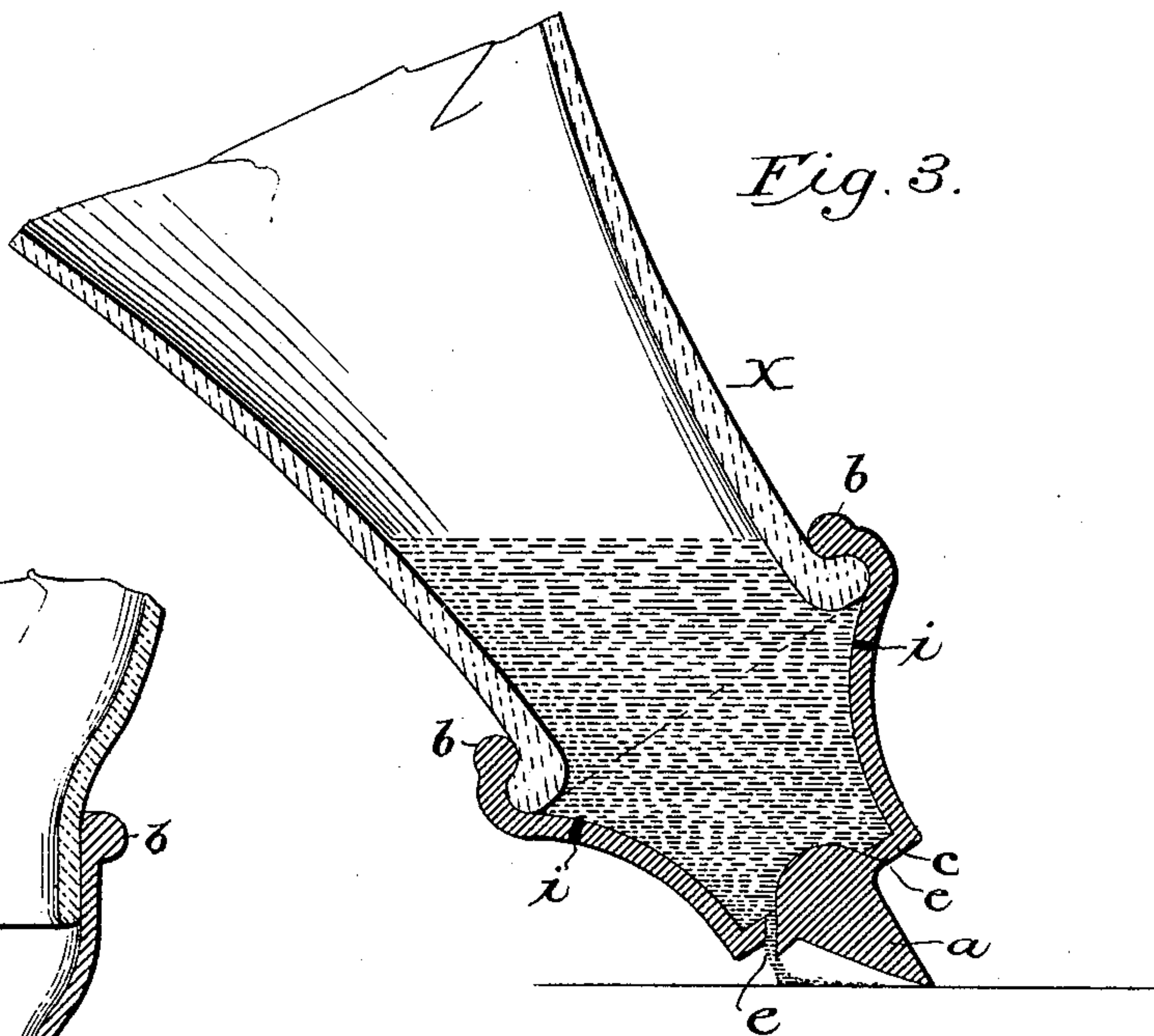
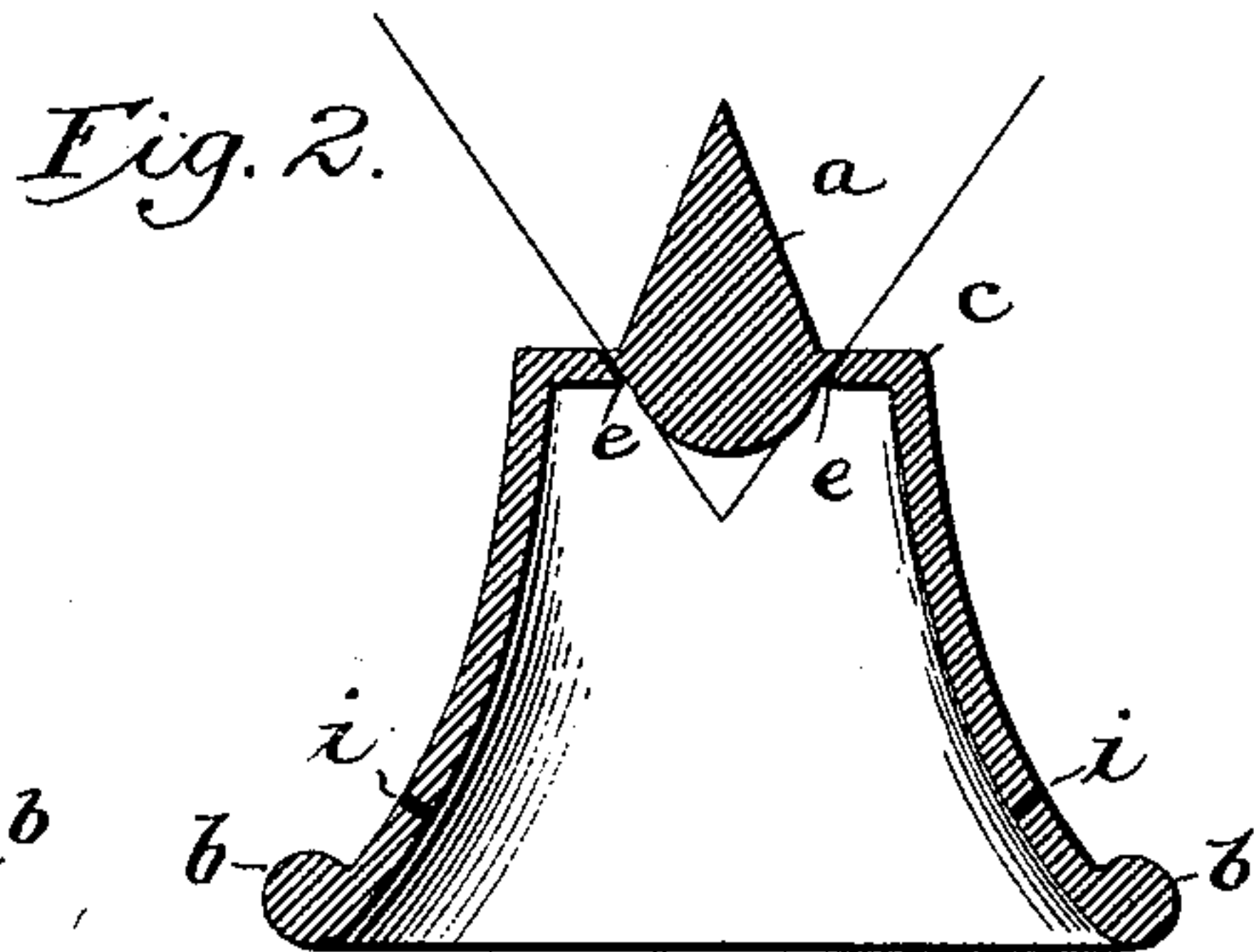
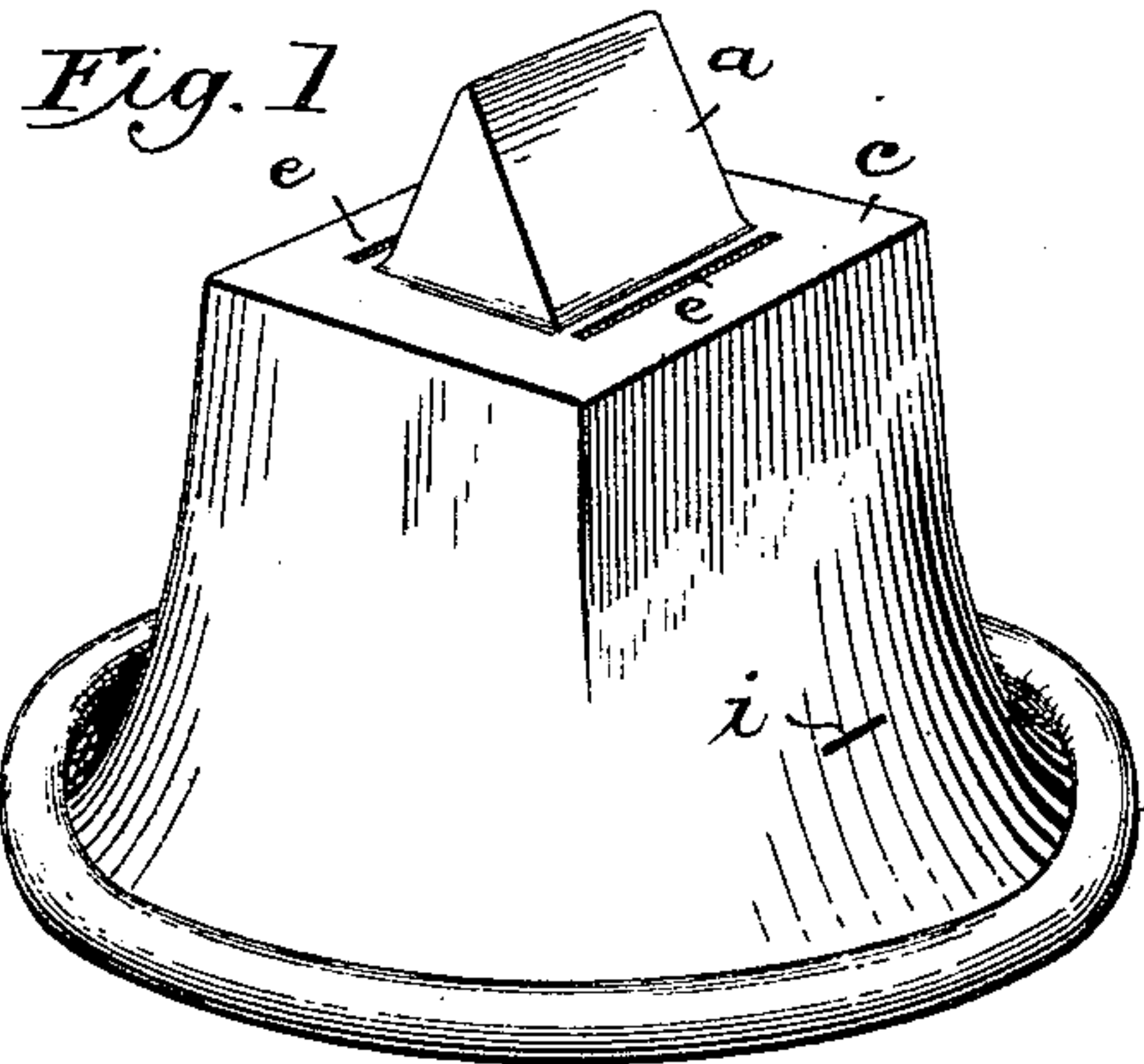


(No Model.)

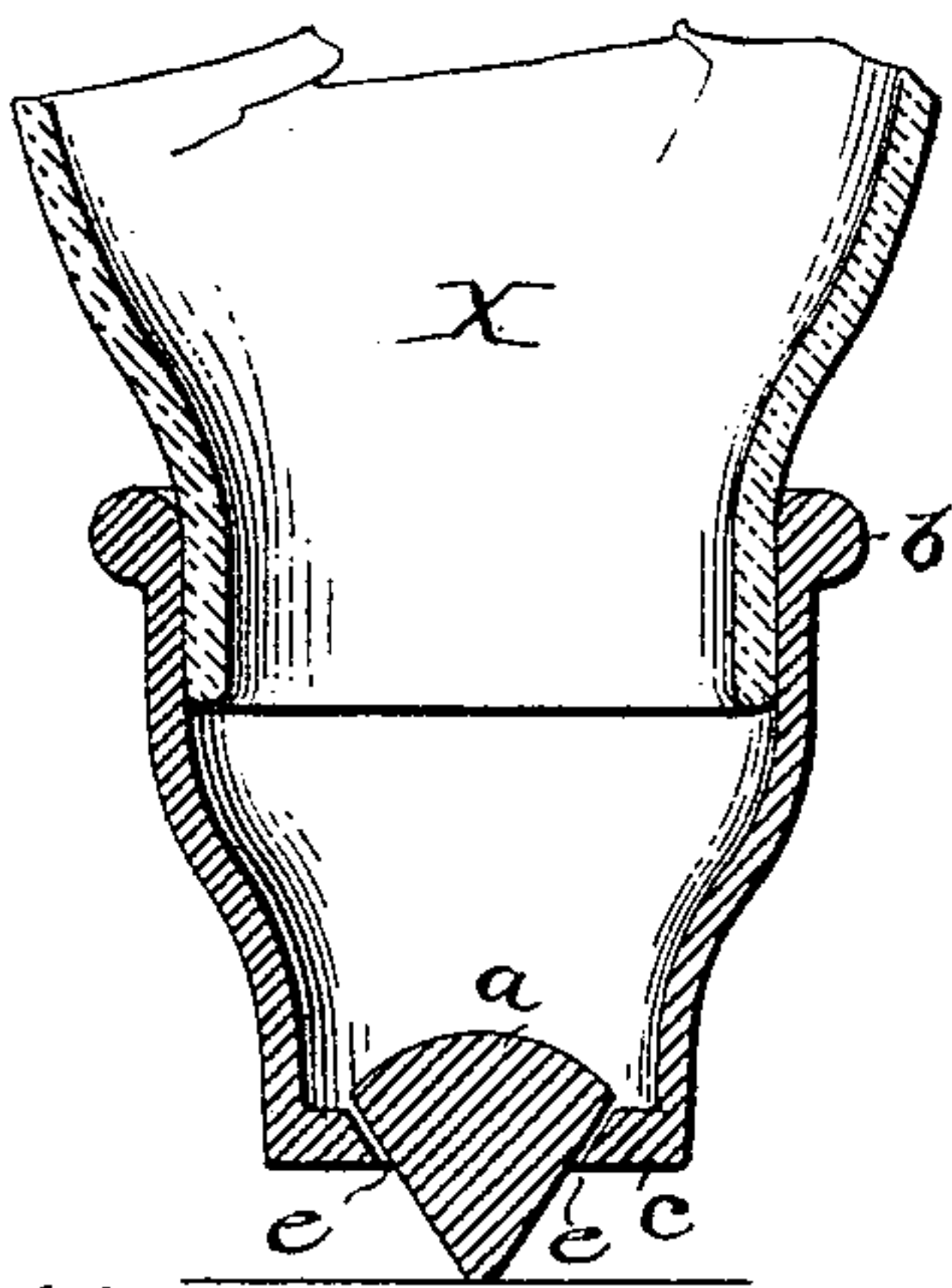
W. H. UNDERWOOD.  
RESERVOIR BRUSH.

No. 403,566.

Patented May 21, 1889.



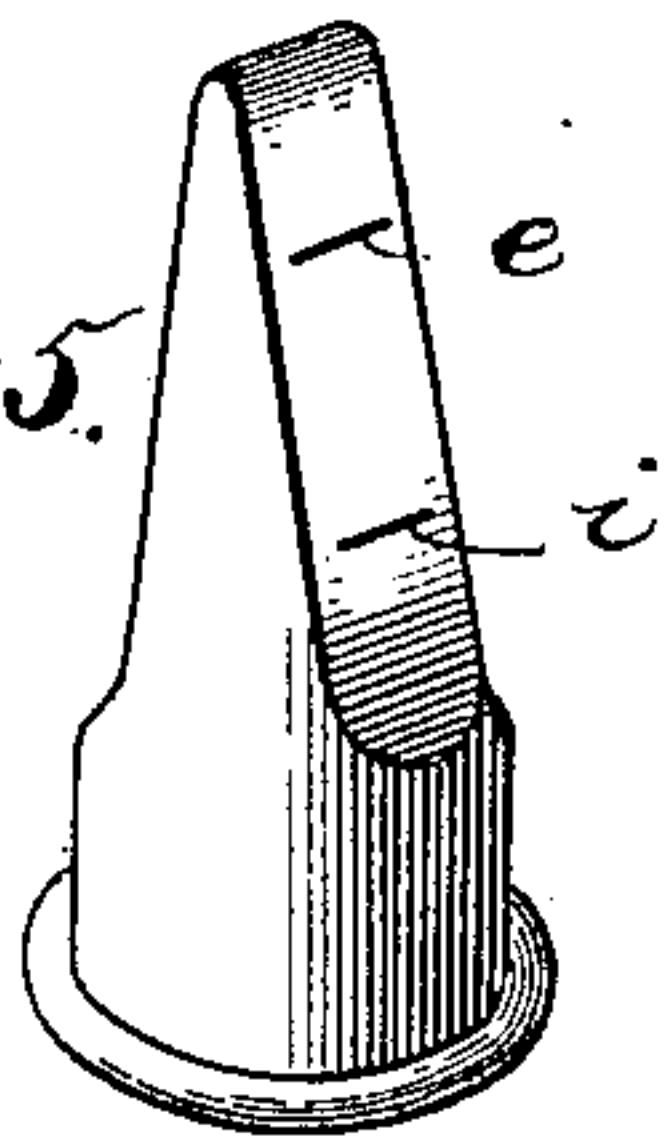
*Fig. 4.*



*Attest:*

*Sidney P. Hollingsworth*  
*Jno. G. Hinkel, Jr.*

*Fig. 5.*



*Inventor:*

*W. H. Underwood*  
*Foster & Freeman*  
*attys*



# UNITED STATES PATENT OFFICE.

WALTER H. UNDERWOOD, OF YONKERS, NEW YORK.

## RESERVOIR-BRUSH.

SPECIFICATION forming part of Letters Patent No. 403,566, dated May 21, 1889.

Application filed August 30, 1888. Serial No. 284,169. (No model.) Patented in England February 28, 1888. No. 311, and in France July 30, 1888, No. 179,070.

*To all whom it may concern:*

Be it known that I, WALTER H. UNDERWOOD, a citizen of the United States, residing at Yonkers, Westchester county, State of New York, have invented a new and useful Improvement in Reservoir-Brushes, of which the following is a full, clear, and exact specification.

In Letters Patent Nos. 378,742, 378,743, and 378,744, heretofore granted to me, I have described a nozzle for distributing fluids, consisting of a hollow flexible nipple of conical, tapering, or other form, adapted to be applied to a reservoir and slit in such manner that the sides or lips of the slit normally close together and seal the reservoir, but will open on the application of pressure bending or deflecting the nozzle, thereby permitting the escape of the fluid, which is spread over the surface against which the end of the nipple is pressed by the trowel-like action of such end.

My invention, for which English Patent No. 311 was granted under date of February 28, 1888, and for which application for Letters Patent in France, No. 179,070, under date of July 30, 1888, has been made, and which is hereinafter fully set forth, is an improvement on fluid-distributers of the above-described character, and is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view illustrating one form of nozzle embodying my invention. Fig. 2 is a cross-section of the nozzle shown in Fig. 1. Fig. 3 is a sectional view showing the nozzle applied to a bottle and in the position to distribute and spread the liquid. Fig. 4 is a sectional view of part of a bottle and nozzle, illustrating a modification. Fig. 5 is a perspective view showing one feature of my improvement as applied to a nozzle of a different shape.

The nozzle is of any suitable form adapted for application to or to operate with a reservoir to which the nozzle is applied and secured detachably or otherwise. As illustrated, the nozzles are of the forms used when they are made of india-rubber or other flexible and preferably elastic material, each nozzle terminating in a flat-faced blade or trowel,

and having a beaded rim, *b*, which may be expanded over the neck of the bottle *X* or other receptacle and will contract on and adhere to the latter.

The blade, as shown in Figs. 1 to 4, has two converging faces, and extends centrally from the flat end *c* of the nozzle, and at each side of said blade the end is slit at an angle to the face, the two slits *e e* converging inward, as shown in Figs. 2 and 3, or outward, as shown in Fig. 4.

The slits are formed by cutting the material without removing any portion, so that the lips close normally together by the elasticity of the material and seal the reservoir and protect its contents from the influence of the external air.

The blade *a* is preferably solid or otherwise rendered less flexible than the body of the nozzle, so that when the reservoir is inverted and the blade is applied to the surface to be coated sufficient pressure will force the blade either laterally, as shown in Fig. 3, or the end *c* will be carried down away from the base of the blade, as shown in Fig. 4. In either case the lip of the slit or orifice formed by the blade or part annexed directly thereto will be separated from the opposite lip, which is directly on the body of the nozzle, and an orifice will be presented for the passage of the liquid.

In order to facilitate the flow of the liquid from the reservoir, I prefer to make additional slits in the body of the nozzle, so situated that one of such slits will be opened by the bending or strain of the body when the lower orifice is opened for the passage of the liquid. Thus there is a supplemental slit, *i*, beyond each slit *e* in position to be above the same when the reservoir is inverted, and the straining of the nozzle from pressing the blade *a* against the surface to be coated opens also the slit *i* sufficiently to admit air if there is any tendency to a vacuum within the receptacle.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. A nozzle provided with a flattened slit end of flexible material and with a terminal blade of greater rigidity projecting outward

adjacent to the slit, substantially as described.

2. The within-described nozzle, having a body portion adapted for attachment to a reservoir and closed by a top, *c*, a solid blade  
5 extending from said top, and slits *e e*, at an angle to each other in the top at the base of the blade, substantially as described.

3. A nozzle composed of a hollow nipple of flexible material having distributing-slits *e*,

and air-inlet slits *i*, substantially as and for the purpose set forth.

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

WALTER H. UNDERWOOD.

Witnesses:

EDWD. K. ANDERTON,  
WM. A. REDDING.