

A. J. Post. Truss Bridge.

No 81,817

Patented Sept. 1, 1868.

Fig. 1.

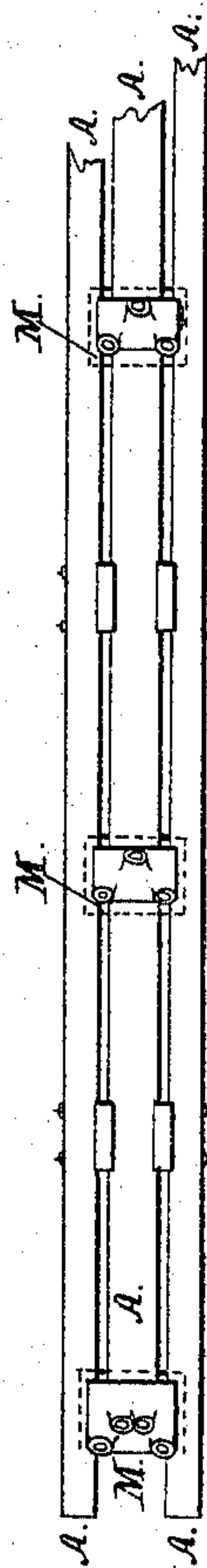


Fig. 2.



Fig. 4.

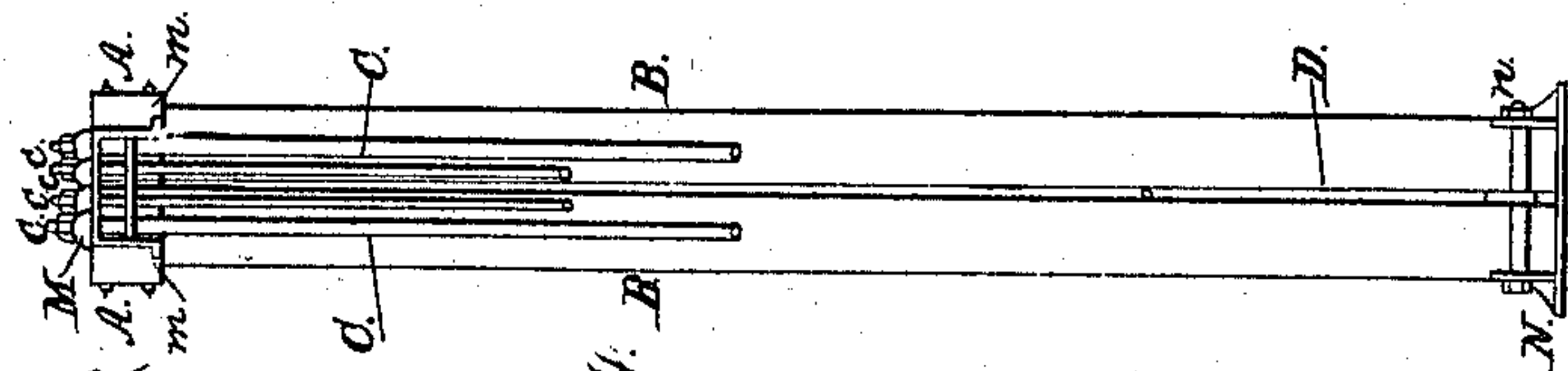


Fig. 5.

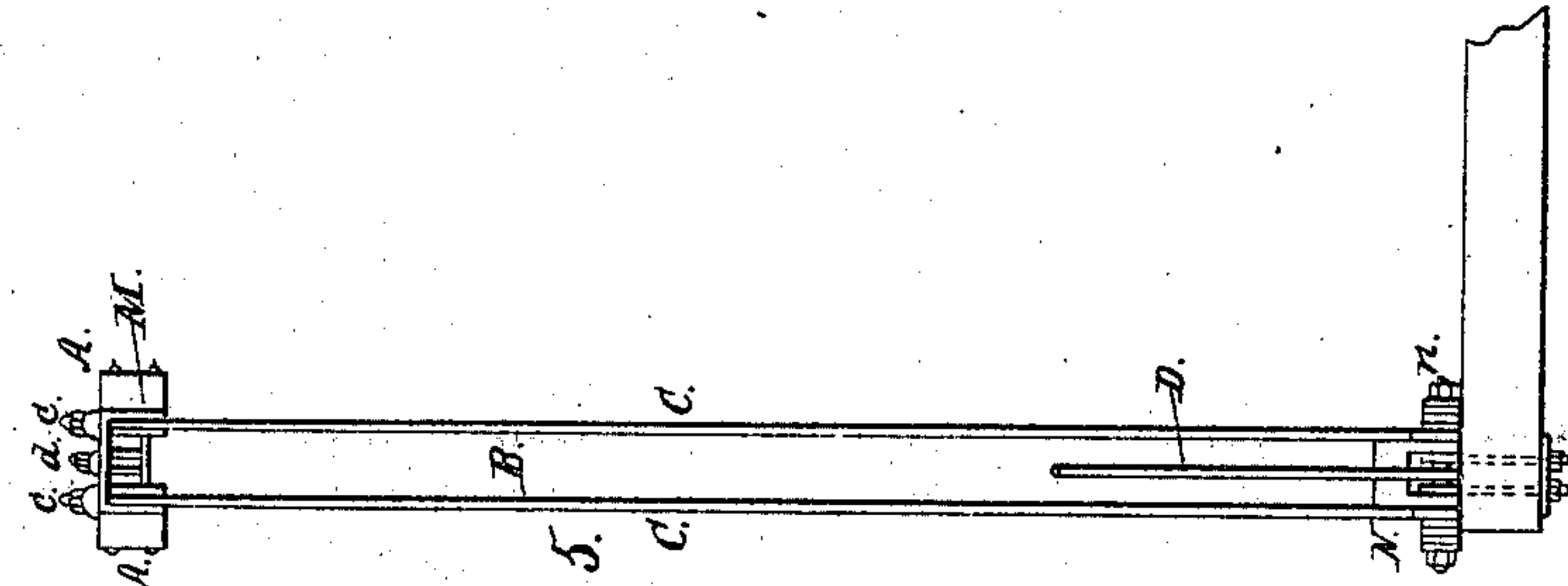
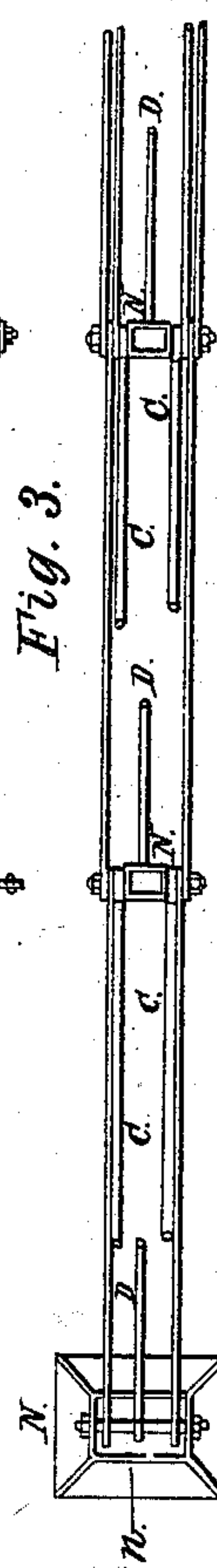


Fig. 3.



Witnesses.

W. C. Day,
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UNITED STATES PATENT OFFICE.

ANDREW J. POST, OF HUDSON CITY, NEW JERSEY.

IMPROVEMENT IN BRIDGES.

Specification forming part of Letters Patent No. 81,817, dated September 1, 1868.

To all whom it may concern:

Be it known that I, ANDREW J. POST, of the city of Hudson, county of Hudson and State of New Jersey, have invented certain new and useful Improvements in the Construction of Bridges; and I do hereby declare that the following is a full and exact description thereof.

My invention is an improvement in wooden bridges. It applies to the varieties of what are known as truss-bridges. Its object is to fortify the wood against crushing strains at the ends of the several pieces, and to form suitable places for the reception of the several strains.

I will first describe what I consider the best means of carrying out my invention, and will afterward designate the points which I believe to be new.

The accompanying drawings form a part of the specification.

Figure 1 is a plan view of part of a bridge. Fig. 2 is a side elevation thereof, partly in section. Fig. 3 is a horizontal section, or rather a top view, of the iron-work which is at and near the base of the bridge. Fig. 4 is a cross-section looking toward the end, and Fig. 5 is a cross-section looking toward the middle of the bridge.

The figures show one side or truss. Fig. 5 shows also a portion of the cross-timber or flooring. It will be understood that two or more of such trusses are laid parallel, and suitably connected across in any approved manner to complete a bridge; also, that the ends are supported upon abutments or piers in any approved style.

Similar letters of reference indicate like parts in all the figures.

A A are the chord-timbers, B B are the up-rights, sometimes designated "struts;" C D, &c., are braces, and *c d*, &c., are nuts.

M is a casting, formed, as represented, with flanges *m m*. The strut B is received in a hollow in the lower part of the casting M, as indicated by strong lines in Figs. 2, 4, and 5. The braces C D, &c., are received in corresponding holes provided therefor, and fair bearings are provided for the nuts *c d* on the upper surface. The ends of the timbers A A are cut to match the flanges *m m*, and bear against the sides of the casting M and also

against the edges of the flanges *m*. In putting the parts together, the flanges *m m* support the weight of the timbers *a a*. At the base of the strut B is a hollow cast-iron shoe, formed as indicated by N. The base of the strut is received in the hollow interior of the shoe, as indicated by dotted lines. The several braces, ties, &c., are connected to the cross-bolt *n*, which traverses the base of the casting N, as represented.

In subjecting wood to strain, it is very important to preserve it from a crushing strain crosswise of the fibers, and to allow the fibers to bear fairly with their ends against the surface at right angles thereto. My invention not only provides for this very perfectly, but also provides, by the flanges *m m*, for supporting the timber of the upper chord, and keeping the whole in the exact line while the work is being applied together. My shoe N serves the same purpose, and provides a better fastening for the braces, tension-chords, &c., than is afforded by the ordinary arrangement.

It will be understood that my castings can be coated or otherwise protected in any approved manner against oxidation or other injury, and that the wood may be prepared to resist decay or to resist access of air and moisture by any of the ordinary means, either at the point of contact with the casting or throughout its whole extent.

The hollow rounded saddle provided for the top of each strut A allows it to roll therein, in the act of adjusting the parts, while still finding a fair bearing over the whole surface of the end. The flanges *m* support the weight of the chord-timbers while putting the parts together, and during all adjustments, without subtracting from the fair end bearing afforded for the chord-timbers. No part of any timber is crushed transversely. The several braces are accessible and adjustable with ease, and any brace or tie, as also any strut, chord-timber, or floor-timber, may be easily taken out and replaced or another substituted.

These important qualities are not combined, and cannot be to the same degree in any other construction known to me.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is as follows:

The castings M *m*, fitted in the top chord,

as specified, and extending up to the upper surface thereof, having inclined surfaces forming fair bearings for the nuts on the diagonal ties, and recesses at the base adapted to receive the round ends of the struts B, all constructed, combined, and arranged substantially as and for the purposes herein set forth.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

ANDREW J. POST.

Witnesses:

W. C. DEY,

C. C. LIVINGS.