

# MARINE ENGINE DRIVEN BY EMEBO MOTOR

## An Attractive New Model

THE new Meccano Emebo (battery-operated) Electric Motor, which made its appearance in the shops recently, has already proved immensely popular. Its small, compact design, coupled with amazing power and economical running, gives it a strong appeal to Meccano enthusiasts.

Designed primarily to drive models built from Outfits up to No. 6, it will also operate suitable types of models built from even

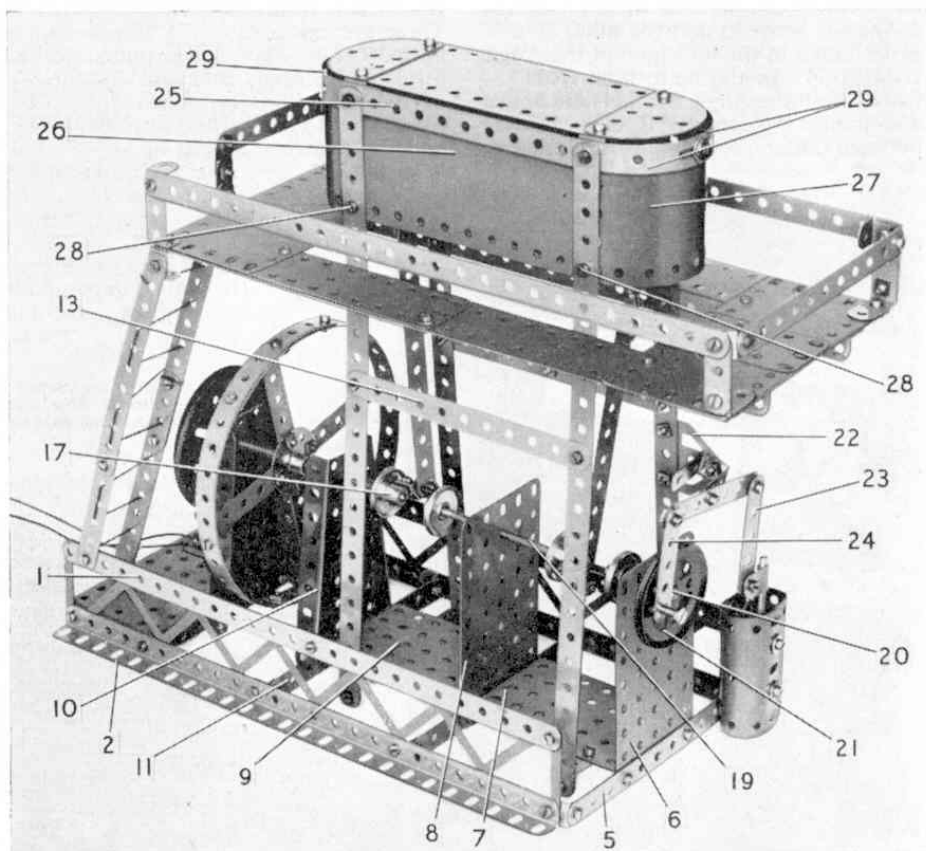
By  
"Spanner"

larger Outfits. In addition, its small size enables it to be used as an auxiliary motor in large models such as cranes, which contain a number of different movements. For example, in a large Hammer-head Crane, an Emebo Motor and battery could be used to drive the bogie along the boom, while the load hoisting and travelling movements could be operated by the larger E15R type Motor.

In view of its adaptability, therefore, the Emebo Motor makes a very useful addition to the collection of even advanced model-builders who possess one or more E15R Motors. Further, in small and medium size model vehicles the Emebo Motor and its operating battery can be housed comfortably on the vehicle itself, thus making it a self-contained unit and obviating the trailing feed wires that are normally necessary when the E15RMotor is used in a model of this kind.

An example of a stationary type of model fitted for Emebo Motor drive is the Marine Engine shown on this and the facing page.

The model itself is quite an attractive



one and is easy on the number of parts required.

In building the model it is best to start with the base. For this a  $12\frac{1}{2}$ " Strip 1 and a  $12\frac{1}{2}$ " Angle Girder 2 are bolted to a  $12\frac{1}{2}$ " Braced Girder to form one side, which is then connected to another similarly constructed side by a  $5\frac{1}{2}$ "  $\times$   $2\frac{1}{2}$ " Flanged Plate 3 and three  $5\frac{1}{2}$ " Strips fitted with an Angle Bracket at each end. Next, a Flanged Sector Plate 4 is attached to the Flanged Plate 3, and to the Strip 5 are bolted a  $4\frac{1}{2}$ "  $\times$   $2\frac{1}{2}$ " Flat Plate 6 and a  $3\frac{1}{2}$ "  $\times$   $2\frac{1}{2}$ " Flanged Plate 7. A further  $4\frac{1}{2}$ "  $\times$   $2\frac{1}{2}$ " Flat Plate 8 and a  $3\frac{1}{2}$ "  $\times$   $2\frac{1}{2}$ " Flanged Plate 9 are bolted to the centre  $5\frac{1}{2}$ " Strip. The Flanged Sector Plate 10 is fastened to the  $5\frac{1}{2}$ " Strip 11, which also supports the Plate 9, and to each of the Flanged Plates 7 and 9 is fixed a  $3\frac{1}{2}$ "  $\times$   $\frac{1}{2}$ " Double Angle Strip 12, with  $12\frac{1}{2}$ " Strips bolted to their lugs. A  $5\frac{1}{2}$ " Strip 13 braces two of these Strips whilst a compound strip 14 braces the other two.

### Flywheel and Crank Shaft

Four  $2\frac{1}{2}$ " Strips with Angle Brackets attached to one end are fixed to an eight-hole Bush Wheel, and two  $12\frac{1}{2}$ " Strips, bent as shown, are bolted to the Angle Brackets to form the flywheel. These

This working model of a Marine Engine is powered by the new battery-operated Meccano Emebo Motor.

Strips are overlapped seven holes at each end and the whole assembly is mounted on a 5" Rod 15 together with a 3" Pulley 16. A 1" Pulley 17 with an Angle Bracket attached to its boss, is fastened to the other end of Rod 15. It is best to build the Pulleys and Angle Brackets in pairs as it is essential that they are aligned correctly. Two Angle Brackets are bolted together through their round holes and then two 1" Pulleys with boss are placed on a Rod, their bosses facing each other. Next, a bolt with a nut on it is passed through the elongated hole of the Angle Bracket without securing it to the Rod. The nut is then tightened down to hold the Angle Bracket securely. The bolt holding the Angle Brackets together is then withdrawn and a  $\frac{3}{8}$ " Bolt with nut is tightly fixed to one Angle Bracket. A  $5\frac{1}{2}$ " Strip 18 is placed on the shank of the Bolt and the whole is lock-nutted to the other Angle Bracket by two nuts, one each side of the lug. When this assembly is fitted in place in the model the Angle Brackets should now be exactly in line.

One crank assembly of the type just described is fixed in place as shown,