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(54) Mounting for holding a tool on a user and use of such a mounting

(57) The invention relates to a mounting for holding a tool on a user. The mounting comprises a first part (1) which, by means of a belt or other strap, is intended for being secured on the user and a second part (11) which, by means of a band or other strap, is intended for being secured to the tool or which constitutes an integrated part of the tool. The first part (1) comprises a clip (5) which in a first situation of use is intended for engagement with a brace (14) on the other part. In a second situation of use the brace is intended for being out of engagement with the clip so that the tool with the other part secured thereto may be used independently of the first part.

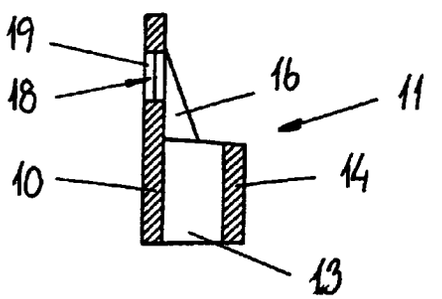

FIG. 3

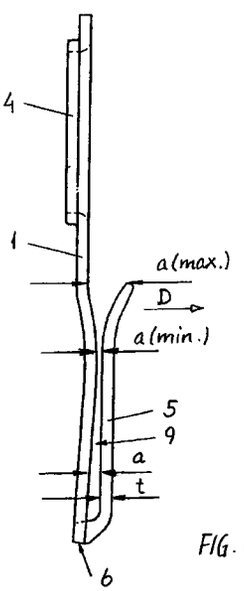

FIG. 2

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Description

[0001] The present invention relates to a mounting for holding a tool on a user, which mounting consists of a first part intended for being secured to the user, and which is provided with a clip, and where the mounting furthermore consists of a second part, which second part comprises a brace, which brace extends outwardly from the tool, that the clip in a first situation of use in which the tool is being carried is intended for being engaged with the brace and that the clip in a second situation of use in which the tool is being used is intended for being out of engagement with the brace and where first part comprises a base plate, that the clip extends from the base plate outwardly and upwardly, that a space is formed between the base plate and the clip, that the brace extends outwardly in relation to the tool and that the brace in a first situation of use is intended for extending into the space between the base plate and the clip of the first part, that the brace has a first distance c between first parts of the brace, that the clip has a width w in a lower part of the clip, and that the distance c is greater than, preferably the same as, the width w of the clip. The invention furthermore relates to a use of such a mounting.

[0002] By the term tool, is meant tools for different purposes. Thus the tool may be a piece of tool such as a hand drilling machine or other hand tool, a tool for communication, such as a mobile telephone, or an auxiliary tool, such as a carrying member for other tools or items to be carried by the user.

[0003] US 4 974 764 describes a mounting in the shape of a belt clip for carrying a tool. The belt clip comprises a substantially U-shaped body consisting of a bent part which is intended for accommodating a hand grip or other part of the tool. In an alternative embodiment, the belt clip consists of two parts such that the belt clip may be adjusted in order to be secured to belts with different widths.

[0004] This publication describes a belt clip which possesses several disadvantages. The bent part that is to accommodate the hand grip or other part of the tool has to be very precisely shaped to exactly the part of the tool which is intended for being accommodated. Furthermore it is necessary that the bent part has a shape thereamong a clip and a width of the clip which is sufficient for the tool to be led into and out of the bent part. Furthermore it is necessary for the part of the belt clip situated in the belt to be adapted to the width of the belt, because the belt clip otherwise will be oblique and the tool may risk falling out of the belt clip. Finally, it is necessary that the tool has a closed element, such as a closed handle, which prevents the tool from dropping out of the belt clip when the tool is being carried in the belt clip.

[0005] US 1 618 573 describes a belt clip and a key purse which are intended for being hung in the belt clip. The belt clip comprises an actual clip, but forms a space between the part which is being hung in the belt and the actual clip. The key purse has a groove which is intended for being led down over the actual clip and for being held in the space. The groove has a width which is substantially the same as a width of the actual clip.

[0006] However, a clip and a corresponding key purse or other tool with characteristics as mentioned in the above publication is unsuitable for carrying tools with a great weight or with a large volume, such as a drilling machine, a mobile telephone, or the like. As long as the tool is a key purse or the like in which both the weight and the volume are very limited, it is not connected with any inconvenience that the tool may swing freely, upwardly and inwardly, from and to the body of the user. However, when the tool is greater and heavier it may be very annoying if the tool may swing upwardly and inwardly, from and towards the user, because the tool when swinging inwardly may give the user a blow on the hip. This will especially be the case for craftsmen who carry a drilling machine or mobile phone and often move in ackward positions, as example on a roof or scaffolding.

[0007] It is the object of the present invention to provide a mounting, such as a belt clip, which is not dependent on the shape of the tool which is to be carried in the clip, which is not dependent on which part of the tool that the carrying takes place in, which does not involve the risk of the tool dropping out of the clip, and which holds the tool sufficiently to avoid nuisances such as hits on the user.

[0008] This object is achieved by a clip characterised in that a second parallel part of the brace has a thickness s, that the space between the base plate and the clip of the first part has a distance a, and that the distance a is the same as or substantially the same as the thickness s.

[0009] By providing a mounting which consists of two parts comprising a clip and a brace, respectively, extending outwardly from the tool in that the other part is secured to or forms a part of the tool, it is obtained that the mounting is not dependent on which tool is being carried in the mounting or which part of the tool the mounting carries the tool in.

[0010] It is possible to provide clip and brace so that it is easy and simple to lead the brace into and out of the clip independently of the tool which the brace extends from and which the brace is secured to or forms a part of, and irrespective of which part of the tool the brace is secured to. A preferred embodiment of a brace according to the invention is characterised in that the first part comprises a base plate, that the clip extends from the base plate outwardly and upwardly, that the space is formed between the base plate and the clip, that the brace extends outwardly in relation to the tool, and that the brace in the first situation of use is intended for extending into the space between the base plate and the clip on the first part.

[0011] With the first part possessing these character-

istics, one achieves that the clip extends outwardly and forms a space with the base plate, which base plate possesses different features. The fact that the brace is intended for extending into the space, allows the brace to be led into the space in an easy and simple manner, and that the brace may be held in the space independently of which tool the brace extends from and which the other part is secured to or forms a part of and independently of which part of the tool the brace is secured to.

[0012] The invention will now be described farther with reference to the accompanying drawing in which

Fig. 1 is a first plane view of a first embodiment of the first part of the mounting according to the invention,

Fig. 2 is a second plane view of the first embodiment of the first part of the mounting according to the invention,

Fig. 3 is a section through a first embodiment of a second part of the mounting according to the invention,

Fig. 4 is a plane view of the first embodiment of the second part of the mounting according to the invention,

Fig. 5A-5C are sketches of the first embodiment of the mounting in a first situation of use and a second situation of use,

Fig. 6A-6D are sketches of a second embodiment of the mounting in a first situation of use and a second situation of use.

[0013] Fig. 1 shows a first embodiment of a first part of a mounting according to the invention. The first part comprises a base plate 1 that is substantially plane (see Fig. 2). The base plate 1 is provided with openings 2,3 that extend in parallel with a longitudinal symmetry axis A on each side of a central area 4 of an upper part B of the base plate 1. The openings 2,3 are intended for a belt or other strap (see Fig. 5) stretching through the openings 2,3. The belt or strap that is intended for stretching through the openings 2,3 stretches around a user (see Fig. 5). Thus, the first part of the mounting is held to the user by means of the belt or the strap.

[0014] The first part is provided with a clip 5 which extends from a lower part 6 of the base plate 1 and upwardly (see Fig. 2). The clip 5 comprises a tip 7 provided with a rounding 8. A lower part of the clip has a width w and the clip tapers against the tip 7 of the clip. The tip 7 of the clip 5 has a width v which is less than the width w.

[0015] Fig. 2 shows a second view of the first part of the mounting according to the invention. The Figure shows that the base plate 1 only is substantially plane, because a lower part C of the base plate 1 over an extension extends outwardly towards the clip 5. Central area 4 between the openings 2,3 (see Fig. 1) in the upper part B of the base plate 1 extends to the rear so that the belt or other strap more easily stretches through the openings 2,3. The clip 5 extends, as mentioned, upwardly from the lower part 6 of the base plate 1. The clip 5 has a thickness t. The clip 5 has the possibility of a resilient movement in direction D away from the base plate 1.

[0016] A space 9 between the base plate 1 and the clip 5 is intended for accommodating a brace (see Fig. 3 and Fig. 4) which constitutes a second part of the mounting according to the invention. The space 9 is formed so that a distance a between the base plate 1 and the clip 5 is greater lowest in the space and smaller further up in the space. Uppermost in the space, the distance a between the base plate 1 and the clip 5 is greatest so that it is easy and simple to lead the brace (see Fig. 3 and Fig. 4) down into the space 9. The distance a may, however, also be greatest in other positions than uppermost in the space.

[0017] In a preferred embodiment, the clip 5 is formed by a pressing out from the base plate 1 so that in a plane from the base plate 1 behind the clip 5 an opening is formed due to the forming of the clip 5. The clip 5 and the base plate 1 are made integrally. This leads to that in production it is easier to make the first part of the mounting according to the invention. The first part of the mounting is preferably made of plastics, but may also be made of metal.

[0018] Fig. 3 is a section through a first embodiment of a second part of the mounting according to the invention. The second part comprises a base plate 10 from which a brace 11 extends into first substantially perpendicular parts 12,13 (see also Fig. 4) and a second substantially parallel part 14. The enforcement ribs 15,16 (see also Fig. 4) extend from the base plate 10 outwardly and downwardly towards the two first parts 12,13 of the brace 11. The base plate 10 is provided with openings 17,18 (see also Fig. 4) that extend on each side of a central area 19 (see Fig. 4) of an upper part of the base plate 10 and around which part 19 the band or strap may stretch. The openings 17,18 are intended for the band or other strap (see Fig. 5) stretching through the openings 17,18.

[0019] The strap or band stretches around the tool (see Fig. 5) that is to be carried in the mounting. Thus, the other part may, by means of the strap or band, be held onto the tool.

[0020] Fig. 4 shows a plane view of the other part of the mounting according to the invention. Between the base plate 10, the first perpendicular parts 12,13 and the other parallel part 14, a space 20 is formed. The space 20 in the other part is intended for engagement with the space 9 (see Fig. 2) between the base plate 10 and clip 5 of the first part. A first distance b between the base plate 10 and the other parallel part 14 of the brace 11 is sufficient for the clip 5 with thickness t (see Fig. 2) to stretch between the base plate 10 and the other parallel part 14. Another distance c between the first perpendicular part 12,13 of the brace 11 is greater than or preferably the same as the width w of the lowest part of

the clip 5. Thereby, the other part will not move sideways in relation to the first part when the brace 11 is placed in the space 9 between the base plate and the clip 5.

[0021] The parallel part has a thickness s. The smallest distance a(min.) in the space 9 of the first part of the mounting is less than the thickness s. The greatest distance a(max.) in the space 9 of the first part of the mounting is greater than the thickness s. When the brace 11 is led down into the space 9 of the first part of the mounting, this may take place directly and in an easy and simple manner within the greatest distance a(max.), because the greatest distance a(max.) is greater than the thickness s.

[0022] However, when the brace 11 is led farther down into the space 9 of the first part of the mounting, this requires farther actuation of force. The farther actuation of force leads to a resilient displacement of the clip 5 in direction D when the other parallel part 14 of the brace 11 is led past the smallest distance a(min.) in the space 9 in the first part of the mounting. The resilient displacement of the clip 5 leads to the clip 11 not being directly led out of the space 9 in the first part of the mounting, but this calls for farther actuation force as when the brace 11, as mentioned above, is led down into the space 9. The other part of the mounting is preferably made of plastics, but may also be made of metal.

[0023] Fig. 5A-5C show three views of the first embodiment of the mounting according to the invention in a first situation of use and a second situation of use. Fig. 5A shows the first situation of use. The other part of the mounting comprising the brace 11 is in engagement with the first part of the mounting comprising the clip 5. The engagement is established by the brace 11 being placed in the space 9 between the base plate 1 and the clip 5 in the first part of the mounting. The first part is secured to a belt 21 on a user 22 and the other part is by means of a band 23 secured to a tool which in the view shown is a hand drilling machine.

[0024] Fig. 5B and Fig. 5C show the second situation of use. The other part of the mounting comprising the brace 11 is out of engagement with the first part of the mounting comprising the clip 5. The hand drilling machine 24 may thereby be used independently of the mounting. The first part of the mounting is still secured to the belt 21 of the user 22 and the second part of the mounting is still secured to the hand drilling machine by means of the band 23. It is easy and simple to lead the brace 11 and thereby the hand drilling machine 24 out of engagement with the first part of the mounting, in the same way as it is just as easy and simple to lead the brace 11 and thereby the hand drilling machine 24 back into engagement with the first part of the mounting.

[0025] Fig. 6A-6D show four views of another embodiment of the mounting according to the invention in a first situation of use and a second situation of use. In the other embodiment of the mounting, the second part constitutes an integrated part of the cabinet of the tool and is thus not secured to the tool as described in Fig. 3-4. In the first situation of use in which the tool is being carried by the user, the second part is provided on a part of the tool which is orientated so that the tool is carried most conveniently with consideration to the shape of the tool and the center of gravity of the tool.

[0026] Fig. 6A shows the first situation of use. The second part of the mounting comprising the brace 11 is in engagement with the first part of the mounting comprising the clip 5. The engagement is established by the clip 11 being placed in the space 9 between the base plate 1 and the clip 5 in the first part of the mounting. The first part is secured to a belt 21 on a user 22 and the second part constitutes, as mentioned, an integral part of the cabinet of a tool 24 which in the view shown is a hand drilling machine.

[0027] Fig. 6B, Fig. 6C and Fig. 6D show the second situation of use. The second part of the mounting comprising the brace 11 is out of engagement with the first part of the brace comprising the clip 5. The hand drilling machine 24 may thereby be used independently of the mounting. The first part of the mounting is still secured to the belt 21 on the user 22 and the other part of the mounting constitutes, as mentioned, an integral part of the cabinet of the hand drilling machine 24. It is easy and simple to lead the brace 11 and thereby the hand drilling machine 24 out of engagement with the first part of the mounting, in the same way as it is just as easy and simple to lead the brace 11 and thereby the hand drilling machine 24 back into engagement with the first part of the mounting.

[0028] In the shown situations of use, the second part of the mounting is secured to or constitutes a specific part of the tool which in the embodiment shown is a hand drilling machine. It will be possible to secure the second part at other parts of the tool or to let the second part constitute other parts of the tool, such as the hand drilling machine. It will also be possible to secure the mounting to or let the mounting or other mountings constitute a part of other tools than a hand drilling machine.

[0029] In the Figures, the mounting according to the invention is shown in specific embodiments of the first part and the second part of the mounting, respectively. It will be possible to form the first part as well as the second part in completely different ways, just as securing the first part to a user and securing to or letting the second part constitute a part of a tool may take place in many other ways.

Claims

1. Mounting for holding a tool on a user, which mounting consists of a first part intended for being secured to the user, and which is provided with a clip (5), and where the mounting furthermore consists of a second part, which second part comprises a brace (11), which brace (11) extends outwardly from the tool, that the clip in a first situa-

tion of use in which the tool is being carried is intended for being in engagement with the brace (11) and that the clip (5) in a second situation of use in which the tool is being used is intended for being out of engagement with the brace (11) and where first part comprises a base plate (1), that the clip (5) extends from the base plate (1) outwardly and upwardly, that a space (9) is formed between the base plate (1) and the clip (5), that the brace (11) extends outwardly in relation to the tool and that the brace in a first situation of use is intended for extending into the space (9) between the base plate (1) and the clip (5) of the first part, that the brace (11) has a first distance c between first parts (12,13) of the brace (11), that the clip (5) has a width win a lower part of the clip (5) and that the distance c is greater than, preferably the same as, the width w of the clip (5), **characterised** in that a second parallel part (14) of the brace (11) has a thickness s, that the space between the base plate (1) and the clip (5) of the first part has a distance a, and that the distance a is the same as or substantially the same as the thickness s.

2. Mounting according to claim 1, **characterised** in that a distance in the space between the base plate and the clip has lowest value a(min.) in a lower part of the space and that the distance a has a greater value a(max.) in an upper part of the space.

3. Mounting according to any one of the preceding claims, **characterised** in that the brace has a distance b between the base plate and the other parallel part of the brace, that the clip has a thickness t, and that the distance b is greater than the thickness t of the clip.

4. Mounting according to any one of the preceding claims, **characterised** in that the base plate on a first part comprises at least one opening and that the at least one opening is intended for accommodating a belt or other strap extending around the user.

5. Mounting according to any one of the preceding claims,**characterised** in that the second part constitutes a separate part of the tool, that the base plate on the other part comprises at least one opening, and that the at least one opening is intended for accommodating a band or other strap extending around the tool.

6. Mounting according to any one of the claims 1-4,**characterised** in that the second part constitutes an integrated part of the tool and that the base plate of the second part constitutes an integrated part of the cabinet of the tool.

7. Mounting according to any one of the preceding claims, **characterised** in that the second part comprises an upper part and a lower part, that the upper part comprises means for securing the second part to the tool, and that the lower part comprises means for securing the second part to the first part.

8. Use of mounting according to any one of the preceding claims for holding a tool on a user.

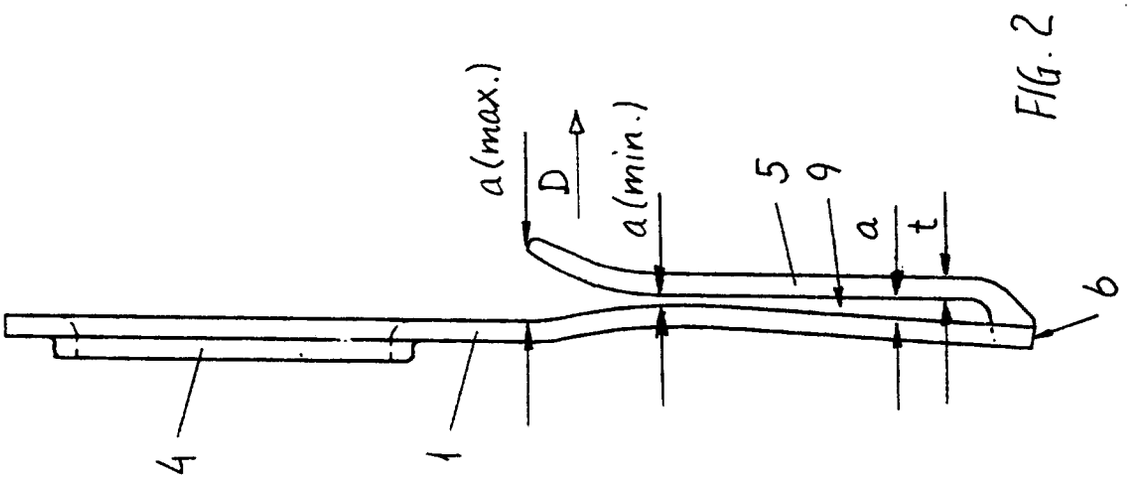

FIG. 2

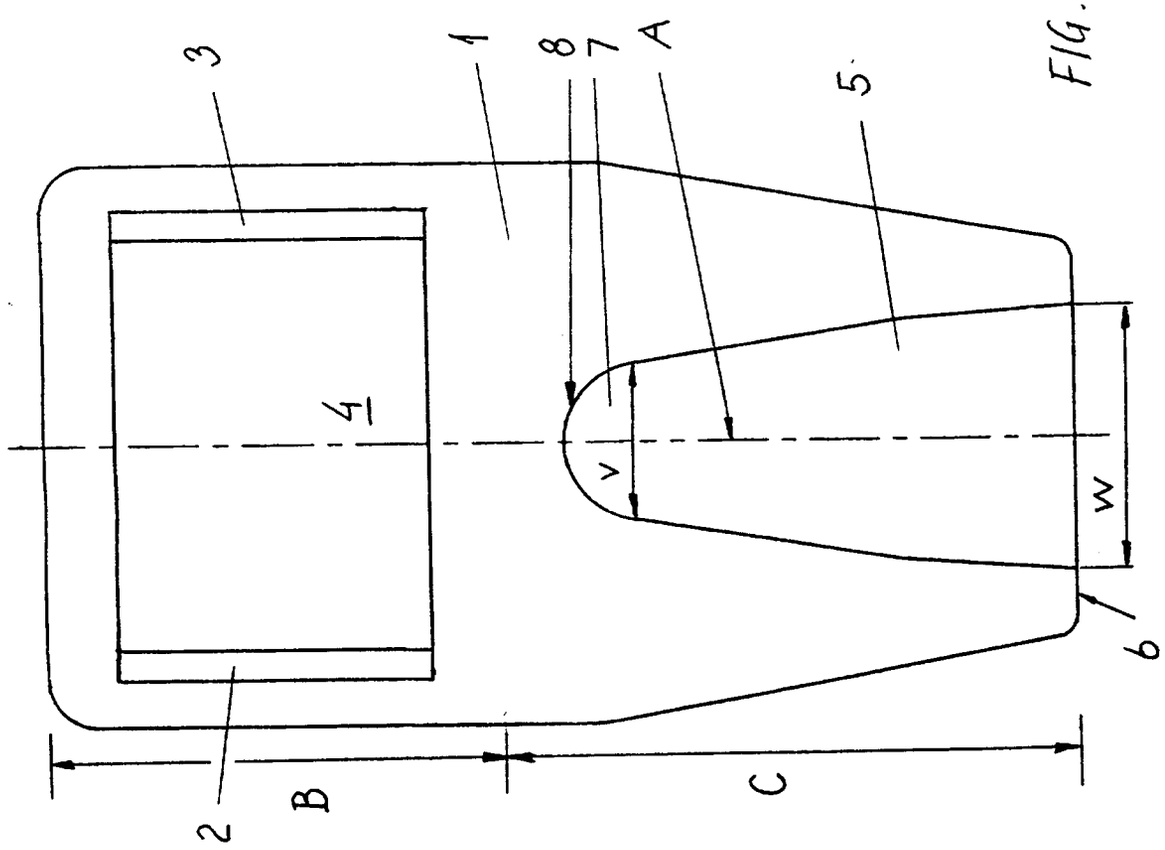

FIG. 1

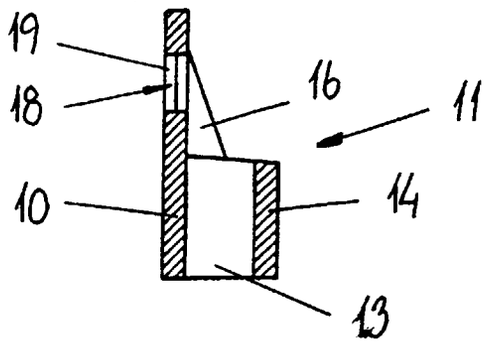

FIG. 3

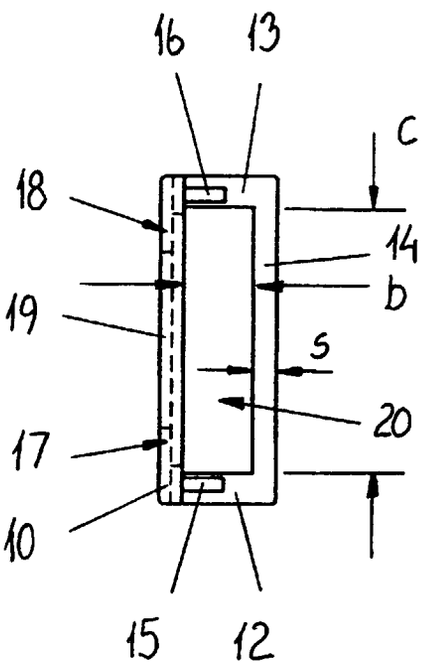

FIG. 4

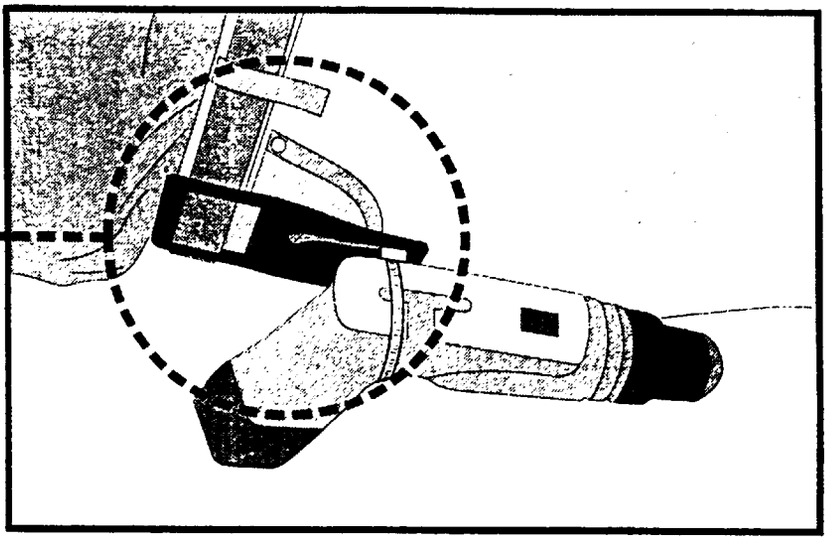

FIG. 5A

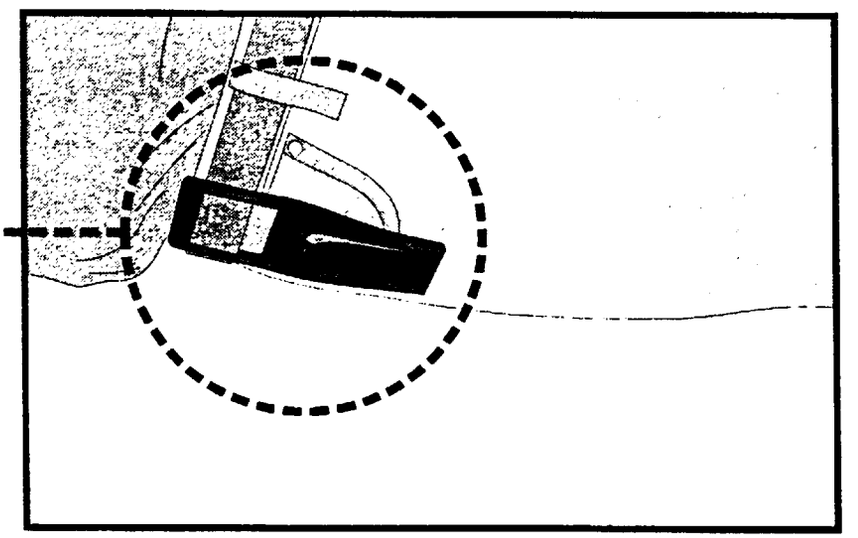

FIG. 5B

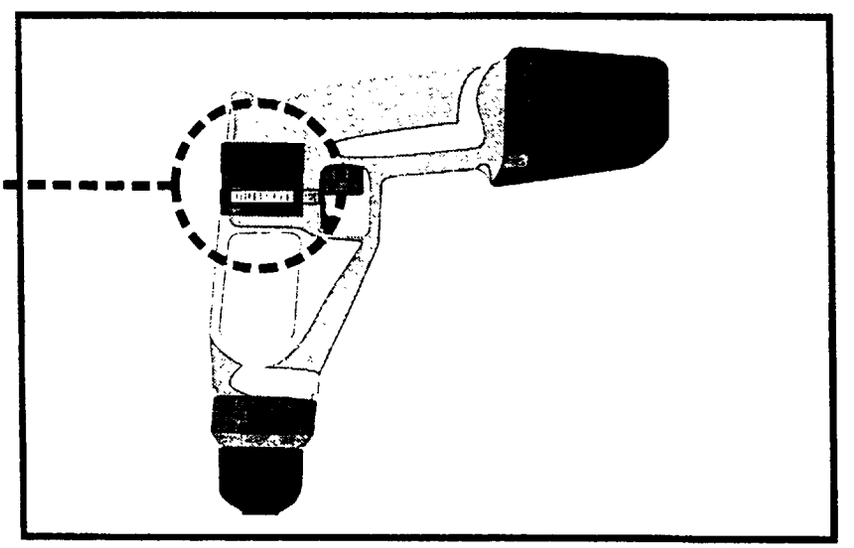

FIG. 5C

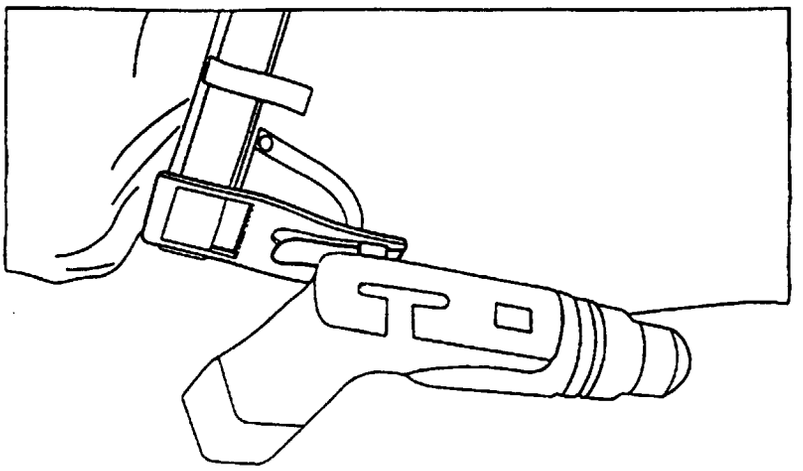

FIG. 6A

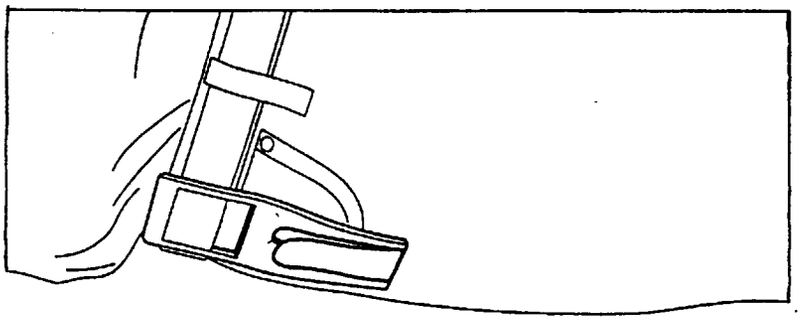

FIG. 6B

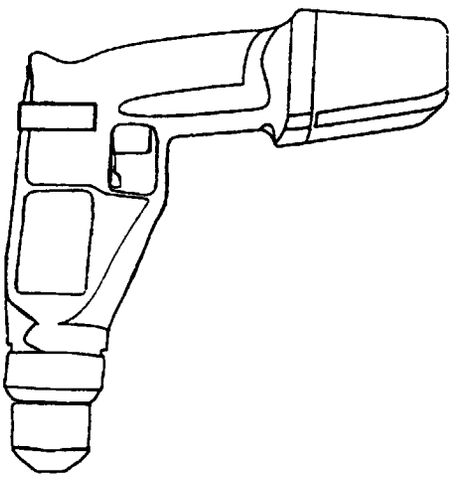

FIG. 6C

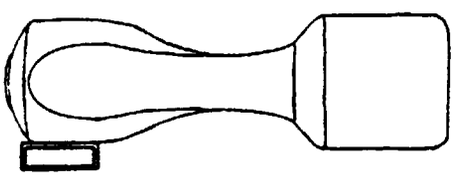

FIG. 6D