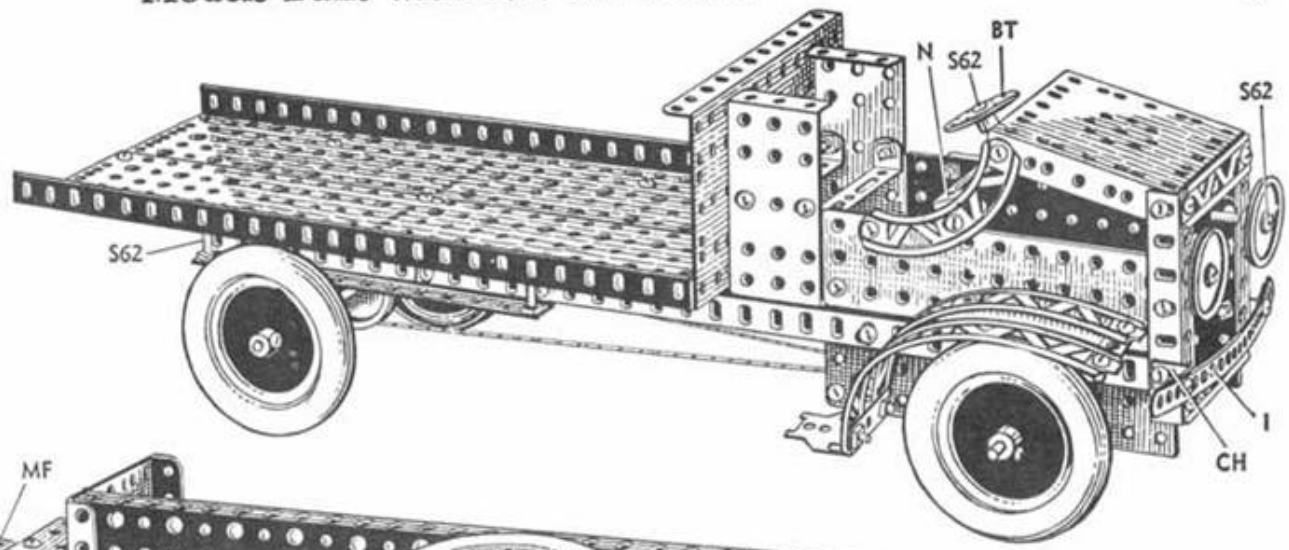
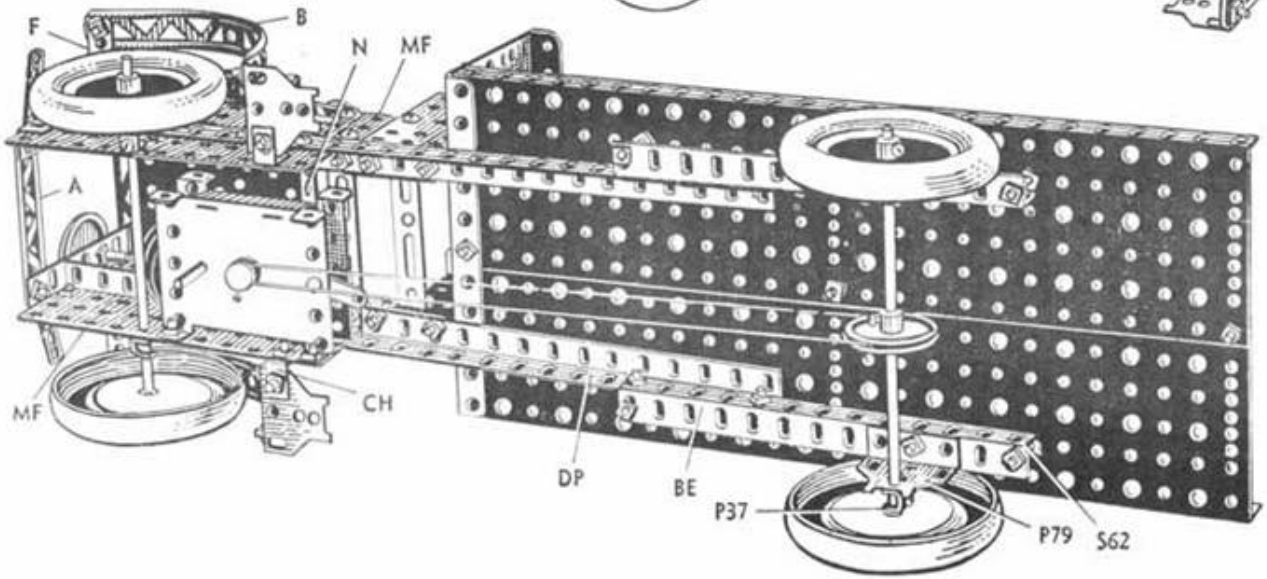
Models Built with No. 4½ Erector

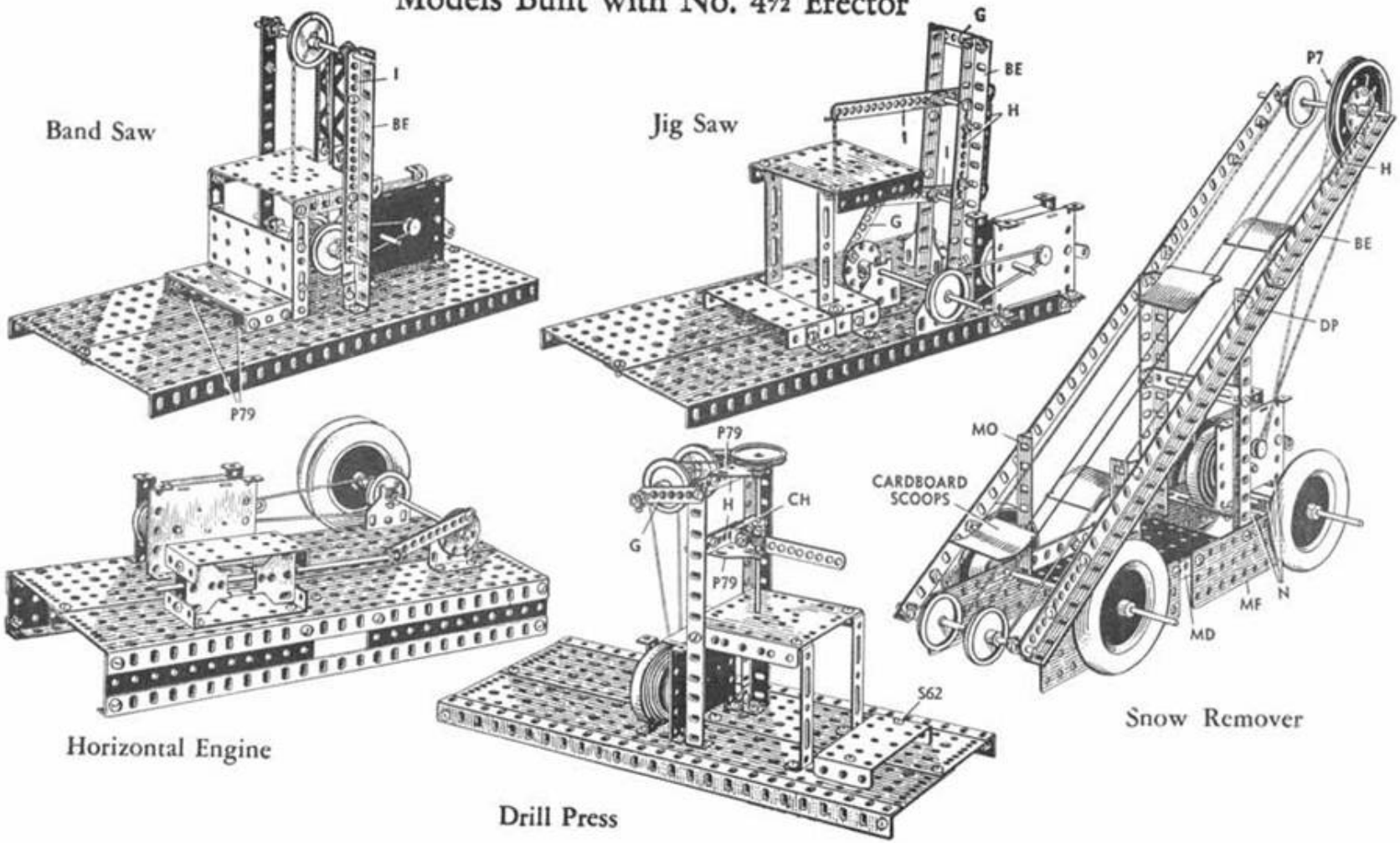
Heavy
Flat Truck



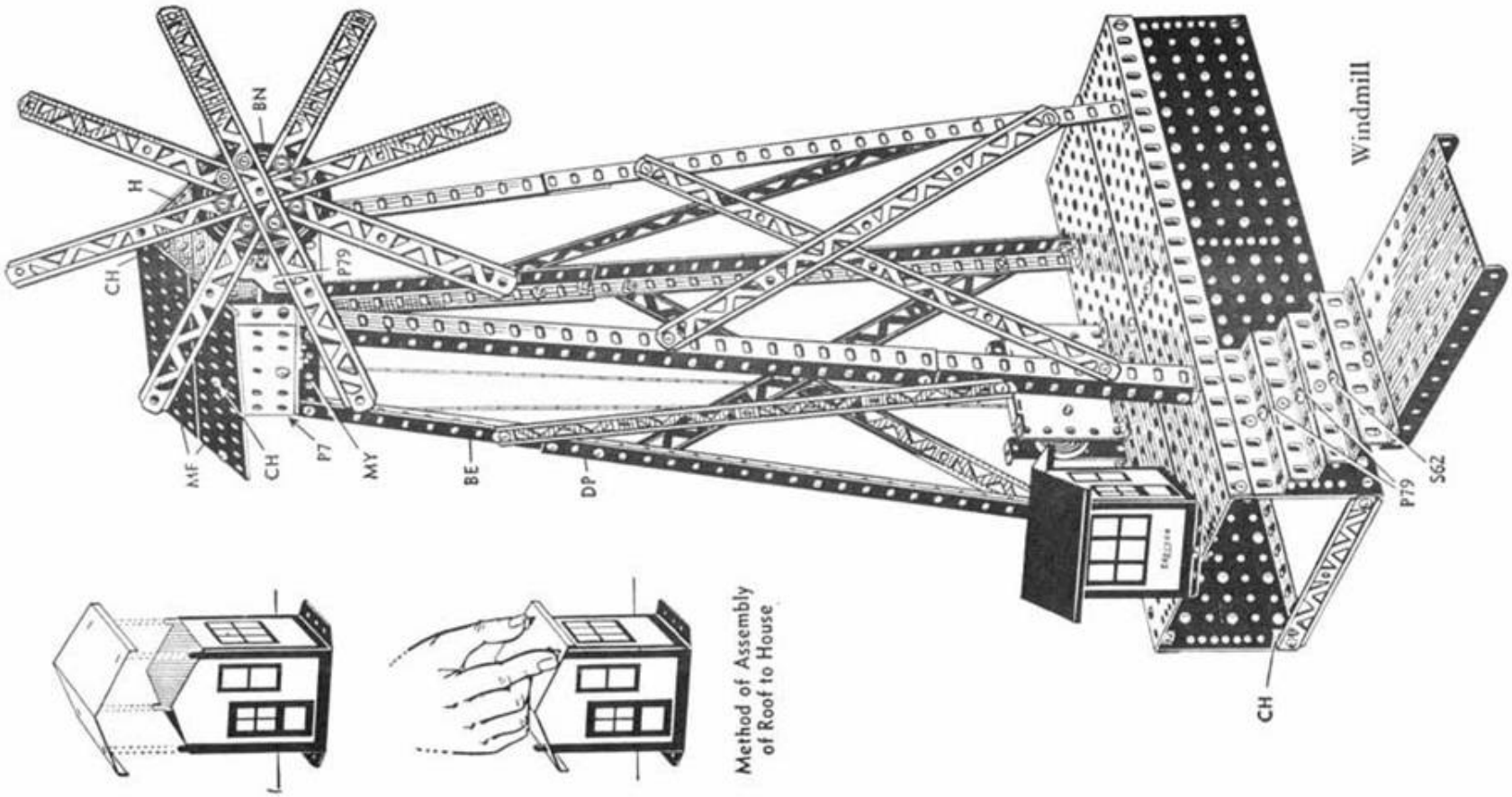


Heavy
Flat Truck
Bottom View

Models Built with No. 4½ Erector

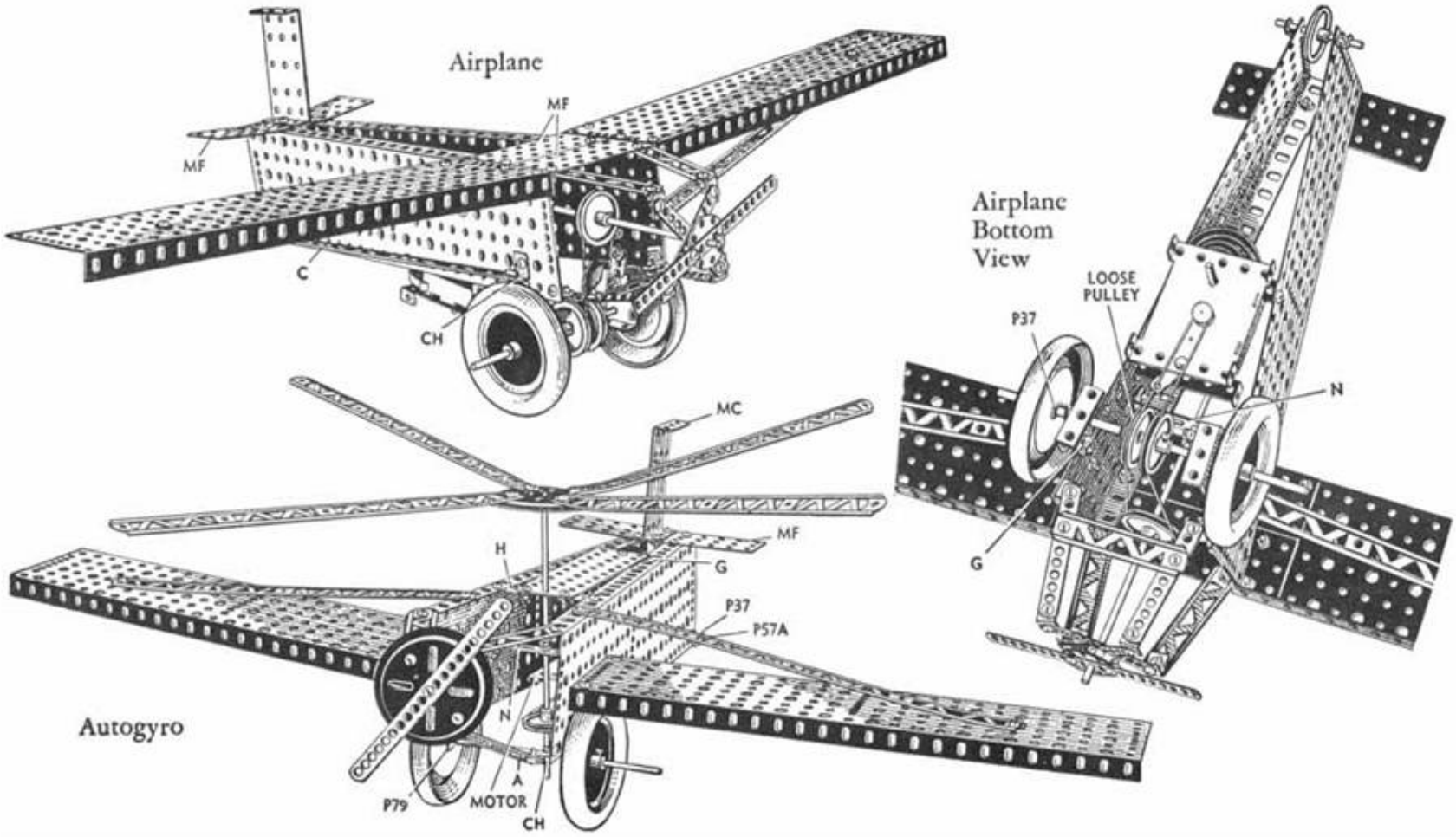


Models Built with No. 4½ Erector

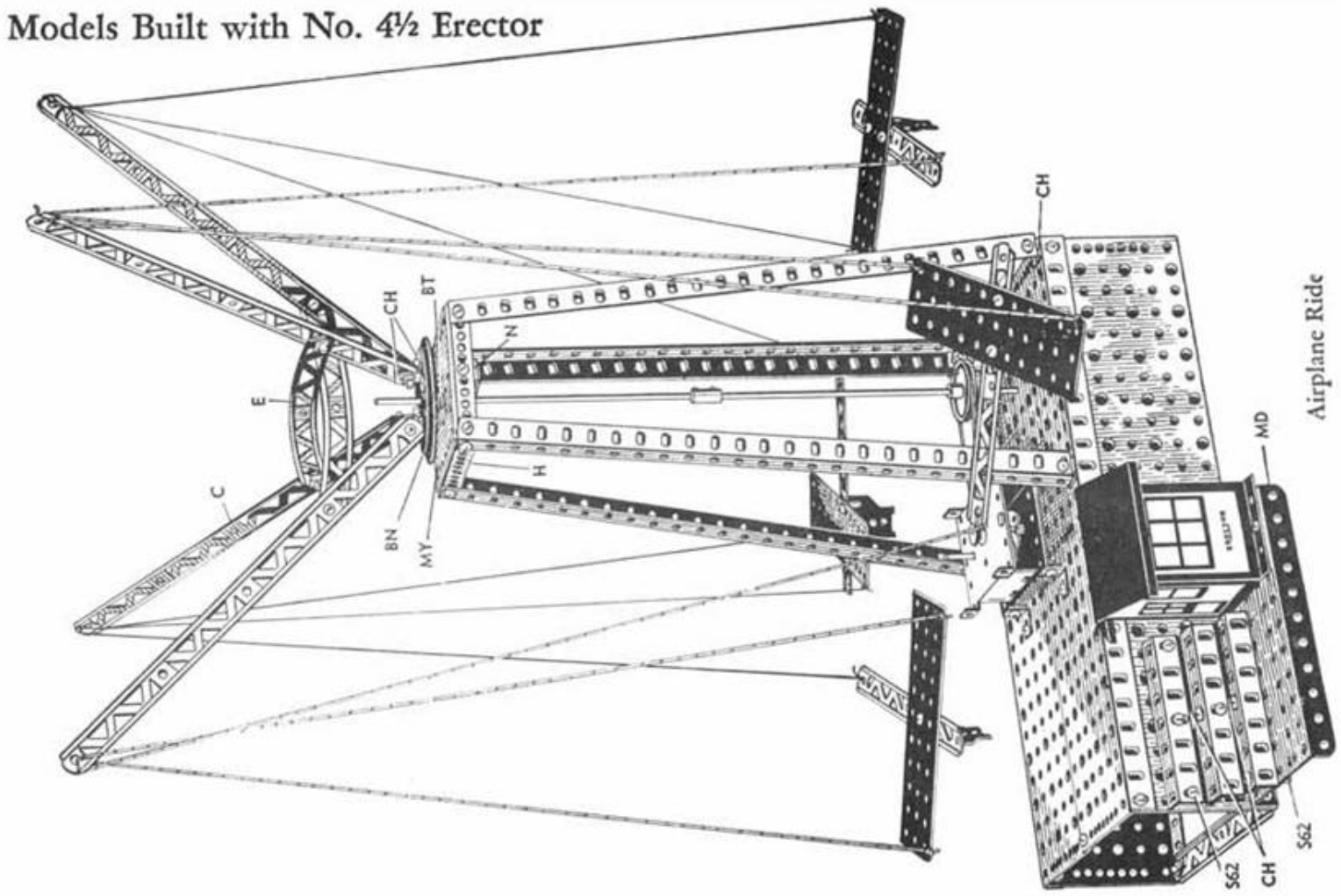


Method of Assembly of Roof to House

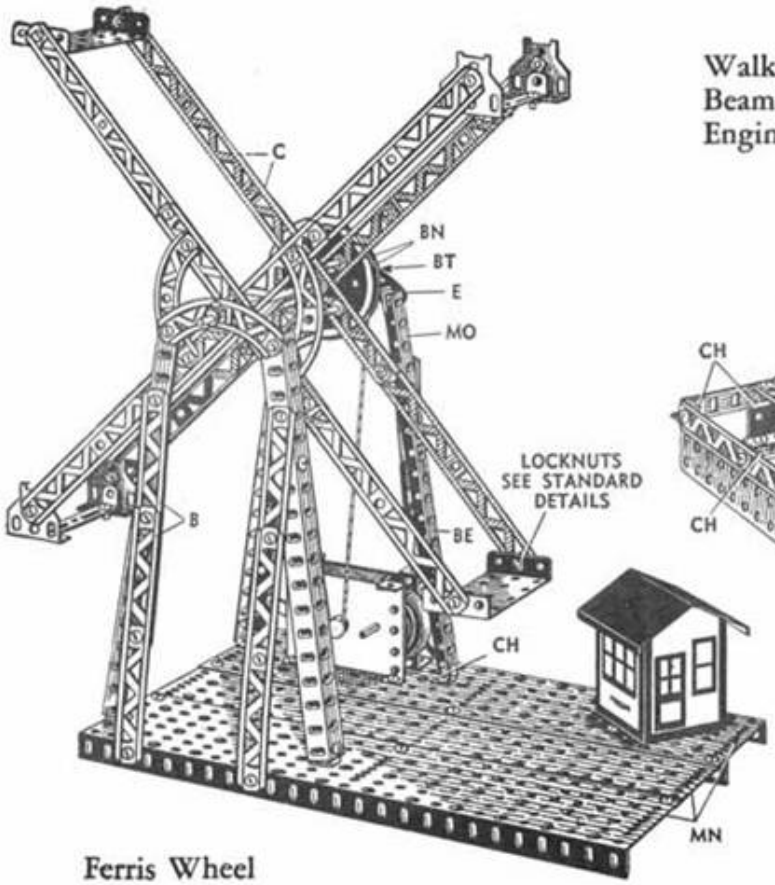
Models Built with No. 4½ Erector



Models Built with No. 4½ Erector

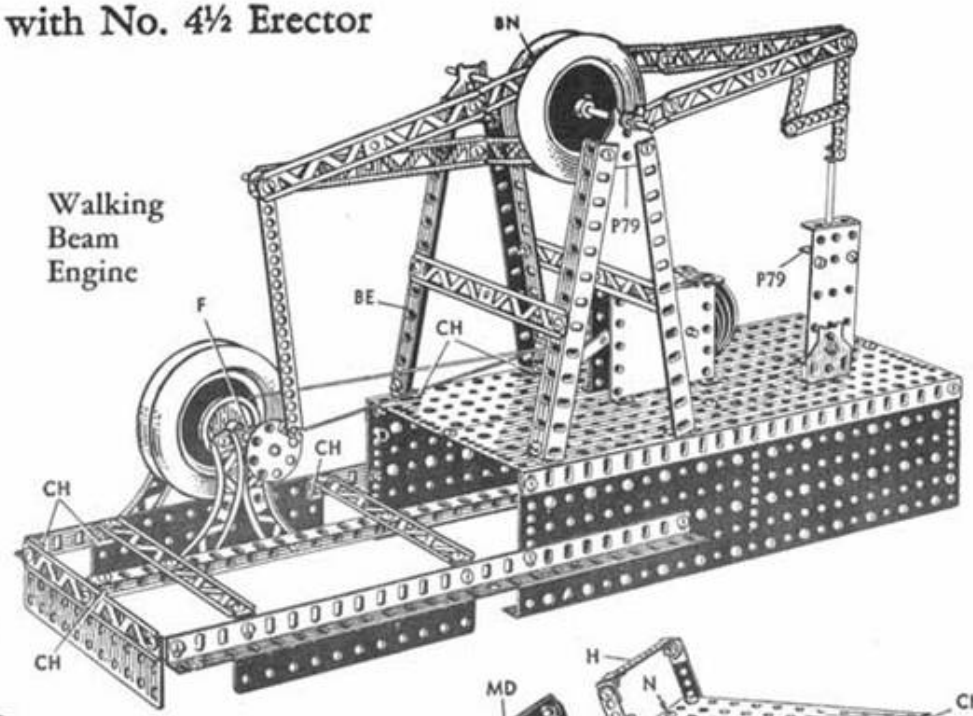


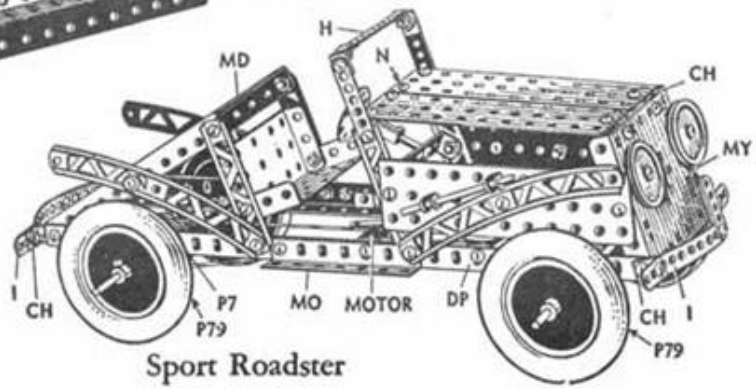
Models Built with No. 4½ Erector



Ferris Wheel

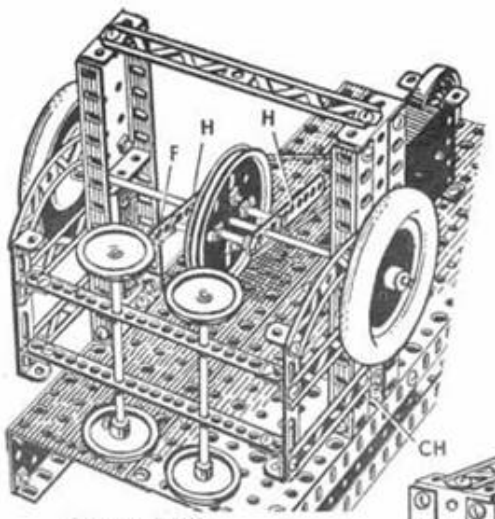
Walking Beam Engine



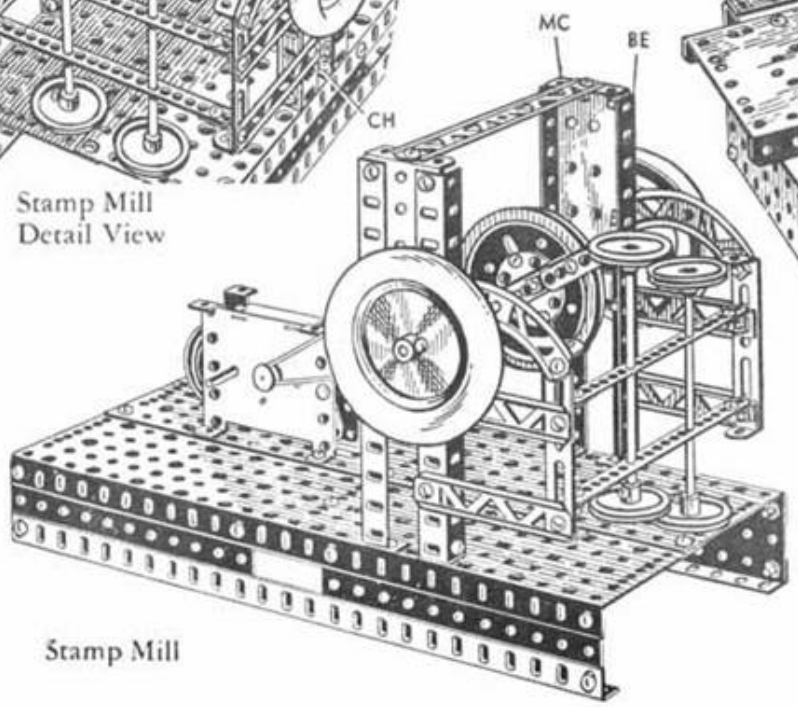


Sport Roadster

Models Built with No. 4½ Erector

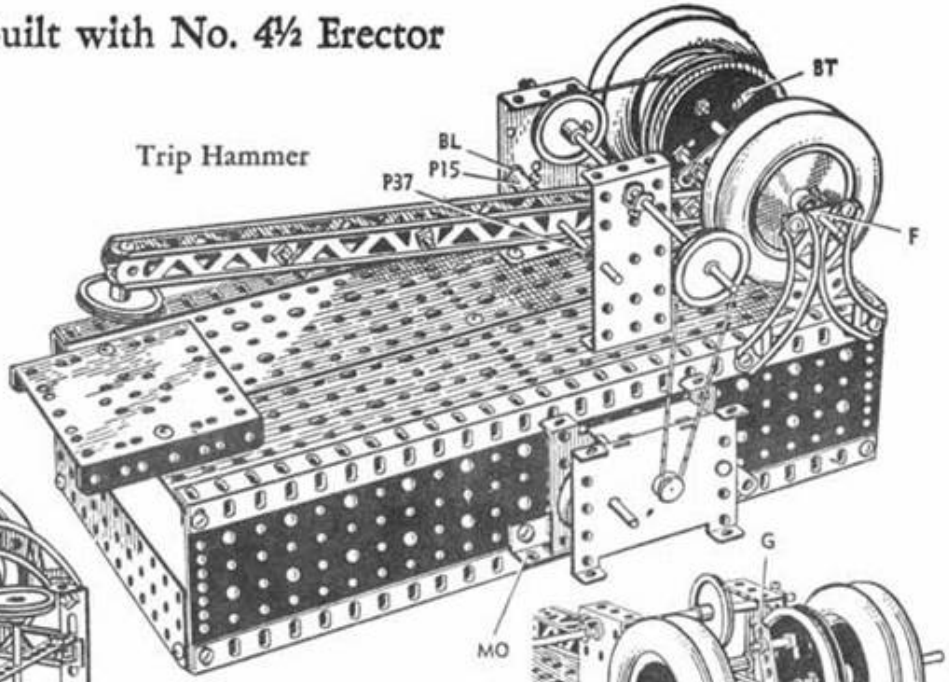


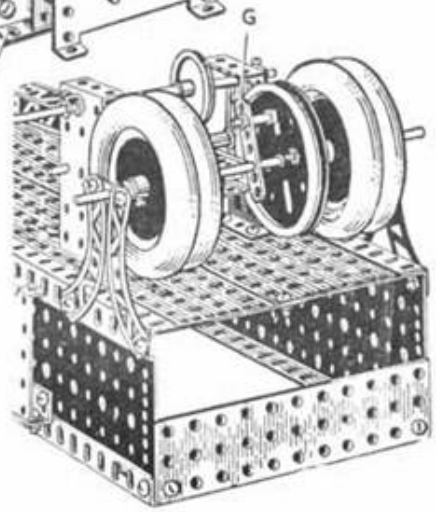
Stamp Mill
Detail View



Stamp Mill

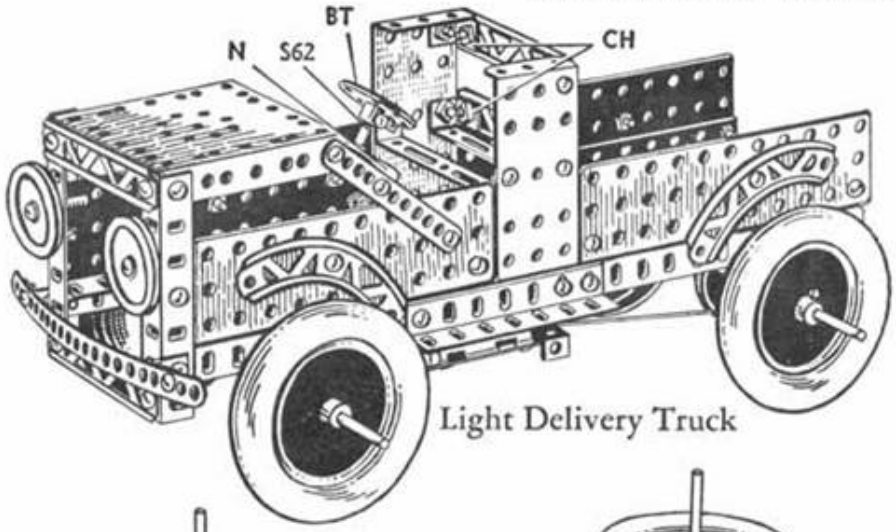
Trip Hammer



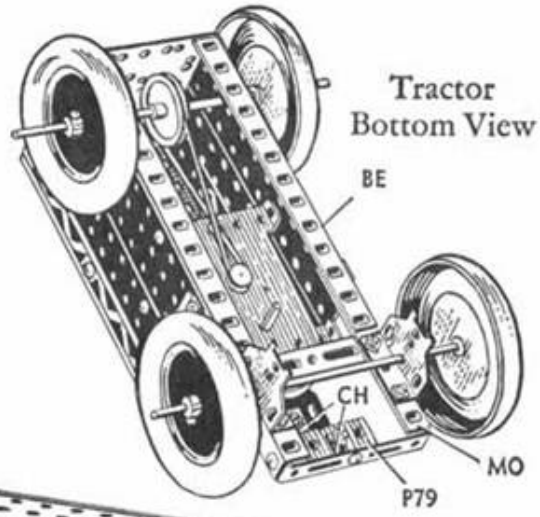


Trip
Hammer
End View

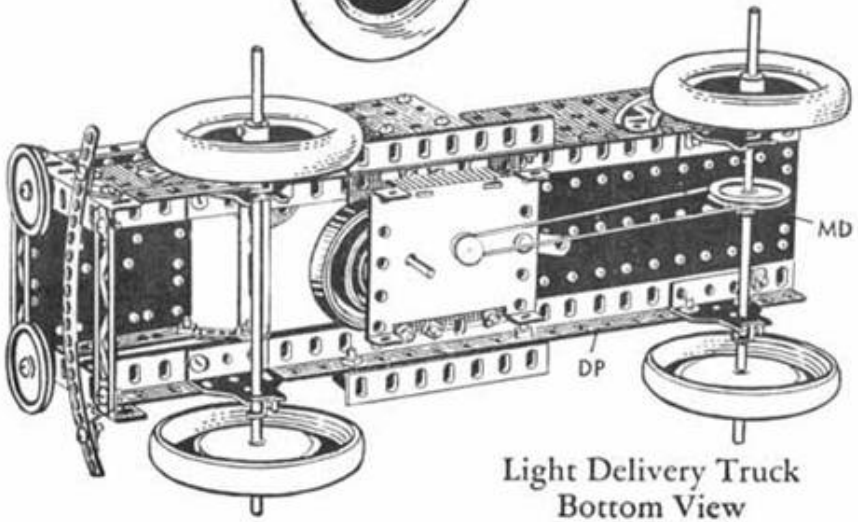
Models Built with No. 4½ Erector



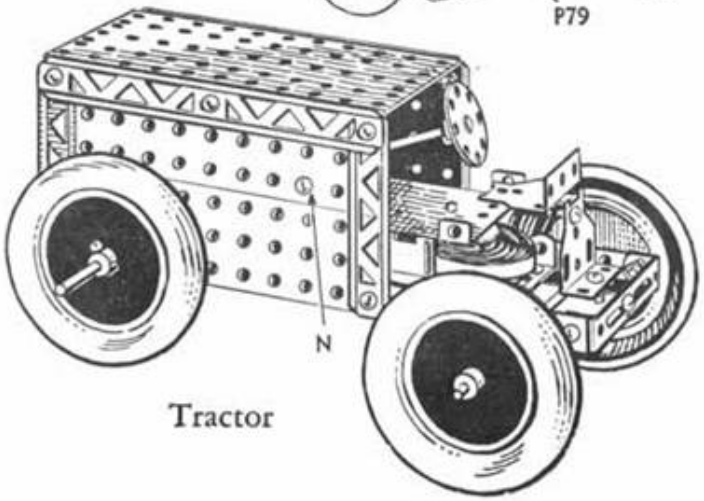
Light Delivery Truck



Tractor
Bottom View

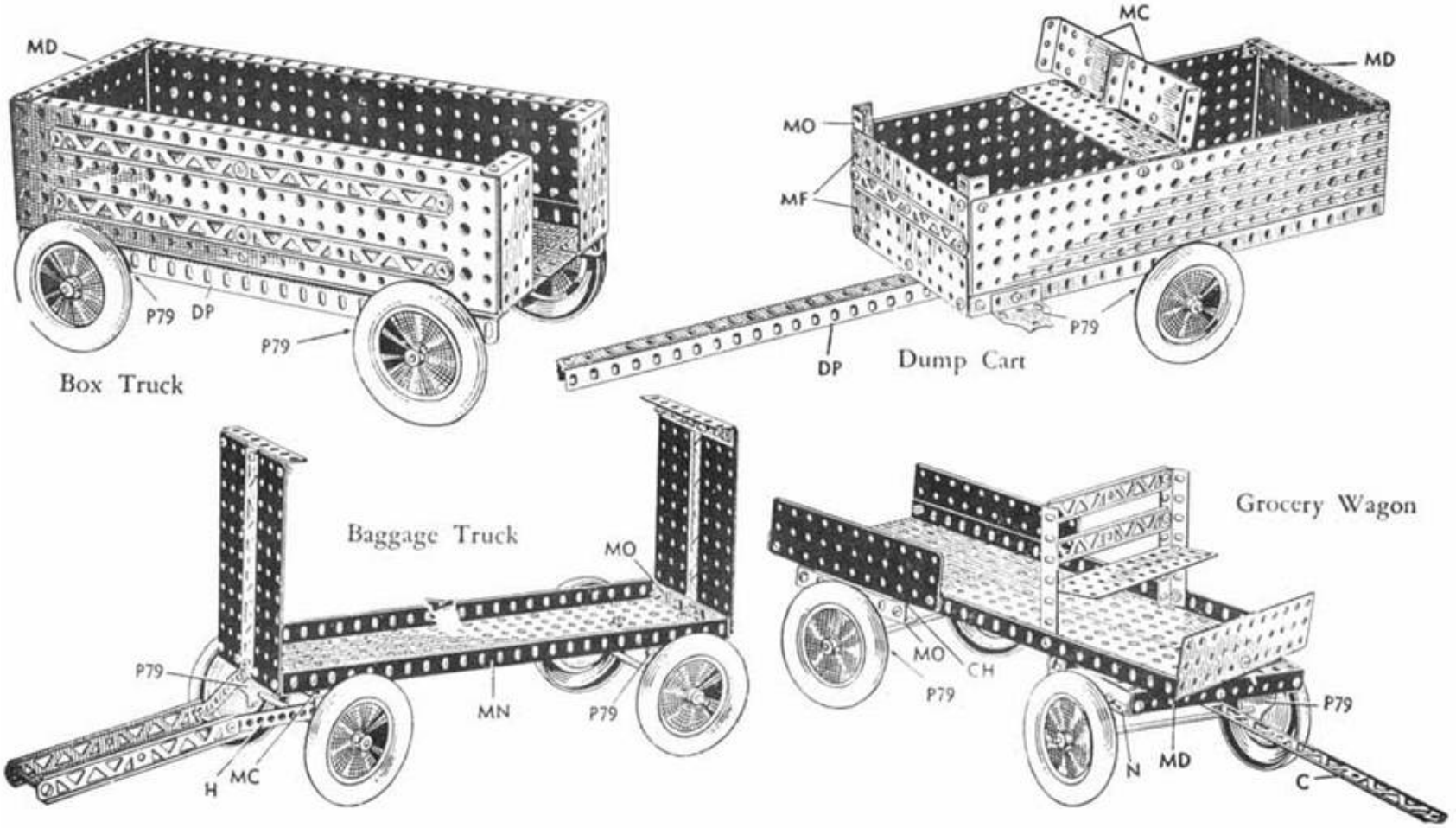


Light Delivery Truck
Bottom View

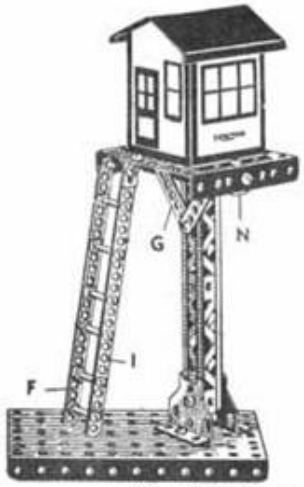


Tractor

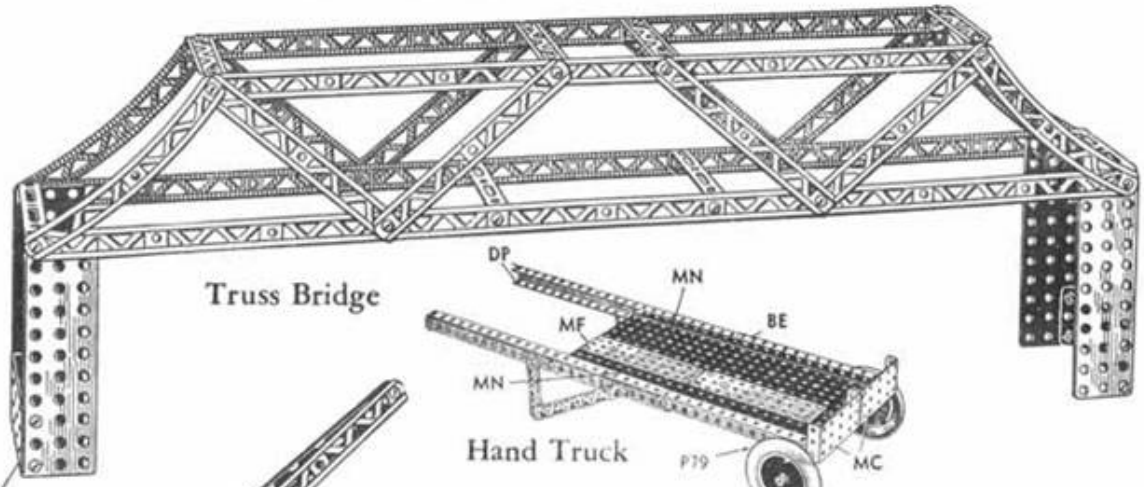
Models Built with No. 4½ Erector



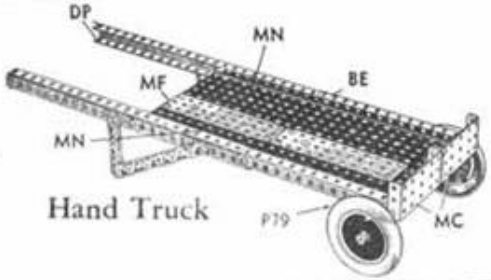
Models Built with No. 4½ Erector



Signal Tower

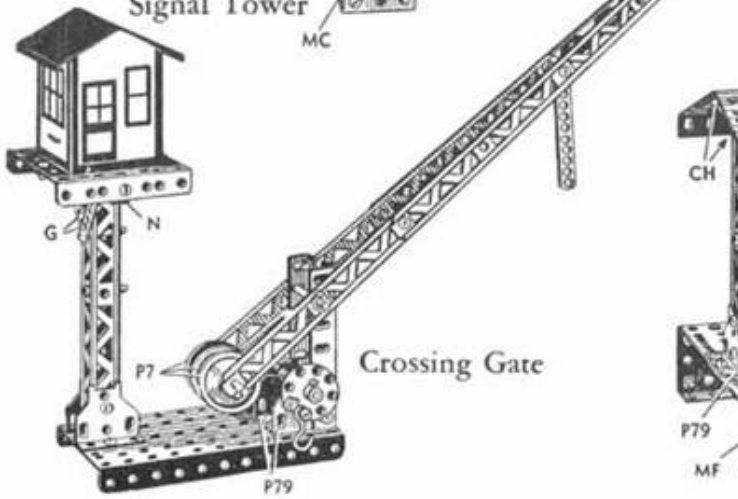


Truss Bridge

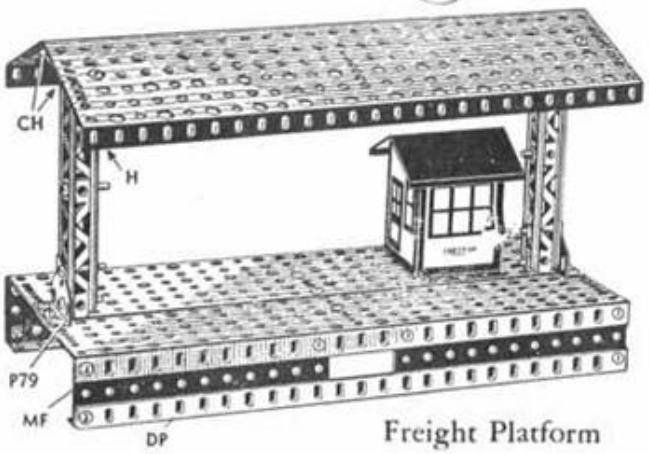


Hand Truck

Floodlight Tower

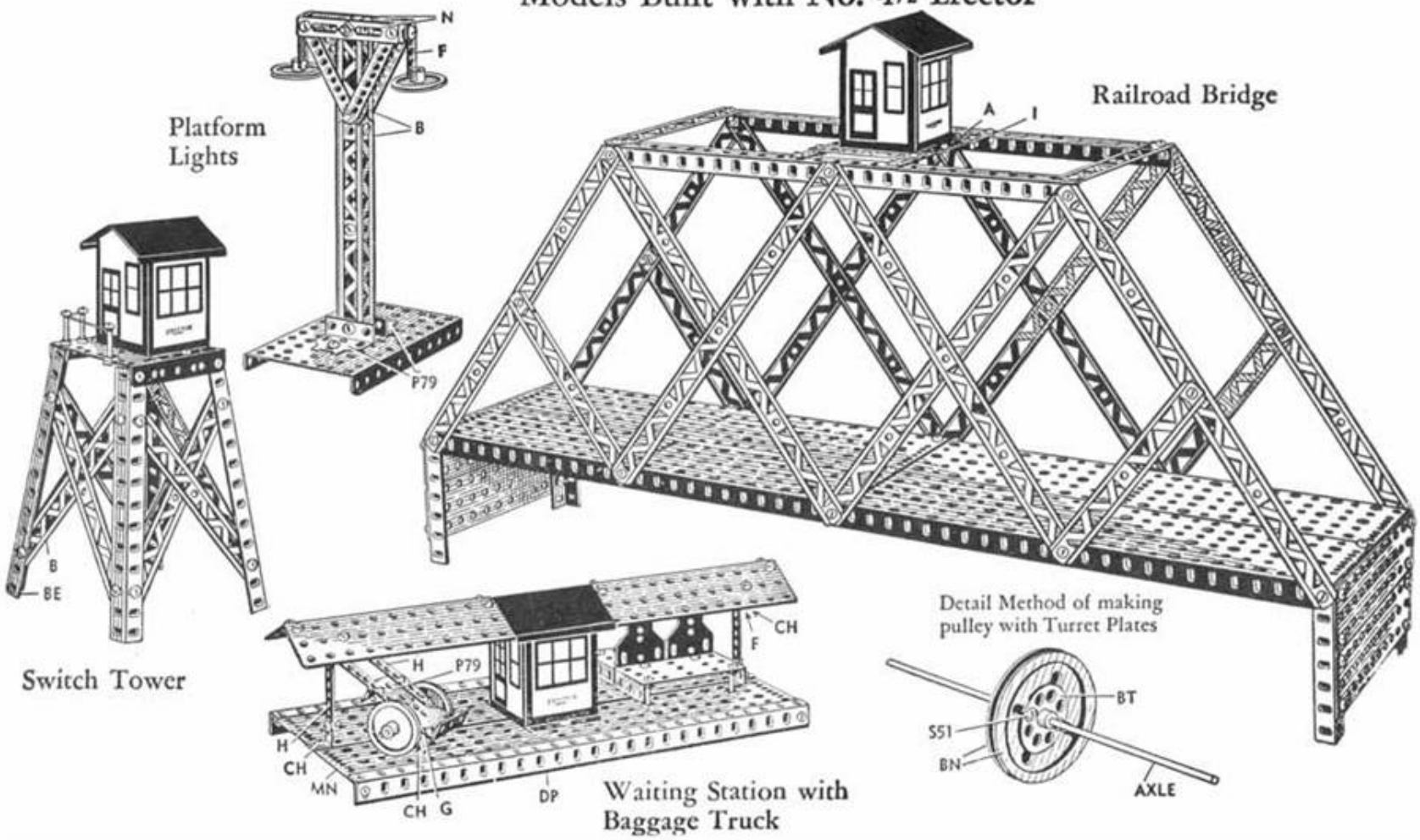


Crossing Gate

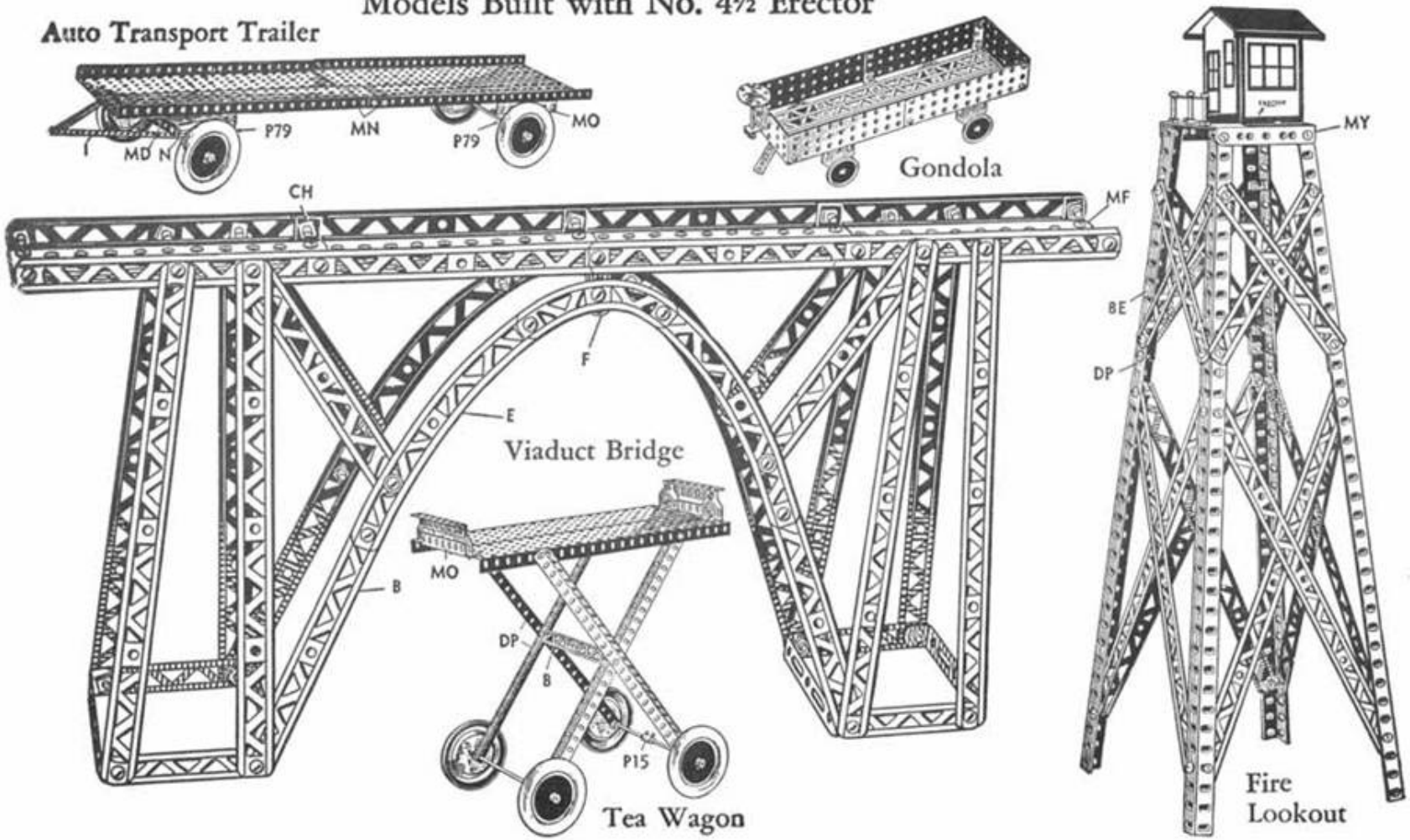


Freight Platform

Models Built with No. 4½ Erector



Models Built with No. 4½ Erector



Models Built with No. 6½ Erector

INTRODUCTION — ELECTRIC ENGINE POWER UNITS

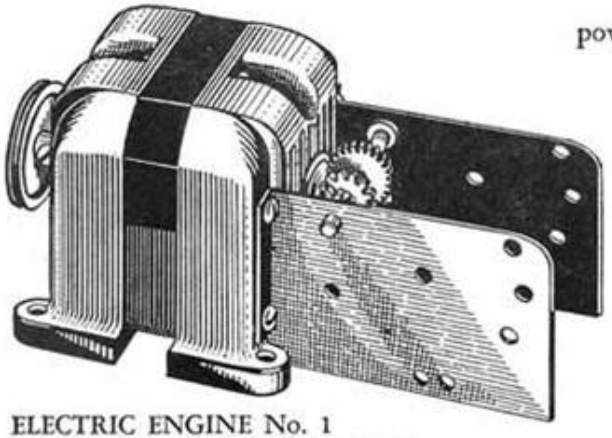
Gears and pulley provide a means for transmitting power, increasing power and regulating speed.

If power is desired, speed must be sacrificed.

If speed is desired, power must be sacrificed.

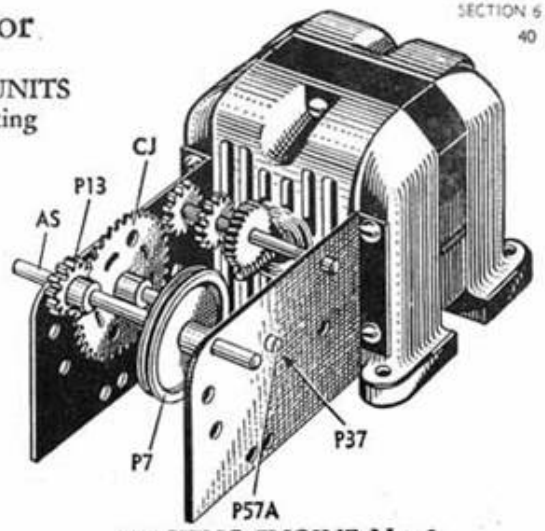
A worm drive gives the greatest single reduction. A worm meshing with a 24 tooth gear, as in the countershaft of the Electric Engine, gives a 1:24 reduction, increasing the power 24 times.

A 12 tooth gear meshed with a 36 tooth gear must turn 3 revolutions to make the latter complete 1 revolution, thus the gear ratio is 1:3 and the driven shaft is capable of handling 3 times the load that the driver would take, but at 1/3 the speed.



ELECTRIC ENGINE No. 1

A direct drive, as from the pulley on the motor shaft, gives a high speed, where little power is required, as in the case of windmills, etc.

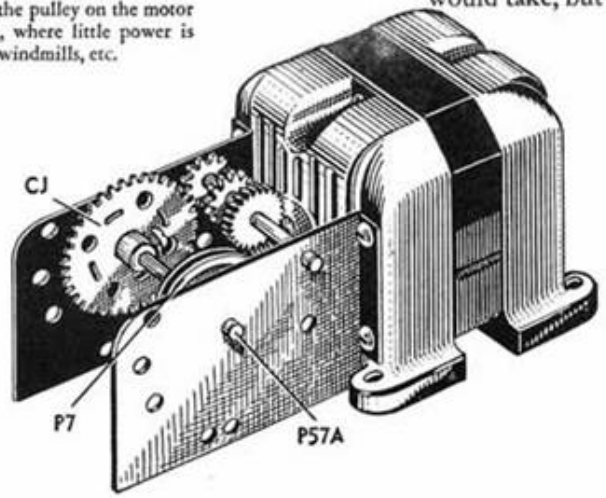


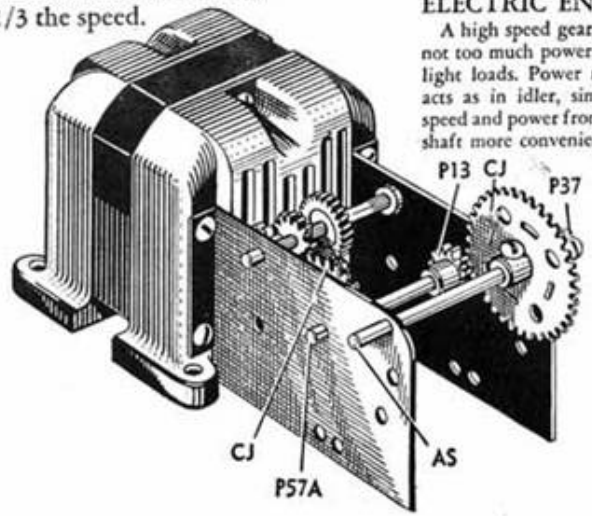
ELECTRIC ENGINE No. 3

A high speed gear train where a little pep and not too much power is desired for working with light loads. Power ratio 1:1, the 36 tooth gear acts as in idler, simply transforming the same speed and power from the countershaft to a driven shaft more conveniently located.

ELECTRIC ENGINE No. 2

A medium speed gear train capable of running all ordinary models. Power ratio of driven shaft to counter shaft, 3:1.

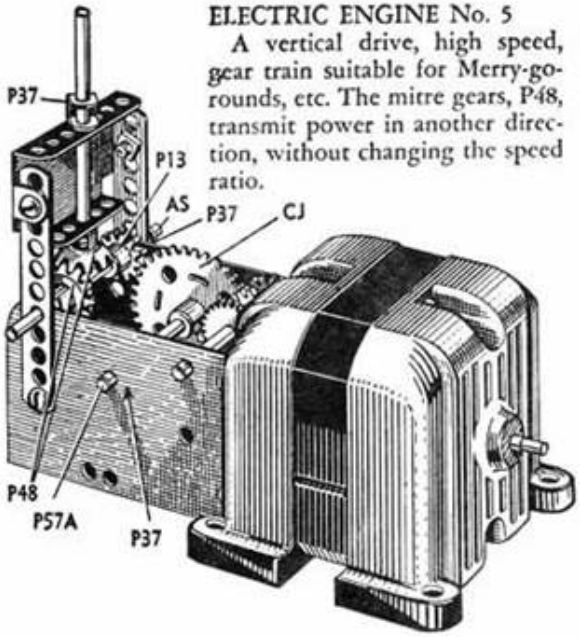




ELECTRIC ENGINE No. 4

A powerful, slow speed gear train, ratio 9:1. A fine gear box where great power is required, or a very slow speed is desired.

Models Built with No. 6½ Erector



ELECTRIC ENGINE No. 5

A vertical drive, high speed, gear train suitable for Merry-go-rounds, etc. The mitre gears, P48, transmit power in another direction, without changing the speed ratio.

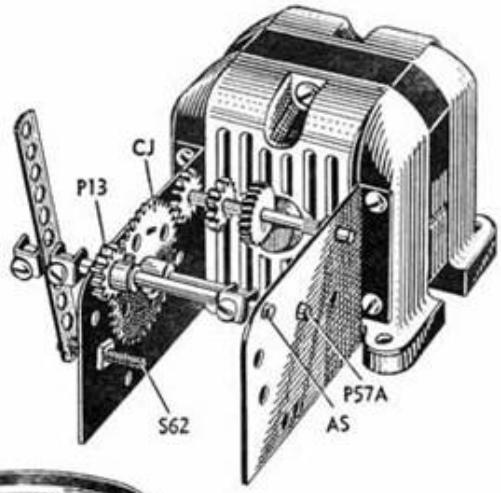
ELECTRIC ENGINE POWER UNITS (cont'd)

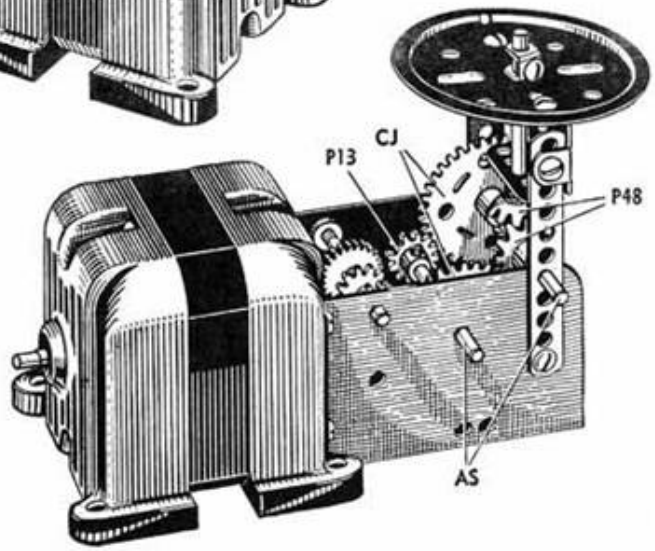
TO REVERSE A LOAD

Gear boxes used for hoisting as in elevators, derricks, etc., should have the axle, on which the string is wound, loose enough so that it may be pushed back and forth endwise. This end play should permit the gear on this axle to be in or out of mesh with the gear driving it.

When the gears are in mesh the load will be raised. When they are not, the axle will be free and the load, acted upon by gravity, will drop. The load may be slowed or stopped in its downward journey by applying friction to the free axle.

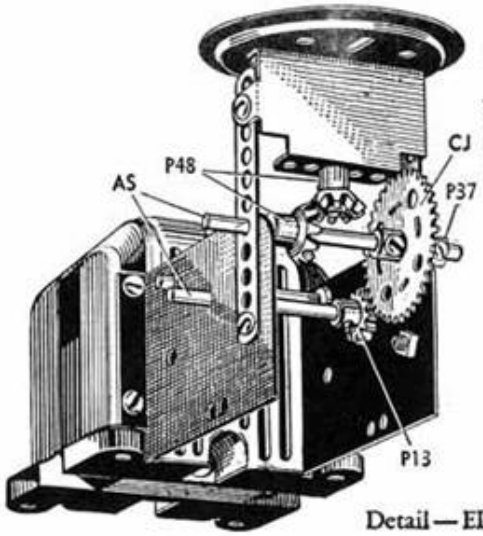
A gear shift lever may be constructed as shown in Electric Engine No. 7 to control these operations.





ELECTRIC ENGINE No. 6

A vertical drive, slow speed, gear train, with plenty of power, suitable for drawbridges, airplane beacons, etc.

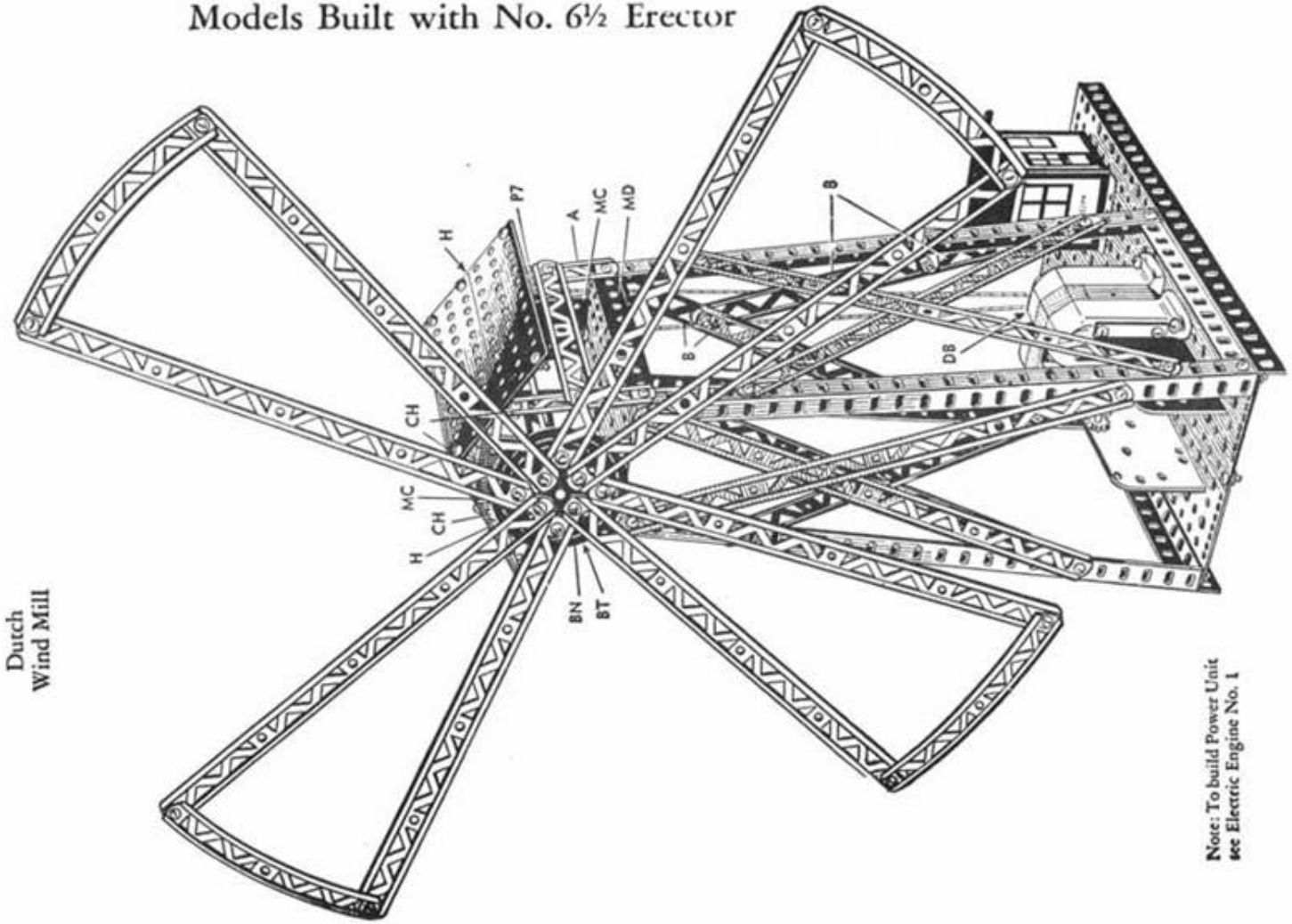


ELECTRIC ENGINE No. 7

A gear shift lever added to Electric Engine No. 3. Leave end play in the driven shaft for throwing gears out of mesh.

Detail—ELECTRIC ENGINE No. 6—

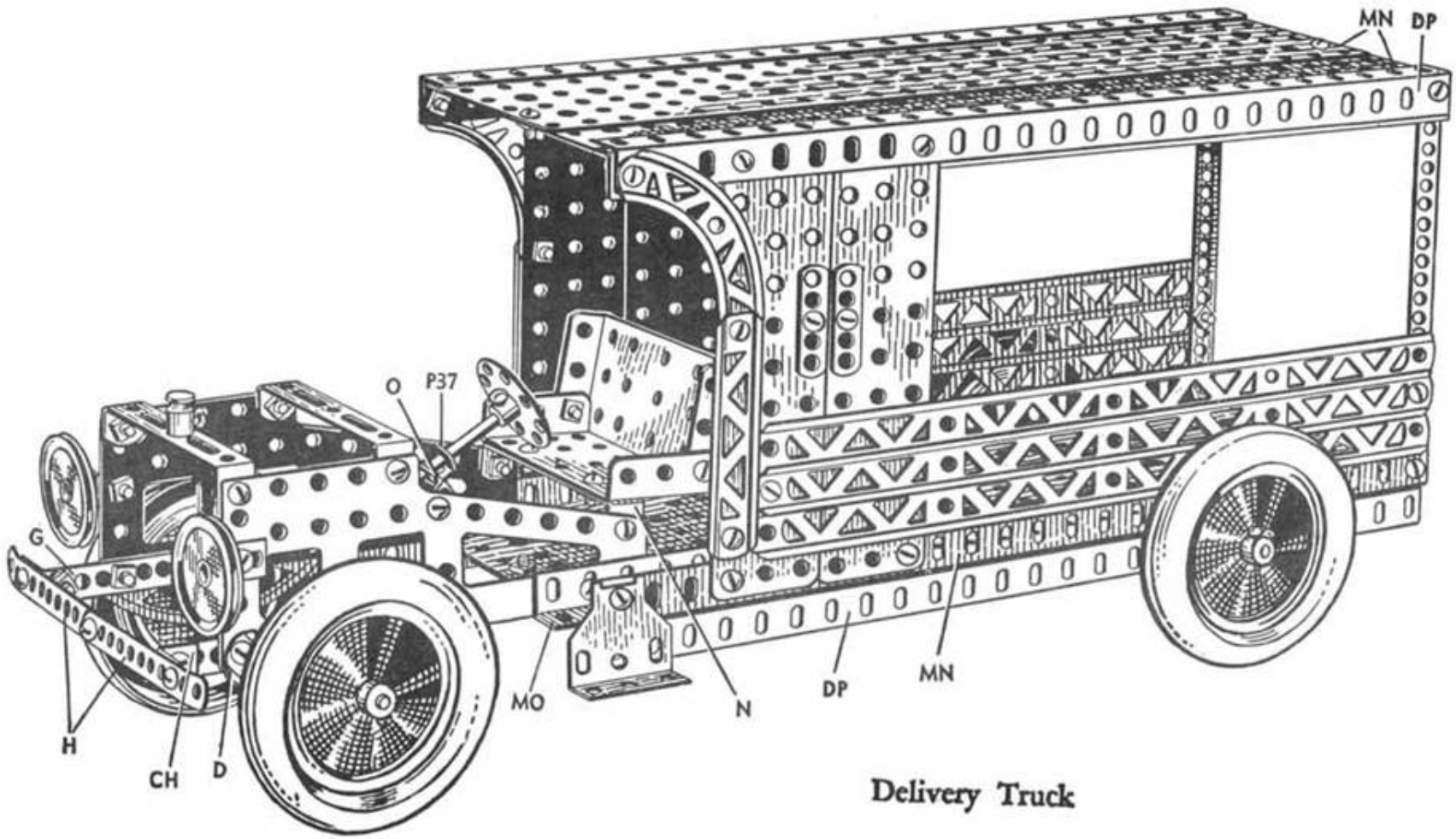
Models Built with No. 6½ Erector



Dutch Wind Mill

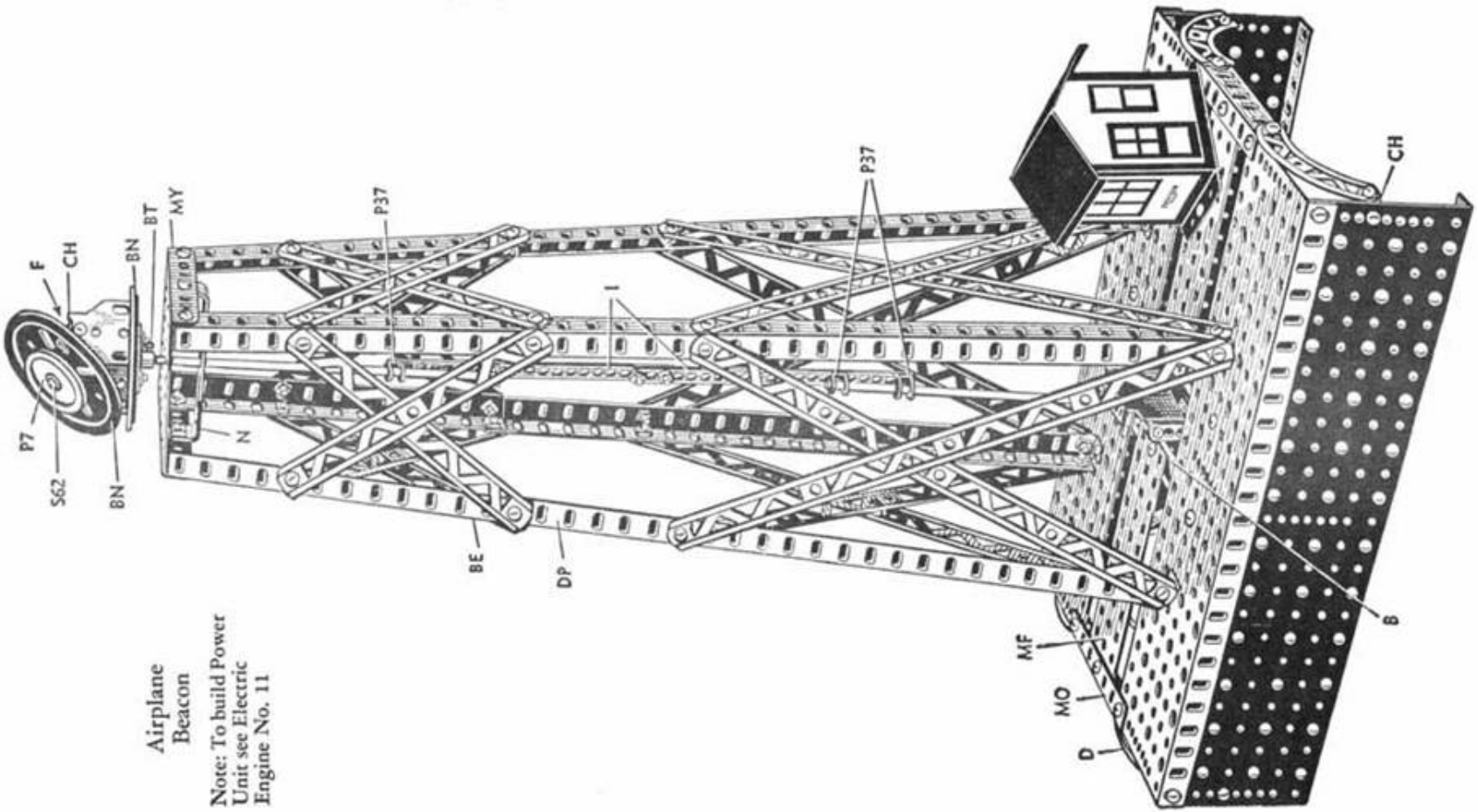
Note: To build Power Unit see Electric Engine No. 1

Models Built with No. 6½ Erector



Delivery Truck

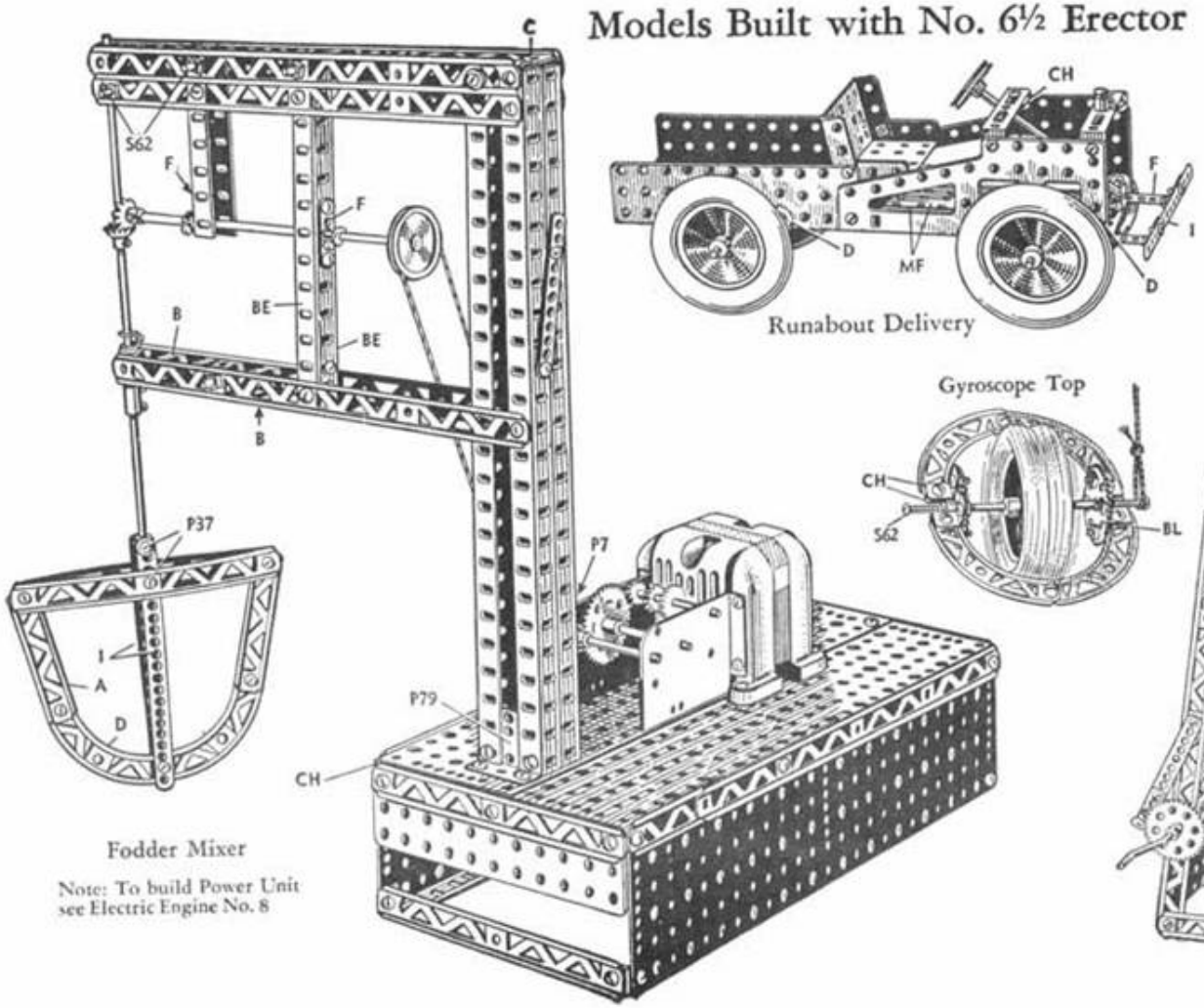
Models Built with No. 6½ Erector



Airplane Beacon

Note: To build Power Unit see Electric Engine No. 11

Models Built with No. 6½ Erector

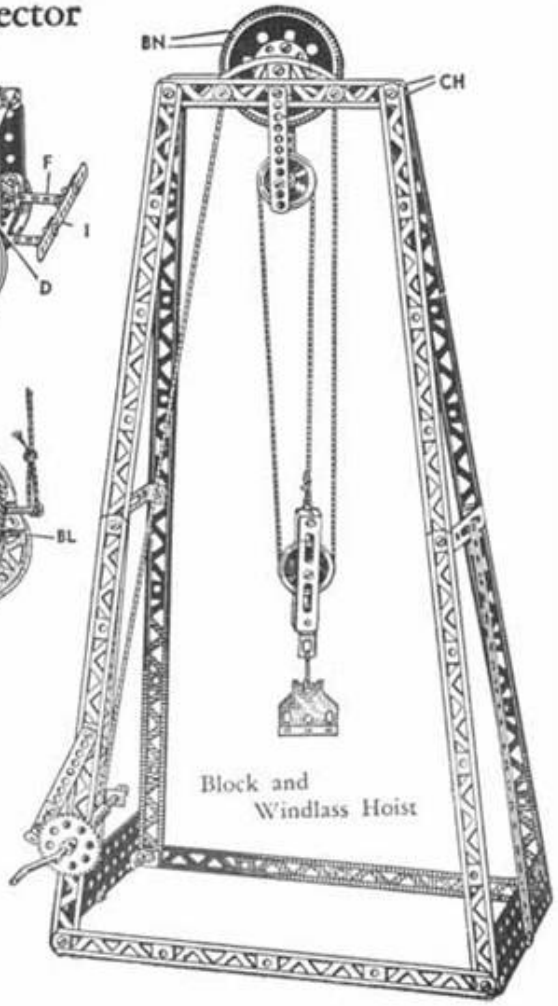


Fodder Mixer

Note: To build Power Unit see Electric Engine No. 8

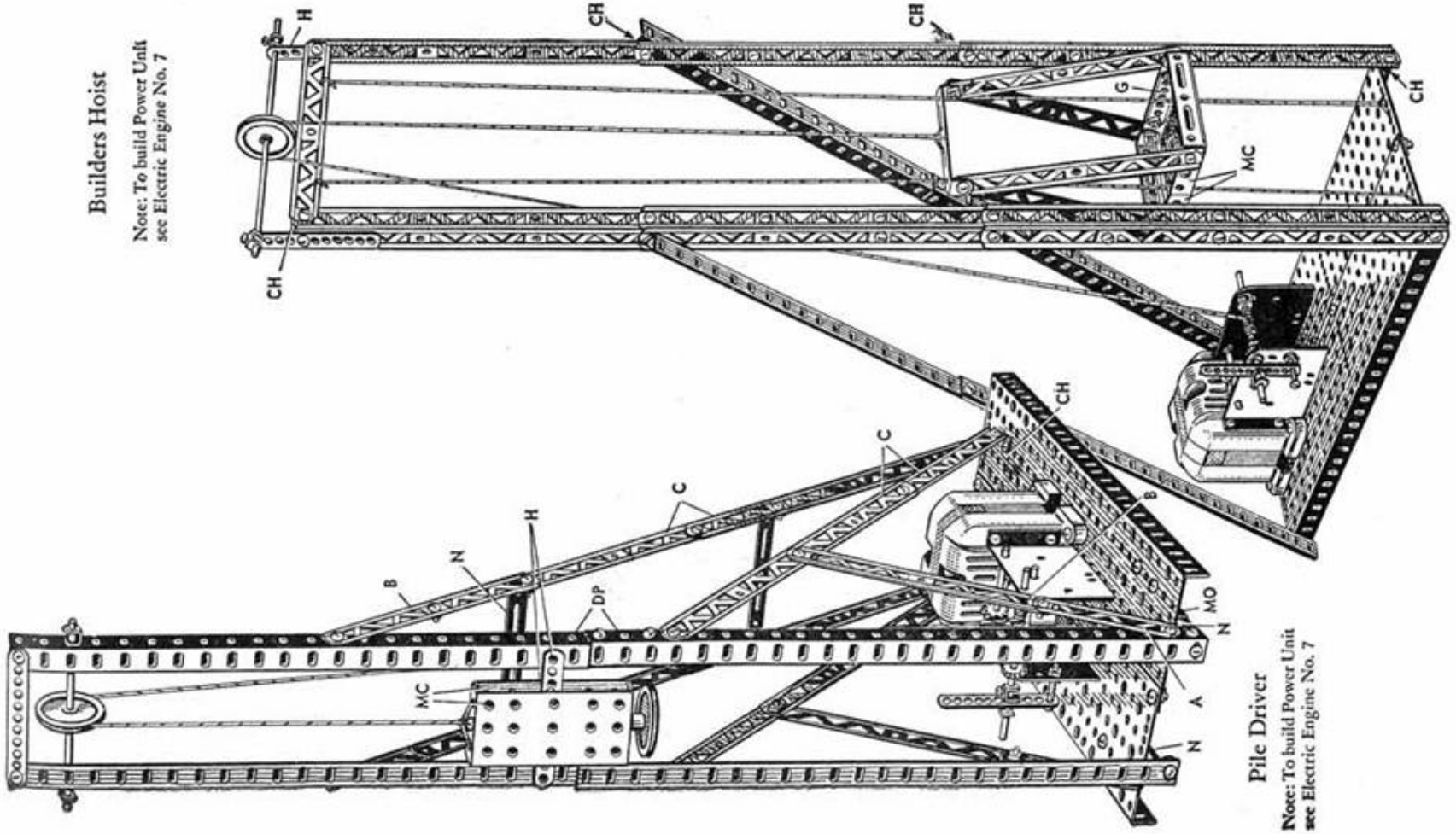
Runabout Delivery

Gyroscope Top



Block and Windlass Hoist

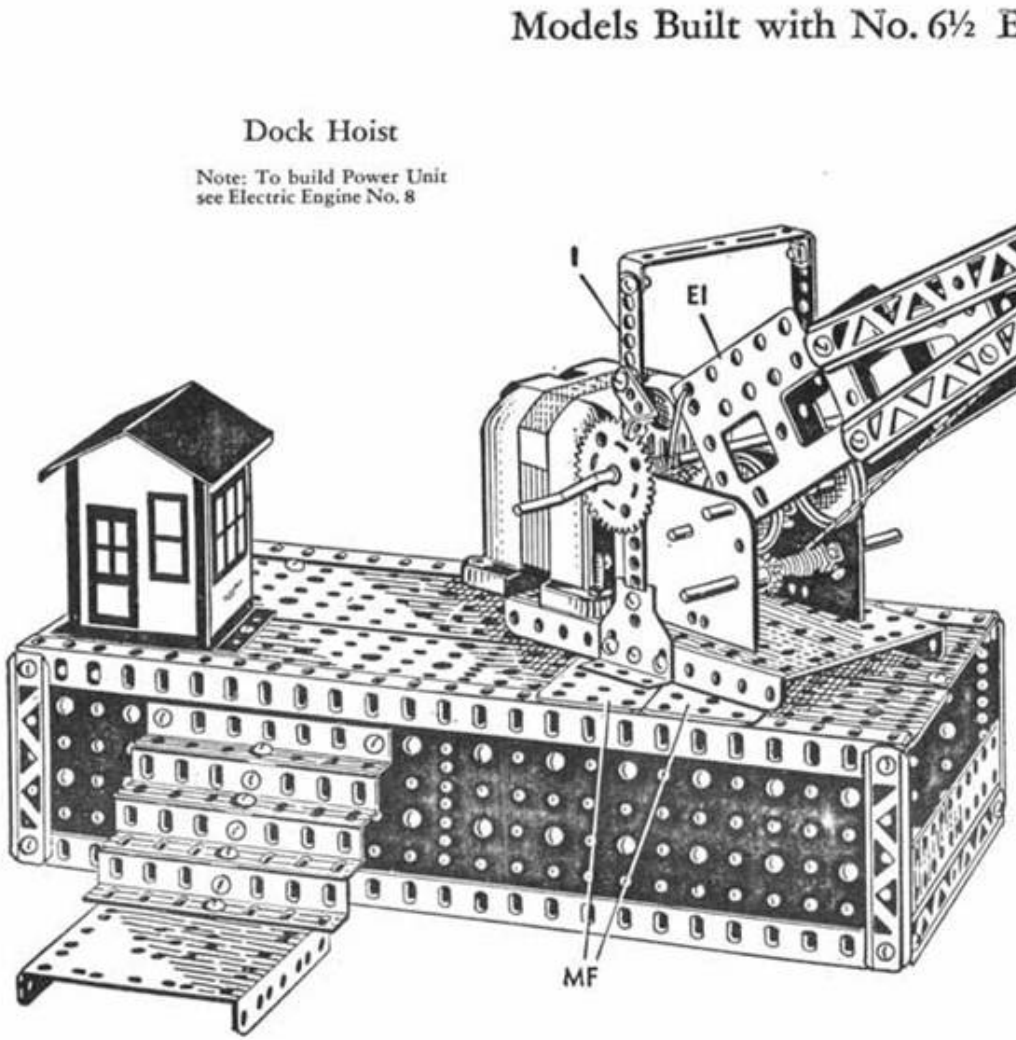
Models Built with No. 6½ Erector



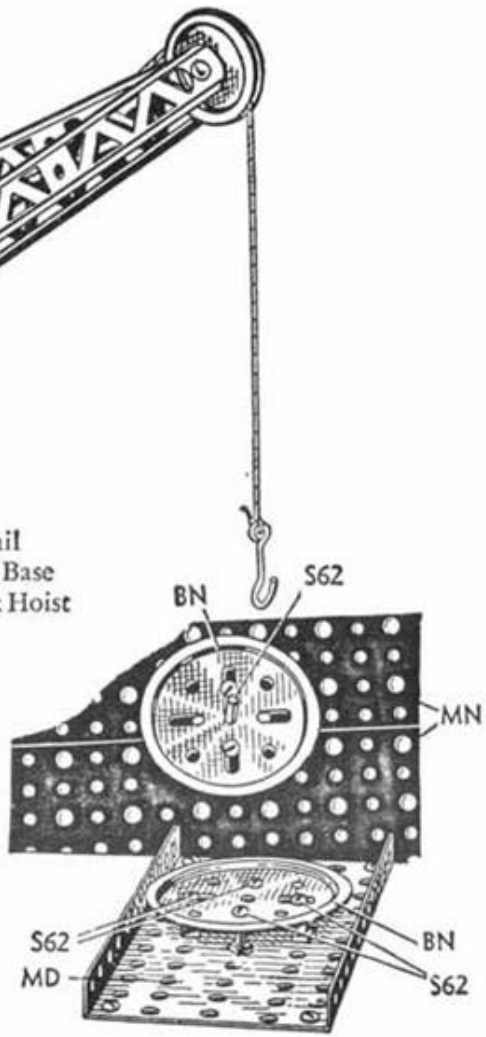
Models Built with No. 6½ Erector

Dock Hoist

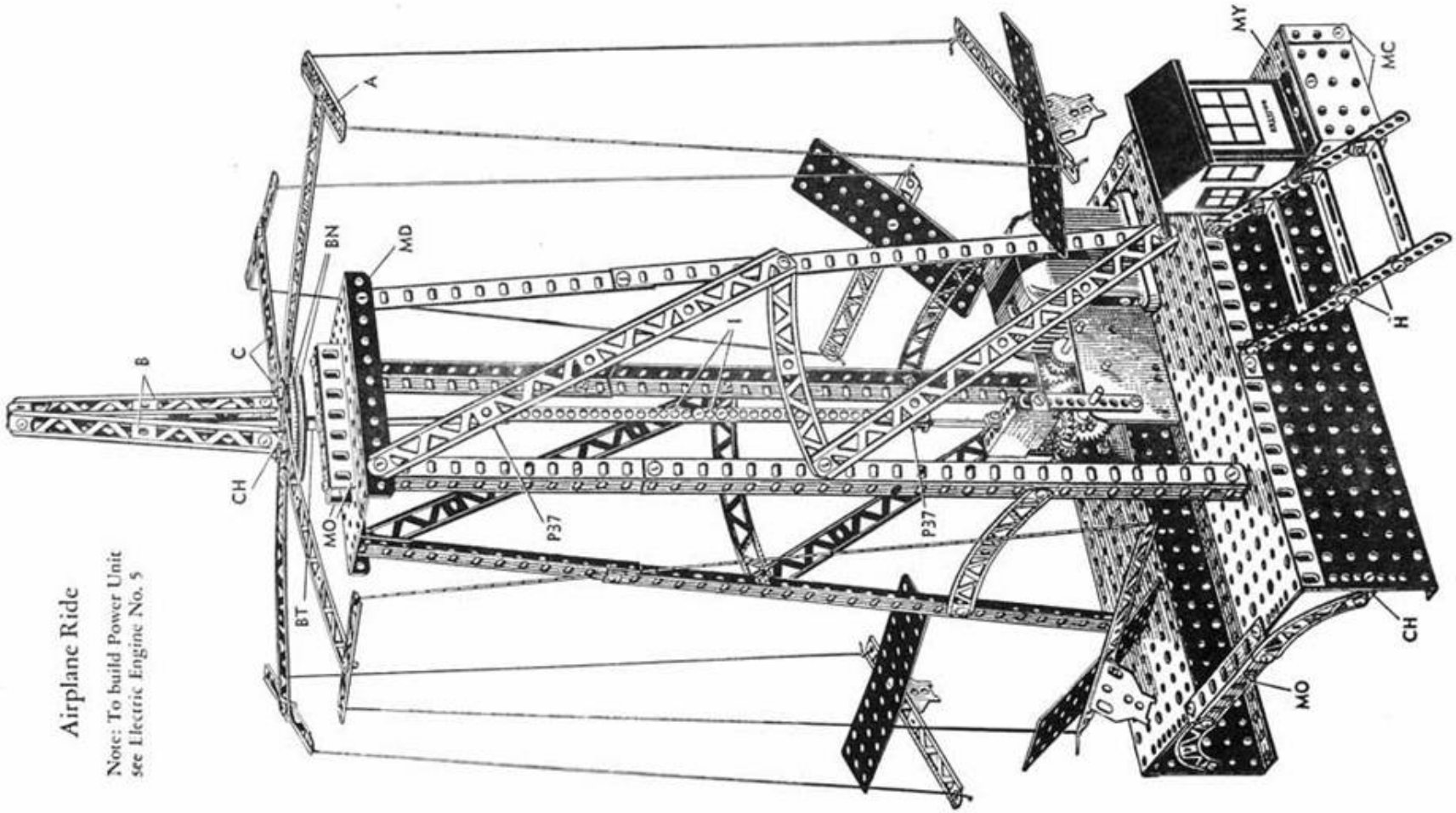
Note: To build Power Unit see Electric Engine No. 8



Detail
Swivel Base
for Dock Hoist



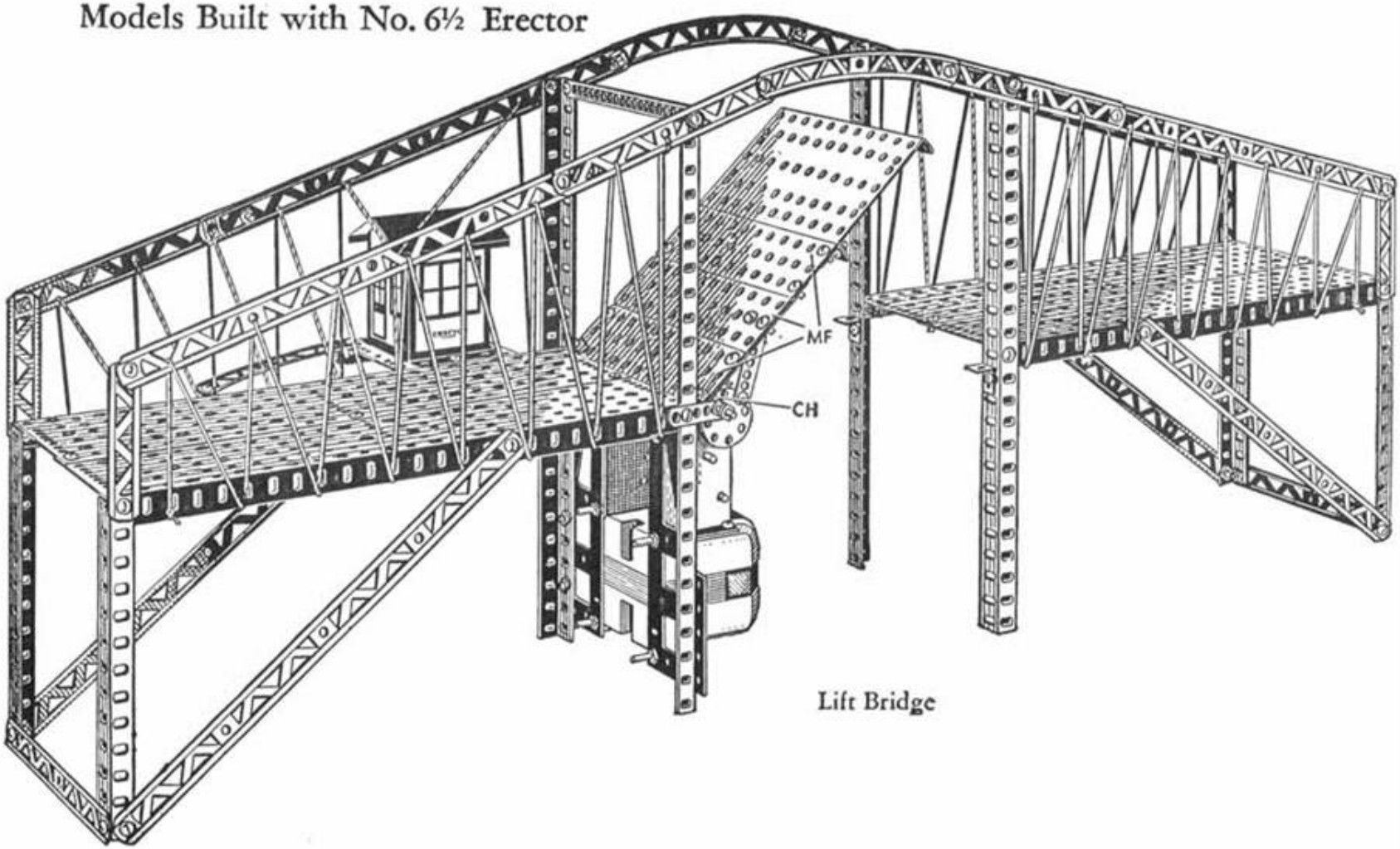
Models Built with No. 6½ Erector



Airplane Ride

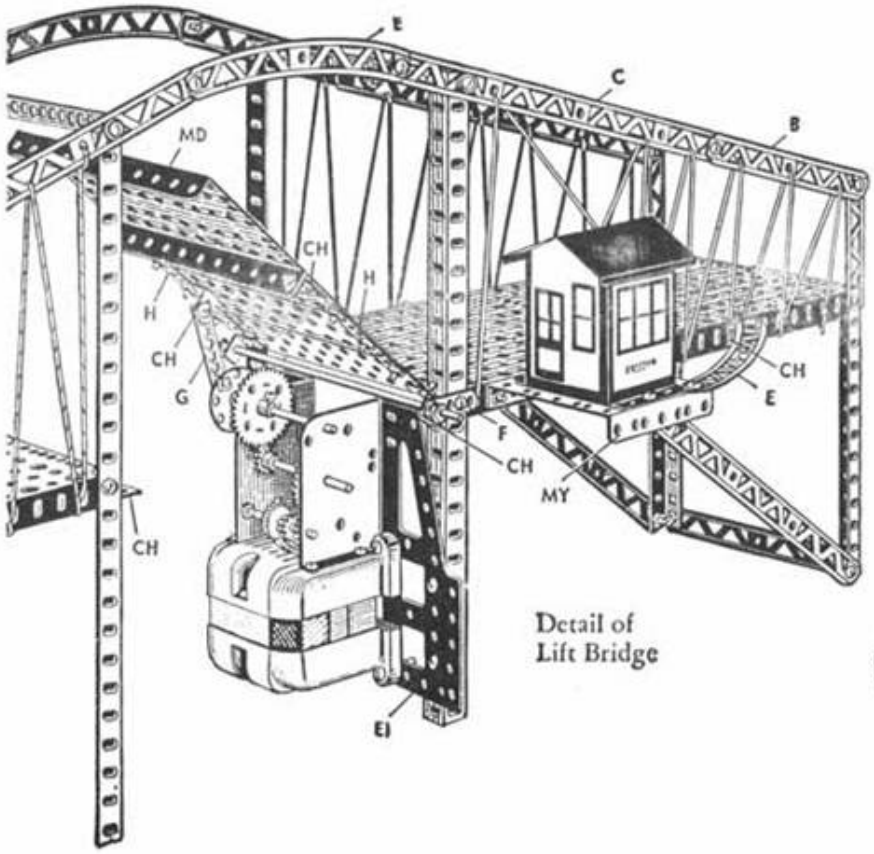
Note: To build Power Unit see Electric Engine No. 5

Models Built with No. 6½ Erector



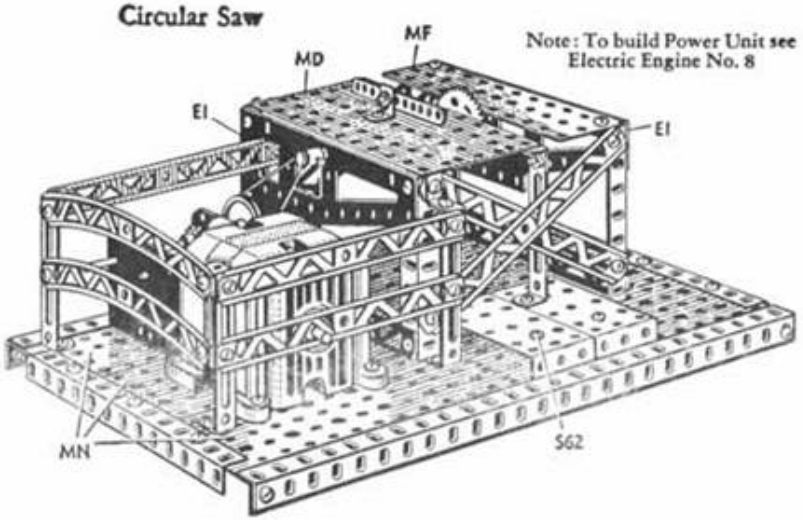
Lift Bridge

Models Built with No. 6½ Erector



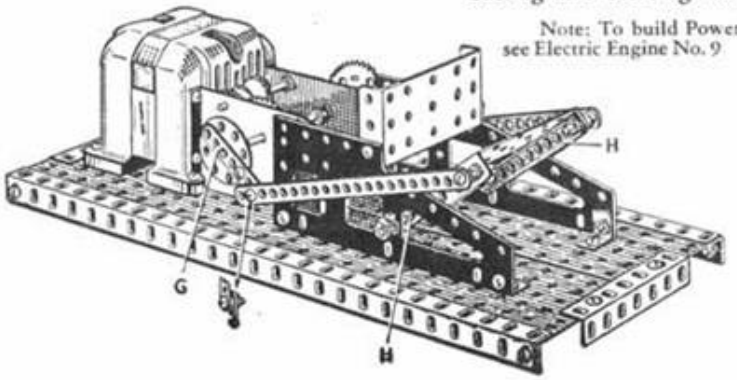
Detail of
Lift Bridge

Circular Saw



Note: To build Power Unit see Electric Engine No. 8

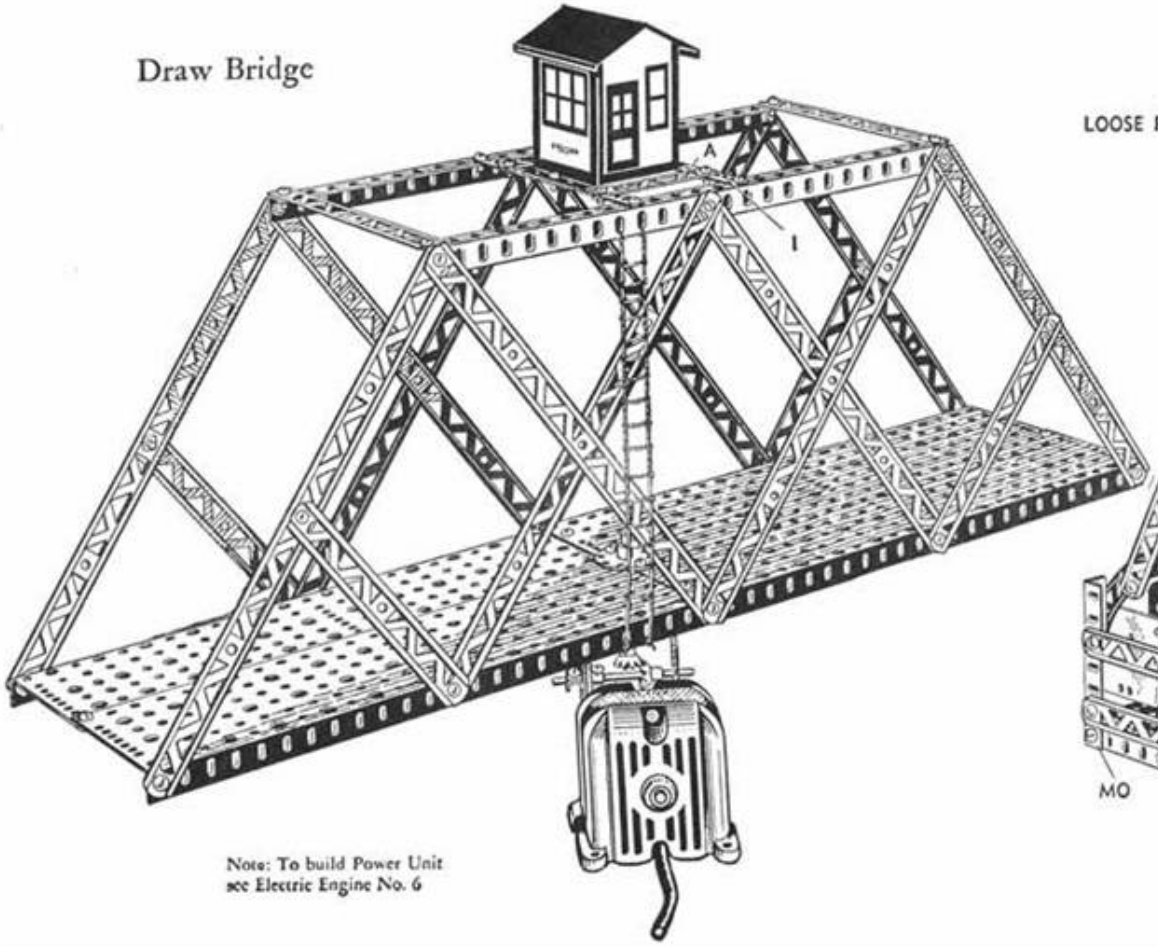
Cutting and Creasing Machine



Note: To build Power Unit see Electric Engine No. 9

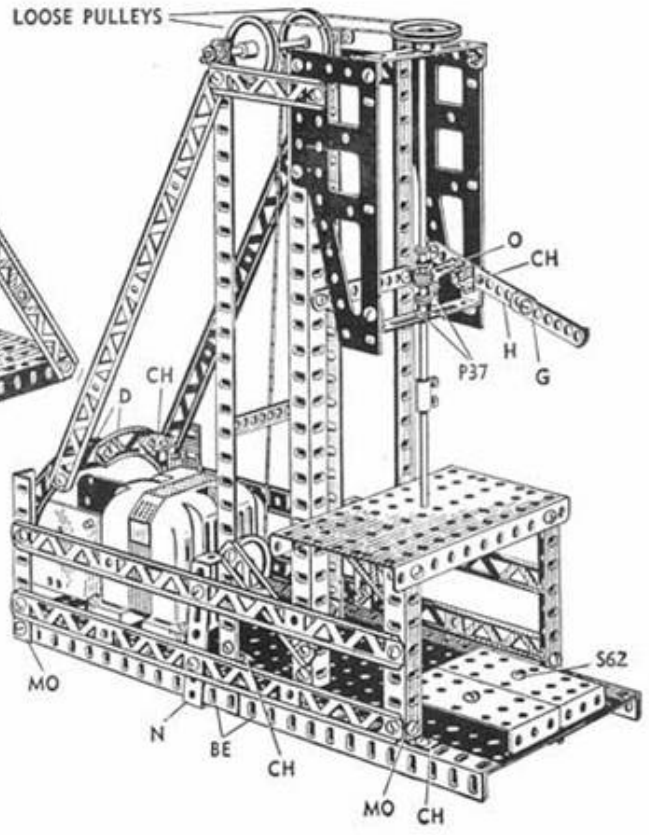
Models Built with No. 6½ Erector

Draw Bridge

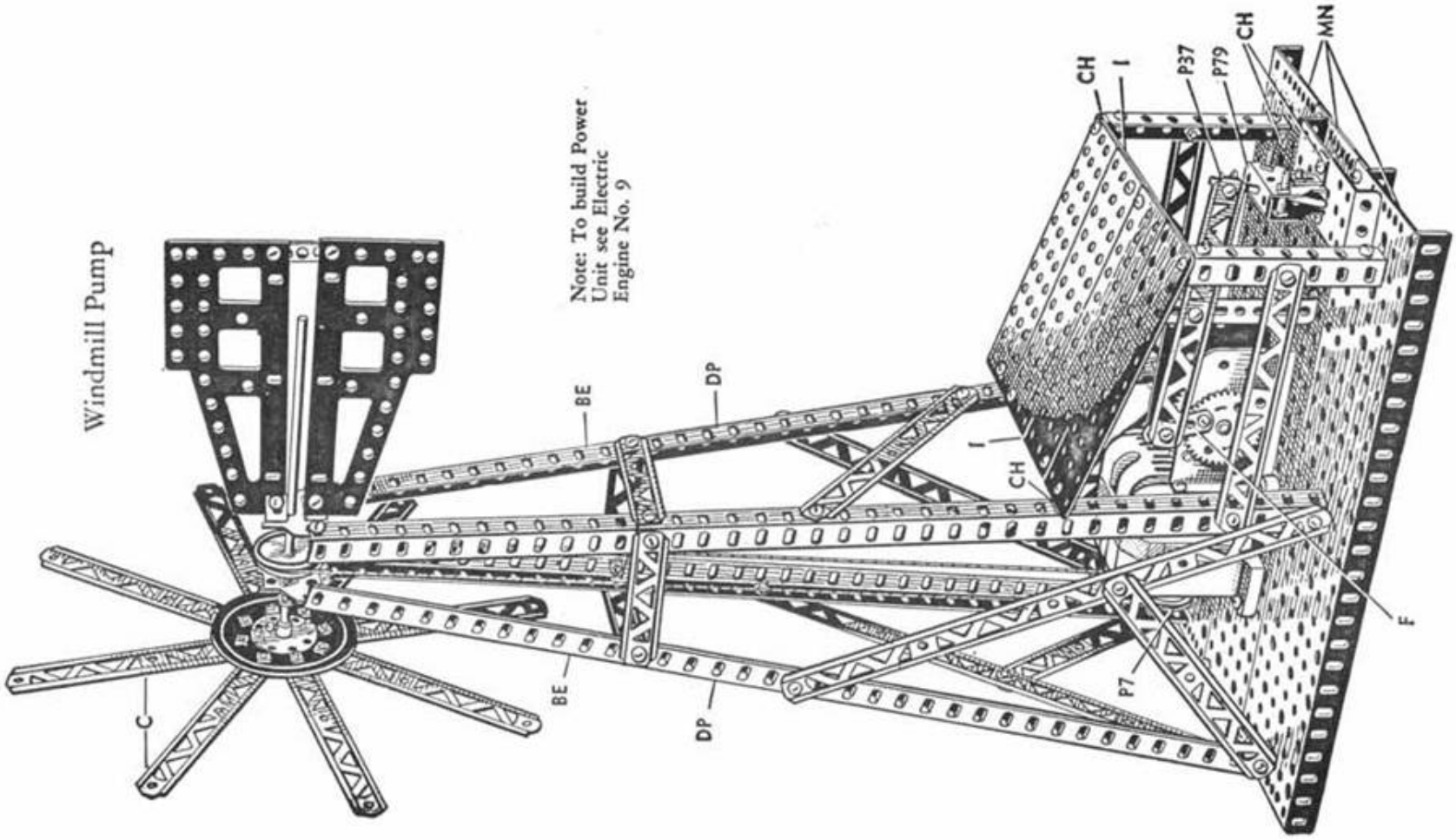


Note: To build Power Unit
see Electric Engine No. 6

Drill Press



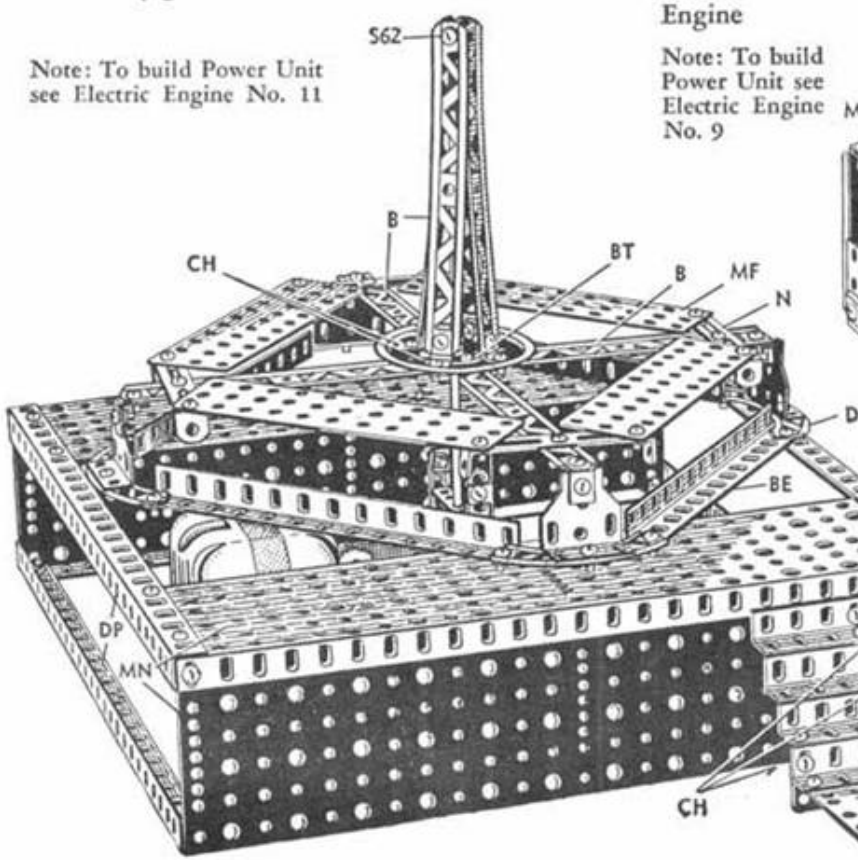
Models Built with No. 6½ Erector



Models Built with No. 6½ Erector

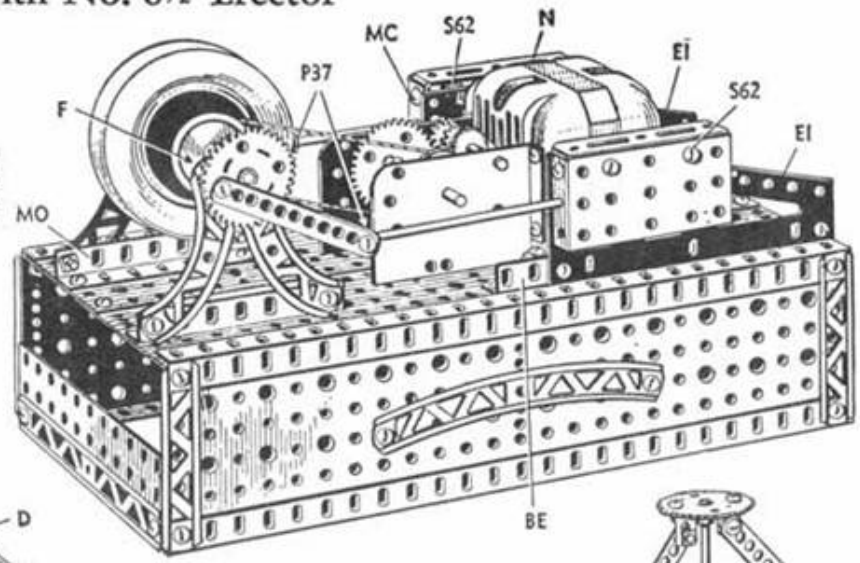
Merry-go-round

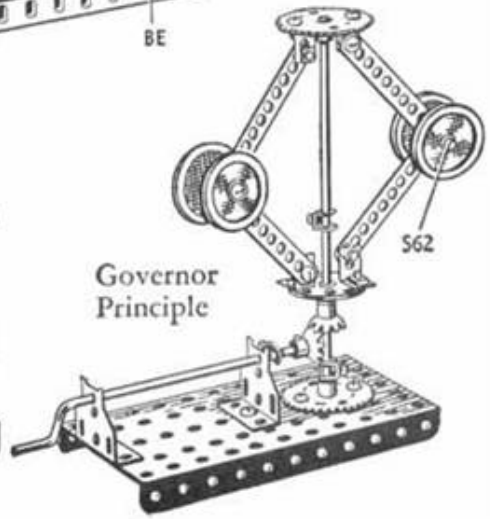
Note: To build Power Unit see Electric Engine No. 11



Horizontal Engine

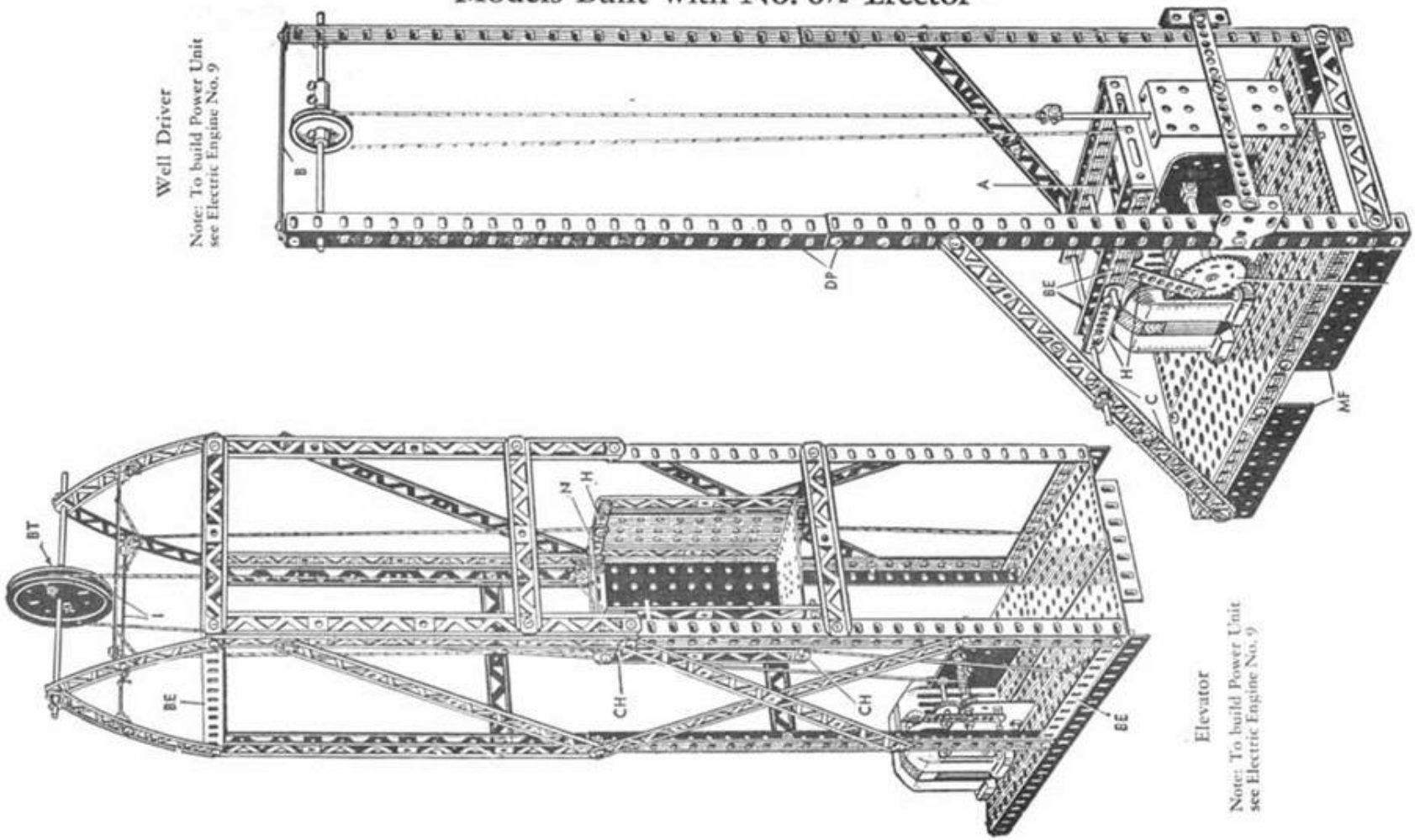
Note: To build Power Unit see Electric Engine No. 9





Governor Principle

Models Built with No. 6½ Erector



Well Driver

Note: To build Power Unit see Electric Engine No. 9

Elevator

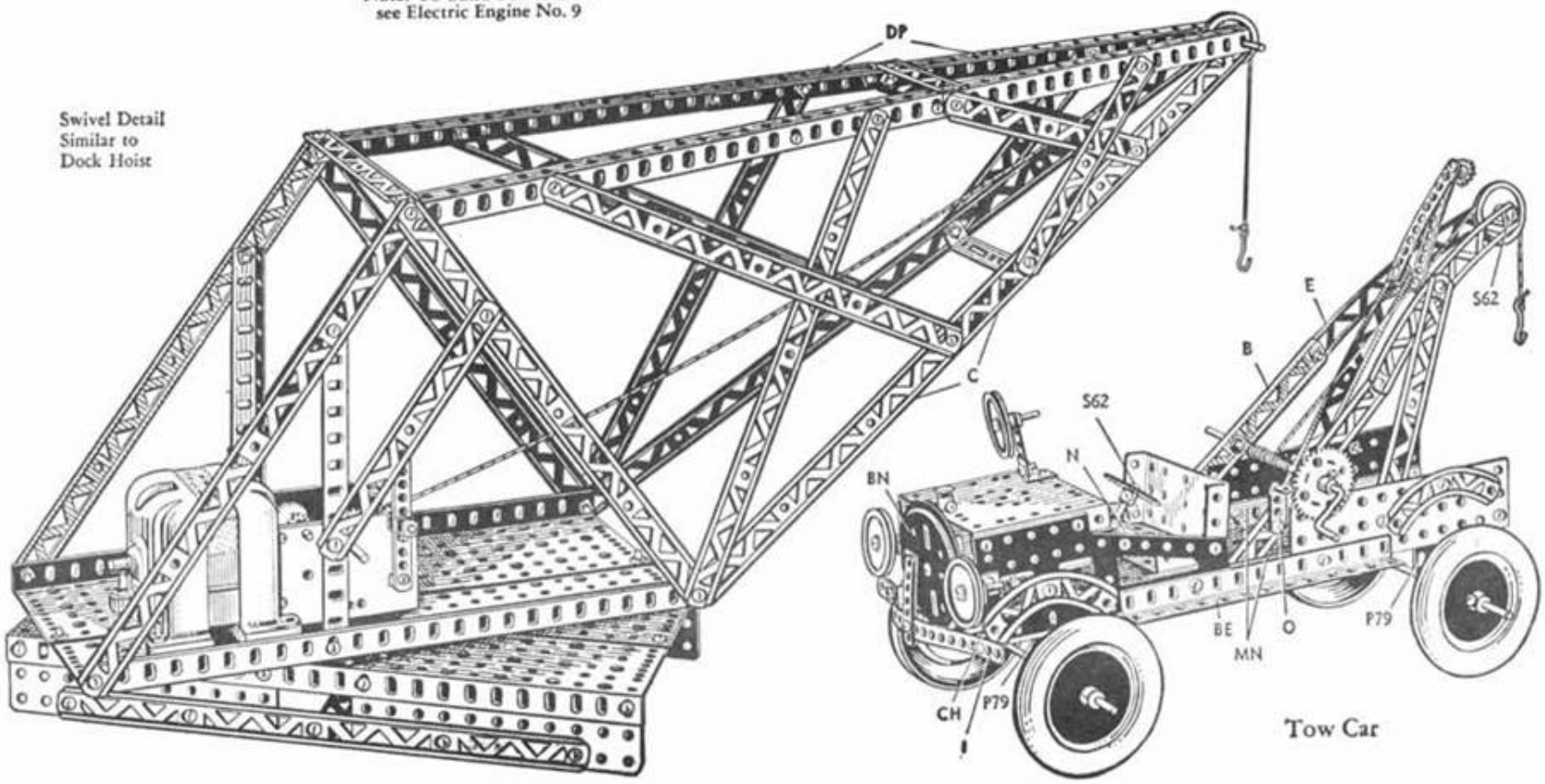
Note: To build Power Unit see Electric Engine No. 9

Models Built with No. 6½ Erector

Unloading Crane

Note: To build Power Unit see Electric Engine No. 9

Swivel Detail Similar to Dock Hoist



Tow Car