

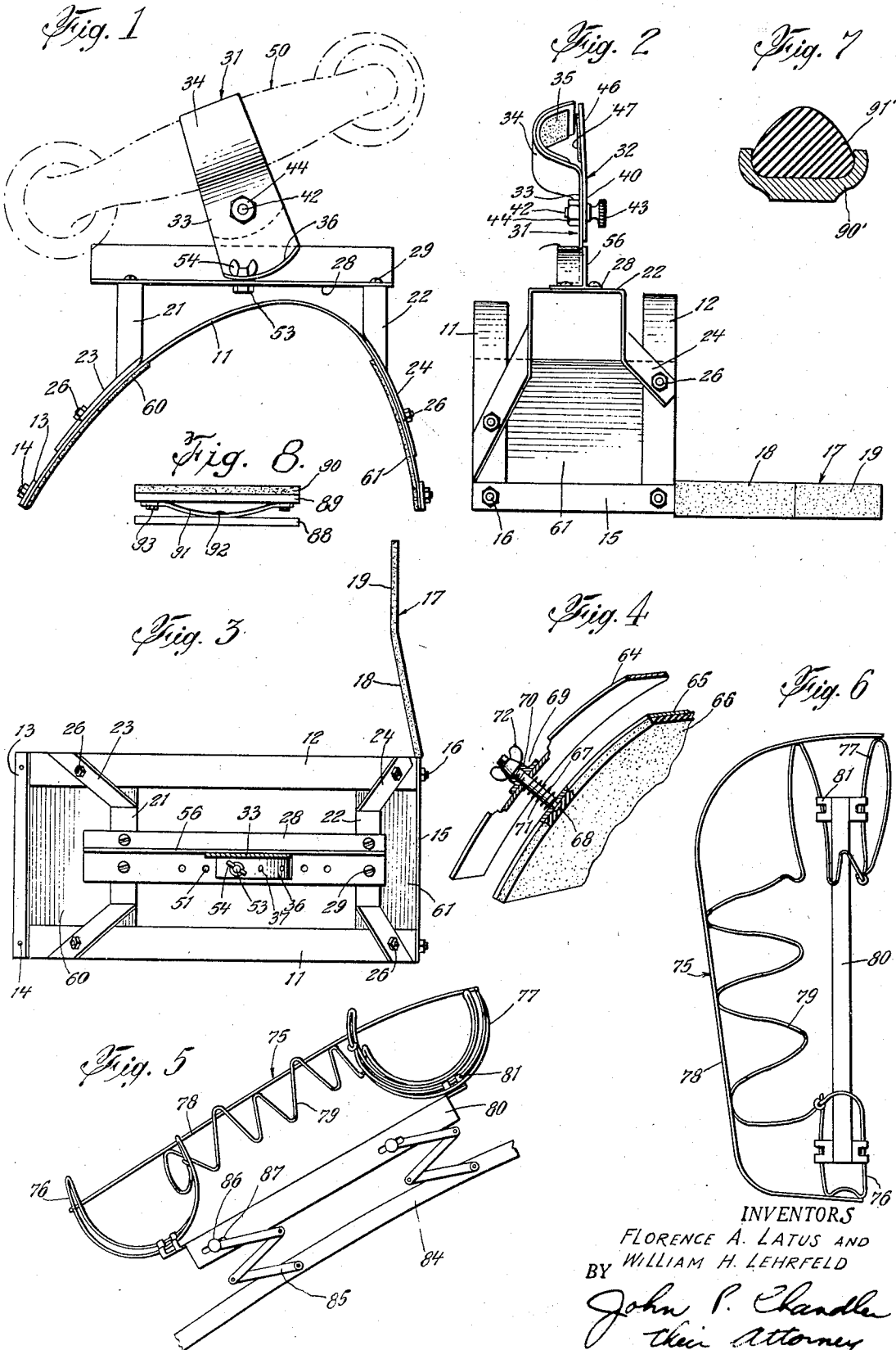
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TELEPHONE SUPPORT

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TELEPHONE SUPPORT

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This invention relates to new and useful improvements in telephone supports, and relates more particularly to a novel frame element which may be readily positioned on the shoulder of the user which will support a telephone of the hand type, thus leaving both hands of the user free.

In many lines of activity, persons almost constantly talking on the telephone and the necessity of supporting the hand phone for hours at a time, greatly fatigues the user and reduces his vitality. A number of supports which are strapped or otherwise secured to the body have been proposed, but in every instance these devices have been complex, cumbersome structures which are uncomfortable to wear. If, on the other hand, they are of a type which are not strapped to the body, they become dislodged with the slightest movement of the body.

It is one of the principal objects of the present invention to provide a telephone supporting element which can be instantly placed on the shoulder of the user and will remain in proper position without straps or other fastening elements. The device of the present invention may be removed from the body as easily as it is placed thereon, and when not in use may be placed upon the usual cradle support for the phone, thus depressing the weight-operated switch associated with such cradle support.

In one embodiment of the present invention the hand phone is clamped in operative position on the support so that when it is desired to use the phone the novel supporting element is raised from the cradle, placed upon the shoulder of the user, and the phone is thus ready for use. In another embodiment of the invention, the clamping member is eliminated and in its place a suitable cradle for the phone is provided. The former embodiment has the advantage that when a person is not talking on the phone, the supporting element is removed from the shoulder. This type of support is desirable in cases wherein conversation, either a single call or a plurality of successive calls, is relatively continuous. The latter embodiment is more useful in cases wherein the use is more or less discontinuous, but wherein it is not desired to remove the support from the shoulder after each conversation. In other words, when the phone rings the user removes the phone from the usual cradle and simply places it in the supplemental cradle associated with the supporting element of the present invention.

Another object of the present invention is the provision of a novel phone-supporting element

which is simple in construction, light in weight, and is exceedingly comfortable when in position on the body of the user.

A further object of the invention is to provide a device of this character which may be readily adjusted to fit any user.

Another important object of the invention is the provision of a telephone-supporting device which is carried on the shoulder of the user wherein means are provided for positively preventing accidental dislodgement if the user leans forward.

In the drawing:

Fig. 1 is a side elevation of one embodiment of the present invention.

Fig. 2 is a rear elevation thereof.

Fig. 3 is a top plan view.

Fig. 4 is a broken perspective view showing a modified form of shoulder-engaging element.

Fig. 5 is a broken side elevation showing a modified form of cradle support for the phone.

Fig. 6 is a top plan view thereof.

Fig. 7 is a transverse section taken through a modified form of cradle structure.

Fig. 8 is a further modification.

The first embodiment of the invention illustrated in Figs. 1 to 3, inclusive, comprises a frame structure including a pair of spaced, shoulder-engaging frame elements 11 and 12 which may be formed from flat strips of relatively springy metal, plastic material, or the like. These strips are suitably curved throughout their length, generally in the manner shown in Fig. 1, to form a substantially U shaped structure which engages the shoulder of the user. That portion of the frame structure lying to the left in Fig. 1 engages the front shoulder section of the user, and that portion lying to the right engages the rear or back shoulder portion. At the front such frame elements are held in their spaced position by means of a transverse bar 13 which is secured to such terminals of the strips 11 and 12 by means of bolts or rivets 14.

In Fig. 1 both frame elements 11 and 12 are shown as being similarly shaped and of the same height, although in Fig. 2 frame element 12 is shown as being slightly higher than element 11, which latter form is probably preferable since one's shoulder is normally slightly higher nearer the neck. At their opposite terminals, frame members 11 and 12 are maintained in such spaced relationship by means of another transverse bar 15 which is also secured to the terminal portions by means of bolts 16. Bar 15 is formed with an extension portion or arm 17 which may be covered

with any suitable padding or other resilient material, and which includes an inwardly turned portion 18 adjacent to frame member 12, and a straight terminal portion 19, all for a purpose to be hereinafter described.

The framework further includes a pair of generally U shaped frame members 21 and 22 formed preferably from flat strip material, the terminal portions of which are bent in the manner shown at 23 and 24, respectively, in order to provide flat terminal surfaces which may be secured to frame elements 11 and 12 by means of bolts 26 in the manner shown. A flat horizontal strip 28 is secured adjacent to its terminals to such U shaped members 21 and 22 by means of screws 29.

The phone-clamping structure includes plates 31 and 32, both of which are preferably formed from flat sheet material. Plate 31 has a substantially flat intermediate section 33 and an upper, substantially U shaped portion 34 provided with a resilient lining 35. It is further formed with a lower, inwardly turned base portion 36, the lower surface of which is convexly curved. This base portion is formed with a plurality of spaced apertures 37 therein. Plate 32 comprises a lower portion 40 which is secured to intermediate portion 33 of member 31 by means of a bolt 42 provided with a knurled head 43 at one end thereof and carrying a conventional nut 44. Plate 32 further includes an upper portion 46 which may be somewhat inwardly inclined and is provided with a resilient inner facing 47.

The hand phone 50 shown in broken lines in Fig. 1 is received at substantially its central portion between upper clamping portions 34 and 46 of elements 31 and 32, and when the nut-and-bolt assembly is tightened, the phone becomes firmly clamped between such elements. Flat strip 28 is likewise provided with a plurality of spaced apertures 51, and a headed bolt 53 cooperating with a wing nut 54 carried thereby firmly clamps curved base section 36 to flat strip 28. Inasmuch as such latter strip has a plurality of spaced apertures therein, and inasmuch, further, as curved base portion 36 likewise has a plurality of spaced apertures, it will be seen that the clamping element comprising members 31 and 32 may be placed at any position on flat plate 28 and the phone may likewise be positioned at any desired angle. In order to afford greater support for element 21, flat plate 28 may have a vertical fin or rib 56. Adjacent to the front terminal portions of frame members 11 and 12 a strip of rubber or other resilient or padding material 60 may be secured, and a similar strip 61 secured adjacent to the rear terminals of the same frame members.

When the device of the present invention is to be used, the phone is first clamped between elements 31 and 32, and the frame structure then placed upon the shoulder of the user. In the arrangement illustrated in Figs. 1, 2 and 3, the frame element is adapted for use on the left-hand shoulder of the user, although if it is desired to have the phone placed upon the right-hand shoulder, the position of strip 15 having extension 17 is merely reversed from the position shown in Fig. 2, and frame elements 11 and 12 are likewise reversed if the latter is higher than the former, as shown in Fig. 2. Frame members 11 and 12 are formed with such a curvature as to snugly fit the shoulder of the user, and extension portion 17 of strip 15 extends toward the central-back section of the user, thus exerting a yieldable

pressure on the user's back and definitely preventing the frame structure from falling forward should the user incline his body forwardly. In view of the special formation of frame members 11 and 12, and of the particular location of extension portion 17, the frame element snugly fits the shoulder of the wearer and accidental dislodgment is definitely eliminated. Also, no straps or other supporting elements are necessary.

It will be noted that frame elements 11 and 12 are spaced a fair distance apart, and when it is desired to remove the frame structure from the shoulder of the user, flat strip 28 may be placed in the cradle included in the supporting base of the usual hand-phone set, such cradle usually comprising a pair of spaced, substantially U shaped fingers which receive the central or hand-engaging portion of the phone, the lower surface of which portion engages a depressable weight-operated switch which opens the main circuit when the phone is supported in such cradle. It will accordingly be seen that the supporting structure of the present invention may be easily and quickly removed from its cradle support to operative position on the shoulder of the user.

In the modified embodiment shown in Fig. 4, the numeral 64 designates one of the curved, spaced frame elements similar to elements 11 and 12 in the first embodiment of the invention. The portion shown of such frame element may either be the front or the rear, although it is preferably the front. In this instance, the resilient pad or lining 60 is eliminated, and a supplemental shoulder-engaging plate 65 is provided, such plate preferably extending the full width of the frame structure and being provided with a resilient pad 66 on its inner surface. Plate 65 is mounted relative to frame element 64 by means of a threaded screw 67 secured at its inner terminal to such plate, as shown at 68. The screw passes through an unthreaded aperture 69 in frame element 64 and also through an unthreaded collar or bushing 70 carried thereby. Plate 65 is yieldingly urged away from frame element 64 by means of a spring 71 carried concentrically of the screw 67. Inward movement of plate 65 is limited by means of a wing nut or other equivalent element 72 carried at the outer end of the screw. It will be appreciated that there will be provided another equivalent structure, including screw 67, spring 71, and wing nut 72, in the other frame element 64 which is not illustrated in Fig. 4.

The maximum distance of plate 65 from frame elements 64 may be varied by adjustment of wing nut 72. Accordingly, when the frame structure is placed upon the shoulder of the user, plate 65 exerts a yieldable pressure on one shoulder portion of the wearer, the extent of such pressure being dependent upon the strength of spring 71. It will be appreciated that this is one convenient means of making the shoulder-engaging portions adjustable, although frame elements 11 and 12 of Fig. 1 can also be adjusted by merely bending them to the desired shape depending upon the shoulder width of the user. The spring tension in the frame elements affords a considerable measure of adjustability.

In the modified embodiment of the invention shown in Figs. 5 and 6, the clamping elements 31 and 32 of the first embodiment are eliminated, and in its place a cradle 75 is provided. The hand phone is simply placed in the cradle and is not secured therein by any clamping element.

Accordingly, it will be appreciated that the phone may be removed from the cradle at will. The cradle element shown in Figs. 5 and 6 is made from wire and includes a receiver-supporting section 76 and a transmitter-supporting section 77. These two sections are joined by means of a connecting wire 78 and an intermediate supporting portion 79. The cradle is supported on an elongated plate 80 having fingers 81 at opposite ends thereof which grasp the wires.

It will be appreciated that by forming the cradle from wires, in the manner just described, the wires may be manually bent so as to exert more or less compressive force on any desired portion of the phone, and if desired, the wires may be so formed as to cause the phone to, in effect, snap into the supporting portions. If it is desired to make the cradle adjustable relative to its support, which in Fig. 5 comprises a plate 84 having a similar function to plate 28 in the first embodiment, various adjusting means may be employed, such, for instance, as any suitable lazy tong structure such as is shown at 85. In order to make the cradle adjustable longitudinally, the upper end of the lazy tong structure may be secured to plate 80 by means of bolts 86 passing through slots 87.

The modified cradle structure designated as 90 in Fig. 7 is desirably made from some moldable or plastic material, and is so formed as to snugly receive the phone, a portion of which is shown at 91. It will be appreciated that any suitable plastic material may be employed for this purpose.

The embodiments of the invention illustrated and described in the foregoing specification may, of course, be considerably modified without departing from the spirit of the invention as defined by the appended claims. For instance, the frame structure illustrated in Figs. 1, 2 and 3 comprises a plurality of frame elements separately formed and suitably secured together as by bolting or the like. The entire frame structure, however, could be suitably cast in one piece from plastic material and thus avoid the necessity of assembling the parts formed of metal or other material. If the structure is formed in this manner, the extension arm 17 adapted to engage the back portion of the user may, in some cases, be shortened or may even be eliminated entirely.

In the modification shown in Fig. 8, 88 is the frame element, and 89 is the supplemental shoulder-engaging plate provided with a resilient pad 90 on the inner surface thereof. A curved support of flat, springy metal 91 is secured at 92 to the frame, and at its terminals passes through brackets 93 secured to the rear surface of plate 89. This arrangement provides a desired measure of resiliency, thus increasing the comfort of the frame element on the shoulder of the wearer, it being appreciated that when plate 89 is depressed rearwardly, the terminals of the spring 91 slide in and out of the brackets 93.

The invention is capable of other modifications and changes as will be appreciated by those skilled in the art.

What we claim is:

1. A frame for supporting a telephone on the shoulder of the user in operative position without requiring manual support, and being so formed as to be received upon the cradle normally supporting such telephone when not in use, and to depress the weight-operated switch associated

with such cradle, said frame comprising a generally U shaped skeleton framework adapted to snugly engage the shoulder of the user, a centrally disposed, generally horizontal plate carried by the skeleton framework, and telephone clamping means associated with such plate in adjustable relationship, the lower surface of such plate engaging the weight-operated switch when the structure is in inoperative position on said cradle.

2. A frame structure for supporting a telephone on the shoulder of the user in operative position without requiring manual support, and being so formed as to be received upon the cradle normally supporting such telephone when not in use, and to depress the weight-operated switch associated with such cradle, said structure comprising a generally U shaped skeleton framework adapted to snugly engage the shoulder of the user and being provided on its rear with an extension arm for engaging the back portion of the user to prevent forward movement of the frame structure, a centrally disposed, generally horizontal plate carried by the skeleton framework, and telephone clamping and supporting means associated with such plate in adjustable relationship, the lower surface of such plate engaging the weight-operated switch when the structure is in inoperative position on said cradle.

3. A telephone supporting device adapted to be carried on the shoulder of the user to permit the carrying on of speech without manual support of the telephone, and also adapted to be supported on the cradle which normally supports such telephone when not in use, such device comprising a generally U shaped frame element comprising spaced members adapted to engage the front and rear shoulder portions of the user, means for maintaining such frame members in spaced relation, and an arm extending from the frame element for engaging the back of the user to prevent forward movement of such frame element relative to the shoulder of the user, an elongated horizontal plate supported adjacent to its terminals between such spaced frame members, and a telephone clamping element adjustably carried by said plate, the lower surface of such plate being adapted to depress the weight-operated switch associated with said cradle when the device is in position on such cradle.

4. A frame structure for supporting a telephone on the shoulder of the user in operative position without requiring manual support, and being so formed as to be received upon the cradle normally supporting such telephone when not in use, and to depress the weight-operated switch associated with such cradle, said structure comprising a generally U shaped skeleton framework adapted to be received on the shoulder of the user, a spring-pressed plate carried on the inner surface of said framework adjacent to one end thereof and adapted to yieldingly engage the shoulder of the user, a centrally disposed, generally horizontal plate carried by the skeleton framework, and telephone clamping and supporting means associated with such plate in adjustable relationship, the lower surface of such plate engaging the weight-operated switch when the structure is in inoperative position on said cradle.

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