

J. A. Sutherland.

Building Cisterns.

N^o 76,672.

Patented Apr. 14, 1868.

Fig. 1.

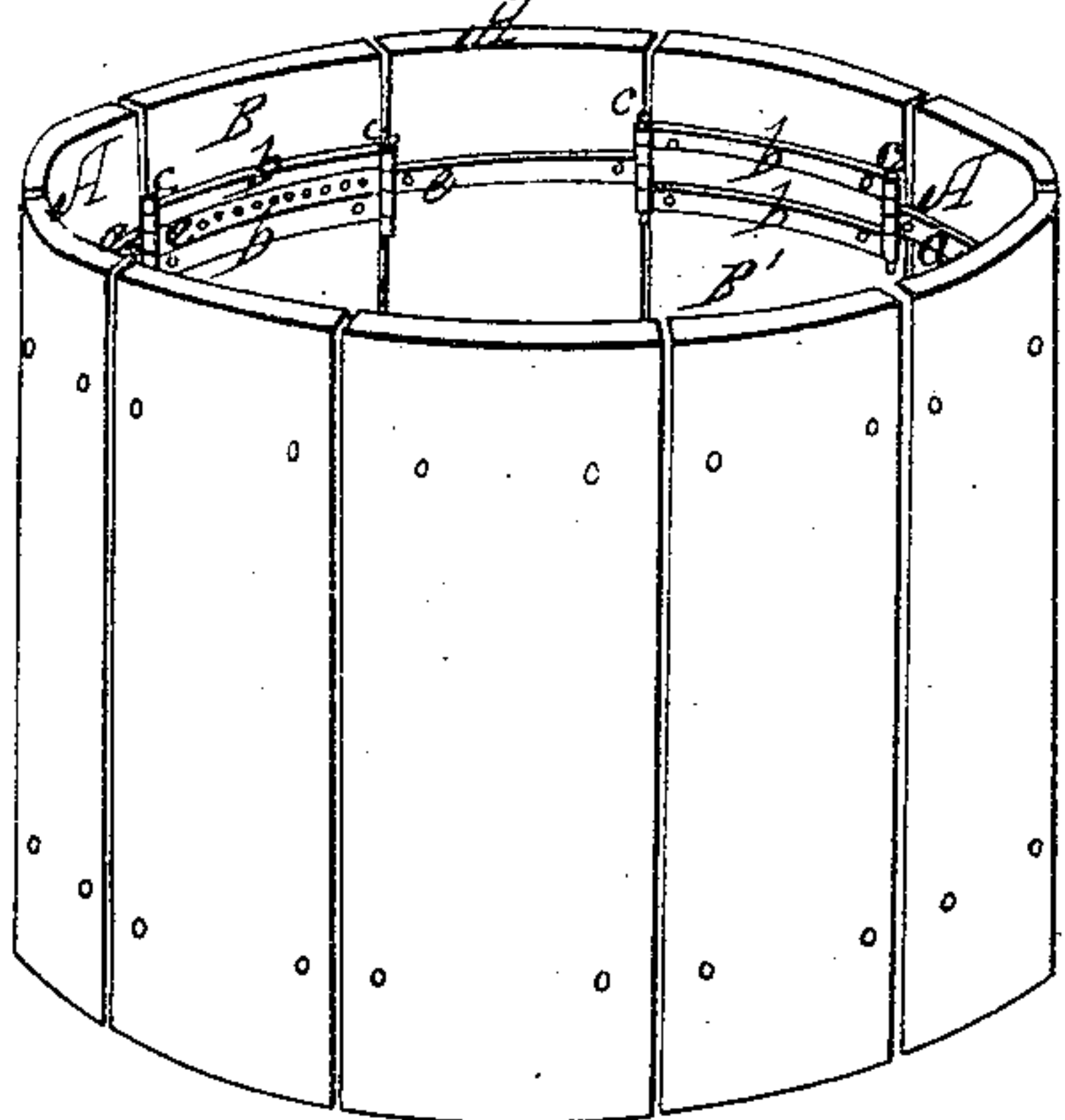


Fig. 11.

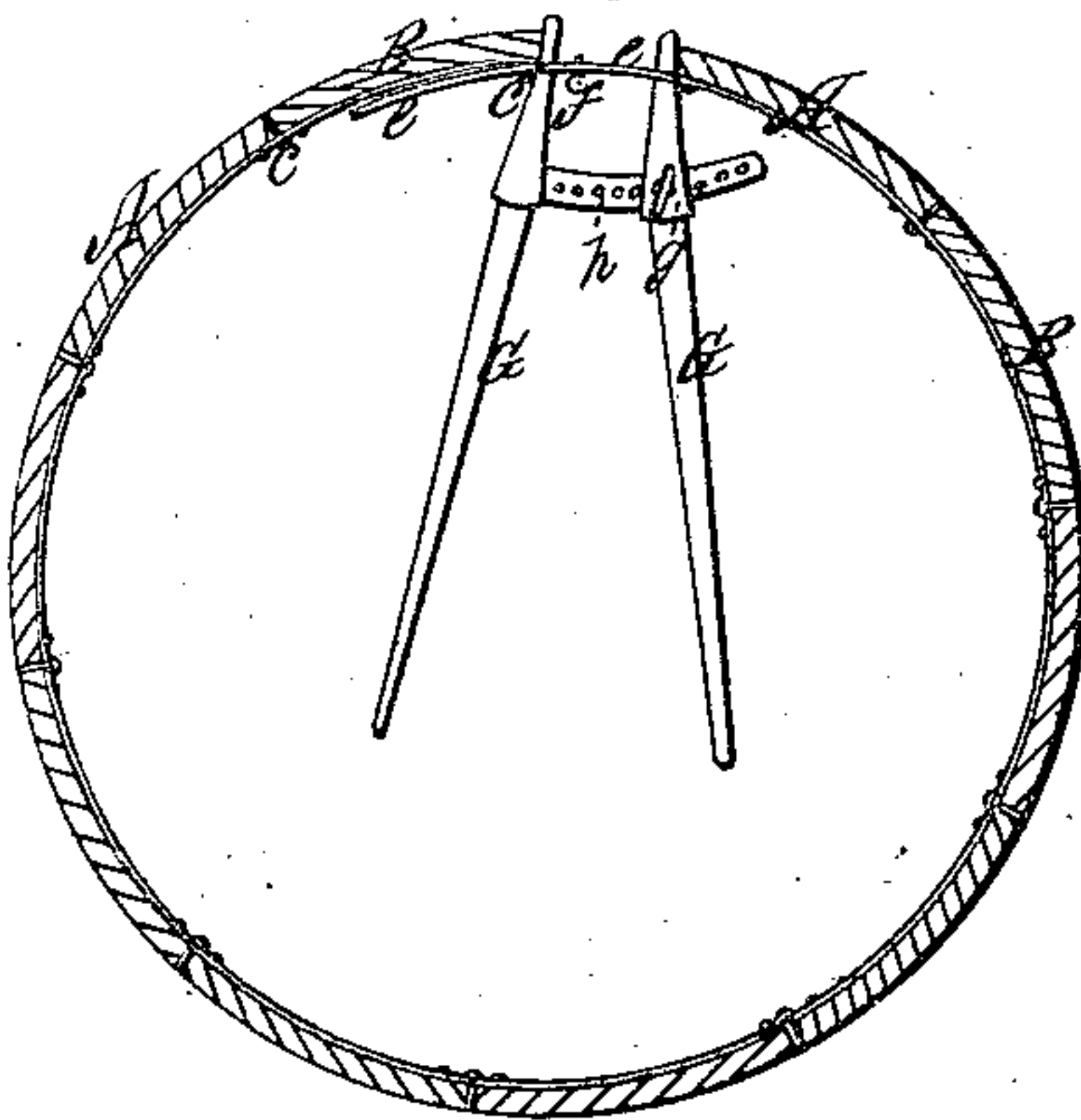


Fig. 2.

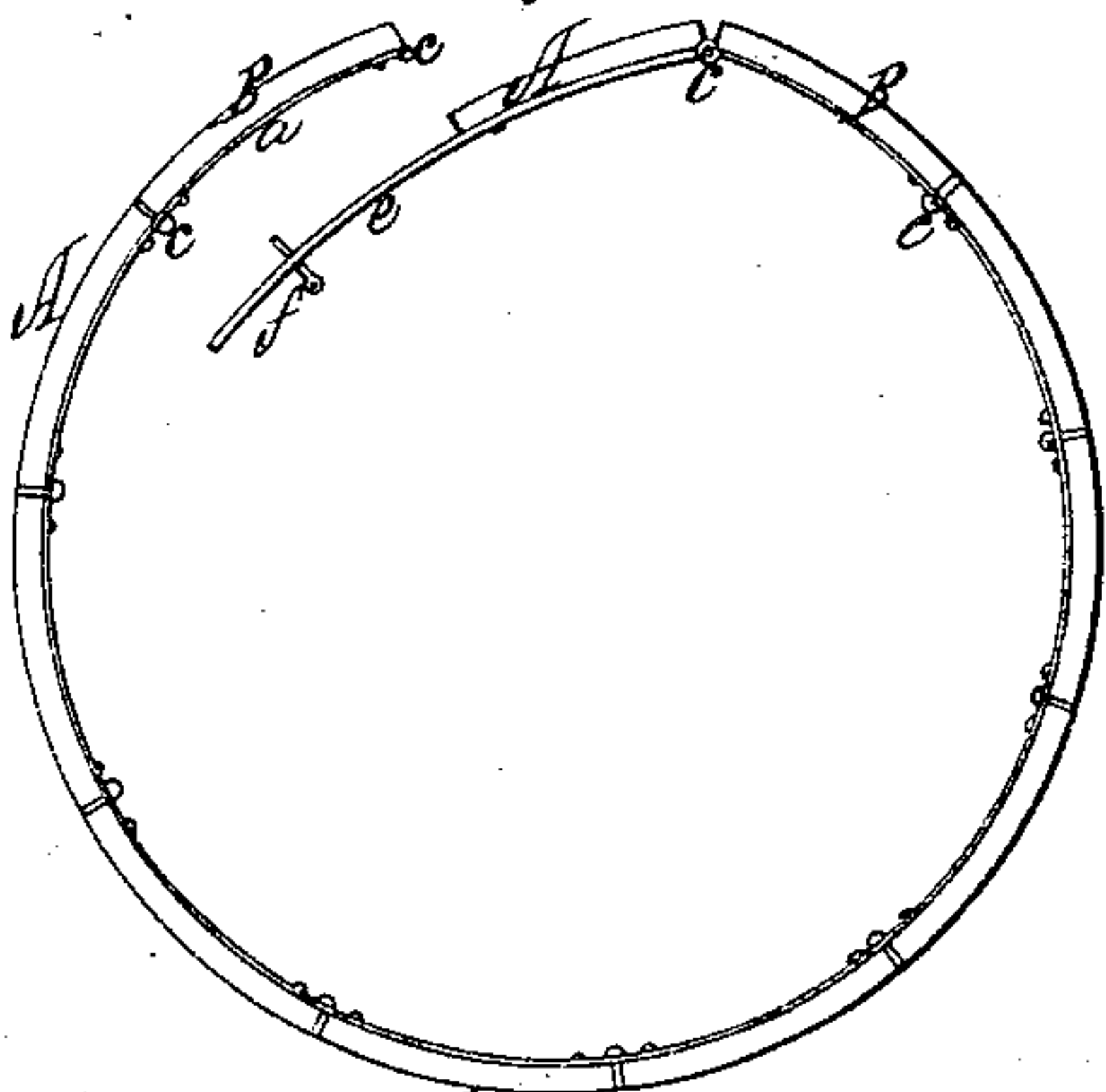


Fig. 5.

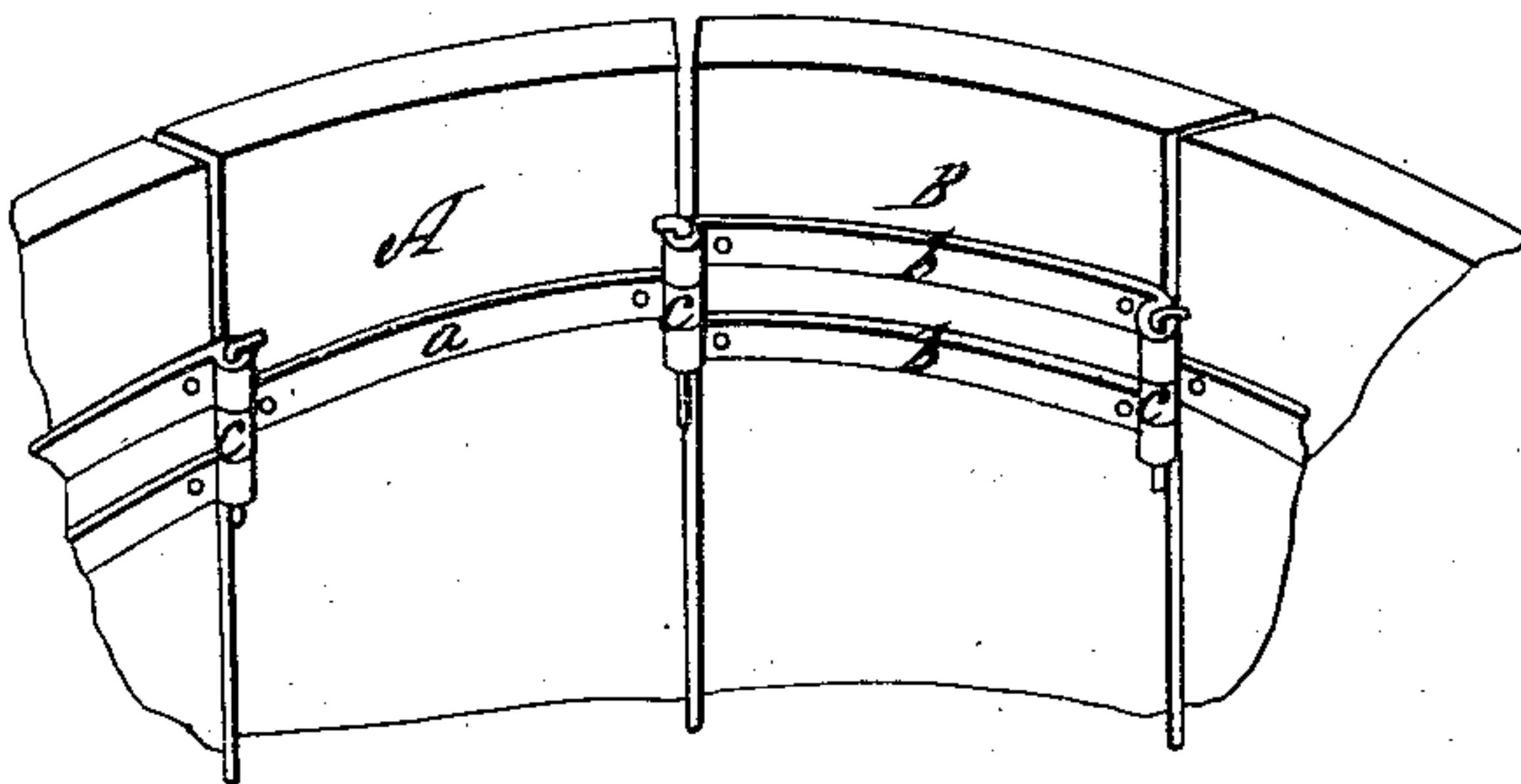


Fig. 3.

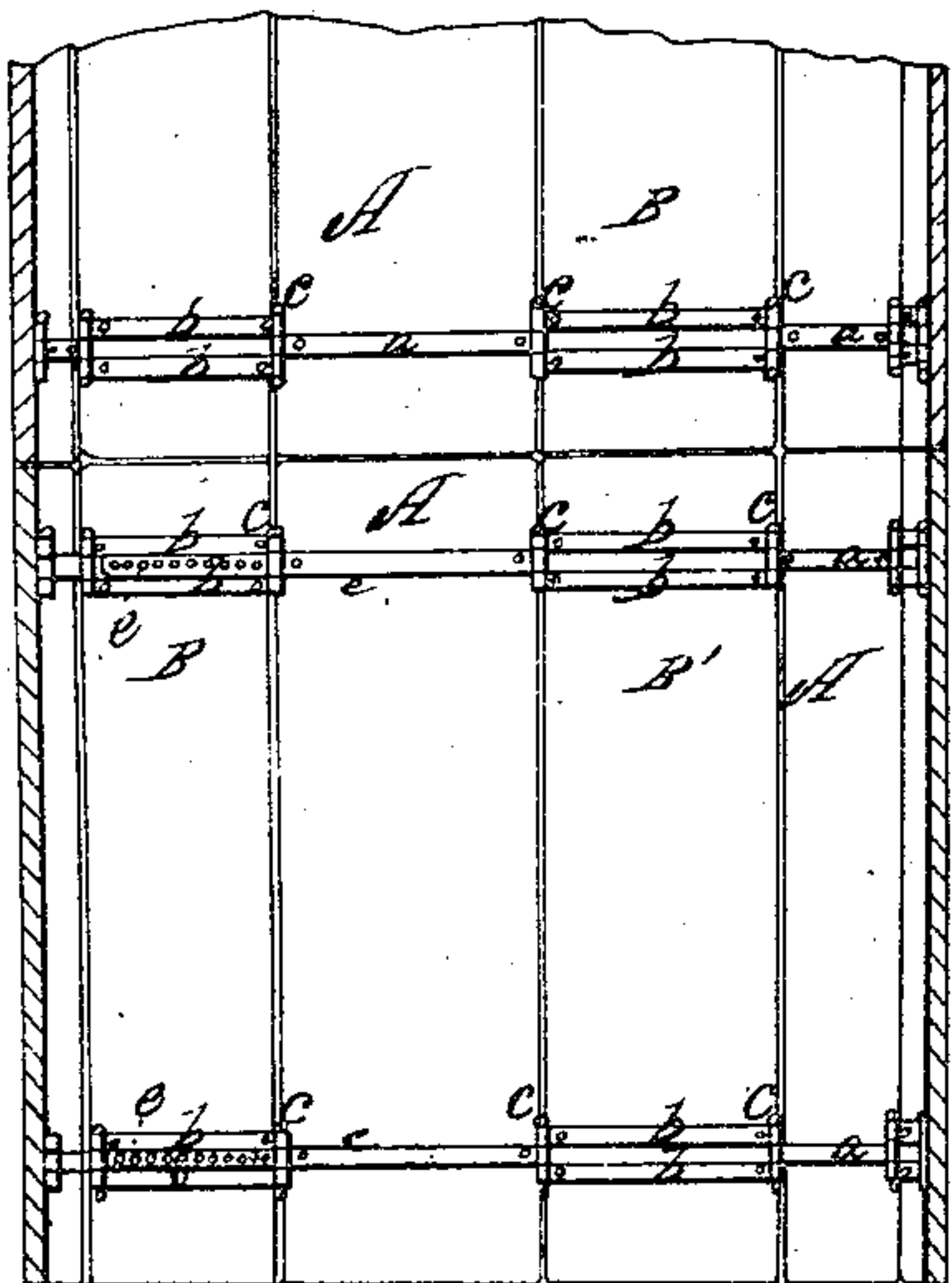
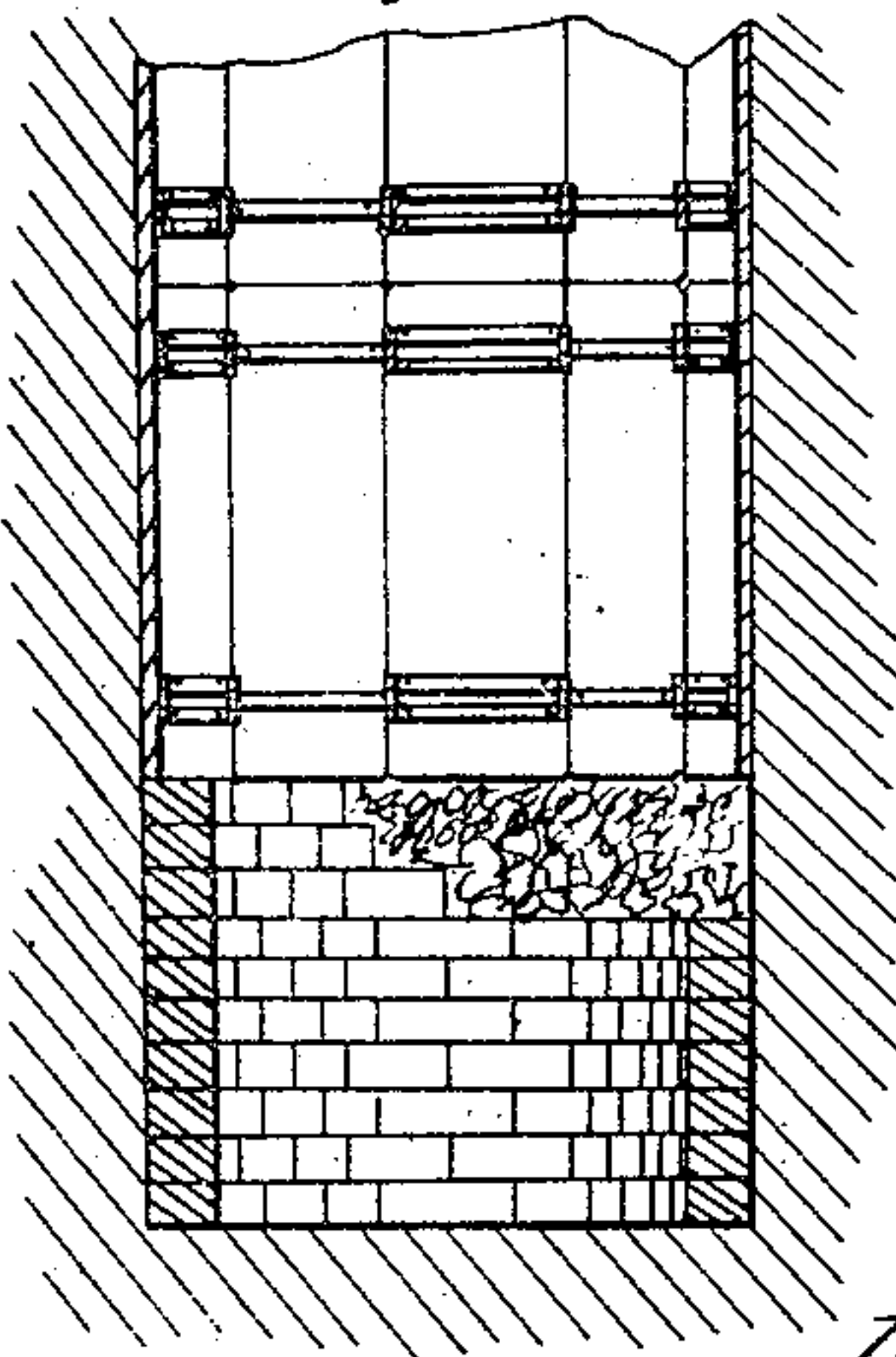


Fig. 6.



Witnesses:

*Chambers & Co.
Geo. L. Butler*

Inventor:

James A. Sutherland

United States Patent Office.

JAMES A. SUTHERLAND, OF ELMWOOD, ILLINOIS.

Letters Patent No. 76,672, dated April 14, 1868.

IMPROVED MACHINE FOR CURBING WELLS.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JAMES A. SUTHERLAND, of Elmwood, in the county of Peoria, and State of Illinois, have invented a new and useful Machine for Curbing Wells; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an elevation of a section of the curbing.

Figure 2 is a plan.

Figure 3 is a section showing the mode of using the curbing.

Figure 4 is a plan showing the mode of expanding a section of the curbing.

Figure 5 is a view of the staves on a larger scale; and

Figure 6 is a view of the mode of using the curbing, and removing the same.

The nature of my invention consists in the construction of well-curbing, first, which occupies less space than any curbing heretofore in general use; second, which may be easily removed as the well is walled up; third, which may be contracted or expanded, and therefore successfully used in wells which are not, throughout, of uniform diameter; and, fourth, which may be applied to old wells, rendering the same perfectly safe to be entered and cleaned out or repaired.

Construction.

I construct my curbing in sections. I make straight staves, A B, of any required length, of convenient width, and of sufficient thickness to secure the requisite strength. I make straps of iron, *a a*, *b b b b*, &c., of length equal to the width of the staves, curved to fit the convexity of the inner side of the same, and provided with loops at the ends. I rivet one of the straps across a staff, A', near each end of the same. I rivet two of the straps *b b b b* across another staff, B, at such distances from each end of the same, and from each other, as to form, with a pin or bolt put through the loops of the straps upon both staves, a complete hinge-joint, *c*.

To the pair of staves thus united, I connect other pairs, by means of the hinge-joints *c c c*, &c., until the whole series is of sufficient length to form a hollow cylinder, when bent so as to bring the edges of the end staves together, of a diameter nearly equal to that of the well which is to be curbed.

The staves at the ends of the series correspond to those composing the pairs described above, one, B, having two pairs of straps, *b b b b*, and the other, A, having two straps, *e e*. I provide a movable bolt to be used in the loops upon the outer side of the staff B, and prolong the straps *e e* until the same will extend beyond the edge of the staff B, when the section is expanded to the required extent. I make holes in the straps *e e*, and provide the movable pin or stop *f*, thus completing the section.

I construct an expanding-apparatus, consisting of two levers G G, flattened at the extremities of the short arms, the curved bar *h*, with the holes, and the pin *g*, as represented in fig. 4.

Operation.

The curbing having been made in sections, as above described, and the well sunk to such a depth as to require curbing, I fold up or contract a section, so that it will pass into the well, and lower the same down to the point where it is required. Having placed the section in the proper position, I thrust the short arms of the levers G G between the end-staves A and B, and expand the hollow cylinder by forcing the long arms of the levers together. The pins *f f* are then put into the proper holes in the straps *e e*, thus preventing the section from again contracting when the pressure produced by the levers ceases, or the earth bears heavily upon the cylinder. I thus introduce successive sections as the well is deepened.

In applying the curbing to old wells, I introduce the sections in the same manner as above described, curbing the whole well, or so much and such parts of the same as the case in hand may require.

Claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination and arrangement of staves A B with iron straps *a a*, *b b b b*, and hinge-joints *c*, as shown in fig. 5, in the manner and for the purpose herein described.
2. The combination and arrangement of the straps *e e* and pin *f* with the staves A B, in the manner and for the purpose herein described.

JAMES A. SUTHERLAND.

Witnesses:

CHAUNCEY NYE,
GEO. L. BESTOR.