

(No Model.)

J. E. BOYNTON & W. CRISP.

DEVICE FOR CUSHIONING LOOSE JOINTS.

No. 395,310.

Patented Jan. 1, 1889.

FIG. I.

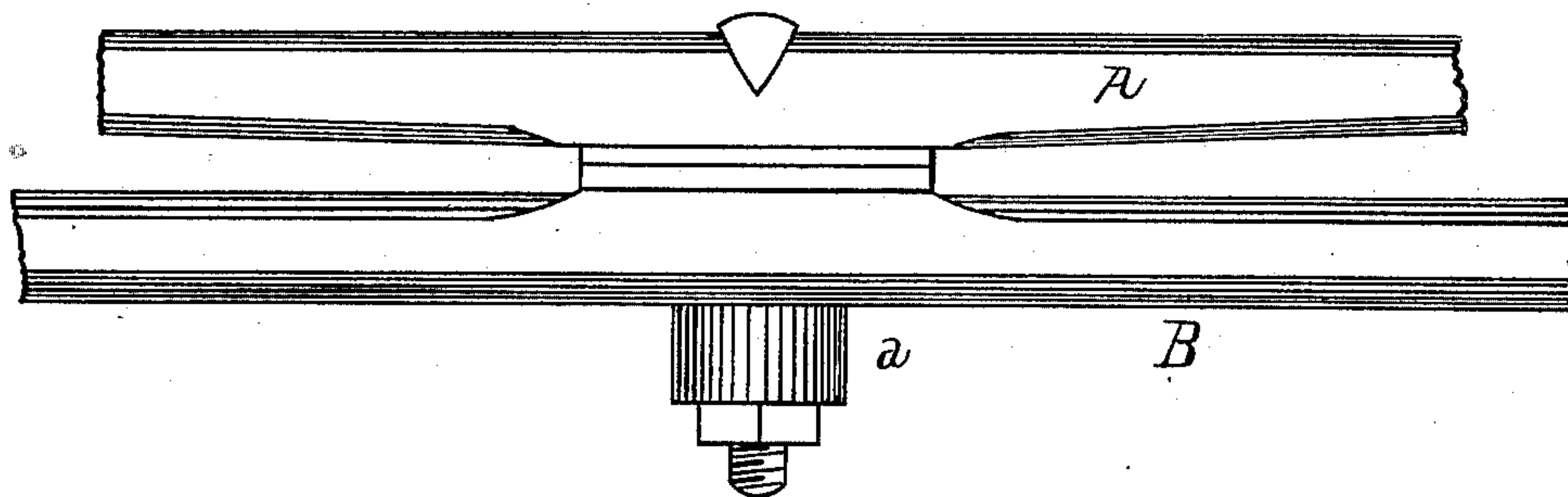


FIG. II.

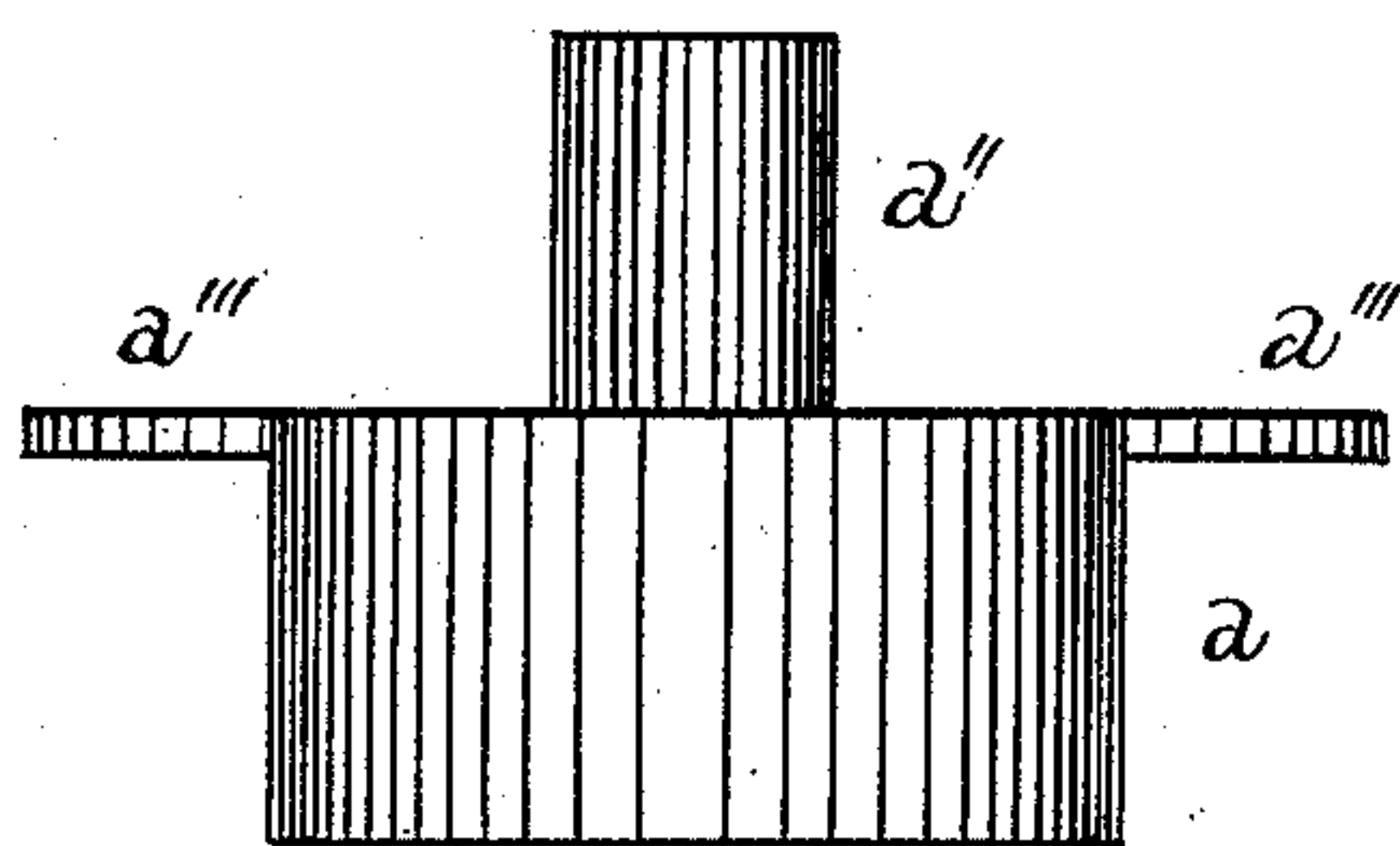


FIG. III.

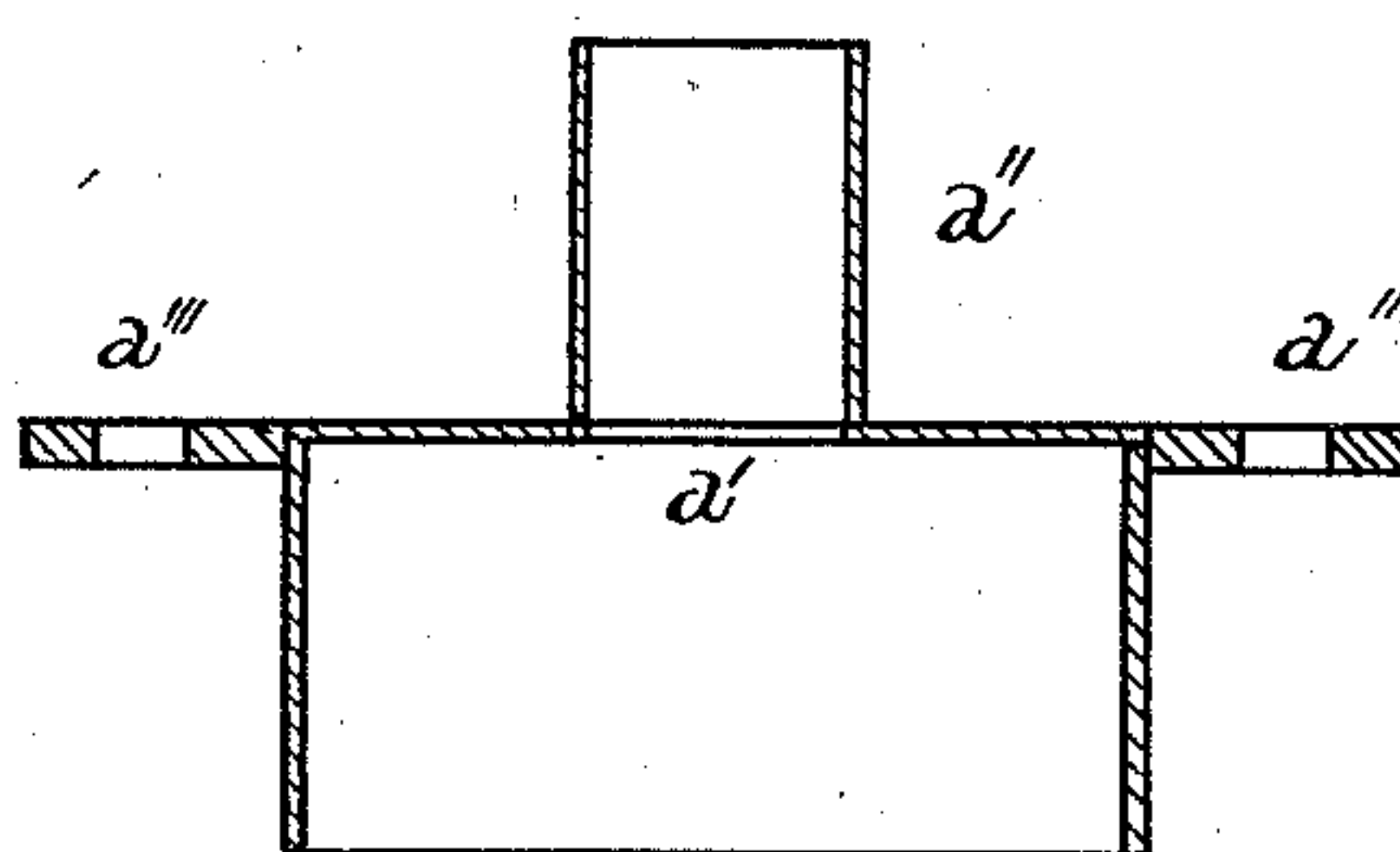


FIG. IV.

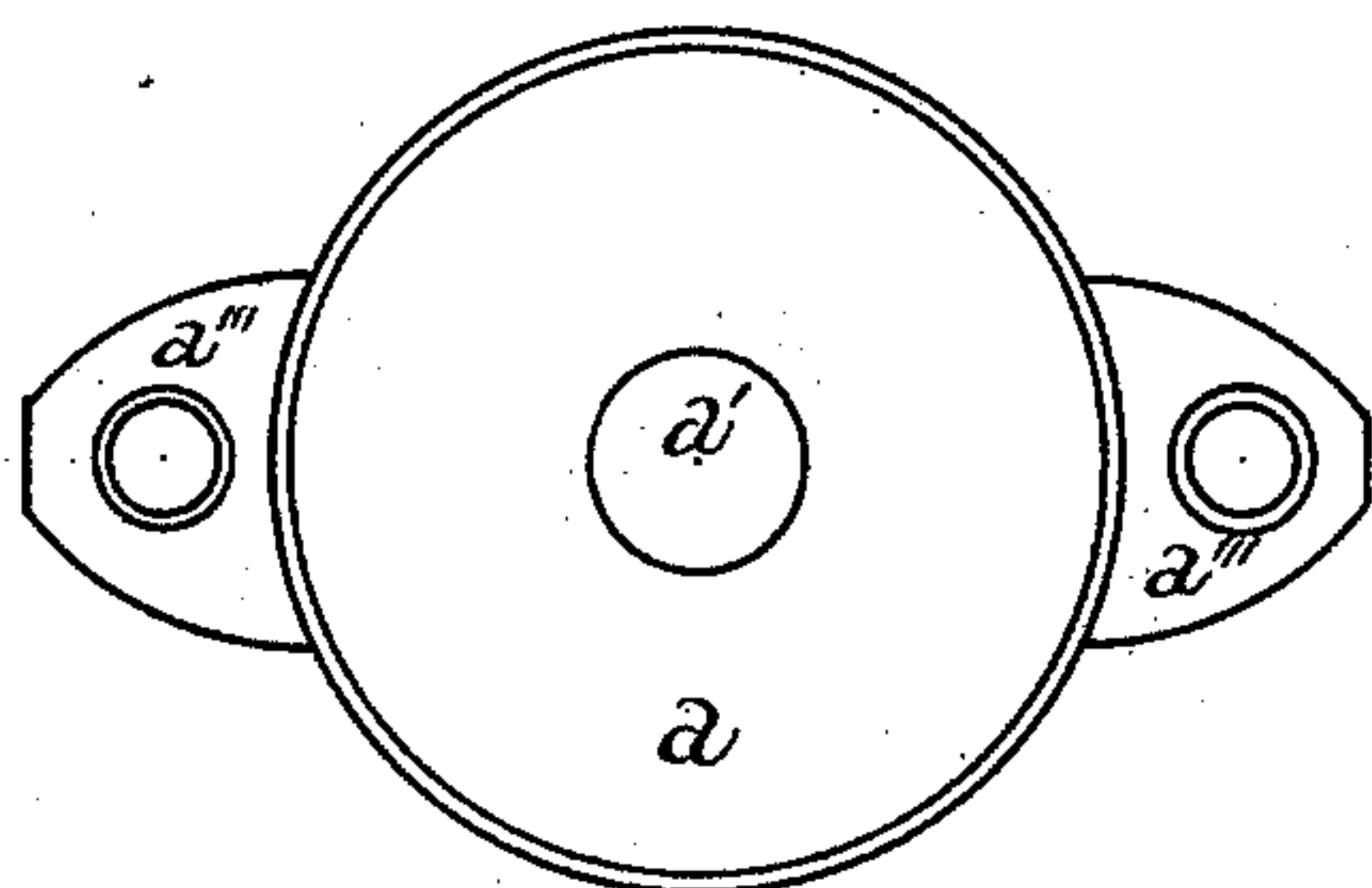


FIG. V.

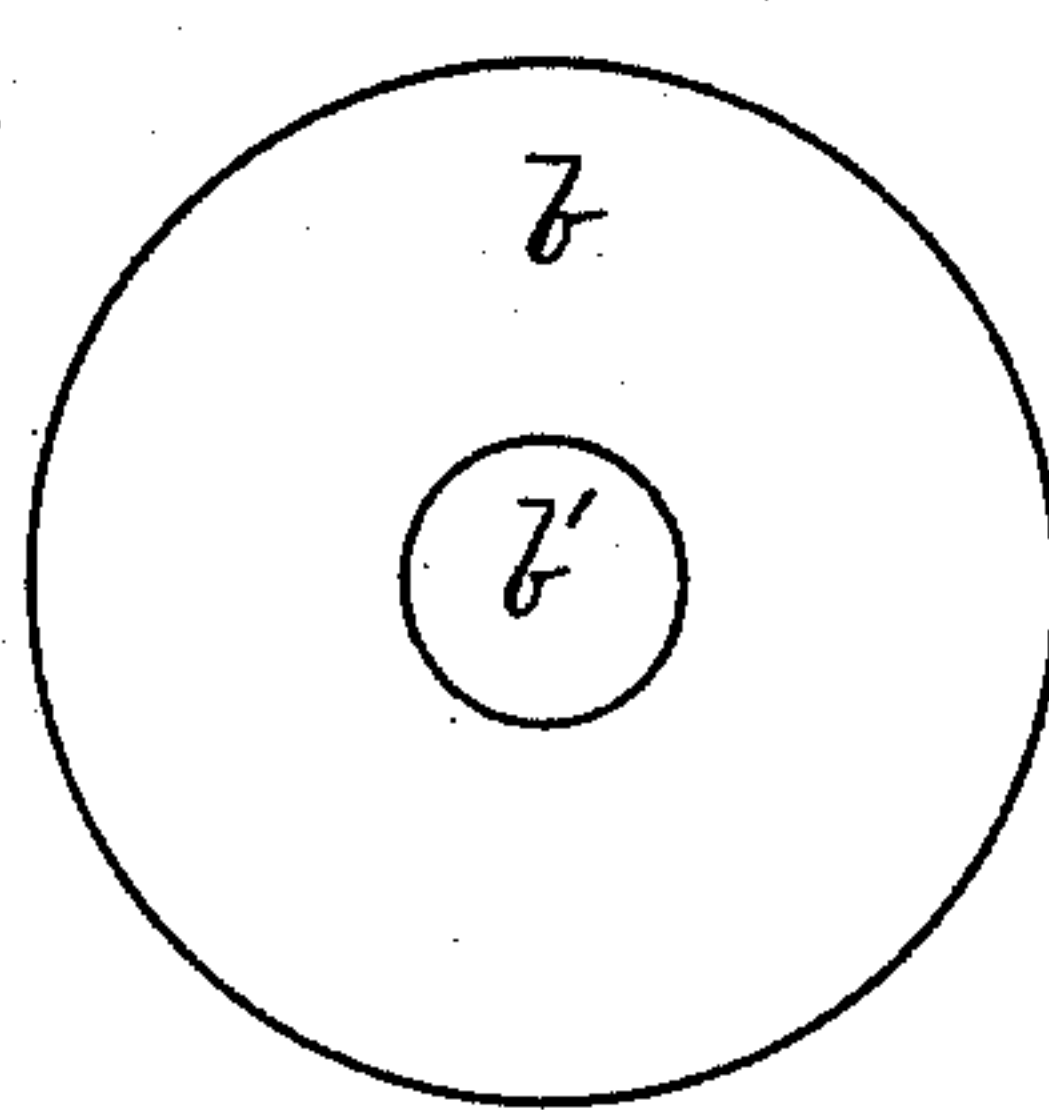
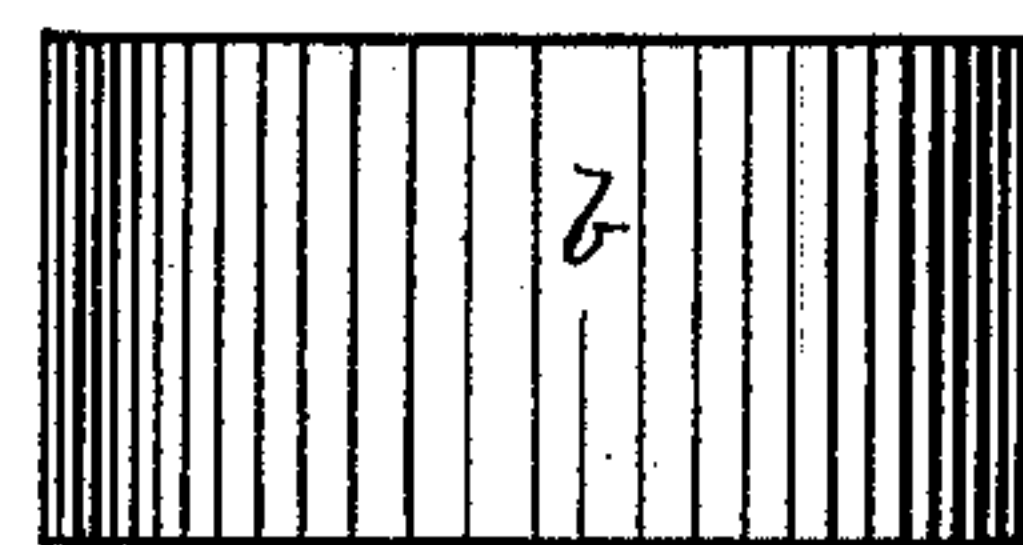


FIG. VI.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOSHUA E. BOYNTON AND WILLIAM CRISP, OF ELYRIA, OHIO.

## DEVICE FOR CUSHIONING LOOSE JOINTS.

SPECIFICATION forming part of Letters Patent No. 395,310, dated January 1, 1889.

Application filed April 21, 1888. Serial No. 271,425. (No model.)

*To all whom it may concern:*

Be it known that we, JOSHUA E. BOYNTON and WILLIAM CRISP, both citizens of the United States, and both residing at Elyria, in the county of Lorain and State of Ohio, have invented a new and useful Device for Bolts Connecting Loose Joints, of which the following is a specification.

Our invention relates to improvements in devices for cushioning loose joints, so as to prevent the parts from rattling and also at the same time allow the same to work freely and easily without binding on each other.

The object of our invention is to provide such a device as will effectually hold loose joints from rattling when one part works on the other, and also allow the same to turn easily and freely without undue friction or wear. We attain these objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure I shows our invention as applied to a bolt securing the broken section of an ordinary whiffletree to the broken section of a cross-bar to a pair of buggy-shafts. Fig. II illustrates a side elevation of our invention; Fig. III, a vertical sectional view of same; Fig. IV, an end view of same; Fig. V, an end view of the elastic cushion; Fig. VI, a vertical elevation of said cushion.

Similar letters refer to similar parts throughout the several views.

A represents the broken section of a whiffletree, and B the cross-bar to a pair of ordinary buggy-shafts with our invention applied to same.

*a* represents a short barrel or tube of any desired diameter and length to receive the elastic cushion hereinafter described. One end of this tube is open and the other closed, except that in its center there is left a hole, *a'*, of sufficient size to admit the free passage of a bolt. To the top end, closed except in the center, is attached the smaller tube, *a''*, of any desired length and of sufficient size to admit the passage of said bolt. To the sides of the barrel *a* are attached projections *a'''*, provided with screw-holes for the purpose of securing the device when so desired.

*b* represents an elastic cushion provided with the hole *b'*, of the same size as the hole

*a'*. The diameter and length of this cushion is such as will easily fit the inside of the barrel or tube *a*, and it is preferably made of rubber, but may be of any other elastic substance, or even a spiral or coiled spring, and perform the same office.

The operation of our invention is as follows, to wit: The parts *a* and *a''* are passed over the end of a bolt, securing the two parts together that are desired to turn easily on each other. The cushion *b* is also passed over the bolt, inside of the barrel *a*, after which a washer of right size to fit inside of the barrel or tube *a* is then placed over the end of the cushion *b* and the end of the bolt, and the nut screwed down as much as desired to secure the parts closely together. The tube *a''*, in case of wood or other material passing up into or through one of the parts, prevents wear on the bolt or enlargement of the hole in the part, so that the same will all fit closely together. The barrel *a* confines the cushion *b* and keeps same in place; also protects same from injury. The cushion *b* has sufficient elasticity and depth to take up any wear between the parts occasioned by their rubbing together or turning upon each other, and holds same sufficiently tight to prevent rattling of the parts, and prevents binding on each other in case the parts are not even and smooth and still allows the parts to work freely on each other. By screwing or tightening up the bolt any desired amount of pressure may be secured between the parts.

Our invention may be applied equally as well to either end of the bolt desired and perform its office equally as well.

Having fully described our invention and its operations, what we claim as new, and desire to secure by Letters Patent of the United States, is—

In combination with a whiffletree and evener or cross-bar, the short barrel *a*, provided with the tube *a''* and elastic cushion *b*, operating in conjunction therewith, all for the purposes above set forth, and substantially as described.

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Witnesses:

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