

# New Meccano Models

## Traction Engine—Trick Tricyclist

FIG. 1 shows a neat model traction engine of a simple and easily constructed type. In building it a Flat Trunnion 1, fitted with two  $5\frac{1}{2}$ " Strips, is bolted to each side of a Boiler to provide support for two  $3\frac{1}{2}$ " x  $2\frac{1}{2}$ " Flanged Plates that form the sides of the cab. The rear flanges of these Plates are joined by two  $2\frac{1}{2}$ " x  $1\frac{1}{2}$ " Flexible Plates overlapped two holes. Two Double Brackets 2 are bolted to the back of the cab, and their free ends are joined by two  $1\frac{1}{2}$ " Strips overlapped two holes. The Bolts that hold the  $1\frac{1}{2}$ " Strips carry also two  $2\frac{1}{2}$ " Strips bent so that their lower ends touch the bottom of the cab.

The engine cylinder 3 is a Channel Bearing bolted in position four holes from the front of the Boiler. It is fitted with a piston rod consisting of a  $1\frac{1}{2}$ " Rod, and this slides in the elongated holes of two Angle Brackets bolted inside the cylinder. The rod is attached pivotally by a Collar to a  $2\frac{1}{2}$ " Strip, the free end of which is fastened by lock-nutted Bolt 4 to a Bush Wheel fixed on the end of a  $1\frac{1}{2}$ " Rod. This Rod is supported in a Cranked Bent Strip fastened to the side of the cab by an Angle Bracket, but spaced from the Bracket by Washers. The  $1\frac{1}{2}$ " Rod carries on the inner side of the Cranked Bent Strip a 1" Pulley 6, and at its outer end a 1" Pulley 7. The Pulley is connected by a Driving Band to another 1" Pulley on the back axle.

Two  $1$ " x  $1$ " Angle Brackets 8 are fixed to the front of the Boiler, and support a 2" Rod as shown. The Rod carries two  $\frac{3}{4}$ " Flanged Wheels to represent a dynamo, Washers being used as packing pieces. On one end of the Rod there is a  $\frac{1}{2}$ " Pinion and at the other a  $\frac{1}{2}$ " loose Pulley and a Collar. The Pulley is connected by a Driving Band to Pulley 6.

Bearings for the front axle are provided by a  $1\frac{1}{2}$ " x  $\frac{1}{2}$ " Double Angle Strip attached by a lock-nutted Bolt to the underside of the boiler. Cord is tied to one end of the Double Angle Strip, wound around the 2" Rod 9, and then tied to the other end of the Double Angle Strip. The Rod 9 is held by a Collar and a  $\frac{1}{2}$ " Pinion in the ends of a second  $1\frac{1}{2}$ " x  $\frac{1}{2}$ " Double Angle Strip. The Pinion meshes with a Worm on the end of a  $3\frac{1}{2}$ " Rod, which rotates in a Double Bracket fixed to the side of the cab, and carries at its upper end a fast Pulley.

Parts required to build model Traction Engine: 8 of No. 2; 3 of No. 3; 7 of No. 5; 2 of No. 6a; 1 of No. 10; 3 of No. 11; 7 of No. 12; 2 of No. 12a; 3 of No. 16; 2 of No. 17; 2 of No. 18a; 2 of No. 19b; 2 of No. 20b; 4 of No. 22; 1 of No. 23; 1 of No. 24; 2 of No. 26; 1 of No. 32; 1 of No. 35; 58 of No. 37; 4 of No. 37a; 15 of No. 38; 1 of No. 44; 2 of No. 48; 2 of No. 53; 4 of No. 59; 3 of No. 111c; 2 of No. 126a; 1 of No. 160; 1 of No. 162a; 1 of No. 162b; 1 of No. 163; 1 of No. 176; 2 of No. 186; 2 of No. 188; 2 of No. 191; 2 of No. 192.

The Trick Tricyclist shown in

Fig. 2 is driven by a Magic Motor. When this is set in motion the figure pedals furiously and travels along at great speed!

To begin construction two Trunnions are bolted together, and to them are attached two  $2\frac{1}{2}$ " Strips and two  $5\frac{1}{2}$ " Strips. The  $5\frac{1}{2}$ " Strips are bent out-

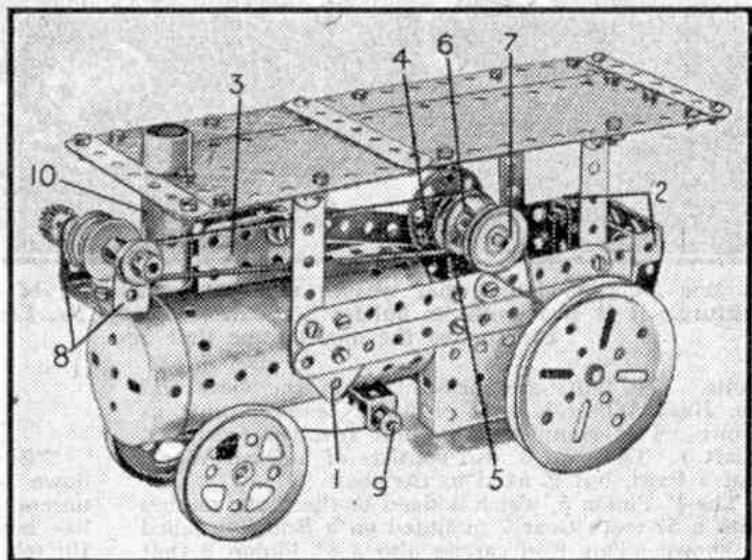


Fig. 1. A working model Traction Engine that is easy to build and realistic in appearance.

ward, and spaced apart by a  $2\frac{1}{2}$ " x  $\frac{1}{2}$ " Double Angle Strip. A  $3\frac{1}{2}$ " Rod 4 is passed through the end holes of the Strips, and to it a  $\frac{1}{2}$ " Pulley and two 1" Pulleys—complete with Rubber Rings are fitted.

The front wheel is fastened on a 2" Rod 1. The handlebars are mounted on a Reversed Angle Bracket, and are spaced from it by a nut and two Washers. The Magic Motor is then bolted to the  $2\frac{1}{2}$ " x  $\frac{1}{2}$ " Double Angle Strip at the rear of the tricycle.

The rider's body consists of three curved Plates bolted together to form a cylinder, and to the upper end of this two Flat Trunnions are fixed by means of Angle Brackets.

An Angle Bracket is fixed to the 1" Pulley 2 by a bolt and two nuts, and another Pulley also carrying an Angle Bracket is fixed to the other end of the Rod. Each of the cyclist's legs consists of two  $2\frac{1}{2}$ " Strips bolted so that they are free to pivot and then attached to the body and to the Angle Bracket on the 1" Pulley 2 by a lock-nutted bolt 3.

Parts required to build the model Tricyclist: 2 of No. 2; 6 of No. 5; 5 of No. 12; 1 of No. 16; 1 of No. 17; 4 of No. 22; 1 of No. 23a; 1 of No. 24; 38 of No. 37; 8 of No. 37a; 8 of No. 38; 2 of No. 48a; 2 of No. 90a; 1 of No. 111c; 1 of No. 125; 2 of No. 126; 2 of No. 126a; 2 of No. 155a; 1 of No. 186; 1 of No. 187; 1 of No. 188; 1 of No. 199; 2 of No. 200. 1 Magic Motor.

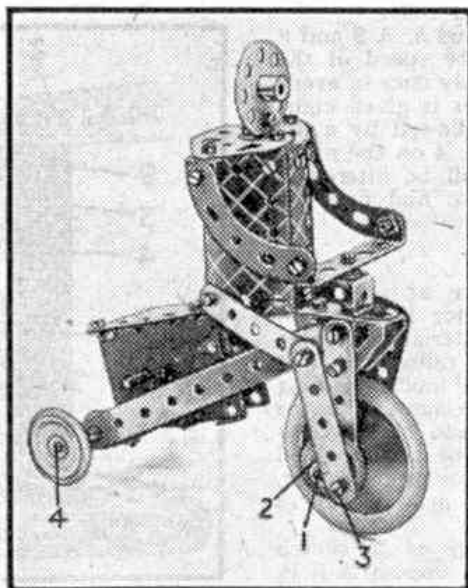


Fig. 2. This amusing Trick Tricyclist is operated by a Magic Motor.