

July 28, 1936.

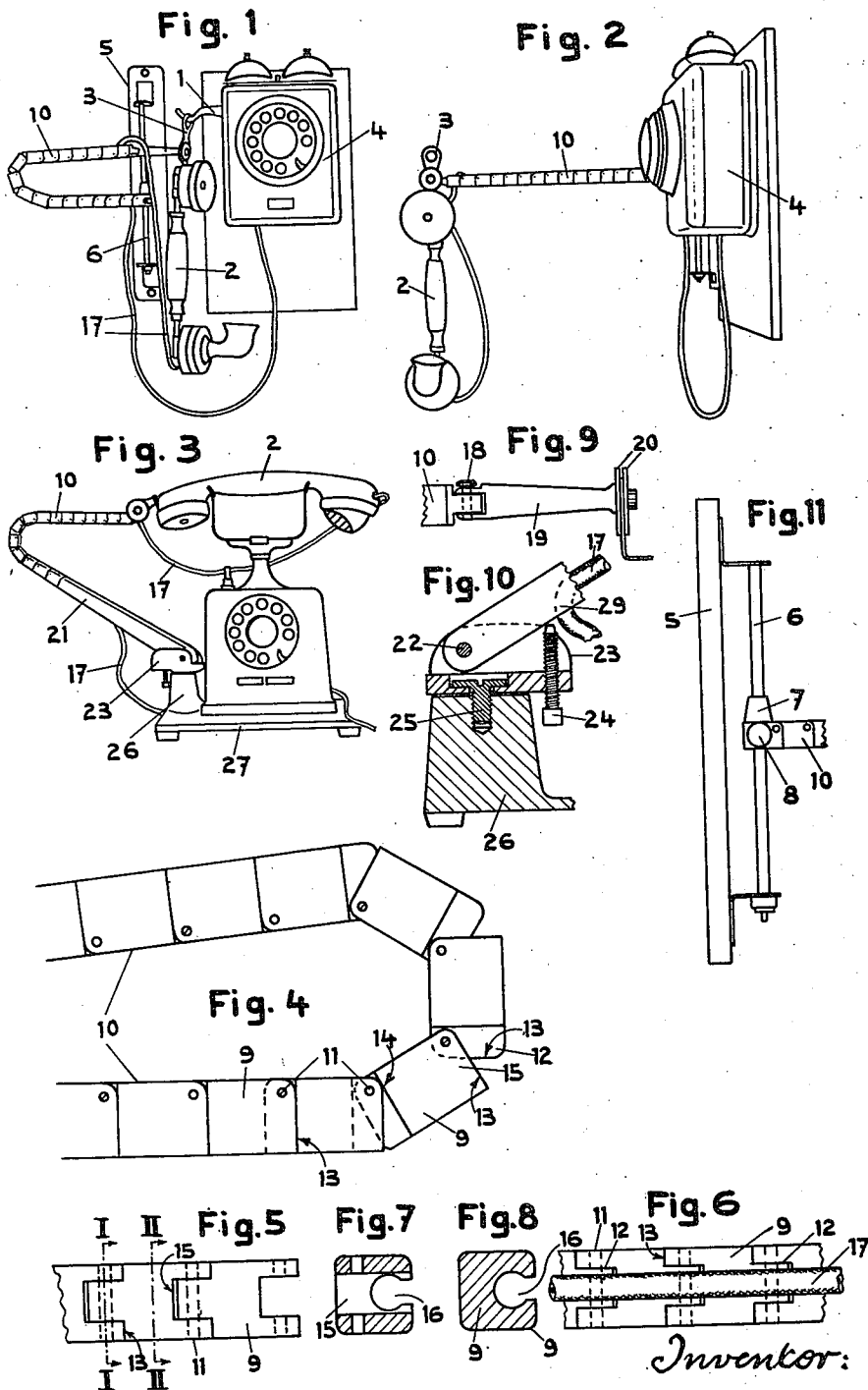
A. HUFSCHMID

2,048,865

SUPPORTING DEVICE FOR TELEPHONE RECEIVERS

Filed Feb. 9, 1935

2 Sheets-Sheet 1



Alfred Hufschmid

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A. HUFSCMID

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2 Sheets-Sheet 2

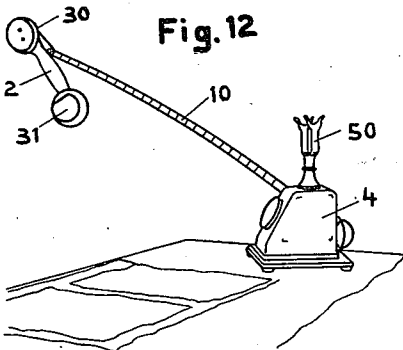


Fig. 12

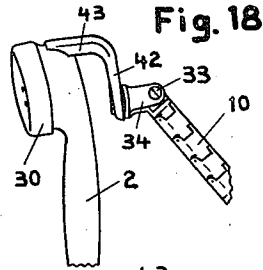


Fig. 18

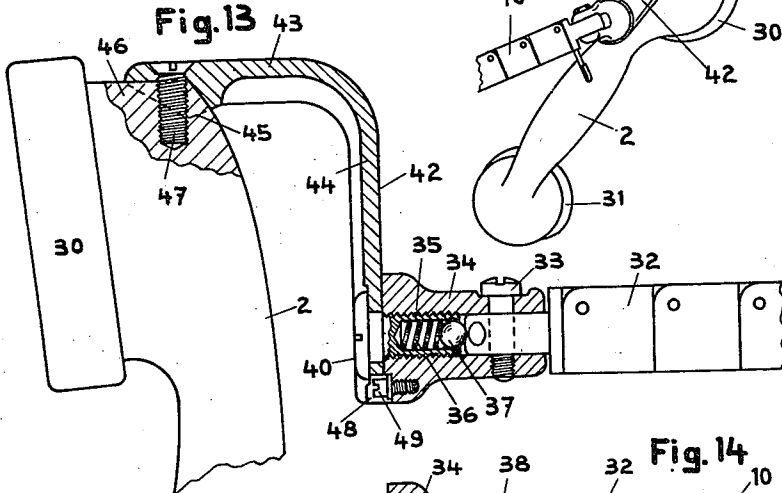


Fig. 13

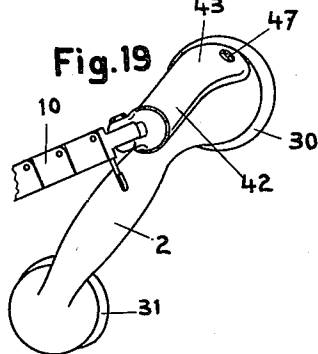


Fig. 19

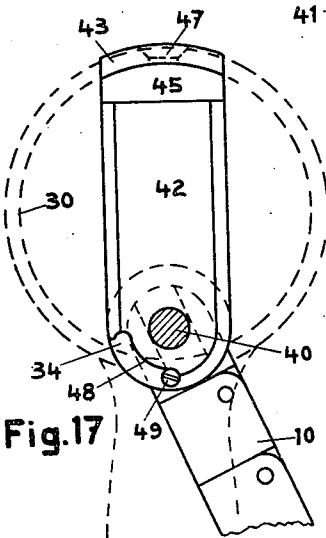


Fig. 17

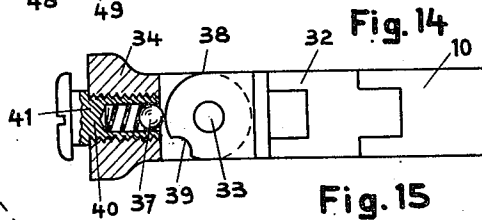


Fig. 14

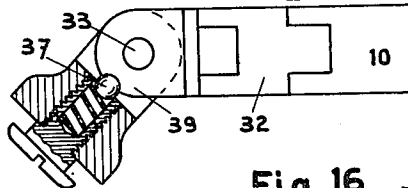


Fig. 15

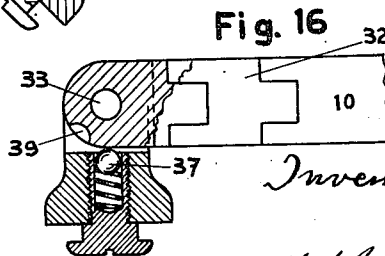


Fig. 16

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UNITED STATES PATENT OFFICE

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SUPPORTING DEVICE FOR TELEPHONE RECEIVERS

Alfred Hufschmid, Zurich, Switzerland

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1 Claim. (Cl. 179-149)

It has been proposed before to attach telephone receivers to a supporting arm in such a way as to enable one to swing the receiver into a certain position relative to the stationary microphone so as to have the person's hands free during a conversation. For this purpose one also has proposed multiple carrier levers with their single parts interconnected by articulated joints. Such devices, however, are not satisfactory for receivers containing both ear- and mouthpiece, as those arms either could be swung in but one plane—with the receiver in but one certain fixed distance from the stationary microphone—or, on the other hand, their alignment onto any points in space called for the manipulating of special holding devices.

In order now to enable one to bring a receiver containing both microphone and earpiece onto a great number of points in space without interfering with the usual manual way of use nor without the necessity of manipulating special fixing devices, the object of the present invention calls for a supporting arm consisting of joints interconnected by means of unilateral axes of rotation, said arm, being fastened at one end in a stationary double joint and weighted down at its other or free end by the receiver connected to it, stiffening itself into a straight support due to the unilateral axes of rotation of its jointed links, and enabling one to roll up said arm in order to load the switch-fork of the telephone with the weight of the receiver fastened to it.

A further improvement of the supporting arm according to the present invention may be found in the fact, that said arm is connected to the receiver by means of a joint which allows one to fix the receiver, hanging free from said arm, in a plane including any angle with the frontal plane of the instrument. This enables the user of the telephone to maintain a natural head position.

The accompanying drawings show the object of the invention in various examples of design.

Fig. 1 shows the supporting device for a wall telephone when not in use.

Fig. 2 shows the supporting device for a wall telephone when in use;

Fig. 3 shows the supporting device for a desk telephone when not in use;

Fig. 4 shows a side view of part of the supporting device;

Fig. 5 shows a top view or part of the supporting device;

Fig. 6 shows a bottom view of part of the supporting device;

Fig. 7 shows a section along line I—I of Fig. 5;

Fig. 8 shows a section along line II—II of Fig. 5;

Fig. 9 shows the front part of the supporting device;

Fig. 10 shows a section of the supporting device according to Fig. 3;

Fig. 11 shows a side view of the supporting device according to Figs. 1 and 2;

Fig. 12 shows a perspective schematical view of the supporting device of a desk telephone 10 when in use;

Fig. 13 shows the articulated joint in section to a larger scale, where the receiver has been swung out of its operating position into the vertical plane of its joint socket for the purpose of better illustration.

Figs. 14, 15 and 16 show top views of the joint, partly in section in three different angular positions to the supporting arm;

Fig. 17 shows a front view of the joint;

Fig. 18 shows a perspective view of the joint with receiver in use;

Fig. 19 shows a perspective rear view of the joint.

In the design examples of Figs. 1-11 1 is the switch fork of the wall telephone from which receiver 2 by means of supporting loop 3 hangs when not in use. Besides the instrument 4 a board 5 (Figs. 1-11) is fastened to the wall carrying a vertical round rod 6 which itself carries a cast piece 7 to be slid upward and downward and which can be fixed in any height by means of set-screws 8. Piece 7 is fastened to articulated supporting arm 10 composed of jointed links 9. Links 9 (Figs. 4-8) are interconnected by pins 11 and engage with tongues 12 corresponding grooves or recesses 15 of adjacent links while opposite frontal edges 13 abut and thus align the supporting chain into a stiff arm. Since pins 11 are located on top and near corners 14 and the latter are rounded in their contour, links 9 stiffen against each other with the chain in a horizontal position, but still may adjust themselves in an upward sense as shown in Fig. 4. These links show bottom recesses (Figs. 6-8) for accommodating in their succession cable 17 connecting receiver 2 with instrument 4.

As said above, one end of supporting arm 10 is fastened to the tapered piece 1 and the other end carries piece 19 through the intermediary of loose pin 18 (Fig. 9) forming a loose joint. Said piece 19 carries supporting loop 3 fastened to the receiver, by means of discs 20.

When the receiver is not in use, it hangs, fastened to arm 10, from switch lever 1 accord-

ing to Fig. 1, whereby said arm is bent. When in use the receiver is taken off and brought out into a position according to Fig. 2, in which the links of the supporting arm are stiffened against one another. One now can use the receiver without holding it by hand. By means of tapered piece 7 and set-screw 8 the receiver may be adjusted to any height.

In the example for desk telephones according to Figs. 3 and 10 only the outside part of the supporting arm is adapted as a chain with the lower part 21 being rigid. The latter is jointed revolvably to a revolving piece 23 by means of pin 22 (Fig. 10) and its inclination can be adjusted by means of a set-screw 24. Piece 23 is mounted revolvably on a cone 26 by means of screw 25, said cone 26 being part of the base of the desk telephone 27. In this instance too the receiver may be aligned in any and all directions. In the example according to Figs. 12-19 10 again is the chain-like supporting arm, 4 is a desk telephone with receiver 2 combining both earpiece 30 and microphone 31. The last link 32 of the supporting arm 10 (Fig. 12) carries a socket 34 revolvable around screw 33. In an axial recess 35 of socket 34 is a ball 37 checked by a spring 36, said ball (Fig. 14) moving on a circular track 38 rigid on arm 10 when turning socket 34 around screw 33. Said circular track 38 has a stop 39 into which ball 37 may spring (Fig. 14). In such a latter case the axis of arm 10 has a certain angular position to the axis of socket 34. Ball 37 and spring 36 are incorporated in a screw 40 resting in bore 35. An angle-lever 42 loosely grips a shoulder 41 of screw 40, one leg 44 of which lies at right angles to the axis of socket 34 while its other leg 43 is bent at right angles to leg 44 and shows at its front part a hollow 45 adapted to the shape of the earpiece (Fig. 13). Leg 43 and earpiece 46 are rigidly connected to each other by a screw 47. In that part of leg 44 lying below screw 40

we have a recess 48 on the same axis with screw 40 and being rigidly connected to socket 34 by a screw 49; thus the lever 42 and with it the receiver 2 may be swung for a certain angle on screw 40 or its shoulder 41. The circular recess 48 is arranged so as to fix receiver 2, when hanging free on arm 10, in an angular position according to Figs. 1 and 8, which enables one to use the receiver with one's normal position of head and without holding it by hand. The receiver also may be swung into different positions around screw 33 (Fig. 14-16). Receiver 2 then is fixed in its position according to Fig. 15 by ball 37 snapping into stop 39. This is the normal position of use (Fig. 15). The position according to Fig. 16 is attained when receiver 2 is being put back upon the switch-fork 50 of the desk telephone 4 with arm 10 bending according to Fig. 3, or, again, when the telephone stands squarely in front of the speaker.

I claim:

A supporting device for the combined receiver and mouth piece of desk-set telephones, consisting of a chain of solid rhombic pieces loosely revolvably connected with each other at their upper ends and engaging with tongue and groove along their entire adjacent sides and bracing themselves against each other, each chain link being freely revolvable about its axis in an upward sense and stiffening itself by way of tongue and groove against adjacent chain-links in a downward sense, one end of said chain being mounted revolvably and the other end being connected with the combined receiver and mouth piece by a loose joint, said joint possessing a socket mounted revolvably on said chain and an angular lever to be turned about the axis of said socket, said lever being fastened to the combined receiver and mouth piece, and means for arresting said socket at certain angular positions relative to said chain.

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