

# UNITED STATES PATENT OFFICE.

JOHN A. THAYER, OF CAMBRIDGEPORT, MASSACHUSETTS.

## IMPROVEMENT IN APPARATUS FOR MELTING METALS.

Specification forming part of Letters Patent No. 130,601, dated August 20, 1872.

*To all persons to whom these presents may come:*

Be it known that I, JOHN A. THAYER, of Cambridgeport, of the county of Middlesex, of the State of Massachusetts, have invented a new and useful apparatus for melting a metal or other matter and pouring or ejecting it into a mold or cavity for its reception; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a top view, Fig. 2 a side elevation, Fig. 3 a longitudinal section, and Fig. 4 a transverse section of such apparatus.

In such drawing, A denotes a hollow flask or vessel, provided with a long handle, B, and a series of supporting-legs, *a a b*, arranged as shown. At one side of the said vessel there is a discharging-nose, *c*, from which a conduit or tube, *d*, leads downward within the vessel and into a hollow cylinder, C, disposed within and extending out of such vessel, in manner as shown. The said cylinder contains a piston or plunger, D, provided with an elevating spring, E, arranged as shown. A wooden handle, F, furnished with a screw, *e*, connects with the plunger by having the screw *e* screwed into a socket, *f*, made in the head of the plunger. One or more small holes, *g*, are made in the lower part of the educt *d* or in the lower part of the cylinder. Furthermore, the handle B is tubular or chambered throughout its length, as shown at *h*, and provided with one or more openings or passages, *ii*, leading laterally out of the chamber, such being to allow air to freely circulate into, through, and out of the handle, in order that it may be preserved from being heated to a temperature such as will render it inconvenient for the handle to be grasped and held in the hand of a person.

There is combined with the melting-vessel A and its nose *c* a rotary nozzle, G, formed as shown, and arranged to turn on a pivot, *p*, disposed as represented. The nozzle is tapering, and has a mouth of discharge of a diameter much less than that of the nose, the nose be-

ing adapted to the pouring of molten metal from the flask A. The purpose of the rotary nozzle is to enable the apparatus to be used to inject molten metal into a mold or matrix, which, when the nozzle has its bore in connection with or to open from that of the educt, can be effected by suddenly depressing the plunger or forcing it down into its cylinder.

The flask A is provided with a receiving-mouth, *l*, having a rotary cover or cap, *m*, applied to it and the flask, as shown. A metal to be melted is to be supplied to the flask through such mouth, which, having been done, the mouth and the educt may be closed by turning the cover over the mouth and by turning the nozzle so as to estop the upper end of the educt, all of which having been done the flask may be placed over or in a fire in order to effect the melting of the metal.

While the eduction tube or educt arranged in the flask and with its nose in manner as described operates to keep the dross within the flask while the metal may be in the act of being poured therefrom, the cylinder and plunger answer to effect sudden expulsion of the fluid metal from the flask and condensation of the metal in a mold or matrix.

I claim—

1. The melting-flask as provided with the eduction-tube arranged in it, as set forth.

2. I also claim the melting-flask as provided with the eduction-tube, the cylinder and plunger, combined and arranged substantially in manner and to operate as described.

3. I also claim the melting-flask, the cylinder, plunger, eduction tube, and rotary nozzle, arranged and combined substantially as explained and shown.

4. I also claim the melting-flask as provided with the hollow handle having one or more air-inlets or passages, as described.

J. A. THAYER.

Witnesses:

R. H. EDDY,  
J. R. SNOW.

O. THIBAudeau.

Improvement in Mode of Cutting Uppers of Boots.

No. 130,602.

FIG. 4.

Patented Aug 20, 1872.

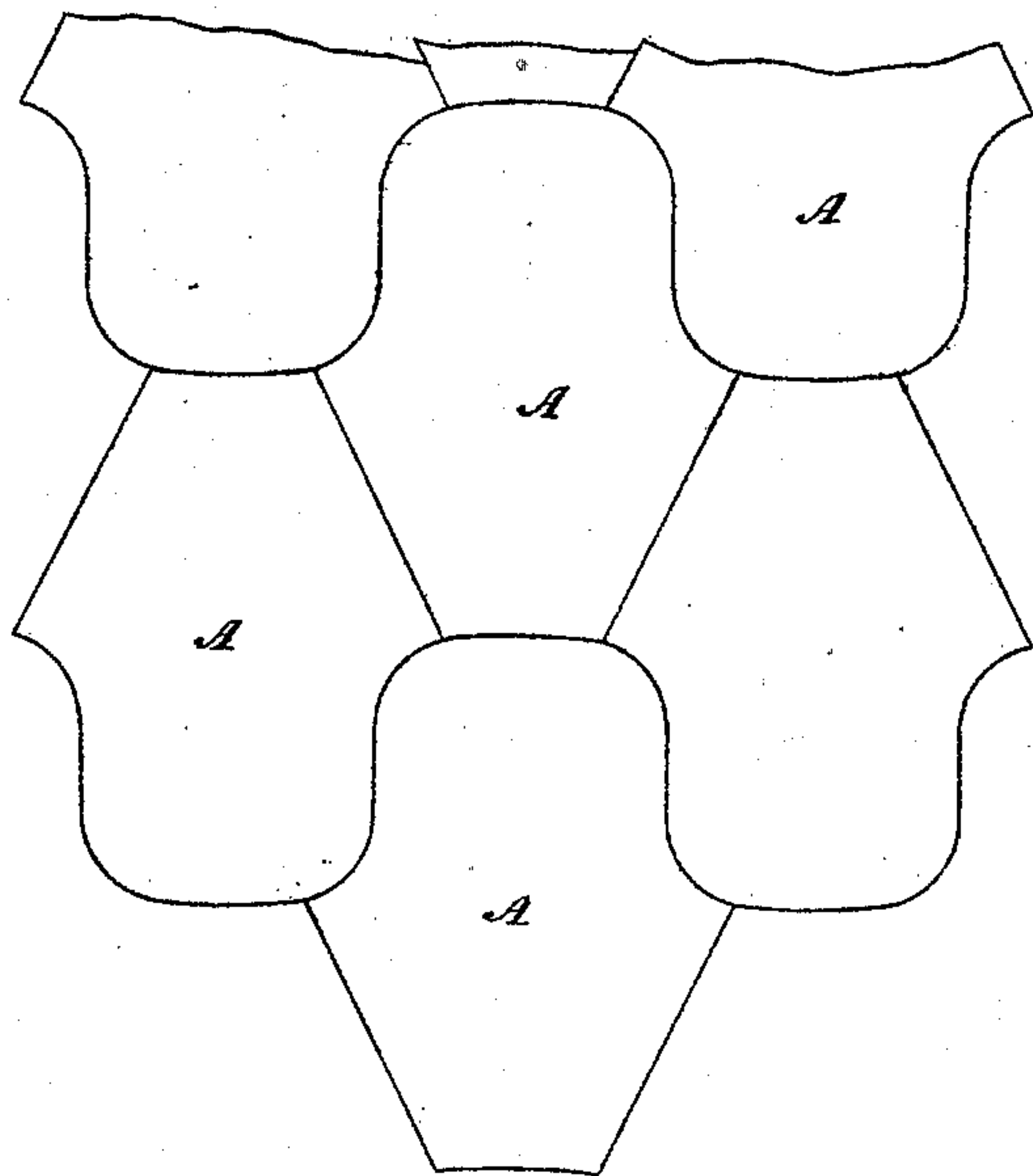


FIG. 3.

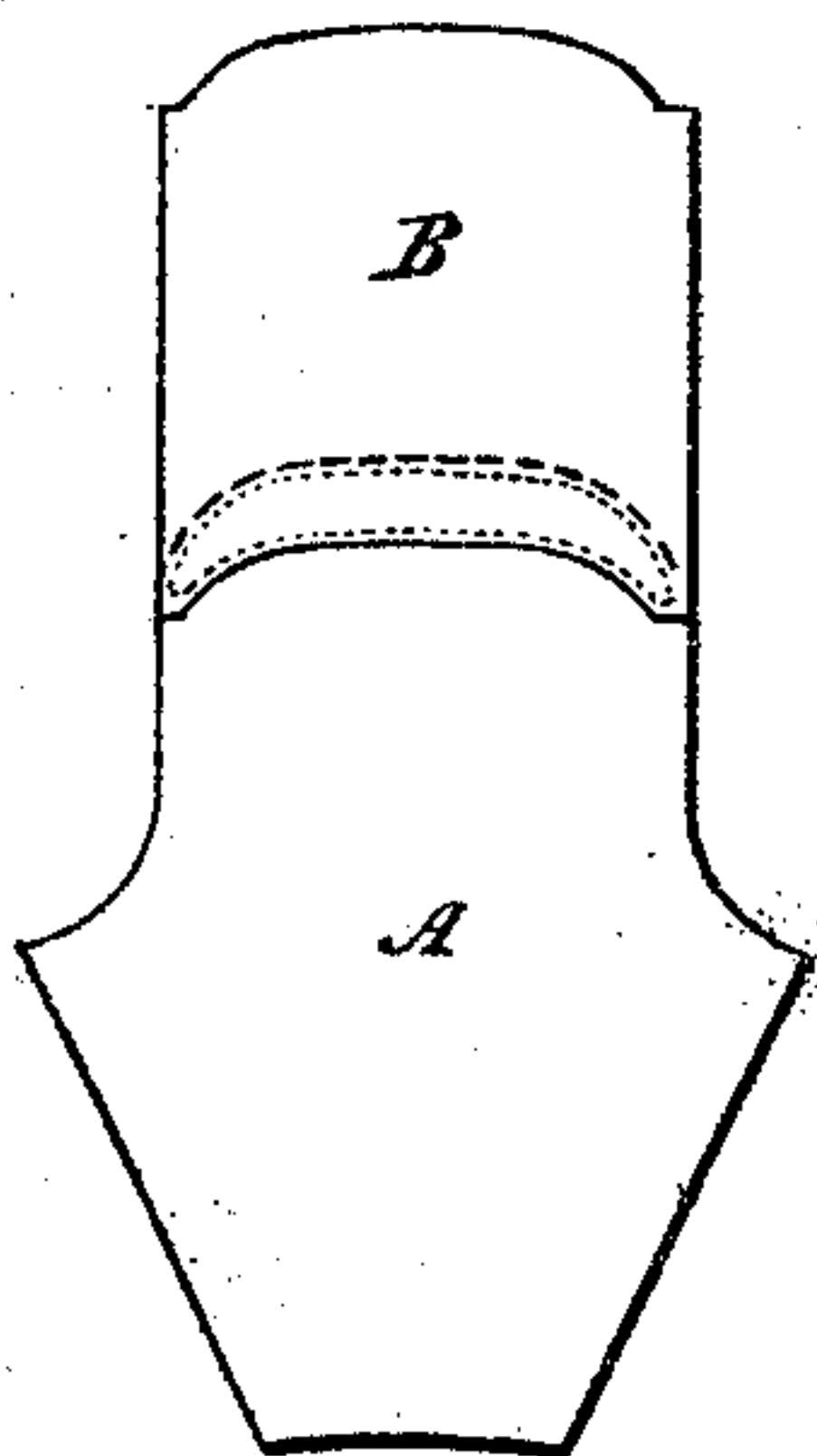


FIG. 2.

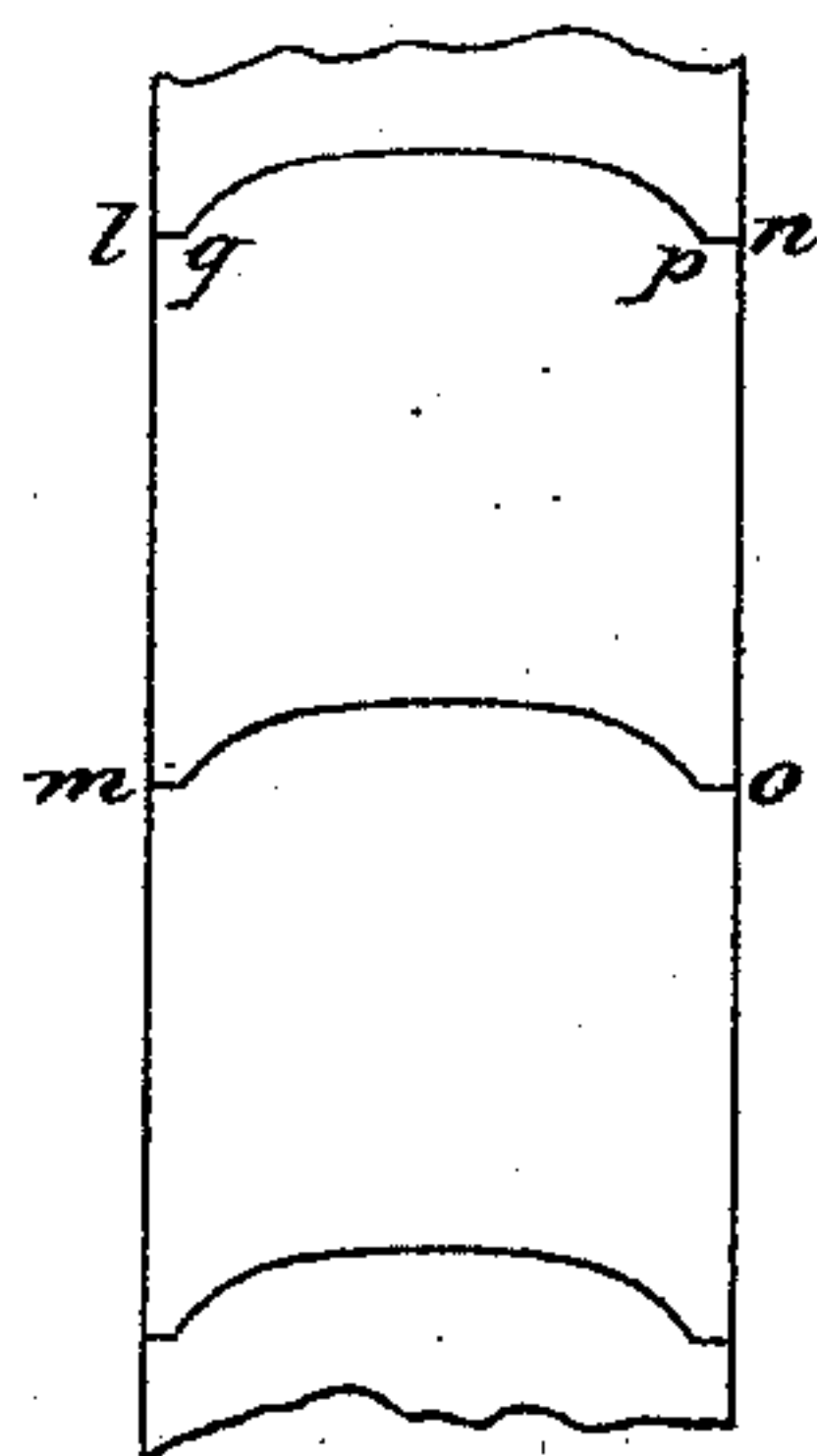
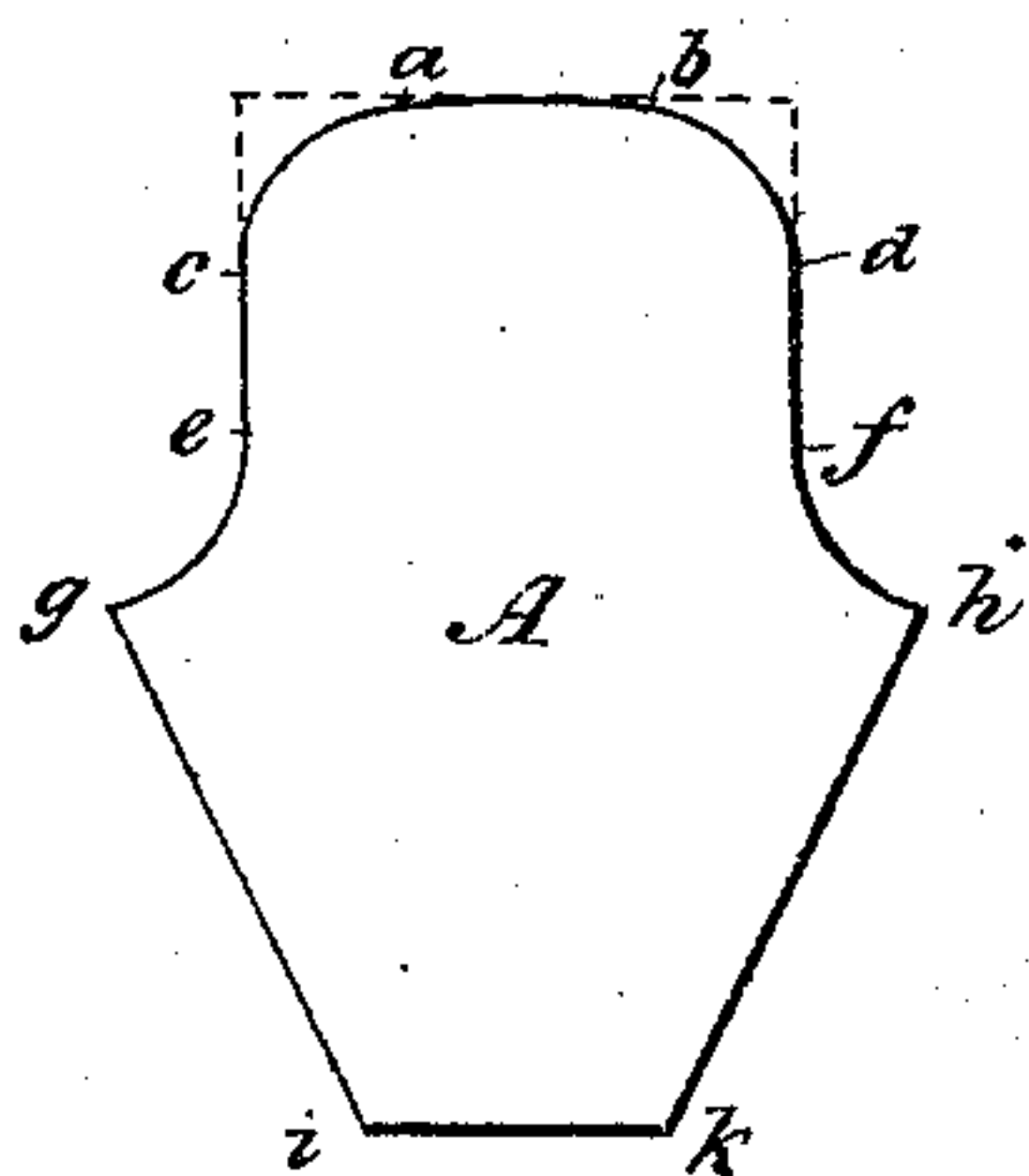


FIG. 1.



Witnesses

Charles H. L. Simpson

Francis Reynolds

Inventor

Oreste Thibaudau