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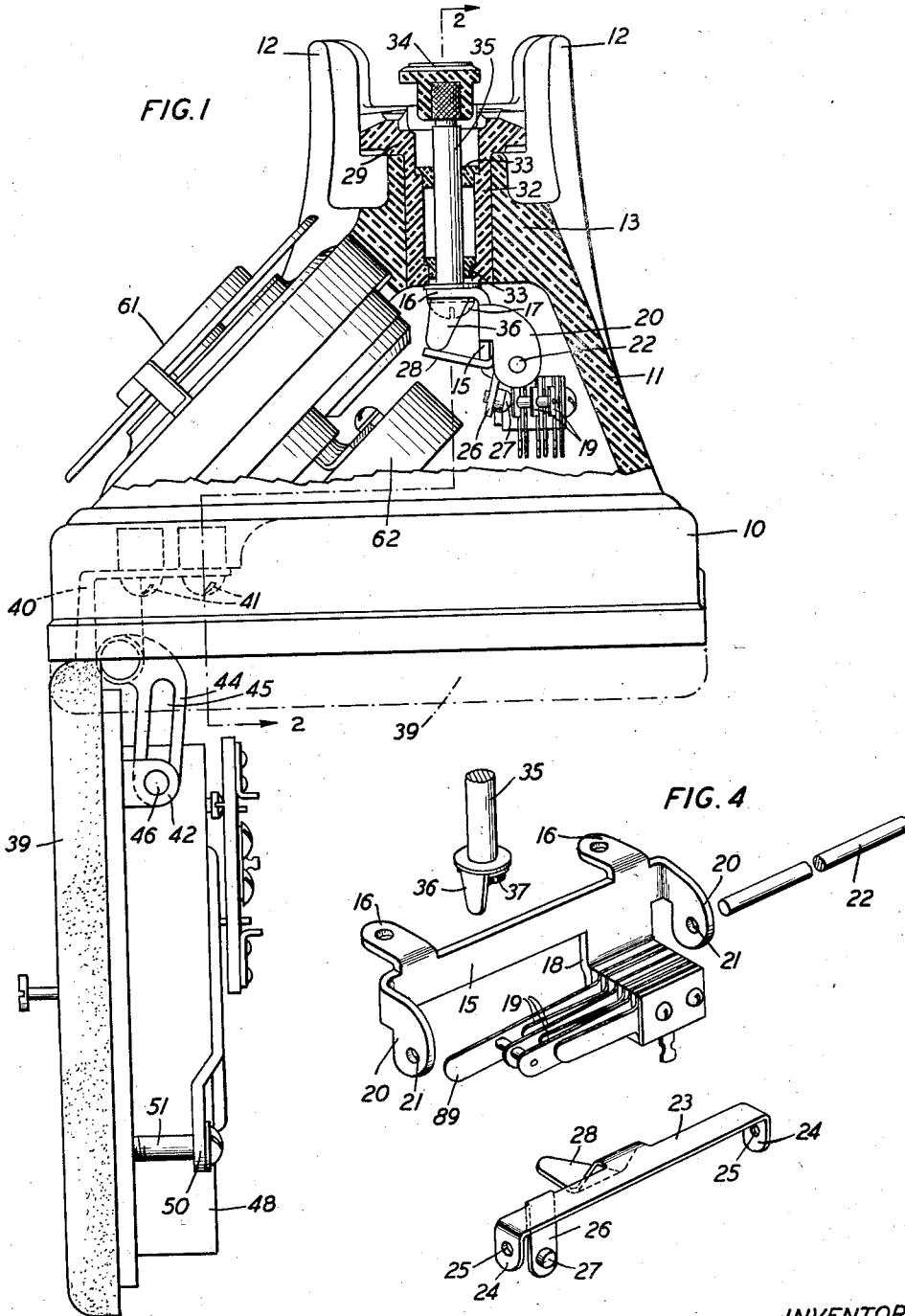
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TELEPHONE SUBSTATION APPARATUS

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3 Sheets-Sheet 1



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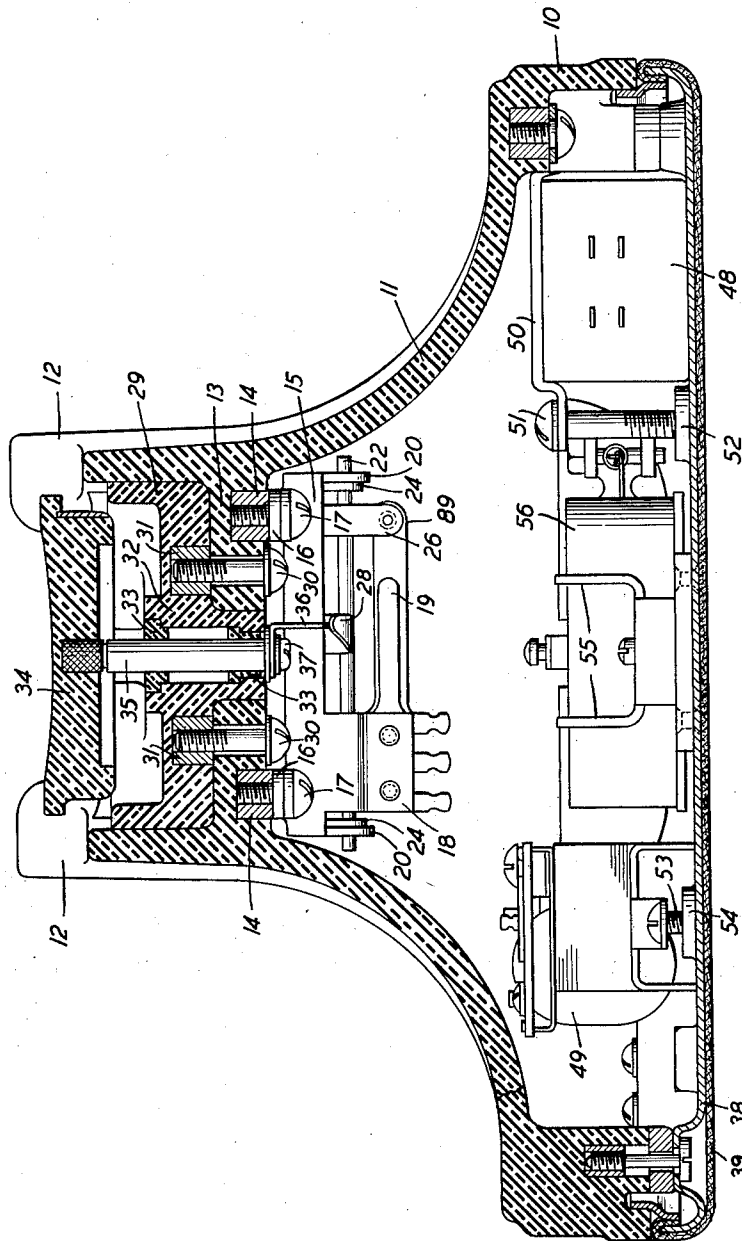
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FIG. 2



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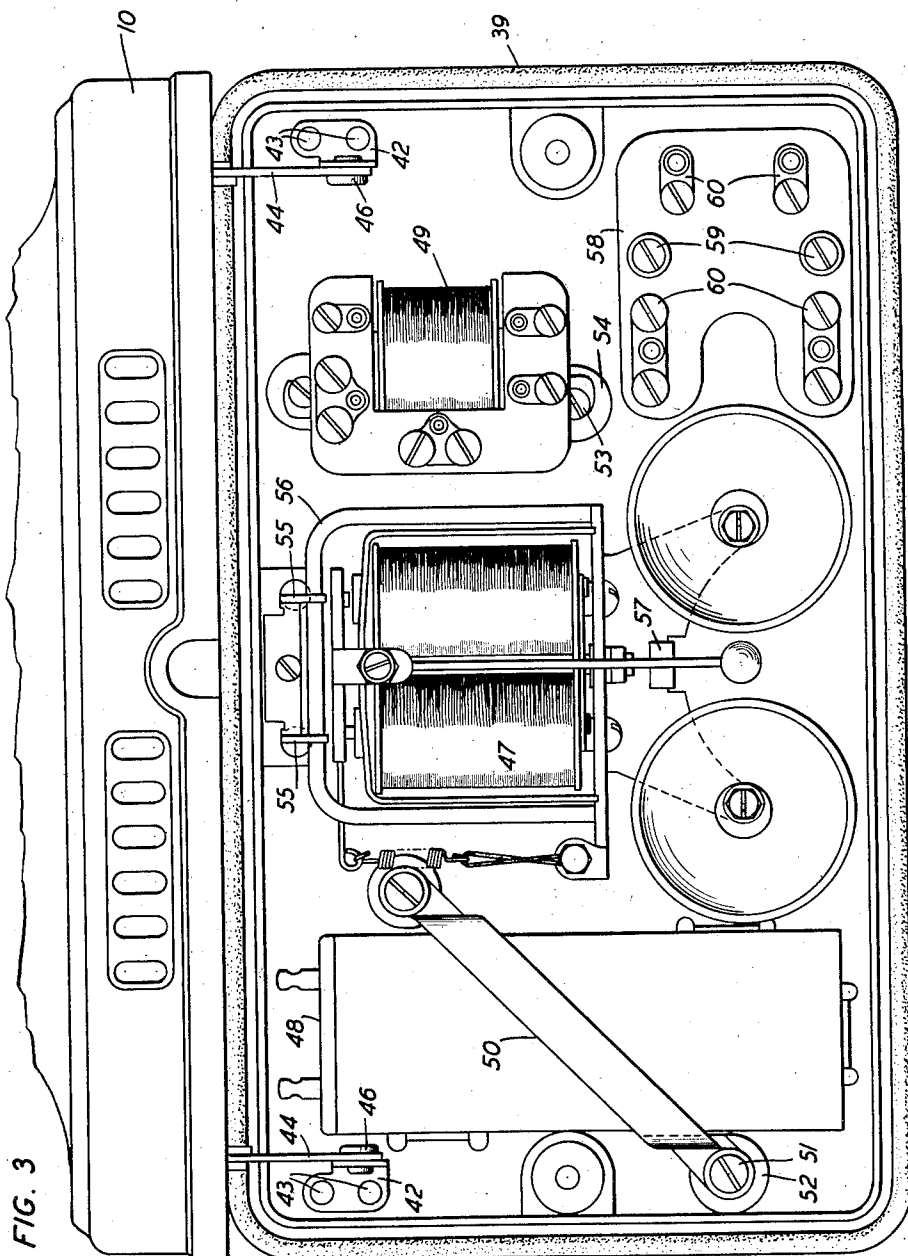
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TELEPHONE SUBSTATION APPARATUS

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2 Claims. (Cl. 179—159)

This invention relates to telephone substation apparatus and more particularly to desk stands for hand telephones.

An object of this invention is to simplify the structure and to reduce the manufacturing cost of substation telephone apparatus.

A feature of this invention relates to an improved circuit controlling means or switching mechanism in a desk stand for hand telephones.

Another feature of this invention relates to an improved construction and assembly of a desk stand for a hand telephone, in which all of the parts are easily accessible and may be readily assembled, repaired or replaced.

The desk stand of this invention comprises a casing or housing including a hollow pedestal and a recessed cradle portion integral with the pedestal. The pedestal is provided with an apertured flange extending inwardly adjacent the cradle portion and supporting a centrally apertured closure member positioned within the recessed cradle portion. A plunger extends through the closure member and flange and is adapted to be reciprocated by a hand telephone placed in or removed from the cradle portion. A bracket member having parallel flanges is secured to the flange on the pedestal and carries a set of springs certain of which cooperate with the plunger to restore it to normal position and others of which serve to control a circuit to which the desk stand may be connected. A rocker member is supported between the parallel flanges on the bracket member and is provided with a plurality of extensions or arms. One of the extensions or arms engages one of the springs of the set and another of the extensions or arms is engaged by the plunger.

A base supporting the usual substation apparatus such as a ringer, a condenser and an induction coil, is hinged to the pedestal.

The invention will be understood more clearly and fully from the following detailed description with reference to the accompanying drawings in which:

Fig. 1 is a side elevational view of a telephone desk stand illustrating one embodiment of the invention partly broken away and partly in cross section and with the base swung down to show details of assembly more clearly.

Fig. 2 is a cross-sectional view along line 2—2 of Fig. 1.

Fig. 3 is an enlarged plan view showing the substation apparatus on the base of the desk stand shown in Fig. 1.

Fig. 4 is an enlarged exploded view in perspective of the switch and contact assembly of the desk stand shown in Fig. 1.

Referring now to the drawings, a telephone desk stand illustrative of one embodiment of this invention comprises a casing including a base portion 10, a pedestal 11, and a plurality of tines 12 arising from the pedestal and forming a cradle for receiving the handle of a hand telephone (not shown). The casing may be of metal or of an insulating material such as a phenolic condensation product, and, as will be seen from Figs. 1 and 2, is designed with all of its outer surfaces tapering in the same direction so that the casing may be cast or molded in a single piece. The pedestal 11 is provided with a centrally apertured flange 13 which may be formed integrally with the casing and which has a plurality of metallic inserts 14 embedded therein. A unitary assembly comprising a bracket shown in Fig. 4 and generally designated as 15, rocker 23, and a set of springs comprising springs 19 and 89 is mounted within the casing on the inner side of the flange 13 by means of screws 17 extending through arms 16 of the member 15 into inserts 14. The bracket 15 is provided with a downwardly extending arm 18 on which the springs 89 and 19 are mounted and a pair of parallel hanger arms 20 extending from its ends which are provided with aligned apertures 21 for receiving a rod or axle 22. The rocker member 23 comprises a single piece metallic stamping having parallel extensions 24 which are disposed adjacent the arms 20 and are provided with aligned apertures 25 through which the rod of axle 22 extends. The rocker 23 is also provided with a downwardly projecting extension 26 having an insulating button 27 thereon adapted to engage the end of the spring 89. The stamping 23 is provided further with an extending tongue 28 which is disposed below the central aperture in the flange 13, as shown in Figs. 1 and 2. When the handset is placed on the cradle, the spindle 35 is moved downwardly, causing the extension 36 thereon to engage the tongue 28 and to rotate the rocker 23, thereby causing the button 27 to press against the spring 89 and actuate circuit controlling contacts thereon and on the springs 19. When the handset is removed from the cradle, the spring 89 causes the restoration of the plunger in the cradle to its normal position.

An insulating closure member 29 is seated upon the flange 13 between the tines 12 and is secured to the flange by a plurality of screws 30 which extend through the flange and are threaded into metallic inserts 31 embedded in the flange. The

closure member 29 is provided with a centrally apertured hub 32 fitted in the central aperture in the flange 13 and having a pair of bearing inserts 33 therein. A T-shaped plunger member 5 includes a horizontal bar 34 disposed between the tines 12 and adapted to be engaged by the handle of a hand telephone, and a spindle 35 which extends slidably through the bearing inserts 33. An L-shaped extension 36 is secured to the lower end of the spindle 35 by a screw 37 and engages the projecting tongue 23 on the stamping 23. The plunger rocks the stamping 23 to actuate the contact assembly in response to the association and disassociation of a hand telephone in the cradle of the desk stand.

A base is hinged to the base portion 10 of the desk stand and includes a metallic plate 38 which is covered with a sheet 39 of felt or the like. Each of the hinges connecting the base to the desk stand includes an L-shaped bracket 40 secured to the casing by screws 41, a bracket 42 secured to the plate 38 by rivets 43 and a connecting arm 44. Each of the arms 44 is loosely secured at one end to a corresponding one of the brackets 40 and is provided with a slot 45 through which a threaded guide pin 46 secured to the bracket 42 extends. This construction allows the base to be removed clear of the casing and expedites the repair and adjustment of the substation apparatus mounted on the base.

As shown more clearly in Fig. 3, the substation apparatus includes a ringer 47, a condenser 48 and an induction coil 49. The condenser 48 is positioned on the plate 38 by a flanged strap 50 which is secured to the plate by screws 51 threaded in the sockets 52 on the plate. The induction coil 49 is secured to the plate 38 by screws 53 which are threaded into sockets 54 on the plate. A clamp member is secured to the plate 38 and has a pair of hook arms 55 engaging the magnet 56 of the ringer 47 and together with a tab 57 holds the ringer assembly to the plate 38. An insulating block 58 is secured to the plate 38 by screws 59 and carries a plurality of terminals 60 to which the substation apparatus may be connected.

The desk stand may be used on either manual or automatic systems. In the latter case, a dialing mechanism 61 is mounted on the front wall

of the pedestal 11. An electrical filter 62 may be associated with the dialing mechanism 61 to prevent interference with nearby radio receiving apparatus when the dialing mechanism is operated.

What is claimed is:

1. A mounting for a hand telephone, comprising a casing having a cradle for receiving a portion of the hand telephone, a plunger member disposed in said cradle and having a portion extending into said casing, and a unitary assembly within said casing including a supporting member detachably secured to an inner wall of said casing and having spaced parallel arms, circuit controlling members mounted on said supporting member, and a rocker member pivotally mounted between said parallel arms, said rocker member having an integral extension engaging one of said circuit controlling members, and having another integral extension engaged by said extending portion of said plunger, said circuit controlling members being resilient and constituting the sole means for rotating said rocker member whereby said plunger is raised when said hand telephone is removed from said cradle.

2. A mounting for a hand telephone, comprising a hollow casing having a cradle for receiving a portion of the hand telephone, a plunger having a portion in said cradle and a spindle extending into said casing, and a unitary assembly within said casing including a single piece support having supporting flanges, a pair of spaced parallel arms, and a third arm between said parallel arms, means engaging said supporting flanges for detachably securing said support to said casing, resilient contact members mounted on said third arm and extending at substantially right angles to the direction of motion of said spindle, a shaft extending between said parallel arms, and a bracket member rockably mounted on said shaft, said bracket member having an integral arm engaging one of said contact members and another integral arm engaging said spindle, and said contact member constituting the sole means for rotating said rocker member whereby said plunger is raised when said hand telephone is removed from said cradle.

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