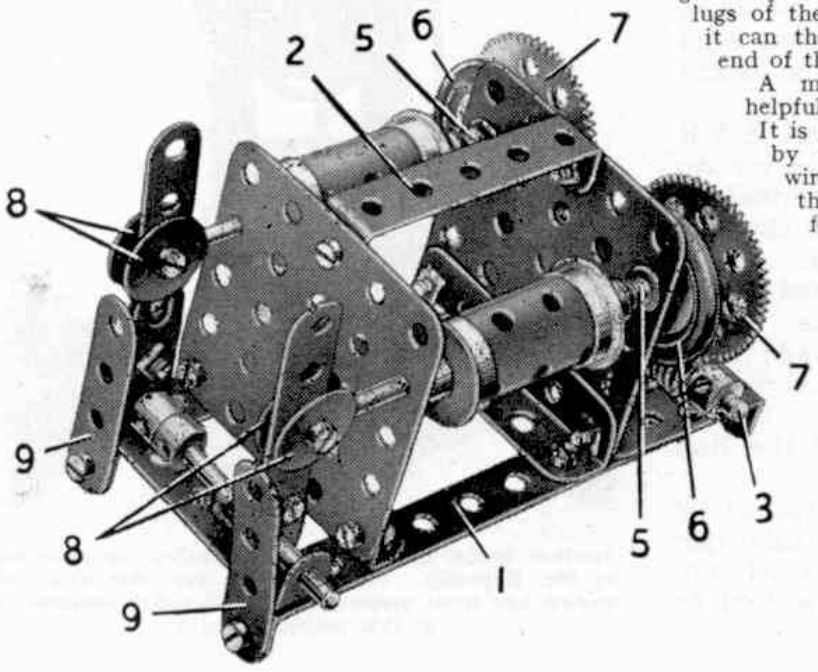
M. J. Hibell, Brixham, who won a prize of £5 in the Meccano International Model-Building Competition.

The Rod is fitted with two Worms 4, and the drive to it is transmitted through a ½" Bevel Gear mounted between the Trunnions.

The two winding shafts are identical in arrangement. The winding drum in each case is a Sleeve Piece fitted with two ¾" Flanged Wheels, and it is fixed on a Rod supported in the Flat Plates. A Compression Spring 5 is placed between the drum and one of the Flat Plates and the Rod carries a 1" Pulley with Rubber Ring 6 and a 57-tooth Gear 7.

Each of the levers operating the winding shaft is a 3" Strip bolted to a Crank. The Cranks are held in place by Collars on a 3" Rod mounted in a 2½" × ½" Double Angle Strip bolted across the Double Angle Strips 1. Two ¾" Washers 8 spaced apart by four Washers are attached by a ½" Bolt to each lever, and the ¾" Washers fit on either side of the winding drum shaft. The levers are held against the shafts by 2" Strips 9, bolted to the ends of the Double Angle Strips 1.

The operation of the mechanism is as follows. The Gear 7 is arranged so that when the 1" Pulley with Rubber Ring 6 is pressed against the Flat Plate the Gear is just clear of the Worm 4. The drive is then disengaged and the drum is prevented from turning by the friction between the Rubber Ring and the Flat Plate. When the operating lever is moved the Rubber Ring is forced away from the Flat Plate, thus releasing the brake, and at the same time the Gear 7 is moved into mesh with the Worm to engage the drive.



USEFUL MODEL-BUILDING HINTS

It sometimes happens in building certain kinds of models that a completely boxed-in structure is required. At first glance this may appear very difficult to construct, but actually it is quite simple if a supply of Screwed Rods of suitable sizes is available.

Three sides of the structure should be built up in the usual manner using ordinary nuts and bolts. The

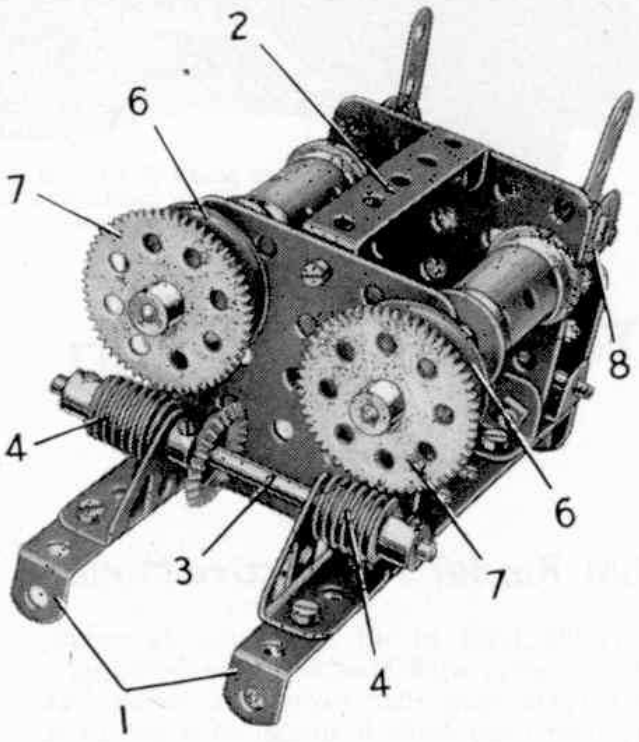


Fig. 3. A combined brake and gear selector for operating and controlling twin winding drums in cranes. It was designed by A. R. Seymour Dale, Eastbourne.

remaining side can then be fixed in position by passing Screwed Rods through the opposite faces and fitting nuts at each end.

When building certain complicated models or compact and intricate mechanisms it is sometimes necessary to fit a nut in a position not readily accessible by normal methods. The Meccano Box Spanner has been designed specially for use in such cases and generally will be found quite satisfactory. The lugs of the Spanner hold a nut securely, so that it can then be positioned quite easily over the end of the bolt.

A magnetised Screwdriver will be found helpful in placing bolts in difficult positions. It is quite easy to magnetise the Screwdriver by winding 20 or 30 turns of insulated wire around the shaft and then connecting the free ends of the wire to an accumulator for a few seconds. The Screwdriver will then be magnetised sufficiently to hold a bolt while it is inserted in the appropriate hole. An alternative method to magnetising the Screwdriver is to place a small piece of Plasticine or gum on the head of the bolt.

Here is another tip that may come in useful in simple models such as cranes, when a Cord Anchoring Spring is not available. A Cord can be secured firmly to a Rod by tying it round the lugs of a Spring Clip placed on the Rod.

Fig. 4. Another view of the combined brake and gear selector.