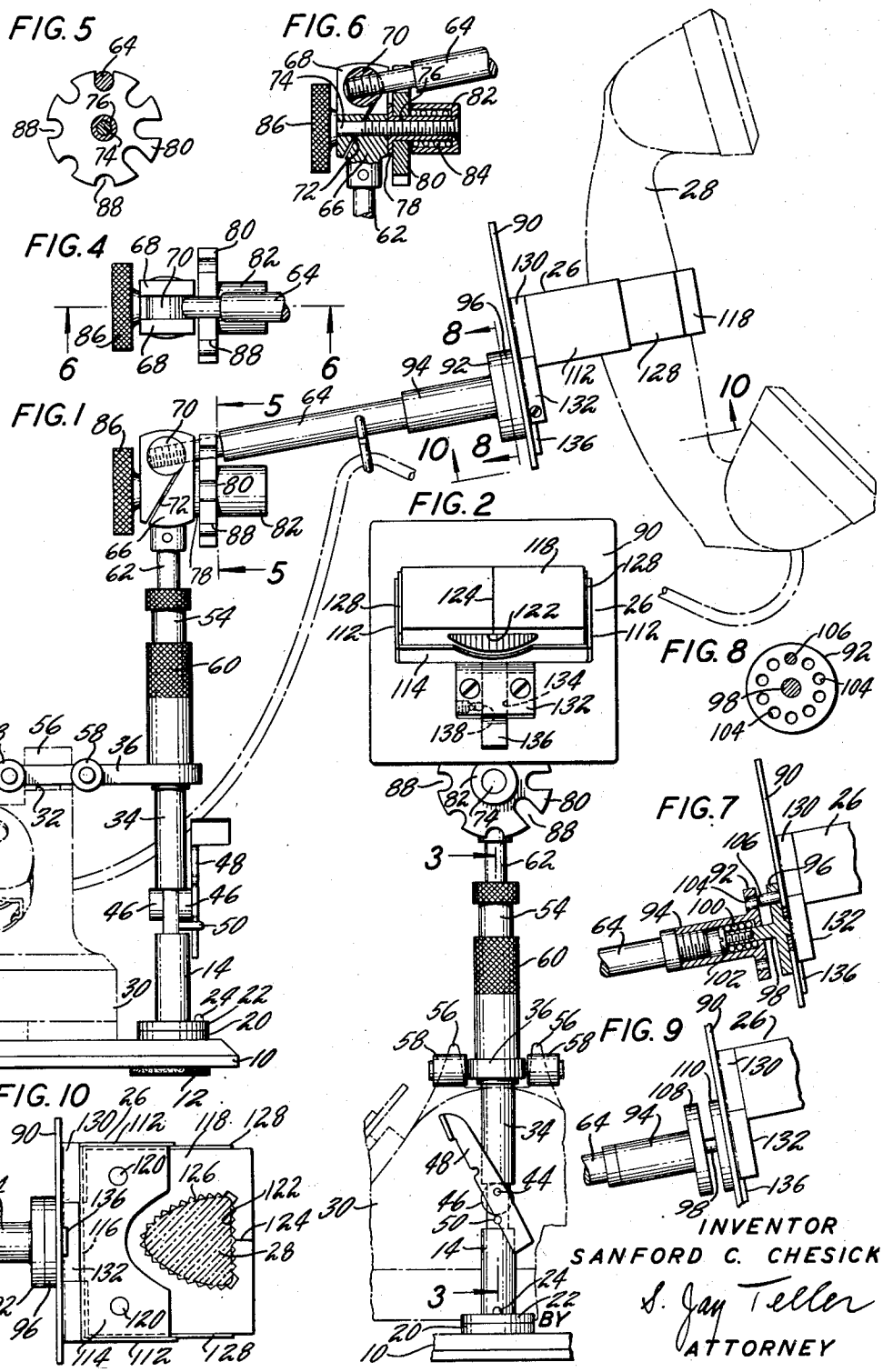
Dec. 7, 1954 S. C. CHESICK 2,696,528

ACCESSORY FOR USE WITH TELEPHONES

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ACCESSORY FOR USE WITH TELEPHONES

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FIG. 12

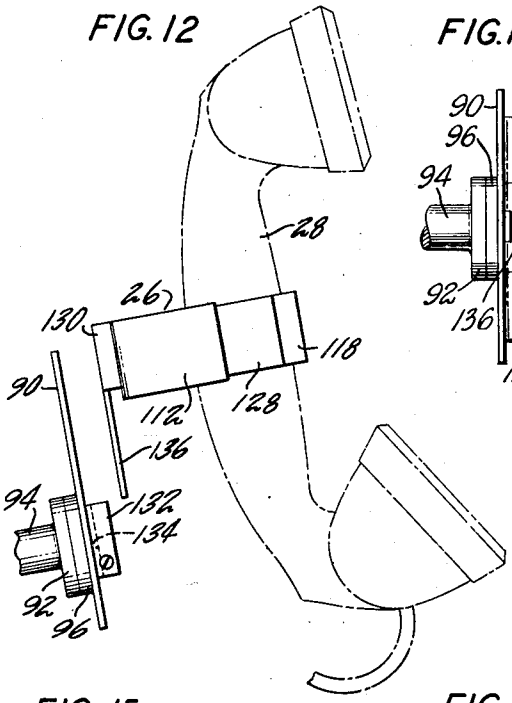


FIG. 11

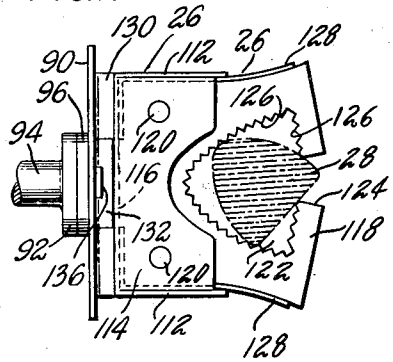


FIG. 3

FIG. 15

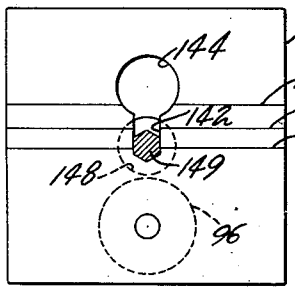


FIG. 13

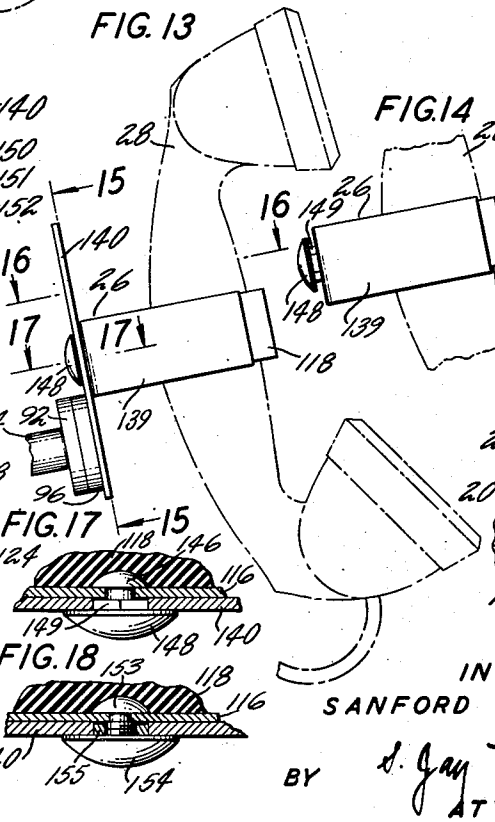


FIG. 14

FIG. 16

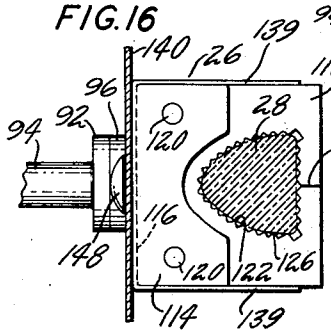


FIG. 17

FIG. 18

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ACCESSORY FOR USE WITH TELEPHONES

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FIG. 19

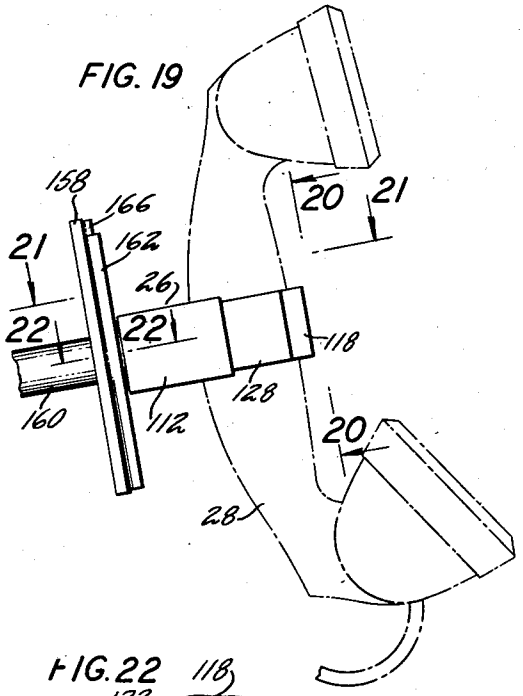


FIG. 20

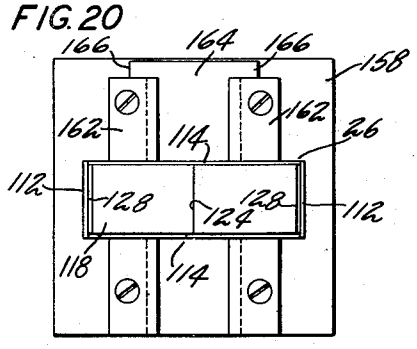


FIG. 21

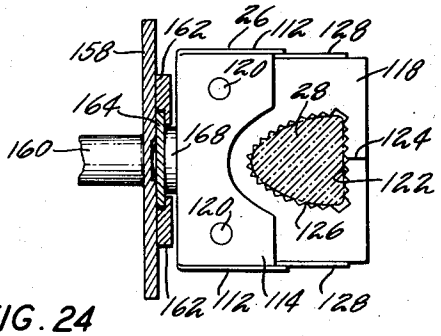


FIG. 22

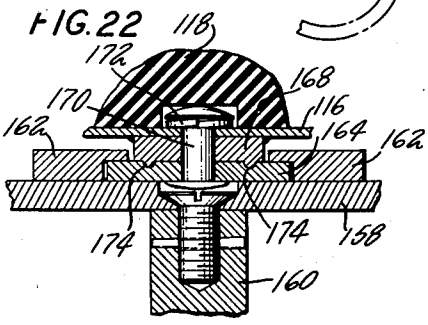


FIG. 24

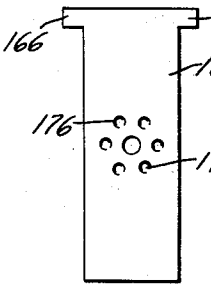


FIG. 18a

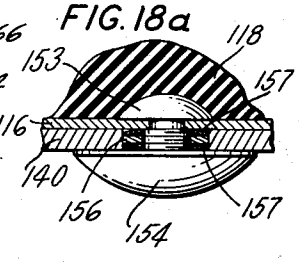
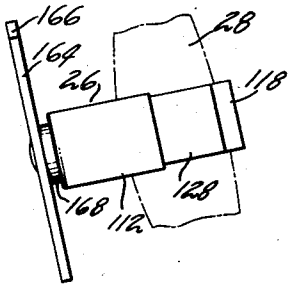


FIG. 23



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2,696,528

ACCESSORY FOR USE WITH TELEPHONES

Sanford C. Chesick, Hartford, Conn.

Application May 25, 1949, Serial No. 95,223

17 Claims. (Cl. 179—150)

The invention relates to an accessory for use with a telephone, and more particularly to such an accessory adapted for holding the combined transmitter and receiver in a convenient position for use, thus leaving both hands of the user free for other purposes. An accessory embodying the present invention is in some respects similar to that disclosed in my copending application for Accessory for Use with a Telephone, Ser. No. 36,941, filed July 3, 1948, now Patent No. 2,595,054 dated April 29, 1952.

One object of the invention is to provide an accessory of the type disclosed in the said copending application having improved means for vertically adjusting the arm which operates the switch button on the telephone base, this adjusting means adapting the accessory for use with bases having switch buttons at different elevations.

Another object of the invention is to provide an accessory of the type disclosed in the said copending application having improved means for connecting the vertical supporting rod with the transverse arm which supports the combined transmitter and receiver.

Still another object of the invention is to provide an accessory of the type specified having means enabling the holder for the combined transmitter and receiver to be readily detached from the lateral arm which supports it.

Still another object of the invention is to provide an accessory of the type specified having a supporting plate carried by the lateral supporting arm and having a holder for the combined transmitter and receiver readily detachable from the plate and adapted to be connected therewith in a variety of angularly different positions.

An additional object of the invention is to provide an accessory of the type specified having an improved holder for the combined transmitter and receiver.

Additional objects of the invention will be apparent from the drawings and from the following specification and claims.

In the drawings I have shown in detail several alternative embodiments of the invention, but it will be understood that various changes may be made from the constructions shown, and that the drawings are not to be construed as defining or limiting the scope of the invention, the claims forming a part of this specification being relied upon for that purpose.

Of the drawings:

Fig. 1 is front view of an accessory embodying the invention.

Fig. 2 is a right side view.

Fig. 3 is an enlarged fragmentary vertical sectional view taken along the line **3—3** of Fig. 2.

Fig. 4 is a fragmentary plan view.

Fig. 5 is a fragmentary vertical sectional view taken along the line **5—5** of Fig. 1.

Fig. 6 is a fragmentary vertical sectional view taken along the line **6—6** of Fig. 4.

Fig. 7 is a fragmentary vertical central sectional view of some of the parts shown in the upper right portion of Fig. 1, but with the said parts in different relative positions.

Fig. 8 is a fragmentary sectional view taken along the line **8—8** of Fig. 1.

Fig. 9 is a view similar to Fig. 7, but showing an alternative construction.

Fig. 10 is a fragmentary plan view taken in the direction of the arrows **10, 10** in Fig. 1.

Fig. 11 is a view similar to Fig. 10, but showing the combined transmitter and receiver in a different position.

Fig. 12 is a fragmentary front view similar to the upper right portion of Fig. 1, but showing the holder separated from its support.

Fig. 13 is a view similar to the upper right portion of Fig. 1, but showing an alternative holder and support therefor.

Fig. 14 is a fragmentary view similar to Fig. 13, but showing the holder separate from its support.

Fig. 15 is a view taken along the line **15—15** of Fig. 13.

Fig. 16 is a plan view taken in the direction of the arrows **16, 16** in Fig. 13.

Fig. 17 is an enlarged fragmentary sectional view taken along the line **17—17** of Fig. 13.

Fig. 18 is a view similar to Fig. 17, but showing an alternative construction.

Fig. 18[a] is an enlarged view similar to Fig. 18, but showing another alternative construction.

Fig. 19 is a view similar to the upper right portion of Fig. 1, but showing another alternative holder and support therefor.

Fig. 20 is a view taken in the direction of the arrows **20, 20** in Fig. 19.

Fig. 21 is a sectional view taken along the line **21—21** of Fig. 19.

Fig. 22 is an enlarged fragmentary sectional view taken along the line **22—22** of Fig. 19.

Fig. 23 is a fragmentary view similar to Fig. 19, but showing the holder separate from the support.

Fig. 24 is a detail view of the slide shown in Figs. 19 to 23.

Referring to the drawings, **10** represents a supporting plate or platform which carries the other parts of the accessory and which also supports the base of the telephone with which the accessory is to be used. The platform is preferably rectangular in shape but the shape of the platform may be widely varied. The platform may be formed of any suitable material such as metal, laminated wood or molded plastic. The platform may be provided with felt pads **12** in order to avoid scratching or marring the desk on which the platform may be placed.

Carried by the platform is a vertical post **14** which serves to support various other parts as hereinafter explained in detail. The post **14** is preferably detachably connected with the platform **10** and as shown in Fig. 3 the platform is provided with a vertical stud **16** which is held in place by a screw **18**. The stud **16** enters and fits a central vertical opening in the bottom portion of the post. It will be seen that the post can be readily engaged with or disengaged from the stud. Preferably the stud **16** is provided with a flange **20** and the post **14** is provided with a mating flange **22**. A pin **24** projects upward from the flange **20** and through an aperture in the flange **22**. The pin **24** serves to locate the post in a predetermined position with respect to the stud **16** and with respect to the platform **10**.

Supported on the post **14** by various parts to be described in detail is a holder **26** for the combined transmitter and receiver **28** of the telephone. The said combined transmitter and receiver has the usual transmitter at one end and the usual receiver at the other end together with a central connecting portion. The base **30** of the telephone is supported on the platform **10** adjacent the post **14**. Normally the transmitter and receiver **28** is supported by the holder **26** so long as the accessory is in place and it is not returned to engagement with the base **30**.

The base **30** has the usual vertically movable button **32** which is held in its lower open-circuit position by the combined transmitter and receiver when the latter is in its originally intended position on the base, the said button being biased to its upper closed-circuit position. However, when the present accessory is in place the transmitter and receiver is supported on the holder **26** and other means must be provided for causing the movement of the button **32** to its lower open-circuit position or to its upper closed-circuit position. Mechanism for this purpose is carried by the post **14** and this mechanism will now be described.

Vertically movable on the post 14 is a slide 34 which is preferably in the form of a sleeve surrounding and fitting the post. Carried by the slide or sleeve 34 is a horizontally extending arm 36 which extends over the button 32 as shown in Fig. 1. Preferably the sleeve 34 is guided for vertical movement on the post 14, relative rotative movement being prevented by a pin 38 extending into a vertical spline 40, as shown in Fig. 3. Thus the sleeve 34 is free for vertical movement, but relative rotative movement is prevented.

Preferably the arm 36 is rotatively connected with the sleeve 34, this being desirable in order that the telephone base may be placed in different positions on the platform 10. As shown, the arm has an aperture through which the sleeve extends, the sleeve having an external thread 42 and the aperture in the arm having a mating internal thread. The mating threads permit the arm to be turned relatively to the sleeve.

For vertically moving the sleeve 34 and the arm 36 there is provided at least one manually movable eccentric and preferably there are two such eccentrics. As shown, the post 14 is flattened at opposite sides and a rotatable shaft 44 extends through a horizontal bearing aperture in the post. Secured to the shaft 44 are two similar eccentrics 46, 46 which engage the opposite flat faces of the post. Connected with the shaft 44 and the eccentrics 46, 46 is a manually operable lever 48 for turning the said shaft and eccentrics. When the lever 48 is in the upper position, as shown in Figs. 1, 2 and 3, the eccentrics are in the positions to permit the sleeve 34 and the arm 36 to move to their lowermost positions. When the lever 48 is moved to its lowermost position, the eccentrics 46, 46 move the sleeve 34 and the arm 36 to their uppermost positions. Inasmuch as there are two eccentrics, pressure is applied to the sleeve 34 at both sides of the post. A pin 50 on the post 14 limits the movement of the lever 48 so that the sleeve 34 and the arm 36 are either in their lowermost positions or in their uppermost positions. Preferably the lever 48 has notches as shown to receive the pin 50.

A spring is preferably provided for biasing the sleeve 34 and the arm 36 in the downward direction and as shown there is a coil spring 52 which surrounds the upper portion of the post 14. The lower end of the spring 52 abuts against the top of the sleeve 34 and the upper end of the spring abuts against a sleeve 54 carried by the upper portion of the post.

As has been stated, the arm 36 engages the button 32 on the base of the telephone. When the lever 48 is moved to its upper position, as shown, the arm 36 is moved downward by gravity and by the spring 52 so as to depress the button 32 to its lower open-circuit position. When the lever 48 is moved to its lower position, the sleeve 34 and the arm 36 are moved upward thus permitting the button 32 to assume its upper closed-circuit position. Thus the user of the accessory can close or open the telephone circuit at will by merely moving the lever 48.

The base of the telephone has the usual upward projections 56, 56 at opposite sides of the button 32 and preferably the arm 36 is provided with two pairs of rollers 58, 58 which are so positioned that the rollers of the said pairs are at opposite sides of the said projections 56, 56. The rollers are preferably formed at least in part of rubber or equivalent material. The telephone base 30 is accurately positioned on the platform 10 so that the projections 56, 56 thereof are between the pairs of rollers 58, 58. The rollers constitute anti-friction means which permit the arm 36 to freely move upward or downward with respect to the base and inasmuch as the said rollers are formed at least in part of rubber or equivalent material, there is no possibility of scratching the said projections on the base.

The telephone base shown in Figs. 1 and 2 is that of a standard telephone. Certain other telephones, as for instance those for inter-office use, have the button 32 at a slightly different elevation. In order to properly cooperate with buttons at different elevations, the arm 36 is vertically adjustable with respect to the sleeve 34. The before-mentioned threaded connection between the arm and the sleeve is utilized for vertical adjustment. The arm 36 can be turned in either direction on the threads and can be thus raised or lowered. The full lines in Fig. 3 show the arm in a lower position and the dotted lines show it in an upper position. For locking the arm 36 in adjusted position there is provided a threaded sleeve

60 which serves as a lock nut. The sleeve 60 is internally threaded to engage the thread on the sleeve 34 and the lower end of the sleeve 60 abuts against the arm 36. The sleeve 60 is of such length that it encloses the spring 52, the upper end of the sleeve fitting the sleeve 54. The sleeve 60 is preferably exteriorly knurled so that it may be readily turned into or out of locking engagement with the arm 36.

The upper portion of the post 14 has a central cylindrical aperture therein and a vertical rod 62 accurately fits this aperture. The rod 62 is rotatable in the aperture and its lower end is seated against the bottom of the aperture. A laterally extending arm 64 is provided which is adjustably connected with the upper portion of the rod 62.

For connecting the arm 64 with the rod 62 there is provided a block 66 apertured at the bottom to receive the upper end of the rod. The block is preferably pinned to the rod. The block 66 has a central recess at the top, this recess providing two ears 68, 68 at the sides. An interrupted horizontal bearing aperture is formed in the ears 68, 68, this bearing aperture receiving and fitting a horizontal trunnion pin 70 which is pivotally movable in the aperture. The corresponding end portion of the arm 64 is reduced in diameter and extends through a central aperture in the trunnion pin 70. The arm 64 is permanently secured in its position in the pin. It will be seen that the arm 64 can be moved in a vertical plane about the axis of the pin 70.

The block 66 has a diagonal slot as indicated at 72, this slot extending to the aperture for the pin 70. A screw 74 extends through a horizontal hole in the block, the said hole intersecting the slot 72. Positioned at the right side of the block 66 is a sleeve 76 surrounding the screw and having a flange 78 adjacent the block. A disc 80 is rotatably mounted on the sleeve 76 adjacent the flange 78. Surrounding the sleeve 76 is a sleeve 82 closely adjacent the disc 80. At its outer end the sleeve 82 has an end wall with a hole into which the end of the screw 74 extends. The end of the screw is enlarged so that the sleeve 82 cannot move endwise with respect to the screw. A coil spring 84 is located between the sleeves 76 and 82, one end abutting against the disc 80 and the other end abutting against the end wall of the sleeve 82. At its opposite end the screw is provided with a knurled head 86 by means of which it may be turned.

The screw 74 has threaded engagement with the block 66 at the right of the slot 72, but does not have threaded engagement with the remainder of the block nor with the sleeve 76. When the screw 74 is turned in one direction the two portions of the block 66 at opposite sides of the slot 72 are forced toward each other so as to grip the pin 70 and prevent it from turning. Thus the arm 64 can be clamped in adjusted positions. When the screw is turned in the opposite direction the pin 70 and the arm 64 are released.

The disc 80 is provided at its periphery with a series of notches 88 which have successively increasing depths and each of which is of such width as to receive the reduced end portion of the arm 64. Eight notches are shown but the number may be varied. The arm 64 may be held in an elevated adjusted position solely by the clamping action on the trunnion pin 70. However, when the arm 64 is in a lower adjusted position, the reduced end portion thereof is entered in one of the notches 88 so as to be positively supported. When the pin 70 and the disc 80 are released, the arm 64 may be moved temporarily to an elevated position and the disc 80 may be turned to bring any selected notch 88 into register with the reduced end portion of the arm. The spring 84 provides frictional resistance to prevent free turning of the disc 80. The arm 64 may be lowered into the selected notch, and then the screw 74 is turned to clamp the pin 70 and the arm 64. Thus the arm 64 may be positively supported in any one of eight different positions.

The holder 26 is preferably carried by a plate 90 which is so connected with the arm 64 that it may be rotatably adjusted with respect thereto. As shown in Figs. 7 and 8, there is provided a disc 92 having a hollow hub 94 which is interiorly threaded for engagement with a threaded end portion of the arm 64. A second disc 96 is provided which normally has face to face engagement with the disc 92, the said disc 96 being directly connected with the plate 90. The disc 96 is provided with an integral stud 98 which extends through an aperture in the disc 92 and into the hollow hub 94 thereof. A coil com-

pression spring 100 is located within the hub 94 and surrounds the stud 98. A screw 102 has threaded engagement with the stud 98 and the head of the screw serves as an abutment for the spring 100. It will be seen that the spring 100 normally holds the disc 96 in engagement with the disc 92, but permits it to be slightly separated therefrom when desired.

The discs 92 and 96 are provided with means which enables them to interengage with each other so that the disc 96 may be releasably held in a variety of positions of rotative adjustment with respect to the disc 92. As shown, the disc 92 has an annular series of holes 104, 104 therein and the disc 96 carries a pin 106 adapted to enter any one of the holes 104, 104. It will be seen that the angular position of the plate 90 with respect to the arm 64 can be changed by moving the holder toward the right in opposition to the spring 100, thus withdrawing the pin 106 from the hole 104 in the disc 92. Then the plate 90 can be rotated with respect to the arm 64 and released, the pin 106 entering another hole 104 in the disc 92. Thus the holder is normally held against relative rotation, but can be angularly adjusted as desired.

It may sometimes be preferable to retain the plate 90 in adjusted position by frictionally acting means rather than by positively acting means. In such case the alternative construction shown in Fig. 9 may be provided. The alternative construction is similar to that shown in Figs. 7 and 8, there being two discs 108 and 110 similar respectively to the disc 92 and 96. However, the discs 108 and 110 merely engage each other frictionally, there being no holes such as 104, 104 and no pin such as 106. It will be seen that the plate 90 with the disc 110 can be rotated with respect to the arm 64 and the disc 108. The frictional engagement between the discs 108 and 110 holds the plate 90 in adjusted position.

As shown in Figs. 1, 2 and 10, the holder 26 preferably includes a sheet metal boxlike structure having end walls 112, 112, side walls 114, 114 and a rear wall 116. A block 118 of rubber or other resilient yieldable material is fitted within the boxlike structure projecting therefrom at the open side opposite the rear wall 116. The block 118 is held in place by pins 120, 120 extending through the side walls 114, 114. The block 118 is provided with an opening 122 which extends therethrough from one side face to an opposite side face and is shaped to fit the connecting portion of the combined transmitter and receiver 28 of the telephone. The front portion of the block 118 has a split or notch at 124 and the material of the block 118 is sufficiently yieldable to permit the said connecting portion to be forced into the opening 122 so as to occupy the position shown in Figs. 1 and 10. Preferably the walls of the opening 122 are provided with a series of closely spaced projections which preferably are parallel longitudinal ridges 126, 126. In order that the block 118 may more firmly hold the combined transmitter and receiver, flat springs 128, 128 are provided at the ends of the block. Each of these springs extends inward along the inner face of the corresponding end wall 112 and along the outer face of the rear wall 116.

The holder 26 is preferably detachably connected with the plate 90, and as shown in Figs. 1 and 10, it is permanently connected with a transverse bar 130 which is interposed between the boxlike portion and the said plate 90. Secured to the plate 90 is a block 132 having an opening 134 therein, which opening is preferably close to the plate 90. The walls of the opening 134 constitutes a guide extending parallelly with the plate 90. Secured to the bar 130 is a tongue or retainer 136 which is shaped and positioned to enter the opening 134 in the block 132. With the parts in their fully assembled positions the retainer 136 extends through the opening or guide 134 in the block 132. Thus, the holder 26 is firmly secured to the plate 90. Preferably the block 132 is provided with a releasable detent for holding the retainer 136 in place in the block. As shown in Fig. 2, there is a spring pressed ball 138 which is engageable with a notch in the retainer 136. When the ball 138 is entered in the notch, it resists withdrawal of the retainer but nevertheless permits withdrawal whenever sufficient force is applied.

Fig. 10 shows the connecting portion of the combined transmitter and receiver in its normal position in the opening 122. Fig. 11 is similar to Fig. 10 but it illustrates the fact that the combined transmitter and receiver can be turned within the opening 122 and held in any position to which it may be moved. The block 118 and the springs 128 are sufficiently yieldable to permit the transmitter and receiver to be turned to any extent that may be desired. The ridges 126, 126 at the interior of the opening 122 engage the corners of the transmitter and receiver and cooperate with the resiliency of the block 118 and of the springs 128, 128 to hold the transmitter and receiver in adjusted position. It will be understood that the transmitter and receiver can also be adjusted endwise with respect to the holder and need not be centrally located as shown.

It will be apparent from Fig. 12 that the holder 26 can be readily detached from the arm 64 and from the plate 90 upon transverse relative movement, that is, movement parallel to the plate. It is merely necessary to slide the holder 26 and the bar 130 upward sufficiently to withdraw the retainer 136 from the opening or guide in the block 132. With the retainer thus withdrawn, the combined transmitter and receiver can be held in any desired position without dependence upon the previously described supporting means therefor.

From the foregoing description it will be apparent that the combined transmitter and receiver 28 while supported on the accessory can be located and held in any position that may be most convenient for the requirements of the user. The arm 64 can be located at various angles so that the plate 90 is held at a selected elevation; the plate 90 can be angularly adjusted with respect to the arm 64; the transmitter and receiver may be positioned in any one of a variety of positions in its holder 26; and the transmitter and receiver can be adjusted endwise relatively to the holder. After the various adjustments have been made, the transmitter and receiver is maintained in the selected position until the user may find it necessary or convenient to adjust it to another position. It should be noted, however, that the transmitter and receiver, whatever its position of adjustment may be, is always freely movable about the vertical axis of the rod 62. The transmitter and receiver can be readily swung to a forward position for use or a rearward position where it will be out of the way when not in use. The circuit can be opened or closed at any time by means of the lever 48 as already described.

A telephone accessory embodying the invention is useful when it is necessary or desirable for the user to have both hands free at all times for handling papers and for making notes and the like. The accessory is particularly advantageous for use by handicapped persons having only one hand. However, a user who usually handles papers and makes notes or a user having only one hand may from time to time find that for extended telephone conversations it is more convenient to hold the transmitter and receiver in the conventional manner. He may, for instance, wish to change his position. Under such circumstances the holder 26 and the transmitter and receiver may be detached from the plate 90 as shown in Fig. 12. Reattachment to the plate 90 can be readily effected whenever it is found more convenient to hold the transmitter and receiver in a fixed position.

Figs. 13 to 17 show an alternative holder for the combined transmitter and receiver and an alternative construction for connecting the holder with its supporting plate. The alternative holder differs from that shown in Figs. 1, 2, 10, 11 and 12 in that the separate springs 128 are omitted. The holder has side walls 114 and a rear wall 116 which are or may be similar to those of the holder already described. However, in lieu of the relatively short end walls 112 the holder has longer end walls 139 which are of spring material, these longer resilient end walls having the same function as the springs 128.

The alternative mounting means shown in Figs. 13 to 17 includes a plate 140 generally similar to the plate 90 and similarly connected with the rod 64. While the plate 140 is shown as connected with the arm 64 by means such as shown in Figs. 7 and 8, such means may be omitted if preferred and the plate may be rigidly connected with the arm. The plate 140 has a centrally located slot 142 having parallel sides, the said sides of the slot constituting a guide extending parallelly with the plate 140. The upper end of the slot 142 communicates at its upper end with a larger or wider opening 144. The rear wall 116 of the holder 26 carries a stud 146 having a head 148, the said stud constituting a retainer connected with the holder. The stud or retainer 146 is so formed that the holder

may be connected with the plate in any one of a plurality of different angular positions with respect to an axis perpendicular to the plate. Between the rear wall **116** and the head **148** the stud **146** has a polygonal shape at **149**, which shape is preferably a hexagon. The opposite parallel walls of the stud at **149** are so spaced as to be adapted to enter between and approximately fit the side walls of the slot **142** as shown in Fig. 15. The head **148** of the stud or retainer is of such size as to be adapted to pass through the opening **144** in the plate **140**.

Preferably the upper portion of the plate **140** having the opening **144** therein is somewhat thinner than the lower portion of the said plate. The thickness of the upper portion of the plate is somewhat less than the distance between the holder wall **116** and the adjacent face of the head **148**. This facilitates entry of the stud or retainer so that the head **148** thereof will freely pass behind the face of the plate when the holder and stud are moved downward. The lower portion of the plate **140** is thicker, its thickness being approximately the same as the distance between the holder wall **116** and the adjacent face of the head **148**. Thus, when the holder and stud are in their normal lower position, the holder is firmly connected with the plate without any lost motion. The thickness of the plate may be made increasingly greater at steps **150**, **151** and **152** as shown in Fig. 15.

When the shape at **149** is hexagonal the holder **26** can be connected with the plate **140** in a plurality of positions which are angularly different, the several optional positions being at 60° from each other. The described construction not only enables the holder to be attached to the plate at a variety of angularly different positions but also enables the holder to be readily detached from the plate **140** by manually moving it parallelly with the said plate. In order to detach the holder it is merely necessary to move it along the plate and to then raise it so that the head **148** can be moved through the opening **144**. Fig. 14 shows the holder detached from the plate.

Fig. 18 shows a construction similar to that shown in Figs. 13 to 17 but different in detail. In lieu of the stud **146** there is provided a stud **153** having a head **154** similar to the head **148**. Between the wall **116** and the head **154** the stud **153** is threaded and a nut **155** is engaged with the threaded portion of the stud. The thickness of the nut **155** is slightly less than the distance between the wall **116** and the head **154**. The exterior shape of the nut **155** is or may be the same as the exterior shape of the stud **146** at **149**. The construction shown in Fig. 18 serves the same purpose as the construction shown in Figs. 15 to 17. The holder **26** can be put in place in any one of several angularly different positions and the holder can be readily removed and replaced as required.

The thickness of the nut **155** is only a few thousandths of an inch less than the distance between the wall **116** and the head **154** and the nut **155** is rotatable with respect to the stud through only a small fraction of a turn. With the holder **26** in place on the plate **140**, it can be rotated through the aforesaid small fraction of a turn, preferably less than 60°. When the holder is rotated in one direction, one face of the nut is brought into engagement with the head **154** as shown in Fig. 18, the holder being thus frictionally locked. When the holder is rotated in the other direction, the opposite face of the nut is brought into engagement with the wall **116**, the holder being again frictionally locked. With the construction shown in Fig. 18 the holder **26** can be rotated and frictionally locked at intermediate positions between the positions determined by the engagement of the opposite sides of the nut **155** with the walls of the slot **142**.

Fig. 18ª shows a construction similar to that illustrated in Fig. 18 but differing in detail. There is a stud **153** which is or may be the same as the stud shown in Fig. 18, the said stud having a similar head **154**. In lieu of the nut **155** there is provided a nut **156** which is similar to the nut **155** but somewhat thinner. At opposite sides of the nut **156** are two oppositely disposed dished spring washers **157**, **157**. The angle of the washers is considerably exaggerated in the drawing for clarity of illustration. In practice the angle is very small and the nut **156** has a thickness considerably greater than that shown. The action is the same as that described in connection with Fig. 18 except that the washers frictionally resist rotative movement of the nut and thus resist rotative movement of the holder. When the nut **156** moves toward the head **154** one washer is flattened and when the nut moves toward the wall **116** the other washer is flattened.

Figs. 19 to 24 show another alternative construction for connecting the holder with its supporting plate and for enabling the holder to be angularly adjusted. A supporting plate **158** is provided generally similar in function to the supporting plate **90**. In lieu of the arm **64**, an arm **160** is provided which is generally similar to the arm **64** but which is rigidly connected with the plate **158** instead of being connected therewith by means of a mechanism such as that shown in Figs. 7 and 8.

Secured to the plate **158** are two oppositely positioned gibs **162**, **162** which constitute a guide extending parallelly with the plate **158**. The said gibs engage with and support a slide or retainer **164** connected with the holder **26**. The slide or retainer **164** has lateral projections **166**, **166** at the top which engage the gibs to limit downward movement of the slide. Inasmuch as the holder **26** is secured to the slide **164**, the holder is thus supported on the plate **158**. It will be seen that the holder **26** can be detached from the plate **158** by merely moving the said holder and the slide or retainer upward parallelly with the plate so that the slide is disengaged from the gibs or guide. Fig. 23 shows the holder and retainer detached from the plate.

Preferably the holder **26** is connected with the slide or retainer **164** for angular adjustment with respect thereto. As shown, a washer **168** is secured to the rear wall **116** of the holder, this washer engaging at its rear with the front face of the slide **164**. A rivet **170** extends through suitable apertures in the wall **116**, in the washer **168** and in the slide **164**. It will be seen that the holder **26** and the washer **168** can be angularly adjusted with respect to the slide **164** about the axis of the rivet **170**. A spring washer **172** is interposed between the wall **116** and one head of the rivet **170**, this spring washer providing frictional engagement between the washer **168** and the slide **164**. Preferably the washer **168** has an annular series of detents **174** which are adapted to enter a similar series of depressions **176**, **176** in the front of the slide **164**. With the detents entered in the depressions the washer **168** and the holder **26** are yieldably held in any one of a plurality of angularly different positions.

What I claim is:

1. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, a holder for the combined telephone transmitter and receiver, connections between the upper end of the post and the holder for supporting the latter on the former, the said connections being adjustable to permit the holder to be supported in a variety of relative positions, a vertically movable non-rotatable sleeve surrounding the post below the said upper end thereof, a horizontally extending arm having a portion surrounding the sleeve and having a threaded connection therewith which arm is adapted to engage the movable button on the telephone base, the said arm being rotatable about the axis of the post at its said threaded connection with the sleeve and being thus vertically adjustable with respect to the sleeve, and manually operable means for effecting vertical movement of the sleeve and arm to enable the arm to cause the button on the base to move into and out of its closed-circuit position.

2. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, a holder for the combined telephone transmitter and receiver, connections between the upper end of the post and the holder for supporting the latter on the former, the said connections being adjustable to permit the holder to be supported in a variety of relative positions, a vertically movable non-rotatable sleeve surrounding the post below the said upper end thereof, a horizontally extending arm having threaded connection with the sleeve and adapted to engage the movable button on the telephone base, the said arm being rotatable at its threaded connection with the sleeve and being thus vertically adjustable with respect to the sleeve, a coil spring surrounding the post above the sleeve for moving the sleeve and arm downward to thereby move the button

on the base to its lower open-circuit position, manually operable means below the sleeve for moving the sleeve and arm upward to thereby permit the said button to move to its upper closed-circuit position, and a second sleeve surrounding the spring and having threaded engagement with the first said sleeve, the said second sleeve being engageable with the arm and serving to lock the arm in its position of adjustment with respect to the first said sleeve.

3. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a block carried by the rod at the upper end thereof, a supporting arm connected at one end with the block for pivotal movement about a horizontal axis, a holder for the combined transmitter and receiver carried by the opposite end of the last said arm, and a disc carried by the block below the said arm and rotatable about a horizontal axis which disc has a plurality of peripheral notches therein having different depths, each of the said notches being adapted to receive the adjacent portion of the said arm and support it at an elevation corresponding to the depth of the notch.

4. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a block carried by the rod at the upper end thereof and having a horizontal bearing aperture therein, the said block having a transverse slot communicating with the bearing aperture, a trunnion pin fitting the bearing aperture and pivotally adjustable therein, a supporting arm rigidly secured at one end to the trunnion pin and extending laterally, a holder for the combined transmitter and receiver carried by the opposite supporting end of the arm, and a disc carried by the block below the said arm and rotatable about a horizontal axis which disc has a plurality of peripheral notches therein having different depths, each of the said notches being adapted to receive the adjacent portion of the said arm and support it at an elevation corresponding to the depth of the notch, and a screw connected with the block and serving upon rotation to partly close the said slot in the block and to thereby clamp the trunnion pin and the supporting arm in adjusted positions.

5. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a supporting arm connected at one end with the rod and extending laterally, a supporting plate perpendicular to the arm and carried thereby at the opposite end thereof, the said plate carrying two spaced parallel faces in fixed relation thereto and extending in a direction parallel therewith, a holder for the combined transmitter and receiver, and a retainer on the holder having two parallel faces spaced to fit between and engage the parallel faces on the plate, the said holder and retainer being manually movable in parallelism with the plate to enter the retainer between the parallel faces on the plate so as to connect the holder with the plate or to remove the retainer from between the last said parallel faces so as to thereby completely disconnect the holder from the plate.

6. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a supporting arm connected at one end with the rod and extending laterally, a supporting plate perpendicular to the arm and carried thereby at the opposite end thereof, a holder for the combined transmitter and receiver, a block on the plate having an aperture parallel with the plate and having two spaced parallel faces, and a tongue on the holder having two spaced parallel faces and of such size and shape as to be adapted to enter and fit the aperture in the block, the said tongue when entered in the aperture serving to connect the holder with the plate and the said tongue being freely removable from the aperture to enable the holder to be detached from the plate.

7. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a supporting arm connected at one end with the rod and extending laterally, a supporting plate perpendicular to the arm and carried thereby at the opposite end thereof, the said plate having therein a slot with parallel sides and also an opening wider than the slot and communicating therewith, a holder for the combined transmitter and receiver, and means on the holder for connecting it with the plate, the said means including a head adapted to pass through the said opening in the plate but wider than the slot therein and the said means also including a portion between the holder and the head having opposite parallel sides spaced to fit between and engage the edges of the slot in the plate.

8. An accessory for use with a telephone as set forth in claim 7, wherein the portion of the connecting means between the holder and the head is polygonal in shape with a plurality of pairs of opposite parallel sides spaced to fit between and engage the sides of the slot in the plate so that the holder can be connected with the plate in a plurality of angularly different positions.

9. An accessory for use with a telephone as set forth in claim 7, wherein the portion of the plate adjacent the said wider opening has a thickness less than the distance between the holder and the head and wherein the portion of the plate adjacent the opposite end of the slot has a thickness approximately the same as the distance between the holder and the head.

10. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a supporting arm connected at one end with the rod and extending laterally, a supporting plate perpendicular to the arm and carried thereby at the opposite end thereof, the said plate having therein a slot with parallel sides and also an opening wider than the slot and communicating therewith, a holder for the combined transmitter and receiver, and means on the holder for connecting it with the plate, the said means including a threaded stud projecting from the holder and having a head adapted to pass through the said opening in the plate but wider than the slot therein and the said connecting means including a polygonal nut having threaded engagement with the stud and having pairs of opposite parallel sides spaced to fit between and engage the edges which nut has a thickness slightly less than the distance between the holder and the head so that the holder can be turned relatively to the plate until the nut engages either the holder or the head.

11. An accessory for use with a telephone as set forth in claim 10, wherein spring washers are interposed between the nut and the head of the stud and between the nut and the holder.

12. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a supporting arm connected at one end with the rod and extending laterally, a supporting plate carried by the arm at the opposite end thereof and having an exposed substantially flat face perpendicular to the arm, a holder for the combined transmitter and receiver, and means for detachably connecting the holder with the plate in engagement with the said flat face thereof and at any one of a plurality of different angularly related positions.

13. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a supporting arm connected at one end with the rod and extending laterally, a supporting plate perpendicular to the arm and carried thereby at the opposite end thereof, a slide having two spaced parallel faces at its opposite sides, a holder for the combined transmitter and receiver pivotally connected with the slide between the ends of the said slide for movement about an axis perpendicular to the plate, elements on the plate having spaced parallel faces for engaging the slide at the said opposite sides thereof for guiding it for movement in parallelism with the plate, and means on the slide for limiting movement thereof in one direction.

14. An accessory for use with a telephone as set forth in claim 13 wherein the holder is pivotally connected with the slide for movement about an axis perpendicular to the slide, and wherein spring detent means is provided for yieldably retaining the holder in various positions of angular movement with respect to the slide.

15. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a supporting arm connected at one end with the rod and extending laterally, and a holder for the combined transmitter and receiver carried by the opposite end of the arm, the said holder including a block of resilient yieldable material having an opening extending therethrough from one side face to the opposite face and

shaped to receive and fit the central connecting portion of the transmitter and receiver which block also has a notch extending from the opening to the front face for enabling the said connecting portion to be entered in or removed from the opening, and the said holder also including a metallic boxlike structure enclosing the portion of the block at the rear of the said opening therein to retain the said block in place which boxlike structure has walls adjacent the opposite side faces of the block and has other walls adjacent the opposite end faces of the block.

16. An accessory for use with a telephone as set forth in claim 15, wherein metallic springs are provided which are additional to the boxlike structure and are partly within it, the said springs projecting forwardly beyond the boxlike structure and engaging the end faces of the block at opposite sides of the said opening therein.

17. In an accessory for use with a telephone including a base having a vertically movable button for opening and closing the telephone circuit and including a combined transmitter and receiver, the combination of a vertical post, means for supporting the post adjacent the said base, manually operable means carried by the post below the upper end thereof for engaging and moving the movable button on the telephone base, a vertical rod carried by the post and extending upward therefrom, a supporting arm connected at one end with the rod and extending laterally, and a holder for the combined transmitter and receiver carried by the opposite end of the arm, the said holder including a block having an opening extending therethrough from one side face to the opposite side face and shaped to receive and fit the central connecting portion of the transmitter and receiver which block is formed of resilient material which is yieldable to enable the transmitter and receiver to be adjusted angularly about an axis perpendicular to the supporting arm and which block has a series of closely spaced projections within the said opening for holding the receiver in various positions of angular adjustment.

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