

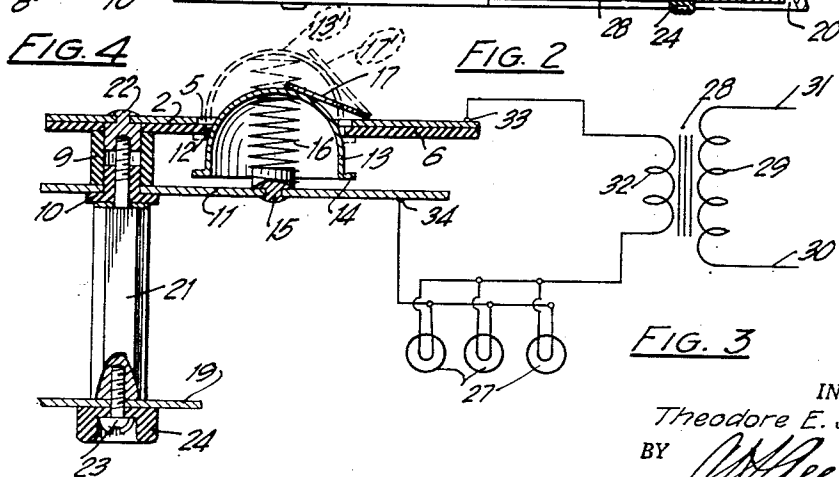
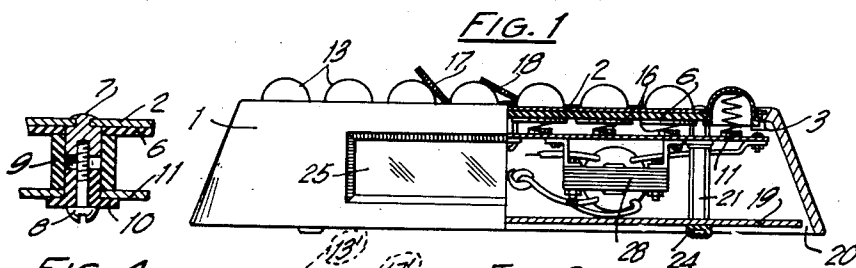
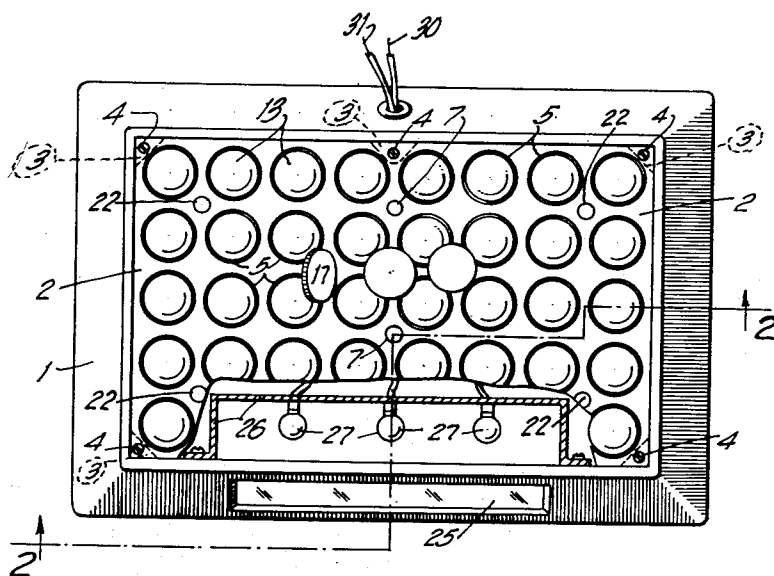
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COIN TRAY

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COIN TRAY

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My invention relates to coin trays and particularly to improvements in devices of that character whereby the picking up of coins deposited thereon is greatly facilitated.

The principal object of my invention is to provide a coin tray of novel design from which several coins may be easily and substantially simultaneously swept or picked up. Another object is to provide a device of this character in which coins dropped or deposited indifferently thereon will never lie on a substantially flat surface so that they are difficult to pick up but which, on the other hand, will invariably lie tilted up with a portion thereof resting on the bottom of the tray and thus present edges in such position that the balls of the fingers or thumb may be readily brought in contact therewith to lift or sweep them from the tray. Another object is to provide a device of this character which will give a signal when coins are deposited on the tray. A further object is to provide a device of this character in which the signaling means comprises an electric lamp which will be lighted when a coin is deposited on the tray and which may be used to illuminate an advertisement or otherwise.

With these objects in view, my invention includes the novel combination and arrangement of elements described below and illustrated in the accompanying drawings in which—

Fig. 1 is a top plan view of my tray with certain portions broken away to show interior details;

Fig. 2 is a half front elevation and half section in the broken plane 2-2 of Fig. 1;

Fig. 3 is a vertical cross section to an enlarged scale through one of the buttons with certain portions broken away and including a wiring diagram; and

Fig. 4 is a fragmentary vertical section through the bottom of the tray showing how the button supporting means is secured thereto.

Referring to the drawings:

1 is a casing forming element or frame which laterally encloses the operating mechanism. The top 2 of the casing is a metal plate which is supported upon lugs 3 extending inwardly from the sides of the frame just below the top thereof and which is secured to said lugs by screws 4. The plate 2 which forms the top of the casing and also the bottom of the tray is provided with a multiplicity of spaced openings 5 which are preferably but not necessarily circular. While the openings are shown as uniformly spaced, it is to be understood that uniform spacing is not es-

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sential. Secured to the bottom of the plate 2, by means of the internally threaded rivets 7, is a second plate 6 of insulating material. Screws 8 which pass through the insulating sleeves 9 and through the insulating thimbles 10, cooperate therewith and with the threaded rivets 7 to secure a second metal plate 11 in spaced, electrically-insulated relation to the plate 2. The insulating plate 6 is also provided with openings 12 therein which are somewhat smaller than, but coaxial with, the openings 5 in the plate 2. Depressible metal buttons 13 having the tops thereof comprising spherical or other surfaces of revolution of double curvature are mounted to move up and down in the openings 12 in the insulating plate 6. The bottom of each of the buttons 13 is provided with an outstanding peripheral flange 14 which limits, by its contact with the plate 6, the upward movement of the buttons. Specially headed rivets 15 are positioned in the plate 11 coaxial with the buttons and the openings 12 in the insulating plate 6 and serve to maintain light helical compression springs 16 in position beneath each button. These springs normally hold the buttons up in the positions shown in Fig. 2 and as shown in dotted outline at 13' in Fig. 3. The spacing between the buttons is substantial, but must be slightly less than the diameter of the smallest coin (in the U. S., a dime) expected to be deposited on the tray so that, when a coin is deposited on the tray, it cannot fall down between the buttons and lie flat on the plate 2 forming the bottom of the tray. Because the tops of the buttons are surfaces of revolution of double curvature, they do not form a stable support for coins deposited on the tray, and the coins are invariably tilted up as shown at 17 and 18 in Fig. 2 and 17' in Fig. 3; being supported by the bottom of the tray and one or more buttons. Thus, a coin deposited on or in the tray forms an electrical connection between the plate 2 and the button or buttons 13 with which it may be in contact and thus may be utilized to close an electric circuit for many purposes.

The bottom of the casing is substantially closed by a plate 19 which is either of insulating material or, if metal, is secured in spaced relation to the frame 1, as shown at 20 in Fig. 2, by means of the studs 21 which are threaded into rivets 22 similar to the rivets 7, and the screws 23 threaded into the bottom of the studs. Rubber buttons 24 through which the screws 23 pass form supports upon which the device rests on a counter or the like.

The front of the frame 1 is provided with a translucent panel 25 and within the casing behind the panel 25, is a reflector 26. Between the reflector 26 and the translucent panel 25 are several low voltage electric lamps such, for example, as the 2.5 volt lamps used in flashlights.

Within the casing is a step-down transformer 28, the primary 29 of which may be connected to an ordinary lighting circuit by means of a plug (not shown) attached to the wires 30 and 31 which project from the back of the casing. One of the terminals of the secondary 32 of the transformer is electrically connected to the plate 2 as shown at 33 and the other terminal is connected through each of the lights 27 to the plate 11, as shown at 34, and through the plate 11 and the springs 16 to all of the buttons 13. Thus, the lamps 27 are connected in parallel with the source of power so that should one of them burn out, the other two will still function. Any other source of power may, of course, be employed, such as a storage battery or even flashlight batteries, but if a transformer is employed, it is, of course, desirable to have a very low voltage, say 2.5 volts, delivered from the secondary.

From the foregoing, it will be apparent that a coin resting on the tray and in contact with any of the buttons and the bottom 2 of the tray, as shown in Fig. 3, will close an electrical circuit through the lamps 27 which will light and remain lighted as long as the coin maintains the circuit closed. The translucent panel may carry any name or advertisement desired.

It will also be apparent that, in order to have the signal device function, it is not necessary that the buttons be depressible but with depressible buttons, it is so much easier to pick the coins from the tray that this type of construction is much to be preferred, although I do not wish to be limited thereto. With the depressible buttons, it is surprisingly easy to sweep the coins from the tray into the hand by simply placing the fingers generally around the coins and closing them in the same way, for example, as they would be closed in picking up several marbles.

What I claim is:

1. A coin tray comprising a casing having a top of electrical conducting material forming the bottom of said tray and provided with a multiplicity of spaced openings therein, buttons formed of electrical conducting material mounted in said openings and projecting substantially above the bottom of said tray, means electrically insulating said tray bottom from said buttons, and means electrically connecting said buttons together; the spaces between said buttons being substantial but somewhat less than the diameter of the smallest coin expected to be deposited on said tray; whereby a coin deposited on said tray will be partially supported on said buttons and partially supported on the bottom of said tray and is thereby adapted to close an electric circuit between said buttons and said tray.

2. The structure set forth in claim 1 in which the tops of said buttons comprise surface of revolution of double curvature.

3. A coin tray comprising a casing having a top of electrical conducting material forming the bottom of said tray and provided with a multiplicity of spaced openings therein, depressible buttons formed of electrical conducting material mounted in said openings and projecting substantially above the bottom of said tray, means in said casing comprising comparatively light,

easily yielding springs normally holding said buttons projecting above the bottom of said tray, means electrically insulating said tray bottom from said buttons, means electrically connecting said buttons together, and means, including an electrically actuated signal, adapted to be connected to a source of power to form a closed electric circuit when said tray bottom and any of said buttons are electrically connected; the spaces between said buttons being substantial but somewhat less than the diameter of the smallest coin expected to be deposited on said tray; whereby a coin deposited on said tray will be partially supported on the bottom of said tray and partially supported on at least one of said buttons and will electrically connect said button and the bottom of said tray.

4. A coin tray comprising a casing having a top of electrical conducting material forming the bottom of said tray and provided with a multiplicity of spaced openings therein, depressible buttons formed of electrical conducting material mounted in said openings in spaced relation to the sides of said openings to prevent electrical contact between said buttons and the bottom of said tray and projecting substantially above the bottom of said tray, means in said casing comprising comparatively light, easily yielding springs normally holding said buttons projecting above the bottom of said tray, means electrically connecting said buttons together, and means, including an electrically actuated signal, adapted to be connected to a source of power to form a closed electric circuit when said tray bottom and any of said buttons are electrically connected; the spaces between said buttons being substantial but somewhat less than the diameter of the smallest coin expected to be deposited on said tray; whereby a coin deposited on said tray will be partially supported on the bottom of said tray and partially supported on at least one of said buttons and will electrically connect said button and the bottom of said tray.

5. The structure set forth in claim 3 in which the signal comprises a translucent panel forming part of said casing, and a lamp disposed in said casing adjacent said panel to illuminate the same.

6. The structure set forth in claim 4 in which the signal comprises a translucent panel forming part of said casing, and a lamp disposed in said casing adjacent said panel to illuminate the same.

7. A coin tray comprising a casing having a top of electrical conducting material forming the bottom of said tray, a plurality of buttons of electrical conducting material and mountings therefor supporting said buttons in spaced relation to each other and electrically insulated from the bottom of said tray with their tops projecting somewhat above said tray bottom; the spacing between said buttons being substantial but somewhat less than the diameter of the smallest coin expected to be deposited on said tray; means in said casing electrically connecting said buttons, electrically actuated signalling means, and electrical circuit forming means including said signalling means, means adapted to be connected to a source of power, the bottom of said tray, and said buttons; said circuit being normally open but adapted to be closed by electrically connecting the bottom of said tray and any of said buttons by depositing a coin on said tray.

8. The structure set forth in claim 7, in which the mountings for said buttons include easily

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yieldable, resilient means normally holding said buttons projecting above the bottom of said tray.

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REFERENCES CITED

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

Number
1,197,736
1,454,566
5 1,561,991

6

UNITED STATES PATENTS

Name	Date
Hartford et al.	Sept. 12, 1916
Smith	May 8, 1923
Michalove	Nov. 17, 1925

FOREIGN PATENTS

Number	Country	Date
366,368	Great Britain	Feb. 4, 1932