

# The "Octopus" in Meccano

## An Australian Reader's Fine Model

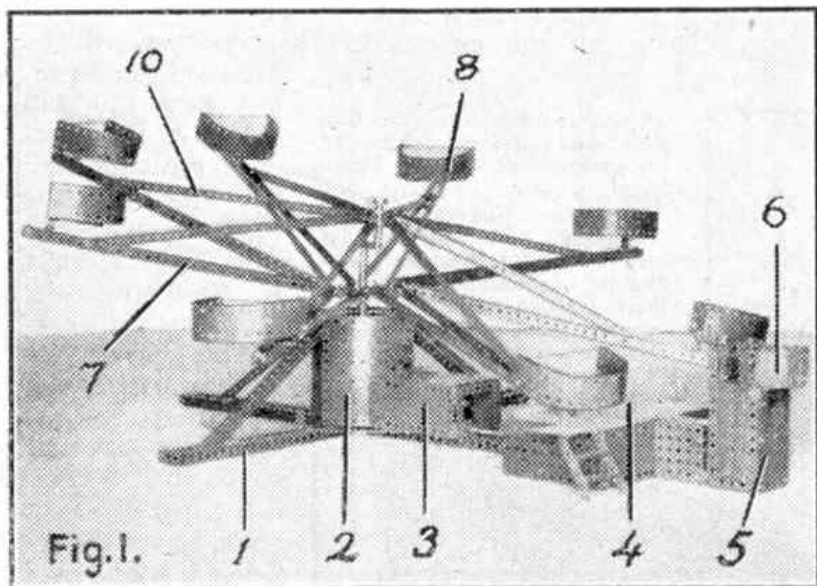
MOST "M.M" readers will no doubt be familiar with the "Octopus" which is the name given to one of the more modern joy-riding machines to be seen in Fun Fairs. It consists of a number

The arms 7, which carry the seats, are geared to move faster than

the off-set arm 9 thus causing the angle



G. E. Vale, Grafton, N.S.W., Australia, designed and built the interesting model fun-fair machine described on this and the opposite page.



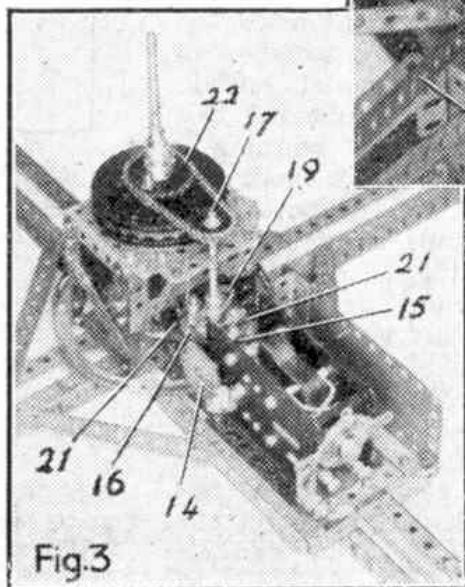
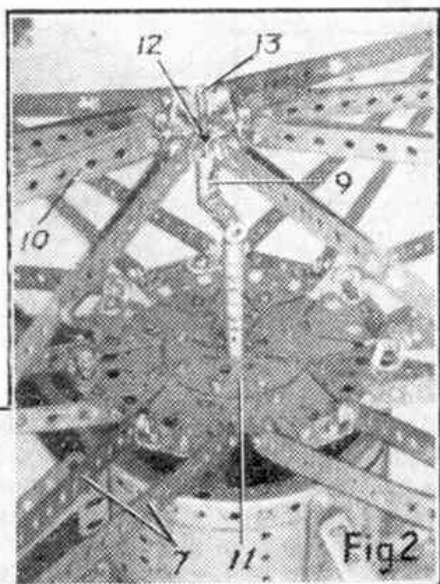
of inclination of the top structure to revolve slowly while the arms travel at a faster speed. While the top structure is revolving the cars are continually turning about their pivots. This is due to the positions of the pivots and the fact that the cars are

of rotating arms, each of which carries at its outer end a small pivoted passenger car. As the arms rotate they rise and fall, and the combined movement, coupled with the independent pivotal movement of the cars themselves, results in a very thrilling and exciting ride for the fun-seeking passengers.

An excellent model of one of these devices was built recently by G. E. Vale, Grafton, N.S.W., Australia, and was awarded Second Prize in the "Winter" Model-Building Contest.

The general appearance of this model is shown in Fig. 1. It consists of a base 1, a cylindrical centre 2, the mechanism and power unit housed in the box 3, alighting platform 4, ticket box 5 and control platform 6 above it, and the top structure comprising revolving arms 7, each fitted with a car 8.

The rise and fall of the arms is due to the off-set centre 9 (Fig. 2) which is the main mechanical feature of the model. This off-set centre, to which the arm supports 10 are pivotally attached, is driven independently of the assembly 11 and arms 7, which are lock-nutted to it.



heavier at the back.

The off-set centre 9 (Fig. 2), which is built up on the Bush Wheel 12, is free to revolve on the Rod 13. The assembly 11 consists of a 4" Circular Plate to the top of which eight 2" Strips and

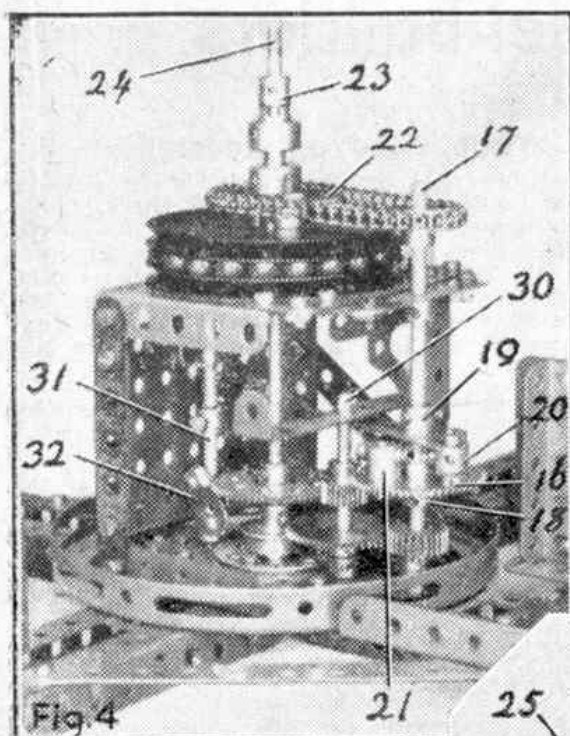


Fig. 4

Sprocket Chain transmits the Motor drive to the  $1\frac{1}{2}$ " Sprocket 22 (Figs. 3 and 4) which is spaced from the upper 3" Pulley of a ball bearing unit by one Collar and two Washers on each bolt. This bearing supports the revolving structure carrying the arms. The boss of Sprocket 22 is held in a Socket Coupling, which also holds one end of Coupling 23.

The Socket Coupling that holds the boss of the  $2\frac{1}{2}$ " Face Plate is fastened to the top of Coupling 23, thus completing the link-up of the drive to the assembly 11 (Fig. 2) but leaving the Rod 24 free.

A bearing for the Coupling 23 is provided by the central hole of the Hub Disc forming the top of the cylindrical housing.

The drive to the off-set centre 9 (Fig. 2) is transmitted through the reduction gearing shown in Fig. 4 to the Rod 24. With this gearing

the off-set centre is driven at about one-fourth the speed of the assembly 11. A bearing to take the weight supported by Rod 24 is formed by a  $\frac{3}{4}$ " Flanged Wheel, which turns on the boss of a  $1\frac{1}{2}$ " Pulley bolted to the base (Fig. 4).

To enable passengers to  
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a  $2\frac{1}{2}$ " Face Plate are bolted. Eight Flat Trunnions are bolted to the outer ends of the 2" Strips, and to the underside of the 4" Circular Plate a further  $2\frac{1}{2}$ " Face Plate, the boss of which is locked in a Socket Coupling, is bolted.

The drive from the E20R Electric Motor is transmitted to the 57-tooth Gear 14 (Fig. 3) by a  $\frac{1}{2}$ " Pinion on the Motor armature shaft. The 57-tooth Gear 14 is mounted on a  $2\frac{1}{2}$ " Rod journalled in the Motor sideplates, and a Worm 15, which is also fixed on this Rod, meshes with a 57-tooth Gear 16.

A Collar 18 (Fig. 4) supports the Gear 16, which is spaced by four Washers from the Double Arm Crank 19 fixed on Rod 17. A spider 20 taken from a Swivel Bearing, is bolted to one end of the Double Arm Crank as shown, and is fitted with two  $\frac{7}{32}$ " Grub Screws. Two Threaded Bosses 21, fitted with  $\frac{1}{2}$ " Bolts, are bolted to the Gear 16, and two Compression Springs are retained in position between the ends of the  $\frac{1}{2}$ " Bolts and Grub Screws.

When the Motor is switched on or off these Springs absorb the momentum of the top structure and prevent jerky starting and stopping.

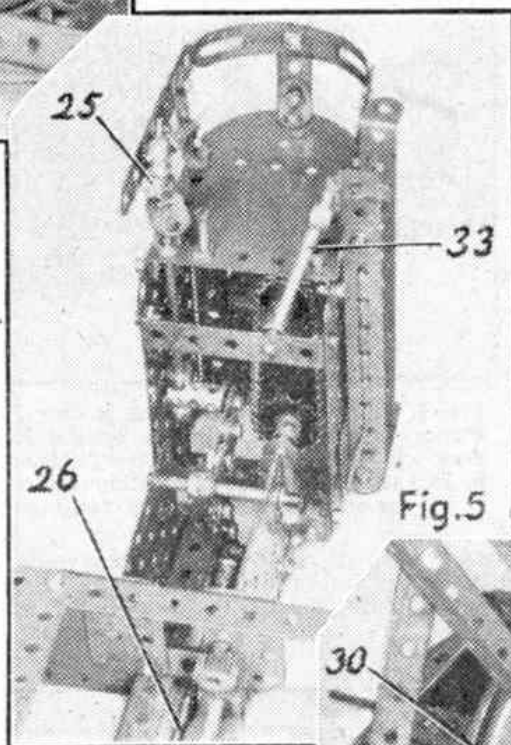


Fig. 5

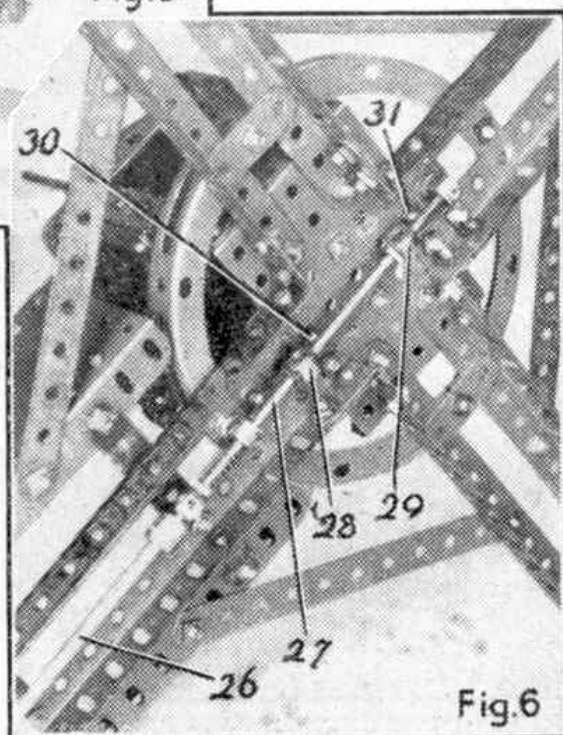


Fig. 6