

# New Meccano Models

## Steam Engine and Boiler—Tricycle

TO form the base of the fine model vertical steam engine and boiler shown in Fig. 1, two  $5\frac{1}{2}'' \times 2\frac{1}{2}''$  Flanged Plates and two  $12\frac{1}{2}''$  Angle Girders are required. These are bolted together as shown, and an E20B Electric Motor is then mounted on one end of the base, leaving the other end free to accommodate the engine plant. The basic structure of this consists of three  $3\frac{1}{2}'' \times 2\frac{1}{2}''$  Flanged Plates, two of which are bolted to Angle Girders fixed to the  $5\frac{1}{2}'' \times 3\frac{1}{2}''$  Flanged Plate, while the third Plate 1 is bolted between them as shown. A boiler complete with one End is then fixed in position by means of Angle Brackets. It is fitted with a water gauge 2 consisting of two Handrail Supports and a 1" Rod, and a steam gauge 3 formed by a  $\frac{3}{4}''$  Flanged Wheel fixed by its boss on a 1" Screwed Rod held in another Handrail Support. The gauge dial is a disc of paper suitably marked in ink and stuck to the Flanged Wheel with paste.

Each of the two engine cylinders is a Sleeve Piece 4, which is fixed to the Boiler by a  $\frac{1}{2}''$  Bolt. The Bolt is passed through one of the holes in the Sleeve Piece from the inside, and a nut is then placed on it and tightened up against the Sleeve Piece. Then a Washer and a Collar are placed on the Bolt, which is passed through the Boiler and held in place by a final nut. The chimney also is a Sleeve Piece fixed to a Chimney Adaptor bolted to the Boiler End.

The cylinder is capped at each end with a  $\frac{3}{4}''$  Flanged Wheel. The piston rod 5 carries at its lower end an End Bearing to which the connecting rod, a 3" Strip 6, is pivotally attached by a lock-nutted bolt. The other end of the Strip is slipped over a Threaded Pin fixed in one of the inner holes in the 3" Pulley that forms the flywheel. This Pulley is fixed on a Rod 7 journalled in the  $3\frac{1}{2}'' \times 2\frac{1}{2}''$  Flanged Plates of the base. A Collar holds the Strip in place on the Pin.

Parts required to build model Vertical Engine and Boiler: 2 of No. 4; 2 of No. 8; 3 of No. 12; 2 of No. 16b; 1 of No. 18b; 2 of No. 19b; 5 of No. 20b; 28 of No. 37a; 26 of No. 37b; 6 of No. 38; 2 of No. 52; 3 of No. 53; 4 of No. 59; 1 of No. 82; 2 of No. 111a; 2 of No. 115; 3 of No. 136; 1 of No. 162a;

1 of No. 162b; 3 of No. 163; 1 of No. 164; 2 of No. 166, E20B Electric Motor.

Model-builders who enjoy building small realistic models will be interested in the neat tricycle shown in Fig. 2. Construction of this is begun by bolting two Cranks back to back with a  $1\frac{1}{2}''$  Strip 1 between them as shown. Two units of this type are built up and then are mounted one on each end of a  $4\frac{1}{2}''$  Rod, which carries also a Coupling 2. The rear wheel axle is a  $6\frac{1}{2}''$  Rod journalled in the bosses of the Cranks, and in addition to the road wheels,

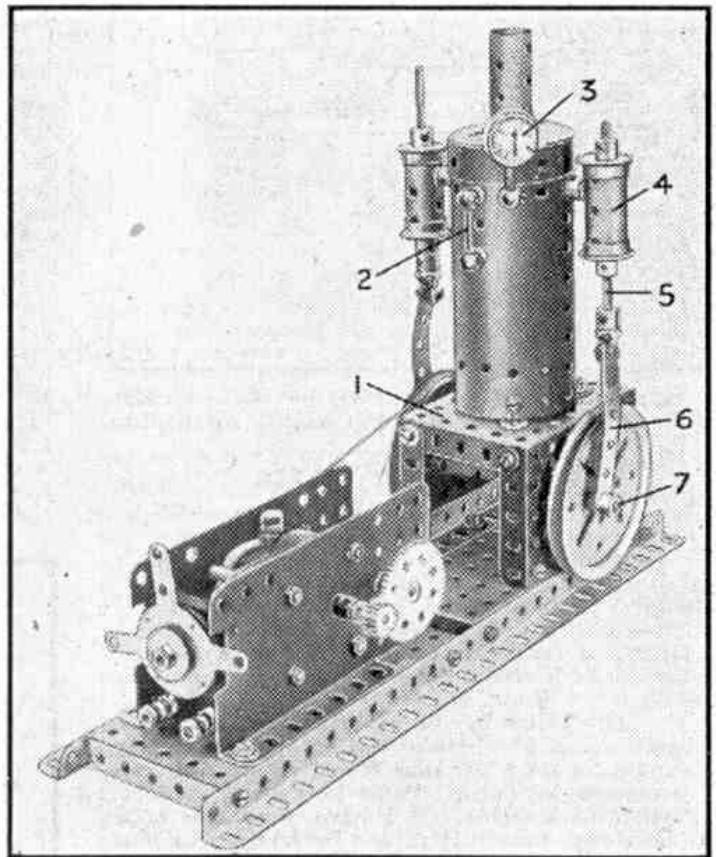


Fig. 1. A model vertical steam engine and boiler.

which are 2" Pulleys shod with Rubber Tyres, it carries a  $\frac{3}{4}''$  Sprocket 3. The Pulleys are spaced from the bosses of the Cranks by three Washers. A  $1'' \times \frac{1}{2}''$  Angle Bracket 4 is bolted to the protruding end of the  $1\frac{1}{2}''$  Strip on each side of the model. These Angle Brackets support the mudguards, each of which is composed of two Formed Slotted Strips.

The saddle is a Flat Trunnion bolted to a Trunnion that carries a Rod Socket 5. On the shank of the Rod Socket is a Hinge