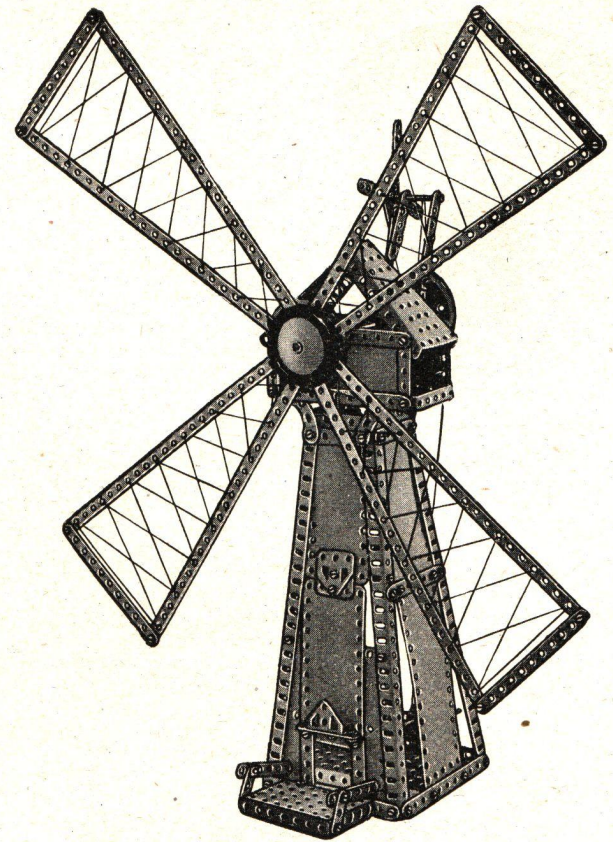


Fig. 8.17A





8.6 REMOVAL VAN

Build up the van body from the base, which is formed by two $12\frac{1}{2}$ " Angle Girders joined across with two $5\frac{1}{2}$ " Strips. Use $12\frac{1}{2}$ " Strip Plates as the lower part of each side and convenient Flat Plates to fill in the remainder of the area. Two separated halves of a Hinged Flat Plate may be used at A. Bolt each half over a framework of $12\frac{1}{2}$ " Strips and $5\frac{1}{2}$ " Strips. Construct the top from $12\frac{1}{2}$ " Strips and $5\frac{1}{2}$ " Strips. Two Flanged Sector Plates joined by $4\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates form the bonnet. Bolt the lower Flanged Sector Plate to a $3\frac{1}{2}$ " Flanged Plate which forms the floor of the cab and is secured to the chassis. Fasten the front bumper to the ends of two $3\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips which are bolted under the bonnet. The running-boards, which provide supports for the front mudguards, are represented by $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates and are bolted to the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate.

Form the back of the cab from a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate and a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Flexible Plate. Build up the driver's seat from two U-Section Curved Plates connected by Flat Brackets and attached by an Angle Bracket to the back.

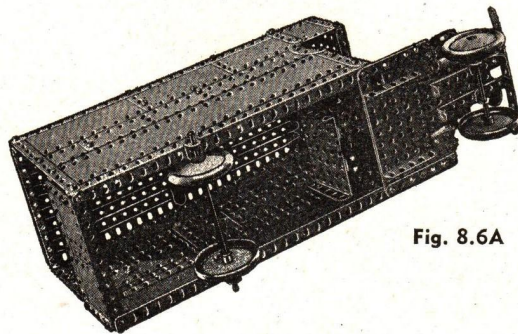
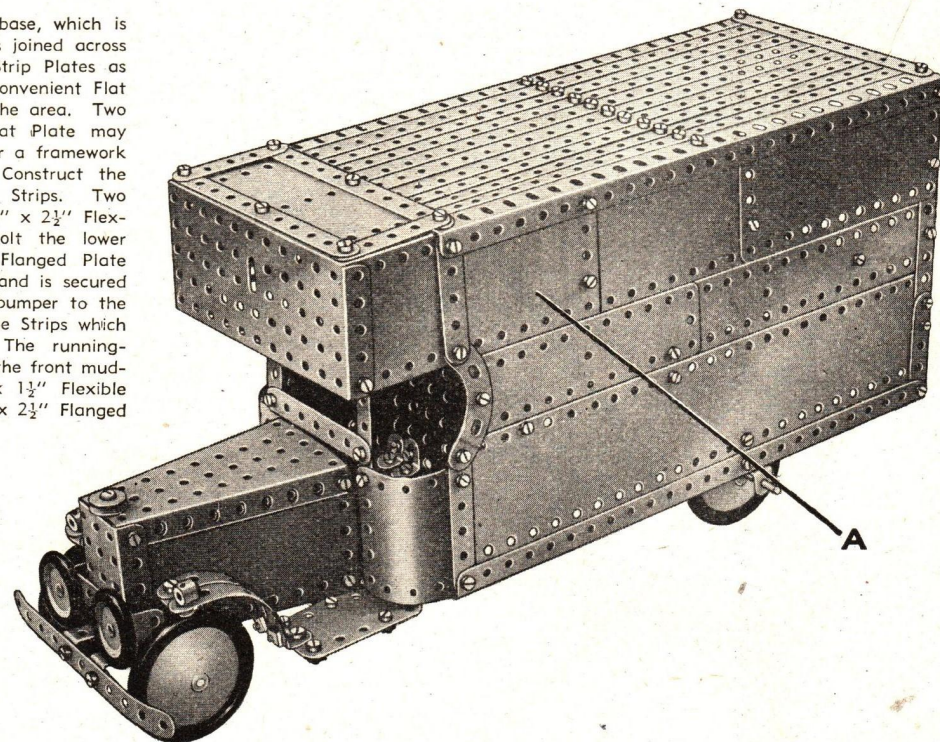


Fig. 8.6A

PARTS REQUIRED

12 of No. 1	1 of No. 16	6 of No. 41	2 of No. 57
13 of No. 2	1 of No. 17	4 of No. 45	4 of No. 58
2 of No. 3b	1 of No. 20a	4 of No. 46	2 of No. 65
2 of No. 4	1 of No. 21	4 of No. 47	12 of No. 66
1 of No. 5	2 of No. 25	5 of No. 48	3 of No. 67
13 of No. 7	2 of No. 28	2 of No. 49	1 of No. 69
8 of No. 8	2 of No. 32	4 of No. 50	1 of No. 72
2 of No. 9	5 of No. 34	2 of No. 51	1 of No. 75
2 of No. 10	4 of No. 37	1 of No. 52	2 of No. 81
2 of No. 14	2 of No. 39	2 of No. 53	1 of No. 82
1 of No. 15	2 of No. 40	2 of No. 54	

PARTS REQUIRED

12 of No. 1	2 of No. 11	1 of No. 20a	1 of No. 55
11 of No. 2	4 of No. 12	10 of No. 21	1 of No. 56
1 of No. 3b	2 of No. 13	1 of No. 27	2 of No. 57
7 of No. 5	4 of No. 14	2 of No. 28	2 of No. 65
2 of No. 5a	1 of No. 15	12 of No. 34	12 of No. 66
16 of No. 7	1 of No. 16	4 of No. 37	4 of No. 67
7 of No. 8	1 of No. 17	6 of No. 41	2 of No. 68
4 of No. 9	2 of No. 19	1 of No. 43	2 of No. 69
2 of No. 10	2 of No. 20	4 of No. 45	1 of No. 70
		4 of No. 46	1 of No. 71
		4 of No. 47	2 of No. 72
		3 of No. 48	4 of No. 75
		2 of No. 49	1 of No. 78
		4 of No. 50	1 of No. 79
		2 of No. 51	1 of No. 82
		1 of No. 52	1 of No. 83

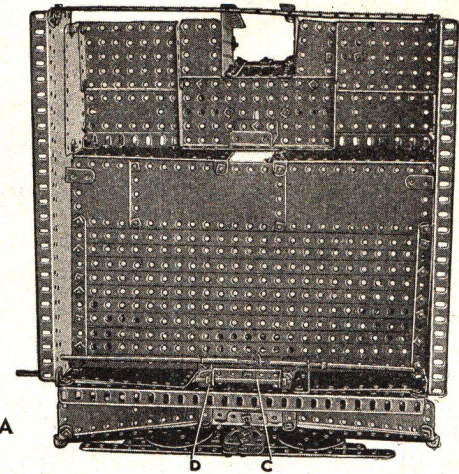
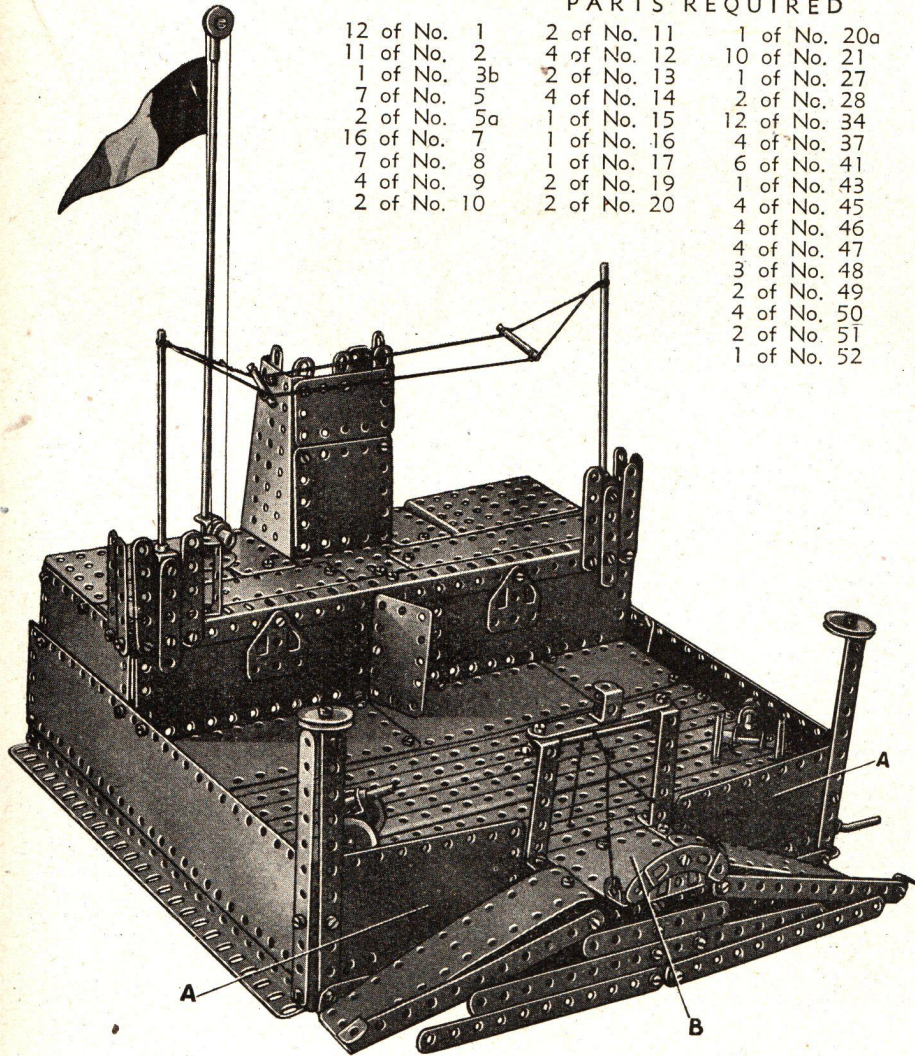


Fig. 8.8A

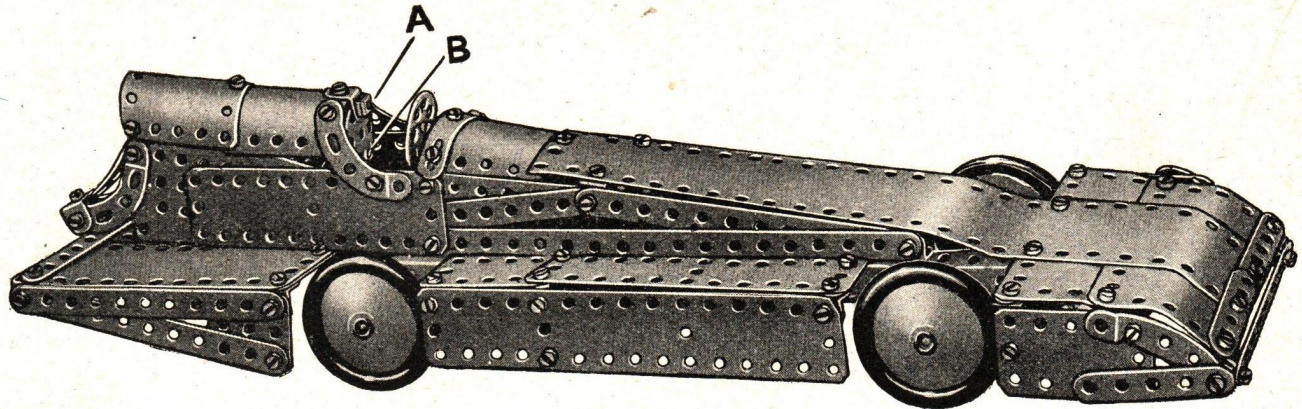
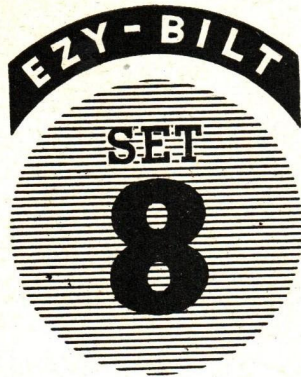
8.8 DESERT FORT

Use two angle girders and two $12\frac{1}{2}$ " strips joined by angle brackets to form the base of the fort. Bolt two $12\frac{1}{2}$ " x $2\frac{1}{2}$ " strip plates to the angle girders to form the sides. Use $12\frac{1}{2}$ " strips to form the floor of the parade ground. Bolt them to $5\frac{1}{2}$ " strips which are attached to the $12\frac{1}{2}$ " x $5\frac{1}{2}$ " strip plates by angle brackets.

Form the observation tower by bolting a $2\frac{1}{2}$ " x $2\frac{1}{2}$ " and a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plate to the front flanges of two flanged sector plates. Bolt the flanged sector plates to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " base plate which forms the centre part of the roof. The construction of the flag-pole will be clear from the illustrations. Journal the wireless masts in collars bolted to the $2\frac{1}{2}$ " strips forming the barricades on the upper platform.

Erect the front walls of the fort (A) from the two pieces of a hinged flat plate from which the centre pin has been removed. Use two flat trunnions as supports for the strips forming the facade below the draw-bridge. Use a $2\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plate (b) for the draw-bridge. Bolt a $2\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip (c) to the rear of the drawbridge. Pivot this strip on a $3\frac{1}{2}$ " rod which is journalled in the angle brackets (d).

Lengthen the crank handle by attaching a $6\frac{1}{2}$ " rod by a rod connector. Wind cord around the $6\frac{1}{2}$ " rod, lead it over the $3\frac{1}{2}$ " rod at the top of the gateway and tie it to the front of the draw-bridge. The operation of the crank handle will raise and lower the draw-bridge.



8.16 SIR MALCOLM CAMPBELL'S "BLUEBIRD"

The main chassis is built up from four angle girders. Join them by flat trunnions at the rear and by $1\frac{1}{2}$ " strips at the front. The strips are bolted in the fourth hole from the front of the girders and form bearings for the axles. Use a $2\frac{1}{2}$ " strip to join the lower angle girders at the rear and a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate at the front. Join the upper angle girders by three $5\frac{1}{2}$ " strips. Two of them, which are bolted five holes from the rear ends and seven holes from the front ends of the angle girders, provide support for the streamlined cowling. Extend the tail of the car by bolting two $12\frac{1}{2}$ " strips, overlapped by 13 holes, to the main chassis. Build the tail from two flanged sector plates bolted by the flanges at the broad ends to an angle bracket on one edge and a $2\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip on the other edge. Bolt a $5\frac{1}{2}$ " strip to the second hole in the flanges of the narrow ends of the flanged sector plates. Space the narrow ends of the

plates one hole apart. Bolt two U-section curved plates overlapped one hole to the flanged sector plates. Use $2\frac{1}{2}$ " small radius curved strips to join them to the $5\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plates.

Form the rear wheel fairings by bolting two $5\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates between two $5\frac{1}{2}$ " strips. Bolt the $5\frac{1}{2}$ " strips which form the sides to a flat trunnion and a double bracket. Use a $12\frac{1}{2}$ " x $2\frac{1}{2}$ " strip plate and a $2\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plate joined with 2 " x $\frac{1}{2}$ " double angle strips to form the engine and cockpit cowling.

5" rods held in place by collars form the front and rear axles. Fit at each end a road wheel and a 1" pulley with rubber ring. Form the seat and headrest by lock-nutting a $1\frac{1}{4}$ " disc to bolt A, attaching a second disc by bolt B and using a reversed angle bracket to hold the third disc C.

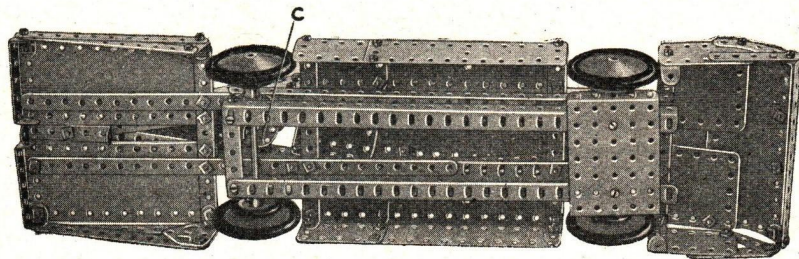


Fig. 8.16A

PARTS REQUIRED

6 of No. 1	2 of No. 11	4 of No. 45	3 of No. 60
12 of No. 2	4 of No. 12	4 of No. 46	1 of No. 65
2 of No. 3b	4 of No. 14	4 of No. 47	4 of No. 66
4 of No. 8	1 of No. 16	5 of No. 48	4 of No. 67
5 of No. 5	4 of No. 25	4 of No. 50	2 of No. 68
2 of No. 5a	2 of No. 28	1 of No. 51	1 of No. 69
14 of No. 7	4 of No. 32	2 of No. 53	2 of No. 70
3 of No. 9	4 of No. 37	2 of No. 54	2 of No. 72
1 of No. 10	1 of No. 41	1 of No. 58	2 of No. 83

8.7 STEAM LORRY

Build up each side of the chassis from two $1\frac{1}{2}$ " strips and a $1\frac{1}{2}$ " angle girder bolted at each end to two $2\frac{1}{2}$ " strips. Fill in the sides of the chassis with flanged plates and flexible plates. Join the side members of the chassis at the rear with $2\frac{1}{2}$ " strips and use a $2\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip at the front.

Attach the platform to the chassis at the rear with two 1" x 1" angle brackets. Bolt it to the front end by attaching it to a flat bracket which is bolted to two $2\frac{1}{2}$ " strips. Overlap the strips one hole and bolt them to the angle girders which form the chassis members.

Construct the boiler from $4\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates extended with two 1-11/16" curved plates. Bend the plates to shape and join the ends with two obtuse angle brackets. A road wheel attached to an $1\frac{1}{2}$ " rod forms the boiler front. Fix the rod in the $2\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip with a spring clip. Bend a U-section curved plate to form the chimney. Attach it by passing a 3" screwed rod from where it is locked in a flat bracket bolted to the boiler, through the centre of the chimney to project above the roof of the cab. The rod is there secured in the boss of a 1" pulley. Form the rear part of the roof with a hinged flat plate which is extended at the back of the cab with two $2\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates. Attach them to the platform body by an angle bracket. Use two washers to space the angle brackets, which are bolted to the $3\frac{1}{2}$ " strips at the side of the cab, away from the hinged flat plate of the roof. Mount the front axle by the following stages. Fasten a double bracket to the underside of the boiler with obtuse angle brackets. Bolt a $3\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip to it and to the double angle strip which spaces the front of the chassis. Lock-nut, by bolt A, a double angle strip to the double bent strip which carries the front axle support. Journal the steering column in the angle girder at the side of the cab and in an angle bracket. Connect the $\frac{1}{2}$ " pulley on the lower end of the steering column by driving band to a 1" pulley on the $\frac{1}{2}$ " rod. Wind cord several times around the $\frac{1}{2}$ " rod and tie it to each end of the $2\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip of the front axle support.

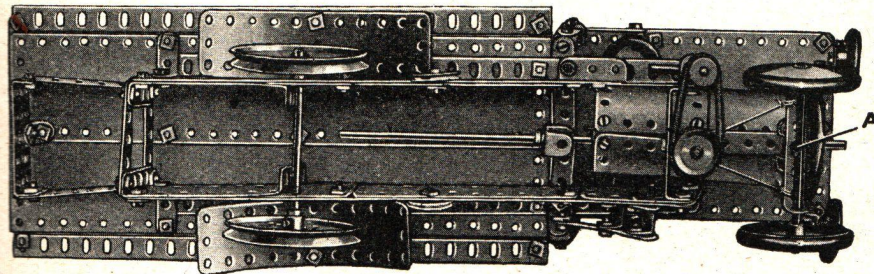
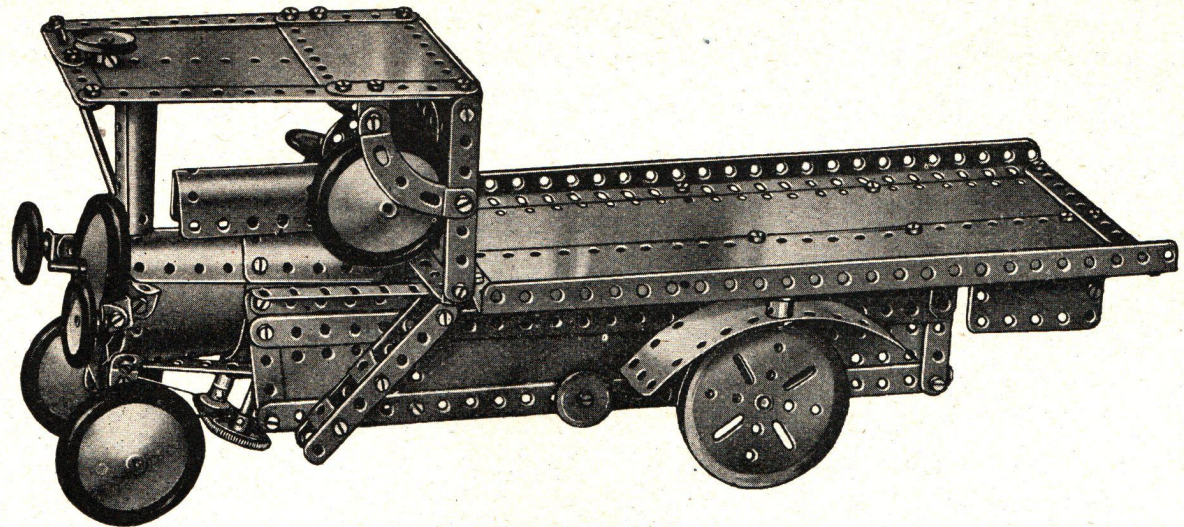


Fig. 8.7B



PARTS REQUIRED

12 of No. 1	4 of No. 32	5 of No. 70	2 of No. 77
5 of No. 2	8 of No. 34	1 of No. 71	1 of No. 79
1 of No. 3b	4 of No. 37	2 of No. 72	1 of No. 80
2 of No. 4	1 of No. 38	2 of No. 74	1 of No. 81
3 of No. 5	2 of No. 39	1 of No. 75	1 of No. 82
1 of No. 5a	2 of No. 41		
1 of No. 6	4 of No. 45		
12 of No. 7	4 of No. 46		
3 of No. 8	2 of No. 47		
4 of No. 9	4 of No. 48		
2 of No. 10	2 of No. 49		
1 of No. 11	4 of No. 50		
1 of No. 13	2 of No. 51		
5 of No. 14	1 of No. 52		
1 of No. 15	2 of No. 53		
1 of No. 16	2 of No. 54		
1 of No. 18	1 of No. 62		
1 of No. 19	1 of No. 65		
8 of No. 21	4 of No. 66		
3 of No. 25	3 of No. 67		
1 of No. 27	2 of No. 69		

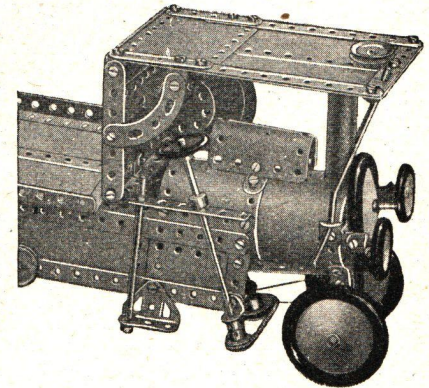
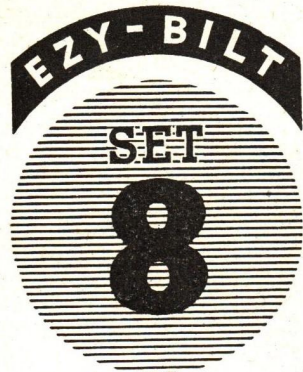


Fig. 8.7A



8.13 TRI-CAR AND TRAILER

The engine bonnet is first built on two $5\frac{1}{2}$ " Strips to which a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate is bolted to form the bottom of the radiator. Two $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates are then bolted to the $5\frac{1}{2}$ " Strips and the Flanged Plate is sloped to bolt to the tops of the Flexible Plates. Two 3" Strips are bolted inside the flanges of the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate and they overlap the flanges by two holes. Two $5\frac{1}{2}$ " Strips overlap the rear ends of the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates by three holes as uprights for cab roof and back. 1" x 1" Angle Brackets are attached to the lower rear corners of the Flexible Plates to hold the back of the cab. Sides of the bonnet are completed by bolting $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates to the 3" Strips and to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates. The top rear corners of the $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates are joined by a $3\frac{1}{2}$ " x $1\frac{1}{2}$ " Double Angle Strip, each bolt also holding a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plate and two $2\frac{1}{2}$ " Strips. One of the 2" Strips is bolted to a Flat Trunnion and the $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plate, the other is used to support the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate that is the roof of the cab.

The upper section of the radiator is finished with two $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates overlapped three holes. They are fitted to the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate by the $\frac{1}{2}$ " Bolts that hold in place the 1" Pulleys and $\frac{3}{4}$ " Discs that are the headlamps. Two more $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates are secured by an Angle Bracket to those mentioned above and are also bolted to the $3\frac{1}{2}$ " x $1\frac{1}{2}$ " Double Angle Strip between the bonnet sides.

Two $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates overlapped three holes, bolted to the 1" x 1" Angle Brackets, form the back of the cab. The upper part of the back is finished by overlapping three $5\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates on their long ends and bolting them at their top ends to a $3\frac{1}{2}$ " Strip and to Angle Brackets.

The driving seat is a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flanged Plate fixed to the back with an Angle Bracket. A Bush Wheel on a $4\frac{1}{2}$ " Rod is the steering column and wheel. The Rod passes through the hole in an Obtuse Angle Bracket bolted to the Double Angle Strip. It is held by a Spring Clip in the hole of a Flat Bracket bolted to an Angle Bracket attached to the side of the bonnet.

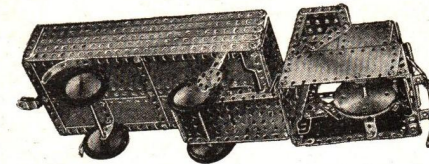
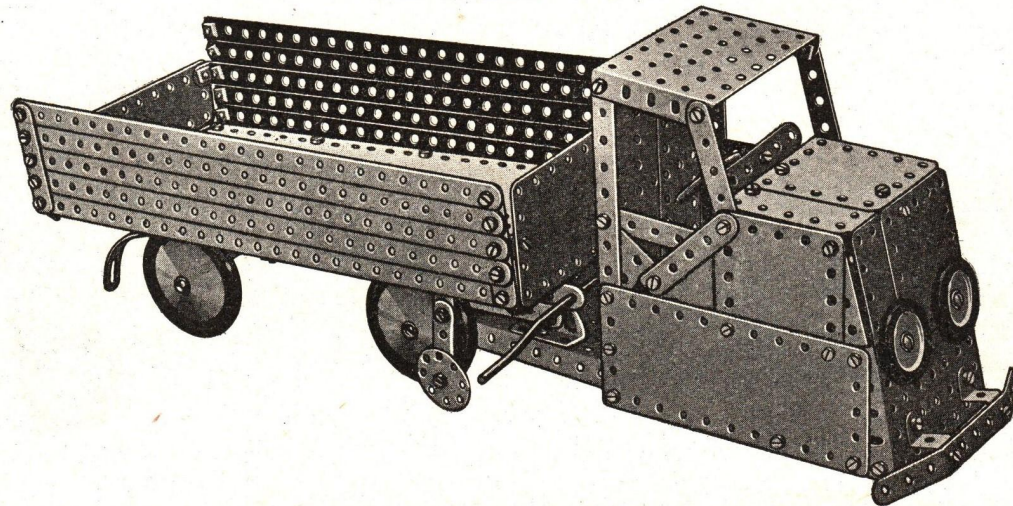


Fig. 8.13A

The single front wheel is a 3" Pulley free to turn on a $3\frac{1}{2}$ " Rod and retained in position by two Spring Clips. The Rod is fitted in bearings formed by the holes in two Reversed Angle Brackets bolted to the bonnet sides.

The rear of the chassis is a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate and it carries a ramp constructed so:—Two Trunnions are attached to the Flanged Plate and a 3" Strip bolted at the second hole to the lower centre hole of each Trunnion. $2\frac{1}{2}$ " Strips are bolted to the Trunnions above the $3\frac{1}{2}$ " Strips through the second hole and are extended to the rear by $2\frac{1}{2}$ " large radius Curved Strips, bolted to a $1\frac{1}{2}$ " x $1\frac{1}{2}$ " Double Angle Strip fixed to the rear of the Flanged Plate by a Bolt which also holds an Obtuse Angle bracket to which a Flat Trunnion is bolted.

The Crank Handle passes through the front holes in the $2\frac{1}{2}$ " Strips forming the ramp and two 1" Pulleys, one each side of the off side $2\frac{1}{2}$ " Strip, are fitted to it. The 1" Pulleys are fitted with $\frac{3}{4}$ " Bolts used to allow the trailer to be unhitched from the power unit. A $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Double Angle Strip at the end of the ramp in the middle of the Flanged Plate acts as a stop for the trailer. The rear Road Wheels are fixed to a $4\frac{1}{2}$ " Rod that is carried in the holes of a $3\frac{1}{2}$ " x $1\frac{1}{2}$ " Double Angle Strip bolted to the trailer bottom. The front wheels are 1" Discs secured to $2\frac{1}{2}$ " Strip attached to the Angle Girders with Angle Brackets.

An Angle Bracket fitted three holes back on the centre $1\frac{1}{2}$ " Strip of the trailer bottom engages with the Flat Trunnion of the ramp. When the Crank Handle is wound the $\frac{3}{4}$ " Bolt in the boss of the Pulley raises the trailer and releases the Angle Bracket from behind the Flat Trunnion.

PARTS REQUIRED

12 of No. 1	1 of No. 20	2 of No. 58
10 of No. 2	5 of No. 21	2 of No. 60
2 of No. 3b	2 of No. 25	2 of No. 61
5 of No. 5	4 of No. 32	6 of No. 65
1 of No. 5a	2 of No. 39	9 of No. 66
1 of No. 6	4 of No. 34	3 of No. 67
16 of No. 7	2 of No. 40	2 of No. 68
2 of No. 8	4 of No. 41	2 of No. 69
4 of No. 10	1 of No. 43	3 of No. 70
2 of No. 11	2 of No. 45	2 of No. 72
3 of No. 12	4 of No. 46	1 of No. 73
4 of No. 14	6 of No. 47	1 of No. 77
1 of No. 16	6 of No. 48	2 of No. 81
1 of No. 17	2 of No. 49	1 of No. 82
1 of No. 18	2 of No. 50	2 of No. 83

8.9 TROLLEY CAR

Construct the chassis by connecting two $12\frac{1}{2}$ " Strips by Angle Brackets to Angle Girders and joining them across each end by compound strips made up from two $2\frac{1}{2}$ " Strips overlapped by two holes. Fill in the bottom by bolting a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate and a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate to the Angle Girders. Bolt a Flanged Sector Plate and a $5\frac{1}{2}$ " Strip to the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate and attach two 5" Strips by Reversed Angle Brackets, one to the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate and the other to the compound spacing strip.

Separated halves of a Hinged Flat Plate may be used at A. Carry the upper deck on five $5\frac{1}{2}$ " Strips and support the roof with $2\frac{1}{2}$ " Strips and Double Angle Strips. Bolt the $5\frac{1}{2}$ " Strips B to $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates and attach the Plates to the floor of the car.

Construct the upper deck from five $12\frac{1}{2}$ " Strips. Bolt three of them to one side of a $3\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip and the other two to a Flat Bracket which is attached to the side of the Double Angle Strip. Fill in the floor with $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates. A Flanged Sector Plate forms the front end and a $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate forms the rear end.

Construct the driver's cab at each end of the car by bolting U-Section Curved Plates by Obtuse Angle Brackets. $1\frac{1}{2}$ " Rods locked in the bosses of the 1" Pulleys represent the control switches. An $11\frac{1}{2}$ " Rod forms the current "pick-up" arm. Lock-nut Bolt C to allow a swinging movement. Similarly, lock-nut Bolt D to allow rotation of the $\frac{1}{2}$ " loose Pulley.

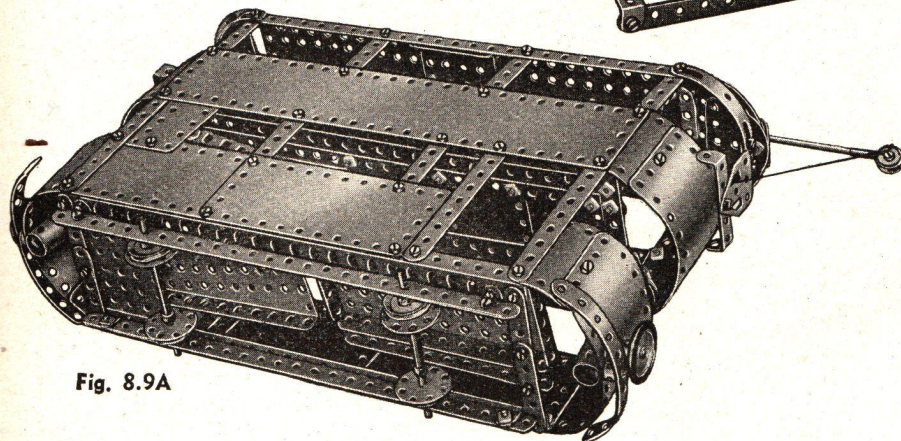
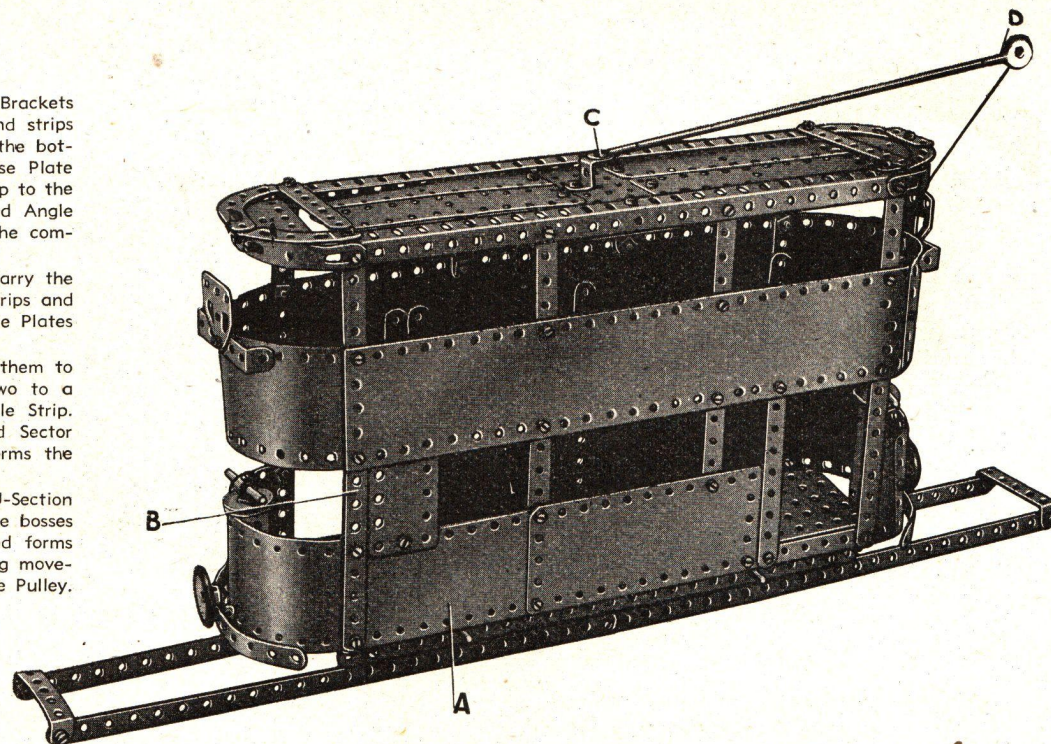


Fig. 8.9A

PARTS REQUIRED

11 of No. 1	1 of No. 25	2 of No. 55
13 of No. 2	2 of No. 28	2 of No. 57
2 of No. 3b	10 of No. 34	4 of No. 58
4 of No. 4	2 of No. 37	4 of No. 60
6 of No. 5	2 of No. 38	1 of No. 61
1 of No. 5a	6 of No. 41	2 of No. 65
9 of No. 7	4 of No. 45	11 of No. 66
6 of No. 8	4 of No. 46	3 of No. 67
3 of No. 10	4 of No. 47	2 of No. 68
2 of No. 12	6 of No. 48	2 of No. 70
2 of No. 13	2 of No. 49	1 of No. 71
5 of No. 14	4 of No. 50	2 of No. 75
1 of No. 15	2 of No. 51	1 of No. 81
1 of No. 17	1 of No. 52	1 of No. 82
2 of No. 20	2 of No. 53	1 of No. 83
4 of No. 21	2 of No. 54	



PARTS REQUIRED

8 of No. 1	1 of No. 10
13 of No. 2	2 of No. 11
1 of No. 3b	4 of No. 12
2 of No. 4	1 of No. 13
1 of No. 5	5 of No. 14
1 of No. 5a	1 of No. 15
1 of No. 6	1 of No. 16
12 of No. 7	1 of No. 17
6 of No. 8	1 of No. 18
2 of No. 9	2 of No. 20

5 of No. 21
4 of No. 25
1 of No. 27
1 of No. 28
4 of No. 32
6 of No. 34
1 of No. 36
3 of No. 37
3 of No. 41
1 of No. 43
1 of No. 44
2 of No. 45
4 of No. 46
4 of No. 47
2 of No. 49
2 of No. 50
1 of No. 52
2 of No. 54
4 of No. 58
2 of No. 65
4 of No. 67
2 of No. 68
2 of No. 69
4 of No. 70
2 of No. 72
1 of No. 73
1 of No. 76
1 of No. 81
1 of No. 82
2 of No. 83

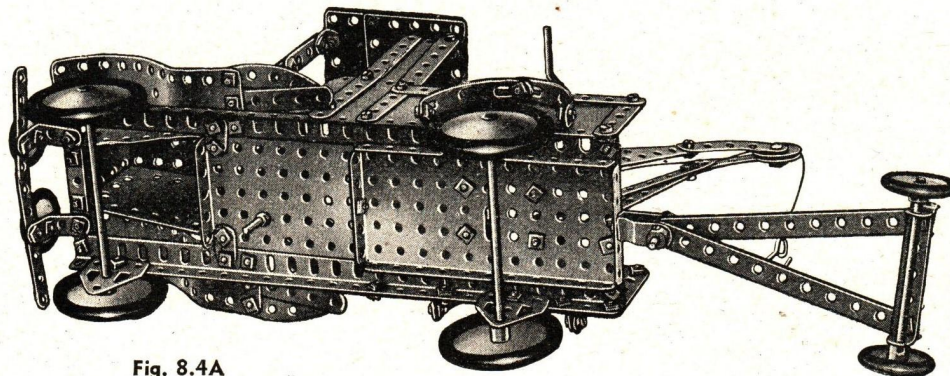
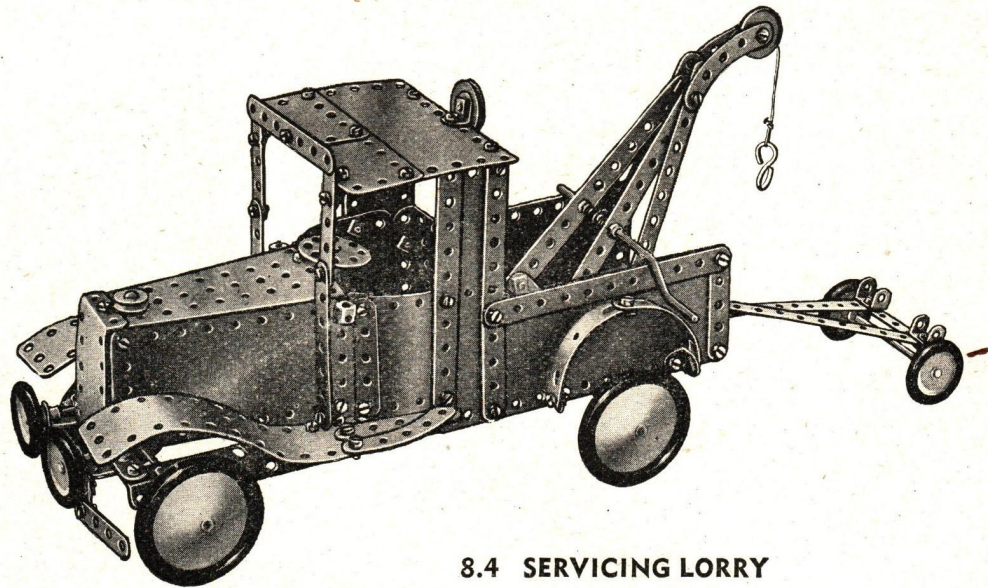


Fig. 8.4A



8.4 SERVICING LORRY

Form the chassis from two angle girders. Join them at the front with a $3\frac{1}{2}$ " strip and at the back with a compound strip made up of a 3" strip and a $1\frac{1}{2}$ " strip overlapped two holes. Fill in the space between the main chassis members with a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " base plate at the rear and a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate in the centre.

Use $4\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates as the sides of the bonnet. Connect them at the front by a $1\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip which is bolted to the chassis cross member.

Use $5\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plates bolted to the chassis as the sides of the cab. Form the lower part of the back of the cab with a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate. Use two $2\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plates to fill in the rest of the back.

Remove the centre pin from a hinged flat plate and use one of the pieces as part of the roof.

Bolt flat trunnions to the sides of the chassis to form bearings for the front and rear axles. 5" rods form the axles.

Fasten a bush wheel to a $3\frac{1}{2}$ " rod and pass it through a reversed angle bracket to form the steering wheel. Secure the rod with a spring clip.

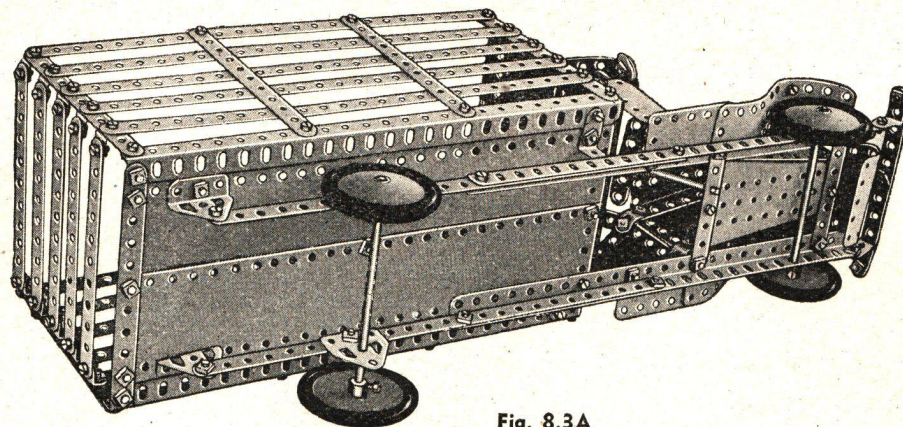


Fig. 8.3A

8.3 CATTLE LORRY

Construct the chassis from two angle girders joined across by $3\frac{1}{2}$ " strips. Extend the girders to the rear with $12\frac{1}{2}$ " strips overlapped by 12 holes. Use a 5" rod as the front axle and journal it in the chassis. Use a second 5" rod as the rear axle. Bolt two flat trunnions to the $12\frac{1}{2}$ " strips rear of the chassis. Journal the rear axle in the trunnions, as shown.

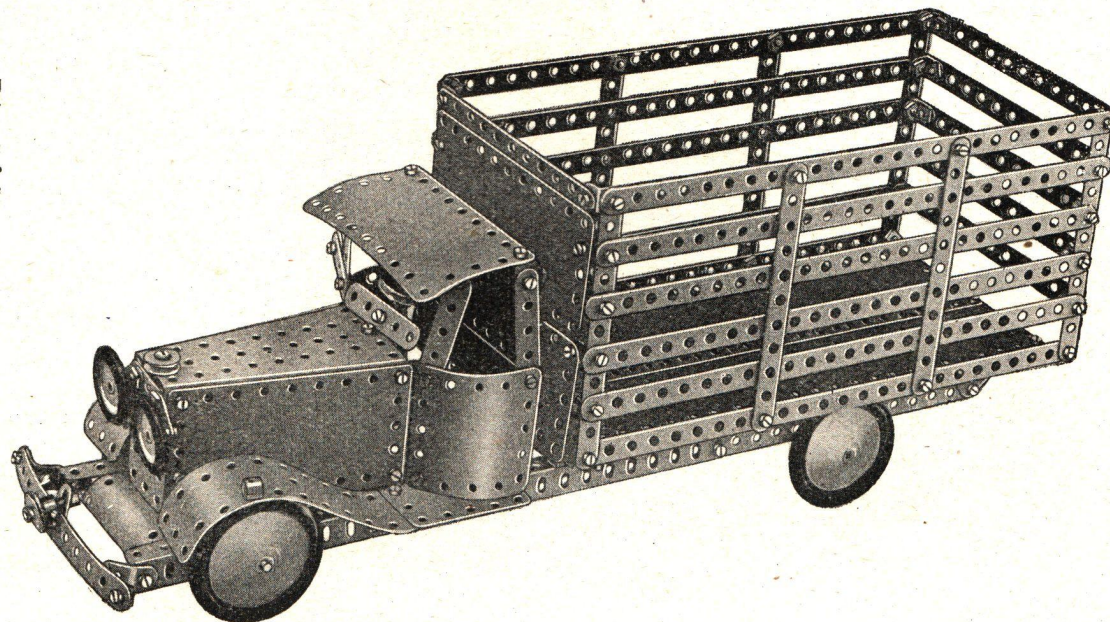
Build up the frame on the tray from two $12\frac{1}{2}$ " angle girders. Join them at one end with a $5\frac{1}{2}$ " strip and at the other with a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate. $5\frac{1}{2}$ " strips form uprights at intervals along the sides and $12\frac{1}{2}$ " strips form the horizontal members. Fix the tray to the chassis with $\frac{1}{2}$ " reversed angle brackets at the front and with trunnions at the rear.

Use $4\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates to form the sides of the bonnet and bolt them to the flanged sector plate which is attached to the $3\frac{1}{2}$ " strips forming the chassis braces. Use a second flanged sector plate as the top of the bonnet. Use a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " flanged plate as the radiator and attach it at top and bottom to the flanged plates. Form the doors from two $1.11/16$ " radius curved plates and fasten them to the side of the bonnet by obtuse angle brackets. Use a hinged flat plate to form the roof and back of the cab.

Bend $5\frac{1}{2}$ " x $1\frac{1}{2}$ " flexible plates to shape to form the mudguards. Support them at the forward ends with a 4" rod fastened in the bonnet with spring clips.

PARTS REQUIRED

6 of No. 1	7 of No. 21	1 of No. 79
14 of No. 2	2 of No. 25	1 of No. 52
2 of No. 3b	2 of No. 28	1 of No. 53
16 of No. 7	4 of No. 32	2 of No. 54
2 of No. 8	9 of No. 34	1 of No. 61
2 of No. 9	2 of No. 37	12 of No. 66
2 of No. 10	6 of No. 41	2 of No. 67
2 of No. 11	4 of No. 45	2 of No. 68
2 of No. 12	2 of No. 46	2 of No. 69
2 of No. 14	3 of No. 47	6 of No. 70
1 of No. 15	2 of No. 49	2 of No. 72
1 of No. 16	1 of No. 50	2 of No. 74
1 of No. 17	2 of No. 51	1 of No. 82





8.21 FIRE COACH AND LADDER

Construct each side member of the chassis by bolting together two Angle Gliders with a $\frac{3}{4}$ " Bolt. Join the side members at the front with a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip and a $5\frac{1}{2}$ " Strip. Do not join the rear Angle Girders but push them as far apart as the $\frac{3}{4}$ " Bolts will permit. The illustrations will make this clear.

Attach $12\frac{1}{2}$ " x $2\frac{1}{2}$ " Strip Plates by Flat Brackets to the rear Angle Girders to form the sides. Secure the four $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates by Angle Brackets to form the roof. Obtain the streamlined back by bending Flexible Plates to shape.

Fasten a Collar on the 5" Rod between the side members of the chassis. Screw a Pivot Bolt with a 1" fast Pulley B against its head into the screwed hole of the Collar. Loosely suspend a Flanged Sector Plate A by a $\frac{3}{8}$ " Bolt from the $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip C. Thus an automatic gong is provided when the wheels revolve. Pulley B will strike the Flanged Sector Plate A.

Build the fire escape ladder from two pairs of compound strips built up from $12\frac{1}{2}$ " Strips overlapped by eight holes. Attach the ladder to the roof of the coach with a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip at the rear and at the front with a compound bracket made up from a Double Bent Strip and 1" x 1" Angle Brackets.

Build the extension ladder from two pairs of compound strips made up from $12\frac{1}{2}$ " Strips overlapped 13 holes. Fasten the extension to the ladder with Flat Brackets.

Place a $\frac{3}{4}$ " Disc, a 1" loose Pulley fitted with a Rubber Ring, a $\frac{1}{2}$ " Disc, and a second 1" loose Pulley on the shank of a $\frac{3}{4}$ " Bolt to represent the searchlight. Fasten the complete unit to the roof by a compound bracket made up from two Obtuse Angle Brackets bolted together.

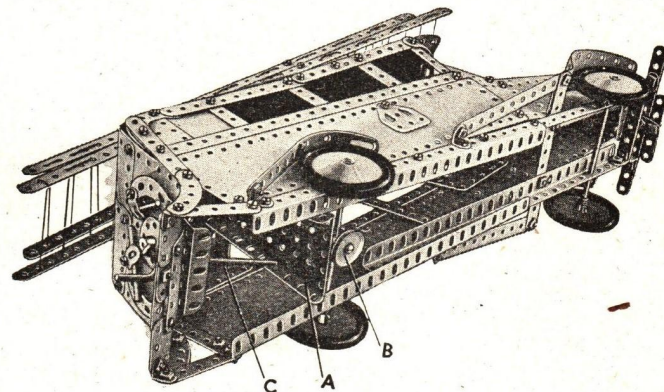
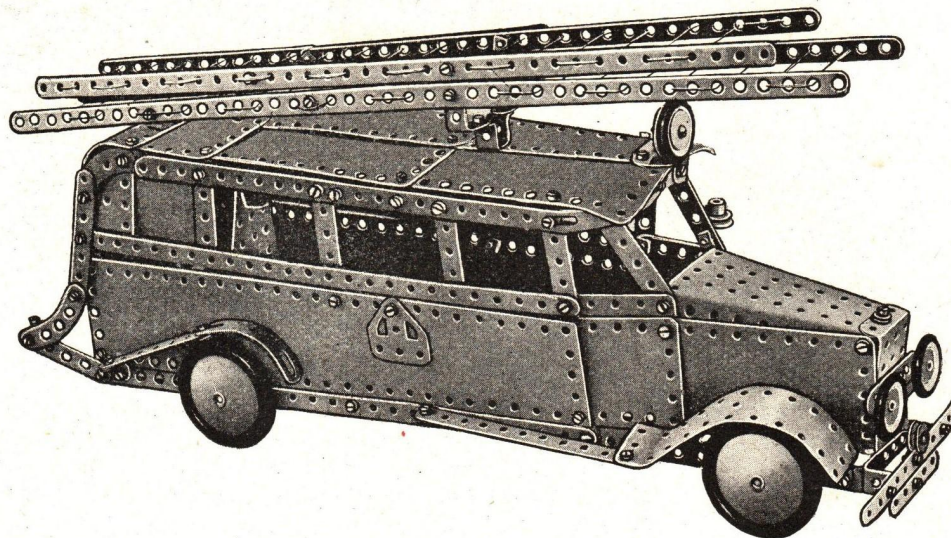


Fig. 8.21A



PARTS REQUIRED

11 of No. 1	2 of No. 28	2 of No. 57
13 of No. 2	4 of No. 32	4 of No. 58
2 of No. 3b	7 of No. 34	2 of No. 60
4 of No. 4	4 of No. 37	2 of No. 61
3 of No. 5	2 of No. 39	1 of No. 65
14 of No. 7	2 of No. 40	10 of No. 66
5 of No. 8	6 of No. 41	4 of No. 67
2 of No. 10	1 of No. 42	2 of No. 68
2 of No. 12	1 of No. 43	2 of No. 69
2 of No. 13	4 of No. 45	4 of No. 70
3 of No. 14	3 of No. 46	2 of No. 72
1 of No. 15	4 of No. 47	1 of No. 74
1 of No. 18	6 of No. 48	1 of No. 79
2 of No. 19	2 of No. 49	1 of No. 80
6 of No. 21	4 of No. 50	1 of No. 82
3 of No. 25	2 of No. 51	2 of No. 85
2 of No. 27	2 of No. 54	

8.2 STEAM TIP-TRUCK

Join two $12\frac{1}{2}$ " Angle Girders by $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips to form the chassis. Attach a Flanged Sector Plate to form the front of the chassis. The end holes of two $2\frac{1}{2}$ " Strips provide bearings for the axle which is a $4\frac{1}{2}$ " Rod. Use a 4" Rod for the front axle and journal it in two Flat Trunnions bolted to the Flanged Sector Plate.

Build up the tray from a base of two Angle Girders joined at the ends with $5\frac{1}{2}$ " Strips. Fill in the bottom with $12\frac{1}{2}$ " Strips. Bolt two $12\frac{1}{2}$ " Strip Plates to the Angle Girders to form the sides. Lock-nut the two $3/8$ " Bolts A to allow the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plate to swing open when the tray is raised.

Assemble the tipping mechanism as follows. Pass a $3\frac{1}{2}$ " Rod through the Angle Girders which form the chassis. This Rod carries a Flat Bracket, a 1" fast Pulley, a 1" loose Pulley and a $\frac{1}{2}$ " loose Pulley. These components are held on the Rod by Spring Clips.

Pass a 2" Rod through holes in two 1" x 1" Angle Brackets bolted underneath the rear of the chassis. This Rod carries a Collar, a 1" fast Pulley, a 1" loose Pulley and a $\frac{1}{2}$ " fast Pulley.

Tie the Cord to a Cord Anchoring Spring on the Crank Handle. Lead it then over the front Rod, over the rear Rod, around the front $\frac{1}{2}$ " loose Pulley, around the rear 1" fast Pulley, around the front 1" loose Pulley, around the rear 1" loose Pulley, around the front 1" fast Pulley, around the rear $\frac{1}{2}$ " fast Pulley and tie it finally to the Flat Bracket on the front Rod.

Construct the boiler from two U-Section Curved Plates. Bolt it to the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate at the front of the cab.

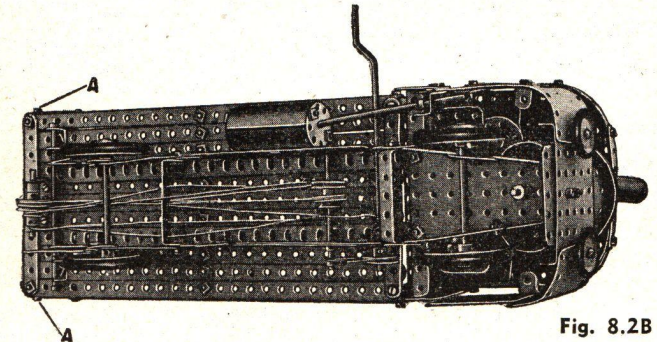
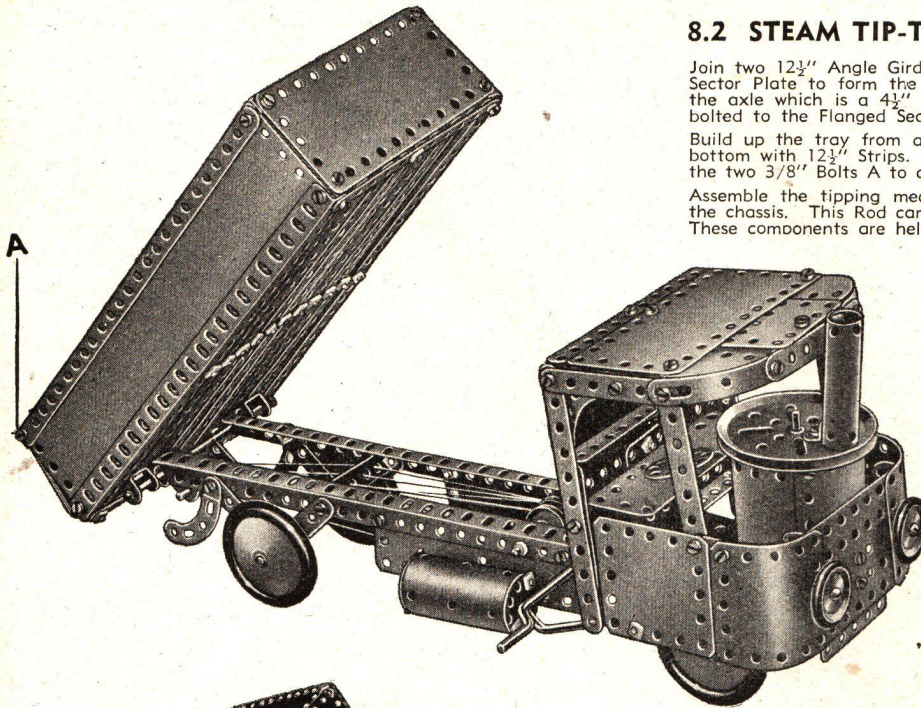


Fig. 8.2B

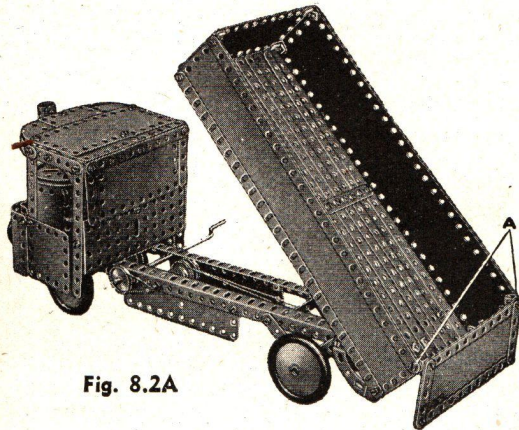
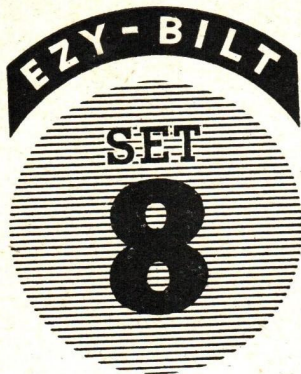


Fig. 8.2A

PARTS REQUIRED

8 of No. 1	5 of No. 14	7 of No. 34	3 of No. 50	1 of No. 65
10 of No. 2	1 of No. 15	2 of No. 37	2 of No. 51	11 of No. 66
2 of No. 3b	1 of No. 16	2 of No. 38	1 of No. 52	1 of No. 67
4 of No. 4	1 of No. 17	2 of No. 40	2 of No. 53	2 of No. 69
3 of No. 5	1 of No. 18	4 of No. 41	2 of No. 54	1 of No. 72
13 of No. 7	1 of No. 19	1 of No. 44	2 of No. 57	1 of No. 73
1 of No. 8	2 of No. 20	4 of No. 45	2 of No. 58	2 of No. 74
3 of No. 9	14 of No. 21	4 of No. 46	1 of No. 59	1 of No. 77
1 of No. 10	2 of No. 25	3 of No. 47	2 of No. 60	1 of No. 78
1 of No. 11	1 of No. 27	3 of No. 48	2 of No. 61	1 of No. 79
2 of No. 12	1 of No. 28	2 of No. 49	1 of No. 62	2 of No. 81
2 of No. 13	4 of No. 32			



8.19 DRAGLINE

Construct the base from two angle girders joined at each end by a $5\frac{1}{2}$ " strip. Fill in the platform with a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate and convenient flexible plates. Lock-nut the bolts B which carry the $1\frac{1}{2}$ " discs. Bolt a 3" pulley wheel to the centre of the $5\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate. Use two $12\frac{1}{2}$ " strip plates to fill in the control platform. Use four reversed angle brackets, secured by bolts A, to attach a 3" pulley under the forward end of the platform. Pass a 4" rod through the upper 3" pulley and lock its lower end in the boss of the pulley bolted to the base. Use a washer and spring clip to hold the platform in position. The 4" rod will then form the pivotal point.

Build up the side of the cab from two $2\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates. Overlap them one hole and fasten them to the angle girder which forms the edge of the platform. Form the rear side of the cab from a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate and a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " flanged plate. Use a $3\frac{1}{2}$ " x $\frac{1}{2}$ " double angle strip to secure the $3\frac{1}{2}$ " x $2\frac{1}{2}$ " flanged plate to the base. Bolt the $2\frac{1}{2}$ " x $1\frac{1}{2}$ " flanged plate in position by its flange. Use a hinged flat plate for the roof of the cab and attach it by obtuse angle brackets to the two $1\frac{1}{2}$ " strips which are bolted to the sides. Use two $1-11/16$ " radius curved plates and two $5\frac{1}{2}$ " x $2\frac{1}{2}$ " flexible plates to form the boiler.

Bend a U-section curved plate so that the ends overlap to form the chimney. Pass a bolt through the overlapping portions of the chimney and attach to it an angle bracket inside the chimney. Slip a

$6\frac{1}{2}$ " rod through the angle bracket and lock it in the boss of the road wheel. Place the chimney and road wheel over the boiler so that the lower end of the $6\frac{1}{2}$ " rod passes through the flanged sector plate at the base. Use a spring clip to hold the rod in position. Construct the jib by bolting $12\frac{1}{2}$ " strips end to end. Pivot the lower end on the 6" rod. Tie a cord to the cab and lead it over a 1" fast pulley on a 2" rod which is journaled in the jib. The cord holds the jib at an angle of about 30 degrees. Lead the cord then through holes in the angle girders which form the sides of the platform and over a 1" pulley on the 2" rod. Tie the cord then to the cab.

Control the movement of the bucket from the crank handle held in the sides of the cab. Wind the cord a few times around the crank handle shaft. Lead it over a $4\frac{1}{2}$ " rod held in the jib. Tie the cord then to the front of the bucket. Lead the other end of the cord around a 1" fast pulley on the rod at the end of the jib. Take it then through the pulley block at the back of the bucket. Tie it then to the flat bracket on the 2" rod which is secured in the jib.

PARTS REQUIRED

8 of No.	1
12 of No.	2
2 of No.	4
3 of No.	5
2 of No.	5a
3 of No.	7
2 of No.	8
2 of No.	9
4 of No.	10
4 of No.	12
2 of No.	13
4 of No.	14
1 of No.	16
1 of No.	17

1 of No.	19
2 of No.	20
1 of No.	20a
5 of No.	21
1 of No.	27
2 of No.	28
2 of No.	32
7 of No.	34
1 of No.	36
3 of No.	37
1 of No.	38
2 of No.	40
6 of No.	41
1 of No.	43
4 of No.	45
4 of No.	47
4 of No.	48
4 of No.	50
2 of No.	51
1 of No.	52
1 of No.	53
2 of No.	54
1 of No.	59
4 of No.	60
2 of No.	65
12 of No.	66
2 of No.	67
2 of No.	68
2 of No.	70
1 of No.	72
2 of No.	74
1 of No.	76
2 of No.	77
1 of No.	78
1 of No.	81
1 of No.	82

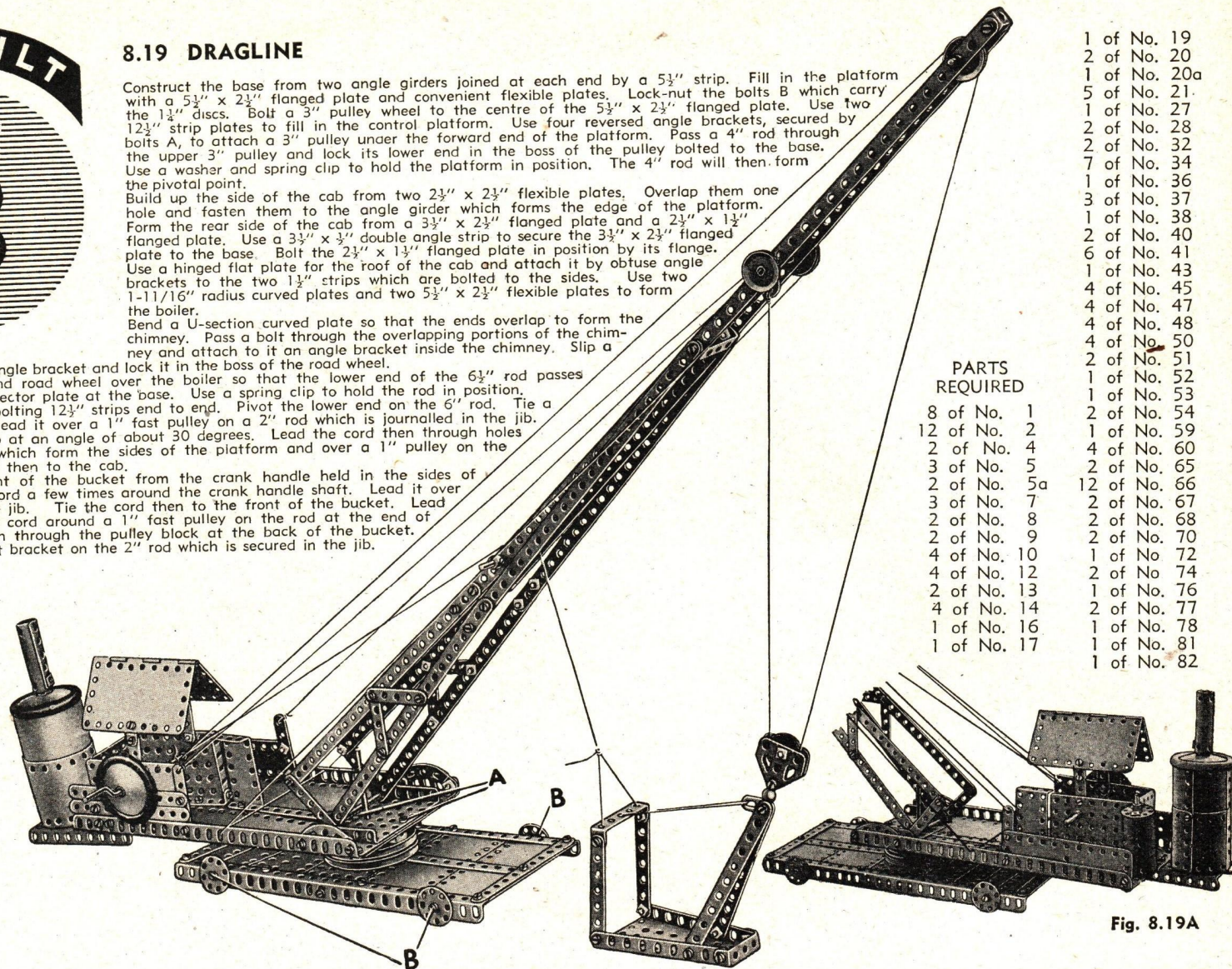


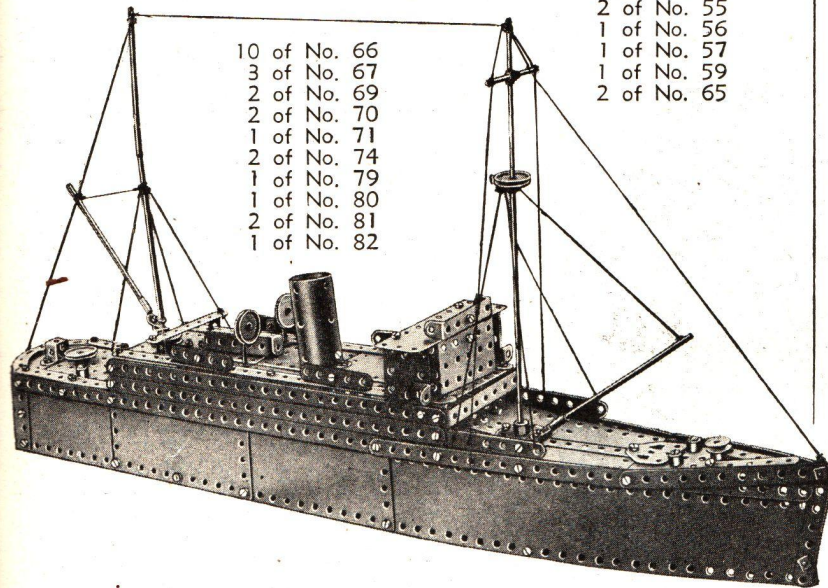
Fig. 8.19A

8.10 LUXURY YACHT

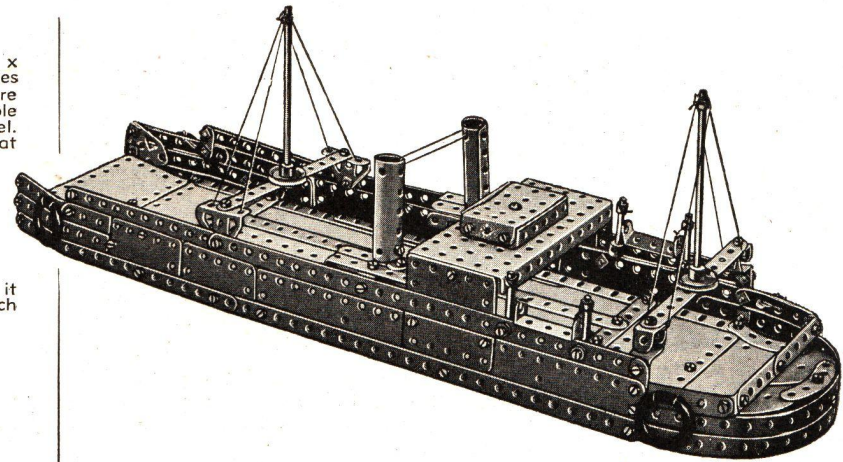
Use 2 Angle Girders braced by 2 $5\frac{1}{2}$ " Strips in form of an X as hull base. Use $12\frac{1}{2}$ " x $2\frac{1}{2}$ " Strip Plates which overlap Angle Girders by 10 holes, and $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates bolted to Angle Girder as sides of hull. Separate halves of a Hinged Flat Plate are used as the rear plates of each side of hull. Form the stern from 2 $5\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates. 2 $3\frac{1}{2}$ " Strips connect the $12\frac{1}{2}$ " x $2\frac{1}{2}$ " Strip Plates and form stern of vessel. Shape boat with $5\frac{1}{2}$ " Strips. Build the superstructure from $12\frac{1}{2}$ " Strips. Fasten at each end to $2\frac{1}{2}$ " Strips. Fill in boat deck at each end with $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate and centre portions with Flexible Plates. Insert 3" Screwed Rods in bosses of 1" pulleys and lock the Rods to the deck to form ventilators. Form front of wheelhouse by securing a $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flanged Plate by Angle Brackets to the $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates of roof. Use $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates as side supports and fasten them to the roof with 2 Trunnions. Construct foredeck by extending a Flanged Sector Plate with 2 $5\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates and a $5\frac{1}{2}$ " Strip. Secure Flexible Plate by 1" x 1" Angle Brackets bolted by $\frac{1}{2}$ " x $\frac{1}{2}$ " Angle Brackets to a $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate which forms bottom of wheelhouse. Use a $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plate to form aft deck. Fix it to the boat deck by a $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strip, use a Semi-Circular Plate to attach it to stern.

PARTS REQUIRED

12 of No. 1	2 of No. 11	1 of No. 27
9 of No. 2	1 of No. 12	1 of No. 28
2 of No. 4	5 of No. 14	3 of No. 34
5 of No. 5	1 of No. 16	4 of No. 37
14 of No. 7	1 of No. 17	2 of No. 38
2 of No. 8	2 of No. 19	2 of No. 40
4 of No. 9	1 of No. 20a	6 of No. 41
2 of No. 10	7 of No. 21	1 of No. 42



10 of No. 66
3 of No. 67
2 of No. 69
2 of No. 70
1 of No. 71
2 of No. 74
1 of No. 79
1 of No. 80
2 of No. 81
1 of No. 82



8.20 CARGO FERRY

Bolt four Angle Girders together to form two $17\frac{1}{2}$ " compound angle girders which form the base of the Hull. Connect them with two $5\frac{1}{2}$ " Strips. Use $5\frac{1}{2}$ " x $1\frac{1}{2}$ " and $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates bolted to the framework to form the sides of the vessel. Strengthen them at the bottoms with $12\frac{1}{2}$ " Strips.

Form the bows by bending $12\frac{1}{2}$ " Strips to shape. Form a square stern by using Strips to extend the sides and then joining them with $2\frac{1}{2}$ " Strips.

A $5\frac{1}{2}$ " x $2\frac{1}{2}$ " Base Plate forms the bridge. Support it by two $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plates which are bolted to the hull. Form the funnels from U-Section Curved Plates. Build up the funnel supports from $2\frac{1}{2}$ " x $\frac{1}{2}$ " Double Angle Strips and $2\frac{1}{2}$ " Strips bolted to 1" x 1" Angle Brackets. Bolt the completed assemblies to the sides with Double Brackets.

PARTS REQUIRED

10 of No. 1	2 of No. 11	1 of No. 39	2 of No. 53
10 of No. 2	2 of No. 12	3 of No. 41	2 of No. 57
2 of No. 3b	2 of No. 14	4 of No. 45	9 of No. 66
8 of No. 5	1 of No. 17	4 of No. 46	4 of No. 67
2 of No. 5a	8 of No. 21	4 of No. 47	2 of No. 69
9 of No. 7	4 of No. 25	2 of No. 48	2 of No. 72
7 of No. 8	1 of No. 27	2 of No. 49	4 of No. 75
4 of No. 9	9 of No. 34	2 of No. 50	1 of No. 82
2 of No. 10	4 of No. 37	2 of No. 51	1 of No. 83

8.5 JOY-PLANES

Bolt two 12½" Strips to the Angle Girders forming the tower to form the model's base. Across the lower ends of these Angle Girders also, bolt two 5½" Strips, and fix a 5½" x 2½" Flanged Plate between them. Using a Flat Bracket, extend the Flanged Plate on the inside by attaching to it a 2½" x 3½" Flanged Plate. A 1" x 1" Angle Bracket and a Double Bracket are used to attach this 3½" x 2½" Flanged Plate to the 12½" base Strip.

To construct the Boiler bolt together two 5½" x 2½" Flexible Plates extended by two Curved Plates of 1-11/16" radius. Then curve to shape and bolt the ends together. Fix the boiler to the model's side. Fasten the Road Wheel to a 3" Screwed Rod, lock-nut this to a Flat Bracket, and, in turn, bolt this to a 1" x 1" Angle Bracket inside the boiler.

Fit the 2½" Cylinder carrying the Angle Bracket on its inside to the Screwed Rod, holding it in place by a Nut.

Fix a 1" fast pulley to a 5" Crank Handle journalled in the side of the tower. Connect this pulley by a Driving Band to a 3" Pulley on the 3½" Rod carrying the Pulley A (Fig. 8.5A). Fit to Pulley A a Rubber Ring, so that it contacts the rim of the Road Wheel at the bottom of the main shaft. With Angle Brackets fasten the arms carrying the aeroplanes to a 3" Pulley on the main shaft. These are supported by Cords.

A 1½" Rod and a 6" Rod joined by a Rod Connector B form the main shaft.

The diagram clearly illustrates the construction of the aeroplanes. To make the fuselage of the aeroplane in the left foreground, bolt two U-Section Curved Plates together at the tail. To form the engine attach a 1" loose Pulley to the fuselage with an Angle Bracket. Make the wing by bolting two 5½" strips to an Angle Bracket and a Double Bracket fastened to the sides of the fuselage.

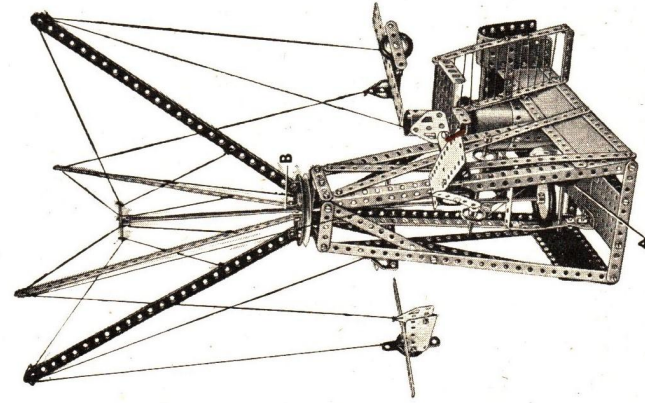
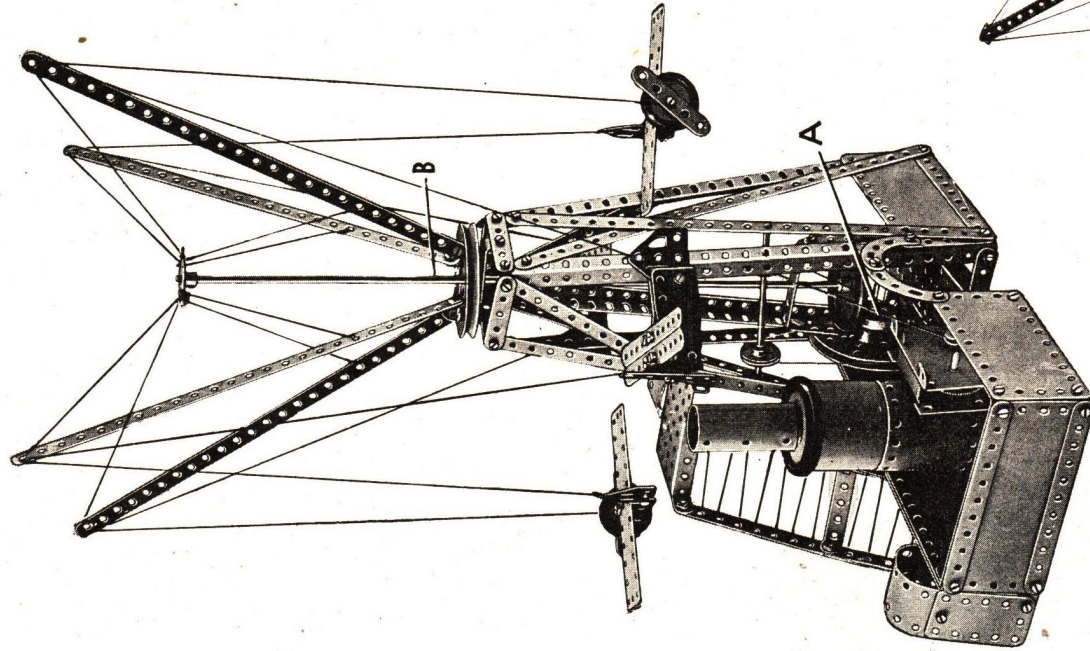


Fig. 8.5A

PARTS REQUIRED

12 of No. 1	1 of No. 20a	1 of No. 51
12 of No. 2	4 of No. 25	2 of No. 53
2 of No. 3b	2 of No. 27	2 of No. 54
2 of No. 4	1 of No. 28	1 of No. 56
8 of No. 5	2 of No. 32	1 of No. 59
2 of No. 5a	4 of No. 34	2 of No. 62
15 of No. 7	4 of No. 37	2 of No. 65
3 of No. 8	1 of No. 38	11 of No. 66
4 of No. 9	2 of No. 39	4 of No. 67
2 of No. 11	2 of No. 40	1 of No. 68
4 of No. 12	6 of No. 41	2 of No. 69
2 of No. 13	4 of No. 45	1 of No. 71
5 of No. 14	3 of No. 46	1 of No. 72
1 of No. 16	3 of No. 47	2 of No. 77
1 of No. 17	1 of No. 49	1 of No. 79
1 of No. 20	4 of No. 50	

8.12 OBSERVATION TOWER

Use $3\frac{1}{2}$ " x $2\frac{1}{2}$ " Flanged Plates as two sides of the lower platform of the tower and attach them to the frame by Reversed Angle Brackets. For the other two sides use a $2\frac{1}{2}$ " x $2\frac{1}{2}$ " Flexible Plate and $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plate bolted together. Overlap the two sides and attach them also with Reversed Angle Brackets. Bolt together three $5\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates to form the top platform and attach them to the top of the frame by 1 " x 1 " Angle Brackets. Form the apex by slightly curving four $2\frac{1}{2}$ " Strips and bolting them by Obtuse Angle Brackets to the $5\frac{1}{2}$ " x $1\frac{1}{2}$ " Flexible Plates.

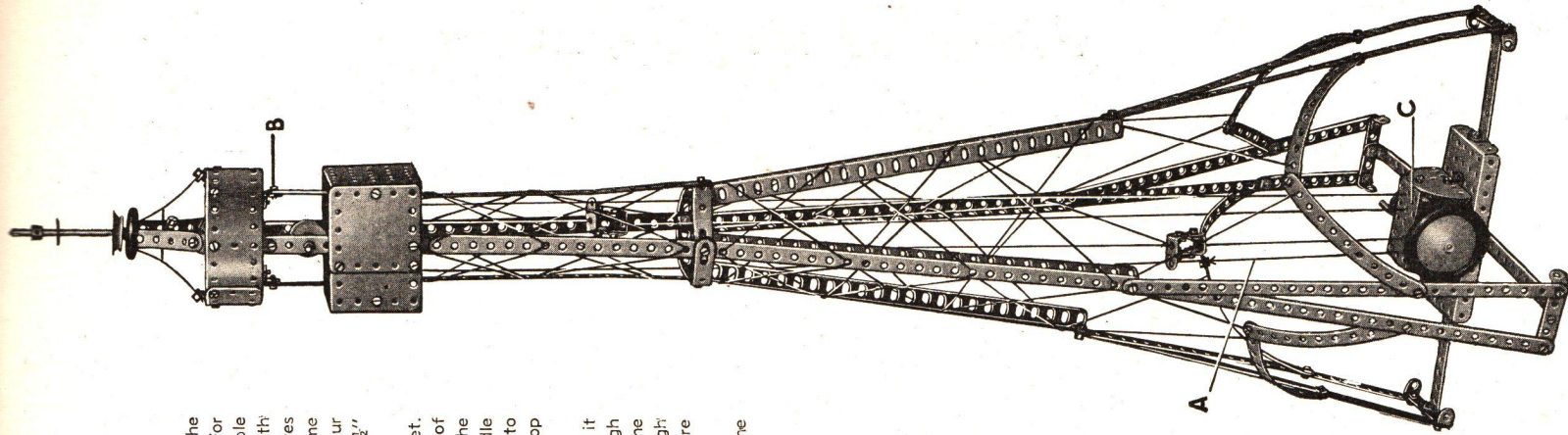
Construct the elevators by bolting two Double Brackets to a Flat Bracket. Fasten an Angle Bracket to receive the guide Cord A. Use two Cords of equal length to form the operating cable. Tie the first of these to the bottom of one elevator, lead it round a 1 " Pulley on the Crank Handle and tie it to the bottom of the other elevator. Tie the second Cord to the top of one of the elevators, lead it over the 1 " Pulley at the top of the tower, then tie it to the top of the other elevator.

Anchor a guide cord to a Washer at the top of the tower and lead it through the Angle Bracket on one of the elevators, then take it through the end holes of the $2\frac{1}{2}$ " x $1\frac{1}{2}$ " Flanged Plate C, across the back of the plate to corresponding holes on the other side. Lead the Cord through the Angle Bracket of the second elevator, to the top of the tower, where it is tied.

Space the elevators on the Cord so that one elevator is at the top of the tower when the other is at the bottom.

PARTS REQUIRED

4 of No. 1	1 of No. 18	3 of No. 48
10 of No. 2	1 of No. 19	1 of No. 56
1 of No. 3b	1 of No. 20	2 of No. 57
8 of No. 5	4 of No. 21	4 of No. 58
6 of No. 7	1 of No. 25	1 of No. 60
4 of No. 8	2 of No. 27	1 of No. 61
4 of No. 9	1 of No. 32	2 of No. 65
4 of No. 10	5 of No. 34	12 of No. 66
2 of No. 11	2 of No. 37	2 of No. 69
2 of No. 13	1 of No. 39	4 of No. 70
3 of No. 14	4 of No. 45	1 of No. 72
1 of No. 16	1 of No. 46	2 of No. 81
1 of No. 17	3 of No. 47	1 of No. 82



DIARY OF MODELS BUILT

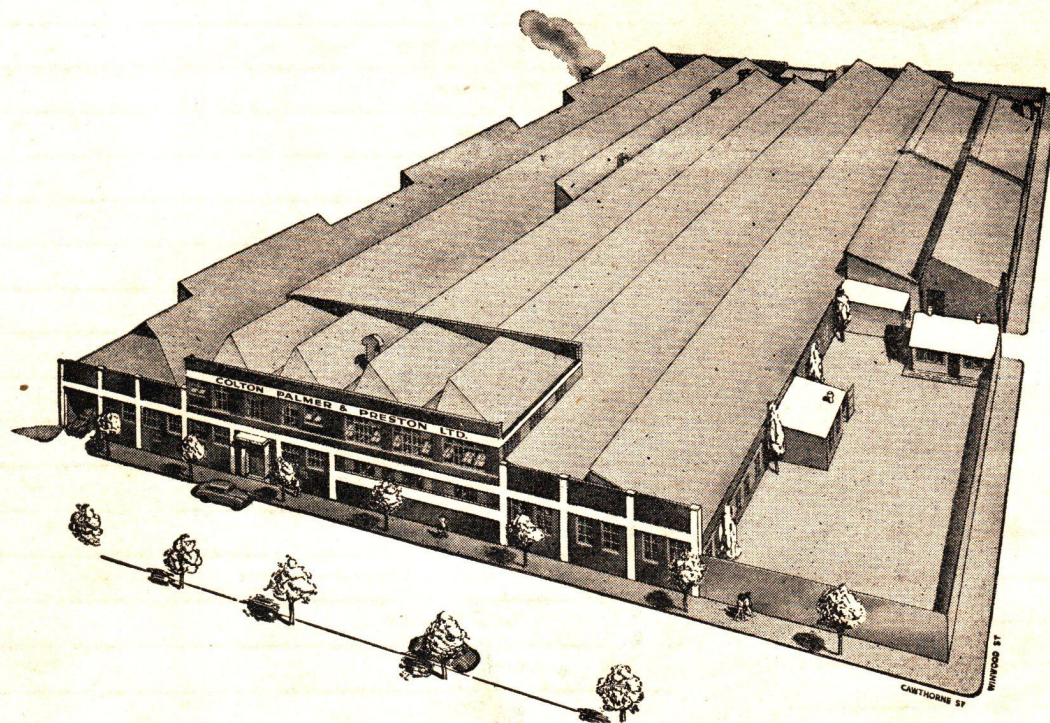
No.	MODEL	DATE BUILT
6-1	Record-Breaker	
6-2	Flat-Top	
6-3	Ship's Engine	
6-4	Swivelling Crane	
6-5	Child's Swing	
6-6	Surgery Chair	
6-7	Balance Scales	
6-8	Tram Repair Waggon	
6-9	Generating Plant	
6-10	Trotting Gig	
6-11	Steam Car and Waggon	
6-12	Air-Sea Rescue Plane	
6-13	Air Force Lorry	
6-14	Navy Cruiser	
6-15	Long-Range Gun	
6-16	Fire Engine and Ladder	
6-17	Monoplane	
6-18	Load Placing Crane	
6-19	Combat Tank	
6-20	Merry-Go-Round	
6-21	Windmill Pumping Plant	
6-22	Tractor and Plough	
6-23	Dredger Ship	

No.	MODEL	DATE BUILT
6-24	Under-Sea Craft	
6-25	Flying Fox	
6-26	Road Racer	
6-27	Paddle Steamer	
6-28	Workshop Drill	
6-29	Mechanical Shovel	
6-30	Elevated Cabin Crane	
6-31	Overhead Crane	
6-32	Steam Locomotive	
6-33	Giant Revolving Crane	
6-34	Combat Bi-Plane	
6-35	Signal Bridge	
6-36	Vertical Lift Bridge	
6-37	Speed Car	
6-38	Road Locomotive	
6-39	Frigate	
6-40	Giant Steam Waggon	
6-41	Sidecar Outfit	
6-42	Double Action Trolley Car	
6-43	Steam Power Unit	
6-44	Swing Boats	
6-45	Market Gardener's Lorry	
6-46	Electric Tram	

DIARY OF MODELS BUILT

No.	MODEL	DATE BUILT
7-1	Float Plane	
7-2	Tanker Lorry	
7-3	Shipyard Crane	
7-4	Fly-About	
7-5	Overhead Trolley Crane	
7-6	Streamlined Coach	
7-7	Round-About	
7-8	Tower Bridge	
7-9	Railway Wreck Crane	
7-10	Electric Flyer	
7-11	Pumping Plant	
7-12	Helicopter	
7-13	Power Loading Platform	
7-14	Giant Turret Tank	
7-15	Contractor's Crane	
7-16	Tower Elevator	
7-17	Ferris Wheel	
7-18	Moat Bridge	
7-19	Mineshaft Gear	
7-20	Gardener's Lorry	
8-1	Air Liner	
8-2	Steam Tip-Truck	
8-3	Cattle Lorry	

No.	MODEL	DATE BUILT
8-4	Servicing Lorry	
8-5	Joy Planes	
8-6	Removal Van	
8-7	Steam Lorry	
8-8	Desert Fort	
8-9	Trolley Car	
8-10	Luxury Yacht	
8-11	Tripod Crane	
8-12	Observation Tower	
8-13	Tri-Car and Trailer	
8-14	Harbor Bridge	
8-15	Golden Hind	
8-16	Sir Malcolm Campbell's Bluebird	
8-17	Dutch Windmill	
8-18	Chair-A-Wheel	
8-19	Dragline	
8-20	Cargo Ferry	
8-21	Fire Coach and Ladder	
8-22	Navy Flying Boat	
8-23	Jig-Saw	
8-24	Electric Tractor and Trucks	
8-25	Cable Repair Waggon	



THE HOME OF EZY-BILT

Here you see an aerial impression of the modern, three-acre Ezy-Bilt factory. Ezy-Bilt Toys are manufactured here solely by Colton, Palmer and Preston Ltd., Cawthorne Street, Southwark, South Australia.