

No. 715,661.

Patented Dec. 9, 1902.

E. M. HOUGHTON.
VACCINATING TOOL.
(Application filed Mar. 5, 1901.)

(No Model.)

Fig. 1.

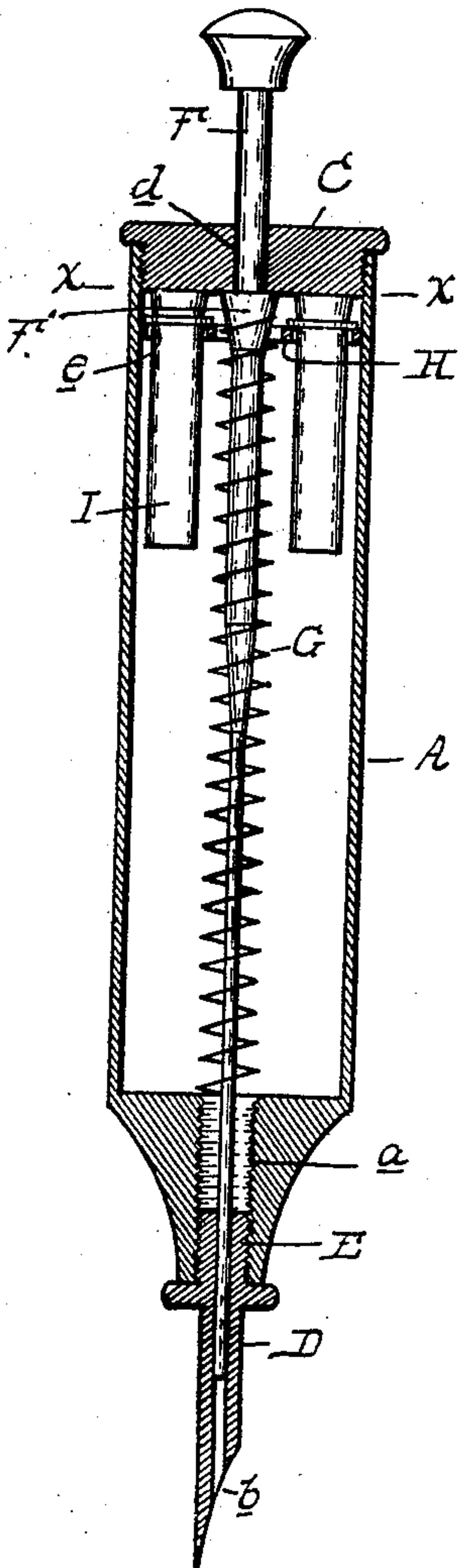


Fig. 2.

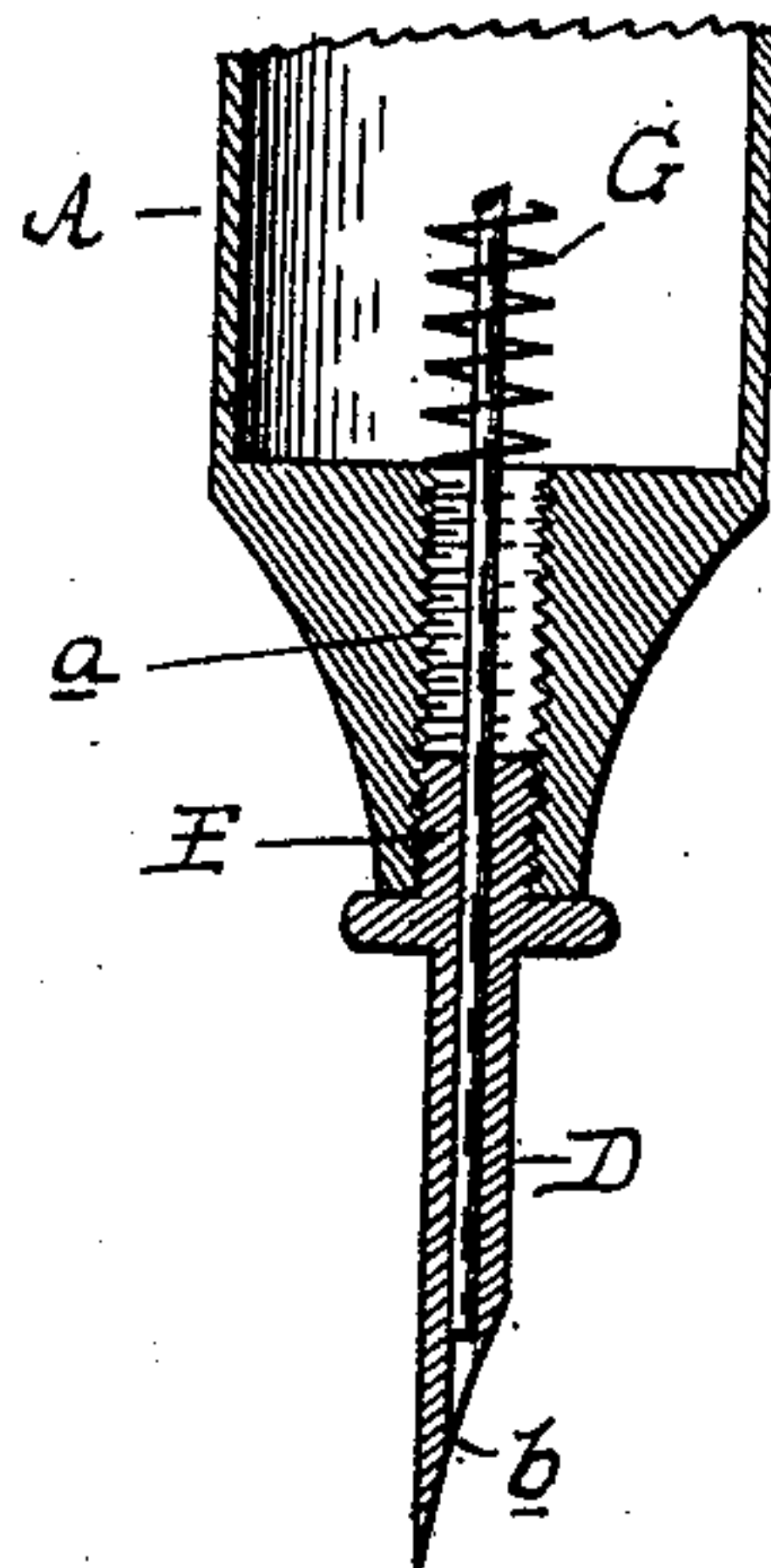
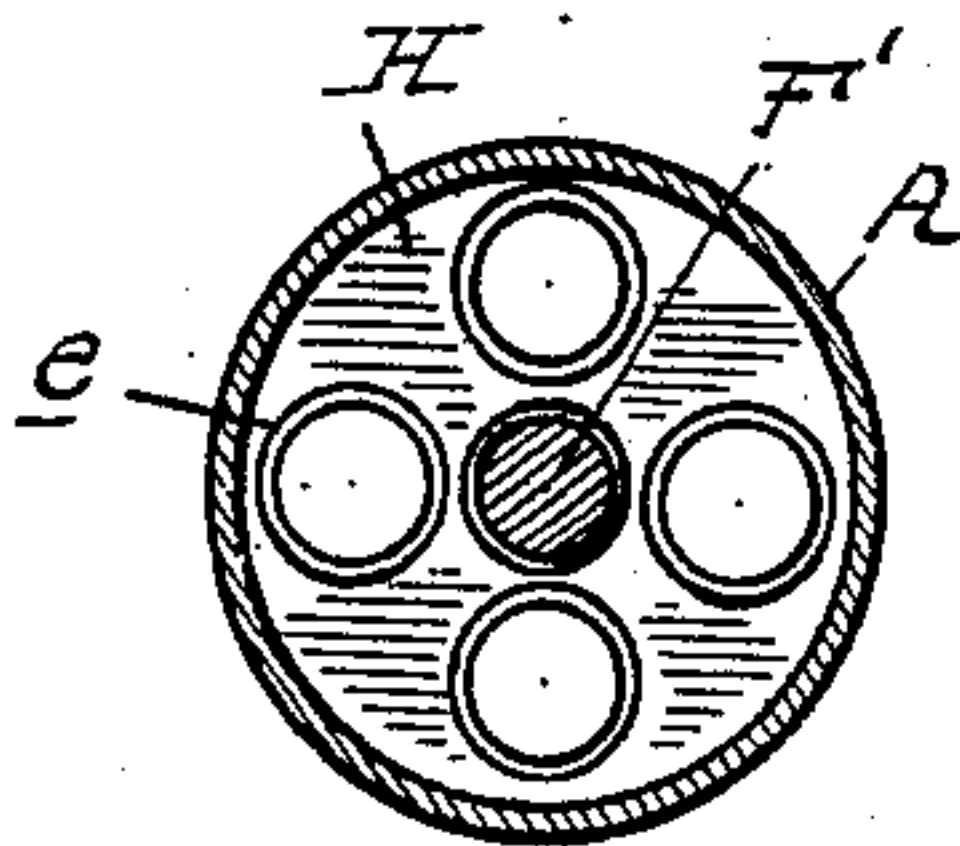


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

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VACCINATING-TOOL.

SPECIFICATION forming part of Letters Patent No. 715,661, dated December 9, 1902.

Application filed March 5, 1901. Serial No. 49,834. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH MARK HOUGHTON, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Vaccinating-Tools, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention has reference to a vaccinating-tool particularly designed for administering vaccine in solid form to horses and cows; and it consists in the peculiar construction and the novel arrangement and combination of its various parts, as will be more fully hereinafter set forth.

In the drawings, Figure 1 is a vertical central section through a tool embodying my invention. Fig. 2 is a sectional view of the lower end of the tool, showing the position of the parts at the time the vaccine is discharged; and Fig. 3 is a section on line *x x*, Fig. 1.

In construction the tool comprises a handle-section A, preferably cylindrical in form, hollow, and open-ended, as shown. The lower end of the handle or barrel is tapered, as indicated, and provided with an internal screw-thread *a*. At the opposite end the handle-section is provided with a similar internal screw-thread, which engages with the thread upon a cap C, which closes the end.

D designates a hollow lancet having the sharpened point *b* and at the opposite end a head E, threaded, as shown, and adapted to engage within the tapered end of the handle-section.

F is a plunger extending through an aperture *d* in the cap, through and beyond the handle-section, and partially within the hollow lancet, as indicated in Fig. 1.

F' is a collar or stop upon the plunger, which is adapted to abut against the cap and limits the outward movement of the plunger.

G is a spiral spring which bears against the shoulder upon the plunger at one end and against the barrel at its opposite end, the spring acting normally to retain the plunger in the position shown in the figure last referred to.

As thus constructed it will be observed that

normally the plunger extends only part way within the hollow lancet, thus forming a vaccine-chamber in the lancet in advance of the plunger, in which the charge to be administered may be placed.

I have also provided means for holding the vaccine in convenient position for use. The holder is preferably of the type indicated, the same being in the form of a partition or diaphragm H, fitting within the handle-section and carried by the latter in proximity to, but independent of, the cap. As shown, this partition is centrally apertured to permit of the insertion of the spring therethrough and is also provided with one or more apertures *e*, which are adapted to receive small vaccine-vials I, as indicated in Fig. 1. The holder is placed in such relation to the cap that when the latter is in place it not only serves as a closure for the end of the handle-section, but also acts to retain the vials in place in the holder, the lower face of the cap bearing directly against the vials or the stoppers therein.

In practice when a charge of vaccine is to be administered the cap is removed from the barrel, the vial containing the vaccine in stick or spherical form withdrawn, and the parts are then replaced and the vaccine in the solid form inserted within the vaccine-chamber within the lancet. Upon insertion of the latter in the animal the plunger is operated and the charge delivered.

What I claim as my invention is—

1. In a vaccinating-tool, the combination with a hollow handle-section, of a plunger sliding therein, a cap covering the inner handle-section end, and a stationary vial-holder carried by said handle-section in proximity to and independent of the cap.

2. In a vaccinating-tool, the combination with a hollow open-ended handle-section, a hollow lancet at one end thereof and a detachable apertured cap closing the opposite end, a plunger extending through the cap and engaging the lancet, and a centrally-apertured partition fixed within the handle in proximity to the cap, said partition having one or more apertures formed therein for the purpose set forth.

3. In a vaccinating-tool, the combination

with a hollow cylindrical handle-section or barrel and the hollow lancet detachably connected to one end thereof, of an apertured cap covering the opposite end, a plunger within
5 the barrel having one end projecting through and beyond the cap and terminating normally at its opposite end at a point a considerable distance from the free end of the lancet forming a tubular retaining-chamber, closed by

the plunger at one end, for the reception of the charge to be administered.

In testimony whereof I affix my signature in presence of two witnesses.

ELIJAH MARK HOUGHTON.

Witnesses:

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