Jan. 13, 1931. W. H. SCHARRINGHAUSEN 1,788,747

TELEPHONE DESK SET

Filed Nov. 22, 1927

FIG. 1.

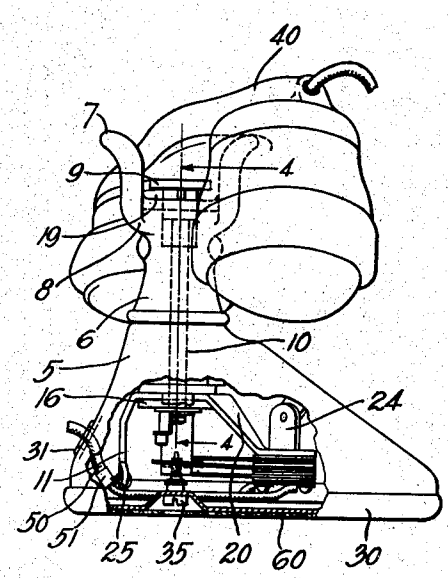


FIG. 2

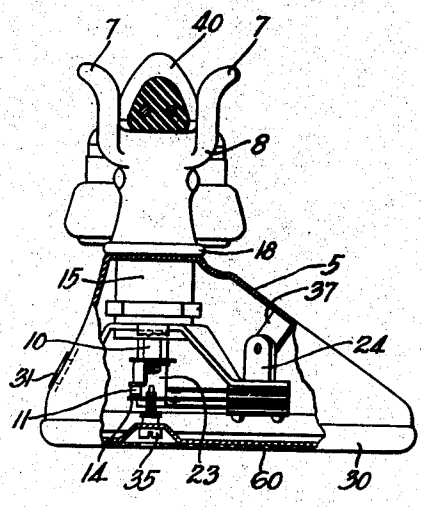


FIG. 3

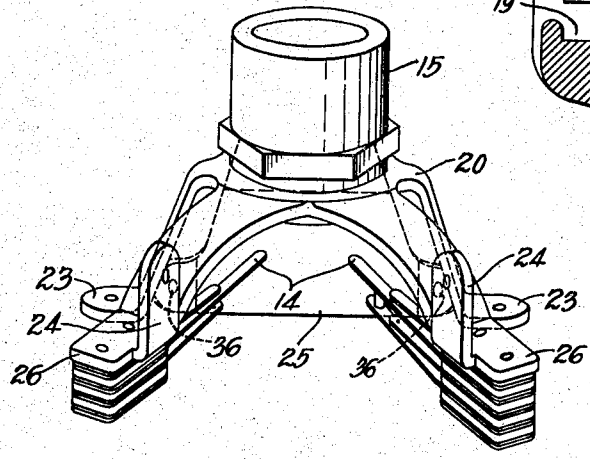
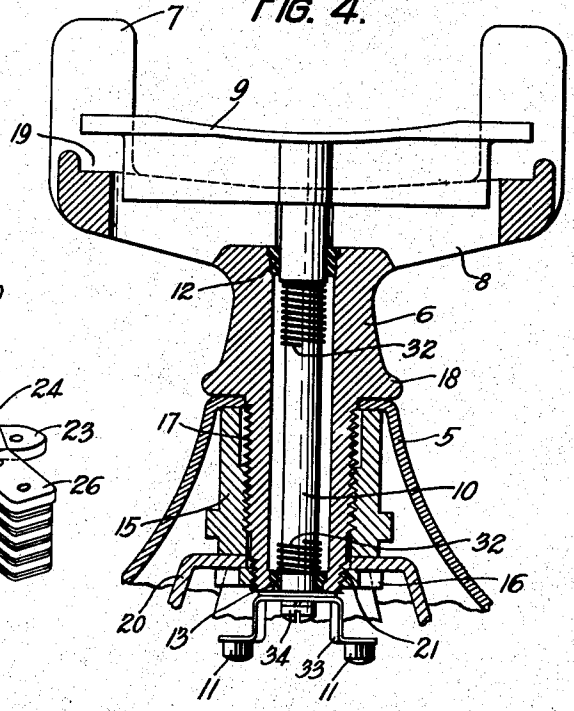


FIG. 4.



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1,788,747

UNITED STATES PATENT OFFICE

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TELEPHONE DESK SET

Application filed November 22, 1927. Serial No. 234,976.

This invention relates to telephone desk sets or hand set mountings of the character adapted to hold a telephone handset of the type in which a transmitter and a receiver are mounted on a common handle and by the seating of the handset to control contacts in a circuit thereof for placing the set in and out of operative connection.

An object of this invention is to prevent false operation due to the handset failing to seat itself properly when placed on the mounting.

Another object is to prevent the fouling or changing of the adjustment of the contact springs mounted in the base of a desk set.

This and other objects of this invention will be apparent from the following description considered in connection with the appended drawing in which one embodiment of the improved device is illustrated.

In the drawing, Fig. 1 is a side view of the desk set with a portion of the base broken away to show apparatus in the base and a view in perspective of the handset. In this view the handle is shown improperly placed on the mounting.

Fig. 2 is a side view showing a portion of the handset properly placed on its seating with a portion of the base broken away to show the action of the switching mechanism.

Fig. 3 is a view of the apparatus supporting bracket which is mounted in the base of the desk set, and

Fig. 4 is an enlarged sectional view along the lines 4—4 of Fig. 1 of a standard, and shows the spindle which operates the switching contacts in the base.

Referring to the drawing in which like characters of reference designate like parts throughout, 5 represents a pedestal or hollow base on which a tubular standard 6 is eccentrically mounted. The standard 6 is secured to the bell portion of the base 5 by means of the circular nut 15 which screws on threaded portion 17 of the standard 6 and fits tightly against the inner portion of the top of base 5 to hold projecting portion 18 of standard 6 against the top of base 5.

The standard 6 has an integral cradle member 8 formed on its upper portion which extends outwardly on either side thereof. The cradle 8 is provided with four upwardly extending or flaring guard arms 7 which are preferably turned outwardly as shown in Figs. 1 and 2.

A T-shaped plunger comprising a flat horizontal bar 9 and a spindle 10 are adapted to move vertically in the standard 6. The spindle 10 is supported in standard 6 by means of two hard rubber bearings 12 and 13 which are placed in recessed portions in the upper and lower portions respectively of standard 6. A spiral spring 32, a portion of which has been omitted for the purpose of showing spindle 10, encircles the spindle 10 and extends along the spindle between the two bearings 12 and 13. When a handset as shown by 40 in Fig. 1 is placed on the T-shaped plunger, the weight thereof causes the depression of spring 32. The horizontal bar 9 at such time fits into the depression 19 provided for it and the handset is said to be seated. The bar 9 resting in depression 19, due to the weight of the handset, is defined for the purpose of more clearly describing the details of this invention, as the seating of the handset.

The lower end of the spindle 10 extends through and beyond standard 6. Rounded buttons 11 composed of hard rubber are mounted on strap 33 which is attached to the lower end of spindle 10 by means of the screw 34. The strap 33 thus arranged acts to limit the upward movement of the spindle under the tension of spring 32 by contacting against the lower end of standard 6.

20 represents a supporting bracket which is provided for the support of the switching springs and for holding the cord within the base 5. This supporting bracket is a one-piece metal stamping having extensions or lugs 26 to which the contact springs in the base are attached. The two contact spring members 14 extend beneath the rubber buttons 11 and are adapted to cooperate with other contact spring members in the well-known manner so that when the handset is placed upon its seating the spindle 10 is de-

pressed causing the rubber buttons 11 to operate the contacts so as to connect the handset in the telephone circuit. When the handset is removed from its seating the spindle 10 under action of spring 32 is moved upwardly thereby removing the rubber buttons from the spring members 14 and the contact springs operate to remove the handset from the telephone circuit.

The supporting bracket 20 is also provided with two extensions 23 for attaching the bottom plate 30, which may be covered with felt or like material 60, by means of non-removable screws 35 of which there are two as is evident from the fact that two extensions 23 are provided for the attachment of the bottom plate although only one screw is shown on the drawing. The supporting bracket is also provided with an extension 25 which is pierced with small holes 36 provided for the purpose of securing by means of metal clips 51, the telephone connection cord 50 which enters the base 5 through a bushing at 31. This extension extends almost to the floor of the bottom plate so that there is no possibility of the telephone cord working its way under the extension. The telephone cord is thus prevented from being forced into and fouling the contact spring mechanism in the base. The supporting bracket 20 is attached to standard 6 by means of the circular nut 16 which is screwed on threaded portion 21. The extensions 26 are each provided with an ear 24, said ears being attached to inturned portions 37 of the base for the purpose of rigidly supporting the bracket. It is thus seen that the one-piece supporting bracket is supported by the base and in turn serves to support the contact springs and to hold the cord in the base. When the desk set is assembled the bracket, as can easily be seen from the drawing, is supported at three points, one point being at the point of support to the standard and the other two points being the inturned extensions in the side of the base. The two extensions which are attached to the base are sufficiently removed from and located oppositely the support of the bracket to the standard so that no pressure can be thrown on the contact springs to throw them out of adjustment. Due to the fact that the telephone cord near the point of entry into the base is attached to the supporting bracket, the possibility of changing the adjustment of the contact springs by tension placed on the cord conductors at the contact spring terminals is avoided.

The cradle arms 7 are so spaced and shaped in relation to the shape of the handle of the handset 40 that if the handset, in an attempt to seat it, is placed carelessly on any portion of the four arms 7, as illustrated by Fig. 1, the handset 40 will automatically be guided by the cradle tines on to the handset seating and will cause the spindle to operate the contacts and disconnect the handset from the telephone circuit. A common fault with handset mountings on desk sets of this type has been that the handset when unintentionally placed on the cradle in a crosswise position will hang up and will not seat itself. When this occurs the contact springs in the base are not operated and the handset remains connected in the telephone circuit. Another common fault is where the handset handle is placed properly between the two cradle arms at one end of the cradle and rests on top of one of the arms at the other end of the cradle. With the cradle arms designed according to this invention it is impossible for the handset handle to remain placed between the cradle arms at one end of the cradle an on top of one of the arms at the other end of the cradle. When the handset is placed in this position due to the shaping and spacing of the arms the handle slides down the inner side of the arm in which it is placed and the handset is automatically seated thus removing the handset from the telephone circuit.

What is claimed is:

1. A mounting for telephone handsets comprising a cradle member for seating the handle of a handset, and a pair of arms at each extremity of said cradle member, the upper portions of said arm shaped such that when one end of the handle of a handset is placed between one pair of arms of said cradle member and on either of the other arms, the center line of said handle will be within the tips of the latter.

2. A mounting for telephone handsets comprising a cradle member for seating the handle of a handset and cradle arms thereon spaced and shaped in relation to the shape of a handle of a handset so that a handset placed upon the seating portion of said cradle and any of said arms will be guided onto said seating portion of said cradle member.

3. A telephone desk set comprising a handset and a cradle member for seating said handset and having a pair of arms at each end thereof, said arms spaced and shaped with respect to the shape of the handle of said handset, that if said handset is seated between one pair of arms at one extremity of said handle, the center of gravity of the unseated end of the handle will be within the tips of the arms at the other extremity of said cradle member whereby said handset is properly seated by gravity.

4. A mounting for telephone handsets comprising a base, a bottom plate for said base, a standard mounted on said base, a plunger adapted to be depressed by a handset and to work in said standard, switching mechanism in said base adapted to be operated by said plunger, and a one-piece supporting bracket secured to said standard, to said

base and to said bottom plate, said bracket having extensions for supporting said switching mechanism.

5. A mounting for telephone handsets comprising a base, a bottom plate for said base, a standard mounted on said base, a plunger adapted to be depressed by a handset and to work in said standard, contact springs in said base adapted to be operated by said plunger, and a one-piece bracket in said base, and means for securing said bracket to said standard, said bracket having a plurality of lugs, certain of which hold said contact springs, others of which serve to hold said bottom plate, and another of which serves as a cord fastener.

6. A mounting for telephone handsets comprising a base, a bottom plate for said base, a standard mounted on said base, a plunger adapted to be depressed by a handset handle and to work in said standard, switching mechanism in said base adapted to be operated by said plunger, and a one-piece supporting bracket in said base attached to said standard, said bracket having lugs for securing said bottom plate, for holding said switching mechanism and for fastening a telephone cord adapted to be connected to said mechanism.

7. A mounting for telephone handsets comprising a base, a bottom plate for said base, a standard having a cradle member adapted to seat the handle of a handset, a plunger adapted to be depressed by the seating of the handset and to work in said standard, switching mechanism adapted to be operated by said plunger in said base, and a bracket in said base, said bracket having a plurality of lugs, certain of which support said bottom plate, others of which support said switching mechanism, and another of which serves to hold a telephone cord adapted to be connected to said mechanism.

8. A telephone desk set comprising a handset, a cradle member, and a pair of outwardly curved arms at each end of said cradle member for guiding said handset on to the seating portion of said cradle member, the distance between the tips of said pairs of arms is such that when one end of said handset is placed on said seating portion between one of said pairs of arms, its other end cannot be placed on a tip of and made to rest on one of the other of said pairs of arms.

9. A telephone desk set comprising a handset and a cradle member for seating said handset, having a pair of outwardly curved arms at each end thereof, the distance between the tips of said arms is such with respect to the width of the handle of said handset that if a handset is seated between one pair of arms at one end of the cradle and the handle touches the tip of an arm at the other end, the center of gravity of the unseated end of the handle will be inside the tip of the arm whereby said handle is seated by gravity.

In witness whereof, I hereunto subscribe my name this 21 day of November, A. D. 1927.

WILLIAM H. SCHARRINGHAUSEN.