

Suggestions

Edited by "Spanner"



The ideas printed in the "Suggestions Section" should prove a real help to thousands of Meccano enthusiasts. Often we receive letters from readers who describe how they have solved some knotty problem or evolved an interesting model after studying some of the ideas that have appeared. We shall always be pleased to receive further contributions for the "Suggestions Section." Cash payments are made for all Suggestions published (excluding those mentioned in the "Miscellaneous" Suggestions column). Contributions should be accompanied by clear photographs or drawings and should be addressed to "Spanner," c/o The "Meccano Magazine."

(139)—Automatic Coin-in-the-slot Mechanism

(A. M. Johnston, Dunstable)

ALL Meccano boys are acquainted with automatic coin-in-the-slot machines, many varieties of which are to be met with on railway stations or sea-side piers. Most of these machines supply matches, cigarettes, or eatables on receipt of the coin, but some of them embody games of skill in which the coin is returned if the operator manipulates the apparatus correctly. (Meccano boys would score heavily here, of course!)

Automatic machines are also employed for more useful purposes, such as the issuing of tickets on the Underground stations of London. On insertion of the required amount for the fare the ticket is delivered to the intending passenger, who is thus saved the delay and inconvenience of booking his fare at the usual office.

Some of the machines dispense entirely with the services of booking clerks, by issuing an innumerable variety of tickets and counting the passengers as they pass through the turnstiles, etc.

The most interesting use to which automatic machines may be put—from the Meccano boy's point of view, that is—is its application in driving Meccano models. A coin-in-the-slot attachment in almost any working model would prove a never ending source of attraction to spectators. Matters can be arranged so that on payment of a penny the model is set in motion for a pre-arranged period and then ceases automatically. It cannot be started again unless another coin is inserted in the slot. The possibilities of such a device installed in Meccano Club exhibitions, etc., will be obvious. Even in the home, a model controlled by an automatic coin mechanism might prove, if placed judiciously, a remunerative adjunct to the Meccano boy's equipment!

A very simple penny-in-the-slot device that may be attached to almost any Meccano model is shown in Fig. 139. The essential mechanism only is shown; the frame, etc., may of course be modified to suit individual requirements.

Arrangement of the Mechanism

A Worm on the armature spindle of the Motor engages with a 57-teeth Gear Wheel 1 on a short Rod that is journaled in a Channel Bearing bolted to the side plates of the Motor. A $\frac{3}{4}$ " Bevel attached to the end of this Rod meshes with a similar Bevel on a transverse Rod that carries another Bevel and the $\frac{1}{2}$ " Pinion 3. The Bevel on this Rod engages with a second Bevel on a vertical Rod 2, off which the drive to the model is taken. In the illustration the Rod is equipped for a Sprocket Chain drive, but any other driving method, such as belt and pulleys (see Standard Mechanisms Nos. 15 to 20), or Bevels and shafting, etc.,

may be substituted if desired.

The Pinion 3 meshes with a 57-teeth Gear Wheel secured on a Rod that also carries a $\frac{3}{4}$ " Pinion. The latter engages with a 50-teeth Gear on a $4\frac{1}{2}$ " Rod 4 journaled in the Motor side plates and also in an additional bearing consisting of a Coupling secured to a Trunnion. The $1\frac{1}{2}$ " Bevel 5 is in mesh with a $\frac{3}{4}$ " Bevel on the end of the Rod 4, and is secured to a Rod journaled in transverse $7\frac{1}{2}$ " Strips. This latter Rod carries on its upper end a Swivel Bearing and a Crank 7. The Swivel Bearing supports a $3\frac{1}{2}$ " Rod 6 and the Crank carries a Spring Buffer and a $1" \times \frac{1}{2}"$ Angle Bracket. The Rod 6 passes through the slotted hole of the Angle Bracket which, while acting as a stop to prevent the Rod dropping too far under the action of the Spring Buffer that presses on a Collar on the Rod, permits a limited upward movement of the latter.

The $5\frac{1}{2}"$ Strip 8 is mounted pivotally as shown in the illustration and carries a 25-gramme Weight at one end and at the other a Face Plate which receives the coin. The Face Plate is covered with a circular piece of linen in order to prevent the coin slipping off too freely.

A Contact Screw (part No. 307) is secured to the Strip 8 immediately above a Buffer 9 mounted on a $1" \times \frac{1}{2}"$ Angle Bracket. The latter is secured to and insulated from the Girder on which it is mounted, by a 6 B.A. Bolt equipped with an Insulating Bush and Washer. A stop 10, consisting of a short Rod mounted in a Double-arm Crank that is bolted to the frame of the model, limits the vertical movement of the Strip 8 to about $1/16"$.

A wire is taken from the Angle Bracket supporting the Buffer 9 to one Motor terminal, whilst the remaining Motor terminal is connected to a 4-volt Accumulator. The other terminal of the latter is attached to a terminal that is in metallic contact with the frame of the model.

When the coin is placed in the chute 11, it falls on to the Face Plate and its weight causes the arm 8 to drop and the Contact Screw to make contact with the top of the Buffer 9. This completes the electric circuit (the Motor switch having previously been placed in the "on" position) and the Motor is started. The arm 6 promptly commences to move, rotating bodily with the Rod of the Bevel 5 until it reaches the position shown, in which it is about to sweep the penny off the Face Plate, thereby permitting the Strip 8 to rise and break the circuit.

The object of the Spring arrangement on the Rod 8 is to enable the latter to ride over the edge of the Face Plate smoothly and easily without the possibility of over-riding the coin.

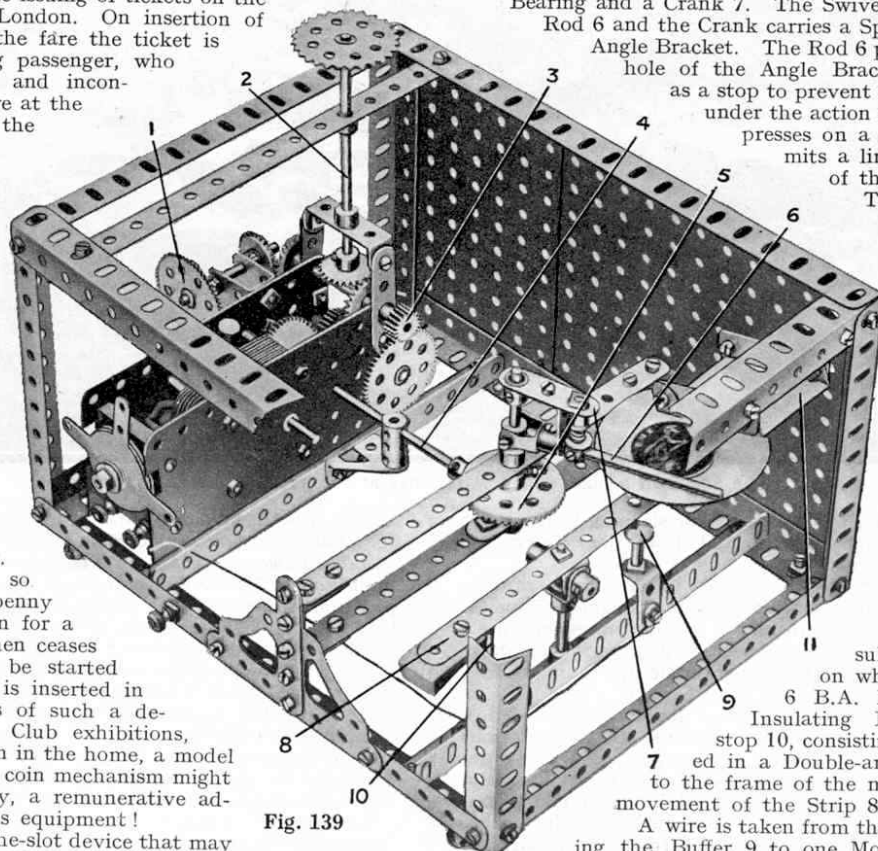


Fig. 139