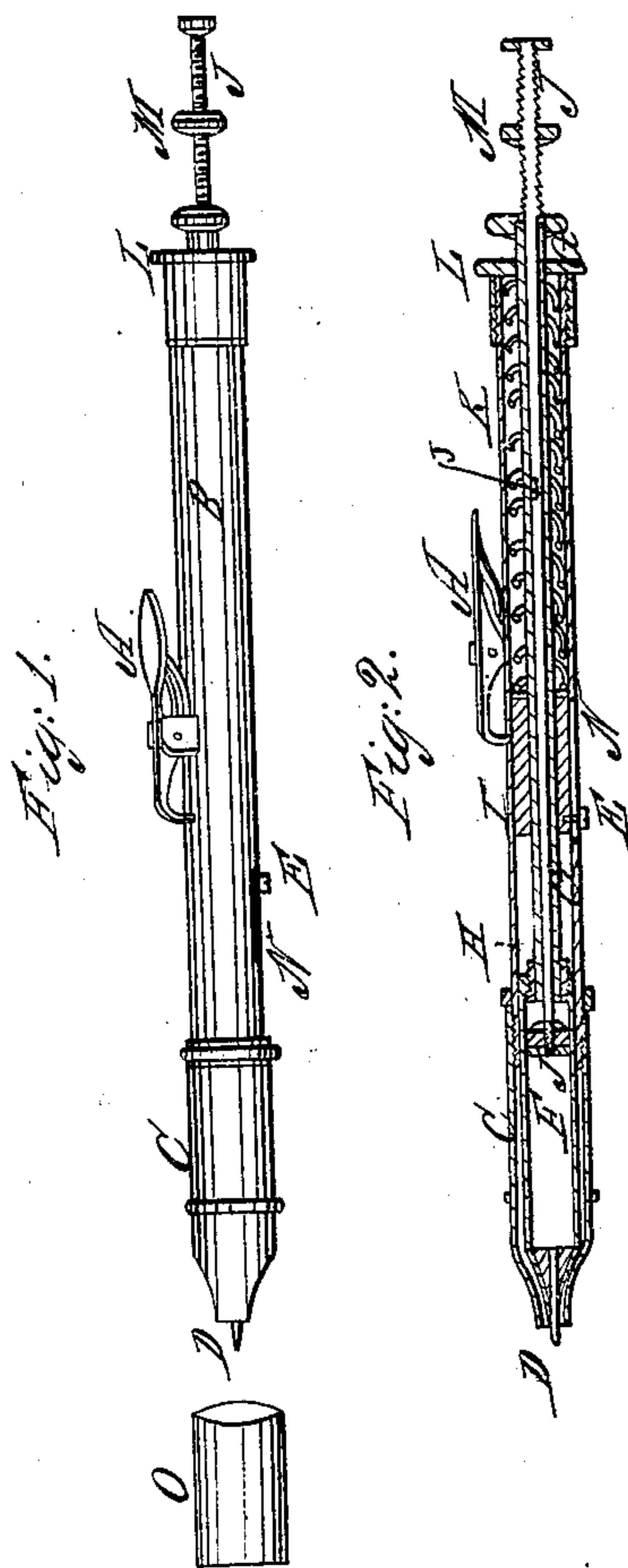


C. H. Eccleston.

Vaccinating Instrument.

N^o 98,478.

Patented Jan. 4, 1870.



Witnesses:
Dwight M. Lee
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Inventor:
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United States Patent Office.

CHARLES H. ECCLESTON, OF OXFORD, NEW YORK.

Letters Patent No. 98,478, dated January 4, 1870; antedated December 24, 1869.

IMPROVEMENT IN AUTOMATIC VACCINATING-INSTRUMENTS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES H. ECCLESTON, of Oxford, in the county of Chenango, in the State of New York, have invented a new and improved Instrument for Vaccinating with vaccine matter; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a perspective view of the instrument, with the point-protector removed, and

Figure 2 is a longitudinal section of the same, showing the interior arrangement of the several parts.

My invention relates to an automatic instrument for vaccinating, and consists of a combination and arrangement of devices which puncture the flesh and inject the-fluid vaccine matter therein; and also an arrangement of parts whereby the amount of fluid forced into the flesh is regulated.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

I take a tube of any suitable metal, of convenient size, to which is firmly attached, at one end, a reservoir, F, (the reservoir may extend the whole length of the instrument,) which may be of any metal, though silver or non-corrosive is preferred.

This reservoir is closed by a perforated block at its one end, which perforated block terminates in a hollow, sharp-pointed lancet. At its other end, a hollow screw-threaded collar, H, is secured with tube G, through which a rod moves to operate the piston in the reservoir F.

Tube G extends through the cap of the case B, sufficient to admit of a head.

The piston-rod extends a short distance beyond, and is provided with a screw-thread and nut, M, for purposes to be more fully hereinafter set forth.

At a convenient point near the centre of case B, and sliding freely therein, a collar, I, surrounds the tube G, and is firmly attached by solder. The set-screw E, which moves in a slot, N, in the side of the case, acts as a guide for the collar, and the parts attached thereto, and limits their downward motion.

Seated upon the collar I, and being against the inner side of the cap of the case, is a spiral spring, which

surrounds the tube G, and propels the reservoir F and tube G, for purposes hereinafter specified.

At a point on the case B, opposite the slot N, is hinged a pawl, A, held to duty by a spring. Its purpose is to hold the internal arrangements in a fixed relative position at a certain time, in using the instrument, by means of its point catching through a hole in the case over the lower end of the collar I.

To operate my device, I proceed as follows:

Reduce the vaccine matter to a fluid form, either by the aid of glycerine or other suitable material, which is introduced into the reservoir F, as follows:

The screw M is moved to the end of the piston-rod, to admit of the greatest range of motion for the rod and piston in the reservoir F, so as to produce a vacuum, and thus fill the reservoir with the required amount of matter.

The screw M is now moved down to the head of tube G, to prevent any motion of the piston J, to force out the fluid matter when not desired.

The fluid in the reservoir will keep the lancet-point D constantly charged with vaccine matter, by means of a slight downward motion of the piston-rod, first turning the screw M a trifle back.

The reservoir, with its lancet, is drawn back by means of the head of tube G, until the spring-pawl catches over the end of the collar I, in which position the instrument is ready for use.

Upon applying the end of the pointed cap C to the body of the person, and relieving the spring-pawl A, the lancet D will be forced, by means of the spiral spring K, into the flesh, and the fluid vaccine matter enters the wound and completes the operation.

Any suitable material may be used for the several parts.

Having described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The automatic vaccinating-instrument herein described, consisting of the reservoir F, having a hollow lancet, D, tube G, collar I, guide-screw E, piston and rod J, nut M, and spiral spring K, the whole enclosed in case B, and arranged to operate substantially as herein described, and for the purpose set forth.

Witnesses: CHARLES H. ECCLESTON.

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