

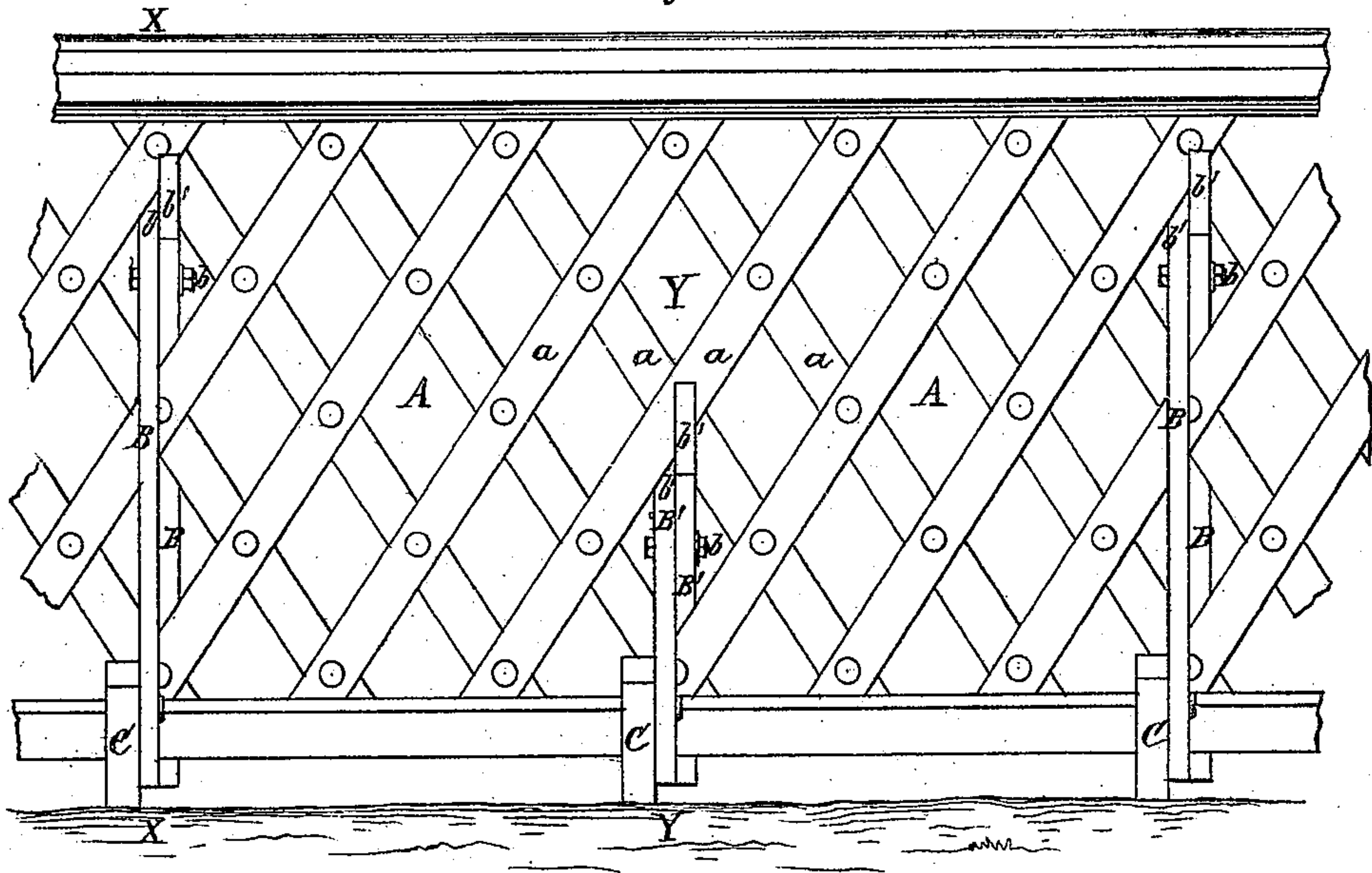
*Ballard & Morehouse.*

*Fence.*

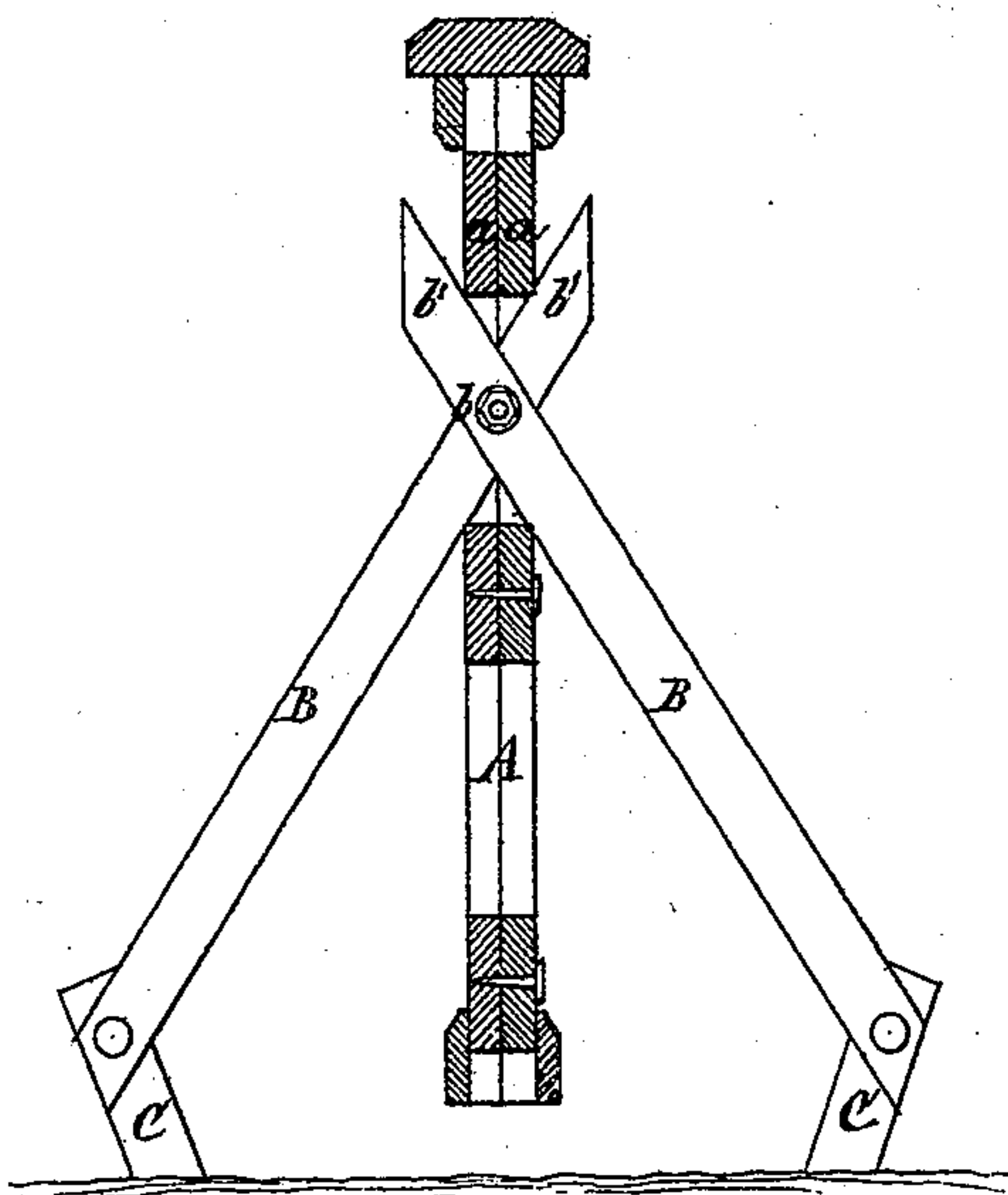
*No. 110,888.*

*Patented Jan. 10. 1871.*

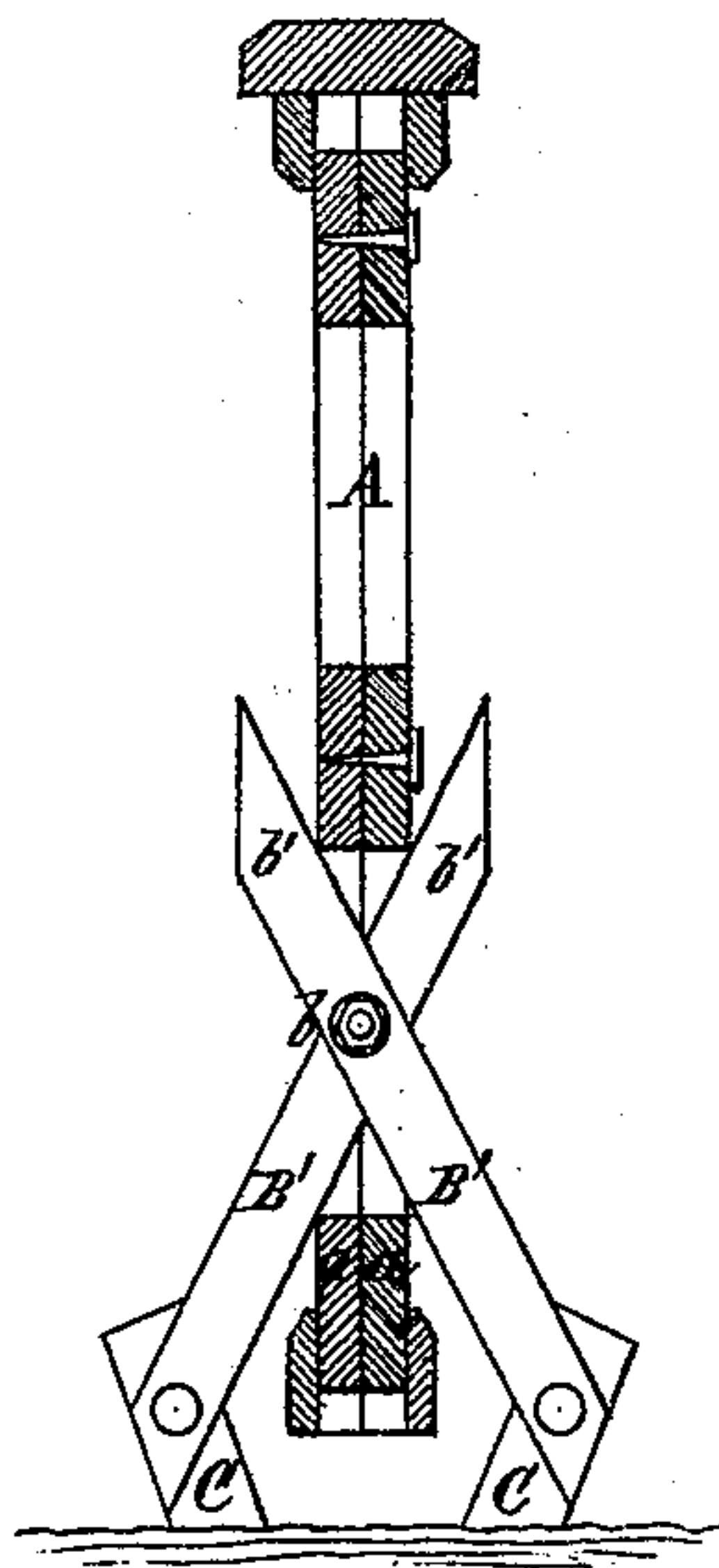
*Fig. I.*



*Fig. I.*



*Fig. III.*



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# United States Patent Office.

COLLESTER M. BALLARD AND MYRON MOREHOUSE, OF JOHNSONBURG  
NEW YORK.

Letters Patent No. 110,888, dated January 10, 1871.

## IMPROVEMENT IN FENCES.

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

We, COLLESTER M. BALLARD and MYRON MOREHOUSE, of Johnsonburg, in the county of Wyoming and State of New York, have invented certain Improvements in Fences, of which the following is a specification.

Our improvements relate more particularly to certain improved means for supporting and bracing fences without the use of vertical posts or other foundation support.

Prior to our invention fences supported on short foundation-posts have been braced laterally and held to the ground by means of two braces hinged together at the top and straddling the fence, with their lower ends distended and hinged to short stakes which are driven into the ground at such an angle from the line of the braces as to prevent them from being pulled out by the strain on the latter.

Such a construction is shown in the Letters Patent granted to Belus Calkins and Veranus Calkins, April 2, 1867.

Another patent, granted November 26, 1867, to J. M. Clark, shows similar braces with their upper ends secured to vertical supporting posts instead of being hinged together.

Both of these devices require some means other than the braces for supporting the fence and retaining the bottom thereof against lateral displacement, which are expensive, besides being otherwise objectionable.

Our invention consists—

First, in arranging with a fence two brace-bars hinged together at such a distance below their upper ends as to cause the latter, when the bars are distended, to cross each other and form a support for the fence, which is suspended in the angle formed thereof, above the hinge, while the angle below rests on the fence or a board thereby, so as to retain it to the ground, both combining to hold the fence vertical or against lateral tipping, whereby the necessity for any other support or foundation for the fence is avoided.

Second, in the arrangement of two or more pairs of said brace-bars with the bars of one pair of less length than those of the other, so that they will connect with and support the fence at different heights, whereby the latter is held more securely against lateral displacement.

In the accompanying drawing—

Figure I is an elevation, and

Figures II and III, vertical cross-sections, respectively, on lines *xx* and *yy* of our improved fence.

Like letters refer to like parts in each of the figures.

*A A* represents a section of a board fence, constructed of strips, *a a*, crossing each other obliquely in the form of lattice-work.

*B B* are the brace-bars.

*C C* the stakes to which the bars *B* are hinged at their lower ends.

*b* the point at which they are hinged together near the top; and

*b'* the ends of braces, which project above said hinge *b*.

*B' B'*, fig. III, represent a pair of braces with the bars of shorter length than *B B*.

The lower braces *B* are arranged with their upper ends crossing each other in one of the upper diamond spaces of the fence, when the bases are brought together until the brace-bars above and below the hinge *b*, are brought in contact with the crossed pieces of the fence at the upper and lower angles of the opening, so as to hold the fence at these two points when the stakes are driven into the ground, as shown in the drawing.

The fence is thus supported in the upper angle of the bars at the requisite distance above the ground, while the lower one holds it down, and at the same time serves to prevent it from tipping to either side.

By employing shorter braces and arranging them in one of the lower openings of the fence, as shown in fig. III, the fence will be supported at both top and bottom, and be thus firmly secured at both points against lateral displacement.

This construction and arrangement of the braces enable us to dispense with the use of posts or other extra foundation support and the labor involved in setting or arranging them in place.

Where the post or other foundation support for the fence is independent of the braces which sustain it laterally, as shown in the Calkins' patent above referred to, the base-post and fence is liable to settle away from the saddle or angle formed by the hinged braces at their upper ends, and consequently leave the upper edge of the fence free to sway back and forth between the distended braces.

Our arrangement, (the same bars performing both the functions of a lateral brace and a vertical support), is evidently free from the above objection, as the settling of the stakes which hold the braces in place does not operate to loosen the connection between the braces and the fence.

It is evident that our improved means of support may be employed not only with lattice fences, as above described; but with fences of other construction which have a suitable space or opening, with an upper and lower bearing for the two angles of the braces to engage with.

What we claim, is—

1. The combination of the stakes C with the hinged brace-bars B B, and fence A, so arranged that the driving of said stakes will cause the bars

B B, to firmly clamp the fence-bars, as hereinbefore specified.

2. The combination with the fence A of the short braces B' B' and long braces B B, arranged in the manner and for the purpose hereinbefore specified.

O. M. BALLARD.

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Witnesses:

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