April 23, 1940. J. OSTER 2,198,442

CUSHION PAD FOR HAND VIBRATORS

Filed Jan. 13, 1938

Fig. 1.

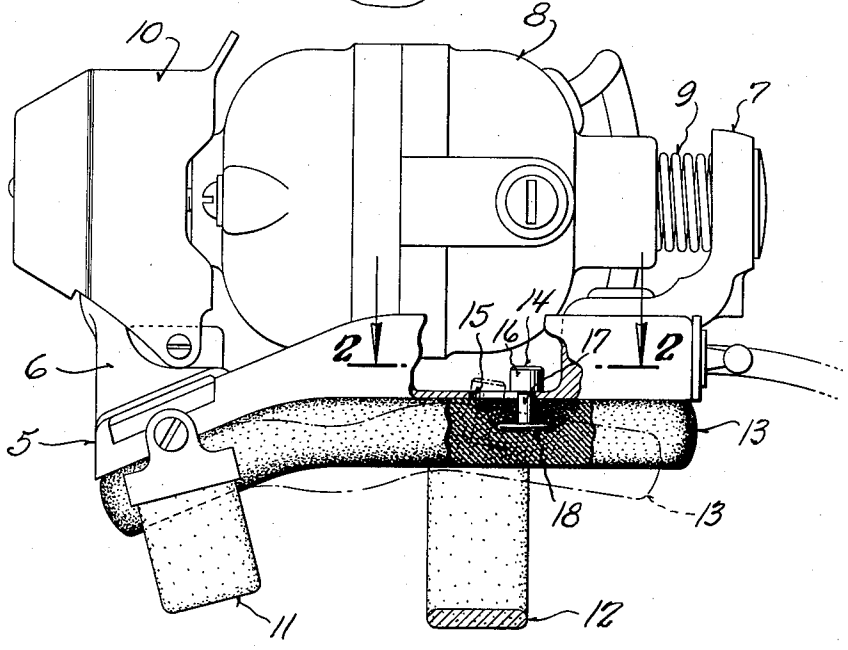
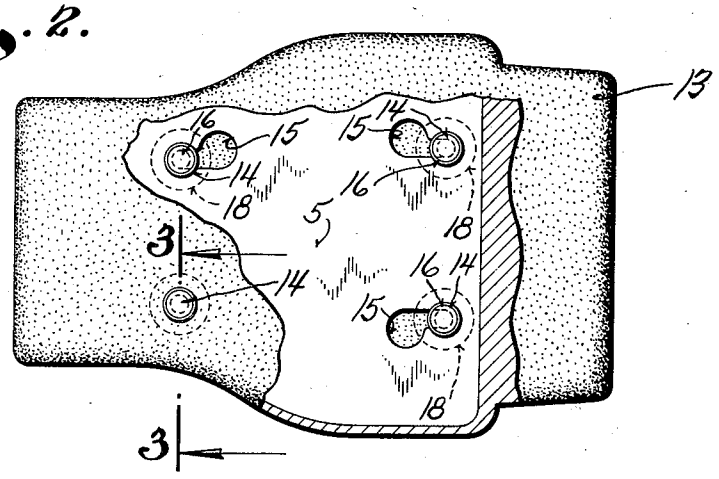


Fig. 2.



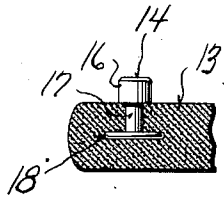


Fig. 3.

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CUSHION PAD FOR HAND VIBRATORS

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Application January 13, 1938, Serial No. 184,804

7 Claims. (Cl. 128—36)

This invention relates to vibrators of the type adapted to be attached to the back of the hand for massaging purposes.

Broadly, such vibrators comprise a base which is adapted to be strapped to the back of the hand and mechanism carried thereby for producing the desired vibration; and as the base is made of metal, it is obviously desirable to provide some form of cushion to protect the operator's hand. This cushion generally consists of a pad of sponge rubber or the like.

Heretofore it was customary to secure the cushion pad to the bottom of the base by means of rivets or staples passed through the base and clinched over on the underside of the pad, the pad being countersunk so that the rivets or staples would not project from the surface of the pad.

However, in use the compression of the pad and the normal wear to which it is subjected, brought these ends of the rivets or other securing means close to the operator's hand so that they would scratch or rub the back of the hand during operation of the vibrator. This was obviously undesirable because of the possibility of infection.

Another disadvantage of past expedients for securing the cushion pad to the base resides in the inability to readily remove the same, which meant that the pad was seldom if ever cleaned or sterilized.

With these and other objections to past and existing means for cushioning the attachment of hand vibrators of the character described, this invention has as one of its objects to provide an improved manner of securing the cushion pad to the base of a vibrator which is so designed that the attaching means at no time can contact the hand of the operator.

More specifically it is an object of this invention to improve the attachment of a cushion pad to the base of a vibrator by embedding the attaching means in the pad in such a manner that the undersurface thereof which contacts the hand of the operator is unbroken and entirely free from metal parts which might come in contact with the operator's hand.

Another object of this invention is to provide means for quickly detachably securing a cushion pad to the base of a vibrator so that removal of the pad is a simple matter thereby assuring greater cleanliness.

With a view toward increased cleanliness, it is a further object of this invention to provide a cushion pad which, while formed of sponge rubber, has all of its external surfaces including its edges substantially imperforate.

With the above and other objects in view which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described, and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

The accompanying drawing illustrates one complete example of the physical embodiment of the invention constructed in accordance with the best mode so far devised for the practical application of the principles thereof, and in which:

Figure 1 is a side elevational view of a vibrator showing the application of this invention thereto and with parts broken away and in section to illustrate structural details;

Figure 2 is a view looking down on the base but with part of the base broken away to show the contour of the cushion pad, said view being taken substantially on the plane of the line 2—2 in Figure 1; and

Figure 3 is a detail sectional view taken through Figure 2 on the plane of the line 3—3.

Referring now particularly to the accompanying drawing in which like numerals designate like parts the numeral 5 designates a base, from the opposite ends of which bearing pedestals 6 and 7 project upwardly. Supported between these bearing pedestals is a vibrator mechanism comprising an electric motor 8 resiliently mounted from the pedestal 7 as at 9 and supported from the pedestal bearing 6 by means of an eccentric bearing (not shown) enclosed within a guard housing 10.

Inasmuch as the specific construction of the vibrator mechanism forms no part of this invention, it has not been shown in detail. For such information reference may be had to the copending application of John Oster, Serial No. 178,945, filed December 9, 1937.

The entire unit is arranged to be strapped to the back of the operator's hand by means of two straps or bands 11 and 12. The ends of these straps or bands are anchored to the side walls of the base and the latter is large enough to pass around the operator's hand directly forwardly of the thumb while the former is smaller and is designed to fit over the two middle fingers directly behind the second knuckles.

To protect the back of the operator's hand, a cushion pad 13 is provided. This pad is prefer-

ably formed of sponge rubber or similar material and has a shape conforming to the shape of the base 5. It is preferably molded and all its surfaces including the edges are imperforate to preclude the entrance of dirt and foreign matter into the internal structure of the pad.

The means for holding the pad to the bottom of the base comprises four buttons 14 anchored to the pad arranged in front and rear sets of two each and engaging in keyhole slots 15 in the base. Each button consists of an outer head 16, a stem or shank 17 and a flat enlarged inner head 18. The shank 17 and the enlarged head 18 are embedded in the pad with the head 16, which is of such size as to pass through the large end of the key-hole slot, exposed at the upper surface of the pad as clearly shown in Figure 3.

The small ends of the front set of keyhole slots point toward the front of the base, while the small ends of the rear set of keyhole slots point toward the rear of the base, and as the distance between the front and rear sets of buttons corresponds to the distance between the small ends of the keyhole slots of the front and rear sets, the resiliency or elasticity of the pad holds the buttons properly engaged with the keyhole slots. Also, inasmuch as the normal position of the buttons (when the pad is not in position) is such that the heads 16 engage the top surface of the pad, it follows that the interposition of the thickness of the base between the undersurface of the buttons and the top face of the pad compresses the adjacent portion of the pad. The pad is thus firmly held against any motion whatsoever with respect to the base, but at the same time is readily detachable to permit the same to be cleaned and sterilized.

In removing the pad from the base, either the front or the rear set of buttons is first disengaged from its respective beyhole slots and then by flexing the pad to substantially the position shown in dotted lines in Figure 1 the other set of buttons may be disengaged from its respective keyhole slots; and, as is evident, the application of the pad is equally as facile.

It is also to be observed that the tendency of the embedded head 18 to "work through" the pad toward the operator's hand upon compression thereof when in use is eliminated due to the increased resistance encountered by the large area of the head in contacting the sponge rubber. Moreover, forming the sponge rubber with imperforate exterior surfaces prevents free expulsion of air from its porous interior and thus precludes excessive compression of the pad. This increases the cushioning characteristics of the pad and further guards against having the embedded portion of the attaching buttons forced to the surface of the pad.

From the foregoing description taken in connection with the accompanying drawing, it will be readily apparent to those skilled in the art that this invention greatly improves the manner of attaching a cushion pad to the base of a vibrator and that with this construction, there is no possibility whatever of having metal parts contact the back of the operator's hand; and that the facility with which the pad is removed and attached insures cleanliness.

What I claim as my invention is:

1. In a device of the character described: a base; a cushion pad underlying the base; and buttons for attaching the pad to the base comprising, stems having enlarged flat headed portions embedded in the pad so that no part thereof is exposed on the exterior of the pad and having headed ends projected from the face of the pad adjacent to the base; and means on the base engageable with said adjacent headed ends of the buttons.

2. In a device of the character described: a base; a cushion pad underlying the base; and buttons for attaching the pad to the base comprising, stems having enlarged flat headed portions embedded in the pad so that no part thereof is exposed on the exterior of the pad and having headed ends projected from the face of the pad adjacent to the base; and said base having keyhole slots engageable with the adjacent headed ends of the buttons.

3. In a vibrator of the type adapted to be attached to the back of an operator's hand: a cushion pad to protect the back of the operator's hand; means for readily removably attaching the cushion pad to the vibrator comprising, attaching devices having flat enlarged heads embedded in the pad with no part thereof exposed on the undersurface of the pad and with parts thereof projecting from the opposite surface of the pad; and means carried by the vibrator adapted for inter-engagement with said projecting parts of the attaching means upon longitudinal motion of the pad with respect to the vibrator.

4. In a machine adapted to be attached to the back of an operator's hand: a base; a cushion pad of elastic material covering the bottom of the base to protect the back of the operator's hand; and means for attaching the pad to the base of the machine comprising, a plurality of button members carried by the pad with headed ends projecting above the upper surface of the pad but with no portion thereof exposed at the opposite surface of the pad so that said opposite surface of the pad which engages the back of the operator's hand is unbroken and free from metal parts which might contact the hand; enlarged flat heads on the button members embedded in the pad for securely anchoring the button members thereto; and said base having keyhole slots with which the projecting headed ends of the button members are engageable, said keyhole slots being so disposed with respect to the location of the button members that the elasticity of the pad maintains the button members in operative engagement with the keyhole slots.

5. In combination: a base; a cushion pad of elastic material for the base; and means for attaching the pad to the base comprising, a plurality of button members carried by the pad with headed ends projecting above the adjacent surface of the pad but with no portion thereof exposed at the opposite surface of the pad so that said opposite surface of the pad is unbroken and free from metal parts; anchoring means on the button members embedded in the pad for securing the button members thereto, said anchoring means having flat surfaces of substantial area spaced from and substantially parallel with said unbroken surface of the pad to guard against the button members working through said unbroken surface of the pad, and means on the base engageable with said headed ends of the button members.

6. In a device having a base: spaced attaching means on the base; a cushion pad of resilient material, the inherent resiliency of which tends to keep the same in a predetermined relaxed shape at all times; and attaching elements embedded in the pad and projecting only from one surface thereof and adapted to coact with the attaching

means on the base for removably securing the pad to the base, said pad-carried elements and the attaching means on the base being so positioned with respect to each other that the inherent tendency of the pad to assume its predetermined relaxed shape maintains operative engagement between said elements and said attaching means, said elements being readily detachable from the attaching means by distorting the pad out of its predetermined relaxed shape.

7. In a vibrator adapted to be attached to the back of an operator's hand: a cushion pad of resilient material to protect the back of the operator's hand; pad attaching means on the vibrator; and cooperating attaching means on the pad readily detachably held in operative engagement with the vibrator carried attaching means by the inherent resiliency of the cushion pad tending to maintain the pad in a predetermined relaxed shape so that the pad may be quickly removed for cleansing and sterilizing by merely flexing the same out of its predetermined relaxed shape.

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