

March 5, 1935.

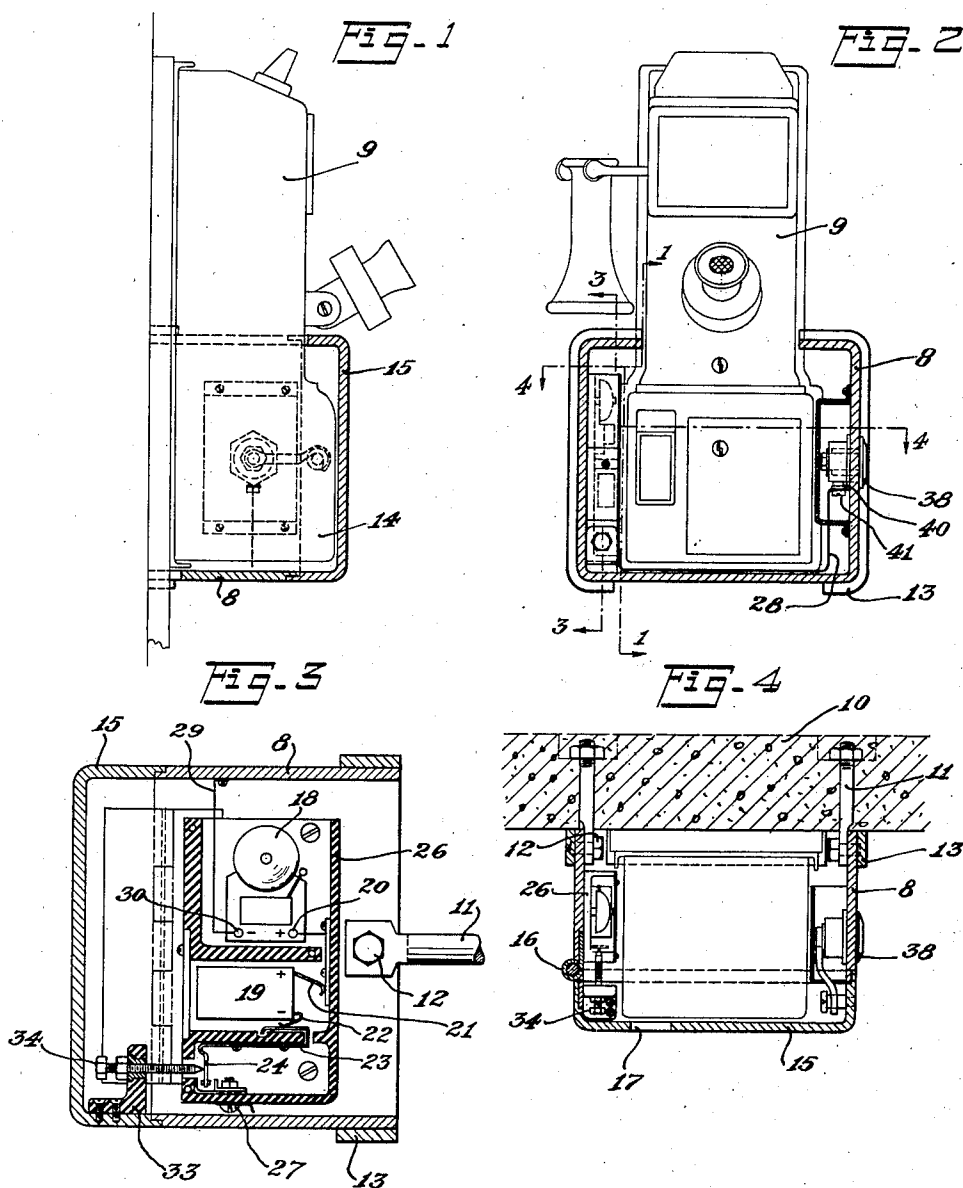
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1,993,382

PROTECTION DEVICE FOR TELEPHONES

Filed June 3, 1933

2 Sheets-Sheet 1



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Fig. 5

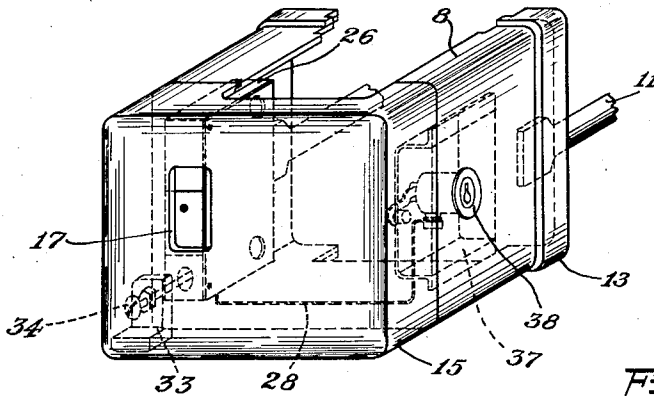


Fig. 6

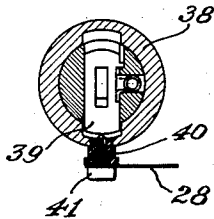


Fig. 7

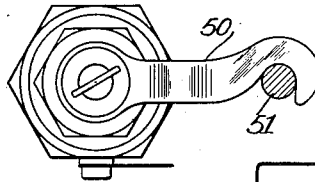
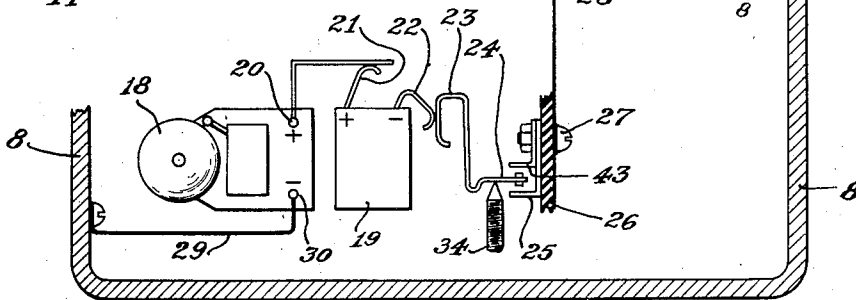
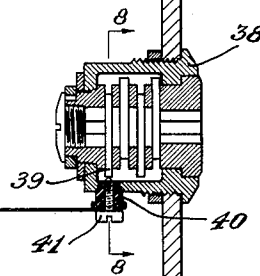


Fig. 8



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1,993,382

PROTECTION DEVICE FOR TELEPHONES

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Application June 3, 1933, Serial No. 674,159

10 Claims. (Cl. 177—314)

This invention relates to protection devices for telephones.

In many apartment houses, transit stations and other public or semi-public places, coin-box telephones are usually unattended. Considerable loss has been suffered because of thieves breaking open the coin boxes of these telephones or removing the instruments entirely. While the amount of stolen coins may not be large in itself, the owner of the premises is normally responsible for both the instrument and its contents. As the robbery of the coins is usually accompanied by serious damage to or complete loss of the telephone instrument, this materially increases the monetary loss.

It is an object of the present invention to provide a protective device for coin-box telephones such that access to the coin box is prevented or is rendered extremely difficult, at least without setting off an alarm, and such that removal of the telephone from the wall is prevented or rendered difficult.

It is a further object of the invention to provide a device of the character referred to that can be installed without any connection to or alteration in the telephone instrument itself.

With these general objects in view the invention consists in the features, combinations, details of construction and arrangements of parts which will first be described in connection with the accompanying drawings and then more particularly pointed out.

In the drawings:

Fig. 1 is a side elevation of a coin-controlled wall telephone with the protective device in place, the latter being shown in section on the line 1—1, Fig. 2.

Fig. 2 is a front elevation of the telephone and box, the latter being partly in section.

Fig. 3 is a vertical sectional view on the line 3—3, Fig. 2.

Fig. 4 is a horizontal section on the line 4—4, Fig. 2.

Fig. 5 is a perspective view of the protective box.

Fig. 6 is a diagrammatic view illustrating the circuit of the alarm system, with the lock barrel in longitudinal section.

Fig. 7 is a detail view of the inner end of the lock mechanism, illustrating the lock-operated switch device, and

Fig. 8 is a detail transverse sectional view on the line 8—8, Fig. 6.

Referring to the drawings, in the embodiment here illustrated as an example there is provided

a box 8, of strong metal, having its rear side open and its top and bottom cut away to fit around the lower part of the usual coin-box telephone 9 of the wall type. The box is secured to the wall 10 in any suitable manner as, for example, by wall bolts 11 connected to the box 8 in any suitable way, as for example, by providing the inner ends of the wall bolts with perforated flat ears through which may extend machine screws 12 threaded into holes in the box, as shown in Fig. 4. The box is put in place by first securing the wall bolts 11 to it, then pushing the wall bolts into the holes in the wall and securing them there in any suitable way, as for example, by nuts at the opposite end of the wall bolts, as shown in Fig. 4. A reinforcing strip 13 around the rear edge of the box protects the fastening bolts 12 and increases the difficulty of attempting to pry the box loose from the wall.

It will be seen that the box 8 completely encloses the coin box 14 of the telephone. The mere presence of the protective box tends to prevent any attempts to break into the coin box of the protected telephone. By barring access to the coin box, it makes it necessary for a would-be thief to first remove or break open the protective box and then break open the coin box. The securely anchored box also tends to prevent any attempt to remove the telephone entirely, since the telephone cannot be moved up, down or outwards without previous removal or serious deformation of the box. In either case, the protective box, if not preventing such robbery, at least renders it so difficult that the thief is discouraged or lacks sufficient time to carry out his designs.

In order to give authorized access to the telephone coin box, for collection of tolls and the like, the box is made in two parts, the front part 15 being in the nature of a cover. This cover may be hinged to the stationary part of the box, as at 16.

To permit the telephone user to obtain returned coins without opening the box, the box has a window or opening 17 opposite the usual return-coin slot of the telephone.

The invention in its entirety includes an alarm and means for causing the alarm to be set off when the box cover is opened. This may be accomplished by an electric bell and in structures carrying out the invention to what is now considered the best advantage, the box itself forms part of the alarm circuit. In the embodiment here shown as an example, carried inside the box, in an insulating housing 26 is an electric bell 18 of ordinary construction, current source being

derived from a dry cell battery 19. One terminal 20 of the bell 18 is connected with one terminal 21 of the battery. The other battery terminal 22 contacts with a conductor strip 23 having a resilient switch contactor 24, hereinafter more fully referred to. Associated with switch member 24 is a contact strip 25 secured to part of the insulating housing 26. Electrically connected to strip 25 by a screw 27 is a conductor 28 which is connected, through a lock, as hereinafter described, with the wall of the box 8. A conductor 29 connects the wall of the box with the second terminal 30 of the bell 18, completing the circuit. Thus, when switch element 24 contacts the strip 25, the circuit is closed and the alarm bell rings.

There is provided means for maintaining a normally open circuit while the box cover is in closed position and for closing the circuit, to set off the alarm, when the box cover is illegally opened. To this end, as here shown as an example, carried by an insulating bracket 33 on the box cover is a set-screw 34, the point of which engages and displaces switch member 24 when the cover is closed. This engagement holds the switch member 24 out of contact with the cooperating contact strip 25 and so keeps the circuit normally open. When, however, the box cover is opened, screw 34 moves away from switch member 24. The latter, by virtue of its inherent resiliency, swings into contact with strip 25 to close the circuit. Thereupon the alarm bell sounds as long as the cover remains open. As a result, if a thief attempts to pry open the cover, the alarm sounds.

The invention in its entirety includes means whereby the box cover may be opened by authorized persons without setting off the alarm. This may be accomplished by locking the box cover closed and causing operation of the proper key in the lock to break the circuit. In the embodiment here shown as an example, inside the box is a lock indicated conventionally at 38. This lock may be of any suitable description such, for example, as the type commonly known as a "Yale" lock, that is to say, a lock having a rotatable barrel and provided with transversely extending lock-tumblers. The particular example illustrated in the drawings is a well known lock on the market and of the general construction shown, for example, in Patents 1,674,513 and 1,789,754, to E. N. Jacobi. The particular details of these locks form no part of my invention since any such a rotatable barrel lock with tumblers which extend transversely to lock the barrel against rotation, and which are withdrawn on the insertion of the key, will serve the purposes of the present invention. This lock has a double-cylindrical barrel 38 mounted in the wall of the box. In the barrel are the usual lock tumblers or pins 39. Inserted through a hole in the lock barrel is an insulating plug 40. Carried by the plug is a screw 41 electrically connected with conductor 28. Screw 41 is so positioned that its end engages the end of one of the lock pins 39 when the lock parts are in locking position. Thus, the circuit is normally traced from conductor 28 through screw 41, lock pin 39, and the body of the lock barrel, to and through the wall of the box 8 to conductor 29.

When the proper key is inserted in the lock barrel, the lock pins are drawn into the inner cylinder in the usual manner. This separates the end pin from its engagement with screw 41 and so breaks the circuit. Thus, when the box cover is subsequently opened, the alarm does not sound

because the circuit, while closed at switch 24, is broken at the lock. As a result, authorized opening of the box can be made without setting off the alarm. In locks of the type illustrated, the rotation of the key in one direction rotates the barrel to lift the latch, indicated at 50, so that it releases the pin 51 secured to the cover 15 of the box, thus allowing the box cover or door to be swung open. When the box cover 15 is closed, the key may be rotated in the opposite direction to cause the latch to engage the pin, thus latching the box cover. When the key is withdrawn from the lock the tumblers spring outward and the box is locked.

When the cover is again closed and the key withdrawn, contact is remade between the end lock pin 39 and screw 41, to close the circuit at that point. To insure this contact, the screw 41 is preferably so positioned that the associated lock pin engages the end of the screw before the pin reaches the end of its normal throw. Reclosing of the cover, as will be apparent, again displaces the switch member 24 to open the circuit at that point.

The invention in its entirety includes auxiliary means for setting off the alarm. For example, the head of set-screw 34 is located below the window 17. If anyone attempts to manipulate a metal tool through window 17, or elsewhere, and the tool contacts both the box wall and the set-screw, a circuit is closed and the alarm rings. As another example, spaced a short distance from switch member 24 is a lug 43 in electrical connection with strip 25. The insertion of a metal tool or the like between lug 43 and switch 24 will also close a circuit and sound the alarm.

With the construction described the telephone is protected against removal and against pilferage of the toll coins, and at the same time the protective box is physically independent of the telephone instrument in that it is installed without any connection with or alteration in the telephone instrument itself.

What is claimed is:

1. In a device of the character described, and in combination, a two-piece metal box capacitated to enclose the lower part only of a coin-box telephone, means for anchoring the rear portion of the box to a wall, said box having a top arranged to extend over the coin-box sufficiently to prevent upward removal of the latter, and having an opening registering with the coin-delivery opening of the coin-box to permit access from the outside to said coin-delivery opening, the cover-like front portion of the box being separable from the anchored portion to give access to the coin box, an alarm, and means for causing actuation of said alarm upon opening of the box cover.

2. In a device of the character described, and in combination, a two-piece metal box capacitated to enclose the lower part only of a coin-box telephone, said box having a top arranged to extend over the coin-box sufficiently to prevent upward removal of the latter, and having an opening registering with the coin-delivery opening of the coin-box to permit access from the outside to said coin-delivery opening, means for anchoring the rear portion of the box to a wall, the cover-like front portion of the box being separable from the anchored portion to give access to the coin box, an alarm, a circuit for actuating said alarm, and means for maintaining said circuit open while the box cover is closed and for causing the circuit to be closed when the box cover is opened.

3. In a device of the character described, and in combination, a two-piece metal box capacit-
ated to enclose the lower part only of a coin-box tele-
phone, said box having a top arranged to extend
5 over the coin-box sufficiently to prevent upward
removal of the latter, and having an opening
registering with the coin-delivery opening of the
coin-box to permit access from the outside to
said coin-delivery opening, means for anchoring
10 the rear portion of the box to a wall, the cover-
like front portion of the box being separable from
the anchored portion to give access to the coin
box, a lock for locking the cover closed, an alarm,
means for causing actuation of said alarm upon
15 opening of the box cover, and means for render-
ing said alarm-actuating means ineffective when
the opening of the box cover is preceded by the
unlocking of said lock.

4. In a device of the character described, and
20 in combination, a two-piece metal box capaci-
tated to enclose the lower part only of a coin-box
telephone, said box having a top arranged to
extend over the coin-box sufficiently to prevent
upward removal of the latter, and having an
25 opening registering with the coin-delivery open-
ing of the coin-box to permit access from the
outside to said coin-delivery opening, means for
anchoring the rear portion of the box to a wall,
the cover-like front portion of the box being
30 separable from the anchored portion to give
access to the coin box, a lock for locking the box
cover closed, an alarm, a normally open circuit
for actuating said alarm, means for causing said
circuit to be closed upon opening of the box cover,
35 and means for causing said circuit to be broken
at another point upon insertion of the proper key
in said lock.

5. In a device of the character described, and
in combination, a two-piece metal box capaci-
40 tated to enclose the lower part only of a coin-
box telephone, said box having a top arranged to
extend over the coin-box sufficiently to prevent
upward removal of the latter, and having an
opening registering with the coin-delivery open-
45 ing of the coin-box to permit access from the
outside to said coin-delivery opening, means for
anchoring the rear portion of the box to a wall,
the cover-like front portion of the box being
separable from the anchored portion to give
50 access to the coin box, an alarm, a circuit for said
alarm, a contact element and a spring-pressed
switch member included in said circuit, and
means carried by the box cover for displacing
said switch member from said contact element
55 to break the circuit when the box cover is in
closed position.

6. In a device of the character described, and
in combination, a metal box capacitated to en-
close the lower part only of a coin-box tele-
60 phone, said box having a top arranged to extend
over the coin-box sufficiently to prevent upward
removal of the latter, and having an opening regis-
tering with the coin-delivery opening of the coin-
box to permit access from the outside to said coin-
65 delivery opening, an alarm, a normally open cir-
cuit for actuating said alarm, said circuit includ-
ing two slightly separated contact elements,
whereby the circuit may be closed, to actuate the
alarm, upon the insertion of a metal tool between
70 said two elements.

7. In a device of the character described, and
in combination, a two-piece metal box capaci-
tated to enclose the lower part only of a coin-box
telephone, said box having a top arranged to
75 extend over the coin-box sufficiently to prevent

upward removal of the latter, and having an
opening registering with the coin-delivery open-
ing of the coin-box to permit access from the
outside to said coin-delivery opening, means for
anchoring the rear portion of the box to a wall,
5 the cover-like front portion of the box being
separable from the anchored portion to give
access to the coin box, an alarm, a circuit for
actuating the alarm, said circuit including the
box itself, a contact element and a spring-pressed
10 switch element, a conducting set-screw carried
by and insulated from the box cover and posi-
tioned to engage and displace said switch mem-
ber when the box cover is in closed position, the
head of said set-screw being located in proximity
15 to said opening, whereby the insertion of a metal
tool through the opening in a manner to bridge
the box wall and set-screw will close a circuit
to actuate the alarm.

8. In a protective device for coin-box tele- 20
phones, the combination, with a metal box
capacitated to enclose the lower portion only of
the telephone, said box having a top arranged
to extend over the coin-box sufficiently to pre-
vent upward removal of the latter, and having an
25 opening registering with the coin-delivery open-
ing of the coin-box to permit access from the
outside to said coin-delivery opening, said metal
box having a door, key-controlled means for lock-
ing said door, and means for anchoring the metal
30 box to the wall, of an alarm device within the
metal box, means carried by the door for caus-
ing said alarm device to be set in operation on
opening the door, and means actuated by the
unlocking of the lock for rendering said alarm
35 device inoperative.

9. In a protective device for coin box tele-
phones, the combination, with a metal box capaci-
tated to enclose the lower portion only of the telephone,
said box having a top arranged to extend over the
40 coin box sufficiently to prevent upward removal
of the latter, and having an opening registering
with the coin delivery opening of the coin box to
permit access from the outside to said coin de-
livery opening, said metal box having a door, key-
45 controlled means for locking said door and means
for anchoring the metal box to the wall, of an
electrical alarm device within the metal box, a
circuit in which the alarm device and the metal
box are included, a contact device, a circuit-clos-
50 ing device yieldingly pressed toward the said con-
tact device, both the contact device and the cir-
cuit-closing device being connected to the elec-
trical circuit, a pin carried by the door and insu-
lated therefrom, said pin being arranged to press
55 said circuit-closing device out of contact with said
contact device when the door is closed and to re-
lease said circuit-closing device and allow it to
close the circuit when the door is open, and means
actuated by the unlocking of the door for opening
60 the circuit of the electrical alarm device.

10. In a protective device for coin box tele-
phones, the combination, with a metal box capaci-
tated to enclose the lower portion only of the tele-
65 phone, said box having a top arranged to extend
over the coin box sufficiently to prevent upward
removal of the latter, and having an opening reg-
istering with the coin delivery opening of the coin
box to permit access from the outside to said coin
delivery opening, said metal box having a door,
70 key-controlled means for locking said door, and
means for anchoring the metal box to the wall,
of an electrical alarm device within the metal
box, a circuit in which the alarm device and the
metal box are included, two contact devices, a
75

circuit-closing device yieldingly pressed toward one of the said contact devices and arranged to contact with the other contact device when forced inward beyond its normal range of movement, both the contact devices and the circuit-closing device being connected to the electrical circuit, a pin carried by the door and insulated therefrom, said pin being arranged to press said cir-

cuit-closing device out of contact with said contact device when the door is closed and to release said circuit-closing device and allow it to close the circuit when the door is open, and means actuated by the unlocking of the door for opening the circuit of the electrical alarm device.

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