

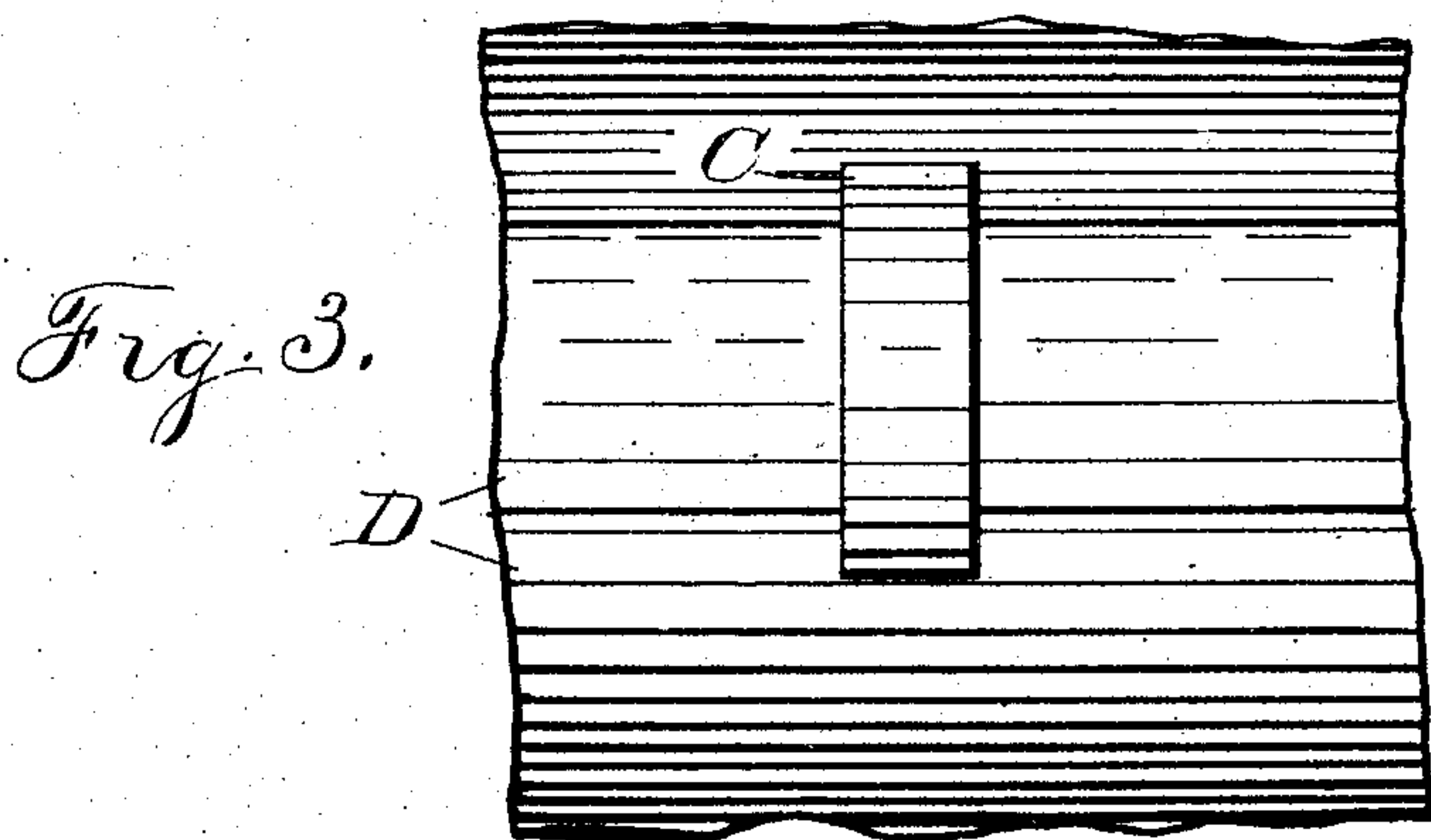
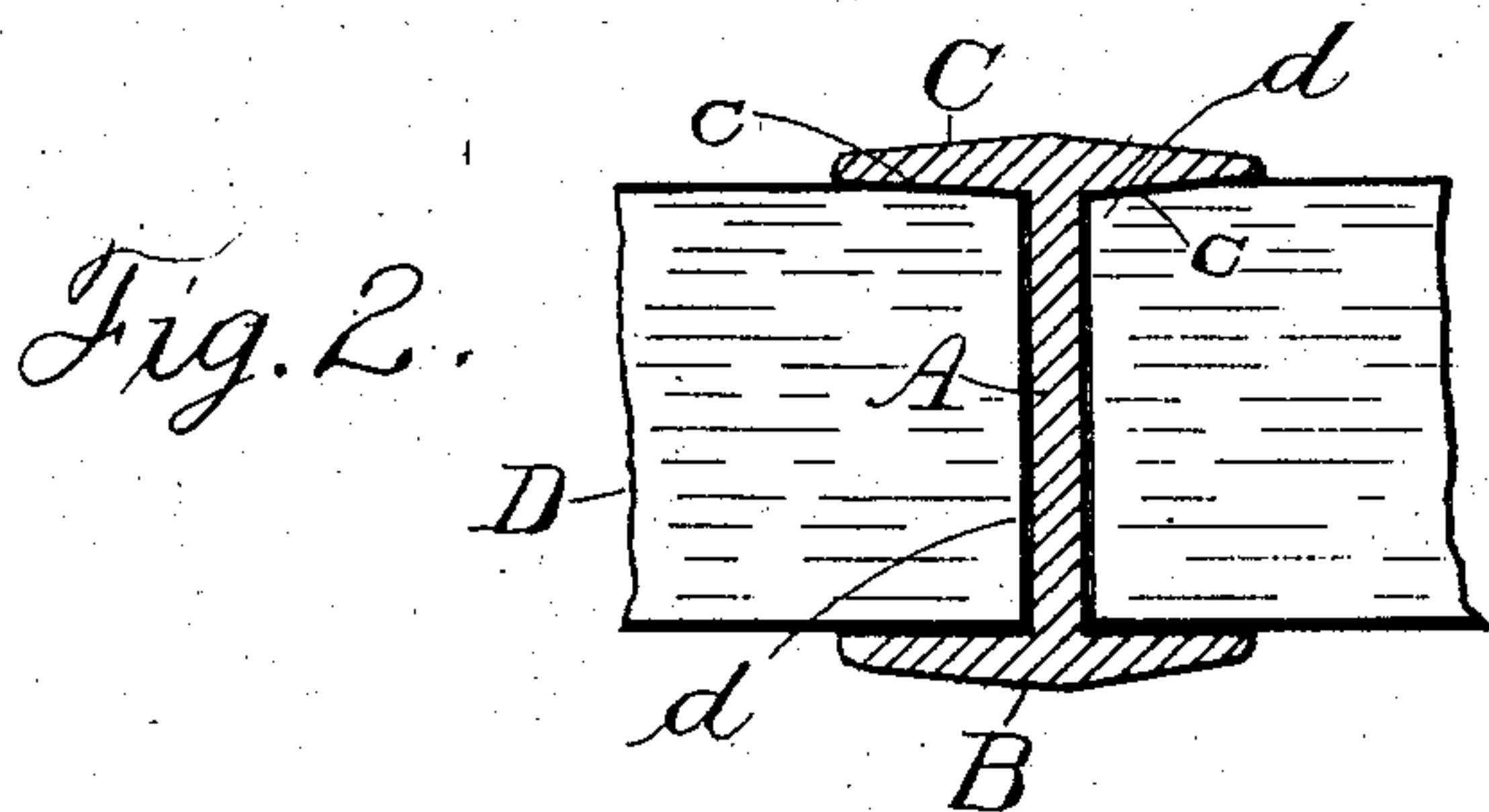
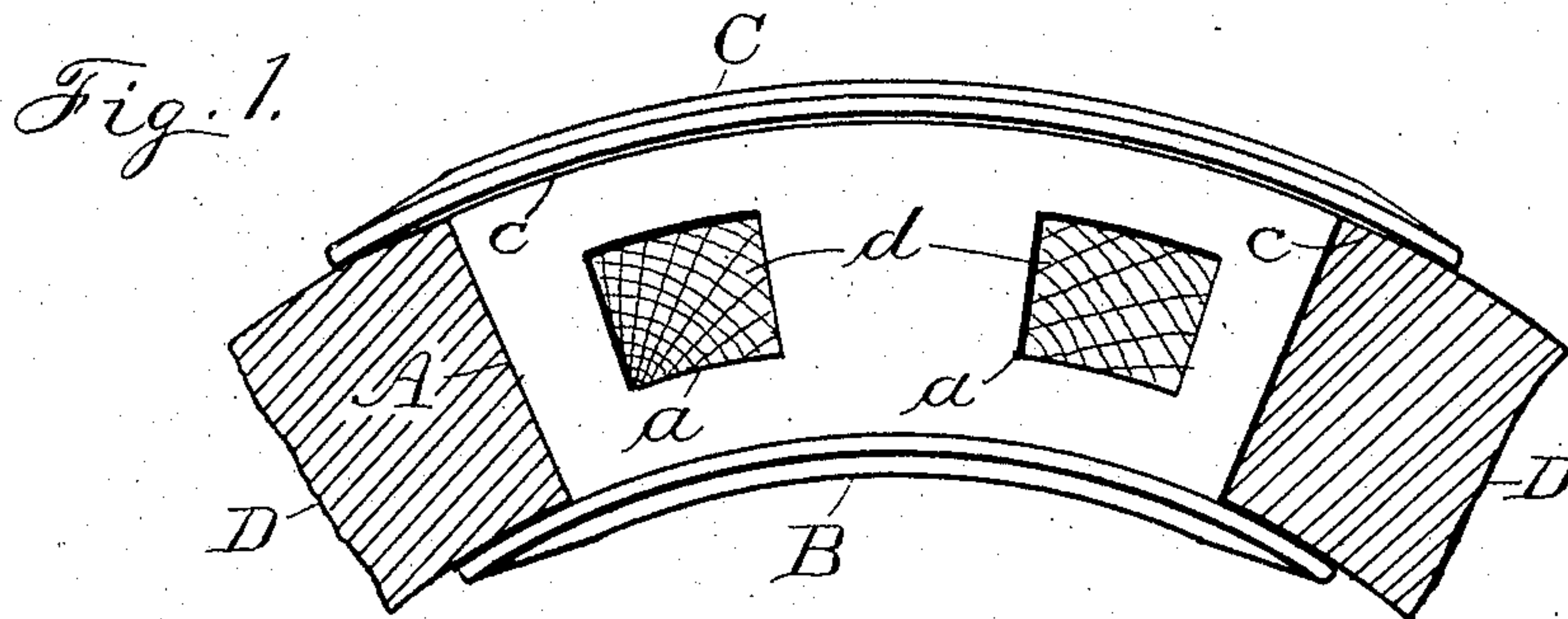
No. 790,257.

PATENTED MAY 16, 1905.

F. C. KELSEY.

BUTT JOINT.

APPLICATION FILED SEPT. 10, 1903.



Witnesses:

Joan Heideman.  
Herbert L. Frank.

By

Frank C. Kelsey.

Charles D. Smith

Attorney

# UNITED STATES PATENT OFFICE.

FRANK C. KELSEY, OF SALT LAKE CITY, UTAH.

## BUTT-JOINT.

SPECIFICATION forming part of Letters Patent No. 790,257, dated May 16, 1905.

Application filed September 10, 1903. Serial No. 172,687.

*To all whom it may concern:*

Be it known that I, FRANK C. KELSEY, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented new and useful Improvements in Butt-Joints, of which the following is a specification.

This invention is a butt or end joint for strips or staves in pipe made of wooden staves bound together for conveying water and other liquids under pressure. The strips or staves are made in various lengths and the pipe is put together so that the end joints are broken and do not come opposite each other.

The joints are made with a casting into which the ends of the staves fit tightly. Each casting is preferably made in one piece of malleable cast-iron and with flanges which cover the joint on the inside and the outside of the pipe and project onto the adjoining staves, which therefore holds the ends of the staves in position and prevents them from being forced out by the pressure from the inside of the pipe. It will be seen that the casing consists, in effect, of an inner foot B for engaging the concave or inner portions of the staves, an outer foot C for engaging the convex or outer portions of the staves, and a web portion A, connecting together the inner and the outer foot. The outer flange has a slight taper on its inner side which wedges the ends of the staves into place, where they are driven endwise, and insures a tight fit. The casting secures the ends of the staves and the flanges cover the joint on the inside and the outside of the pipe, making it water-tight. The adjoining staves help to strengthen and support the joint by means of the flanges which project upon them.

The accompanying drawings illustrate the invention, its various features being referred to by letters, similar letters denoting corresponding parts in the several views.

Figure 1 is a side elevation of my improved joint, the staves being shown in section. Fig. 2 is a vertical section through the metallic butt-joint; and Fig. 3 is a plan view, reduced in size, of a butt-joint and the staves engaging the same.

The letter A indicates the body of the joint to reduce its weight. The openings *a a* are preferably cast therein. The sides of this body are flat and its edges are formed to correspond to the surfaces of the work to which the joint is to be applied, here shown to be curved for use on a wooden pipe. This body should be thick enough to serve its purpose and of the same width as the thickness of the staves used in constructing the pipe, so that some force will be required to connect the staves with the joint. The flanges of the joint stand at a right angle to the body A and project both laterally and longitudinally from the body.

B indicates the inner flange of the device, having a longitudinal curvature concentric with that of the pipe and sufficiently broad and long to lap over onto the contiguous staves D D and *d d* to insure a strong and tight connection therewith.

C is the outer flange, corresponding in length, breadth, and curvature with the inner flange B. *c* is a slight taper on the inner side of this flange B, which has already been referred to as insuring a tight fit of the staves in the joint as the ends *d* are driven in.

The special advantages claimed for this joint over other devices for this purpose are that it makes a stronger and tighter pipe. It is also easier to construct the pipe with this joint, as it guides the ends of the staves into position and holds them as the pipe is being constructed.

It is evident that this joint may be made straight as well as curved and be applied to connect the ends of straight timbers. I do not, therefore, limit myself to the exact form shown in the drawings.

Having now described the invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. As an article of manufacture, a metallic member comprising an outer foot provided with a curved surface for engaging the outer surfaces of staves, an inner foot provided with a curved surface for engaging the inner surfaces of said staves, said curved surfaces being concentric with each other and adapted



to engage opposite faces of the staves, and a web integrally connecting said inner foot and said outer foot together.

2. As an article of manufacture, a metallic member comprising an outer foot provided with a curved surface, an inner foot provided with a curved surface, said curved surfaces being concentric with each other and adapted to engage opposite faces of the staves, and a web connecting said inner foot and said outer foot together, said web being of such dimensions that said inner foot and said outer foot overlap the boundaries of said web, substantially as described.

3. As an article of manufacture, a metallic member comprising an outer foot provided with a curved surface, an inner foot provided with a curved surface, said curved surfaces being concentric with each other and adapted to engage opposite faces of the staves, and a web connecting both said outer foot and said

inner foot together, said web occupying a comparatively narrow plane and being overlapped by the ends of said outer foot and of said inner foot.

4. As an article of manufacture, a butt-joint comprising an outer foot provided with a curved surface for engaging the outer surfaces of staves, a web connected with said outer foot, and an inner foot connected with said web, said outer foot and said inner foot each being longer than said web for the purpose of overlapping the edges of staves abutting said web.

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

FRANK C. KELSEY.

Witnesses:

ALFRED C. REESE,  
ORRIE A. TIBBETTS.