W. PICK.

CIRCUIT CONTROLLING TELEPHONE RECEIVER SUPPORT.

APPLICATION FILED JULY 31, 1916.

1,222,986.

Patented Apr. 17, 1917.

2 SHEETS—SHEET 1.

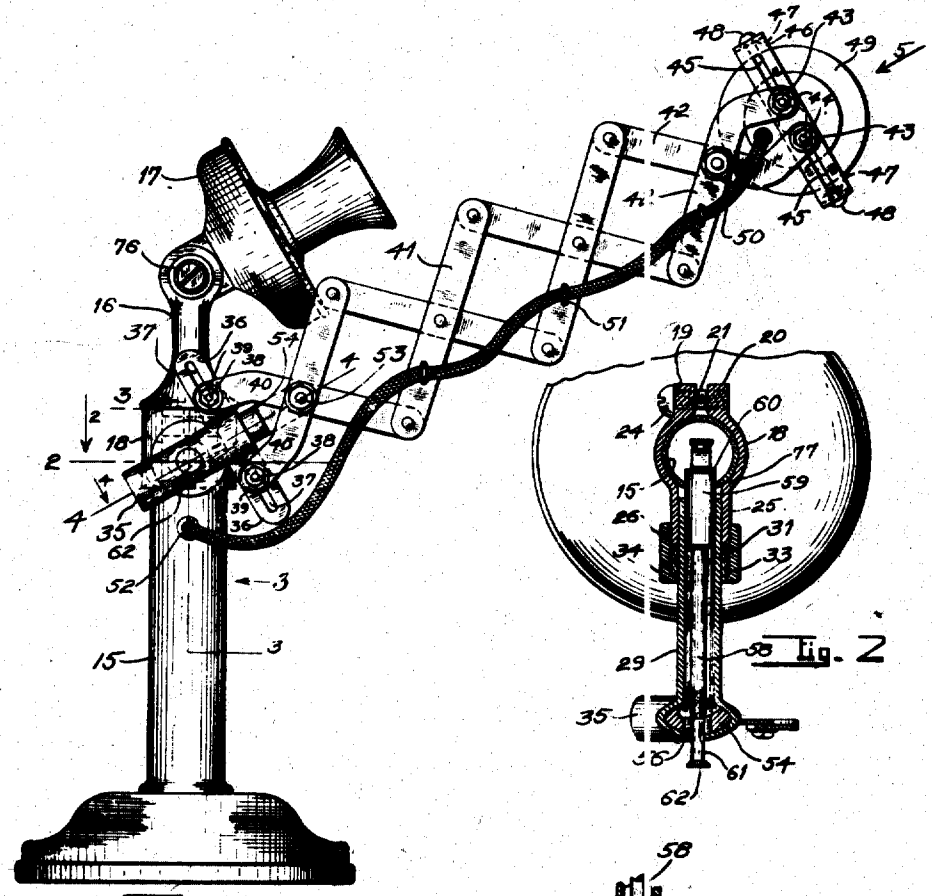


Fig. 1

Fig. 2

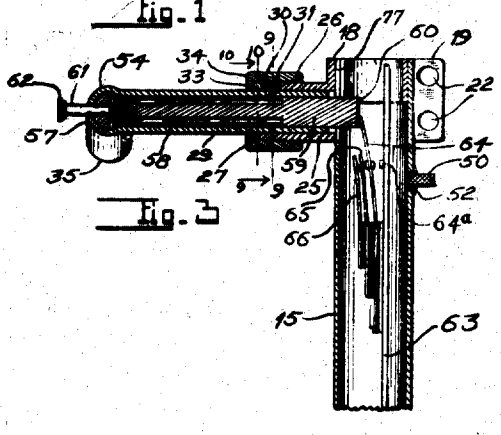


Fig. 3

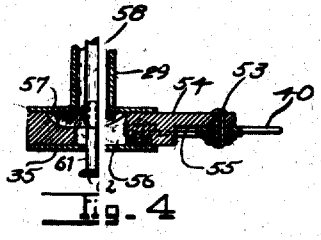


Fig. 4

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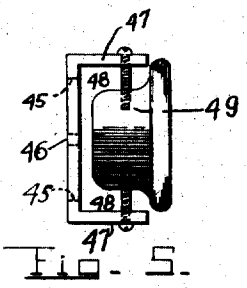


Fig. 5.

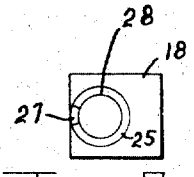


Fig 7

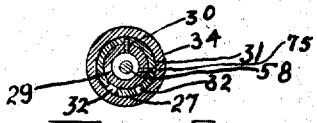


Fig 9

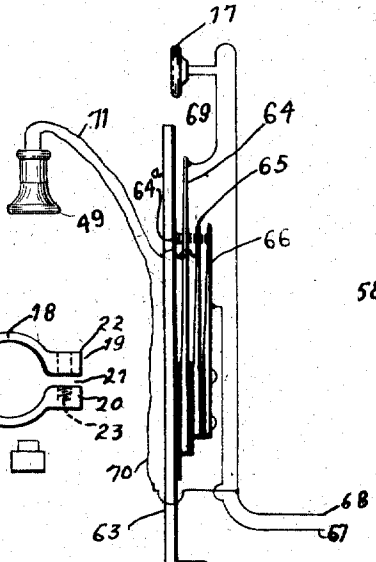


Fig. 6.

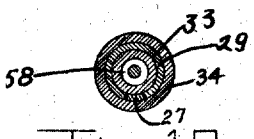
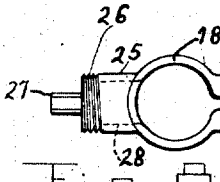
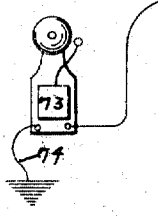


Fig 10



Fig



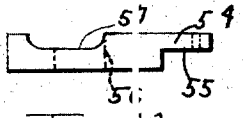


Fig 11

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UNITED STATES PATENT OFFICE.

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CIRCUIT-CONTROLLING TELEPHONE-RECEIVER SUPPORT.

1,222,986. Specification of Letters Patent. Patented Apr. 17, 1917.

Application filed July 31, 1916. Serial No. 112,410.

To all whom it may concern:

Be it known that I, WILLIAM PICK, a subject of the Emperor of Austria and Apostolic King of Hungary, residing at 530 West One Hundred and Fifty-ninth street, in the city of New York and State of New York, have invented certain new and useful Improvements in Circuit-Controlling Telephone-Receiver Supports; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a support for a telephone receiver which is so constructed and arranged that it has a normal or folded position in which the receiver is close to the transmitter and a plurality of unfolded positions in which the receiver may rest at any distance from the transmitter.

A further object of my invention is to provide contacts operated by the receiver support so that when the receiver is in the folded position one series of contacts is made and another series of contacts is made when the receiver is in any one of the plurality of unfolded positions.

A further object of my invention is to provide means for opening the contacts which are made when the support is extended and for closing contacts which are usually made when the support is folded, without folding said support.

A further object of my invention is to provide means for yieldingly supporting said receiver in any position to which it is moved.

A further object of my invention is to provide a certain degree of flexibility in the means for supporting said receiver so that it may adjust itself to the ear of the user.

In the drawings:—

Figure 1, is a side view of my improved telephone receiver support as applied to a well-known transmitter support;

Fig. 2, is a section along the line 2—2 in Fig. 1, looking in the direction of the arrow 2;

Fig. 3, is a section along the line 3—3 in Fig. 1, looking in the direction of the arrow 3;

Fig. 4, is a section of a portion of the contact operating mechanism as taken along the line 4—4 in Fig. 1, looking in the direction of the arrow 4;

Fig. 5, is a view of the means for imparting flexibility to the telephone receiver as viewed in the direction of the arrow 5 in Fig. 1;

Fig. 6, is a diagram of the connections of my improved telephone receiver support and coöperating parts;

Figs. 7 and 8, are detail views of parts hereinafter referred to;

Fig. 9, is a section along the line 9—9 in Fig. 3, looking in the direction of the arrow 9;

Fig. 10, is a section along the line 10—10 in Fig. 3, looking in the direction of the arrow 10; and

Fig. 11, is a detail view of the slide by which I control the contacts.

In the drawings:—

15 represents a telephone transmitter support of any approved type, the upper end of which supports the fork 16 to which is hinged the transmitter 17. All of these parts are of the ordinary or of any approved construction and the details of said construction, not being part of my invention, will not be illustrated or described.

At the top of the transmitter support 15 I secure a bearing 18 which is provided with a cylindrical hole adapted to fit tightly on the upper portion of the support 15. Said bearing 18 is also provided with flanges 19 and 20 and the slot 21 between the flanges. The flange 19 is provided with two holes 22—22 and the flange 20 is provided with two threaded holes 23—23. Two screws such as 24 are passed through the holes 22 into the threaded holes 23, thus serving to secure the bearing 18 upon the upper end of the telephone transmitter support 15.

On the side of the bearing 18 opposite to the flanges 19 and 20 I provide a cylindrical support 25 formed integrally with the bearing 18. The outer end of the support 25 is provided with the screw thread 26 and with a projection 27 for a purpose hereinafter explained. The support 25 is provided with a cylindrical hole 28 in which is revolubly mounted a sleeve 29.

On the sleeve 29 there is secured by means of the screw 30 a washer 31. The washer 31 is cut away as at 32—32, (see Fig. 9), so as to permit a limited motion of revolution to the sleeve 29 within the support 25. A second washer 33, is revolubly mounted upon the sleeve 29 adjacent to the washer 31. A nut 34 is revolubly mounted upon the sleeve

29 with the inner surface of said nut adjacent to the washer 33. Said nut 34 is then screwed upon the threads 26 of the support 25, thus binding the washer 33 against the washer 31 and the latter against the face of the support 25. The washer 33, (see Fig. 10), is cut away to fit snugly upon the portion 27 of the support 25.

Hence, it is evident that when the washer 31 is secured to the sleeve 29 that the latter can have a limited motion of revolution within the support 25 to the extent determined by the circumferential length of the cut away portion of the washer 31. It is also evident that this limited motion of revolution of the sleeve 29 will not produce any turning effect upon the nut 34 because the washer 33 is prevented from turning on the portion 27 of the support 25.

It is also evident that when the nut 34 is screwed up, the washer 31 will be clamped between the washer 33 and the face of the support 25. These parts thus serve as a friction clamp to support the lazy tongs 41 and connected parts in any position to which they may be moved.

Formed integrally with the outer end of the sleeve 29 I provide a second sleeve 35 open at one end and at the other end provided with wings 36—36 having slots 37—37 therein. Slidably mounted in said slots I provide screws such as 38—38. The two screws 38—38 I secure by means of the nuts 39—39 to the links 40—40 of the lazy tongs 41 which may have any number of jointed sections to provide for any length of extension desired. The outer links 42—42 of the lazy tongs are secured by means of the nuts 43—43 to the screws 44—44 and said screws slide in slots 45—45 provided in the base of the yoke 46. The yoke 46 is further provided with two ears 47—47 in which are threaded the screws 48—48. The inner ends of said screws fit loosely in holes provided in the receiver 49.

The conductors leading from the receiver 49 are braided together into a cable 50 which is supported in screw eyes such as 51 secured in any desired number of the links of the lazy tongs 41 and the inner end of the cable 50 passes through the insulating bushing 52 which is provided in the transmitter support 15.

The joint between the links 40—40 is formed by the screw 53 and revolubly mounted upon said screw is provided a slide 54 having a cut away portion 55 to provide clearance around the links 40—40. The slide 54 is slidably mounted in the hole provided in the sleeve 35, and said slide is provided with a slot 56 for a purpose hereinafter referred to. Said slot is further cut away as at 57 for a purpose hereinafter referred to.

Slidably mounted within the sleeve 29 I provide a pin 58. The inner end of said pin is enlarged as at 59 and provided with a face 60 of insulating material. A slot such as 77 is provided in the upper end of the support 15 so that the bearing 18 may be placed downwardly on said support after the pin 58 is assembled with said bearing. The outer end of the pin 58 slides in the cut away portion 57 of the slot 54 and a pin 61 passes through the slot 56 of said slide and has its inner end threaded within the pin 58. The outer end of the pin 61 is provided with a head 62 for a purpose hereinafter explained.

Mounted within the support I provide a stiff, upright metallic piece 63 which is secured in electrical connection with the support 15 in any approved manner.

A contact point 64^a is provided near the upper end of the piece 63. Three springs 64, 65 and 66 are secured to the piece 63 in any approved manner but they are insulated from said piece and from each other. The springs 65 and 66 are provided with contact points near their free ends. A contact point is provided on the spring 64 in line with the contact points on springs 65 and 66.

The various elements of my improved apparatus are connected as follows:—The line wire 67 is connected with the spring 66, and the line wire 68 is connected with one side of the transmitter 17. The other side of the transmitter 17 is connected by the wire 69 with the spring 64. The line wire 68 is also connected by the wire 70 to one side of the receiver 49 and the other side of the receiver 49 is connected by the wire 71 to the spring 65. The support 63 is connected by the wire 72 to one side of the alarm bell 73 which may be of any approved construction and the other side of the bell 73 is connected by the wire 74 to the ground.

The operation of my improved circuit controlling telephone receiver support is as follows:—

When the receiver is in the position shown in Fig. 1 the slide 54 will be in the position shown in Figs. 2, 3 and 4. The slide 54 is kept in the position in said figures by the pressure of the spring 64. When the parts are in the positions shown in Figs. 1 to 4 the contact point on the spring 64 will make contact with the contact point on the spring 65 and the latter contact point will make contact with the contact point on the spring 66, and the circulation of current will be through the wire 67 to the spring 66, thence to the spring 65 and through the wire 71 to the receiver 49, thence through the wire 70 to the line 68. There will also be circulation of current from the spring 66 to the spring 65, thence to the spring 64 and thence through the wire 69 to the telephone transmitter 17 and thence to the line 68.

Conversation can then be carried on in the

ordinary way and the receiver 49 can be moved slightly inwardly and outwardly to suit the listener's ear without any change in the connection because the slot 57 in the slide 54 is made sufficiently long to permit said adjustment of the receiver.

When the conversation is completed the receiver 49 is to be pushed downwardly and toward the right, looking at the parts as in Fig. 1, until the links of the lazy tongs fold together.

During this motion of the receiver 49 the slide 54 will be pushed inwardly and the front edge of the recess 57 will bear against the end of the pin 58 and force said pin inwardly until the contact point on the spring 64 makes contact with the contact point of the piece 63. At the same time the said contact point on the spring 64 separates from the contact point on the spring 65 and the latter contact point also separates from the contact point on the spring 66, the various springs and contact points assuming the positions shown in Fig. 6. In this condition of the parts the circuit will be from the line 68 to one side of the transmitter 17, then from the other side of the transmitter 17 through the wire 69 to the spring 64, then to the piece 63, then through the wire 72 to the alarm bell 73 and then through the wire 74 to the ground. Thus the receiver 49 will be cut out of circuit and the alarm bell 73 will be placed in circuit.

When the parts are in the position shown in Fig. 1 it will be noted by referring to Fig. 5 that the receiver 49 can be turned slightly sidewise to adjust itself to the ear of the user. It is also to be noted that should the user desire to call the attention of the operator after the parts are moved to the position shown in Fig. 1, he can do so by pushing the button 62 inwardly until the contact on the spring 64 makes contact with the contact point on the piece 63.

When it is desired to place the lazy tongs 41 in a position to the left of the support 15 similar to that shown on the right in Fig. 1, this can be done by removing the screw 30 from the hole in which it is placed in Figs. 3 and 9 and then moving the lazy tongs around to the desired position and then placing the screw in the hole at 75 in Fig. 9. The transmitter 17 can be moved to any desired position on the left of the support 15 by simply swinging it around on the screw 76.

Thus, it will be seen that I provide a simple, cheap and effective device for supporting a telephone receiver in any desired position and at the same time giving flexibility to said receiver whereby the hands of the operator may be left free for any desired occupation.

I claim:—

1. The combination with a transmitter support and a plurality of contact springs normally insulated from each other inclosed therein, of a receiver, an extensible support for said receiver mounted on said transmitter support, means for bringing said springs into contact operated by said extensible support, and additional manually operated means for separating said springs.

2. The combination with a transmitter support, of a bearing secured to said support, a sleeve secured in said bearing and having a second sleeve at its outer end, a pair of wings provided with slots secured to said second sleeve, a lazy tongs slidably mounted at one end in said slots, a yoke provided with slots, the other end of said lazy tongs being slidably mounted in said slots in said yoke, and a receiver yieldingly attached to said yoke.

3. The combination with a transmitter support of a bearing provided with a projection and a threaded portion secured to said support, a sleeve secured in said bearing, a split washer secured to said sleeve, said split washer loosely straddling said projection, a second split washer revolubly mounted on said sleeve, the split washer tightly straddling said projection, and a nut revolubly mounted on said sleeve and screwed on said threaded portion, whereby said first named washer will be clamped between said second named washer and the face of said threaded portion.

4. The combination with a telephone receiver support, of a plurality of contact springs mounted therein, a pin for moving said springs, a slide for moving said pin, a slot in said slide and a headed pin passing through said slot and secured in said first named pin for moving said springs.

In testimony whereof I affix my signature.

WILLIAM PICK.