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PUCK OBSTRUCTING DEVICE FOR SHUFFLEBOARD GAMES

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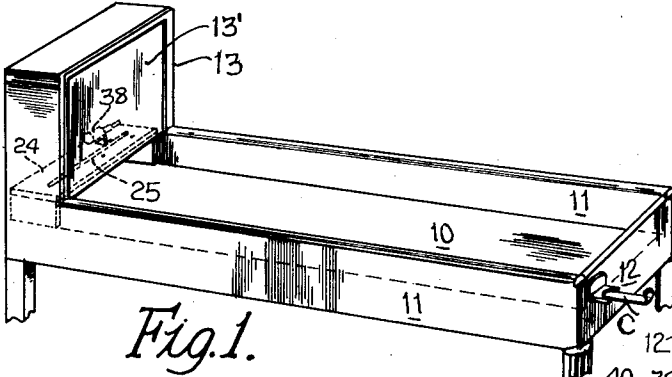


Fig. 1.

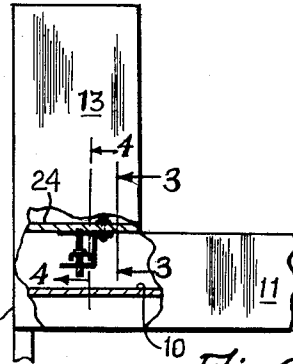


Fig. 2.

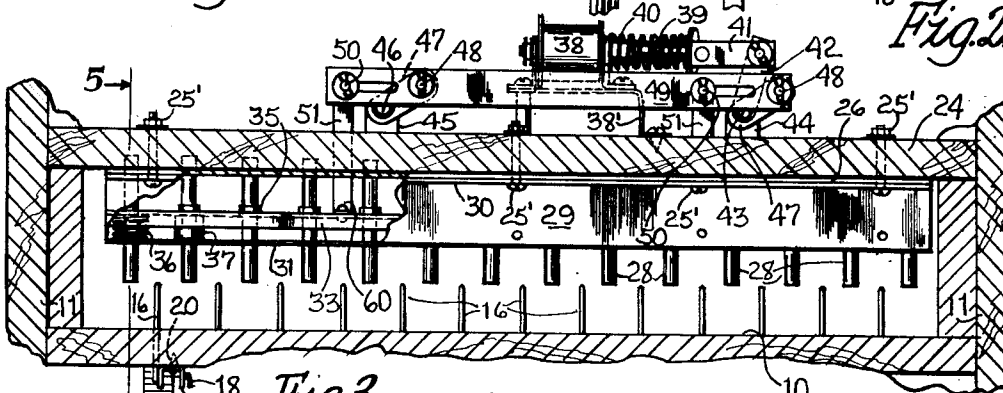


Fig. 3.

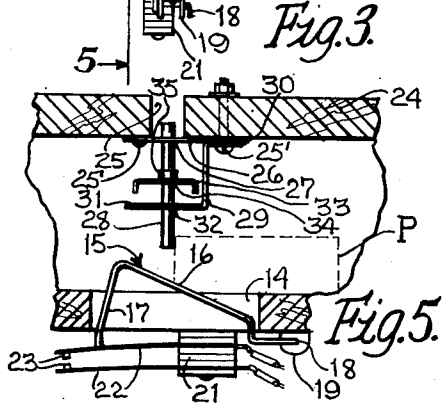


Fig. 4.

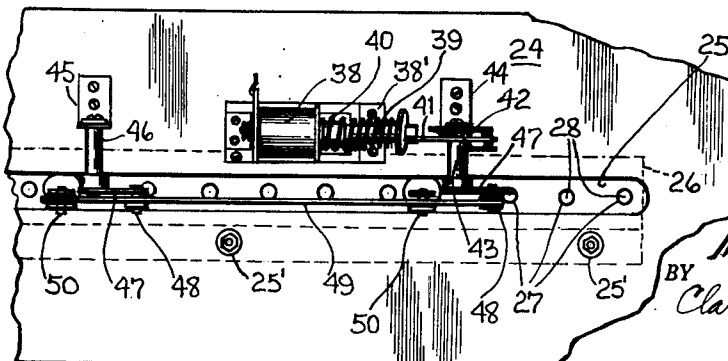


Fig. 5.

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UNITED STATES PATENT OFFICE

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PUCK OBSTRUCTING DEVICE FOR
SHUFFLEBOARD GAMES

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1 Claim. (Cl. 273—126)

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This invention relates to certain new and useful improvements in a puck obstructing device for shuffleboard games.

As such the invention has for its principal object, a simplified and improved arrangement for obstructing the puck in its movement toward target switches whereby such switches are incapable of being actuated by the puck until the game has been first conditioned for play by a circuit including a coin slide and a score registering device, the score registering device being controlled by such target switches.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings showing the preferred form of construction, and in which:

Fig. 1 is a fragmentary perspective view of a conventional shuffleboard game with which my puck obstructing device is adapted to be associated;

Fig. 2 is a fragmentary side view, partly in section, of the game score panel illustrated in Fig. 1, showing the location of my improved puck obstructing device with respect to such score panel;

Fig. 3 is a sectional detail view of the invention taken substantially on line 3—3 showing the obstructing pins of the device disposed in obstructing position with respect to the play board;

Fig. 4 is a fragmentary sectional detail view similar to Fig. 3 and taken substantially on line 4—4 of Fig. 2, but showing the obstructing pins elevated from obstructing position with respect to the play board;

Fig. 5 is a fragmentary sectional detail view taken substantially on line 5—5 of Fig. 3; and

Fig. 6 is a fragmentary top plan view taken substantially on line 6—6 of Fig. 4.

The shuffleboard game with which my invention is particularly adaptable is of the cabinet type in which there is a play board 10 over which the pucks P are moved by action of the player. This play board is set within the confines of side walls 11 and front and end walls 12. Opposite the front wall 12 there extends above the play board 10 a cabinet 13 within which the score registering device (not shown and not constituting any part of the present invention) is arranged.

The play board adjacent and below the cabinet 13 is provided with a plurality of parallelly extending and equally spaced apart slots 14. Operating in each of these slots 14 and extending

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in the path of the pucks P is a switch actuating lever 15. This switch actuating lever 15 comprises a medial puck engaging portion 16 having at one end portion a depending switch engaging arm 17 and at the opposite end portion an angled end portion 18. This angled end portion 18 is pivotally connected to the underside of the play board 10 by a bracket 19 connected to the play board as at 20.

Secured to the play board adjacent each of the slots 14 is a switch 21 each comprising a pair of resilient switch leaves 22 providing confronting contacting heads 23. The switch 21 normally is in open condition and, in such condition, the upper of the switch leaves 21 serves to yieldably retain the switch actuating lever 15 with its puck engaging portion 16 in position to be engaged by a puck.

When this portion 16 is engaged by the puck P, the lever 15 will pivot downwardly about its support 19 to close the switch 21. These switches 21 control the score registering mechanism (not shown) and each time a switch is closed, the value of that switch is designated by illumination on a transparent panel 13' in a manner well known in the art. The mechanism for this illumination is not shown because it forms no part of this present invention.

My improved puck obstructing mechanism will now be briefly described.

In this connection I provide in the cabinet 13 a partition 24. This partition 24 is provided with an elongated opening 25. This opening 25 is closed by a plate 26 of elongated formation. This plate 26 is secured to the partition by connecting elements 25'. This plate 26 provides a plurality of equally spaced apart openings 27 through which movably project the upper end portions of obstructing pins 28.

Secured to the partition 24 by certain of the connecting elements 25' is a plate 29 of elongated formation and providing along its upper longitudinal edge a horizontal flange 30 and at its lower longitudinal edge a horizontally extending guiding flange 31 extending in a direction opposite to that of the flange 30.

This flange 31 is provided with a plurality of openings 32 in alignment with the opening 27 and through which the lower end portions of the obstructing pins 28 are movably projected.

A lift bar 33 of elongated formation and substantially channel shaped in cross section is arranged for movement between the plate 26 and flange 31. Formed in this lift bar are openings 34 in registration with the openings 27 and

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through which openings 34 the obstructing pins 28 are positioned.

Formed as an integral part of each of the obstructing pins is a collar 35 which rests upon the lifting bar 33 and prevents the obstructing pins from passing through the openings 34. These collars 35 also serve to provide engagement between the obstructing pins 28 and the lift bar 33 whereby when the lift bar is elevated, the obstructing pins will move therewith.

The obstructing pins arranged at the opposite ends of the lift bar are each embraced by an expansion spring 36 which serves to cushion the lift bar and the obstructing pins when moved from the stated elevated position.

The obstructing pins immediately adjacent the obstructing pins at the opposite ends of the lift bar are each loosely embraced by a collar 37 which serves to limit the downward movement of the lift bar 33.

The mechanism for elevating the lift bar and consequently the obstructing pins comprises a solenoid 38 supported on the partition 24 by a bracket 38'. The plunger 39 of this solenoid 38 is normally projected outwardly from the solenoid coil by a spring 40. Such plunger by means of a link 41 is pivotally connected to an arm 42. This arm 42 is fixed to a shaft 43 journaled in a bracket 44.

A bracket 45 mounted on the partition 24, as is the bracket 44, has journaled therein a shaft 46 similar to and extending in parallel relation with respect to the shaft 43. Corresponding end portions of these shafts 43 and 46 are fixed to arms 47. The outer end portions of these arms 47 are pivotally connected as at 48 to a connecting bar 49.

The opposite end portions of this connecting bar 49 are connected by means of slot and pin connection 50 to pins 51 in turn connected as at 60 to the lift bar 33.

As long as the shuffleboard game is not conditioned for play, the obstructing pins will be disposed to obstruct engagement of the puck with the switch actuating levers 15 thereby to prevent the playing of the game to effect a score prior to conditioning the game for play. As long as these obstructing pins are in puck obstructing position the switches 21 can not be closed to effect operation of the scoring device. As soon as the game is conditioned for play the solenoid 38 becomes energized and draws the plunger 39 into the coil of the solenoid against the action of the spring 40. This action of the plunger 39 will effect rotation of the shafts 43 and 46 with the result that the connecting bar 49 will be elevated. The elevation of this bar 49 in turn elevates the lift bar 33 and as the obstructing pins are movable with the latter, these obstructing pins will be elevated from obstructing position with respect to the puck P. As a result and as long as these obstructing pins are in the stated elevated position, the puck may be directed into engagement with one of the switch actuating

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levers 15 whereby to close the switch associated with the latter.

The means for conditioning the shuffle game for play includes among other things, a standard and conventional coin chute C which requires the deposit of a proper coin before the shuffleboard game is conditioned for play.

From the foregoing, it is apparent that I have provided a simplified, effective and improved means for obstructing movement of the puck into engagement with the switch actuating levers whenever the game has not been conditioned for play.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claim.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

The combination with a game apparatus in which there are a plurality of normally open switch members and a playing board over which a game piece is adapted to be projected toward said switch members, of means providing a plurality of movable obstruction members positioned above said switch members, means above said obstructing members for moving the same from and into obstructing position with respect to said switch members in the path of movement of said game piece, said obstructing means comprising a guiding and supporting structure, said obstruction members being supported by the structure and normally disposed above said switch members, a lift bar having connection with said obstruction members, and a connecting bar operatively connecting said lift bar and said moving means and adapted to be moved vertically and horizontally by said moving means, said moving means including an electromagnetic coil.

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