

A Meccano Wall Clock

A Simple Weight Driven Time-keeper

AS a result of many requests for an accurate but simple clock, we describe in this article a Meccano Wall Clock that will interest specially model-builders who have a limited supply of Meccano parts at their disposal.

The frame is formed from two $12\frac{1}{2}$ " Angle Girders 1, fitted with two $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flanged Plates, one of which is shown at 2. The near side Plate has been removed in order to expose the gear-train. A $5\frac{1}{2}$ " Angle Girder 3 is bolted across the upper flanges of the Flanged Plates 2, and two further Girders of similar size are bolted to the inside edge of each Plate. One of these Girders is shown at 4, and they both form supports for two $4\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flat Plates. One $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flat Plate and two $5\frac{1}{2}$ " Strips are bolted between the two rear flanges of the Plates 2, Fig. 2. Two $4\frac{1}{2}$ " Strips 5 are fitted as shown.

Two $12\frac{1}{2}$ " \times $2\frac{1}{2}$ " Strip Plates are secured to the Girders 1, and bridged at the bottom by a $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Strip Plate. At the top two $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Strip Plates are fitted as shown in Fig. 1, and they are connected together at their upper corners by a $2\frac{1}{2}$ " small radius Curved Strip. Fancy work is added to the bottom of the clock and this is formed from five $2\frac{1}{2}$ " small radius Curved Strips and two $4\frac{1}{2}$ " Curved Strips.

The lower end of the Girders 1 each carries a $2\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flat Plate, the outer edges of which are fitted with $2\frac{1}{2}$ " Angle Girders. The Flanges of these Angle Girders point inward, and at their upper ends they are bridged by a duplicated $5\frac{1}{2}$ " Strip, a portion of which is shown at 6, Fig. 1. Two Double Arm Cranks are now fitted to form reinforced bearings, and one of these is secured to the centre of the $5\frac{1}{2}$ " Strips 6. The other is bolted to the lower $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Strip Plate as shown.

The winding barrel consists of two Wheel Flanges and two Face Plates, bolted together by two $\frac{3}{4}$ " Bolts, to form a large diameter drum. The boss of one of the Face Plates is turned inward so that it is accommodated inside one of the Wheel Flanges, and the complete winding barrel is mounted on a $3\frac{1}{2}$ " Rod that carries also a Ratchet Wheel and a 3" Sprocket. The Ratchet Wheel is locked on the $3\frac{1}{2}$ " Rod with its boss pointing to the back of the model; and the Sprocket Wheel, free to turn on the Rod, is mounted in a similar manner, but is spaced away from the Ratchet Wheel by a Washer. In one of its outer holes a Pivot Bolt is secured and on this is carried a spring-loaded Pawl. The front end of the

$3\frac{1}{2}$ " Rod carries a Coupling 7, fitted with a $1\frac{1}{2}$ " Rod, forming the winding handle.

The 3" Sprocket drives, through a length of Chain, a $\frac{3}{4}$ " Sprocket Wheel mounted on the same Rod as a $1\frac{1}{2}$ " Sprocket 8. A second length of Chain connects the Wheel 8 with the Sprocket Wheel 9, and this is mounted on a 3" Rod, together with a 57-teeth Gear that is in mesh with a $\frac{1}{2}$ " Pinion locked on the same Rod as a second 57-teeth Gear. This last Gear is carried on the front end of its Rod immediately behind the face, and is in engagement with a $\frac{1}{2}$ " Pinion mounted on the same Rod as the Gear 10. The Rod is carried at one end in a bearing formed from a Double Bent Strip. A $\frac{1}{2}$ " Pinion on the escapement rod is in constant mesh with the Gear 10.

The Gears that transmit the movement from the minute hand to the hour hand are now fitted. The Rod carrying the Sprocket 9 is fitted with a $\frac{1}{2}$ " Pinion that meshes with a 57-teeth Gear 11 on the Rod 12. This Rod is $3\frac{1}{2}$ " in length and carries the minute hand at its outer end. At its centre is a $\frac{3}{4}$ " Pinion, meshing with a 50-teeth Gear on the Rod 13, and also a 1" Gear that engages with a similar part on the Rod 14 carrying a second $\frac{3}{4}$ " Pinion. This Pinion drives a 50-teeth Gear on the Rod 15, which carries on its front end a $\frac{1}{2}$ " Pinion. A 57-teeth Gear, that is free to turn on the Rod 12, meshes with this latter Pinion, and is fitted with a $\frac{1}{2}$ " Reversed Angle Bracket. This part is bolted to the 57-teeth Gear and it protrudes through a hole in the centre of the face. A $1\frac{1}{2}$ " Strip represents the hour hand.

The escapement wheel and pallet are fully described in the Suggestions Section on page 473 of last month's "M.M." The mounting of the pendulum will be apparent from the illustration. The flexible connection at the top of the pendulum consists of two short lengths of flexible steel wire. The pendulum itself is built up from one 8", one $11\frac{1}{2}$ " and one $3\frac{3}{4}$ " Rod joined together by Couplings. The "bob" is built up from two Boiler Ends in which is placed a small quantity of lead scrap.

The driving weights, shown in Fig. 1, are formed from Boilers filled with lead scrap and are attached to the driving cords by End Bearings. The cord from the weight A is taken to the drum, round which it is wound in an anti-clockwise direction. The cord from B passes over the Pulley 16 and is wound anti-clockwise on the drum.

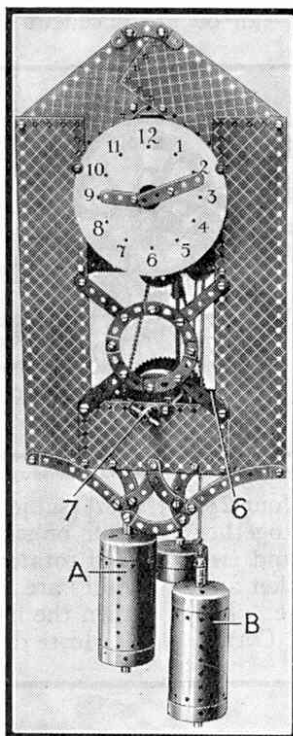


Fig. 1. This simple Meccano Clock is fully described on this page.

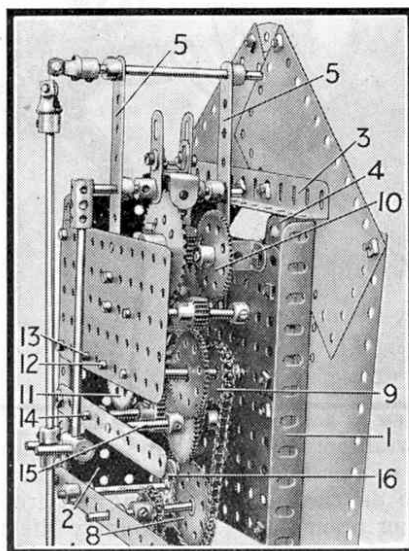


Fig. 2. The gearing of the Wall Clock.