

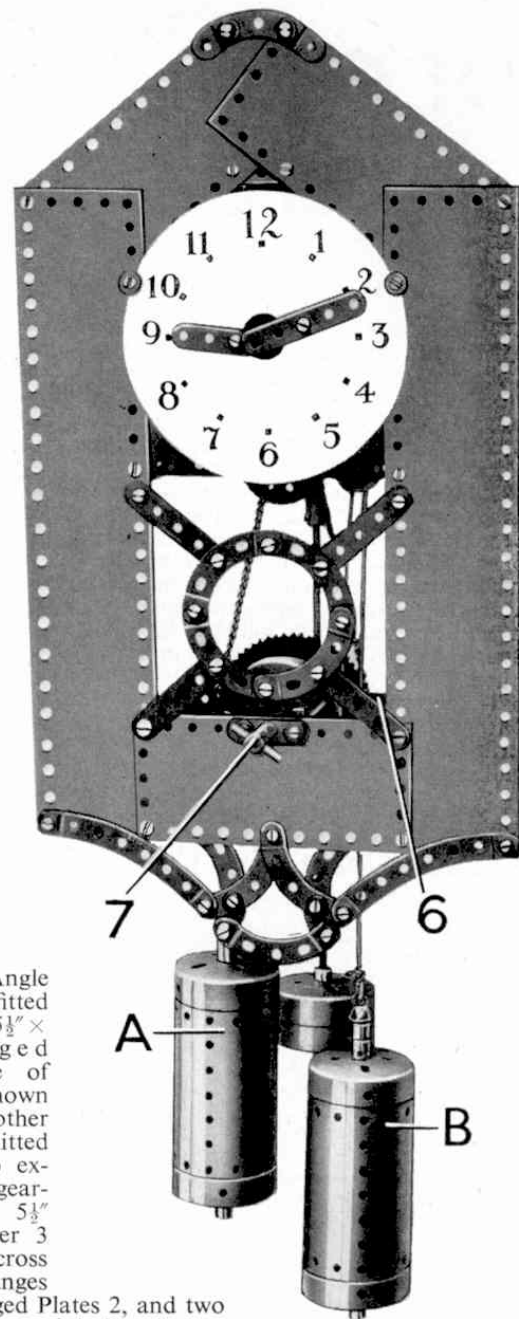
MECCANO WALL CLOCK

A Simple, Weight-Driven Time-Keeper

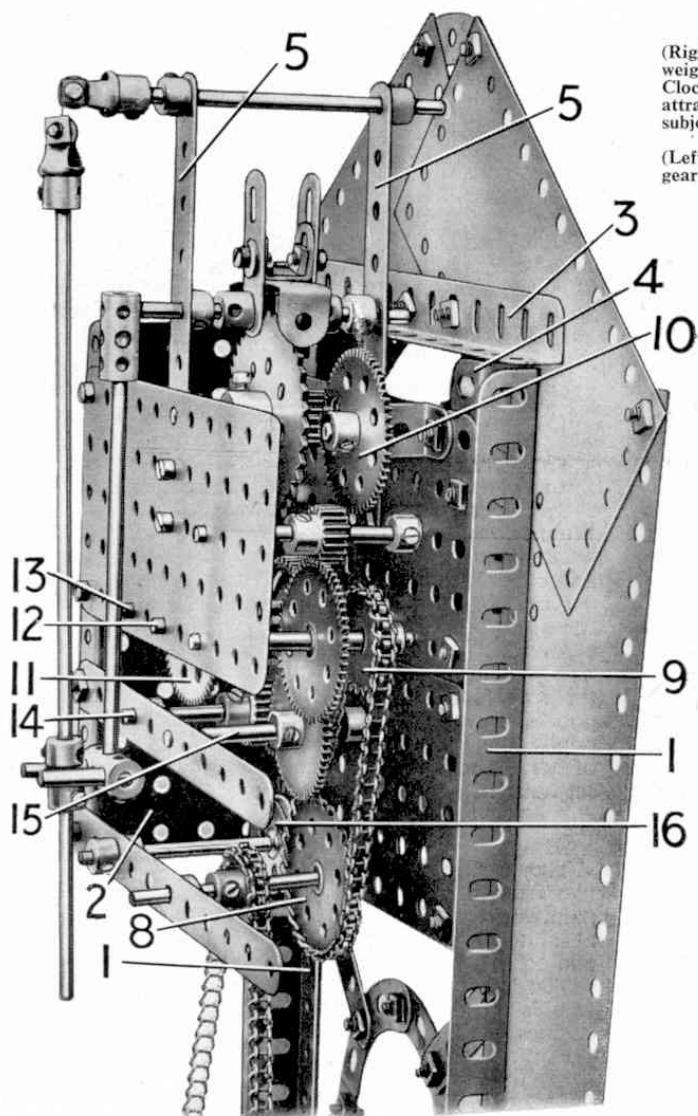
I HAVE received many requests during the past few months for details of Meccano clocks, and there seems to be an increasing number of model-builders interested in this type of mechanism. Actually it is of course possible to build many different kinds of clocks from standard Meccano parts, and these include wall and mantle clocks and weight-driven grandfather type clocks.

In view of the requests I have received I have decided to include again this month details of an attractive weight-driven wall clock that was first illustrated and described in the *Meccano Magazine* some years ago. The younger generation of model-builders will not have seen this model, and I hope therefore that they will find it attractive and will want to build it.

The clock is quite simple in construction and will interest specially model-builders who have only a limited supply of Meccano parts at their disposal. The frame is formed from



(Right) Fig. 1. This weight-driven Wall Clock provides an attractive and useful subject for model-builders.
(Left) Fig. 2. The gearing of the Wall Clock.



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 other has been omitted 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 $2\frac{1}{2}$ " Flexible Plate. At the top two $5\frac{1}{2}$ " \times $2\frac{1}{2}$ " Flexible Plates are fitted as shown in Fig. 1, and connected together at their upper corners by a $2\frac{1}{2}$ " small radius Curved Strip. Decorative work is added to the bottom of the clock and this is formed from five $2\frac{1}{2}$ " small radius Stepped Curved Strips, and two 4" Stepped Curved Strips.

The lower ends of the Girders 1 each carry 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 $5\frac{1}{2}$ " Strip 6. The other is bolted to the lower $5\frac{1}{2} \times 2\frac{1}{2}$ " Flexible 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. The Sprocket Wheel, which is free to turn on the Rod, is mounted in a similar manner, but is spaced 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 that forms the winding handle.

The 3" Sprocket drives, through a

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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, which is mounted on a 3" Rod together with a 57-teeth Gear that meshes with a $\frac{1}{2}$ " Pinion locked on the same Rod as another 57-teeth Gear. This last Gear is carried on the front end of its Rod immediately behind the clock 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 bearing 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 that carries also a second $\frac{3}{4}$ " Pinion. This Pinion drives a 50-teeth Gear on the Rod 15, on the front end of which is a $\frac{1}{2}$ " Pinion. A 57-teeth Gear, which 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 clock face. A $1\frac{1}{2}$ " Strip represents the hour hand.

The escapement is a 2" Sprocket Wheel mounted on the final shaft of the clock drive. The pallet is built up from a $1\frac{1}{2} \times \frac{1}{2}$ " Double Angle Strip attached by two $\frac{1}{2} \times \frac{1}{2}$ " Angle Brackets to two

Cranks. The Angle Brackets are bolted together to form a double bracket, and the Cranks are locked on the ends of two short Rods carried in the Strips 5. The method of mounting the crutch and pendulum will be clear from the illustration. Care must be taken when adjusting the ends of the Double Angle Strip, and the exact position of the lugs in relation to the escapement wheel must be gauged very accurately.

The pendulum is built up from one 8", one $11\frac{1}{2}$ " and one $3\frac{1}{2}$ " Rod joined together by Couplings, and is suspended by means of two short lengths of flexible steel wire held in an End Bearing. The "bob" consists of two Boiler Ends suitably loaded. The driving weights A and B shown in Fig. 1 are formed from Boilers suitably loaded, and are attached to the driving cords by End Bearings. The cord from 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.

Parts required to build the Meccano Wall Clock: 4 of No. 2; 2 of No. 2a; 1 of No. 6a; 2 of No. 8; 3 of No. 9; 2 of No. 9d; 2 of No. 12; 1 of No. 13; 1 of No. 13a; 3 of No. 16; 1 of No. 16b; 1 of No. 18a; 2 of No. 25; 5 of No. 26; 2 of No. 27; 3 of No. 27a; 2 of No. 31; 60 of No. 37a; 60 of No. 37b; 1 of No. 45; 2 of No. 48; 2 of No. 52; 2 of No. 53a; 2 of No. 62; 2 of No. 62b; 3 of No. 63; 1 of No. 70; 2 of No. 72; 2 of No. 89b; 6 of No. 90a; 40 of No. 94; 1 of No. 95; 1 of No. 95a; 1 of No. 95b; 1 of No. 96a; 2 of No. 109; 2 of No. 111; 1 of No. 120b; 1 of No. 125; 2 of No. 137; 1 of No. 147a; 1 of No. 147b; 1 of No. 148; 2 of No. 162; 2 of No. 162a; 2 of No. 166; 3 of No. 192; 2 of No. 197; Short length of flexible steel wire.



BOOK REVIEWS

British Aircraft of World War II

(Ian Allan, 2/6d.)

Recently published in the series of ABC books is *British Aircraft of World War II*. The book, by K. G. Munson, gives full details of 27 of the major aircraft of the war, and briefer details of 40 aircraft which played a lesser, yet nevertheless very important, role in the fighting. All the descriptions include striking photographs of the aircraft concerned, together with brief technical details. At the back of the book is a list of experimental and less significant operational aircraft produced during the war years. The author has included a chapter devoted to a survey of Britain's aircraft and air power between the years 1918 and 1939, and a review of the part played by British aircraft in the European and Pacific theatres of war.

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Railway Knowledge

The Railway Correspondence and Travel Society have recently produced a second edition of Part Eight of their publication *The Locomotives of the Great Western Railway*. Its theme is *Modern Passenger Classes* and, like previous R.C.T.S. publications, it provides a great deal of most useful and accurate information. Its general style and presentation follows that of the original 1953 edition. Numbers, names, building dates and so on are listed, together with many other details, and there are plenty of illustrations. Copies can be obtained, price 9/- each, from the R.C.T.S., Hon. Publications Officer, Mr. N. J. Claydon, 19 Dene Court Road, Olton, Solihull, Warwickshire.

New A.A. Foreign Guide for Drivers

The motorists of Great Britain are travelling further and further afield for their Continental holidays. To meet this trend, the 1961 edition of the Automobile Association's Foreign Touring Guide has been extended to include Finland, now one of Europe's top twenty touring countries.

The 40 pages of easy-to-read road maps have been revised, and places where there are A.A. hotels have been given a special symbol. In addition, the telephone numbers and addresses of accommodation bureaux in France are given. Altogether the new guide contains details of more than 5,700 appointed hotels (300 more than last year), 114 motels and 1,350 garages.