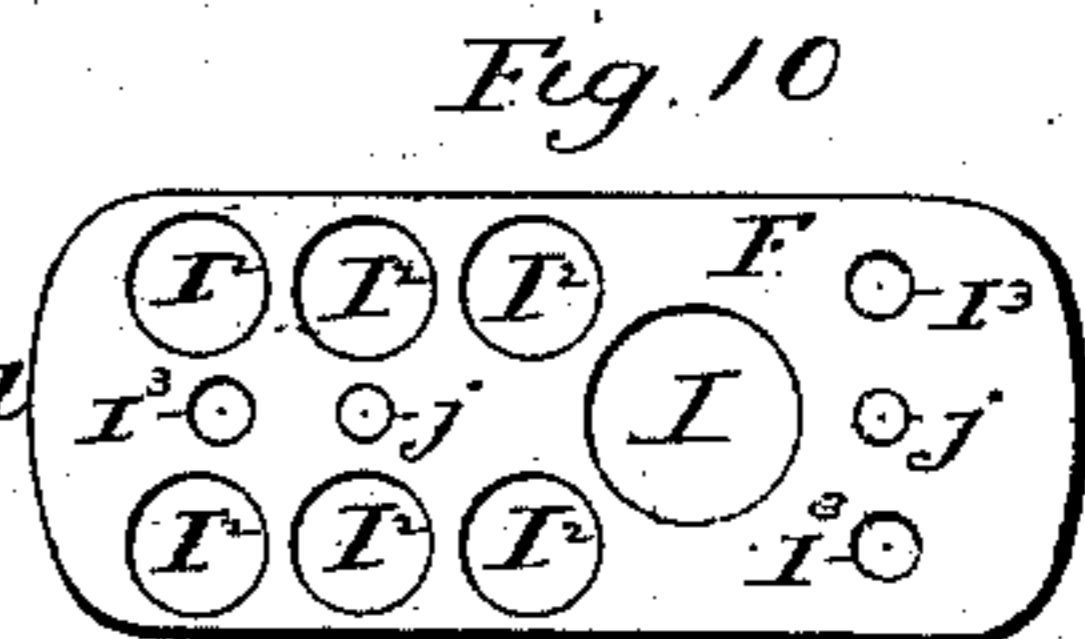
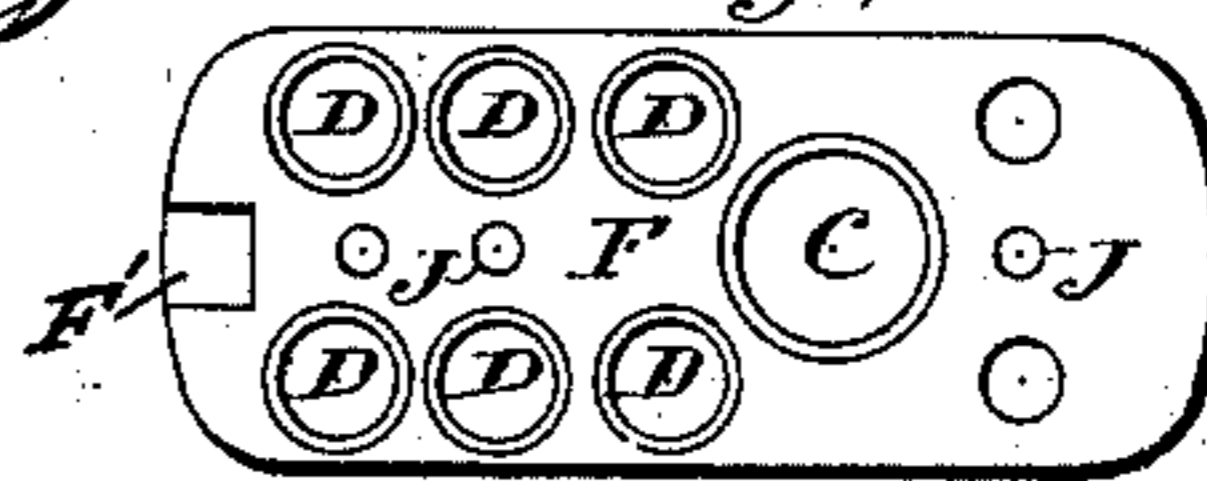
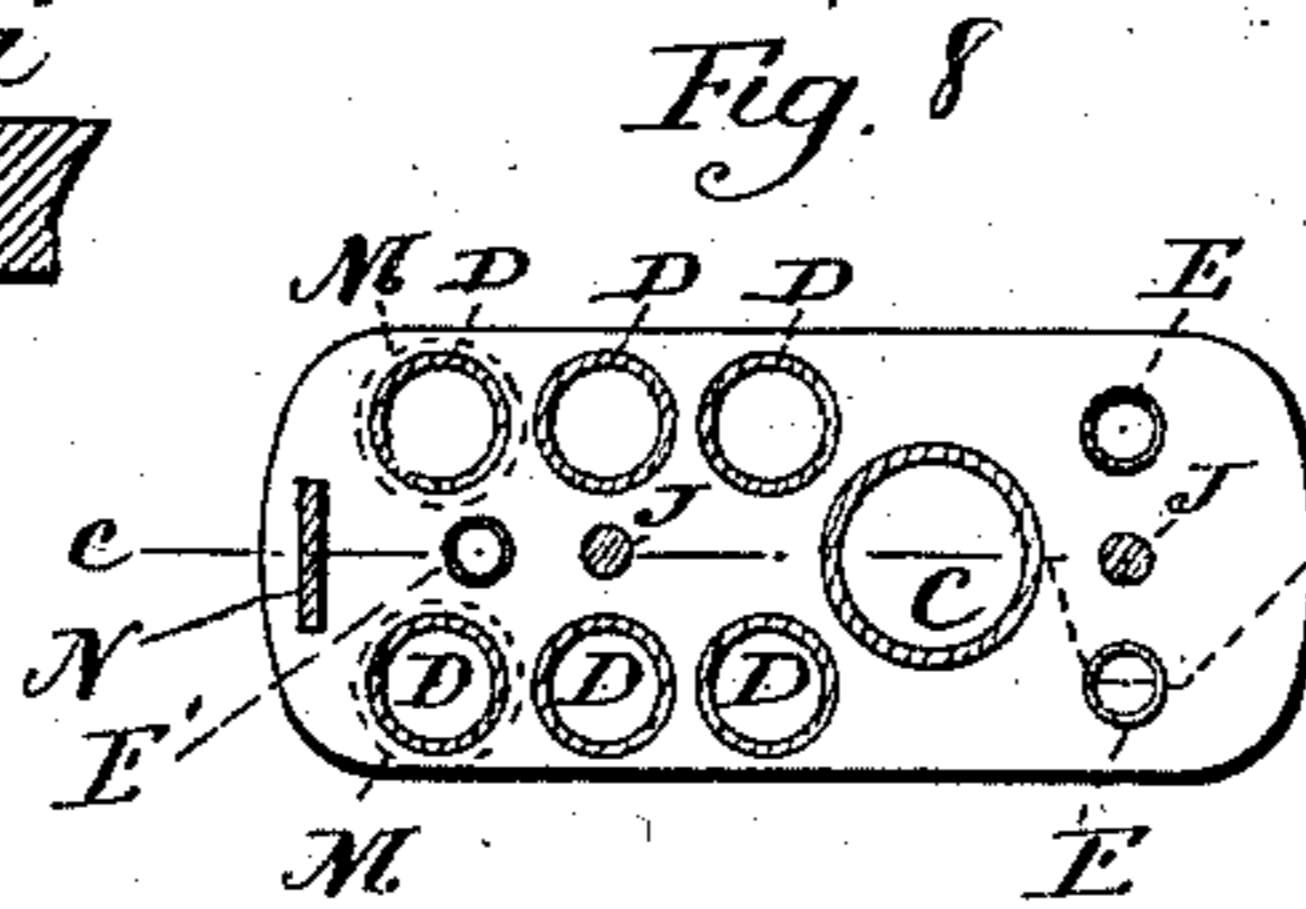
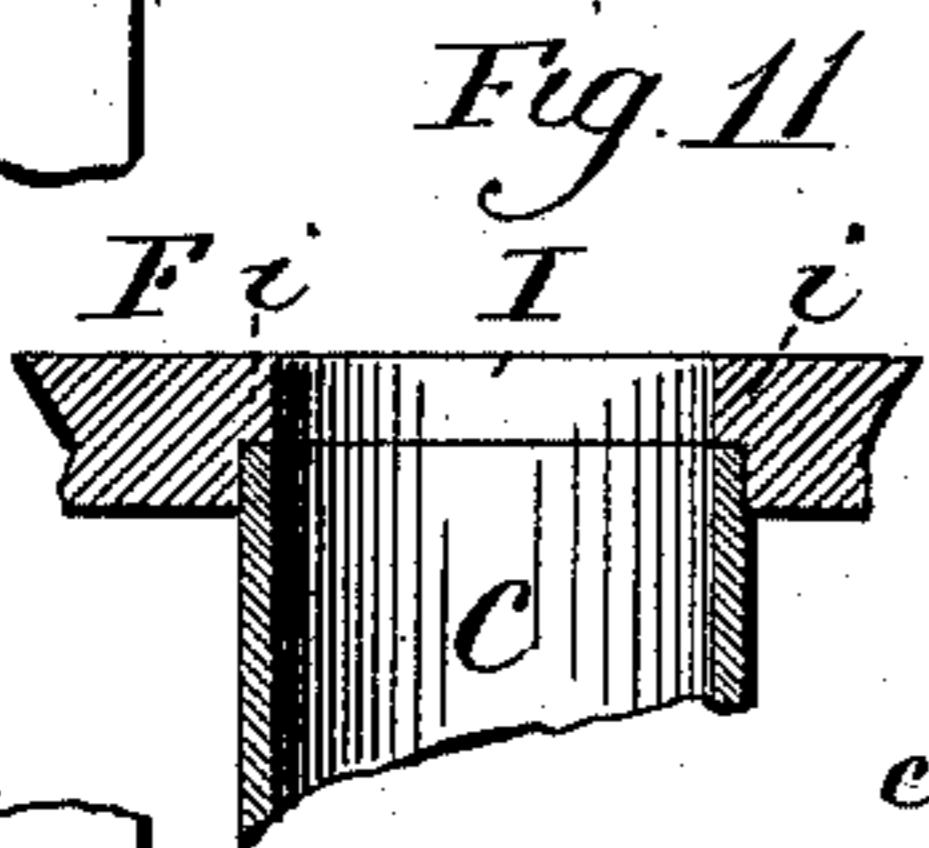
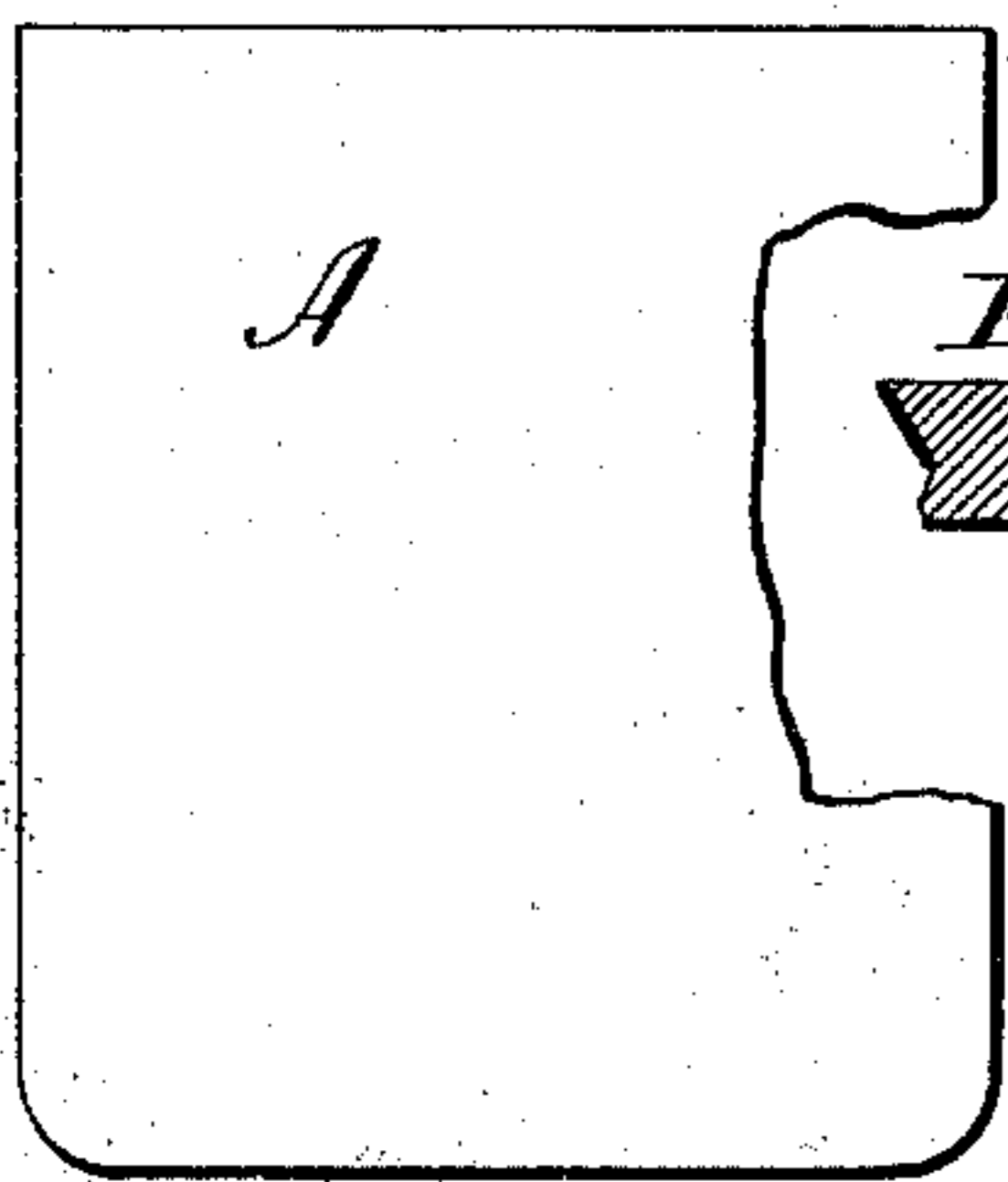
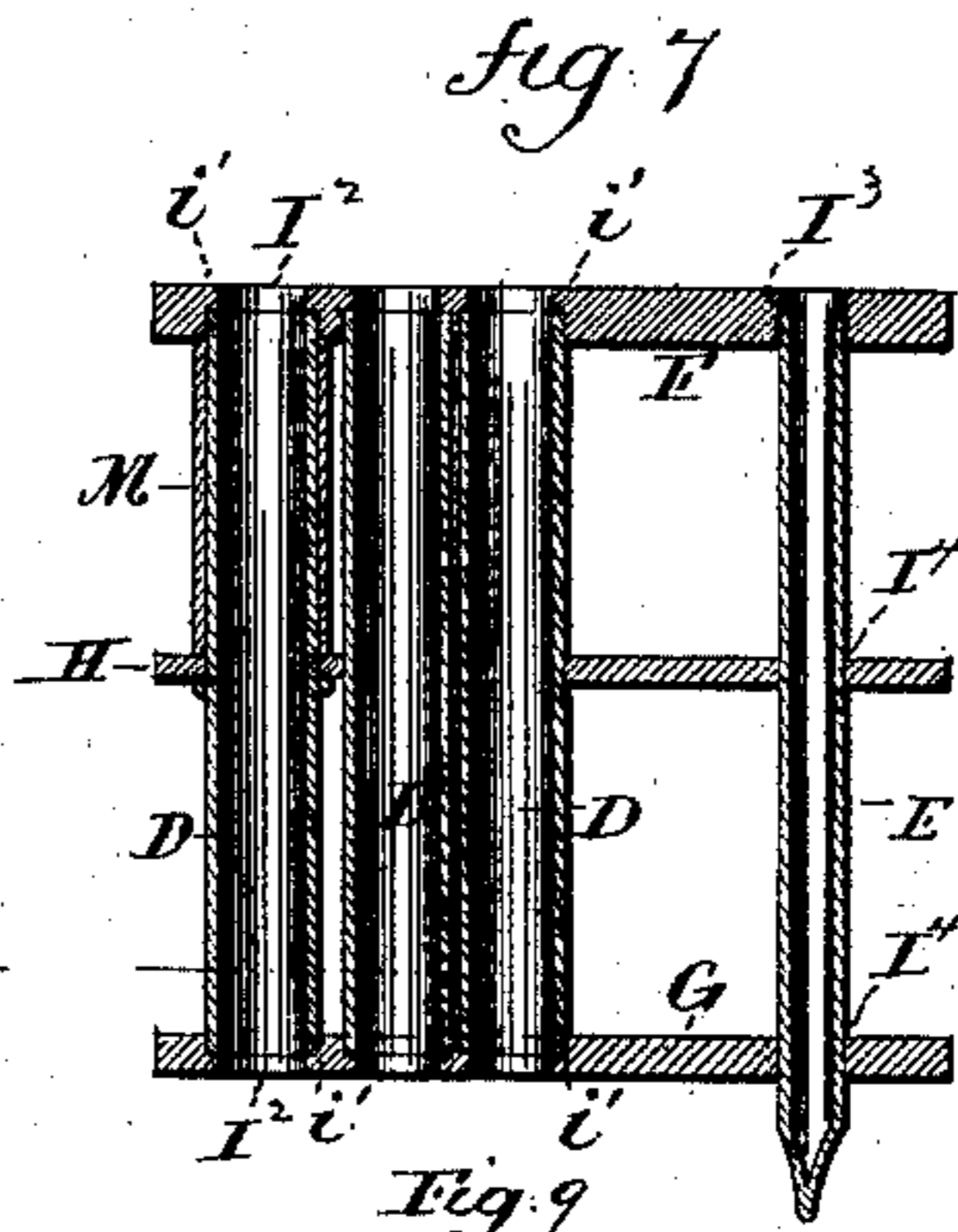
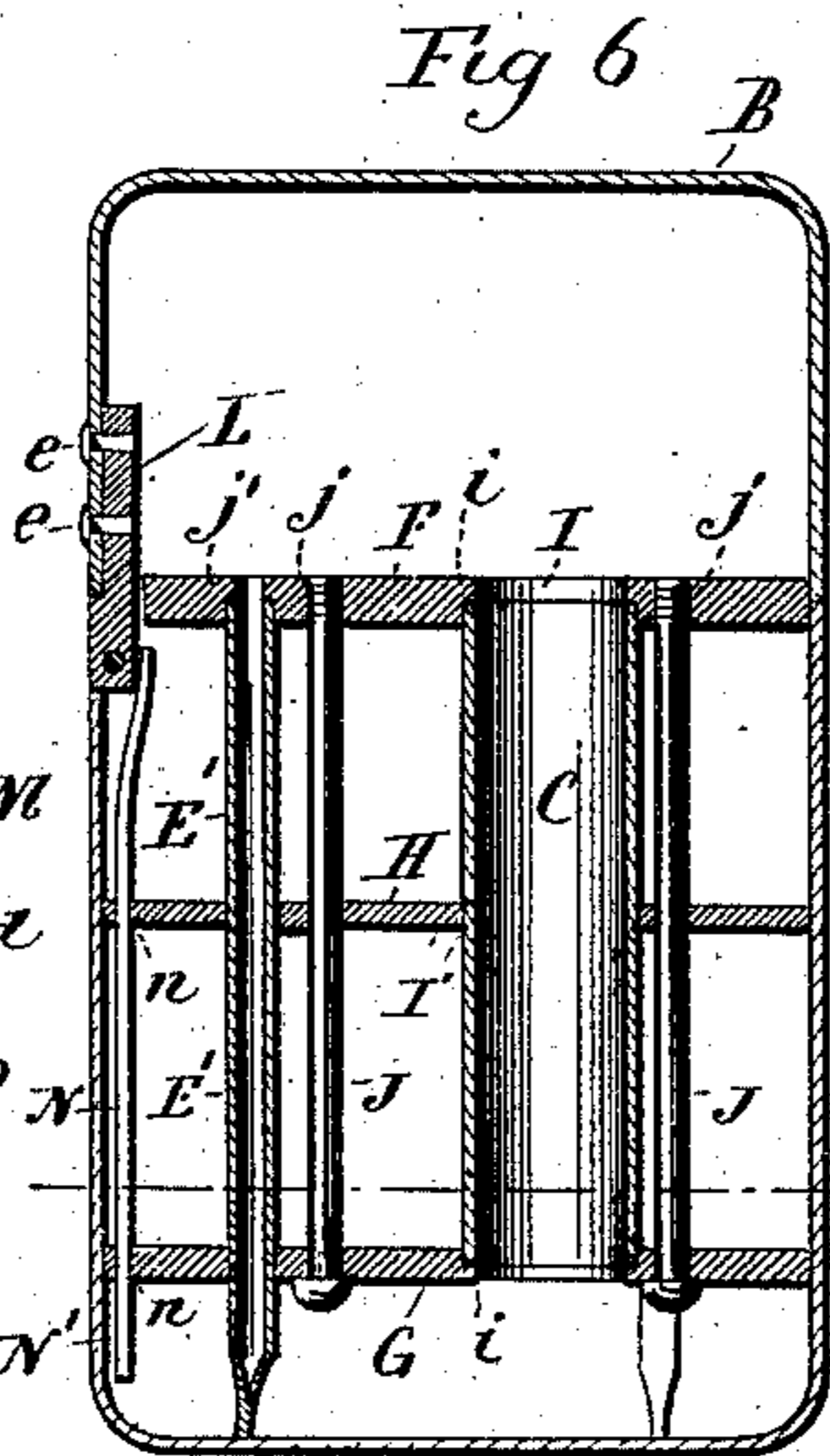
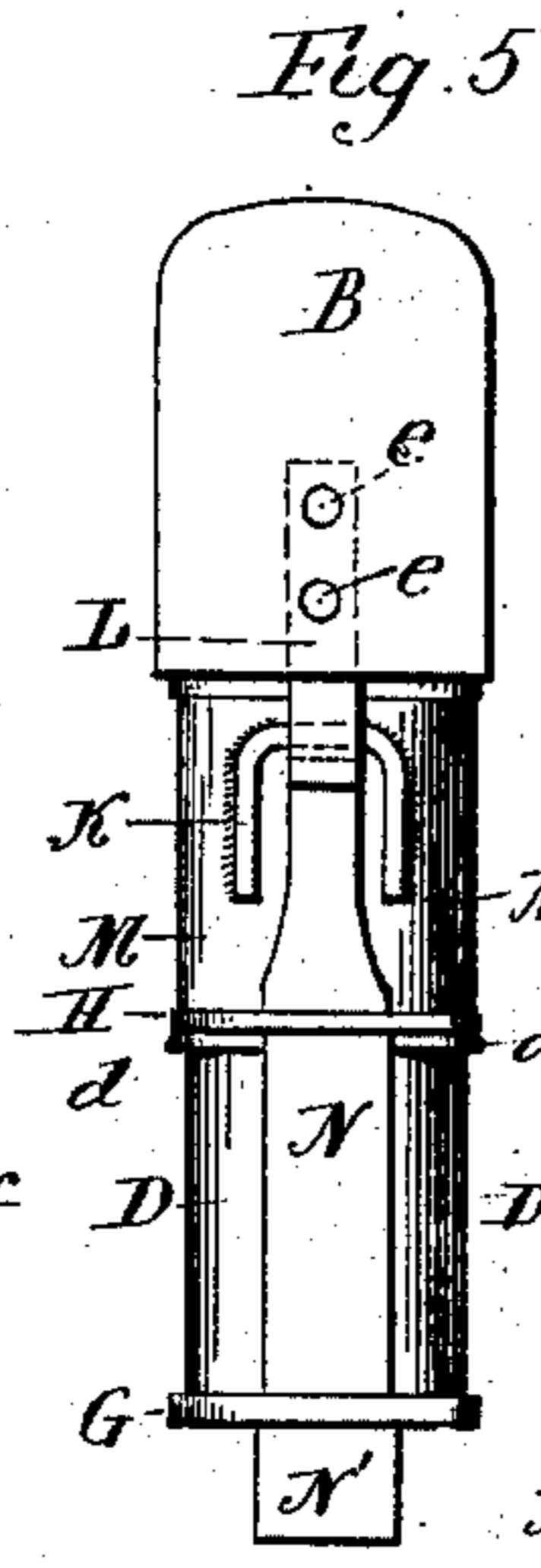
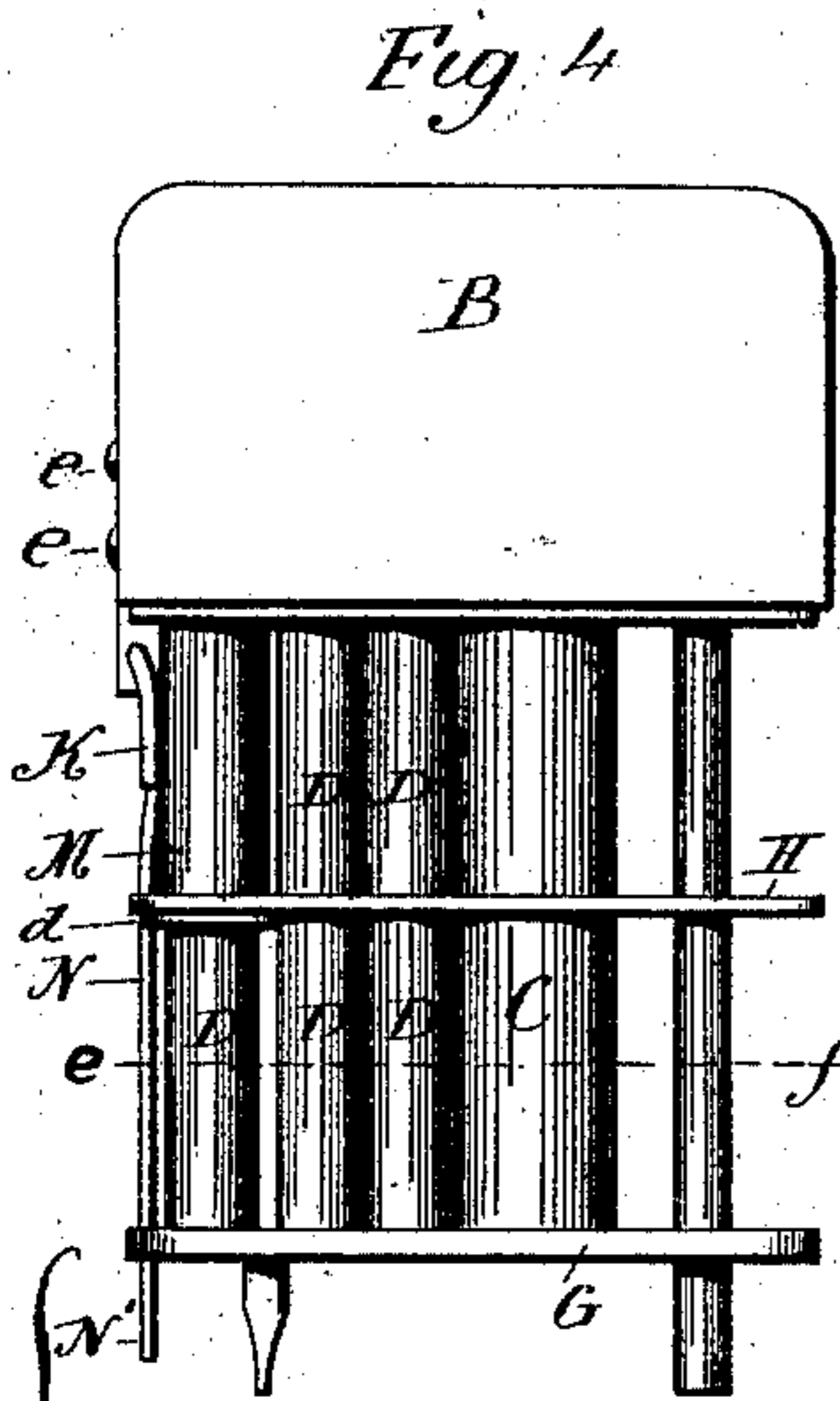
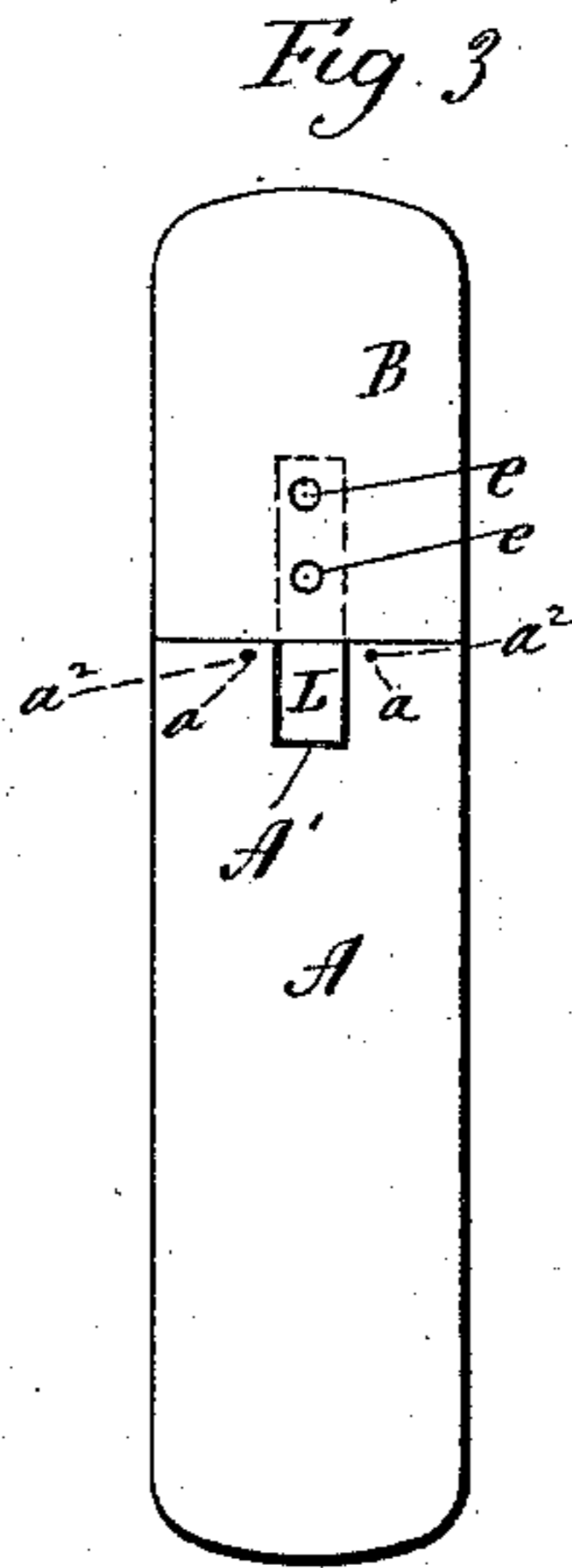
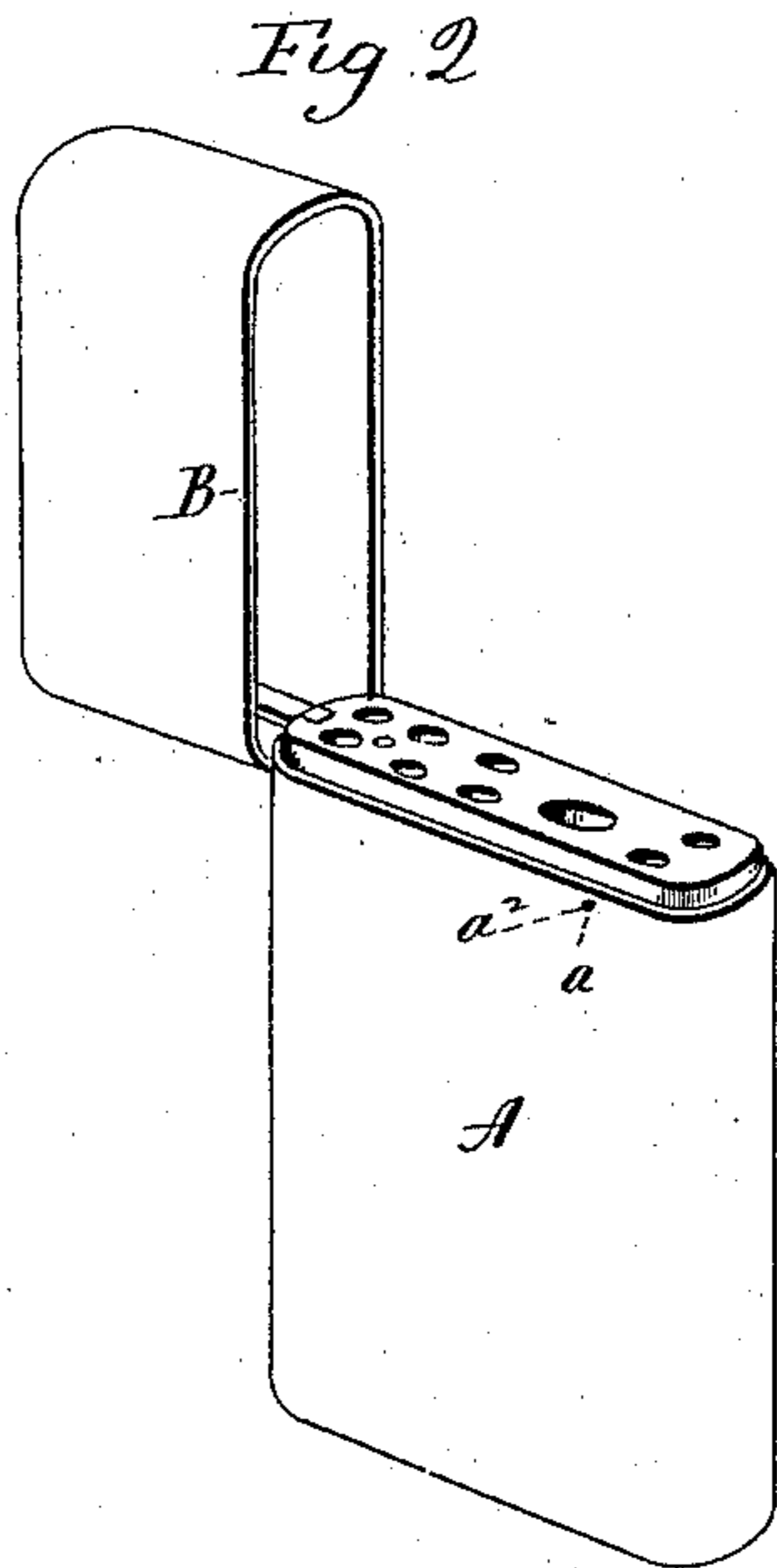
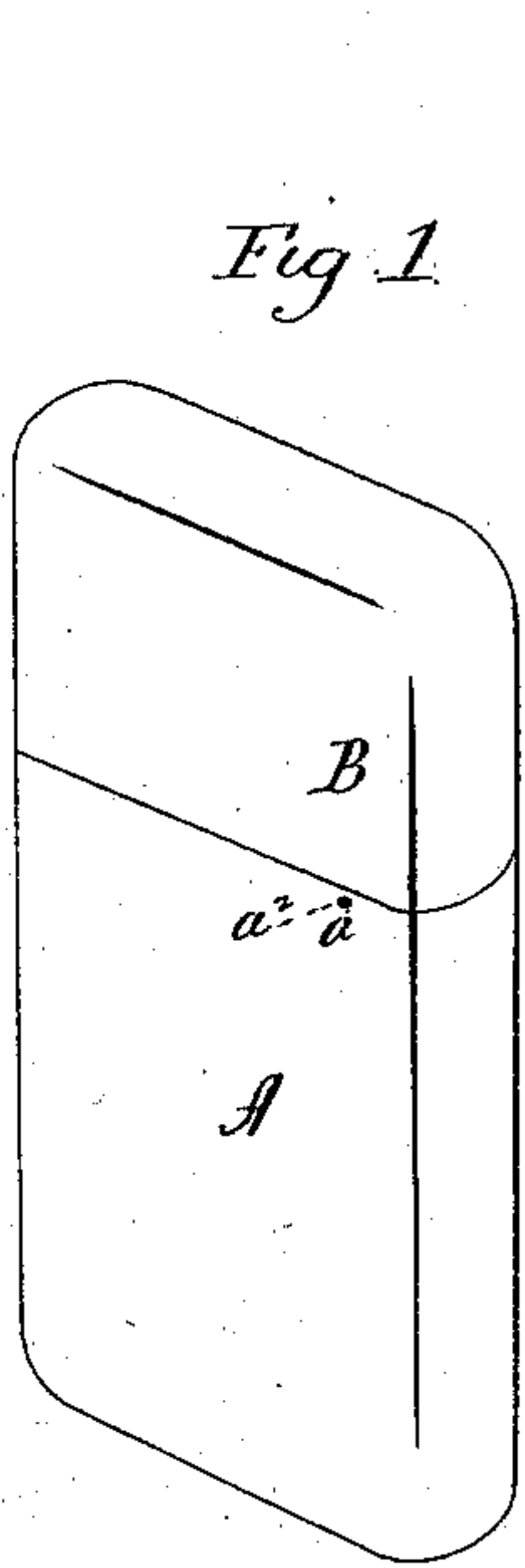


(No Model.)

A. J. WOLFF.
CASE FOR HYPODERMIC SYRINGES.

No. 505,645.

Patented Sept. 26, 1893.



Wolff
 Alfred J. Wolff
 Inventor

Alfred J. Wolff
 Inventor
 Edgar Seymour

UNITED STATES PATENT OFFICE.

ALFRED J. WOLFF, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE
SCOVILL MANUFACTURING COMPANY, OF SAME PLACE.

CASE FOR HYPODERMIC SYRINGES.

SPECIFICATION forming part of Letters Patent No. 505,645, dated September 26, 1893.

Application filed June 17, 1893. Serial No. 477,952. (No model.)

To all whom it may concern:

Be it known that I, ALFRED J. WOLFF, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new Improvement in Cases for Hypodermic Syringes; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in perspective of an aluminum hypodermic syringe-case constructed in accordance with my invention; Fig. 2, a similar view with the cover of the case open; Fig. 3, a view of the case in rear elevation with its cover closed; Fig. 4, a view of the case in side elevation with the cover and inclosed parts of the case disconnected from and lifted above the body thereof; Fig. 5, a view in rear elevation of the cover and inclosed parts of the case; Fig. 6, a view of the case in vertical longitudinal section on the line *a—b* of Fig. 8; Fig. 7, a view of the frame-work and tubes of the case on the line *c—d* of Fig. 8; Fig. 8, a view of the frame-work and tubes in transverse section on the line *e—f* of Fig. 7; Fig. 9, a detached reverse plan view of the top plate of the frame-work; Fig. 10, a detached plan view of the intermediate plate of the frame-work; Fig. 11, a broken sectional view showing the abutment of the upper end of the syringe tube against the shoulder formed in the top plate of the frame-work by counter-boring the opening formed in the said plate for the said tube, from the inner face of the plate.

My invention relates to an improvement in cases for hypodermic syringes, the object being to produce in aluminum a simple, light, durable and convenient article, the parts whereof are assembled without soldering that metal, which in the present state of the art cannot be done effectively.

With these ends in view, my invention consists in an aluminum hypodermic syringe-case having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention, I construct the body A, and cover B, of the case, of alu-

minum, preferably by drawing suitable blanks into the required form.

The body A of the case contains a tube C, which is designed to receive the syringe, several tubes D, to receive the tablet-vials, and two tubes E, to receive the needles which are attached to the syringe in the use of the same.

As shown, the case contains six tablet-vial tubes D, and two needle-tubes E, but these numbers may be varied as required. The said tubes are mounted in a frame-work located within and secured to the body of the case, and comprising in part, as herein shown, a top-plate F, a bottom plate G corresponding to it in form, and an intermediate or reinforce plate H, also of the same form as the other plates. All of these plates are adapted in form to fit snugly into the body A of the case in transverse positions therein. The said plates F and G are provided with openings I, corresponding in diameter to the internal diameter of the syringe-tube C, while the plate H, is constructed with an opening I', located in line with the said openings I but larger than the same, and corresponding to the external diameter of the said tube. The plates F and G, are also constructed with openings I², corresponding in diameter to the internal diameters of the tablet-vial tubes D, while the plate H, is constructed with openings I³, corresponding in size to the external diameters of the said tubes last mentioned. The openings I and I² of the said plates are counter-bored from the inner faces thereof in correspondence with the external diameters of the said tubes, the ends of which are set into the said counter-bores, as shown in Figs. 6 and 7 of the drawings, the counter-boring of the openings as described, forming shoulders *i* and *i'*, against which the ends of the tubes are abutted. The plates and tubes thus constructed, are bound together by screws J J, which pass through openings formed for them in the three plates, being first entered, as herein shown, into the bottom plate G, then passed through the intermediate or reinforce plate H, and thence into the top plate F. The upper ends of these screws are threaded, and take into threaded openings *j*, formed to receive them in the said plate last mentioned. If desired, these screws may be reversed in

arrangement, but when arranged as described, their heads are got out of the way, or they may be replaced by long rivets corresponding to the screws, but adapted to have their ends headed down instead of being threaded. The holes I^3 formed in the top plate F, are internally threaded, and adapted in size to receive the needles designed to be used with the syringe. The needle-tubes E, are larger in diameter than the said holes, and do not enter the same, but are abutted at their upper ends against the inner face of the plate, in alignment with the said holes. The holes I^4 , formed in the bottom-plate G, and in the intermediate plate H, for the said needle-tubes, correspond to the external diameter thereof. Another tube E' , of substantially the same diameter as the needle-tubes, and mounted in the plates in the same way, is provided for containing extra wires for cleaning out the needles. The hole j' (Fig. 6) formed in the top plate F, for access to this tube, is not, however, threaded. The said needle tubes E E, and the extra wire tube E' are adapted in length to engage with the bottom of the body A, of the case, whereby their upper ends are held in abutment against the inner face of the top plate F, of the frame-work. Preferably and as shown, the lower ends of the tubes are closed by pinching them flat, but this is not essential.

For the purpose of securing the tubes and their frame-work comprising the plates and screws just described, within the body of the case, without the use of solder, I form and tap several small holes a , in the edge of the body A, of the case, and several corresponding holes a' in the lower edge of the top-plate F, of the frame-work, and into these small holes I insert screws a^2 , which are filed off close to the surface of the said body, so as to be invisible, or nearly so. In this manner I am enabled to firmly secure the frame within the body of the case without soldering aluminum to aluminum.

It will be noticed by reference to Fig. 2 of the drawings, that when the frame-work is in position in the body of the case, a portion of the plate F, is exposed, forming a shoulder as it were for the cover A, of the case to shut over, whereby the cover is prevented from sidewise displacement, and the hinge relieved of strain. The said hinge, as herein shown, is composed of a loop K, of brass wire, and a post L, of aluminum or other material, perforated to receive the said loop, and secured by rivets $e e$, to the inside of the cover. These rivets, it will be observed, take the place of solder for fastening the said post to the cover. The ends of the brass loop K, are soldered to two sleeves M M of brass or other material which may readily be soldered upon, which are interposed between the top plate F, and the intermediate plate H. These sleeves are maintained in position by the engagement of their lower ends with the intermediate plate, which is held in place at its rear end by two

outwardly projecting annular ribs $d d$, respectively formed upon the two rear tablet vial tubes D D. The rear end of the intermediate plate is in another view of the matter, held in place by the co-action of the said sleeves and knurls or ribs.

By reference to Fig. 3 of the drawings, it will be noted that the rear edge of the body A, is constructed with an open slot A' , which receives the projecting outer end of the hinged post L, and it will be noted also by reference to the same figure of the drawings that two of the screws $a^2 a^2$ before mentioned, are located on opposite sides of and close to the said slot. The plate F, is also constructed with a slot F' , to receive the said post.

Instead of applying the steel spring N, by means of which the cover is closed and held in its closed position to the body of the case, I attach it without the use of solder to the frame-work thereof; this I do by constructing the bottom plate G, and the intermediate plate H, with slots n to receive it. The upper end of this spring is tapered and engaged with the inner face of the post L, in such a manner that it exerts a constant tendency to throw the cover into its closed position. The lower end of the spring is constructed with an enlarged head N' , whereby it is prevented from working upward, while its movement in the opposite direction is prevented by the bottom of the body A. It will thus be seen that I assemble the several parts of my improved syringe case without soldering aluminum to aluminum, and that the only use of solder in the article is provided for by the introduction into the frame-work thereof of parts of brass.

It is apparent that in carrying out my invention, some changes from the specific construction herein shown and described may be made. I would therefore have it understood that I do not limit myself to the exact form illustrated, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an aluminum hypodermic-syringe case, the combination with the body and cover thereof, of top and bottom plates located within the former, and constructed with openings or tube-holes counter-bored from their inner faces, tubes set into the counter-bored ends of the said holes, and means for connecting the plates, substantially as described.

2. In an aluminum hypodermic-syringe case, the combination with the body and cover thereof, of a frame-work located within the body, and comprising two or more plates, and means for holding the same together, tubes mounted in the said plates, and screws entered through the body into the edge of one of the plates for holding the frame-work in place, substantially as described.

3. In an aluminum hypodermic-syringe case, the combination with the body and cover

thereof, of a frame-work located in the former, aluminum tubes mounted in the said frame-work, sleeves of brass or equivalent solderable metal applied to the rear tubes, and a
5 hinge for connecting the cover and body, the said hinge having one of its members soldered to the said sleeves, and the other fastened to the said cover, substantially as described.

4. In an aluminum hypodermic-syringe
10 case, the combination with the body and cover thereof, of a frame-work located in the said body, tubes mounted in the said frame-work, a hinge connecting the cover and body, and a spring applied to the said frame-work and
15 co-acting with the said hinge, substantially as described.

5. In an aluminum hypodermic-syringe

case, the combination with the body and cover thereof, of a frame-work located in the body, and comprising two or more plates, and means
20 for securing the same together, tubes mounted in the said plates, a hinge connecting the cover and body, and a spring arranged to co-act with the said hinge, and applied to the frame-work through openings provided for it
25 in the said plates, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ALFRED J. WOLFF.

Witnesses:

J. H. PILLING,
CHAS. FEHL.