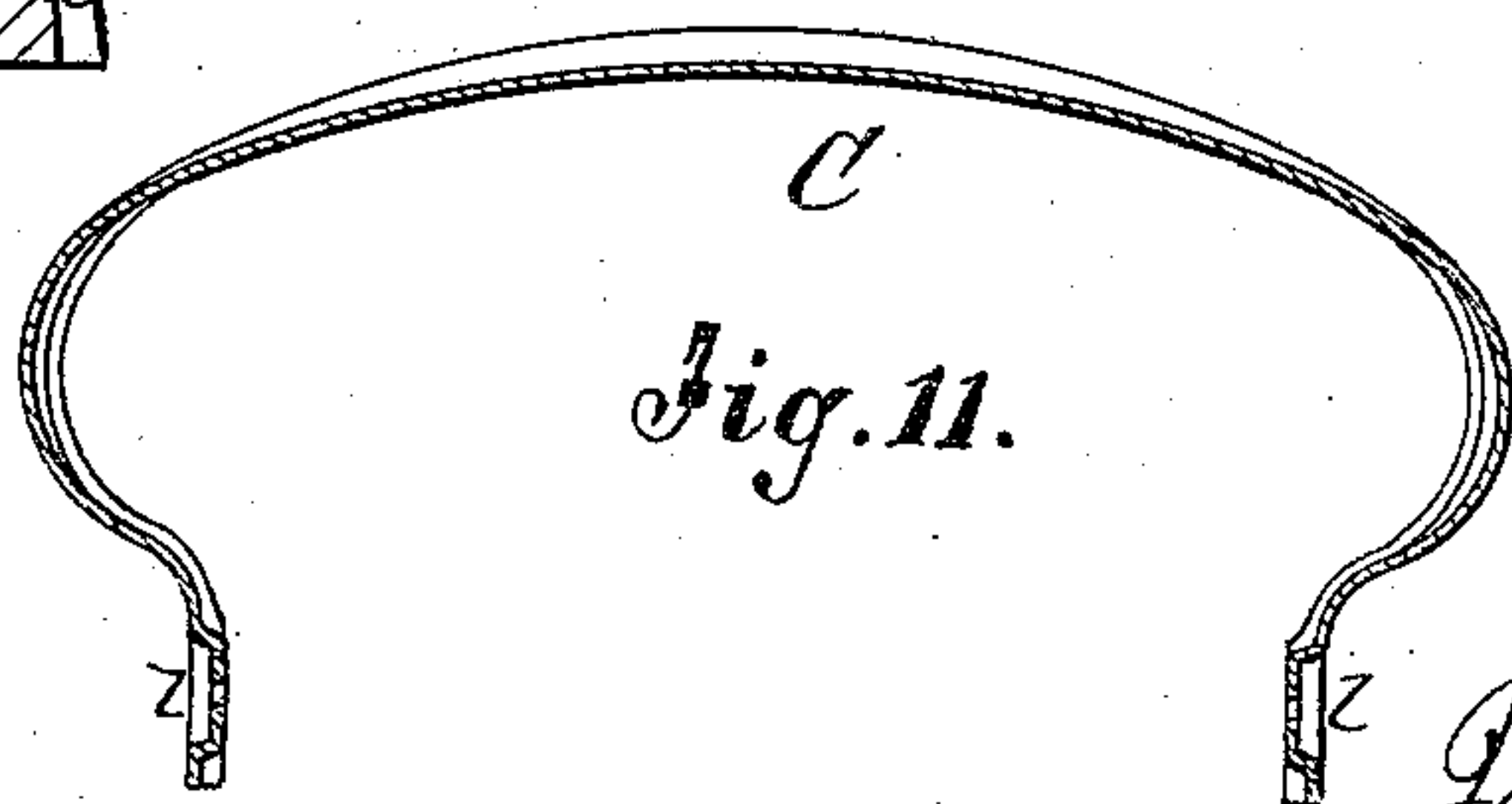
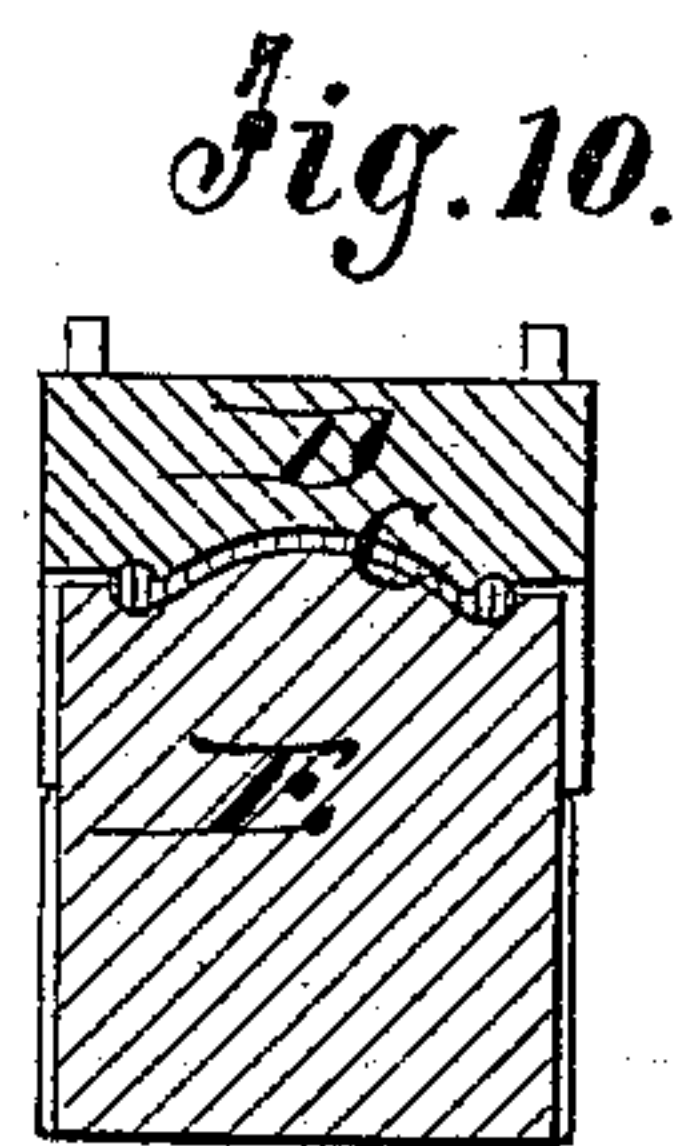
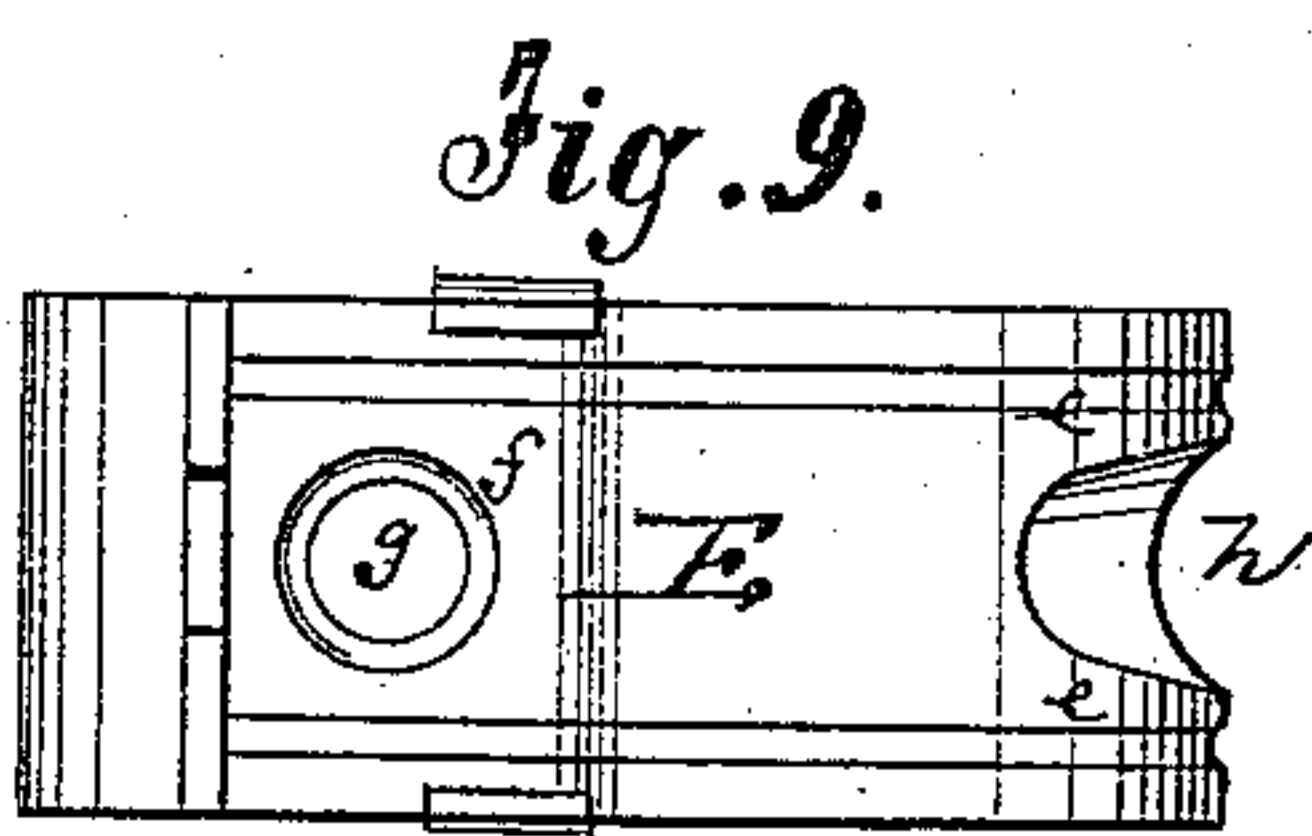
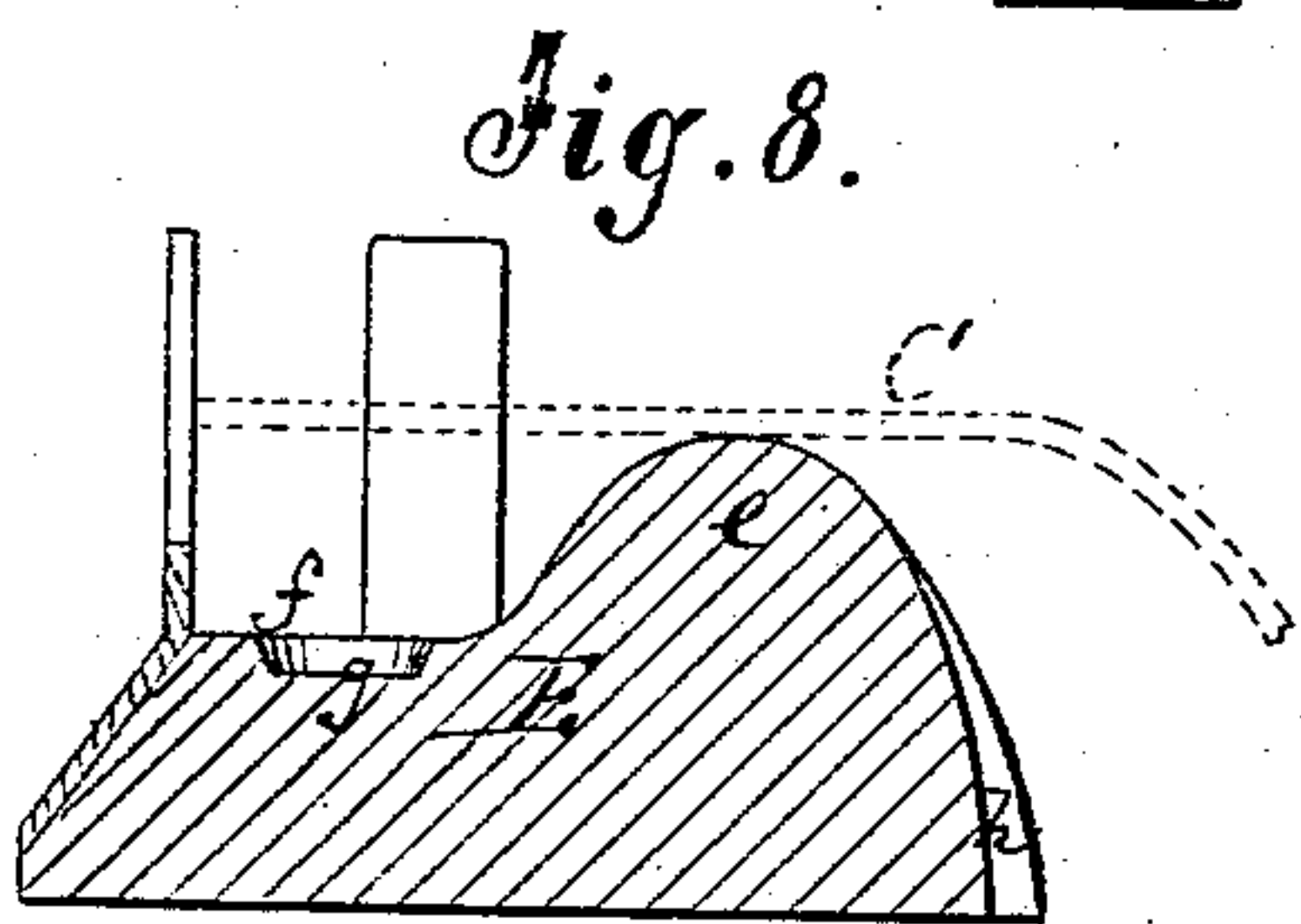
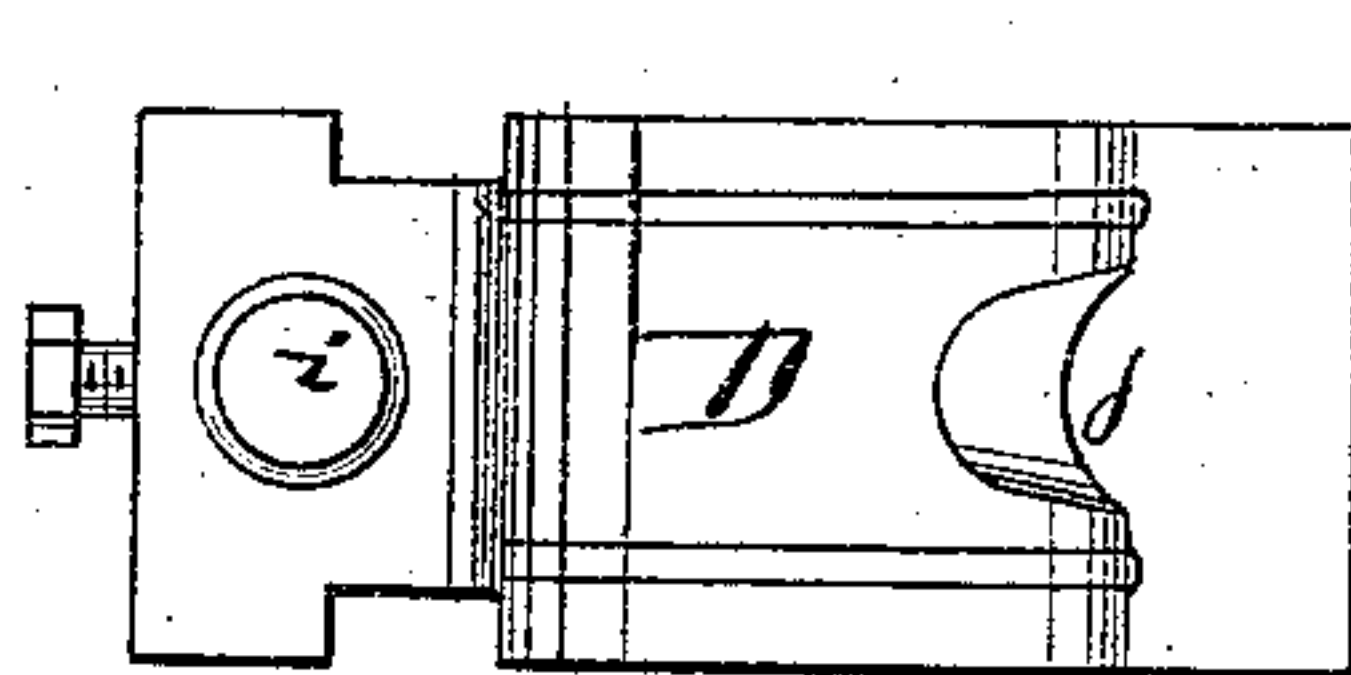
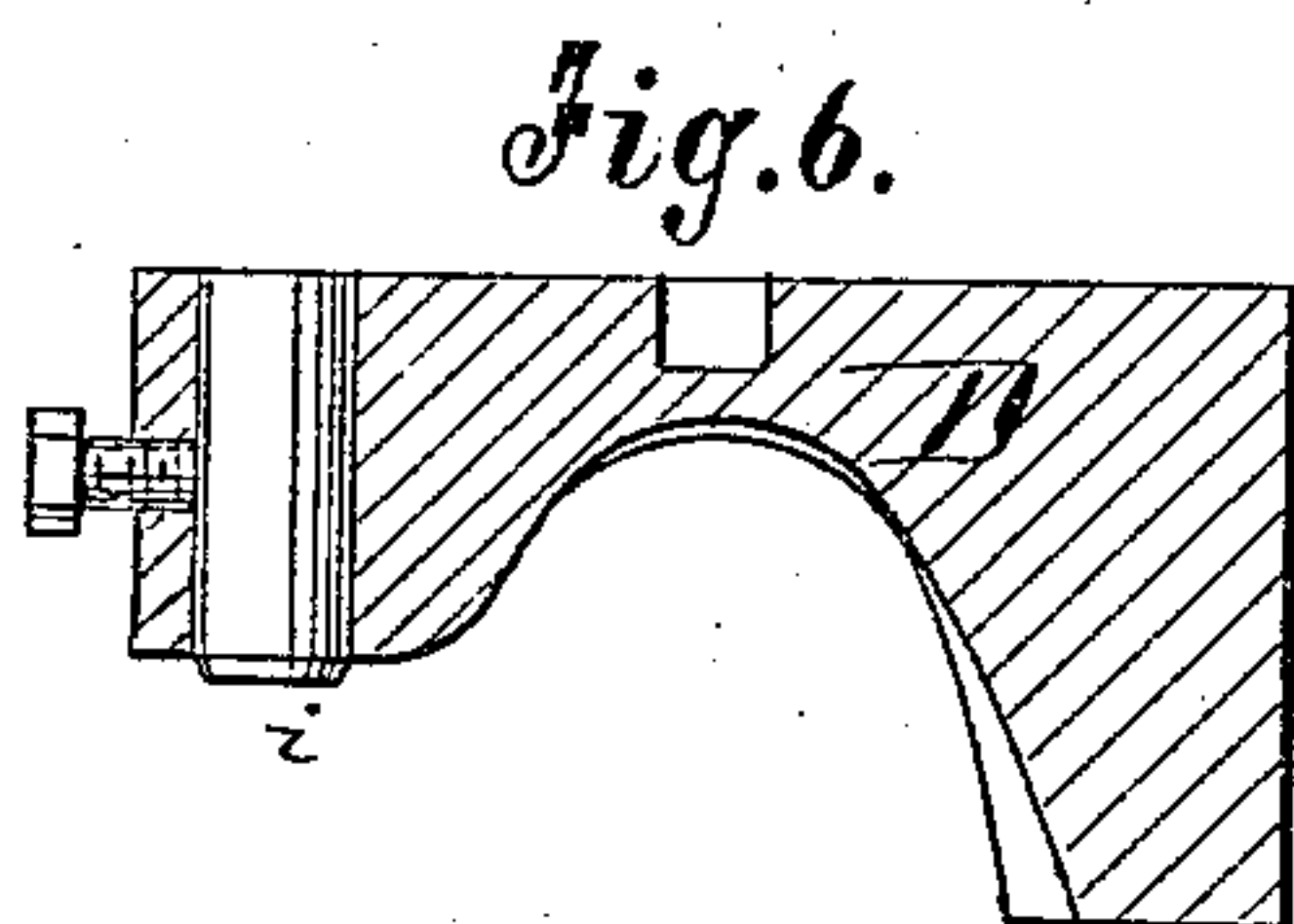
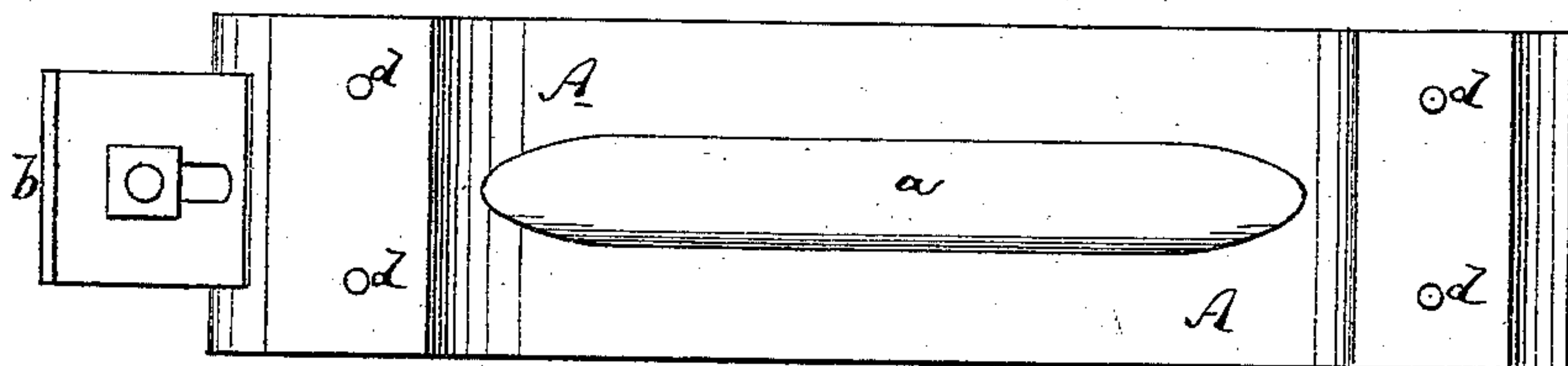
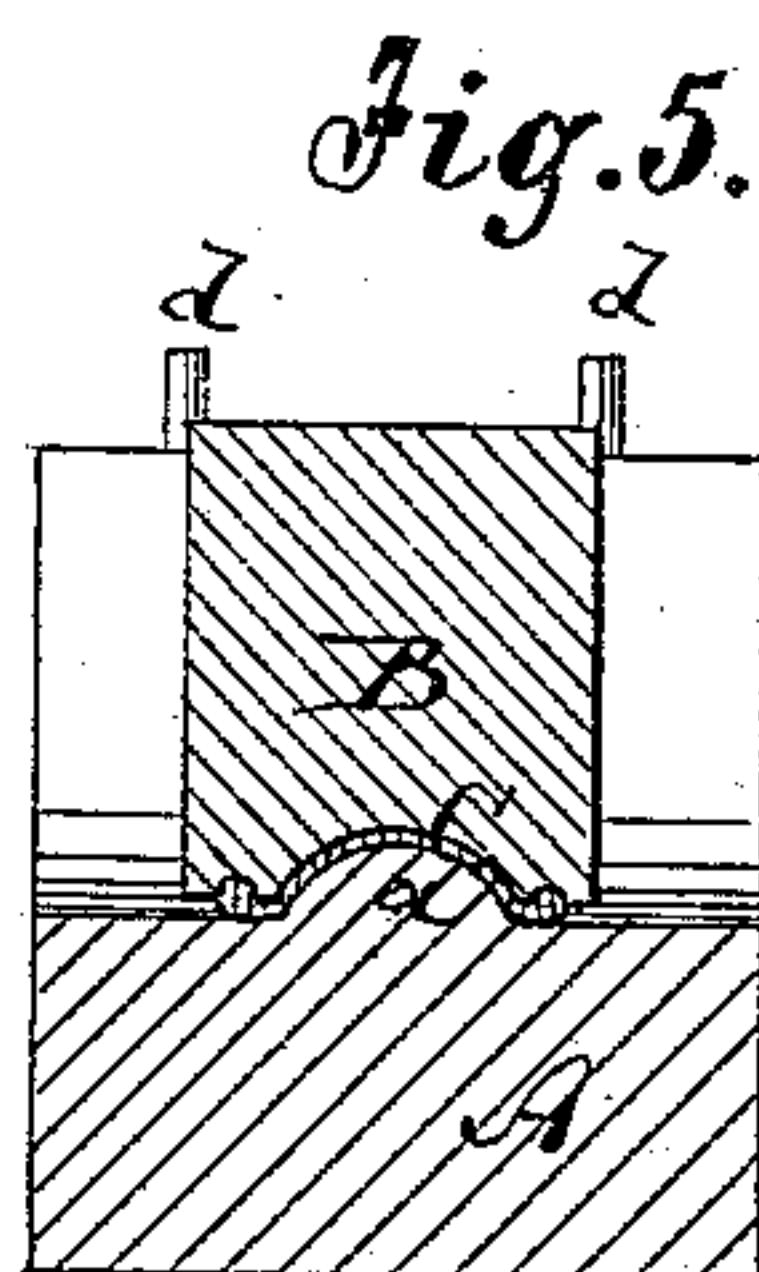
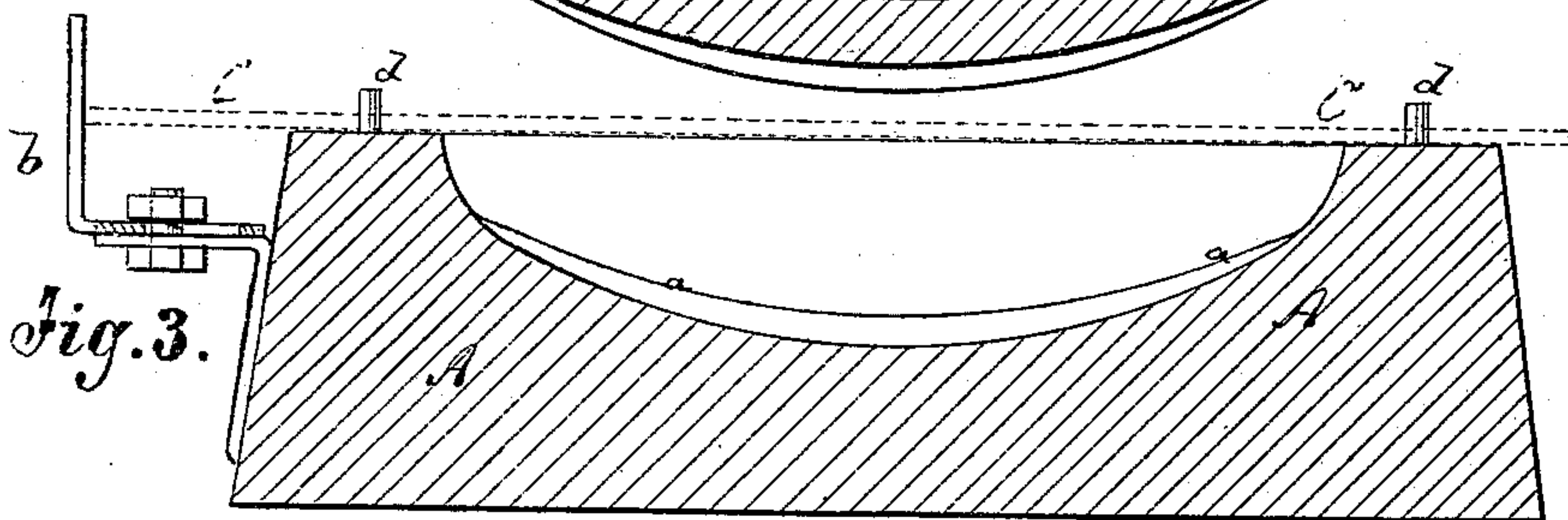
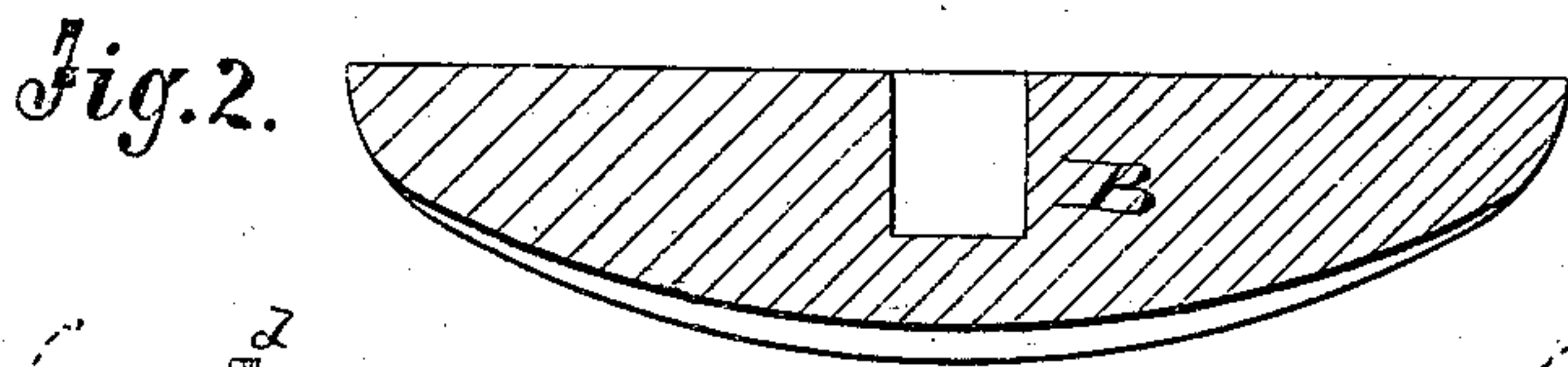
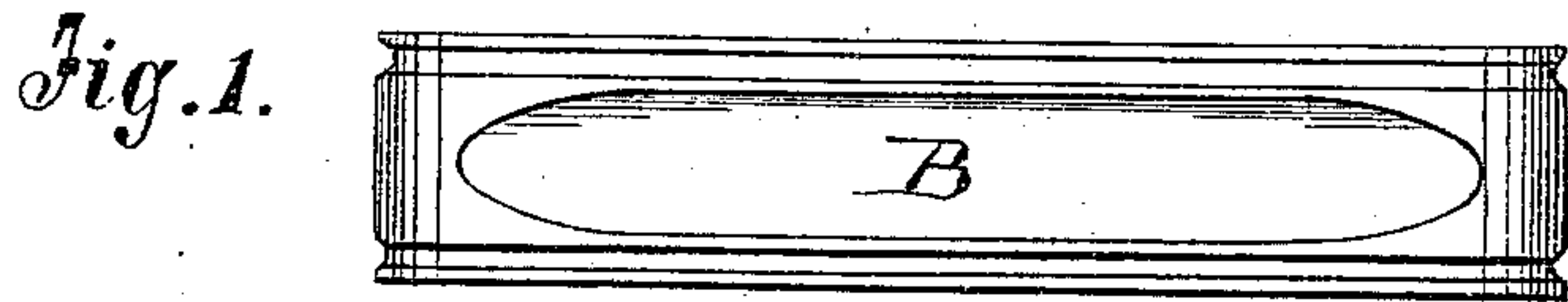


JAMES BRITTON.  
Dies for Shaping Bails for Tea-Kettles.  
No. 125,932. Patented April 23, 1872.



Witnesses:  
A Benneken Dorf.  
Alex F. Roberts

Inventor:  
James Britton  
PER *Munn & Co*  
Attorneys.



## UNITED STATES PATENT OFFICE.

JAMES BRITTON, OF NEW YORK, N. Y.

## IMPROVEMENT IN DIES FOR SHAPING BAILS FOR TEA-KETTLES.

Specification forming part of Letters Patent No. 125,932, dated April 23, 1872.

Specification describing a new and useful Improvement in Dies for Shaping Tea-Kettle Bails, invented by JAMES BRITTON, of the city, county, and State of New York.

Figure 1 is a bottom view, and Fig. 2 a longitudinal section of the first punch; Fig. 3, a longitudinal section, and Fig. 4 a top view of the first die. Fig. 5 is a transverse section of the first punch and die. Fig. 6 is a vertical longitudinal section, and Fig. 7 a bottom view of the second punch; Fig. 8, a longitudinal section, and Fig. 9 a top view of the second die; Fig. 10, a vertical transverse section of the second punch and die; and Fig. 11, a longitudinal section of the completed bail.

Similar letters of reference indicate corresponding parts.

This invention relates to a new set of punches and dies for shaping tea-kettle bails from flat sheet-metal bands; and consists principally in the arrangement of projecting beads and receding grooves in the faces of said tools for the purpose of forming a bulge on the middle part of the bail.

The flat piece of sheet metal from which the bail is to be made, being cut to the proper length, is first placed upon a die, A, under a punch, B, in manner indicated by dotted lines in Fig. 3. The die A is concave, and the punch B convex longitudinally, to bend the bail between them. The die has, also, a projecting rib, *a*, and the punch a corresponding groove, whereby the bail C is bent transversely to form a bulge or ridge, substantially as indicated in Fig. 5. A suitable gauge, *b*, for centering the bail, may be applied to the die A, and made adjustable for the various kinds or lengths of bails, and guide-pins *d d* fixed to

the die for holding the bail in position laterally. After the bail has been formed between the parts A B, its ends are put between a second punch and die, D E. The die E has a projecting ridge, *e*, near a flat end piece, *f*, and a circular recess, *g*, in the latter, and is grooved, as at *h*, in the face of the ridge *e*. The punch D is shaped accordingly, and has a circular projection, *i*, to fit *g*, and a rounded rib, *j*, to fit the groove *h*.

When the end of the bail has been put on the die E in manner indicated by dotted lines in Fig. 8, and the punch D has been brought down, the end of the bail will receive the form clearly shown in Fig. 11, and will have a circular recess, *l*, to receive the similar button on the ear that projects from the top of the kettle. The parts *j h* of the punch and die D E serve further to define the end of the bulge in the bail and give it its proper finish. On the ridge *e* the bail will be caused to swell out, and strengthened at the place of greatest bend and strain.

By this arrangement of punch and die the bail is formed with the aforementioned bulge, which is a depression in its middle on top for the thumb of the hand to rest in. The wiring is done before stamping.

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

The series of dies and punches A B and D E, constructed and combined, as and for the purpose set forth.

JAMES BRITTON.

Witnesses:

GEO. W. MABEE,  
T. B. MOSHER.