

R. H. RIETHMUELLER.
HYPODERMIC NEEDLE.
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1,272,104.

Patented July 9, 1918.

FIG. 1.

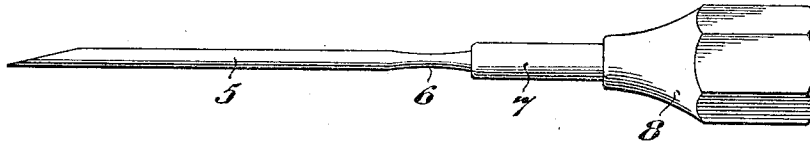
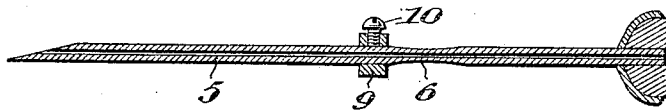


FIG. 2.



FIG. 3.



WITNESSES

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RICHARD H. RIETHMUELLER, OF PHILADELPHIA, PENNSYLVANIA.

HYPODERMIC NEEDLE.

1,272,104.

Specification of Letters Patent.

Patented July 9, 1918.

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To all whom it may concern:

Be it known that I, RICHARD H. RIETHMUELLER, a citizen of Germany, and a resident of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Hypodermic Needles, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to hypodermic needles for effecting hypodermic injections as administered in the practice of medicine, dentistry and veterinary surgery.

It is well known that the administration of drugs hypodermically, by hypodermic needles as heretofore constructed, involved the risk of the needle breaking within the tissues, in which event the fragments of such needle would rapidly disappear, and unless removed by an immediate surgical operation would tend to cause sequelæ, possibly resulting in death.

The object of my invention is to avoid the possibility of such accidents by providing a hypodermic needle with a region of relative weakness for predetermining the location of accidental breakage of said needle, and by providing means to limit the extent of thrust of the needle into the tissues, whereby the weakened portion of said needle may be prevented from entering said tissues.

Specifically stated, my invention comprehends a hypodermic needle having a waist of relatively small diameter disposed in close proximity to its butt end, and having a guard comprising a flange or collar disposed intermediate of said waist and its point.

My invention further comprises a hypodermic needle having adjustable means movable longitudinally thereof, and arranged to be secured thereto in any selected distance from the point thereof, to predetermine the extent of thrust or movement of the needle into the tissues.

My invention also includes all of the various novel features of construction and arrangement as hereinafter more definitely specified.

In the accompanying drawings, Figure 1

is a side elevational view of a hypodermic needle constructed in accordance with my invention, fitted into the hub of the needle connecting union of a well-known form of syringe; Fig. 2 is a central longitudinal sectional view of the needle *per se*; and Fig. 3 is a view similar to Fig. 2, showing a collar mounted on the needle for limiting the entrance of said needle into the tissues.

In said figures, the needle 5 is provided with a waist 6 or region of reduced diameter affording a weakened portion, preferably so disposed with respect to the point and butt of the needle as to be adjacent to the forward end of the hub 7 of the union 8, which is arranged to connect the needle with a syringe of any desired type.

By thus weakening the needle 5 at a selected region, it will be readily seen that should said needle be accidentally broken by thrusting it into the tissues, such break will naturally occur at the region of greatest weakness, or, in other words, at the waist, which being adjacent to the end of the hub of the needle holder insures that any break which may accidentally occur will be in that region of relative weakness adjacent to the hub, and not in the portion which has been thrust into the tissues.

To further insure that the needle 5, if broken, may not disappear into the tissues and be lost therein, said needle may be provided with a guard comprising a flange or collar disposed between the point of the needle and the waist formed therein.

As best shown in Fig. 3, this guard may be in the form of an adjustable collar 9 which may be adjusted longitudinally of the needle 5 and secured in any desired position relative to the point thereof by the set-screw 10, or the guard may be permanently secured thereon in any predetermined relation to the needle by solder, or may be formed integral therewith if desired.

I do not desire to limit my invention to the precise details of construction and arrangement herein set forth, as it is obvious that various modifications may be made therein without departing from the essential features of my invention as defined in the appended claims.

Having thus described my invention, I claim:

1. A hypodermic needle having a weakened region, and means on said needle intermediate of said weakened region and the point of the needle for arresting its movement.

2. A hypodermic needle having a weakened region, a guard adjustable along said needle, and means arranged to secure said

guard to said needle between said weakened region and its point.

In witness whereof, I have hereunto set my hand this 24th day of November, A. D. 1914.

RICHARD H. RIETHMUELLER.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."