

Nov. 26, 1935.

L. H. CHASE

2,021,984

COIN COLLECTOR

Filed Jan. 8, 1935

FIG. 1

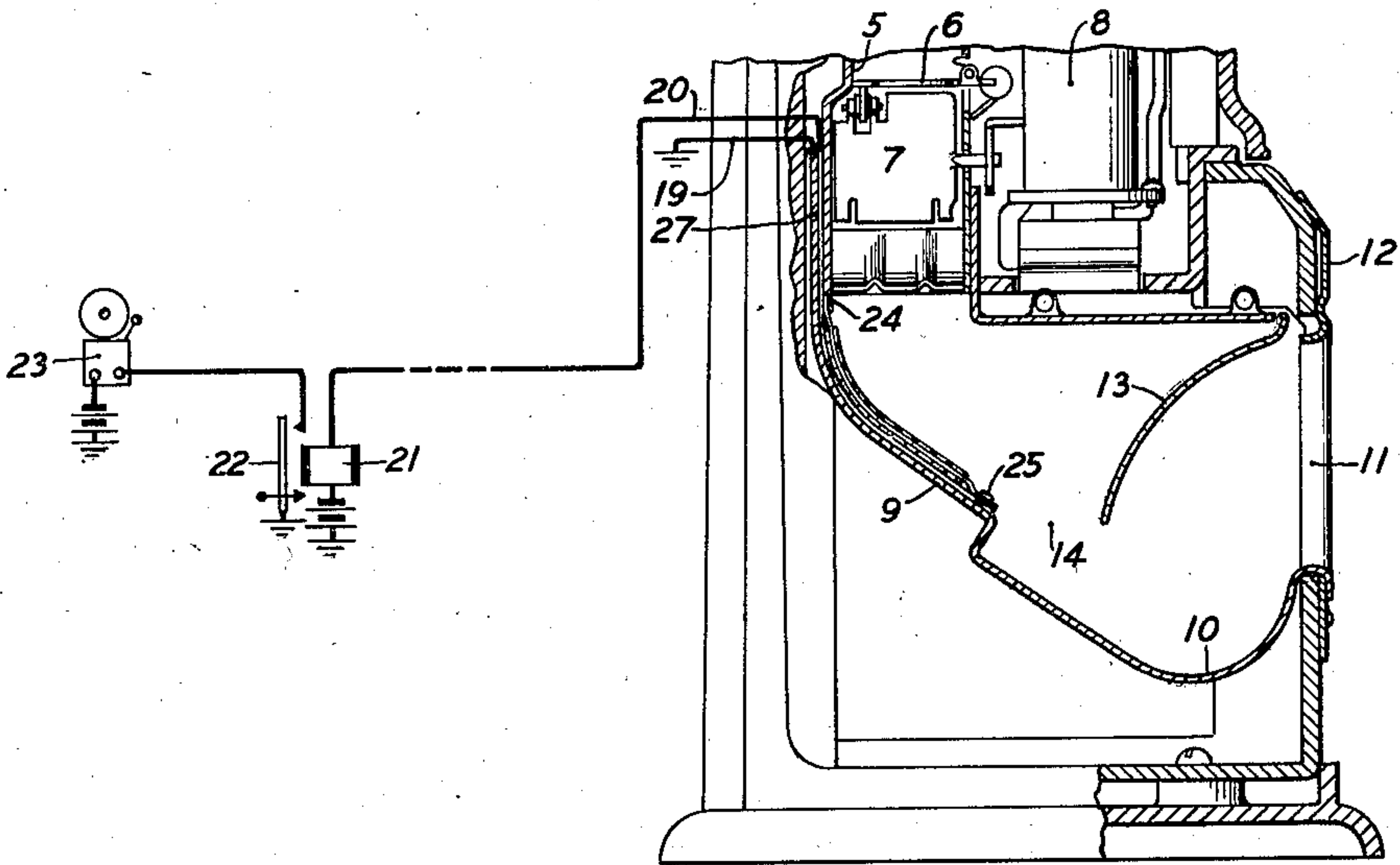


FIG. 2

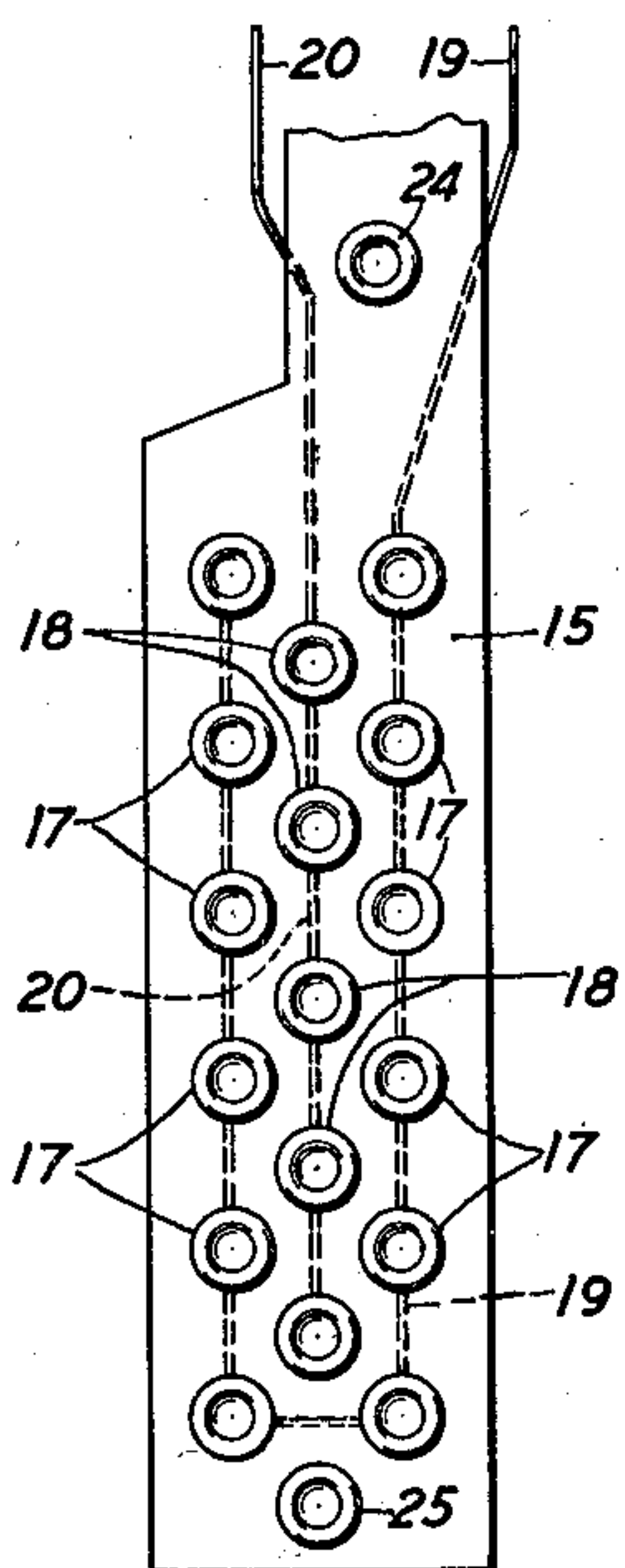


FIG. 3

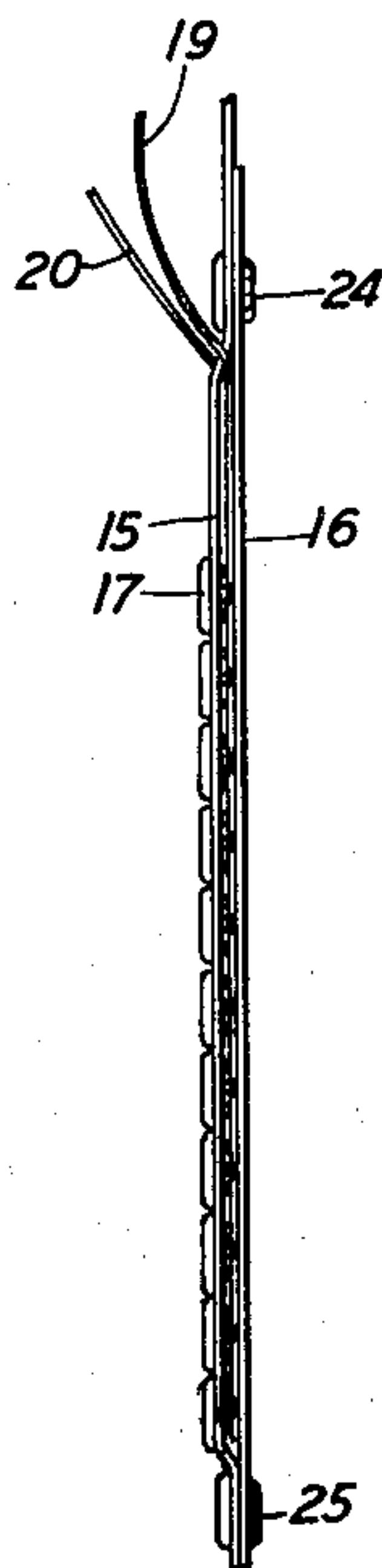
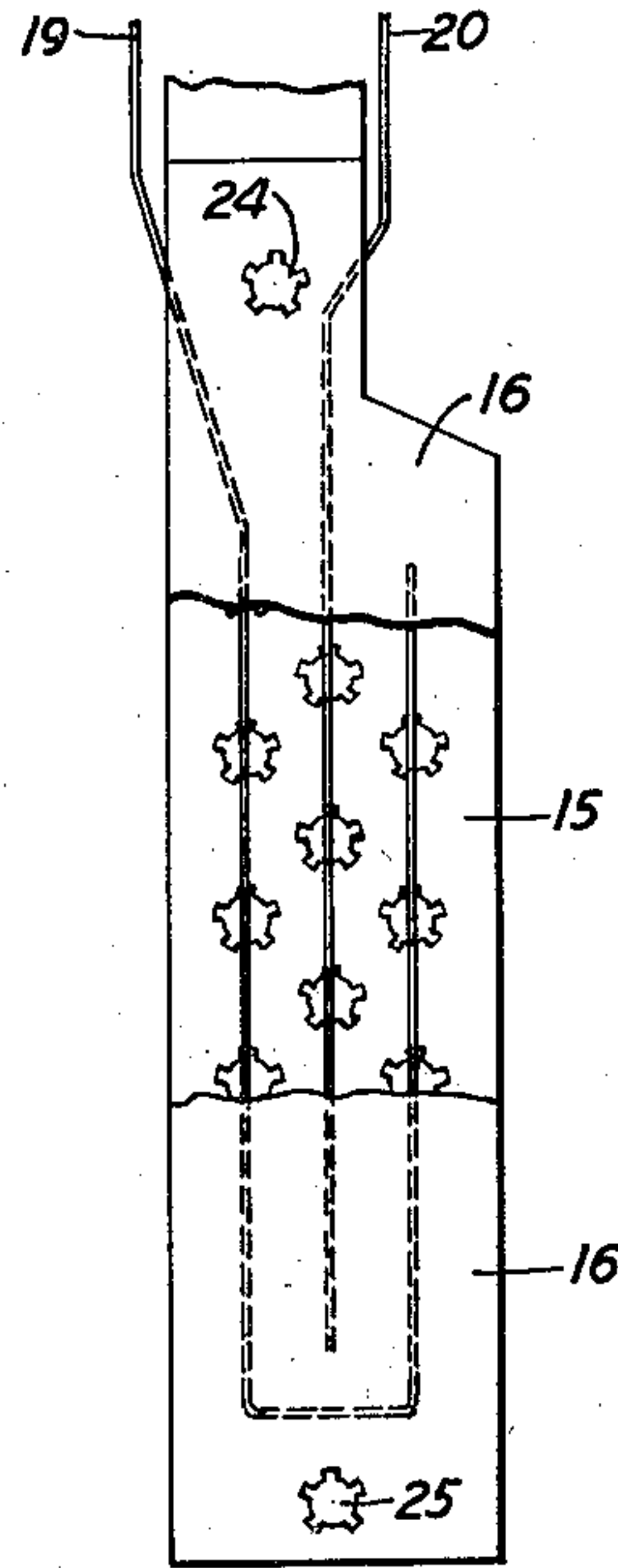


FIG. 4



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2,021,984

COIN COLLECTOR

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Application January 8, 1935, Serial No. 927

1 Claim. (Cl. 194—97)

This invention relates to coin collectors and more particularly to means for preventing the fraudulent collection of money from refund chutes of telephone coin collectors.

In connection with prepayment coin collectors of the type commonly used at telephone pay stations it is the practice to refund money to patrons when calls are not completed. Unscrupulous individuals have occasionally taken advantage of this feature of the coin collector by obstructing the coin refund chute, thus preventing the return of the coins to their rightful owners when calls have not been completed and later removing the obstruction and appropriating the accumulated coins.

One of the objects of this invention consists in providing coin collector apparatus which will detect the presence of an obstruction and sound an alarm or otherwise prevent the obstructor from obtaining coins which would ordinarily be refunded to the telephone patrons.

In accordance with the preferred embodiment of this invention the detection of any stuffing in the refund chute is secured by an arrangement which causes any coin held in the refund chute because of the stuffing, to close an electrical circuit for actuating an alarm, for example. This may be accomplished by providing in the bottom of the refund chute a strip of insulating material containing a plurality of electrical terminals so wired that a coin resting on the strip will complete a circuit through two of the contact members to an alarm located on the premises or at some remote point. The closing of such an alarm circuit, therefore, relies upon the accumulation of coins in the refund chute rather than upon the pressure exerted by the stuffing material as in proposals heretofore made. It will generally be found advisable to provide means for preventing the alarm from being sounded unless the circuit between the contact members in the insulating strip is closed for a longer time than that required for the passage of a coin down the chute in the normal operation of the device. One way of securing this delayed operation is by the use in the alarm circuit of a slow-operate relay.

This invention will be better understood by reference to the following detailed description taken in connection with the accompanying drawing in which:

Figure 1 is a side view partly in section of the lower part of the coin collector housing; and

Figs. 2, 3 and 4 represent various views of one

form of the invention adapted for use as the bottom wall of a coin refund chute.

For illustrative purposes this invention will be described in connection with the type of telephone coin collector disclosed in the O. F. Forsberg U. S. Patent 1,043,219, issued November 5, 1912. Only the lower part of such a coin collector housing is shown in Fig. 1 since in its preferred form the invention is concerned primarily with the refund chute of the collector.

As explained in the Forsberg patent any coin deposited by a subscriber is temporarily held within a coin hopper 5 on a pivoted coin trap 6 normally supported by pivoted vane 7 and the central office operator by controlling magnet 8 may actuate vane 7 to allow trap 6 to drop and direct the deposited coin into a collect box or into a refund chute where the coin may be recovered by the subscriber. As shown in Fig. 1 the refund chute has a sloping bottom wall 9 leading to a coin pocket 10 accessible to a patron by an opening 11 in the side wall of the coin collector housing 12. The upper part of the refund chute is substantially shielded by a baffle plate 13 the lower edge of plate 13 being spaced from wall 9 a distance sufficient to allow for the ready discharge of all refunded coins.

As previously stated, attempts are occasionally made to prevent refunded coins from sliding down into coin pocket 10 by inserting stuffing material through the opening 14 between wall 9 and the lower end of baffle plate 13 to cause refunded coins to be held in the upper part of the refund chute until the stuffing is later removed.

In order to defeat this practice it is proposed in accordance with this invention to provide means whereby any coin held in the upper part of the refund chute by stuffing material or otherwise will cause an electric circuit to be closed for actuating an alarm or for other suitable purposes. This may be accomplished by having spaced electrical terminals along wall 9 so arranged that a restrained coin will serve as a circuit closing member to actuate the alarm.

As shown more in detail in Figs. 2, 3, and 4 this coin contacting device may comprise a layer of insulating material 15 having a number of brass fasteners or eyelets 17 and 18 passing through the strip. The heads of the eyelets lie above the surface of strip 15 while their opposite ends are insulatingly protected by a second insulating strip 16 suitably fastened to strip 15 at the points 24, 25. All of the eyelets 17 are electrically connected by wire 19 lying between the two strips 15, 16 and similarly all eyelets 18 are

electrically connected by a wire 20. As shown in Fig. 1 wire 19 may lead to ground while wire 20 is connected through a slow operating relay 21 to battery and ground. Normally open contact 22 of relay 21 when actuated serves to close an obvious circuit for an alarm device 23.

The front or coin contacting face of the strip 15 is shown in Fig. 2 while the reverse face is shown in Fig. 4 with a side view in Fig. 3. It will be noted from Figs. 2 and 4 that the two outer rows of rivets or eyelets are electrically connected to wire 19 and the center row is electrically connected to wire 20. It will, therefore, be apparent that any coin resting on the top of strip 15 will serve to close a circuit between wires 19 and 20 to sound alarm 23 providing the coin remains on strip 15 for a time sufficient to energize relay 21.

In applying this protective device to the coin collector refund chute of Fig. 1 the strips 15, 16 are preferably of substantially the same width as the refund chute and substantially completely cover back wall 9 of the chute from a point just out of sight opening 11 up to a point adjacent the coin hopper 5. The eyelet heads are, of course, placed on the side opposite wall 9 with strip 16 protecting the eyelets from contact with wall 9. One of the strips 15, for example, may extend for a substantial distance beyond fastener 24 so that this extension may be positioned between vertical wall 27 and the adjacent vertical wall of the coin hopper 5 and possibly turned over the top edge of wall 27 to hold the contact device in position in the chute. This arrangement, therefore, provides a ready means for installing the contact device of this invention in a telephone coin collector already in service but if it should be desired to make the contact device a permanent part of the coin collector refund chute other arrangements will probably be found more satisfactory.

Normally and in the absence of stuffing, all refunded coins simultaneously discharged from trap 6 will readily slide down the strip 15 into coin pocket 10 but the operating time of relay 21 should be so adjusted that such coins will not close the circuit for relay 21 for a time sufficient for its contacts to be closed to actuate the alarm. However, if the coin or coins are prevented from reaching coin pocket 10 because of stuffing inserted through opening 14 so that the coins remain in contact with terminals 17, 18 for an ap-

preciable time, relay 21 will be actuated to energize alarm device 23. It will be apparent that the closure of an electrical circuit produced by a coin held on the upper face of strip 15 may be employed to operate other devices than relay 21 or to perform other functions such as the prevention of further refunds until the refund chute is clear, for example, in the manner disclosed in the United States application of P. E. Mills filed January 31, 1934, Serial No. 709,060 on Coin collector apparatus.

The spacing of the terminals 17 and 18 can be varied somewhat from that disclosed in the drawing providing that the terminals are so spaced that any restrained coin will bridge the gap between one of the terminals 17 and one of the other set of terminals 18. It is also to be understood that the alarm device 23 may be located in the same premises as the coin collector housing 12, or the alarm device 23 may be located at some remote point such as the telephone central office.

While one particular embodiment has been chosen for illustrative purposes it is to be understood that equivalent arrangements coming within the terms of the appended claim are also contemplated.

What is claimed is:

In combination, a coin collector housing, a refund chute in said housing having a downwardly sloping bottom wall leading to a coin pocket accessible from outside said housing, means for discharging a deposited coin into said chute, an elongated strip of insulating material extending the length of a portion of said bottom wall, a set of spaced electrical terminals electrically connected to each other and mounted on said strip, a second set of spaced electrical terminals electrically connected to each other and mounted on said strip, said terminals being insulated from said bottom wall but arranged to have terminals of the two sets conductively connected by a coin sliding down said refund chute, a signal device controlled by the bridging of said two sets of terminals by a coin and means for preventing the actuation of said device by said bridging until said sets have been bridged for a time interval greater than the normal time required for a refunded coin to pass along said strip into said coin pocket.

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