Oct. 23, 1934. G. A. LONG 1,977,884

TELEPHONE TOLL COLLECTING APPARATUS

Filed Jan. 17, 1931

Fig. 1.

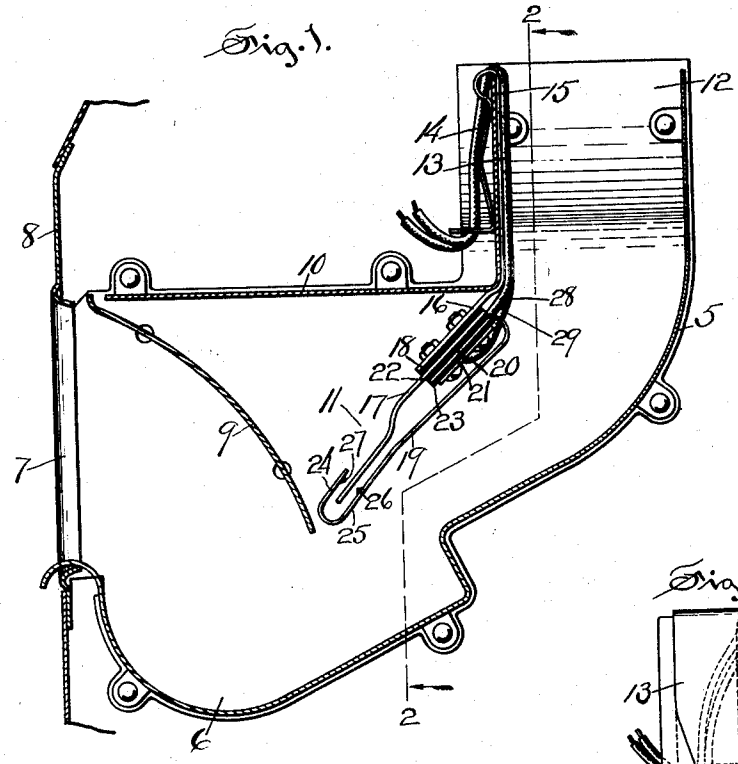


Fig. 2.

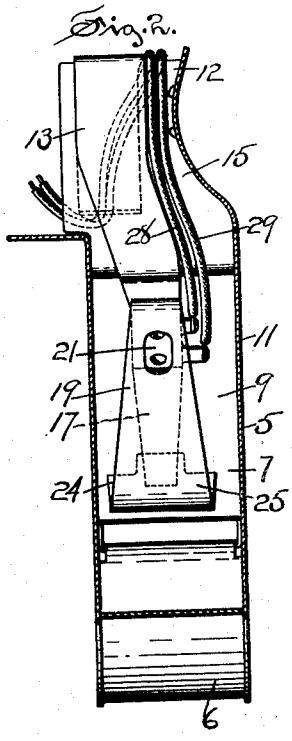
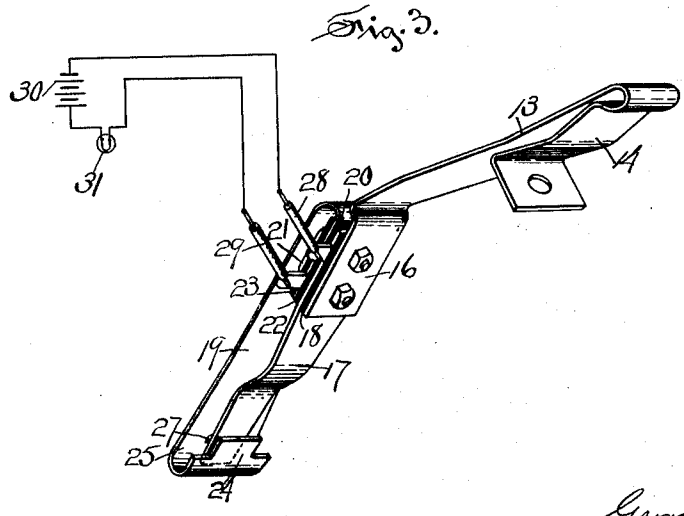


Fig. 3.



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TELEPHONE TOLL COLLECTING APPARATUS

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6 Claims. (Cl. 194—97)

My invention relates to that class of apparatus used in connection with telephones in which a coin or other means for payment are required to be deposited for use of the apparatus, and an object of my invention, among others, is the production of means for preventing tampering with or the unlawful obtaining of articles, usually in the form of coins, which have been deposited for the use of the instrument.

One form of an apparatus embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawing, in which—

Figure 1 is a view in lengthwise section through the return chute of a telephone pay station apparatus shown as equipped with my improved detector.

Figure 2 is a view in section on a plane denoted by the dotted line 2—2 of Figure 1.

Figure 3 is an isometric view of my improved detector in a form designed for removable attachment to the apparatus.

One form of telephone toll apparatus in common use at the present time requires a deposit by the user of the telephone of a coin or other means for payment before a talking connection with the central exchange may be obtained. The apparatus is so arranged that the coin thus deposited may be returned to the user at the option of the operator at the central exchange, as in cases where the desired connection cannot be obtained. Unscrupulous persons have found means for unlawfully obtaining the coins intended to be returned to users of telephones by arresting such return after release by the operator at the central exchange, the coins thus arrested being thereafter secured by the person thus tampering with the apparatus.

One means for accomplishing this result consists in stuffing a mass of soft paper into the chute from the mouth thereof, thereby preventing the coins from falling to the mouth of the chute for access by the users who have deposited such coins. Such users often, for various reasons, leave the apparatus without obtaining the coins, which were released by the operator at the central exchange for delivery to said users but which coins failed to appear at the mouth of the chute. Many instances of this kind are known to occur between the time of stuffing the chute to obstruct delivery of the coins and the return of the unscrupulous person to obtain such coins, the amounts thus collected being considerable.

My improved detector illustrated and described herein is for the purpose of giving a warning when such unscrupulous acts are taking place, this detector being illustrated in the accompanying drawing in which the numeral 5 denotes the return chute of a telephone toll apparatus in common use at the present time, such chute having a coin pocket 6 at its lower end accessible through an opening 7 in the wall 8 of the casing of a telephone toll apparatus, a portion only of which is shown herein. A guard 9 extends downwardly from the top 10 of the chute leaving a space 11 of considerable dimensions between the lower end of the guard and the top wall of the chute. When a coin is released by an operator at the central exchange, as by an electrical device, in a manner that will be readily understood by those skilled in the art, and as hereinbefore referred to, such coin drops into the upper end 12 of the return chute and falls into the pocket 6 from which it may be obtained by the user of the telephone through the opening 7. In obstructing this delivery of the coins, as hereinbefore described, a mass of paper is inserted through the opening 7, past the pocket 6, and into the space in the chute above the guard 9. Upon removal of this mass of paper all coins or other articles which have been held will fall into the pocket 6 and may be readily obtained by the unscrupulous use of the machine herein described. It should be noted that the unlawful operations hereinbefore referred to take place in the return chute which receives the coins after their release and therefore after they have passed from control of the mechanism.

My improved detector includes a support 13 in the form of a strip of metal having a clip 14 at one end formed by bending the metal backwardly, and as shown in Figures 1 and 3 of the drawing. This clip is preferably provided with spring qualities to frictionally retain the support in position, and the clip fits over the upper edge of one wall 15 of the chute. The lower end of the support is bent at an angle forming a foot 16.

A conductor in the form of a tongue 17 is secured to the foot 16 and is insulated therefrom as by a piece of insulation 18. A circuit closer 19 is secured to the foot 16 and end of the tongue 17. In the preferred form this circuit closer has a backturned portion forming a base 20 of the circuit closer that is secured to the foot 16 and tongue 17 as by means of screw bolts passing through a plate 21 and insulations 22 and 23 located between the plate and said base and between said base and the end of the tongue 17.

The free end of the circuit closer 19 is bent

backwardly into U-shape forming two contactors 24—25 having contact points 26—27 located on opposite sides of the free end of the tongue 17, and as shown in Figure 1 of the drawing. Conducting wires 28—29 are secured to terminals on the tongue 17 and circuit closer 19 respectively.

These wires will be connected to any suitable source of electric energy. Telephone toll stations in use at the present time are provided with alarms located one within each set of instruments whereby tampering, as with the money boxes, will be at once denoted. The wires 28—29 may be connected into the circuit of this alarm in a manner that will be readily understood by electricians and whereby the alarm will be sounded upon the closing of the circuit by contact of either of the points 26 or 27 with the tongue 17.

In the preferred arrangement, however, it is purposed to connect the wires 28—29 with a source of electric-energy, as a battery 30, which will be located preferably at a central station and at which station a signal as an electric lamp 31 will be energized and operated by closure of the circuit, as hereinabove described. The latter arrangement is preferred as it will enable the offender to be arrested as he will not be aware of the fact that he has put a signal into operation, whereas, in the case of an alarm in the telephone apparatus the offender would be merely frightened away.

It will be noted that I have so arranged the contactor that the signal will be operated in a movement of the contactor in opposite directions. The contactor 25 would be sufficient for operation by merely stuffing a mass of paper into the chute. However, this contact might be prevented by the insertion of a proper instrument through the mouth 7 of the chute, and in order to obviate this, I provide the two contact points. In the use of an instrument to prevent contact of the point 26 with the tongue 17 the contact 27 would in all probability be moved against the tongue 17, and therefore in any event the alarm would be operated whether a mass of paper be stuffed into the chute, or whether an instrument be employed as hereinbefore described.

The detector herein shown is intended for application to telephone toll apparatus in common use at the present time, as it may be readily inserted and attached in position without changing the apparatus in any respect, the detector occupying the space 11 which at the present time is unoccupied.

It will, however, be appreciated that the device, either in its present form, or in modifications thereof, may be applied to telephone apparatus to be hereafter constructed, and I intend that my invention shall be applicable in either case.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative, and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim:

1. In combination with a coin return chute having a rigid wall, a member movably mounted in said chute opposite said rigid wall to receive pressure of stuffing thrust into said chute to retain a coin therein above the outlet thereof, said member being located out of the path of a coin moving along the chute, an indicator, and a connection between said member and indicator to operate the latter to denote movement of the former in one direction by said stuffing or in the opposite direction by an instrument to prevent movement of said indicator by said stuffing.

2. A detector unit comprising a support, a clip for toolless attachment of said support to the wall of a coin return chute out of the path of a moving coin, a tongue secured to said support, a circuit closer secured to said support to make contact with said tongue, and an electric circuit including an indicator to be operated by contact of said tongue and circuit closer.

3. A detector unit comprising a support, a tongue secured to and projecting from said support, a circuit closer backturned around the end of said tongue to lie on opposite sides thereof for contact with said tongue by movement in opposite directions, and an electric circuit connected with said tongue and circuit closer and including an indicator to be operated by contact of said tongue with either part of said circuit closer.

4. A detector unit comprising a support having a backturned spring clip for engagement of the edge of a wall plate of a coin chute to removably attach said support to said chute, a tongue secured to said support, a circuit closer secured to said support for contact with said tongue, and means for attachment of leads from an electrical circuit including an indicator connected for operation by contact of said tongue with said circuit closer.

5. A detector unit comprising a support shaped to form one wall of a coin chute, a tongue secured to and projecting from said support, a circuit closer projecting from said support along said tongue and having its end backturned around the end of said tongue to contact with the latter by movement of said circuit closer in opposite directions, and means for attachment of leads from an electrical circuit including an indicator connected for operation by contact with said tongue.

6. In combination with a coin return chute having a rigid wall to direct movement of a coin, a detector located opposite said rigid wall and extending in the same general direction and comprising a support, a tongue secured to said support and projecting therefrom, a circuit closer secured at one end to said support and projecting therefrom and having its opposite end backturned into U-shape to locate said tongue between the branches of said bent end, said tongue and circuit closer being insulated from said support and from each other, an indicator, and a connection between said detector and indicator to denote movement of said circuit closer as a result of pressure of stuffing thrust into said chute.

GEORGE A. LONG.