

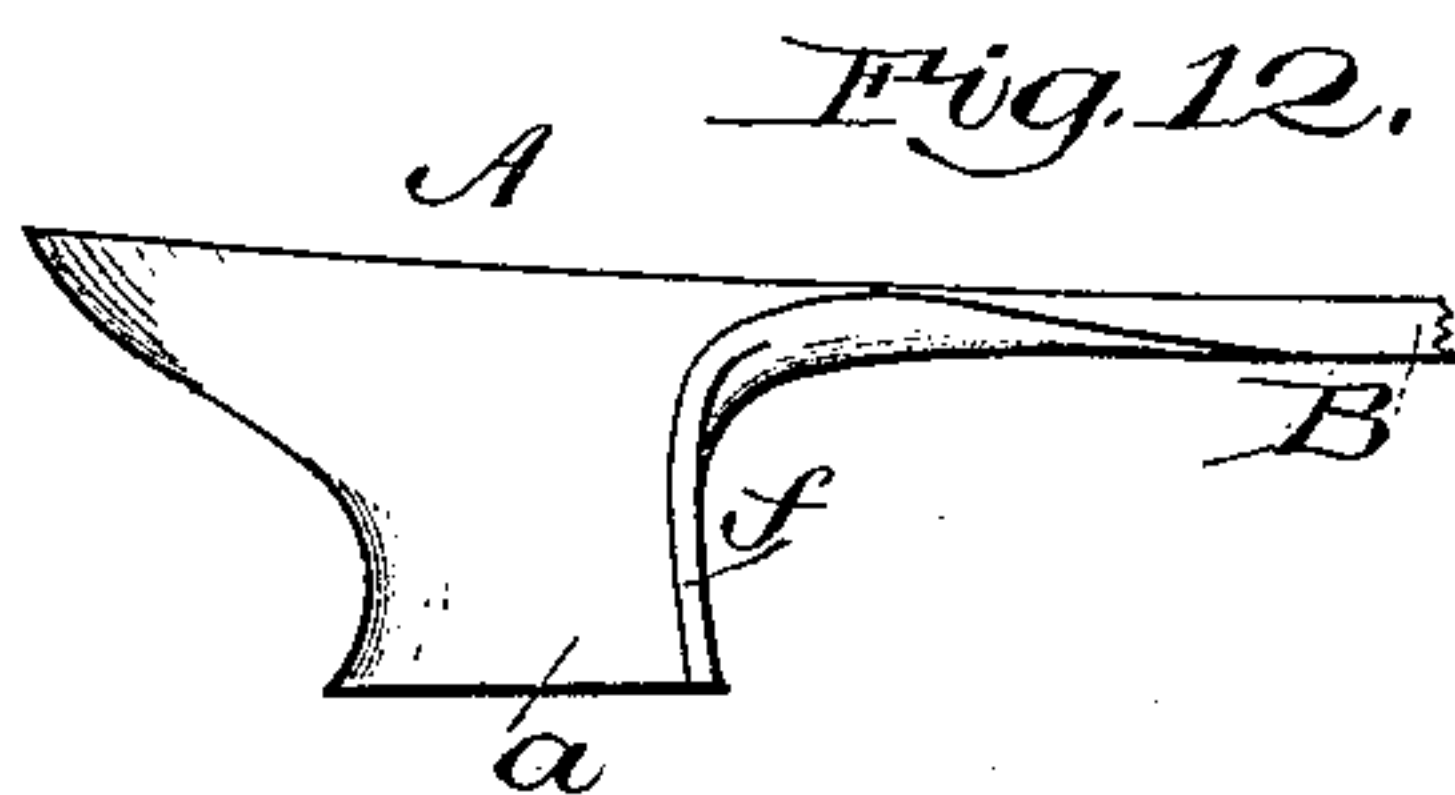
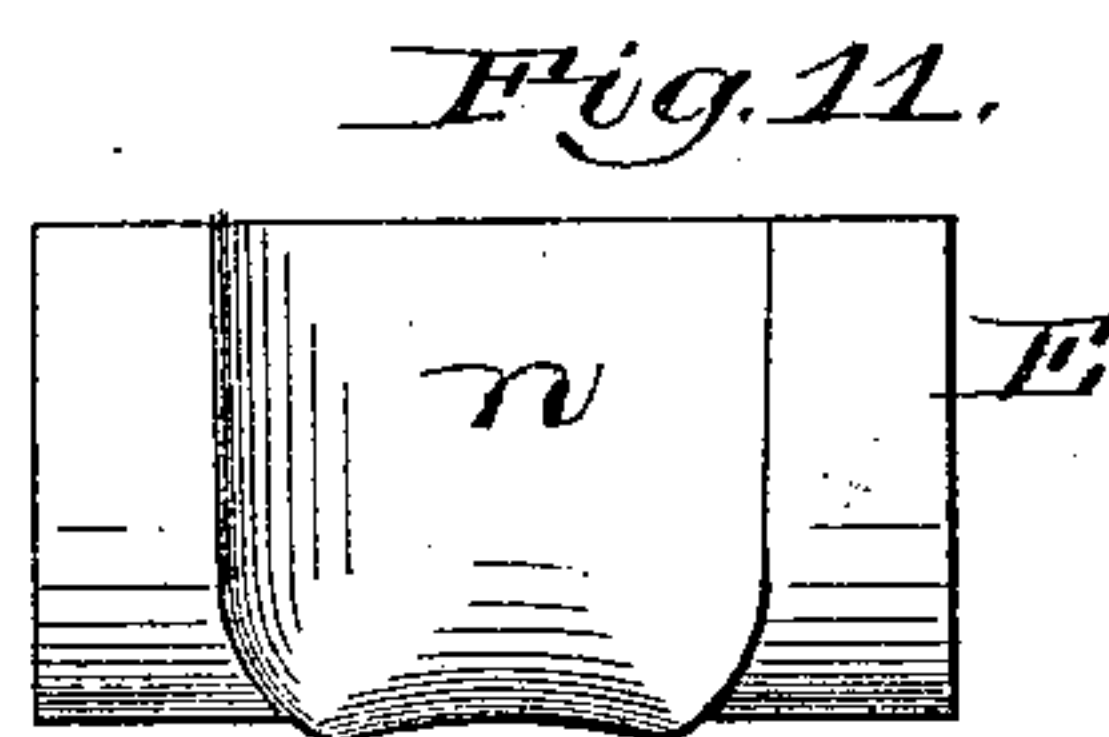
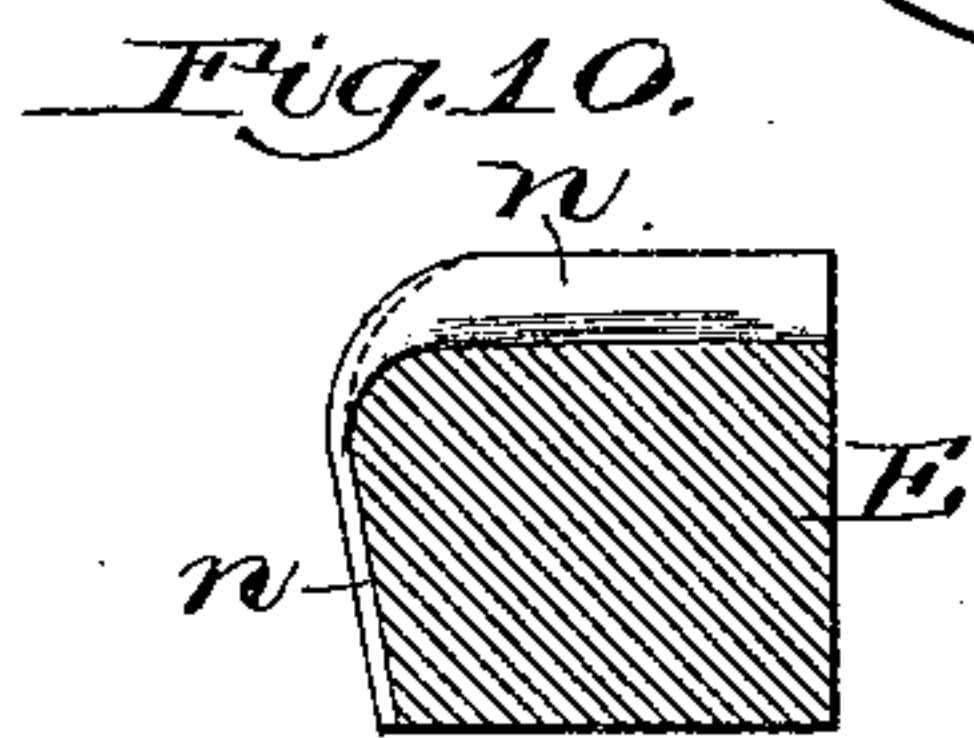
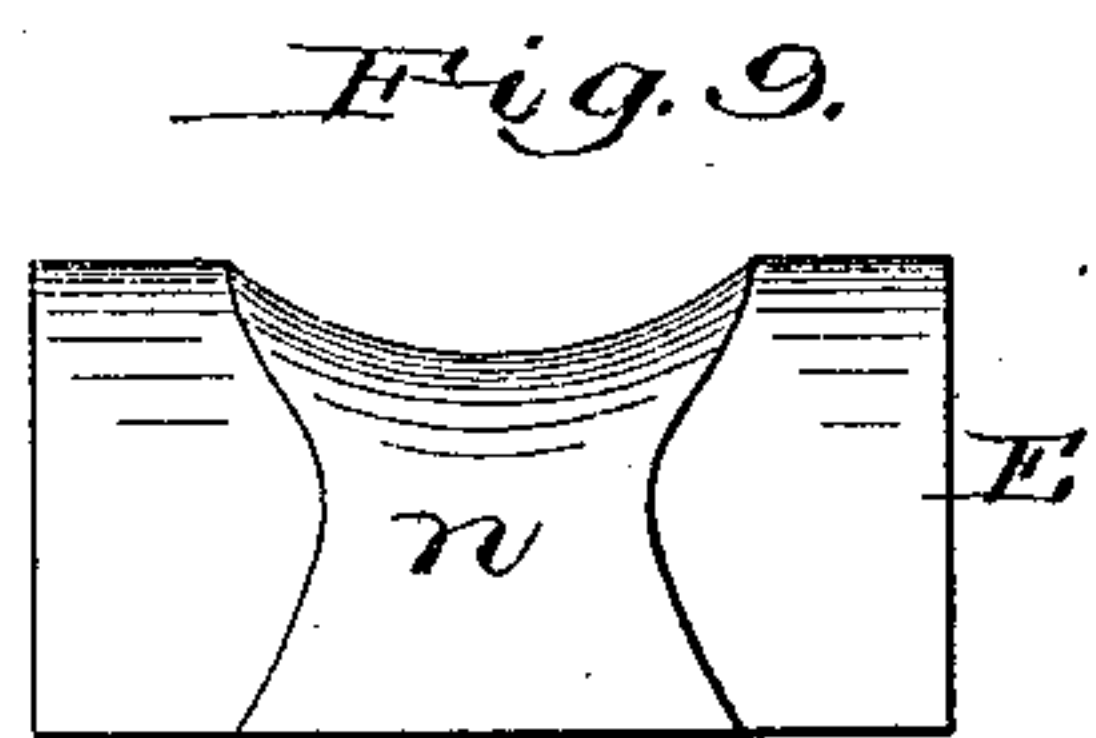
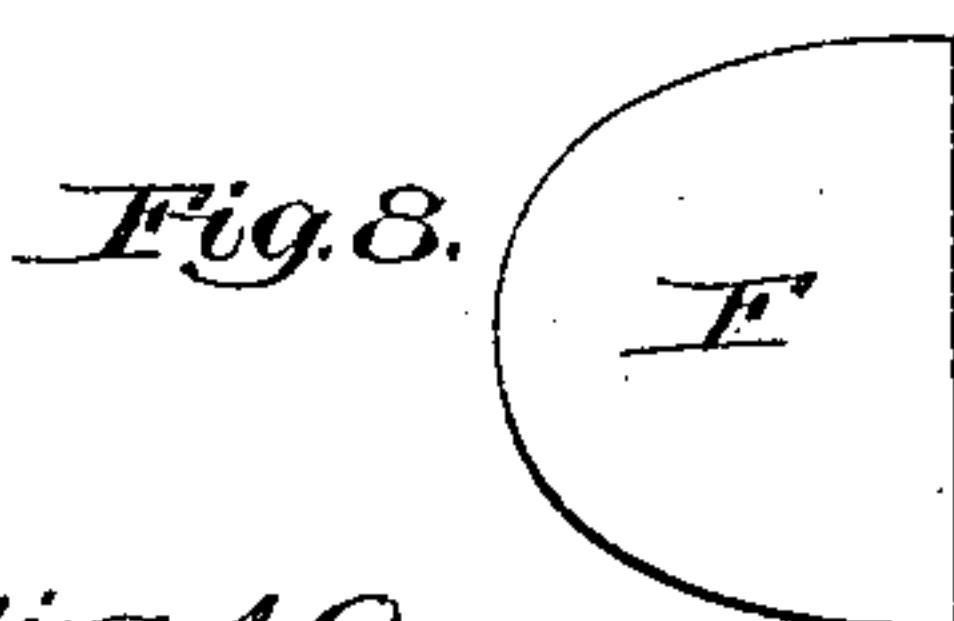
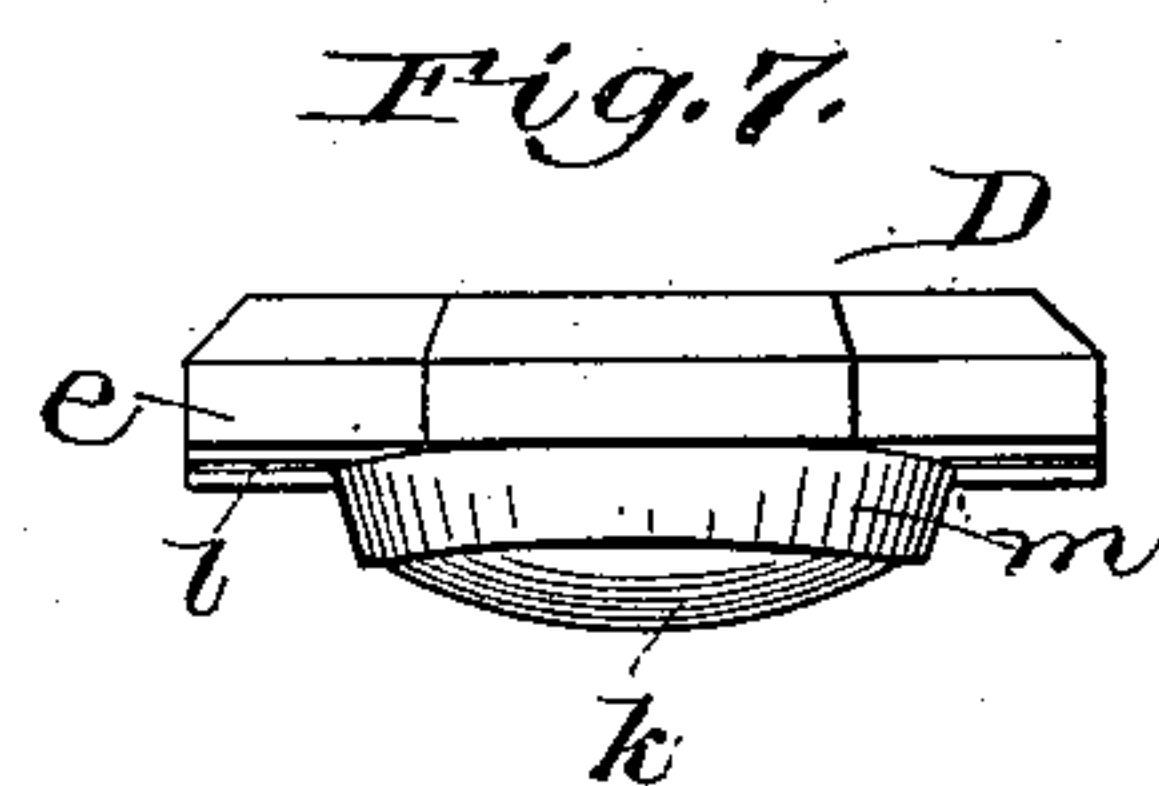
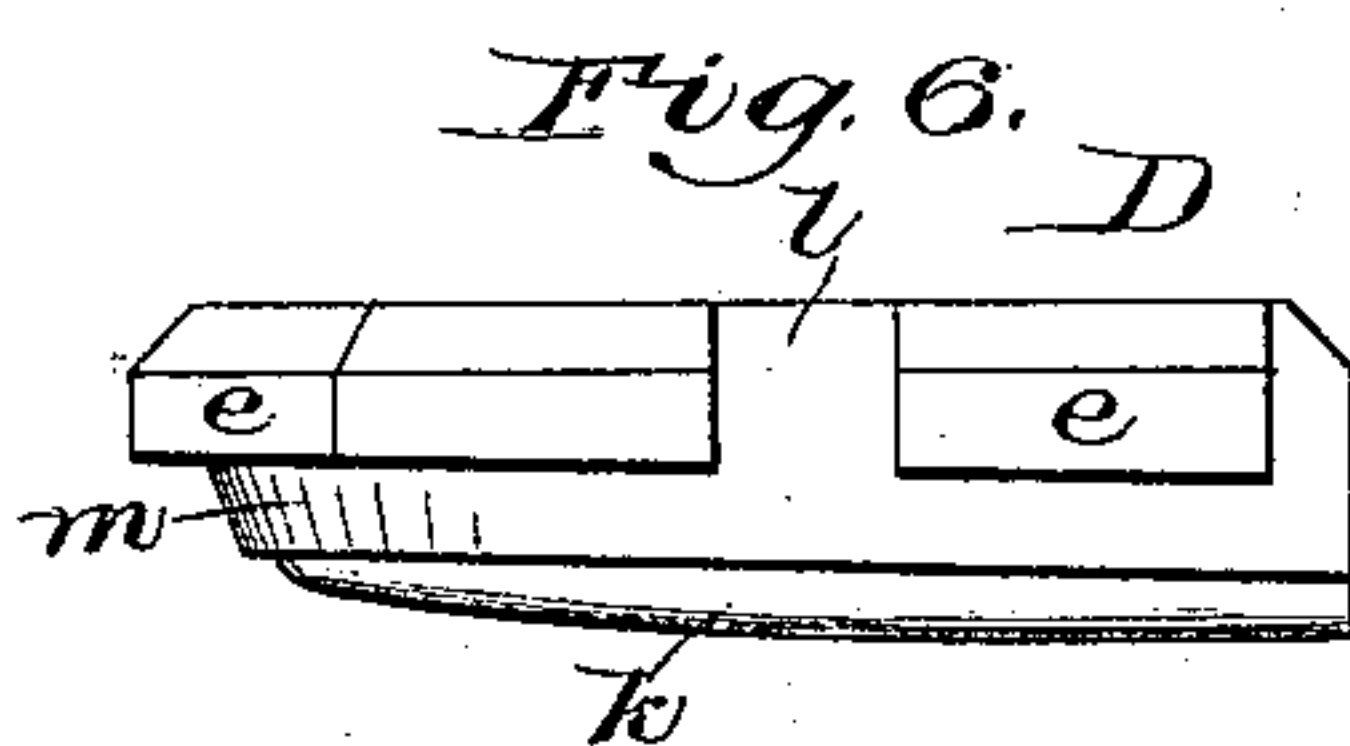
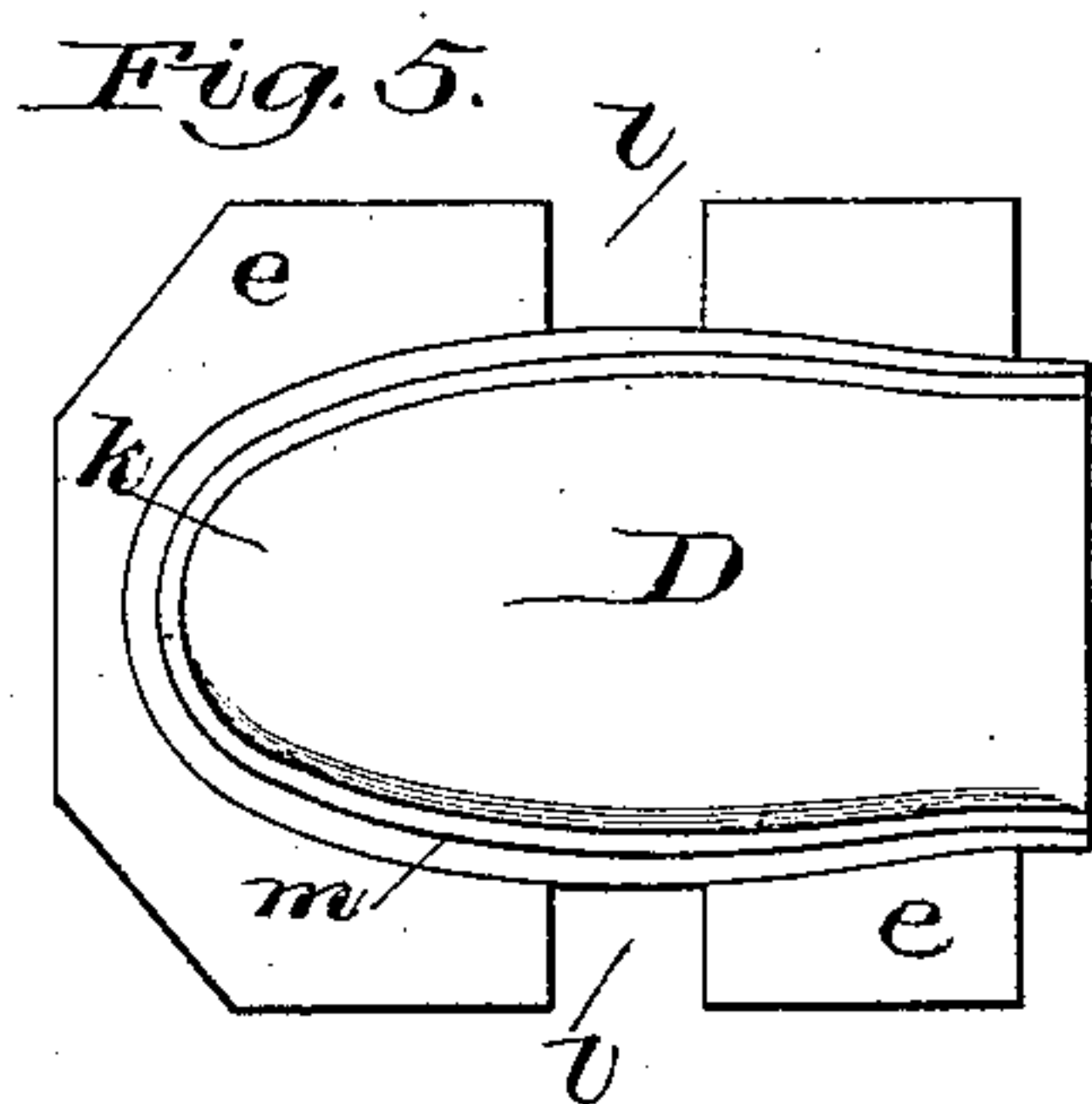
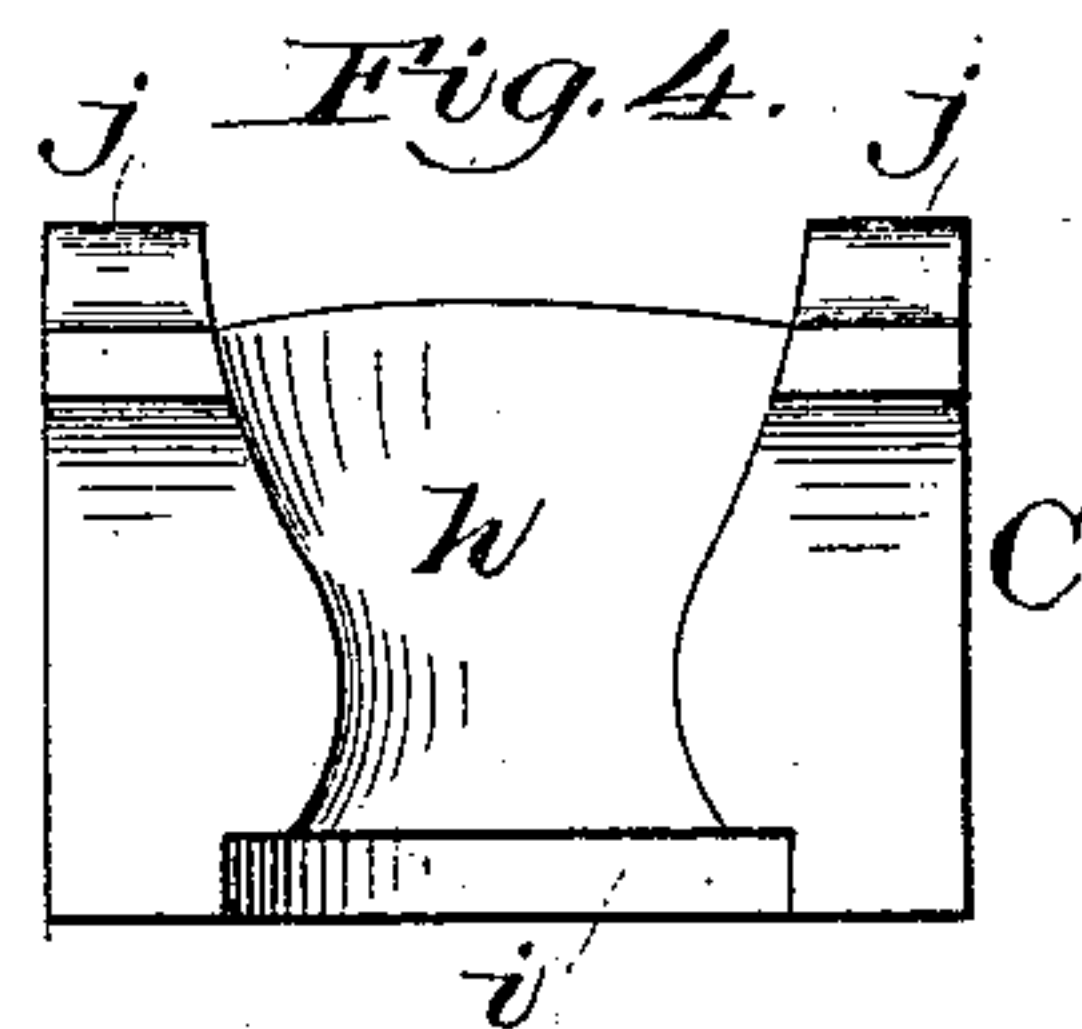
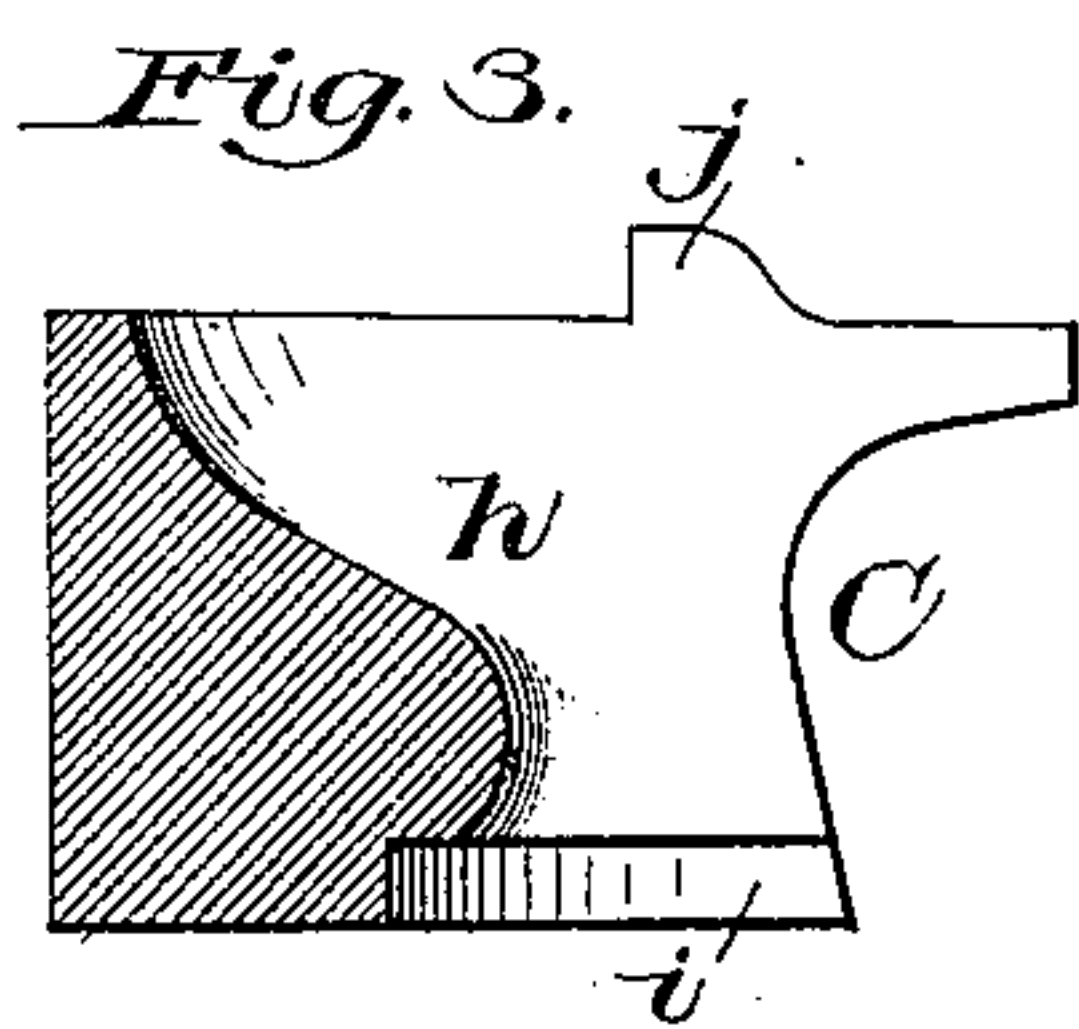
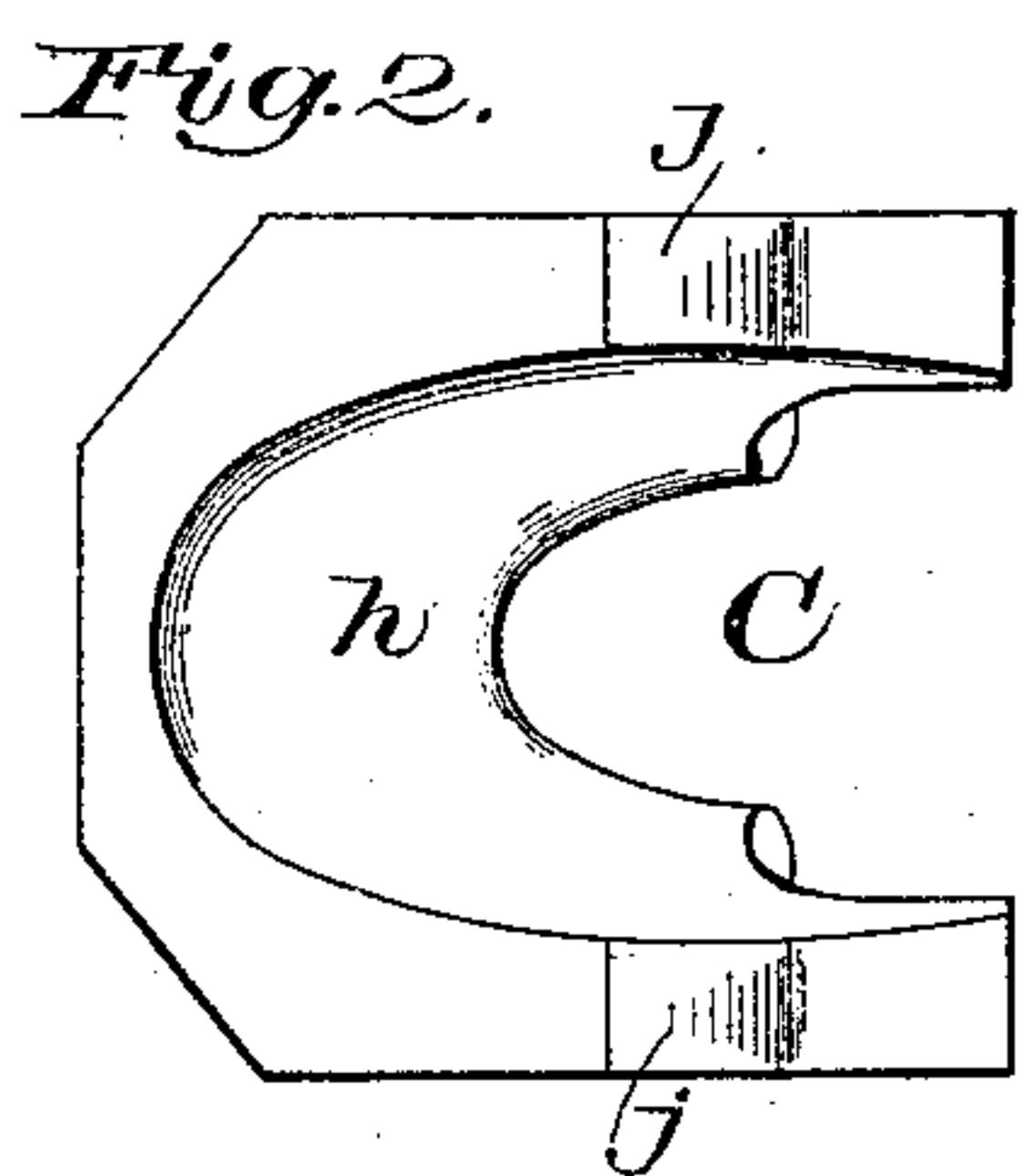
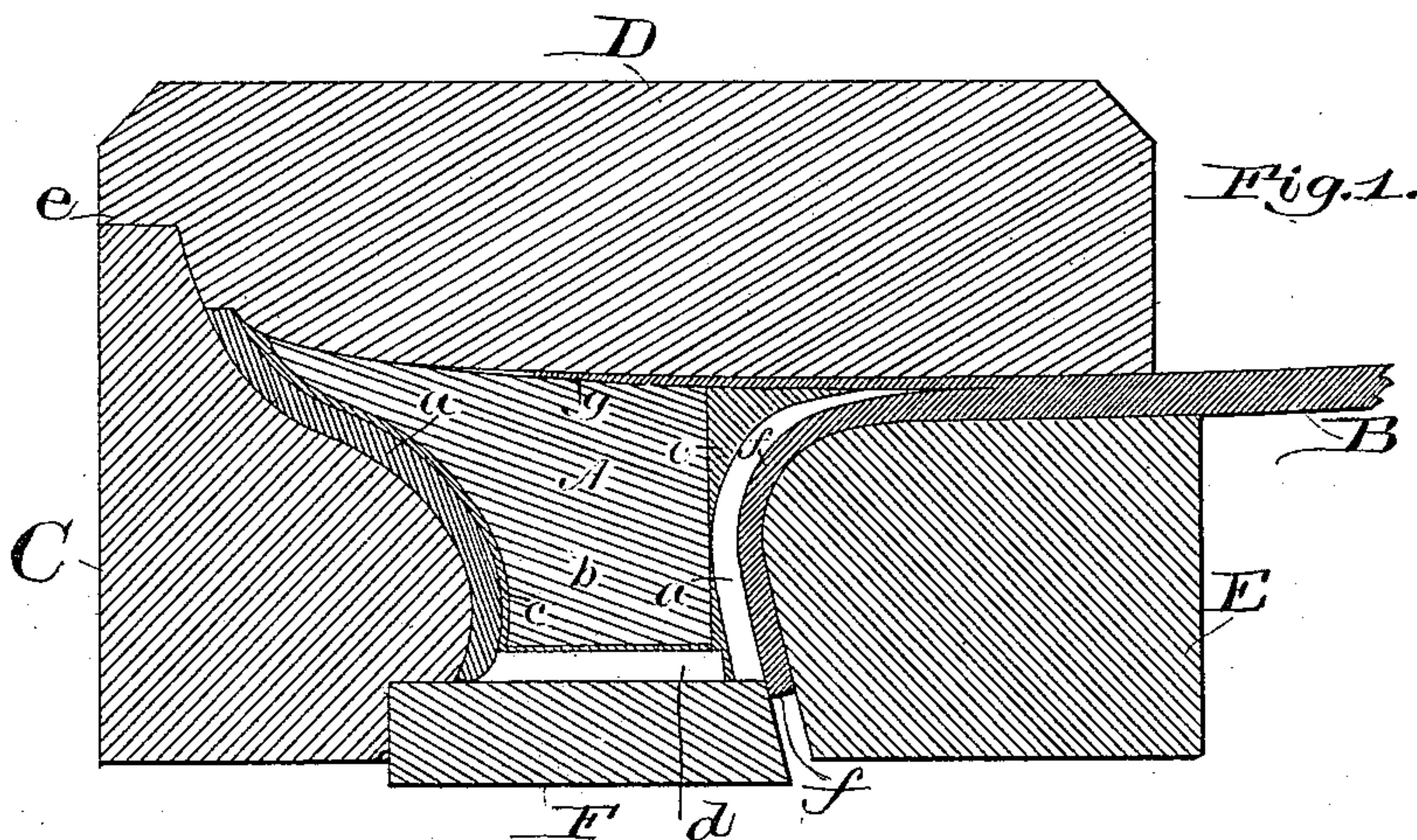
(No Model.)

2 Sheets—Sheet 1.

E. J. LE GAY.
COMBINED SOLE AND HEEL.

No. 350,539.

Patented Oct. 12, 1886.



Witnesses
A. L. Oline
Eugene Humphrey

Inventor
Edward J. Le Gay
per Porter & Hutchinson
Attys

(No Model.)

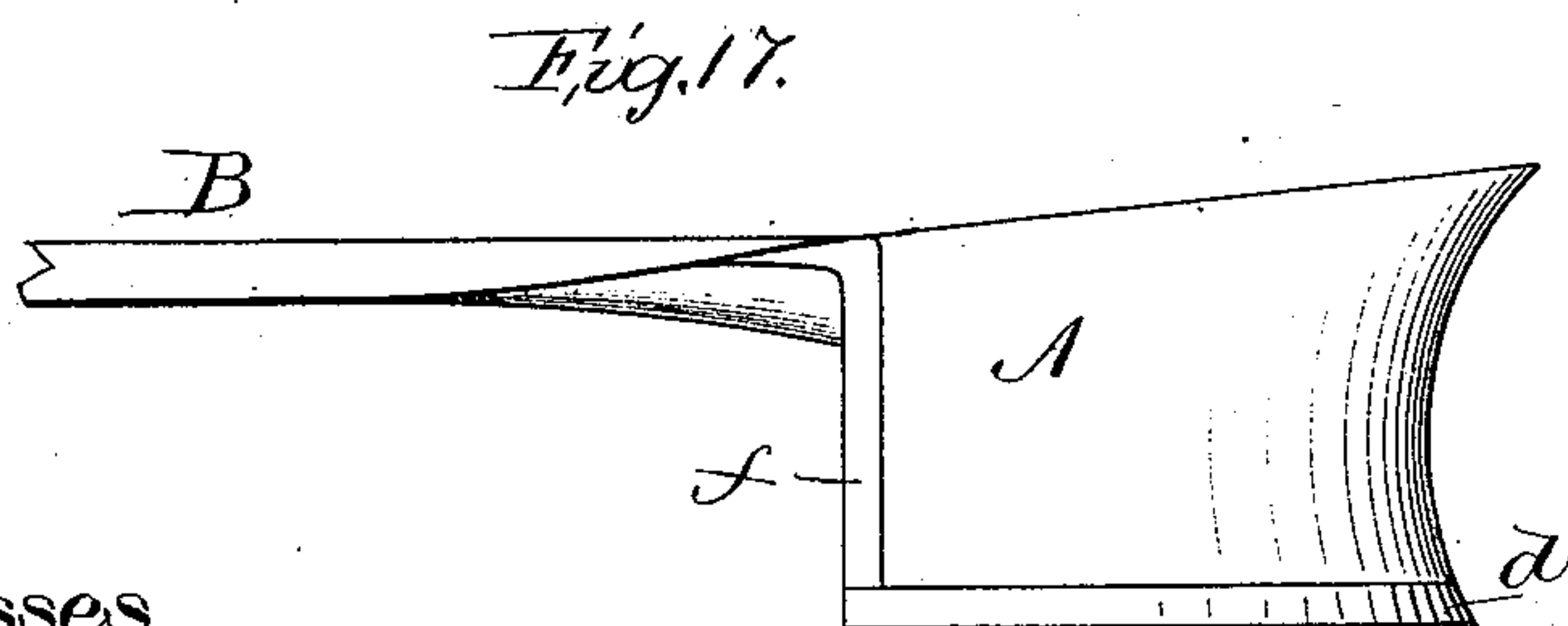
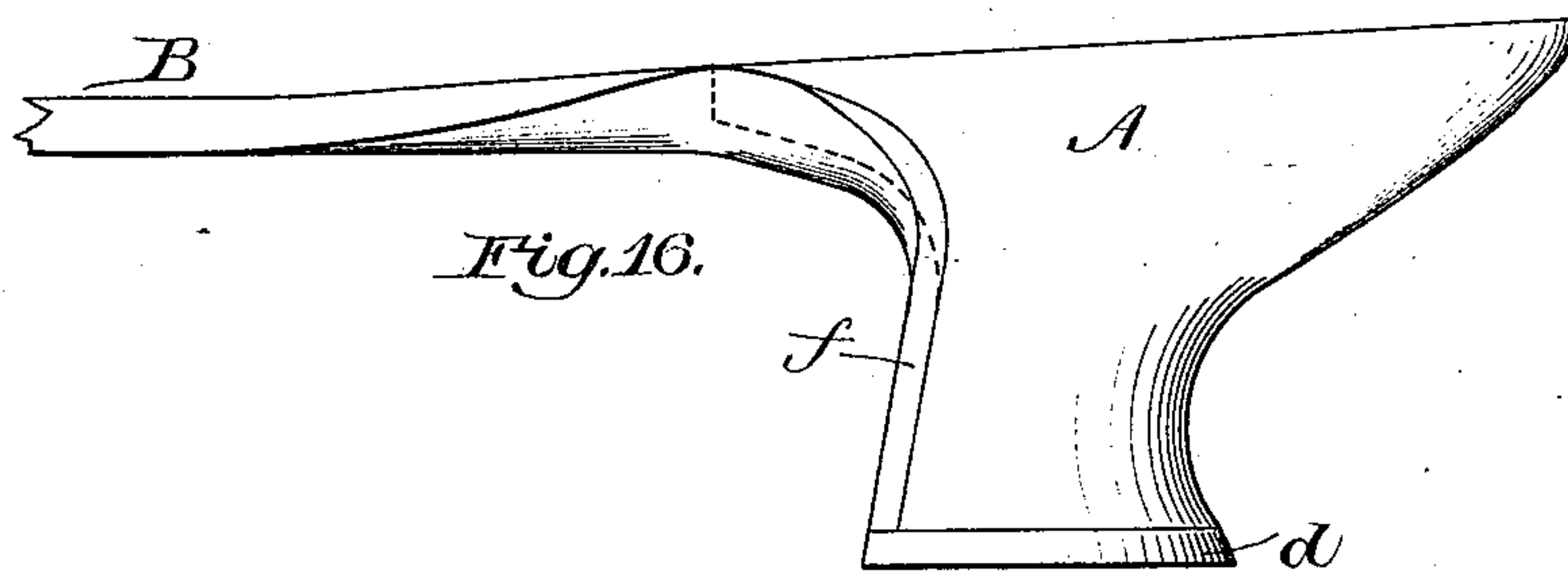
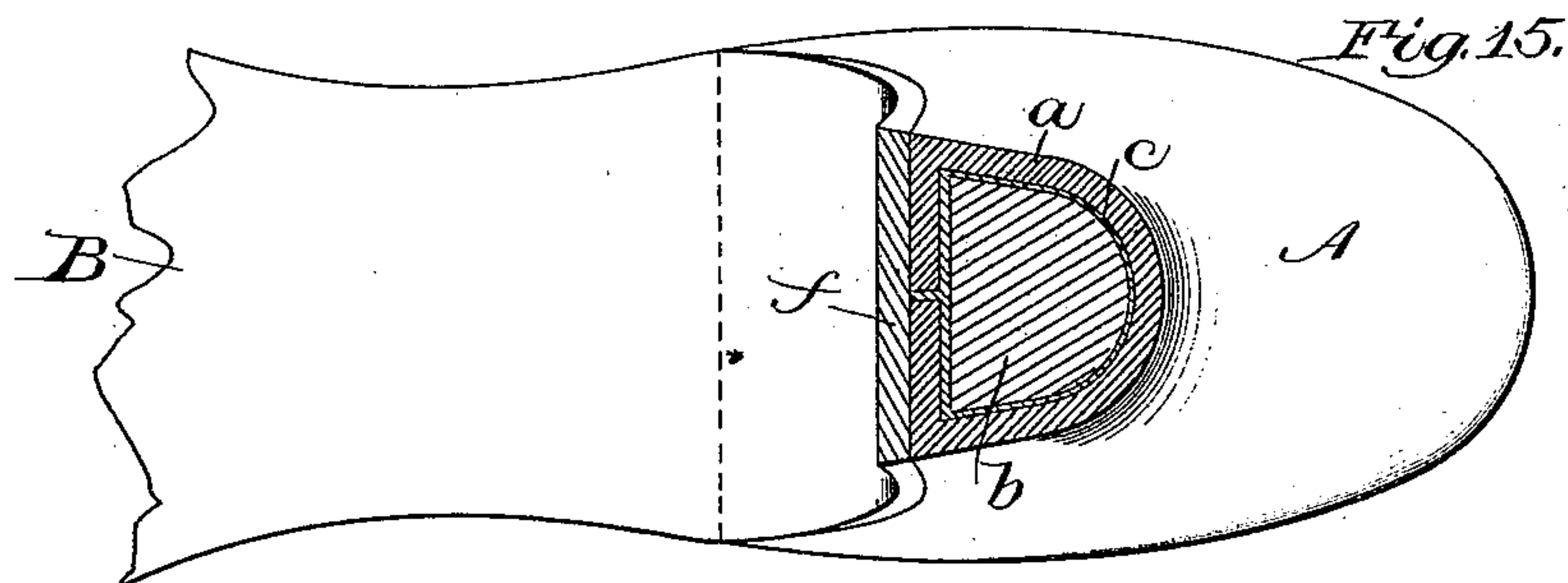
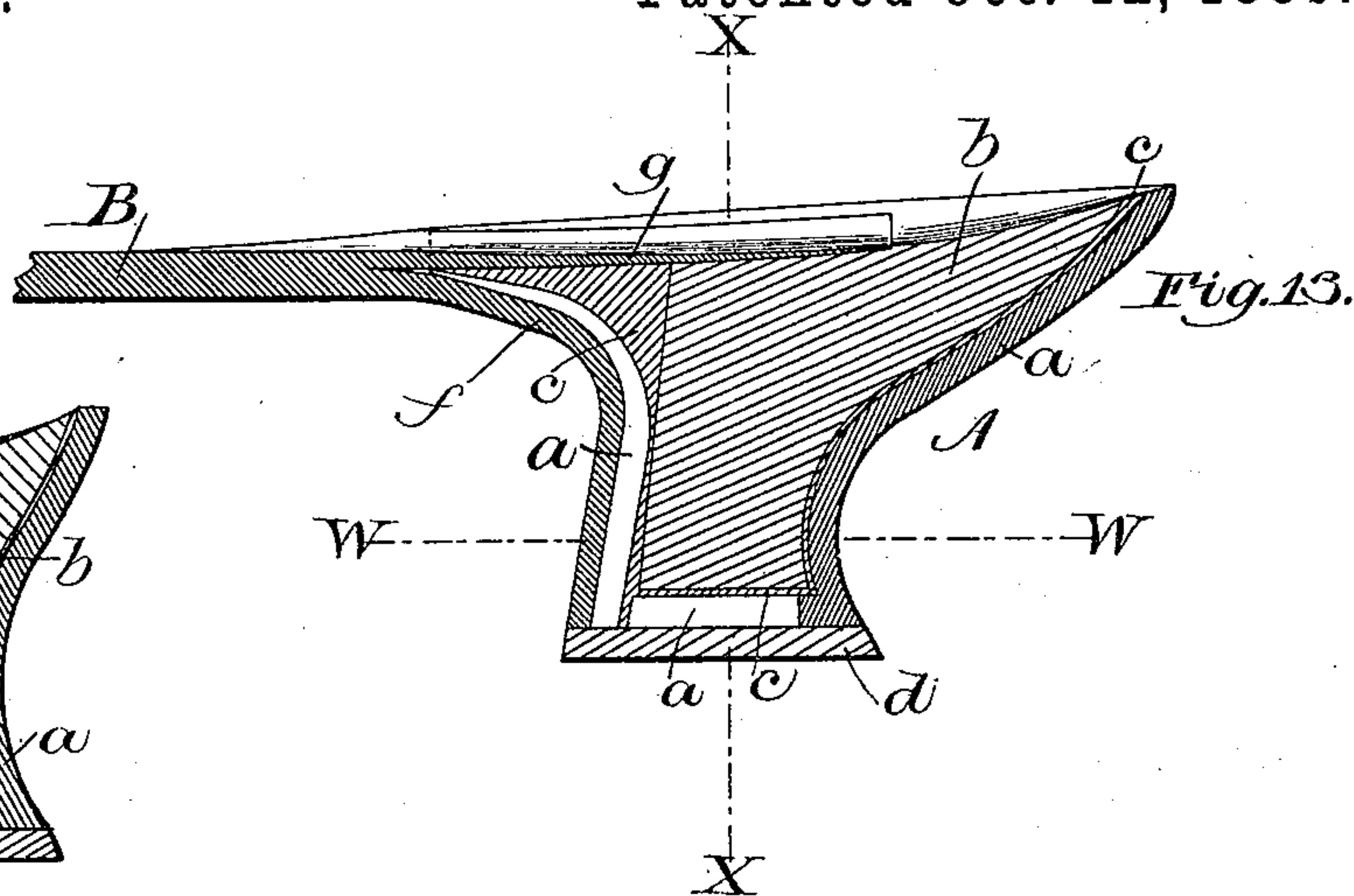
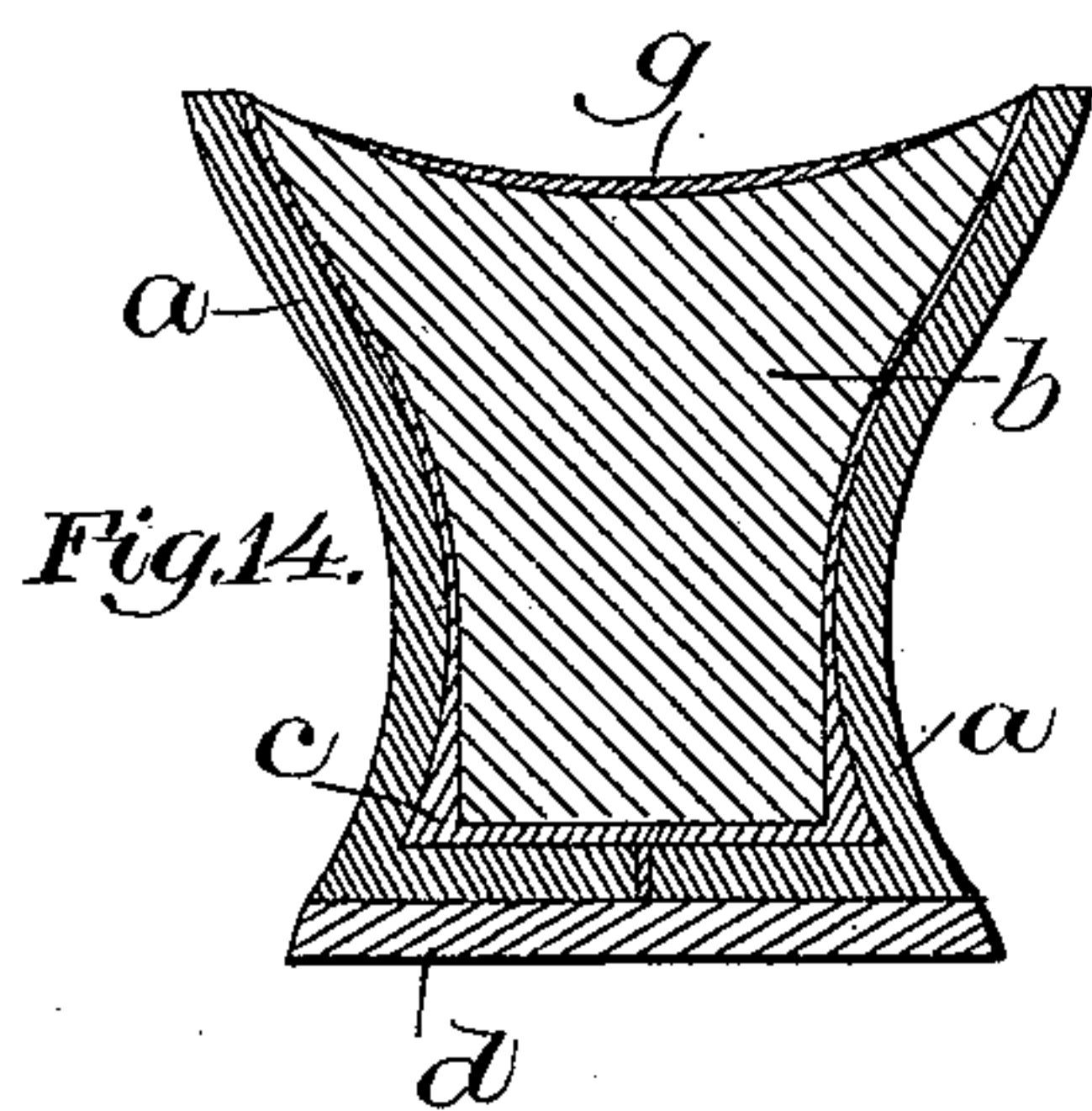
2 Sheets—Sheet 2.

E. J. LE GAY.

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Witnesses

A. C. Orne

Eugene Humphrey

Inventor

Edward J. Le Gay
per Porter & Hutchinson
Atty.

UNITED STATES PATENT OFFICE.

EDWARD J. LE GAY, OF BOSTON, MASSACHUSETTS.

COMBINED SOLE AND HEEL.

SPECIFICATION forming part of Letters Patent No. 350,539, dated October 12, 1886.

Application filed January 15, 1885. Serial No. 152,948. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. LE GAY, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Uniting the Soles and Heels of Boots or Shoes, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claim.

10 This invention consists in an improvement in uniting the soles and heels of boots or shoes—to wit, a new article of manufacture.

In said drawings, Figure 1 is a longitudinal vertical section taken through the sole, heel, and dies, as when the two former are being united according to my invention. Fig. 2 is a top plan of the mold proper with the cap and follower removed. Fig. 3 is a longitudinal vertical section of the mold shown in Fig. 2. Fig. 4 is an elevation taken as at the right hand of the mold, as shown in Fig. 2. Fig. 5 is an inverted or under side plan view of the cap employed with the die. Fig. 6 is an edge elevation of said cap as when in its normal position. Fig. 7 is an elevation of said cap, taken as viewed from the left in Fig. 6. Fig. 8 is a top plan view of the follower, which acts upon the bottom of the heel. Fig. 9 is an elevation of the heel-breast follower, taken as at the left hand thereof, as shown in Figs. 1, 10. Fig. 10 is a longitudinal vertical section of the follower shown in Figs. 9, 11. Fig. 11 is a top plan view of the follower shown in Figs. 9, 10. Fig. 12 is a side elevation of a sole and heel united according to my invention. Fig. 13 is a view of the sole and heel, as in Fig. 1, with the molds removed. Fig. 14 is a vertical section on line X X, Fig. 13. Fig. 15 is an inverted sectional plan view of Fig. 13, the section being on line W W, and the inverted plan view showing all above that line. Fig. 16 is an enlarged view like Fig. 2. Fig. 17 is a view like Figs. 12, 16, with a vertical instead of an arched breast to the heel.

45 In said views A represents the heel, B the sole, C the mold, D the cap of the mold, E the heel-breast follower, and F the heel-bottom follower. Said heel is shown as formed with a continuous molded outer wall, *a*, having a filling-block, *b*, of wood or other suitable material, with an interposed cement, *c*, to oc-

cupy the spaces between wall *a* and block *b*, and to unite the same. A "lift" or heel-bottom cover is shown at *d*; but said heel may be formed of any material which is susceptible of being united to the sole by an adhesive medium. The sole B is at its rear portion subdivided horizontally or parallel with its broader planes, and the upper part or leaf, *g*, of the sole thus subdivided is extended along the upper surface of the heel, while the lower part, *f*, of the sole is extended down the front or "breast" of the heel, a coating of some hard-drying and strongly-adhesive cement being applied to the contact-surfaces of the sole and heel thus united.

For the purpose of closely and firmly uniting the heel and sole during the hardening of the securing cement, I employ the mold and coacting parts shown in the specified views, and described in detail as follows: The mold C has a cavity, *h*, in which all parts of the wall of the heel, except the breast or front, fit closely. In the bottom of said mold is a cavity, *i*, into which is fitted the bottom follower, F. (Shown in position in Fig. 1, and in plan in Fig. 8.) This follower is designed to act upon the lift *d* or bottom of the heel, and by suitable devices to be forced into position in the mold when a heel has been inserted therein.

To act against and compress the leaf *f* of the sole against the breast of the heel, I employ a follower, E, which is formed to correspond to the front of the heel, and when the same is swelled or rounded in horizontal section is formed with a groove, *n*, in its vertical face, extending down from the groove *n* in its upper face, which corresponds with the required curvature of cross-section of the sole. In addition to these parts I employ a cap, D, in the seats *l* of which the lugs *j* of mold C interlock. Said cap is formed with a projection, *m*, that enters within the wall of mold C, when the flange *e* of the cap is forced down to the mold. A rounded projection, *k*, is formed to fit that portion of the seat in the top of the heel that is not covered by leaf *g*, and also to compress said leaf into the curve of the heel.

In practice the sole and heel, after the uniting surfaces have been duly coated with cement, are brought together, and the heel is placed in mold C, which is duly seated in a holder in a

press. Then cap D and followers E F are arranged in position, and power is applied thereto so as to conform the parts of the sole to the heel, and allow the cement to firmly fasten the same together.

It will be obvious that when the heel and sole are thus joined together before either is applied to the boot or shoe, the sole can be secured thereto in any of the well-known methods, and that the heel will be secured in place by fastenings introduced within the boot or shoe, and thence inserted in the heel.

The advantages of my method of uniting the sole and heel are obvious from an inspection thereof. When attaching the soles to heels like that shown in the drawings, the lateral thickness of which is least at a point between the bottom and top, as shown in Fig. 4, the heel can only be inserted in the mold from the front, and hence in order to apply pressure to the heel at the bottom it is requisite to employ the lower follower, F; but with heels of the ordinary pattern said follower may be a part of mold C, and the heel be seated directly thereon when placed in the mold.

No claim is herein made to the molds shown and described, the same being introduced into the drawings, and described only in order to

clearly show the requisite means for carrying my invention into effect.

I am aware of United States Patent No. 295,053, and of the previous method described in said patent of uniting the sole with the heel, and my invention is essentially unlike either, in that in both the patent and the earlier practice, as is specified in said patent, the sole was first secured to the shoe, and then the heel was attached to the sole, while by my method the sole and heel are first united in the manner specified, and then they are secured to the shoe, whereby I am enabled to employ my conforming-molds in uniting the sole and heel, which would be impossible in either of the above methods.

I claim as my invention—

As an improved article of manufacture, a sole and heel having one leaf or portion of the partly-divided sole attached to the breast of the heel and the other to the top thereof, and permanently secured together preparatory to incorporation in the boot or shoe, substantially as specified.

EDWARD J. LE GAY.

Witnesses:

T. W. PORTER,
EUGENE HUMPHREY.