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COIN COLLECTING APPARATUS

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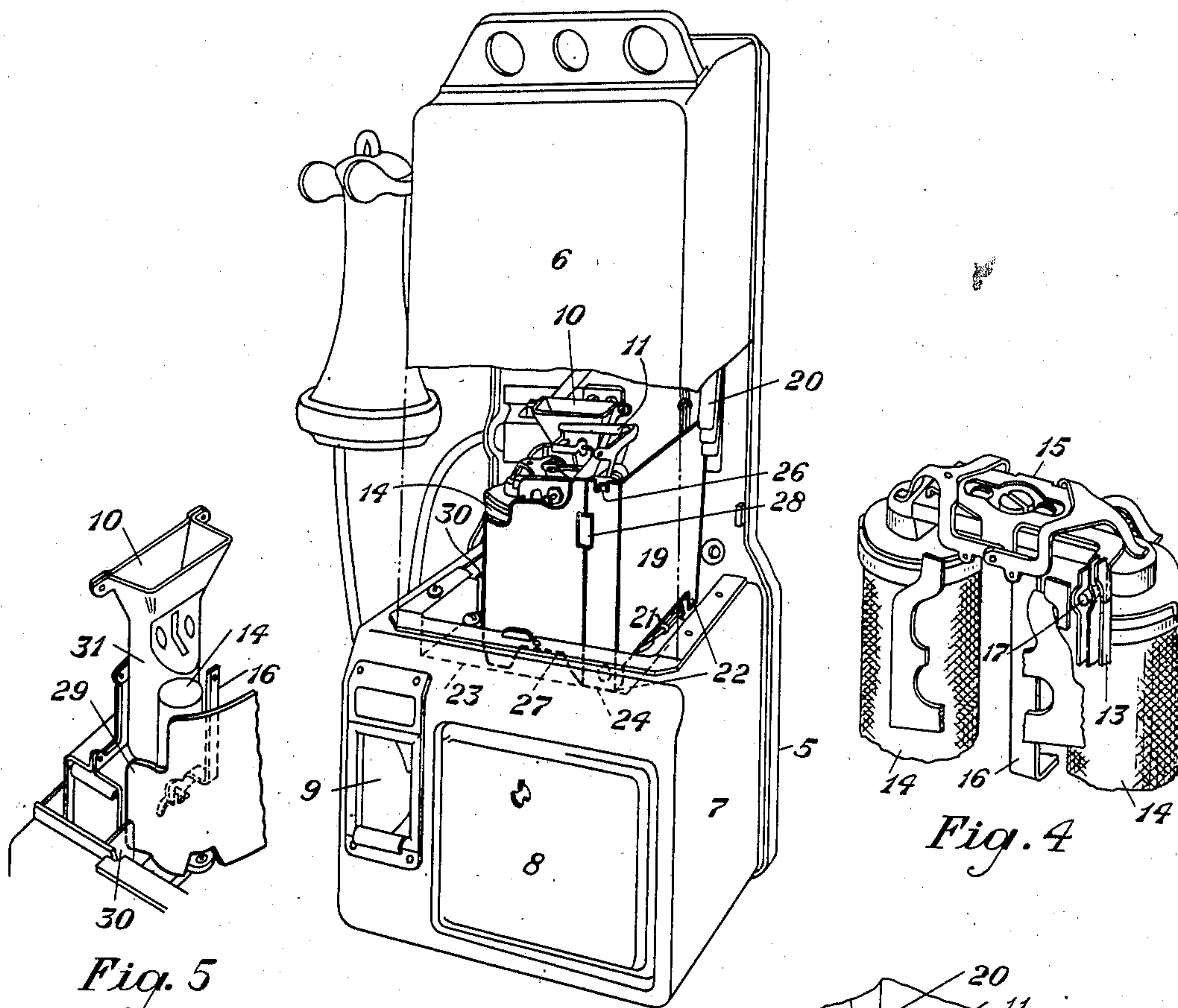


Fig. 5

Fig. 1

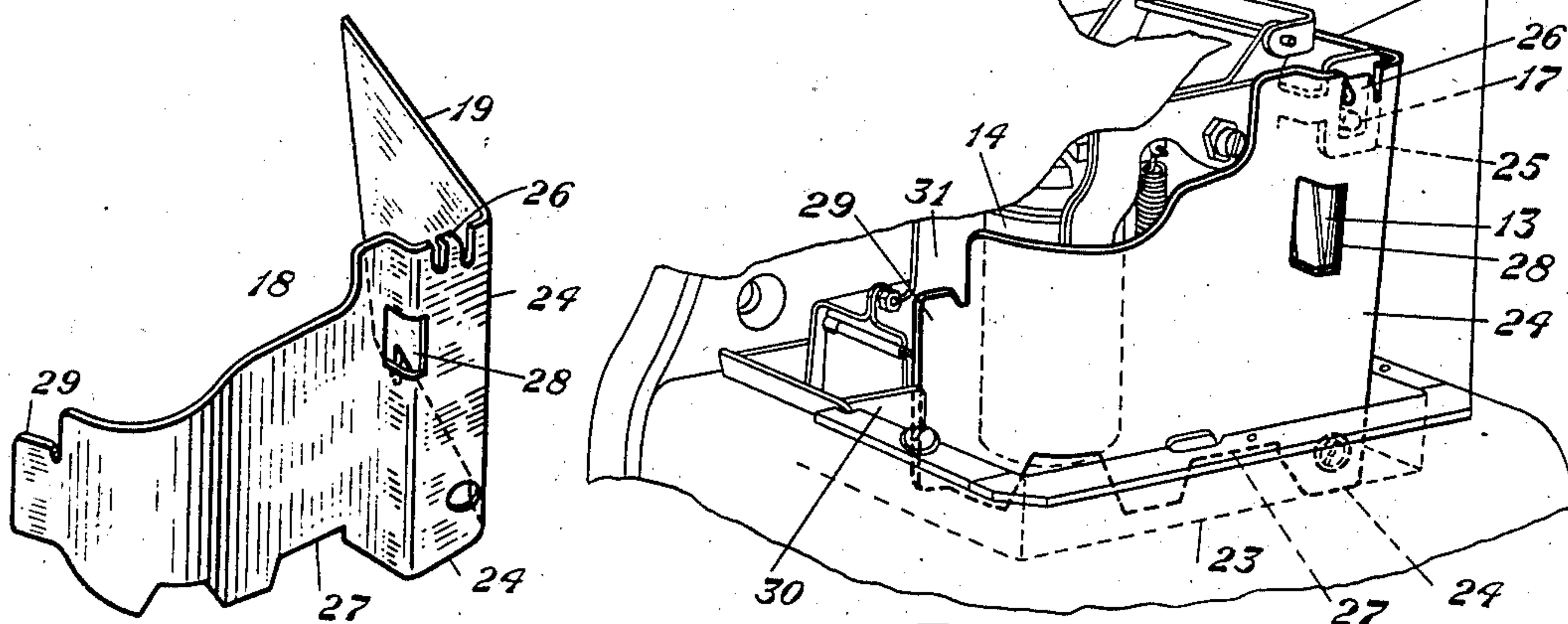


Fig. 2

Fig. 3

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COIN COLLECTING APPARATUS

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4 Claims. (Cl. 232—57.5)

This invention relates to shielding means for coin collector relays.

An object of the invention is to provide in a telephone coin collector a shield to protect from fraudulent operation the relay and the moving parts associated therewith in the collection or refunding of deposited coins.

As disclosed in the O. F. Forsberg, United States Patent 1,043,219, one form of telephone coin collector comprises an upper housing enclosing a polarized relay above which is supported a spring pressed lever released by a coin operated trigger to close electrical spring contacts whereby the relay may be energized. The armature of the relay has an extension which operates to move a vane in the associated coin hopper to collect or refund the coins depending upon the direction the vane is actuated.

Occasionally attempts are made to obtain the fraudulent operation of the spring contacts or the coin vane by the insertion of wires, metallic or other strips into the upper housing. It is the primary object of this invention to protect the relay and associated parts from such fraudulent practices.

In accordance with this invention it is proposed to surround the relay and its moving parts with a shield of insulating and resilient material which may be readily slipped about the relay assembly and held in place upon the collector tray and also by having its ends held under tension against certain collector parts adjacent the relay. This protecting shield preferably comprises three side walls with the top and bottom wall and one side wall omitted, the three side walls of the shield protecting the front and the two sides of the relay assembly.

Referring to the drawing, Figure 1 is a perspective view which shows one type of telephone coin collector to which the present invention may be applied.

Fig. 2 is a perspective view of a detached shield by which the coin relay assembly of the coin collector is protected;

Fig. 3 is a perspective view of a coin collector having its housing broken away to show the application of the shield to the relay assembly;

Fig. 4 is a perspective view of the relay assembly about which the present invention is adapted to be applied as a shield; and

Fig. 5 is a perspective view showing the interior of the coin collector and its broken away armature extension, as viewed from the left of Fig. 1.

Fig. 1 is a conventional showing of the type of telephone coin collector disclosed in the above-

mentioned Forsberg patent comprising a base plate 5, an upper housing 6 and a lower housing 7 including a cash compartment 8 and a refund opening 9.

In Figs. 1 and 3 the upper housing has been removed to disclose the coin hopper 10 which has a pivoted coin trigger 11 for operation by deposited coins before the coins reach a coin trap of well known construction. As disclosed in the Forsberg patent the operation of coin trigger 11 serves to close electrical contacts 13 to establish a circuit through the coin relay 14 and place the collector in condition for service. The pivoted relay armature 15 has an extension 16 which when the relay is energized serves to drop the coin trap and direct the coins into a refund chute leading to opening 9 or into a collect chute leading to cash compartment 8. There is also provided an insulating roller 17 which lies between the contacts 13 and is connected to the armature 15, as shown in Fig. 4.

In order to protect the relay assembly just outlined and to prevent the fraudulent operation of the spring contacts or other moving parts associated with the relay, it is proposed to provide for the relay assembly a shield 18 preferably made of resilient insulating material. This shield as more clearly shown in Fig. 2 has no top or bottom and has only three side walls, so that when in place the shield protects the front and the two sides of the relay assembly. Side wall 19 extends rearwardly to the front face of base 5, projecting between the hopper 10 and the transfer spring pile-up 20. The lower edge of wall 19 is slotted as shown at 21 to fit over the relay mounting plate and has extensions 22 resting on the bottom of relay tray 23.

As shown particularly in Figs. 2 and 3, the right-hand portion 24 of the shield is offset from the remainder of the front face to clear the relay spring guard bracket 25 and the spring pile-up 20, the portion 24 extending downwardly between the relay and the front wall of the relay tray 23 with its lower end resting on the tray bottom. At the top of the front wall 24 of the shield is a lug 26 which is bent inwardly and fits loosely in an aperture of bracket 25. The lower part of the front face of the shield has a slot 27 to bridge over certain parts of the relay mounting. The shield 18 also has a slot 28 to enable the spring contacts to be examined without removing the cover.

In order to conserve space within the upper housing the vertical wall of the shield 18 is formed to fit snugly around the left-hand coil of

relay 14 as viewed in Figs. 1, 3 and 5. This curved wall terminates in an angular tab 29. The purpose of tab 29 will be explained with reference to Figs. 3 and 5. As seen in Figs. 3 and 5 there is a small gap between the upper front projecting wall 30 of the refund chute and the front wall 31 of the coin hopper. When shield 18 is in position the side of the tab or arm 29 will abut the edge of the projecting wall 30 and the end of the tab will be positioned in the gap and against the face of the wall 31. The tab will be held under tension in this position due to the resilience of its material and since, as previously stated, its other end or the edge of wall 19 normally lies against the transfer spring pile-up 20.

From the above description it will be apparent that shield 18 may be readily slipped around the relay assembly while guiding wall 19 to the left of the transfer spring pile-up 20, pressing inwardly the opposite wall portion adjacent tab-arm 29 to enable it to be positioned as shown in Figs. 3 and 5. When the shield is so positioned it will be held in place mainly by the tension of tab-arm 29 against the walls 30 and 31 while the opposite wall 19 of the shield is held by tension against the springs 20. It is, of course, obvious that whenever desired, the shield 18 may be readily removed by pressing the end walls inwardly and tilting the shield forwardly.

The shield 18 is preferably made of insulating material which is highly resilient, that is a material which after being formed to the desired shape, resists deformation. Certain forms of vulcanized fibre have been found satisfactory for this purpose.

What is claimed is:

1. A telephone coin collector including an outer housing, a relay assembly within said housing for disposing of coins deposited therein, and an inner housing including a shield of insulating material having three side walls extending about the front

and two sides of the relay assembly and being held in resilient engagement within the outer housing and about the relay assembly to prevent the unauthorized operation thereof by instrumentalities inserted through said outer housing.

2. A telephone coin collector including an outer housing, a relay assembly within said housing for disposing of coins deposited therein, projections from said housing adjacent each side of the relay assembly, and an inner housing in resilient engagement within the outer housing and positioned about the front and two sides of said relay assembly, said inner housing including a shield of insulating material engaging said projections to prevent the unauthorized operation of the relay assembly by instrumentalities inserted through the outer housing.

3. A telephone coin collector having a relay assembly for disposing of coins deposited therein, an outer housing forming an enclosure for the entire collector organization to prevent tampering with the various components thereof, and an inner housing of insulating material in resilient engagement within the outer housing as to form a shield about the front and a plurality of sides of the relay assembly to prevent unauthorized operation of its control elements by instrumentalities which may penetrate the outer housing.

4. In a telephone coin collector assembly, a relay to control the disposition of coins deposited therein, an external housing about the relay to prevent tampering therewith, the relay being operable by unauthorized instrumentalities penetrated through said external housing, and an internal housing of insulating material in resilient engagement within said external housing and about the front and a plurality of sides of said relay to positively prevent the operation of said relay by the penetration through said external housing of said unauthorized instrumentalities.

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