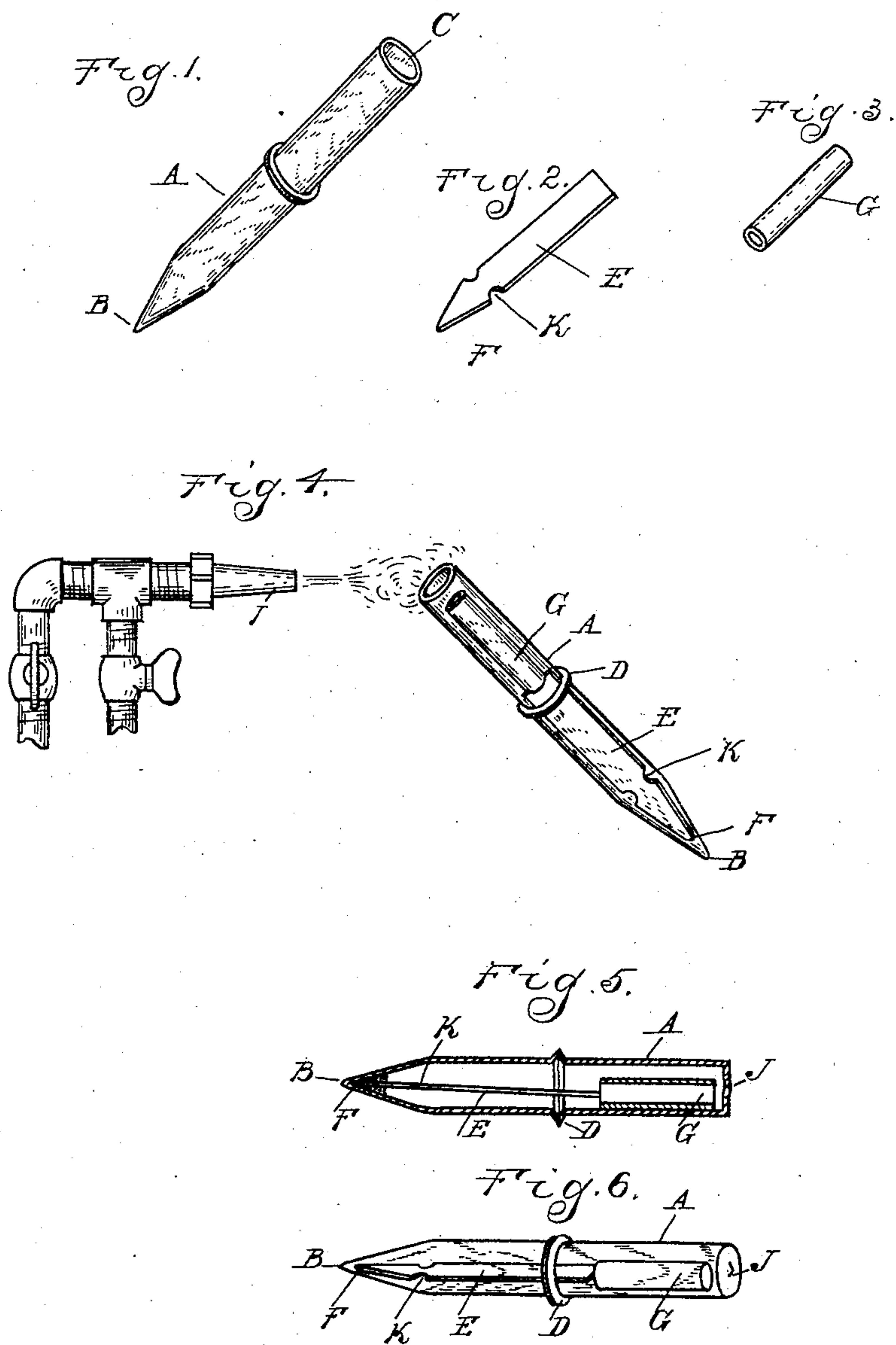


No. 786,358.

PATENTED APR. 4, 1905.

E. M. HOUGHTON.
VACCINE CASE AND HOLDER.
APPLICATION FILED APR. 11, 1904.



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UNITED STATES PATENT OFFICE.

ELIJAH M. HOUGHTON, OF DETROIT, MICHIGAN, ASSIGNOR TO PARKE, DAVIS & CO., OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

VACCINE CASE AND HOLDER.

SPECIFICATION forming part of Letters Patent No. 786,358, dated April 4, 1905.

Application filed April 11, 1904. Serial No. 202,711.

To all whom it may concern:

Be it known that I, ELIJAH M. 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 Vaccine Cases and Holders, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention relates to new and useful improvements in vaccine cases and holders; and it consists in the construction of the case, preferably made of glass, having one end pointed and the other end sealed, the point or holder in the
15 case having its pointed end fitting in the pointed end of the case and being of lesser length than the case, and a spacing-block between the end of the case and the end of the holder or point, and, further, in the construction more
20 particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the case before the point or holder is inserted. Fig. 2 is a perspective view of the point or holder detached. Fig. 3 is a perspective
25 view of the spacing-block. Fig. 4 is a perspective view of the parts assembled, showing the manner of softening the end of the case for the purpose of sealing it. Fig. 5 is a vertical central longitudinal section through
30 the completed case with the point and its spacing-block therein, and Fig. 6 is a perspective view of the same.

A is a cylindrical case, preferably made of glass and having the pointed end B. This
35 pointed end may be made by taking an ordinary glass tube, heating the end of it, and drawing it to a point. The upper end is open, as shown at C. Between the two ends I preferably make a frangible portion, as shown at
40 D. In this case I have shown it as formed by heating the middle portion of the tube and slightly expanding it and then forcing the two sections upon opposite sides of this point together, making a slightly thinner ring at that
45 point, which can be broken. This is no part of my present invention.

E is the vaccine-point or vaccine-holder, which is made of some suitable thin material, such as bone or celluloid, and has the end F
50 pointed for the purpose of applying the vaccine. The vaccine in the shape of a viscid fluid is applied to the end of the point or holder E, which is then dropped into the case through the open end, its lower pointed end fitting in the lower pointed end of the case. The vac-
55 cine point or holder is shorter than is the case, and to prevent the holder from reciprocating any material distance in the case after the same is placed in the case I put in a spacing-block G, preferably a short glass tube, which
60 rests upon the top of the holder and closely approaches the upper end of the case. The parts thus assembled are as shown in Fig. 4. The upper end of the tube is then heated, as by a gas-jet, (shown in Fig. 4 at I,) and the end
65 sealed, as shown at J in Fig. 5.

It has been found by experience that if the vaccine-point has straight edges the handling and motion of the point in the case will cause the vaccine to work up along the edge of the
70 holder and in time will creep, probably by capillary action, clear to the upper end of it, causing the operator when he grasps the holder for the purpose of applying the vaccine to get the vaccine on his hands and also
75 preventing the proper amount from adhering to the point. I have found by experience that this capillary action can be prevented by forming the notches K at the sides of the holder just above the point, and in this way
80 the vaccine will remain almost entirely in the pointed end of the case, keeping the handle or upper portion free therefrom.

If the vaccine-holder were of substantially the same length as the tube, the holder would
85 become heated when the upper end of the case was softened for sealing purposes and the vaccine would be affected and possibly destroyed. By making the top longer and putting in the spacing-block G, I am enabled to apply the
90 heat far enough away from the point so that neither the holder nor the vaccine will be af-

fect, and the spacing-block also prevents the holder or point from reciprocating any material distance in the case.

What I claim as my invention is—

5 1. The combination with a vaccine-case, of a point or holder therein and means associated with the holder for preventing capillary action of the vaccine.

10 2. A vaccine-holder having a notch in one of its sides intermediate its ends in combination with an inclosing casing.

3. The combination with a vaccine-case, of a point or holder comprising a body portion, a pointed end, and an intermediate shouldered portion, for the purpose described.

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

ELIJAH M. HOUGHTON.

Witnesses:

JAS. P. BARRY,
H. C. SMITH.