A NEW MECCANO MODEL

Model No. 618. Bagatelle Table

THIS is an excellent model that will provide amusement for many evenings. What happens is that a marble is placed in front of the cue, and the handle turned. A spring is released, the striker hits the marble a vigorous blow with his cue, and the marble shoots to the top of the table. Here it may drop into one of the holes, in which case the score is credited to the player operating the handle. Meantime the player continues to turn the handle and the marble is automatically returned to the table in position for the striker to hit it again with his cue. Should the marble drop down one of the "Stop" holes, the player loses his place, which is taken by another participant in the game.

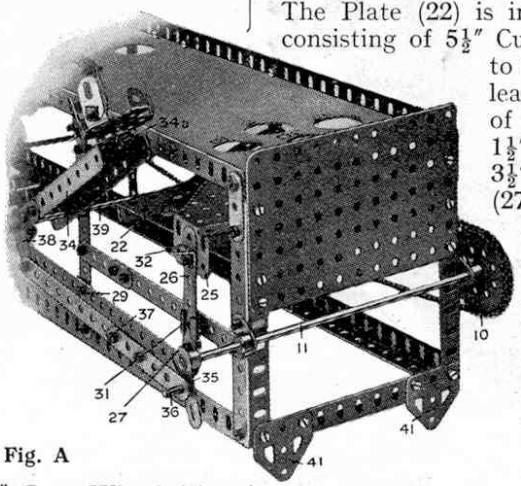

Fig. A

Constructing the Model

The construction of the model is made clear by the accompanying figures, and the following detailed description will make the operating mechanism quite clear.

The operating handle (1 Fig. C) drives a ½" Pinion (2) engaging a 1½" Gear Wheel (3). This engages another 1½" Gear Wheel (4) on the Axle Rod of which is a 1" Sprocket Wheel (5) coupled by a chain to a 2" Sprocket Wheel (6) on the Axle Rod (7). On the further end of rod (7) is another 2" Sprocket Wheel (8) connected by Chain (9) to a third 2" Sprocket Wheel (10) on the rear Axle Rod (11).

The pusher-rod (12), by means of which the marble is driven from the point "a" (Fig. C), is carried from a 5½" vertical Rod (13) which is connected to an 8" Rod (14). At the front end of the latter is a 2" Rod (15) arranged vertically, and a Spring (16) tends to pull the pusher-rod forward to strike the marble. The pusher-rod is depressed against the spring by the action of two 1" Rods (17), upon which are mounted ½" Pulley Wheels (17a) carried from two Couplings secured on two 2" Rods (18) which enter the central Coupling (19). The Axle Rod (7) passes completely through the Coupling (19).

The Operating Mechanism

As the Rods (17) rotate, the Pulleys (17a) bear against the Rod (15) and depress the pusher-rod rearwardly until released, when the spring pulls the pusher-rod sharply forward to drive the marble from the point "a" along the table (20) towards the holes (21, Fig. D). When the marble falls into any one of the holes (21) it drops on to the Plate (22, Figs. A and B) formed of two 5½" Flanged Plates bolted together. The Plate (22) is inclined one hole down, and guides consisting of 5½" Curved Strips (23, Fig. B) connected to the plate by Double Angle Brackets, lead the marble (24 Fig. C) to the end of the plate, where it is retained by a 1½" Flat Girder (25 Fig. A) carried on a 3½" Strip (26) pivotally connected at (27 Fig. C) by locked nuts to a 12½" Strip pivoted at (29) and weighted at (30) with 2½" Strips.

The Strip (26 Fig. A) is guided in an Eye Piece (31), and an Angle Bracket (32) is bolted near the top of the Strip. The pocket (33) consists of three 1½" × ½" Double Angle Strips at the end of an arm (34) formed by two 5½" Angle Girders. The pocket is carried from the arm (34) by a 1" Triangular Plate (34a), the two base holes of which are bolted in the end holes of the Angle Girders. The pocket is bolted to the apex hole of the Triangular Plate, with three washers beneath the pocket to set it up.

The Automatic Return

The arm (34) is rocked from the Rod (11 Fig. C) by a Crank (35) and a Threaded Pin (36), on which engages the end hole of a 5½" and 3" Strip (37) overlapped three holes. The other end of the Strip is connected to a Boss Bell Crank (38) bolted to the arm (34) and secured to the Rod (39).

As the Axle Rod (11) rotates, the arm (34) is permitted to fall, and in so doing makes contact with the Angle Bracket (32) and depresses the Stop Plate (25), permitting the marble to drop from the plate (22) into the pocket (33). Further rotary movement of the rod (11) again raises the arm (34)

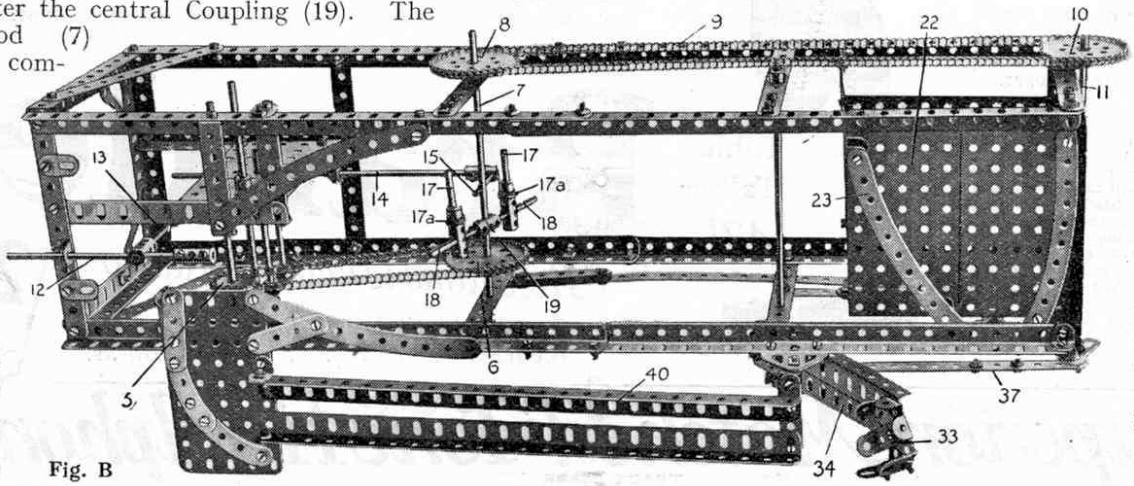

Fig. B

(Cont. on p. 167)

with the marble in the pocket, until the marble is deposited into the chute (40) and is returned to the point "a" (Fig. C).

Meanwhile, on the rising of the arm (34) the weighted strip (28) again raises the Plate (25) closing the outlet from the inclined Plate (22). The bearings for the Axle Rod (11) are formed by two 1" Triangular Plates secured to the rear vertical Angle Girders.

Figure D shows the shape and size of the cardboard table. The holes (21) should be made only slightly larger than the marble used, which, by the way, is not included in the Meccano Outfits. The table is given a slight incline towards the pusher-rod end by forming at the other end two feet with two Flat Trunnions (41) bolted to the lower 5½" Angle Girders.

Parts required:

1 of No.	1	6 of No.	38
10 „ „	2	1 „ „	43
2 „ „	2A	1 „ „	46
1 „ „	3	3 „ „	48
1 „ „	4	2 „ „	48A
6 „ „	5	1 „ „	50
4 „ „	6	2 „ „	52
6 „ „	6A	1 „ „	52A
10 „ „	8	1 „ „	53A
11 „ „	9	9 „ „	59
6 „ „	10	3 „ „	62
5 „ „	11	7 „ „	63
9 „ „	12	1 „ „	70
1 „ „	12B	3 „ „	77
4 „ „	13A	4 „ „	89
2 „ „	14	2 „ „	90
1 „ „	15	3 „ „	95
2 „ „	15A	1 „ „	96
1 „ „	16	1 „ „	103H
3 „ „	17	2 „ „	108
2 „ „	18A	1 „ „	111A
1 „ „	18B	1 „ „	115
1 „ „	26	1 „ „	125
2 „ „	27A	3 „ „	126A
134 „ „	37	1 „ „	128

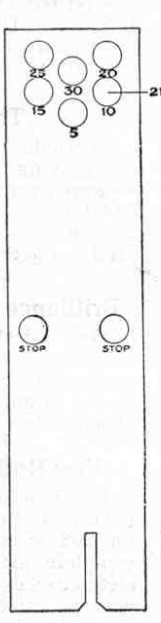

Fig. D

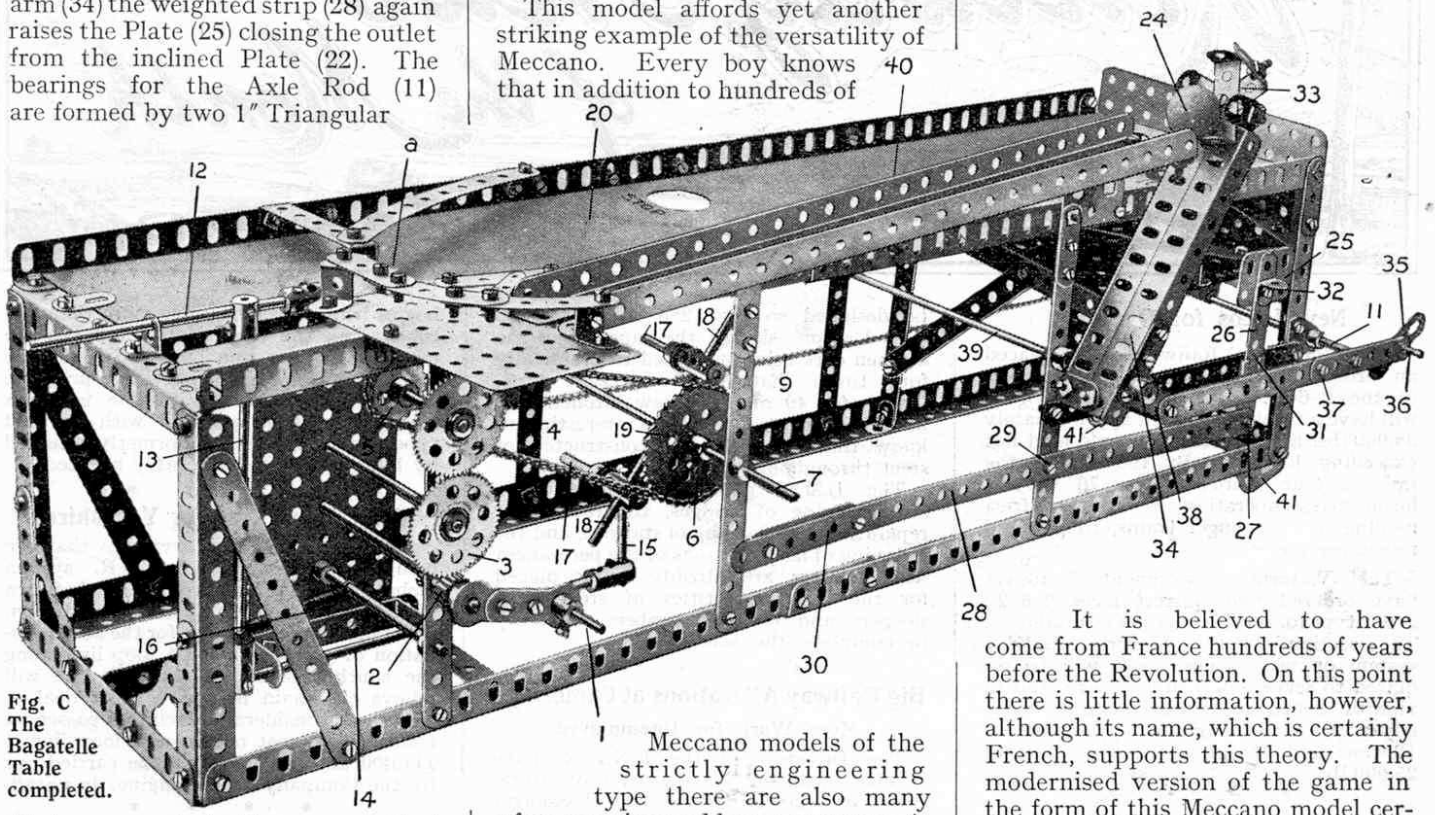

Fig. C The Bagatelle Table completed.

Origin of Bagatelle

This model affords yet another striking example of the versatility of Meccano. Every boy knows that in addition to hundreds of Meccano models of the strictly engineering type there are also many of an amusing and humorous type. A glance through the complete Manual brings to light such models as Drop the Nigger, St. George and Dragon, the Meccano Family, Box Ball Alley, Silhouettograph, the Wrestlers, Galloping Donkey, etc. Such models as these provide many hours of fun and, indeed, some may be called pastimes in themselves. In this class of model pride of place must be given to the Bagatelle Table.

As in the case of many of our games—such as billiards, chess, and draughts—the origin of the Bagatelle game is unknown, but in all probability it is extremely ancient. It is believed to have come from France hundreds of years before the Revolution. On this point there is little information, however, although its name, which is certainly French, supports this theory. The modernised version of the game in the form of this Meccano model certainly gives endless fun, whatever its origin!

The mechanical side of the apparatus is very ingenious in that the ball, whilst in play, is not touched by hand unless it falls in one of the "stop" holes.

NEXT MONTH:—

PLATFORM SCALES

Giant Block-Setting Cranes—(*Continued from page* 163)

The Titan illustrated at the top of this page is a splendid example of this type of crane. Erected at Port Elizabeth, South Africa, it has played an important part in the construction of the harbour-works and breakwater.

Details of the Titan Illustrated

The total weight of the crane is 261 tons. The overall length of the cantilever arm is 119 ft., the height of the top portion of the cantilever arm from the ground being 40 ft. The length of the arm from the centre to the nose—that is the end at which the load is operated—is 78 ft. 9 in., so that the tail—or the portion of the arm on which the engine-house is situated—is 40 ft. 6 in. in length from the centre of the arm. The crane arm revolves on a roller path, which has a diameter of 24 ft., and the arm is capable of being slewed through one complete revolution in three minutes.

This crane is capable of lifting a maximum load of 40 tons and the arm can move this load over an area the maximum radius of which is 65 ft. The total height of lift of the load is 30 ft., and the load may be lowered 58 ft. below the level of the track. The crane is thus capable of lifting a load over a total height of 88 ft.

A two-cylinder steam engine is used, the diameter of the cylinders being 11 in. and the stroke 18 in.

The crab runs on four wheels and a lifting rope of 3¾ in. circumference is used. The crab has a slow speed of 22 ft. per minute and a quick speed of 45 ft. per minute. Its hoisting speed on slow gear when lifting its maximum load is 8½ ft. per minute. Its speed when racking on low gear with maximum load is 22 ft. per minute.

The crane runs on 16 wheels, each of which is borne on springs. The width of the track from centre to centre of the rails is 17 ft.