(No Model.)

A. W. BRINKERHOFF.

HYPODERMIC NEEDLE.

No. 268,996. Patented Dec. 12, 1882.

Fig. 1.

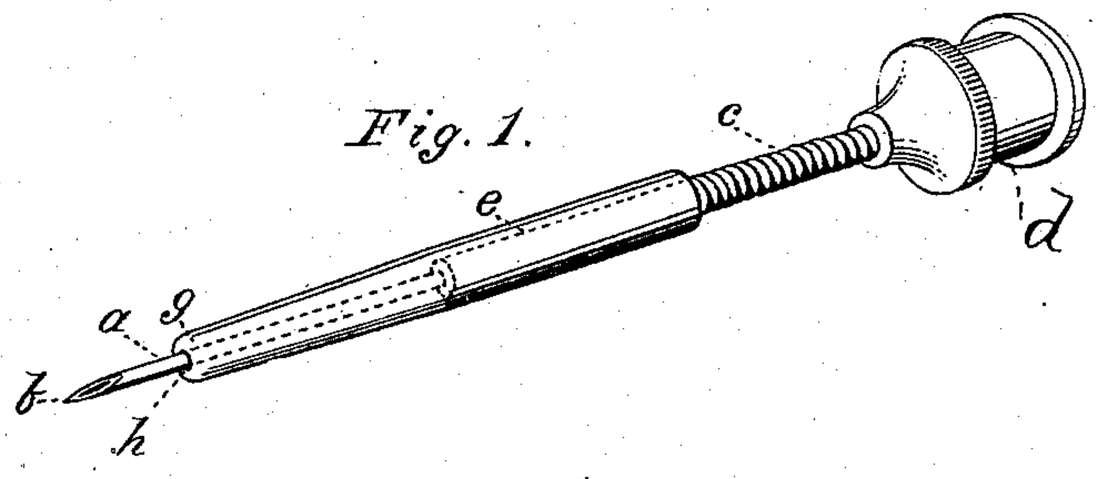


Fig. 5.

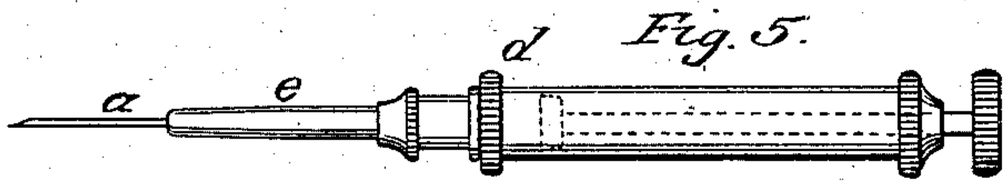


Fig. 2.

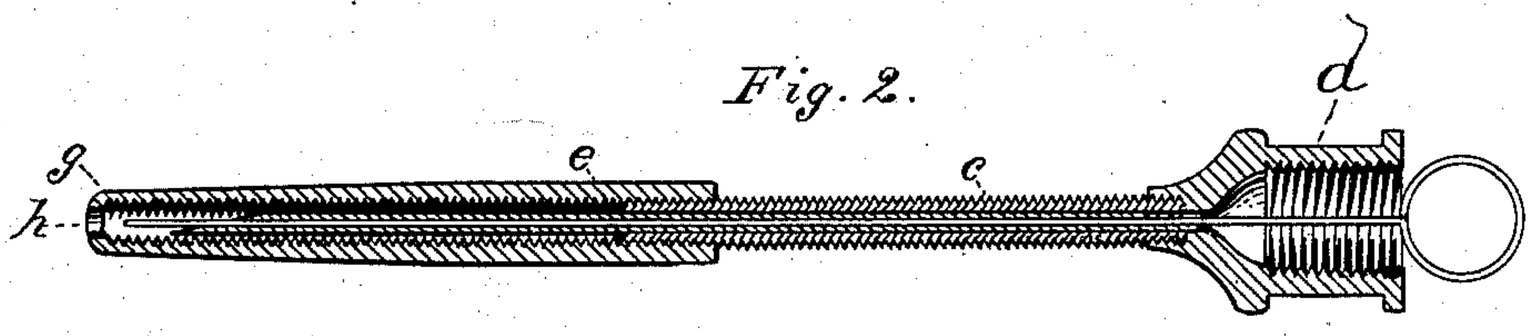


Fig. 3.

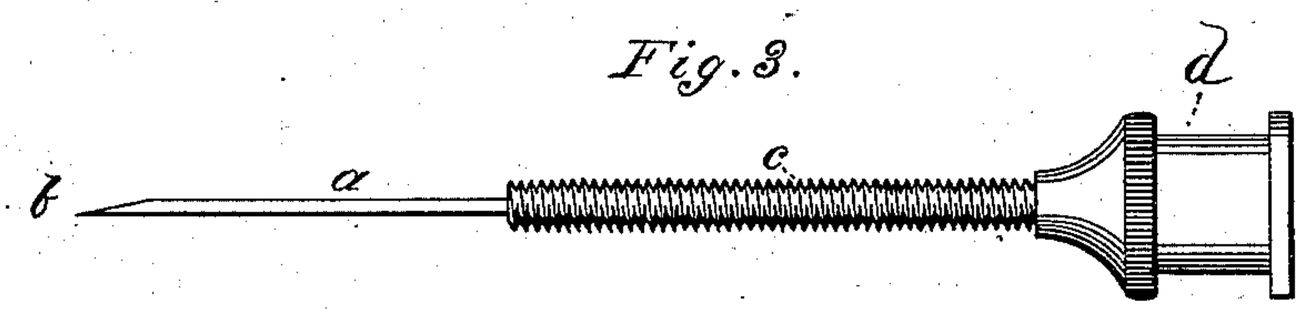
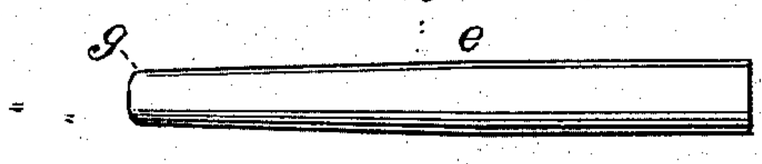


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

ALEXANDER W. BRINKERHOFF, OF UPPER SANDUSKY, OHIO.

HYPODERMIC NEEDLE.

SPECIFICATION forming part of Letters Patent No. 268,996, dated December 12, 1882.

Application filed July 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER W. BRINKERHOFF, a citizen of the United States, and a resident of Upper Sandusky, in the county of Wyandot and State of Ohio, have invented a new and valuable Improvement in Hypodermic Needles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of this invention in a perspective view. Fig. 2 is a section taken lengthwise of the instrument. Figs. 3 and 4 are details showing side views of the different pieces. Fig. 5 is a modification of the invention.

This invention has relation to hypodermic injector-needles; and it consists in providing the tubular needle with an adjustable sleeve-guard designed to protect the point of the needle, to gage the depth to which it may be inserted, and to prevent the escape of the fluid from the skin after injection, all as hereinafter set forth.

In the accompanying drawings I have illustrated this invention in simple and practical form.

The letter *a* designates the tubular needle, having the pointed end *b*, and seated in the stem *c* of the instrument, which extends from the chambered portion or receptacle *d*, in which the fluid is placed which is to be injected. The stem *c* is threaded on its outer surface to engage a sleeve-guard, *e*, which is interiorly threaded, and is formed with a flattened rounded end, *g*, in the center of which is made a perforation, *h*, through which the tubular needle passes.

It is apparent that instead of using the screw principle for effecting the adjustment of the sleeve-guard a similar end may be attained by employing a friction-spring, a fine ratchet and spring-pawl, or a clamping device; but the screw adjustment is very much preferable, because of its certainty and the ease with which it is operated.

By turning the sleeve guard it can be moved forward so that its rounded end *g* will be beyond the point *b* of the needle, which can therefore be entirely inclosed and protected when not in use. The sleeve-guard can be moved back as far as may be necessary to allow any required extent of the tubular needle to project beyond its rounded or gage end *g*, according to the depth to which the needle is designed to be inserted under the skin. This is a very important advantage, securing certainty and uniformity in the application, even in the hands of a nurse, when the gage has been set by the physician.

After the injection of the morphine solution or other liquid the instrument can be turned so as to retract the needle, leaving the rounded end *g* pressed upon the punctured skin, where it is held a sufficient length of time to prevent the escape of any of the liquid which has been injected.

The operation of this device is simple and certain, and is as follows: The point of the needle in its normal position is incased in the sleeve *e*, as seen in Fig. 2. When ready for use the point of the needle is projected through the opening *g* by turning the threaded stem *c* in its sleeve *e* until the point is extended the required distance, the sleeve *e* acting as a stop to gage the depth to which the needle is to penetrate the skin. The liquid, which has been previously placed in the chamber *d*, is then forced by the piston commonly employed in this class of needles into the orifice made by the needle, and the screw *e* is then reversely turned to withdraw the needle-point within the sleeve *e*, the rounded point *g* of the latter being held against the skin to prevent the fluid from escaping from the orifice until absorption takes place. A hypodermic syringe having the needle detachable from the piston-rod, so as to enable the same to be reversed and inserted in the hollow rod when the instrument is not in use, and covered by a short cap applied to the syringe-barrel, has been used prior to my invention. A protecting cover or shield for the needle is not broadly new, and a regulating-screw to stop the action of the syringe at the required spot is also old.

I do not therefore claim said constructions herein.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

In a hypodermic injector, the threaded stem *c* of the tubular needle, and the interiorly-threaded sleeve-guard *e*, engaging said stem, and having the perforated gage end *g*, through which the needle projects, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ALEXANDER W. BRINKERHOFF.

Witnesses:

M. H. BRINKERHOFF,

W. F. POOL.