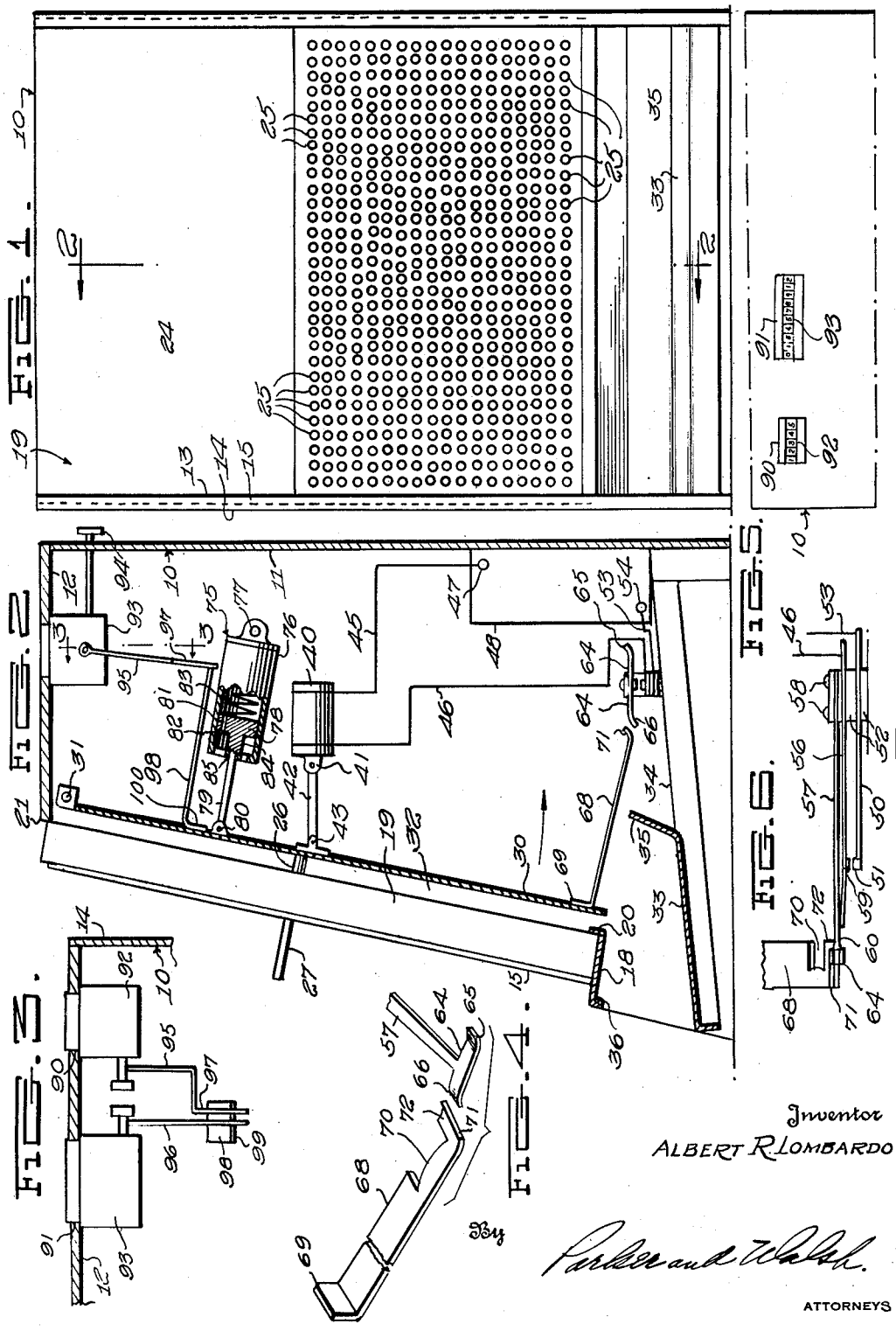
June 20, 1950 A. R. LOMBARDO 2,511,925

AUTOMATIC SALES BOARD REGISTER

Filed July 30, 1948



Inventor
ALBERT R. LOMBARDO

By Parker and Walsh

ATTORNEYS

Patented June 20, 1950 2,511,925

UNITED STATES PATENT OFFICE

2,511,925

AUTOMATIC SALES BOARD REGISTER

Albert R. Lombardo, Beaumont, Tex.

Application July 30, 1948, Serial No. 41,435

9 Claims. (Cl. 235—92)

1

This invention relates to an automatic sales board register machine.

It is the common practice in stores, restaurants, and the like to provide a board having openings containing slips of paper rolled up in openings therein which are punched by customers for the giving of prizes, the playing of games, etc. Each punch on the board is charged for by the storekeeper and each player usually punches a number of slips before paying for his play. Unless the storekeeper watches the player and counts the number of plays made by him, the player may deceive the storekeeper by paying less than the amount due to be paid.

An important object of the present invention is to provide a novel sales board register which operates automatically upon the punching of the ticket therefrom to register the sale of such ticket, thus making it easy for a storekeeper to keep check on the number of tickets sold to a given customer.

A further object is to provide such an apparatus wherein the punching of a ticket from the board automatically closes a circuit for operating the register regardless of the position on the sales board from which the ticket is punched.

A further object is to provide a single circuit closing unit which is engageable by any ticket punched from the sales board for energizing the electrical means for operating the register.

A further object is to provide a device of this character wherein the single circuit closing means comprises a plate arranged behind the board and serving the second function of guiding the punched slip for discharge at the lower end of the machine to be picked up by the player.

A further object is to provide a novel type of circuit closing means for a device of this character for operating a register or counter, and wherein the circuit is closed only momentarily upon the punching of a slip from the sales board, the circuit being opened immediately thereafter for the return of the parts to normal position.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings, I have shown one embodiment of the invention. In this showing,

Figure 1 is a face view of the device showing a sales board in position,

Figure 2 is a vertical sectional view on line 2—2 of Figure 1,

Figure 3 is a detailed sectional view on line 3—3 of Figure 2,

2

Figure 4 is a fragmentary perspective view of the circuit closing means,

Figure 5 is a fragmentary plan view of a portion of the device showing the individual and total counters, and

Figure 6 is an enlarged fragmentary side elevation of the switch device for the mechanism.

Referring to the drawings, the numeral 10 designates a casing as a whole, having a vertical back wall 11 and a horizontal top wall 12. The front face of the casing is provided with an enlarged rectangular opening 13 formed by turning the side walls 14 of the casing inwardly to form narrow flanges 15.

The casing is provided in the front thereof with a wall 18 forming a shoulder on which is adapted to rest a conventional sales board 19. This board has its lower back face engageable with an upturned shoulder 20 formed on the wall 18. The top wall 12 is cut back as at 21 to a point spaced from the flanges 15 to permit the board 19 to be inserted in the top of the casing to slide downwardly to the operative position shown in Figures 1 and 2. A board 19 has an upper front face portion 24 adapted to receive illustrations or advertising matter thereon in accordance with the usual practice. The lower portion of the board is provided with rows and columns of openings 25 extending therethrough. Each of these openings is adapted to receive a rolled paper or similar strip, one of which is shown in Figure 2 and indicated by the numeral 26. Such strip 26 is shown being punched from the board by a suitable implement 27.

Rearwardly of the board 19 is arranged a plate 30, coextensive in width with the remote columns of openings 25 so that any paper strip 26 punched from the board 19 will engage against the plate 30. This plate is pivotally supported at its upper end as at 31. The strips 26 punched from the board will swing the plate 30 rearwardly to perform functions to be referred to below and each punched strip, as it is freed from the board 19, will fall downwardly through the space 32 between the board 19 and plate 30 to be discharged from the mechanism. Each paper strip will fall upon an inclined plate 33 arranged on supports 34 and having its rear end turned upwardly as at 35. The plate 33 serves as a chute to discharge the paper strips through a lower front opening 36, or to place the strips in a position on the plate 30 where they can be reached and removed by the fingers of the player.

Referring to Figure 2, the numeral 40 designates a solenoid having an armature 41 connected

to a rod 42, the other end of which is pivotally connected as at 43 to the plate 30. The terminals of the solenoid 40 are connected to wires 45 and 46, the former of which is connected to one post 47 of a source of current 48, preferably in the form of dry cells.

The switch mechanism for energizing the solenoid 40 is shown in Figures 2, 4 and 6. A switch arm 50, having a contact point 51 at one end thereof, is arranged between insulating blocks 52, and this switch arm is connected by a wire 53 to the other terminal 54 of the battery. A resilient switch arm 56 is arranged over the insulating blocks 52 and the wire 46 is connected to the switch arm 56. An operating arm 57 for the switch arm 56 is arranged thereover as shown in Figure 6, and the assembly of elements 50, 56 and 57 is secured in position by suitable screws 53. The switch arm 56 carries a contact point 59 engageable with the contact 51, and the free end of the resilient contact 56 may engage as at 60 with the operating arm 57.

As shown in Figures 2 and 4, the arm 57 is provided with a T-head 64, one end of which is slightly turned upwardly as at 65 and the other end of which is preferably similarly turned downwardly at at 66. The T-head 64 is adapted to be engaged by an operating arm 68 having an upturned end 69 welded or otherwise secured to the plate 30 as shown in Figure 2. The operating arm 68 may be formed of resilient strip material and is notched as at 70 to cooperate with the T-head 64 to operate the switch mechanism. The free end of the arm 68 is preferably slightly turned upwardly as at 71 adjacent the down turned end 66 of the T-head 64. The notch 70 has a bottom thereof movable past the edge of the T-head 64 remote from the switch points 51 and 59 so that in the operation of the device, as described in detail below, only the finger 72 formed at the end of the notch 70 will engage the T-head 64. In this connection, it will be noted that the operating arm 68 slopes upwardly toward the plate 30 and accordingly the notch 70 lies in a plane inclined relative to the T-head 64.

A dashpot 75 tends to retard movement of the plate 30 back to its normal position after it has been moved from such position. The dashpot comprises a cylinder 76 pivotally supported as at 77, and a piston 78 is arranged in the cylinder 76. The piston is provided with a rod 79 pivotally connected as at 80 to the plate 30. The piston 78 is provided therethrough with an air passage 81 covered by a small check valve 82 which permits the piston 78 to be freely deflected toward the right in Figure 2, but closes the passage 81 to restrict return movement of the piston. A spring 83 is arranged in the cylinder 76 and provides the resilient means for holding the plate 30 in its normal position shown in Figure 2. Any suitable means may be provided for limiting the return movement of the piston 78 to thus predetermine the normal position of the plate 30. For example, an enlargement 84 on the piston 79 may engage the bearing 85 through which the piston rod 79 extends.

The top wall 12 of the casing is provided with a pair of openings 90 and 91 to receive the indicating portions of counters 92 and 93. As will become apparent, the counter 92 is intended to indicate the number of purchases made by an individual purchaser, while the counter 93 indicates the total number of purchases over any given period of time. These counters have reset wheels more or less diagrammatically represented in Figure 2 and indicated by the numeral 94. The counters 92 and 93 are provided respectively with operating arms 95 and 96, the former of which has its end 97 offset inwardly so as to be arranged parallel and in proximity to the arm 96, as shown in Figure 3. An operating arm 98 in the form of a relatively stiff strip of material has its end 99 engaging the operating arms for both counters. The opposite end of the arm 98 has a downturned end 100 fixed to the plate 30.

Operation

A board 19 is placed in the device by sliding it downwardly from the top as previously stated, until it is supported by the wall or shelf 18. No setting or resetting of any parts of the apparatus is necessary, except for the resetting of the counters 92 and 93 as will be obvious. In other words, the apparatus is always ready for operation. A player will use an implement 27 to punch a selected strip or ticket 26 from the board. This strip will be pushed rearwardly into engagement with the very easily movable plate 30 to swing it toward the right as shown in Figure 2. Initial movement of the plate 30 brings the upturned end 71 into engagement with the downturned end 66 of the T-head 64. This operation immediately energizes the solenoid 40, current flowing from the source 48 through wire 45, solenoid 40, wire 46, switch arms 56 and 50, and thence back to the source through wire 53. The solenoid thus pulls the plate 30 away from the board 19 a predetermined distance, thus providing ample space for the downward falling of the strip or ticket 25 which has been punched from the board, as soon as the strip clears the opening in which it was arranged. This strip or ticket thus falls downwardly onto the plate 30 to be discharged from the mechanism or to be picked up by the player.

The energization of the solenoid 40, in pulling the plate 30 rearwardly, not only provides ample space for the falling of the punched ticket, but also serves to operate the counters. The parts are so designed that the distance of movement of the portions of the plate 30 within the limits of the area of the board in which the openings 25 are formed is sufficient to provide ample clearance for the falling of the punched tickets, regardless of the portions of the board from which such tickets are punched. The parts likewise are so designed as to provide the proper distance of movement of the operating arm 98 to move the arms 95 and 96 to operate the counters in the proper manner. These counters, of course, form no part per se of the present invention and accordingly need not be illustrated or described in detail. Obviously the punching of each ticket operates both counters, thus indicating that another ticket has been punched.

The finger 72 slides across the T-head 64 and the T-head moves relatively through the notch 70 while being engaged solely by the finger 72. The electrical contact at the points 51 and 59 will be maintained throughout movement of the finger 72 over the T-head 64, thus assuring the maintenance of the solenoid circuit to pull the plate 30 rearwardly its proper predetermined distance. The finger 72 then slides from the rear end 65 of the T-head 64, thus releasing the operating arm 57 for movement upwardly to disengage the contacts 51 and 59 and thus breaking the solenoid circuit.

The spring 83 now exerts its force against the piston 78 to transmit movement through the rod 79 to return the plate 30 to its normal position. During such movement the finger 72 slides beneath the T-head 64, the resilience of the arms 57 and 68 (Figure 4) permitting this operation to take place freely. The function of the dashpot 76 is to retard movement of the plate 30 back to its normal position thus assuring ample time for each punched ticket to drop onto the plate 33.

Whenever a player finishes playing the board, a clerk in the store may read the individual counter 92, thus determining the number of plays which have been made so that the proper charge can be made therefor. The charge having been made, the individual counter 92 may be set back to zero.

From the foregoing, it will be apparent that the present device forms an effective means for holding and supporting a playing board of the type referred to, the board being tilted to facilitate the reading and playing thereof. It also will be apparent that the device renders it unnecessary for the clerk or proprietor of a store to watch a player to make certain the number of plays which are made so that they can be properly charged for. The device is wholly automatic in operation, the player merely punching the tickets in the usual manner and collecting them from the chute 33 more easily than can be done in the conventional practice of holding the board in the hand. The plate 30 acts as a chute to guide the punched tickets downwardly and serves also as the means for mechanically operating the counters. The switch means is automatic and regardless of the movement imparted to the plate 30 by the tickets, which is dependent on the distance of the punched ticket from the pivot 31, the switch mechanism insures identical operation of the plate 30 whenever a ticket is punched by insuring the maintenance of the solenoid circuit to move the plate 30 the proper predetermined distance.

I claim:

1. A counting device for game boards having a plurality of openings therethrough containing tickets adapted to be punched therefrom through the back of the board, comprising a plate arranged rearwardly of the board and at least coextensive with the area thereof in which the openings are formed, said plate being relatively movable away from the board and normally arranged in such proximity to the board that in the punching of a ticket therefrom the ticket will move said plate rearwardly from the board, a solenoid connected to said plate and energizable to move said plate a predetermined distance away from the board, a circuit for said solenoid including a switch adapted to be closed by said plate in initial movement thereof from the board upon the punching of a ticket therefrom, and a counter connected for operation by said plate in the movement transmitted thereto by said solenoid.

2. A counting device for game boards having a plurality of openings therethrough containing tickets adapted to be punched therefrom through the back of the board, comprising a plate arranged rearwardly of the board and at least coextensive with the area thereof in which the openings are formed, said plate being relatively movable away from the board and normally arranged in such proximity to the board that in the punching of a ticket therefrom the ticket will move said plate rearwardly from the board, a solenoid connected to said plate and energizable to move said plate a predetermined distance away from the board, a circuit for said solenoid including a switch adapted to be closed by said plate in initial movement thereof from the board upon the punching of a ticket therefrom, a counter connected for operation by said plate in the movement transmitted thereto by said solenoid, said plate serving as a slide for guiding punched tickets for downward movement, there being a space between said plate and the board open at the bottom thereof, and a plate beneath said board to catch tickets dropping from the lower end of said space.

3. A counting device for game boards having a plurality of openings therethrough containing tickets adapted to be punched therefrom through the back of the board, comprising a plate arranged rearwardly of the board in normally slight spaced parallel relation thereto and supported at its upper end for pivotal movement away from the board, said plate being coextensive with the area of the board in which the openings are formed whereby any ticket punched from the board will engage said plate and swing it away from the board, a solenoid mechanically connected to said plate and energizable to swing said plate a predetermined distance away from the board, a circuit for said solenoid comprising a switch operable by the plate upon initial movement of said plate by a punched ticket to energize said solenoid, and a counter operable by movement of said plate through said predetermined distance.

4. A counting device for game boards having a plurality of openings therethrough containing tickets adapted to be punched therefrom through the back of the board, comprising a plate arranged rearwardly of the board in normally slight spaced parallel relation thereto and supported at its upper end for pivotal movement away from the board, said plate being coextensive with the area of the board in which the openings are formed whereby any ticket punched from the board will engage said plate and swing it away from the board, a solenoid mechanically connected to said plate and energizable to swing said plate a predetermined distance away from the board, a circuit for said solenoid comprising a switch operable by the plate upon initial movement of said plate by a punched ticket to energize said solenoid, a counter operable by movement of said plate through said predetermined distance, the space between the board and said plate being open at the bottom thereof for the discharge of punched tickets, said plate serving as a guide to direct the tickets downwardly through through the open bottom of such space, and a second plate beneath said first-named plate to catch the tickets discharged from said space.

5. A device for use in connection with a board having an area thereof provided with openings therethrough containing tickets adapted to be punched from the openings for discharge through the rear face of the board, comprising a casing having a front portion adapted to support the board with the front face thereof facing forwardly, a relatively flat plate within said casing supported at its upper end by said casing for swinging movement on a horizontal axis, said plate being at least coextensive in area with the area of the board in which the openings are formed and being normally slightly spaced from the board and engageable by a ticket punched from any opening to be initially swung rearwardly, electrical means comprising a solenoid, and

a circuit therefor including a switch arranged to be closed by such initial swinging movement of said plate to energize said solenoid for swinging said plate rearwardly a predetermined distance from the board, a counter operable by swinging movement of said plate through said predetermined distance, the space between the plate and said board being open at the bottom thereof and said plate serving to guide punched tickets downwardly for discharge through the bottom of such space, and a second plate arranged beneath said space and onto which the punched tickets drop to be collected.

6. A device for use in connection with a board having an area thereof provided with openings therethrough containing tickets adapted to be punched from the openings for discharge through the rear face of the board, comprising a casing having a front portion adapted to support the board with the front face thereof facing forwardly, a relatively flat plate within said casing supported at its upper end by said casing for swinging movement on a horizontal axis, said plate being at least coextensive in area with the area of the board in which the openings are formed and being normally slightly spaced from the board and engageable by a ticket punched from any opening to be initially swung rearwardly, a solenoid having its armature connected to said plate, circuit means for said solenoid comprising a switch movable to closed position upon said initial movement of said plate to energize said solenoid and swing said plate a predetermined distance away from the board, and a counter operable by movement of said plate through said predetermined distance.

7. A device for use in connection with a board having an area thereof provided with openings therethrough containing tickets adapted to be punched from the openings for discharge through the rear face of the board, comprising a casing having a front portion adapted to support the board with the front face thereof facing forwardly, a relatively flat plate within said casing supported at its upper end by said casing for swinging movement on a horizontal axis, said plate being at least coextensive in area with the area of the board in which the openings are formed and being normally slightly spaced from the board and engageable by a ticket punched from any opening to be initially swung rearwardly, a solenoid having its armature connected to said plate, and circuit means for said solenoid comprising switch elements in said casing and a movable operating element carried by said plate and engageable with one of said switch elements upon said initial movement of said plate to energize said solenoid, said one switch element being elongated in the direction of movement of said operating element in contact therewith to maintain said solenoid energized through a predetermined distance of swinging movement of said plate.

8. A device for use in connection with a board having an area thereof provided with openings therethrough containing tickets adapted to be punched from the openings for discharge through the rear face of the board, comprising a casing having a front portion adapted to support the board with the front face thereof facing forwardly, a relatively flat plate within said casing supported at its upper end by said casing for swinging movement on a horizontal axis, said plate being at least coextensive in area with the area of the board in which the openings are formed and being normally slightly spaced from the board and engageable by a ticket punched from any opening to be initially swung rearwardly, electrical means comprising a solenoid, and a circuit therefor including a switch arranged to be closed by such initial swinging movement of said plate to energize said solenoid for swinging said plate rearwardly a predetermined distance from the board, a counter operable by swinging movement of said plate through said predetermined distance, the space between the plate and said board being open at the bottom thereof and said plate serving to guide punched tickets downwardly for discharge through the bottom of such space, and a dashpot mechanically connected to said plate to permit free movement of said plate away from the board and to retard return movement of said plate toward the board.

9. A device for use in connection with a board having an area thereof provided with openings therethrough containing tickets adapted to be punched from the openings for discharge through the rear face of the board, comprising a casing having a front portion adapted to support the board with the front face thereof facing forwardly, a relatively flat plate within said casing supported at its upper end by said casing for swinging movement on a horizontal axis, said plate being at least coextensive in area with the area of the board in which the openings are formed and being normally slightly spaced from the board and engageable by a ticket punched from any opening to be initially swung rearwardly, electrical means comprising a solenoid, and a circuit therefor including a switch arranged to be closed by such initial swinging movement of said plate to energize said solenoid for swinging said plate rearwardly a predetermined distance from the board, a counter operable by swinging movement of said plate through said predetermined distance, the space between the plate and said board being open at the bottom thereof and said plate serving to guide punched tickets downwardly for discharge through the bottom of such space, a dashpot having mechanical connection with said plate whereby the latter is adapted to swing freely away from the board but is retarded in its return movement toward the board, and spring means for urging said plate toward the board.

ALBERT R. LOMBARDO.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,244,080	Rebstock	June 3, 1941
2,406,603	Hadesbeck	Aug. 27, 1946
2,431,807	Kimsey	Dec. 2, 1947
2,436,273	Solomon	Feb. 17, 1948