New Meccano Models

Miniature Pioneer Locomotive—Monoplane

OUR first model this month is the miniature of a famous early locomotive seen in Fig. 1. This was built on Tyneside in 1804 in accordance with the plans of Richard Trevithick, the famous Cornish engineer who was the pioneer of the locomotive. In the original the power was transmitted from the fly-

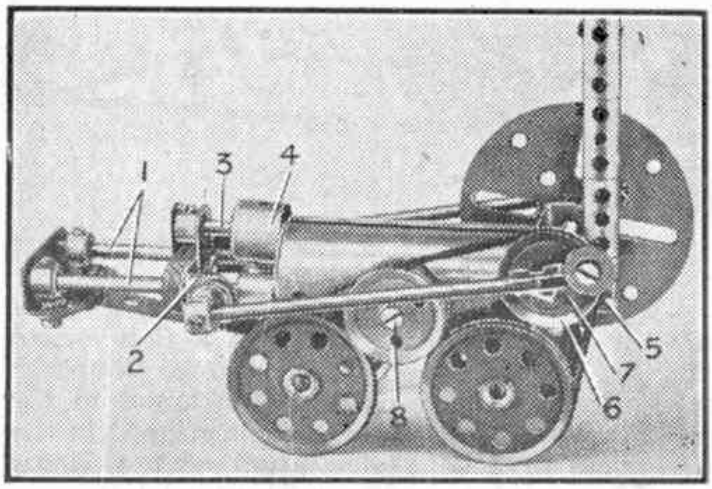

Fig. 1. A fine Meccano version of a pioneer locomotive.

wheel shaft to the travelling wheels through a system of large gears, but in the model belts are used for this purpose.

Construction of the model is commenced with the cylinder and slide bar assembly, which is fixed at the rear of the boiler. The slide bars 1 are 2½" long, and are held at their forward ends in the bosses of Rod Sockets attached to a 1¼" Disc forming the boiler end. A crosshead guide 2 is fitted on the bars, and consists of six 1½" Strips bolted to a 1½" × ½" Double Angle Strip, to which Collars are lock-nutted. The piston rod 3 is 2½" long, and is held by a Collar between two Flat Brackets attached to the crosshead. It is free to slide in a Chimney Adaptor 4 that forms the rear section of the cylinder, and in the top hole of the 1¼" Disc. The Chimney Adaptor is bolted to a Collar, but is spaced from it by a Washer. In one of the tapped bores of the Collar is fixed a 3" Screwed Rod that passes along the centre line of a Cylinder forming the boiler.

The rear ends of the slide bars 1 are inserted in Collars connected as shown and braced by a 3" Strip fixed to the rear end of the Cylinder.

The travelling wheels are 1½" Pulleys mounted on 1½" Rods journalled in Double Brackets bolted underneath the Cylinder. Two 1" loose Pulleys are mounted on a ½" Bolt 8 fixed to the Cylinder in the position shown. The front end of the boiler is a 1¼" Disc to which are bolted a ½" × ½" and a 1" × ½" Angle Bracket that provide bearings for the flywheel shaft. The 1¼" Disc is held in place by a Threaded Coupling 5, which is screwed on the 3" Screwed Rod passing through the centre of the boiler.

The chimney is a 3" Rod inserted in the Threaded Coupling 5 and fitted with three Couplings and a Collar. The flywheel is a Face Plate, and it is mounted on the left-hand end of a 2" Screwed Rod that carries at its other end a 1" fixed Pulley 6 and a Flat Bracket 7 locked between two Nuts. A Rod and Strip Connector is lock-nutted to the Flat Bracket and another to the corresponding hole in the Face Plate.

The drive is transmitted to the wheels by a 10" Driving Band passed around the 1" Pulley 6 and also around the forward right-hand travelling wheel, over the inner 1" loose Pulley and around the rear wheel. It is returned to the Pulley 6 after passing over the outer 1" loose Pulley. The mechanism of the model is completed by fitting the connecting rods, which are 3½" Rods attached as shown.

Parts required to build model Locomotive: 1 of No. 4; 6 of No. 6a; 1 of No. 9f; 3 of No. 10; 2 of No. 11; 1 of No. 12; 1 of No. 12b; 2 of No. 16; 3 of No. 16a; 1 of No. 16b; 2 of No. 18a; 4 of No. 21; 1 of No. 22; 2 of No. 22a; 22 of No. 37a; 8 of No. 37b; 27 of No. 38; 1 of No. 48; 7 of No. 59; 3 of No. 63; 1 of No. 63c; 1 of No. 80c; 1 of No. 81; 1 of No. 109; 1 of No. 111a; 4 of No. 111c; 1 of No. 164; 2 of No. 179; 1 of No. 186b; 2 of No. 212; 1 of No. 216; 2 of No. 217a.

Our second new model this month is a trainer monoplane, which is based on the well-known Miles "Master" and is designed for construction from Outfit No. 3. It is shown in Fig. 2 and construction is commenced with the nose and fuselage. A U-section Curved Plate 1 is fitted with a Double Bracket, to which is bolted a Flat Bracket. The propeller, consisting of two 2½" Cranked Curved Strips held between two ½" Discs, is lock-nutted to the Flat Bracket by a ½" Bolt. At its rear end the U-section Curved Plate is attached to two 2½" Flexible Plates 2. These are bent around and bolted together underneath the fuselage, and are also attached to a 5½" × 2½" Flexible Plate 3 forming the cockpit and the rear part of the fuselage. The Plates are strengthened by the addition of 5½" and 2½" Strips curved slightly and bolted in the positions shown. At the rear end, the fuselage is attached to two Trunnions 4 and is strengthened by the addition of two ½" × ½" Angle Brackets which join the two sides. The Trunnions are fitted with 2½" × 1½" Flexible Plates forming the tailplanes, and carry a ½" loose Pulley.

The fin and rudder unit is fitted, and each wing is attached to the fuselage by Angle Brackets; 2½" Strips fitted with 1" Pulleys form the undercart.

Parts required to build model Trainer Monoplane: 6 of No. 2; 9 of No. 5; 5 of No. 10; 1 of No. 11; 6 of No. 12; 2 of No. 22; 1 of No. 23; 43 of No. 37a; 37 of No. 37b; 4 of No. 90a; 5 of No. 111c; 2 of No. 126; 2 of No. 188; 2 of No. 189; 2 of No. 190; 1 of No. 192; 1 of No. 199; 1 of No. 214; 2 of No. 217b.

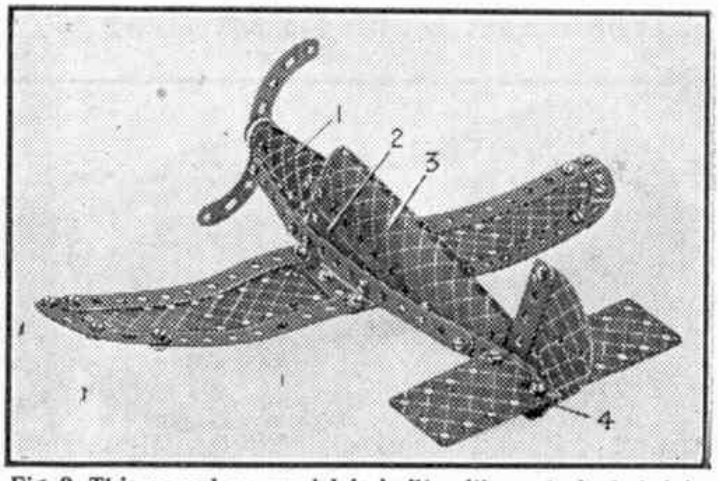

Fig. 2. This aeroplane model is built with parts included in Outfit No. 3.