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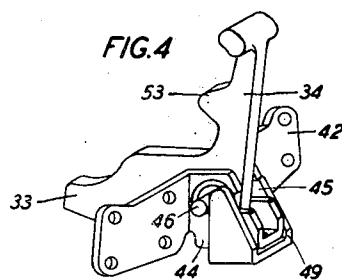
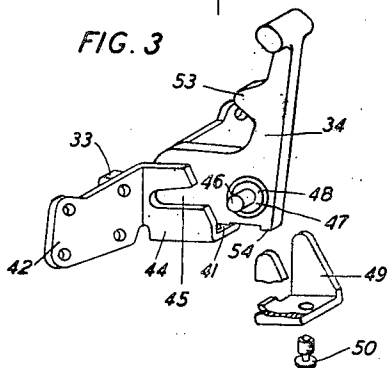
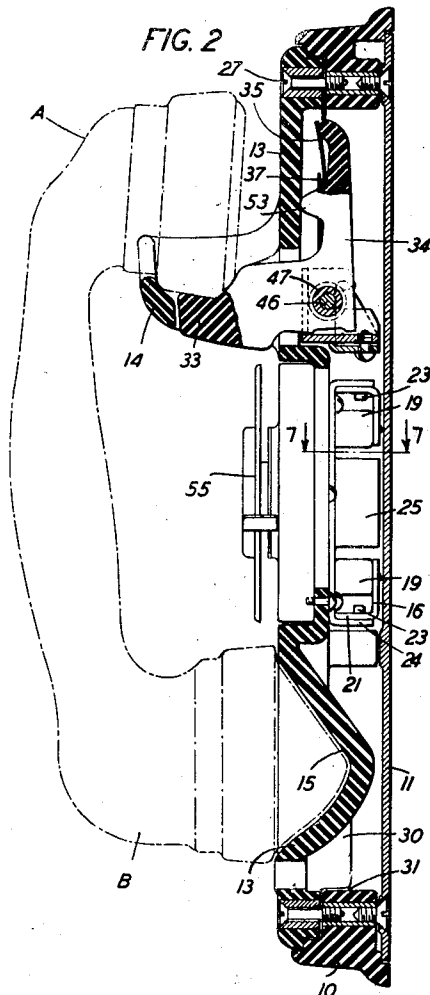
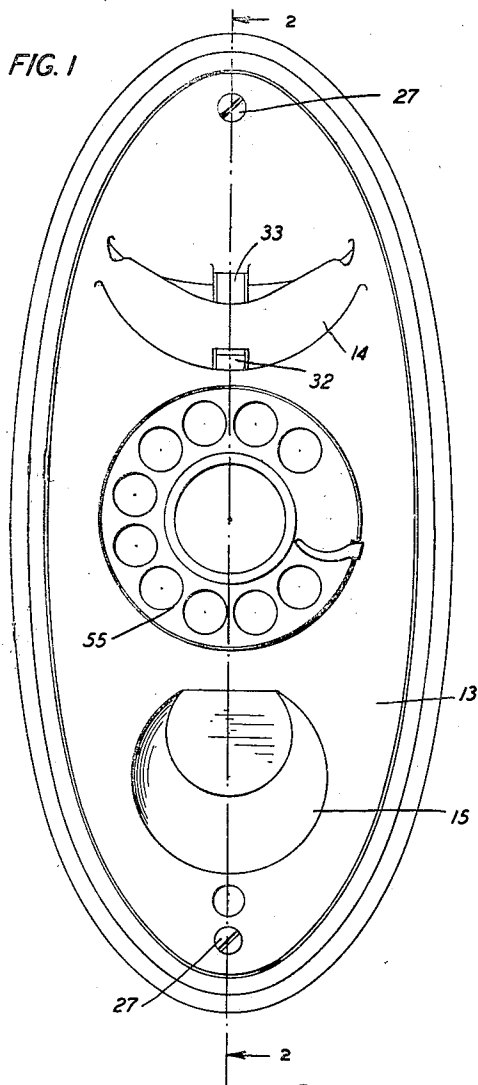
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1,981,649

TELEPHONE SUBSTATION APPARATUS

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2 Sheets-Sheet 1



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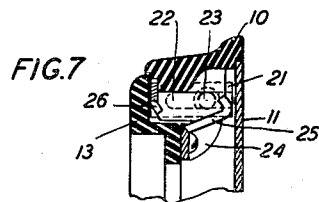
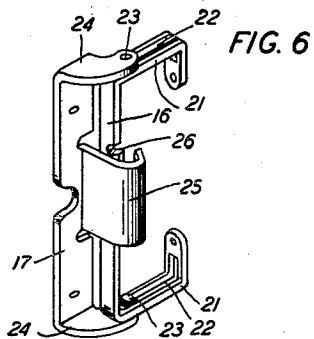
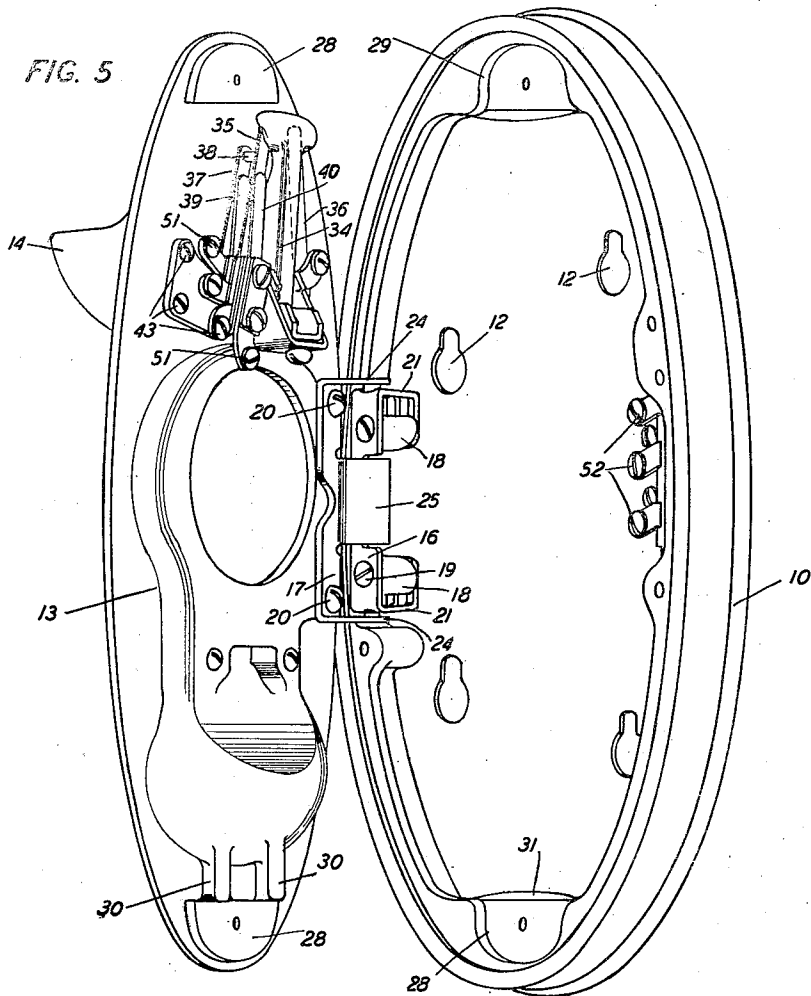
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TELEPHONE SUBSTATION APPARATUS

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2 Sheets-Sheet 2



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1,981,649

TELEPHONE SUBSTATION APPARATUS

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13 Claims. (Cl. 179—100)

This invention relates to telephone substation apparatus and more particularly to a wall mounting for a hand telephone.

5 An object of this invention is to simplify the structure and cheapen the cost of a mounting for a hand telephone adapted to be attached to a vertical surface.

10 A feature of this invention relates to an improved switchhook and line contact assembly in a mounting for a hand telephone.

15 Another feature of this invention relates to a support for a hand telephone which extends circumferentially of the receiver of the telephone set and carries contact actuating means to be engaged by the receiver.

20 A further feature of this invention is an improved construction and assembly of a wall mounting for a hand telephone in which all the parts are easily accessible and may be readily repaired and replaced.

25 The wall mounting of this invention comprises a hollow base and a face plate hinged thereto, the face plate being provided with a receptacle for accommodating the receiver of a hand telephone and a recess in which the mouthpiece of the transmitter portion of the telephone fits. A switchhook on the back of the face plate has one arm loosely fitted in a slot in the supporting receptacle. The other arm of the switchhook is disposed within the base portion and engages a pair of springs, at least one of which in turn engages line contacts mounted on the back of the face plate. In order to facilitate the assembly and repair of the unit the switchhook is loosely pivoted on an axle extending through a bushing embedded in the switchhook, and having its ends disposed in slots in the arms of the channel member. The entire mounting may be attached to a desk, wall or the like by ordinary screws or toggle bolts passing through openings in a back plate attached to the base.

35 The various features and details of this invention will be clearly evident from the following description with reference to the accompanying drawings, in which

Fig. 1 is a front view in elevation of the wall mounting of this invention showing the relation of the parts entering into the construction;

40 Fig. 2 is a view in cross section along the line 2—2 of Fig. 1 of the wall mounting showing the detail structure;

Fig. 3 is an exploded view in perspective showing the switchhook and the mounting therefor;

55 Fig. 4 is another perspective view of the switchhook and mounting after assembly;

Fig. 5 shows in perspective the wall mounting of this invention in an open position showing the arrangement of the contact apparatus and switchhook assembly on the back of the face plate;

Fig. 6 is a perspective view of the hinge construction employed for mounting the face plate on the base; and

Fig. 7 is a fragmentary cross-sectional view on line 7—7 of Fig. 2 showing the "closed" position of the hinge.

Referring now to the drawings, the wall mounting for a hand telephone of this invention comprises a hollow base or frame 10, of molded material, such as hard rubber, phenol condensate or the like and preferably having an oval contour mounted on a base plate 11 having openings 12 therein for accommodating wood screws, toggle bolts or similar fastening elements (not shown) for attaching the mounting to a vertical surface. Although the mounting is intended primarily for attachment to the wall of a room, it may, if desired, be supported on the side of a desk or cabinet, the wall of an elevator or on any vertical surface convenient to the subscriber or user.

A face plate 13 having the general outline of the hollow base 10, and likewise formed of some molded material, is provided with an arcuate outwardly extending receptacle portion 14 which may be integral with the face plate or attached thereto, and a recess 15 adapted to receive the mouthpiece B of the transmitter portion of a hand telephone, and is attached to the base or frame 10 by a hinge. The hinge, as shown in Fig. 6, comprises two cooperating metallic brackets 16 and 17. The bracket 16 is mounted on lugs 18 integral with the base or frame 10 by flat-headed screws 19 and the bracket 17 is attached to the back of the face plate 13 by screws 20 threaded to tapped metallic inserts in the face plate. The arms 21 of the bracket 16 are provided with slots 22 extending lengthwise thereof which accommodate and guide headed pins 23 mounted in the ends of the arms 24 of the bracket 17. The bracket 17 is further formed with a projecting tongue 25 which engages the inner edge of the projection or tongue 26 on the bracket 16 when the face plate is in "open" position and serves as a stop member to limit rotation of the face plate and to prevent frictional contact of the edge of the face plate adjacent the hinge and the base. This hinge construction allows movement of the face plate 13 directly away from the base or frame 10 and increases the clearance between the face plate 13 and the base or frame 10 when the mounting is opened and thereby facilitates the

assembly or repair of the line contact and the switchhook assembly to be described in detail hereinafter. When the mounting is closed the face plate 13 is securely held to the base 10 by screws 27 extending through raised portions 23 on the face plate 13 which are formed to fit within recesses 29 in the base 10. The lower raised portion is formed with projecting arms or tabs 30 which bear against the shoulder or edge 31 on the base 10 and absorb any shock resulting from an abnormal downward thrust on the receptacle portion 14, thereby protecting the hinge against damage.

The receptacle 14 conforms closely to the periphery of the receiver A of a hand telephone and supports the hand telephone when it is not in use. The bottom of the receptacle 14 is provided with a cutout portion or slot 32 extending perpendicular and rearwardly to the face plate 13. An angular molded switchhook is pivotally supported on the face plate 13 and has an arm 33 positioned in the slot 32 and designed to conform closely to the base of the receptacle 14 and the periphery of the receiver A of the hand telephone.

The arm 34 of the switchhook extends substantially parallel to the inner face of the face plate 13 and is engaged at its end by cantilever feather contact springs 35 and 36. The spring 35 in turn engages the contact spring 37 through an insulating bushing 38 and together with the spring 37 actuates the contact members 39 and 40. Although but two sets of contact members are shown in this particular embodiment, it is to be understood that any number may be employed and may be disposed as desired. The switchhook and mounting assembly will be clearly understood with reference to Figs. 3 and 4 which clearly illustrate the relative position of the various elements. A formed metallic stamping having a channel portion 41 and integral flanges 42 is mounted on the face plate 13 by screws 43 passing through oversized openings in the flanges 42. The upwardly extending sides 44 of the channel portion 41 are provided with parallel and co-extensive slots 45 in which are positioned the ends of an axle 46 having an oversized middle portion or hub 47 extending through a bushing 48 fixed in the switchhook. The hub 47 is of a diameter sufficient to prevent the axle 46 from slipping out of the slots 45. A U-shaped metallic bracket or lock member 49 which fits about the channel portion 41 is attached thereto by a screw 50 threaded into the base of the channel portion 41 and serves to hold the axle 46 in place. This arrangement facilitates the assembly or dismantling and repair of the switchhook structure since it requires only the removal or insertion of the screw 50 to completely remove all parts.

Terminals 51 are attached to the spring contact members 39 and 40 and are connected by a suitable cable (not shown) to similar and corresponding terminals 52 mounted on the inside of the base or frame 10.

The operation of the line contacts and switchhook is as follows: Normally, that is, when the hand telephone is not in use and is suspended on the receptacle 14, the arm 33 of the switchhook is depressed in the slot 32, as shown in Fig. 2, and the arm 34 in engagement with the feather springs 35 and 36 holds the spring 35 clear of the contact member 39 and likewise holds the auxiliary spring 37 out of engagement with the contact member 40. When the hand telephone is removed from the mounting the weight on the arm 33 of the switchhook is released and the

feather springs 35 and 36 rock the switchhook about the axle 46 and allow closing of the line contacts 39 and 40 through the springs 35 and 36. Replacement of the hand telephone upon the mounting, of course, opens the line contacts and returns the elements to their original positions. Excessive rocking of the switchhook in either direction is prevented by knobs or extensions 53 and 54, integral with the switchhook, which engage the face plate 13 and the base of the channel piece 41, respectively.

In automatic telephone sets, a dial mechanism 55 is mounted in an opening on the face plate and the associated spring and contact mechanisms are mounted on the back of the face plate within the hollow base 10, as shown in Fig. 2. The mounting is equally adaptable to so-called manual telephone sets. In units of the latter type, the dial mechanism 55 is replaced by a number plate or disc closing the aperture for the dial.

What is claimed is:

1. A mounting for a hand telephone comprising a hollow base, a face plate secured thereto and having an arcuate receptacle portion projecting outwardly from and at substantially right angles to the front surface thereof for accommodating the receiver of a hand telephone, contact members within said base, and means for actuating said contact members in response to the placement of said receiver in said receptacle and the removal of the receiver therefrom, comprising an angular member pivotally mounted on said face plate and having an arm disposed in said receptacle portion.

2. A mounting for a hand telephone comprising a face plate, supporting means integral with said face plate for engaging a portion of the periphery of the receiver of a hand telephone, switching contacts mounted on the back of said face plate, and a hook member including a pair of arms, pivotally supported on said face plate and having one arm extending within said supporting means and the other arm engaging said switching contacts.

3. A mounting for a hand telephone comprising a hollow base, a face plate hinged thereto, a receptacle on said face plate for engaging the receiver of a hand telephone, said receptacle having a cutout portion in its base, electrical contact members mounted on the inner face of said face plate, and an angular member pivotally supported on said face plate and having one arm positioned in said cutout portion to engage said receiver and another arm engaging said contact members.

4. A mounting for a hand telephone comprising a face plate, a receptacle on said face plate adapted to conform closely to a peripheral portion of the receiver of a hand telephone and having a slot in its base and extending lengthwise thereof, and a switchhook having an arm positioned in said slot, said arm having a face conforming closely to the base of the receptacle.

5. In amounting for telephones, a switchhook assembly comprising a mounting plate, a supporting member attached to said plate having two parallel spaced arms each provided with a slot, a switchhook having a portion positioned between said arms, an axle extending through said switchhook and having its ends disposed in said slots, a lock member engaging said axle, and a single screw fastening said lock member to said supporting member to secure said axle in said slots.

6. In a mounting for telephones, a switchhook

assembly comprising a channel member having integral flanges for attachment to a support, each of the sides of said channel member having a slot therein, a switchhook having an arm positioned between the sides of said channel member, an axle extending through said switchhook and having its ends disposed in said slots, and a U-shaped bracket mounted about said channel member and having its arms engaging the ends of said axle to lock said axle in said slots.

7. A mounting for a hand telephone comprising a face plate having a receptacle portion for accommodating the receiver of said hand telephone, said portion having a slot extending lengthwise thereof, a switchhook and contact members mounted on said face plate, said switchhook having an arm disposed in and substantially coextensive with said slot, and resilient means engaging a portion of said switchhook and flexible thereby for actuating said contact members.

8. A mounting for a hand telephone comprising a face plate having a receptacle portion for accommodating the receiver of said hand telephone, said portion having a slot extending lengthwise thereof, a switchhook and contact members mounted on said face plate, said switchhook having an arm disposed in and substantially coextensive with said slot, and a cantilever spring engaging a portion of said switchhook and flexible thereby for actuating said contact members.

9. A mounting for a hand telephone comprising a face plate having a receptacle portion for accommodating the receiver of said hand telephone, said portion having a slot extending lengthwise thereof, a switchhook and contact members mounted on said face plate, said switchhook having an arm disposed in and substantially coextensive with said slot, certain of said contact members engaging a portion of said switchhook and being actuatable thereby.

10. A mounting for a hand telephone comprising a base, a face plate, and a hinge connecting said base and face plate, said hinge comprising

a bracket having slotted arms mounted on said base, and a member attached to said face plate and carrying pins slidable in said slotted arms, said bracket and member being so disposed that the face plate is movable directly away from said base and rotatable with respect thereto.

11. A mounting for a hand telephone comprising a base, a face plate, and a hinge connecting said base and face plate, said hinge comprising a bracket having slotted arms mounted on said base, a stamping attached to said face plate and carrying pins slidable in said slotted arms, said bracket and stamping being so disposed that the base plate is movable directly away from said base and rotatable with respect thereto and co-operating tongues on said bracket and stamping for limiting the movement of said face plate.

12. In a mounting for telephones, a switchhook assembly comprising a supporting plate, a channel member mounted thereon and provided with parallel slots, a switchhook, a pin provided with an enlarged central portion extending through said switchhook and adapted to abut against walls of said channel member, and having bearing surfaces resting in said slots for pivotally supporting said switchhook on said channel member, and a U-shaped member fixed to said channel member by a single screw for holding said pin and switchhook in position.

13. A mounting for a hand telephone, comprising a supporting base member, a face plate member for supporting the hand telephone, and a hinge connecting said plate and base members comprising a bracket having a slotted arm, secured to one of said members, and a second bracket for mounting on the other of said members, having a portion slidable in said slot, said brackets being so disposed that the face plate member is movable directly away from said supporting base member and rotatable with respect thereto.

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