

a double bracket bolted to a bell crank (29) and pivoted on a rod (30) in the double bent strip (12).

#### Adjusting the Hands

A cord (31) is connected to the bell crank (29), and by pulling on this cord, the rod (28) is caused to slide and move the gear (21) in or out of engagement with the pinion (20). This releases the driving train from the clock hands and enables the hands to be freely adjusted.

In order to drive the hour hand from the minute hand rod (25), a  $\frac{1}{2}$ " pinion (32) on this rod drives a 57-toothed gear (33) mounted on a 2" rod. This engages a second 57-toothed gear (34) Fig. B), the  $\frac{1}{2}$ " pinion (35) on the same 2" rod driving a 50-toothed gear (36). Another  $\frac{1}{2}$ " pinion (see Fig. B) on this rod drives a 50-toothed gear (37). On the  $2\frac{1}{2}$ " rod of this last wheel is a  $1\frac{1}{2}$ " sprocket wheel (38 Fig. B and Fig. D) which is coupled to a similar sprocket (39) loose on the rod 25. The hour hand (40 Fig. D), consists of a  $2\frac{1}{2}$ " strip and is connected by a  $\frac{1}{2}$ " reversed angle bracket (41) to a  $1\frac{1}{2}$ " strip (42). This is bolted to the sprocket wheel (39) and spaced by two washers to give clearance for the sprocket chain. The reversed angle bracket (41) is necessary to enable the hour hand 40 to be brought clear of the dial plate.

#### Ratchet Winding Mechanism

The ratchet mechanism permitting the winding of the weight is built up as shown in Figs. E, F and G. As will be seen from the two first-mentioned, the complete ratchet element is made by passing a 6" rod (43) through a wood roller (44), the ends of which are clamped between two bush wheels (45) secured on the rod. The bosses of the bush wheels are entered into the ends of the wood roller and the bolts (46) engage in the end notches of the wood roller to key the roller to the bush wheel (45).

A 1" gear wheel (47) is then bolted on the rod (43) with its boss close against the end bush wheel (45). Four washers (48) are then threaded on the rod.

The element shown in the centre of Fig. E is next passed over the rod. This element is made as follows:—

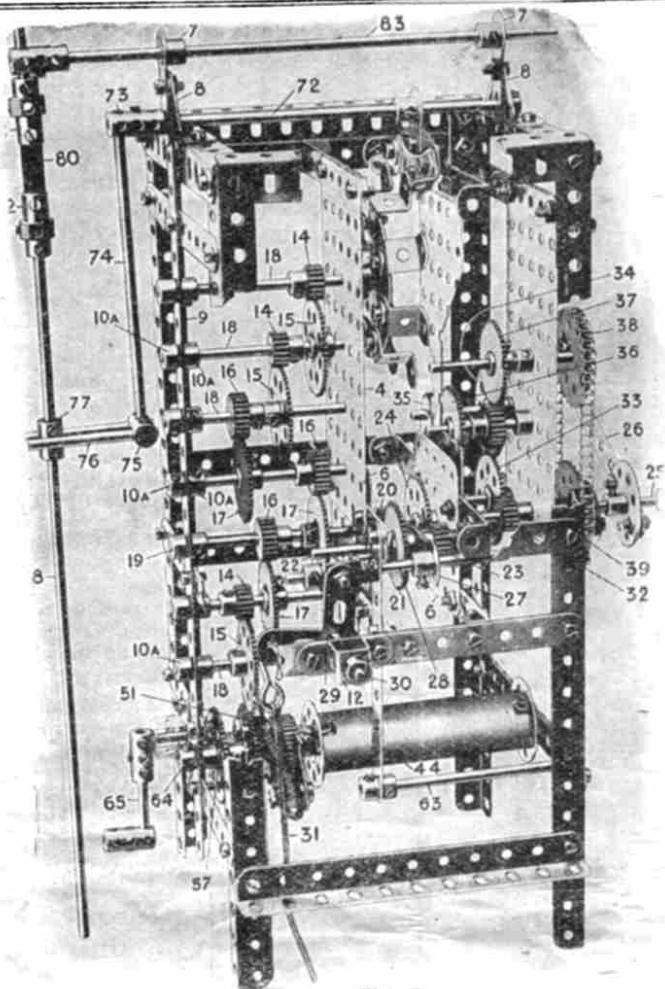


Fig. B

Two  $2\frac{1}{2}$ " strips (49) are bolted by  $\frac{1}{2}$ " bolts (50) to a 57-toothed gear wheel (51), lock-nuts (52 Fig. F) being fitted on the bolts on each side of the gear wheel (51) and also beneath the strips (49). A pawl (53) is pivoted at (54) in the end hole of the strips (49) and a spring (55) is connected to the pawl boss by a screw, and also to a  $\frac{1}{2}$ " bolt (56) on the gear wheel (51) and lock-nutted. The element so built up is passed over the rod (43), being loose thereon, and the pawl engaged with the gear wheel (47) (see Fig. F).

(To be continued)

#### NEXT MONTH:

We shall print the Final Instalment of this article on the Meccano Clock.

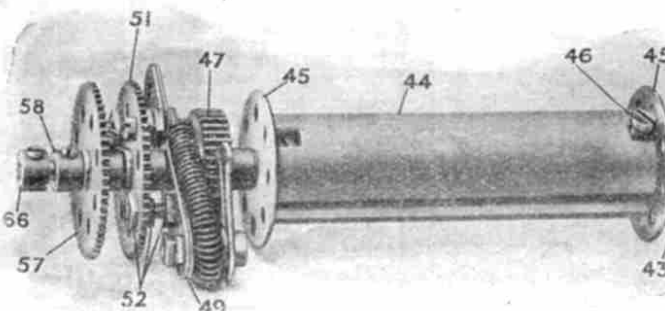


Fig. F

## OUR MAIL BAG



In this column the Editor replies to letters from his readers, from whom he is always pleased to hear. He receives hundreds of letters each day, but only those that deal with matters of general interest can be dealt with here. Correspondents will help the Editor if they will write neatly in ink and on one side of the paper only.

**Ian MacDonald (?)**.—We have received your letter enclosing 1/8 subscription for the "M.M." You have not sent us your address, however, and we shall be glad if you will kindly do so in order to enable us to trace.

**H. Dewhurst (Nelson)**.—You are indeed fortunate in having secured a Club Leader who has given his members the use of his Art Gallery, Library, Billiard Table and Lathe. No wonder you enjoy the club nights so much. Your club magazine is very creditable.

**M. J. Rowlands (Trawsfynydd)**.—"Meccano Encourages Concentration, Carefulness, Alertness, Neatness, Originality." Very neatly put and quite true.

**W. G. Ford (West Croydon)**.—"Your articles are always so ripping that it makes us emulate Oliver Twist." It is through having so many Oliver Twists amongst our readers that we have been compelled to increase the size of the "M.M." so many times. We think our Christmas Number will satisfy even your own voracious appetite.

**L. C. Denis (London)**.—Your solution to J. Miller's puzzle in the October Magazine is quite correct: "J. Miller first had 7 strips and his chum had 5. The chum divided his strips with his brother and then they all had 4 each." We were interested to hear that you solved the problem by Algebra. We have happy memories of trying to make  $x=0$ .

**S. Whitehead (King's Heath)**.—You also have solved the puzzle. We see that we shall have to think of something really difficult for our new Puzzle Column.

**D. O. Boyd (Callestick)**.—A Competition for the best photograph of the nest and eggs of a British bird would, we fear, scarcely bring sufficient entries. We are, however, always glad to receive and pay for any such photographs that are suitable for reproduction.

**L. B. Perkins (Bradford)**.—We appreciate your praise for the "M.M." Sorry we said "Photographic." Our printers try to explain it by saying that the compositor had the hump when he set the word.

**W. Tomsett (Saundersfoot)**.—If you order the "M.M." from Messrs. W. H. Smith & Sons they will supply it to you regularly. We shall reprint "Dick's visit to Meccanoland" later, possibly in the "M.M."

**H. E. Huile (Paddington)**.—"A fine way of keeping the muscles strong is to get on all-fours so that the soles and heels of your boots touch a wall. Now, walk up it by moving the hands towards the wall and the feet up it." Excellent for light-weights, Herbert, but not for the poor Editor. He must just jog along with flabby muscles!

**A. J. Lewis (Wynberg, S.A.)**.—Your letters are always welcome, and we are particularly pleased to hear of your early promotion. We hope the Wynberg Meccano Club and its fifty members will have a successful winter.

**E. R. Whiting (Claremont, W.A.)**.—Your cryptogram "How I snazco 2 todemansrig" is ingenious, but we fear it is a little too difficult for most people. Don't waste too much time on perpetual motion. Mr. Hornby once tried it, but he failed, just as everyone must. We hope you will write to us often.

**F. A. Neilson (Buenos Aires)**.—We are very glad to hear of your safe arrival home, and to know that you retain such pleasant memories of your visit to the Meccano factory and of your talk with Mr. Hornby. We hope to deal with your suggestions in a later issue.

**E. Shipley (Walsall)**.—"W211 Ni S4imv6 e slev q52 ko21h512 3m h163mt qslq s4imv6 q113mh 2cx20 100 4qseih." Mr. Hornby thanks you for the message in your cryptogram, and for all the good things you say in your letter.

**W. S. Lee (Clinton, B.C.)**.—We are sorry your club broke up on account of counter attractions. Now is the time to start it again. By all means send us particulars of the radio set that is giving such good results. We are pleased Meccano helped you so much.

**S. Johnson (Bedford)**.—"The poor benighted Hindoo, He does the best he kindoo, From first to last, He keeps his caste, And for clothes he makes his skindoo."

You have a well-developed sense of humour, Sidney, and we are sorry we are only able to find room for one of your little poems. If you ever write similar little stories of other native tribes we will try to make room for them.