

R. H. RIETHMUELLER.
HYPODERMIC NEEDLE.
APPLICATION FILED MAY 10, 1917.

1,274,081.

Patented July 30, 1918.

Fig. 1.

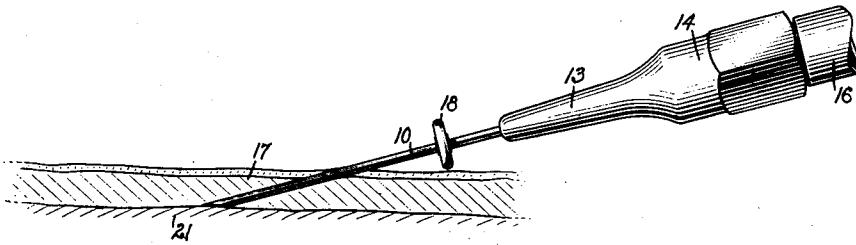


Fig. 2.

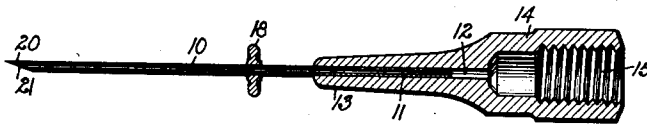
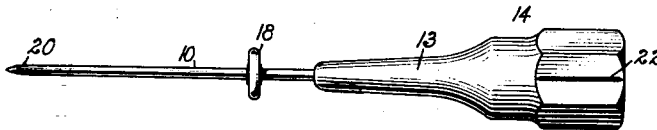


Fig. 3.



WITNESSES

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HYPODERMIC NEEDLE.

1,274,081.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RICHARD H. RIETHMUELLER, a subject of the German Emperor, at present residing at Montclair, in the county of Essex and State of New Jersey, have invented a new and Improved Hypodermic Needle, of which the following is a full, clear, and exact description.

The invention relates to hypodermic syringes and similar instruments used for injecting a desired liquid medicine into any portion of the tissues of the body as practised in medicine, dentistry and veterinary surgery.

The object of the invention is to provide a new and improved hypodermic needle arranged to limit the extent of the thrust of the point of the needle into the tissues, and in case the needle breaks while inserted in the tissues to permit of readily withdrawing such broken-off needle portion with a view to avoid a subsequent surgical operation for removing the broken portion. Another object is to permit the operator to gradually pass the needle into the tissues and to guide the pointed end thereof along a bone without danger of the needle point being caught in the bone and the needle being broken.

In order to produce the desired result, use is made of a hub, a needle having its butt end secured in the hub and a guard attached to the needle in front of the point of the hub. Use is also made of a positioning mark on the hub and arranged in coacting relation to the beveled face of the point of the needle to enable the operator to accurately determine the position of the point of the needle after the latter has been inserted into the tissues.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the hypodermic needle as applied, with the tissues and bone shown in section;

Fig. 2 is a longitudinal central section of the hypodermic needle; and

Fig. 3 is an inverted plan view of the same.

The tubular needle 10 has its butt end 11 permanently secured in a central bore 12 arranged in the forward tapering end 13 of a hub 14 provided with the usual screw

thread 15 for screwing the hub onto the nozzle 16 of the syringe. In order to limit the thrust of the needle 10 into the tissues 17 use is made of a guard 18 permanently secured to the needle 10 in front of the terminal of the tapering end 13 of the hub 14, as plainly shown in the drawings. It is well known that the point of breaking of a needle 10 of a hypodermic syringe when inserted into the tissues is at the terminal of the pointed end 13 of the hub 14, and hence when the needle is broken off the operator can readily take hold of the guard 18 to pull the broken portion of the needle out of the tissues. Thus it will be noticed that the guard 18 has the double function of limiting the thrust of the needle into the tissues and permitting the operator to conveniently withdraw the broken portion of the needle from the tissues with a view to avoid a subsequent surgical operation for the purpose.

When inserting the needle 10 into the tissues the point 20 of the needle is liable to become stuck on a bone 21 with the result of breaking off the needle as above explained. In order to avoid this the beveled face 22 of the point 20 should be moved into engagement with the face of the bone to prevent the point from entering the bone on the operator giving a further inward thrust to the needle. In order to enable the operator to determine the position of this beveled face 21 use is made of a positioning mark 22, preferably formed on the rear end of the hub 14 on the face opposite the face 21 of the point 20 of the needle 10. The positioning mark 22 is shown as a longitudinal groove in Fig. 3, but it is evident that I do not limit myself to this particular shape as any desired form may be given to the positioning mark. It is understood, however, that the positioning mark is located in such a manner relative to the face 21 that the operator by observing the positioning mark and turning the syringe until the positioning mark is on top knows that the face 21 is downward after the needle has been inserted in the tissues, and on a further thrust given to the syringe the face now readily glides along the bone without danger of the point 20 entering the bone.

It is understood that the needle 10 and the hub 14 form a unitary article of manufacture sold as such in the market.

Having thus described my invention, I

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claim as new and desire to secure by Letters Patent:—

1. As an article of manufacture, a needle for hypodermic syringes, comprising a hub provided at one end with means for attachment to a syringe and having its other end tapering and provided with a bore, a needle having its butt end permanently secured in the said bore, and a guard permanently attached to the needle a distance in front of the tapering end of the said hub.

2. As an article of manufacture, a needle

for hypodermic syringes, comprising a hub provided at one end with screw thread for attachment to a syringe and having its other end tapering and provided with a bore, a needle having its butt end permanently secured in the said bore, and a guard in the form of a disk having a rounded off edge and permanently attached to the needle a distance in front of the tapering end of the said hub.

RICHARD H. RIETHMUELLER.