

(No Model.)

W. B. DEMING.
HINGE.

No. 518,309.

Patented Apr. 17, 1894.

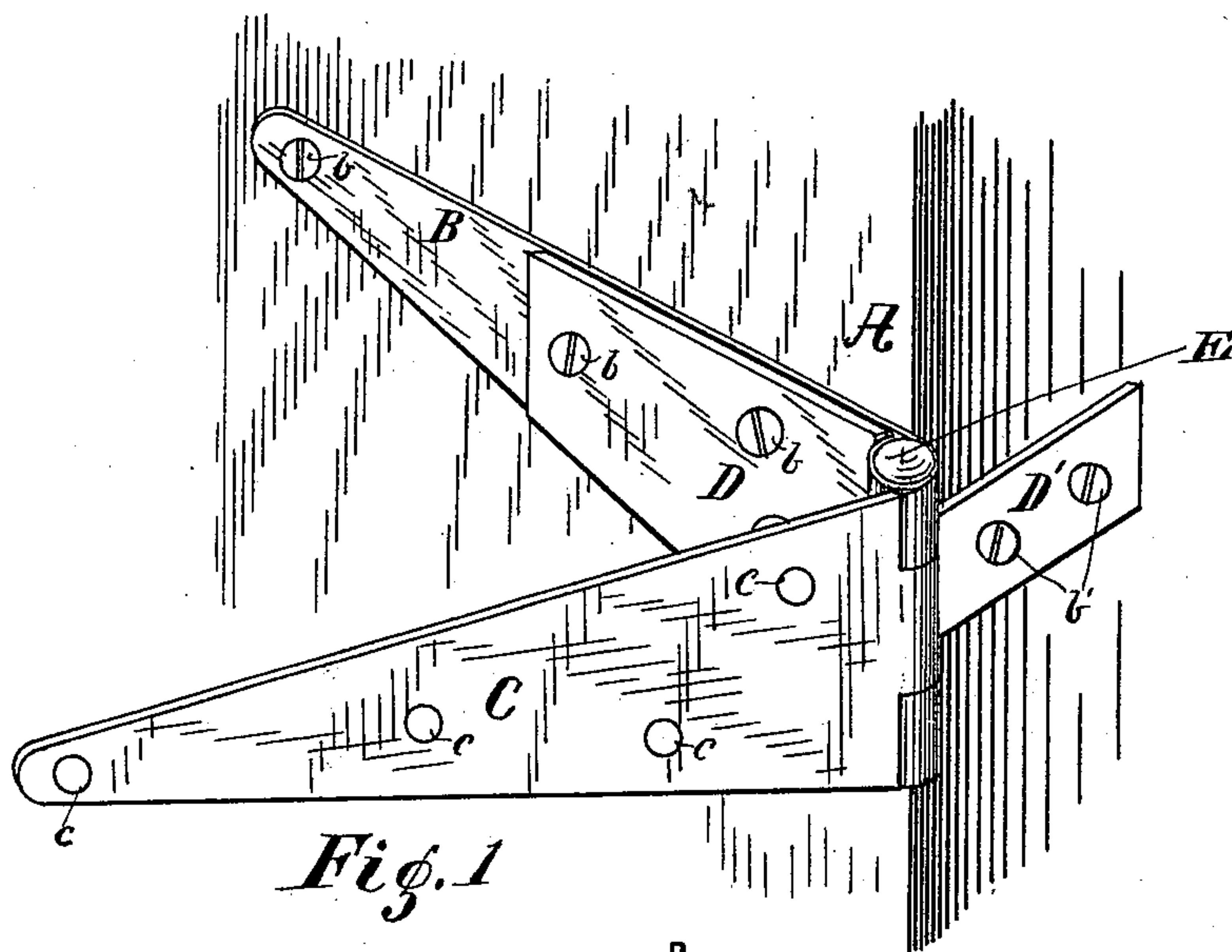


Fig. 1

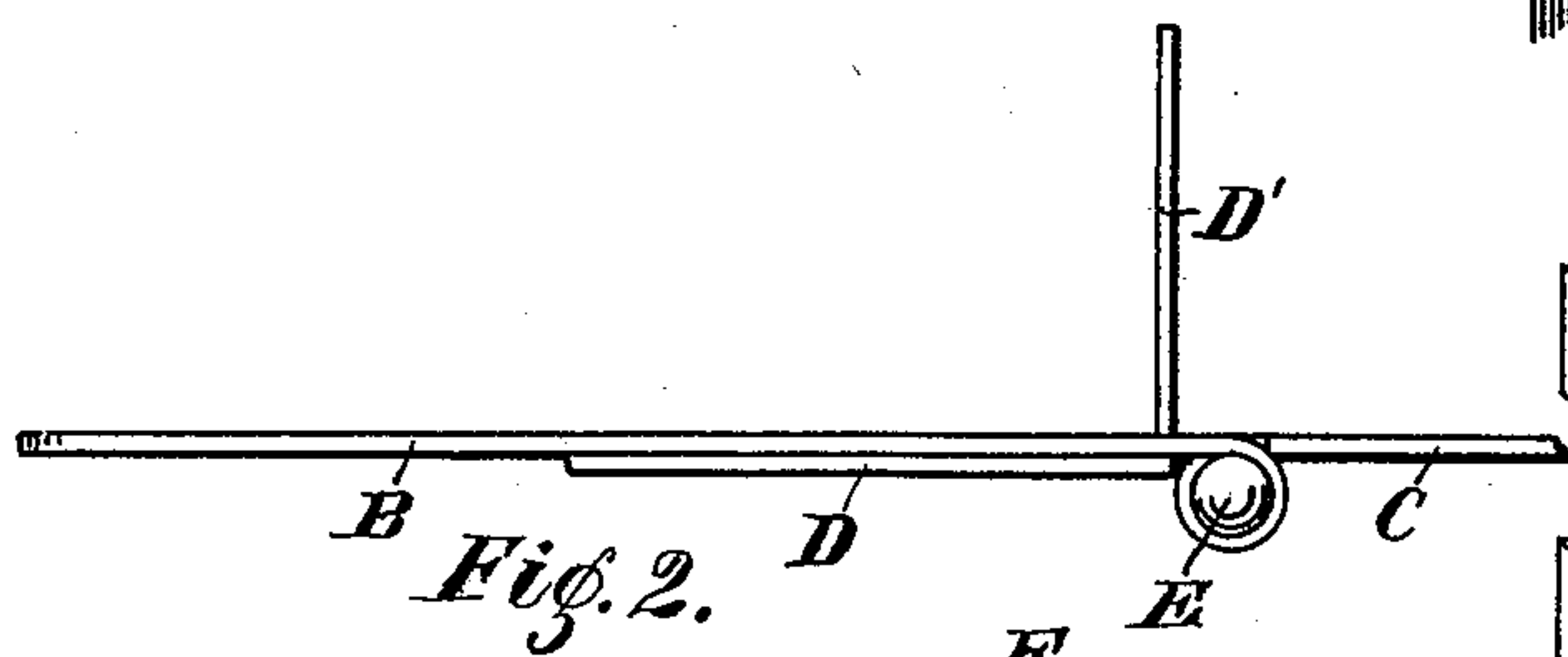


Fig. 2.

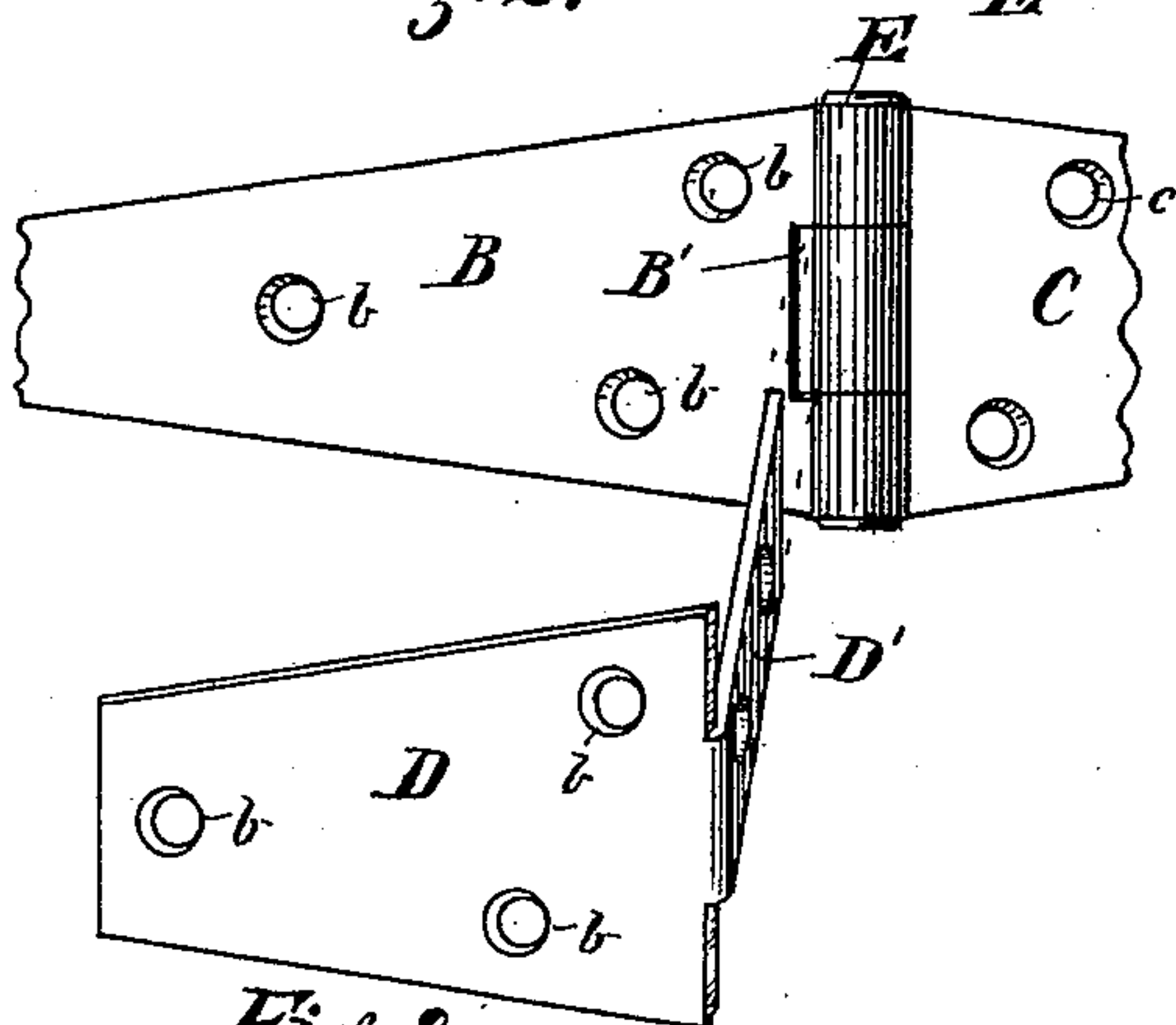


Fig. 3.

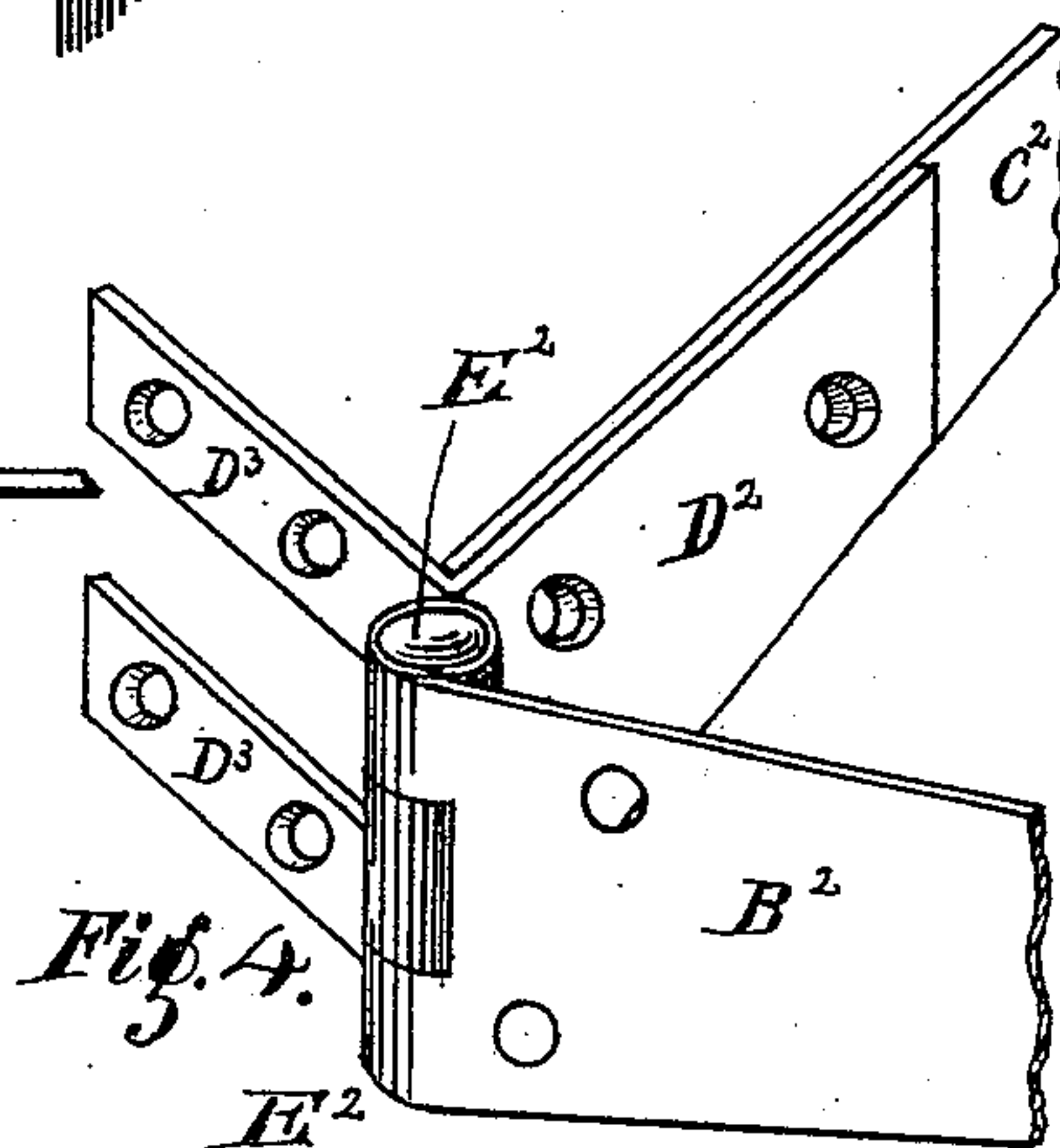


Fig. 4.

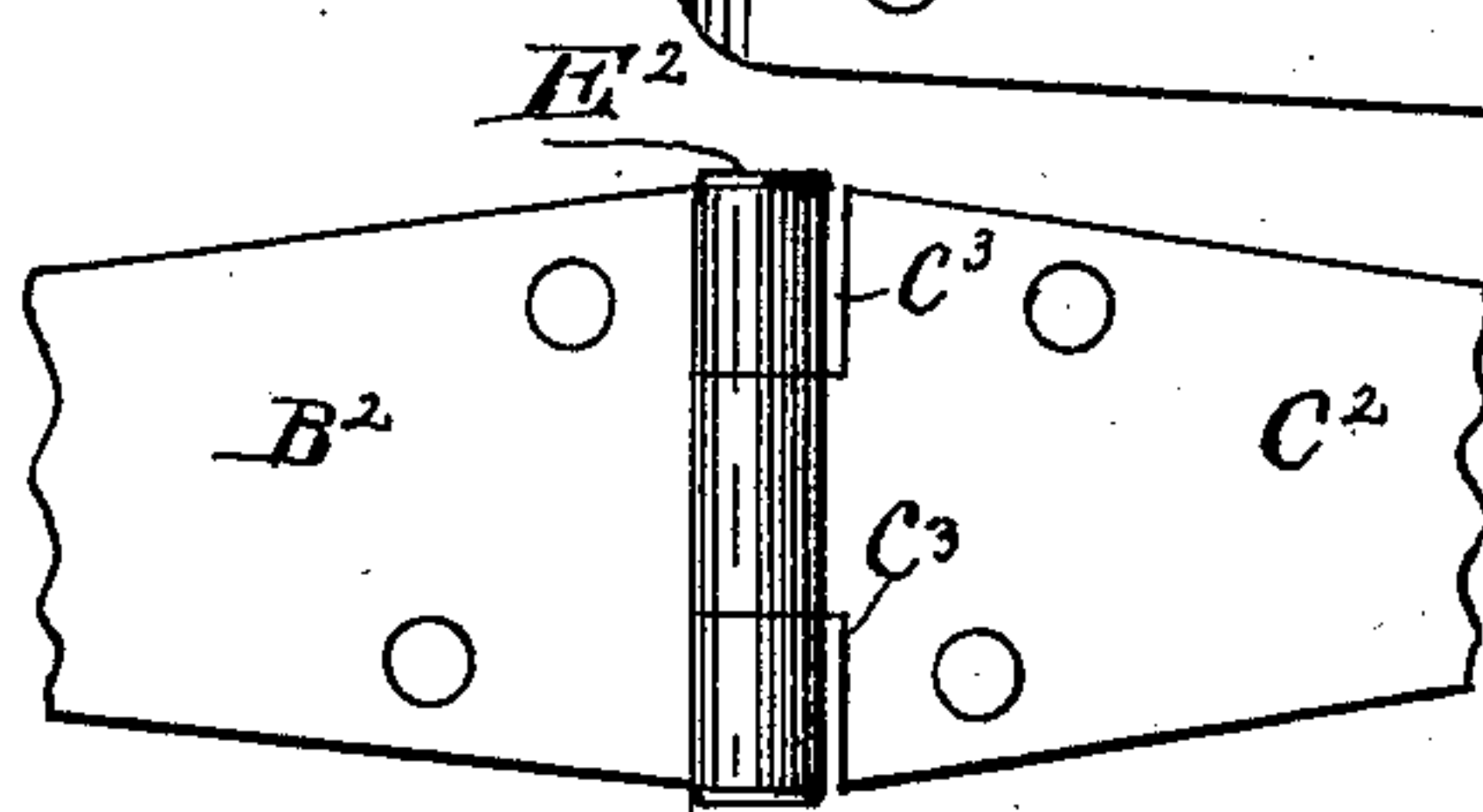


Fig. 5.

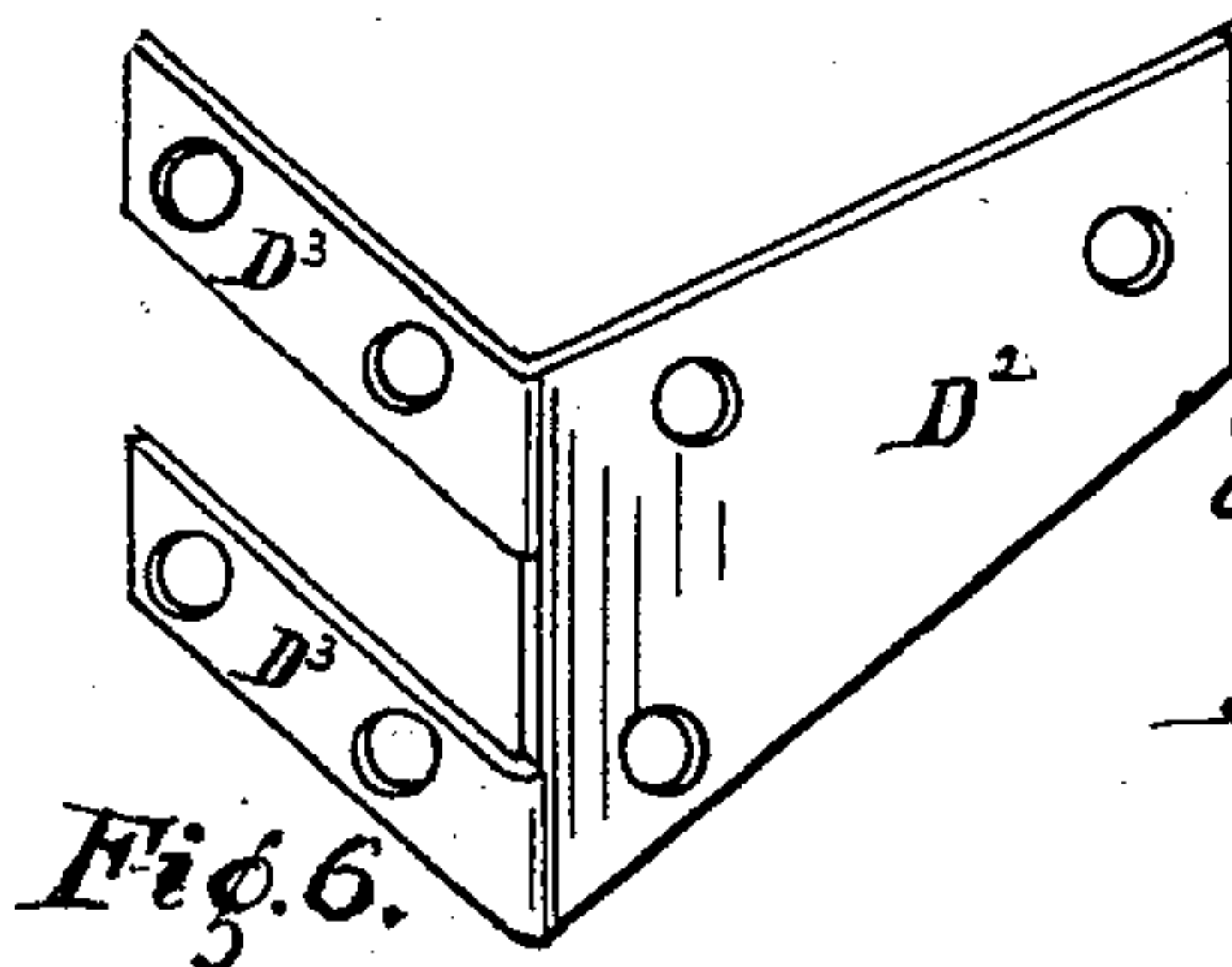


Fig. 6.

Witnesses;
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UNITED STATES PATENT OFFICE.

WILLIAM B. DEMING, OF BENTONVILLE, ARKANSAS.

HINGE.

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Application filed September 16, 1893. Serial No. 485,698. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. DEMING, a citizen of the United States, residing at Bentonville, in the county of Benton and State of Arkansas, have invented certain new and useful Improvements in Hinges; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in hinges and more particularly to that class known as strap hinges in which the leaves of the hinge are secured to the jamb or post parallel with the plane of the door or gate when closed, and the object of the invention is to strengthen the knuckle and the leaf of the hinge attached to the jamb or post so as to prevent or materially lessen its liability to fracture, and also to additionally secure the strap near the pintle of the hinge so as to prevent the loosening or drawing out of the screws by the opening of the gate or door. As the gate or door approaches a position at right angles to the plane of its closed position it exerts an increasing outwardly pulling strain, on the screws which tends to draw them out of the wood and eventually loosens them to such an extent as to damage the hinge. This is especially true of gates and doors such as are required at times to bear the undue weight of children swinging on them.

I accomplish the objects of this invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in perspective of a section of a post with my improved hinge attached. The door or gate is not shown in this figure. Fig. 2 is a detail in edge view of my improved hinge. Fig. 3 is a detail of a hinge showing the middle cut-away portion near the pintle, and also showing the reinforcing plate removed from the strap but ready to be placed in position by projecting the tongue through the slot formed for that purpose in the strap. Fig. 4 is a detail in perspective view of a modified form of hinge in which the strengthening plate is provided with two outside tongues instead of the single middle tongue. The figure shows the strengthening plate in position on the hinge. Fig. 5 is a detail in front ele-

vation of the hinge used in my modified construction and shows the two outside cutaway parts to receive the two tongues of the strengthening plate. Fig. 6 is a view in perspective of the strengthening plate used in my modified construction.

Similar letters of reference refer to like parts throughout the several views of the drawings.

A represents a gate post, or door jamb, as the case may be, and B and C are the leaves of a strap hinge like in all respects to the strap hinge of commerce except that the space B' (see Fig. 3) between the upper and lower knuckles of the hinge, is cut-away to a depth equal to the thickness of the tongue D' of a reinforcing plate D.

D is a metallic plate conforming in outline to the strap B but if so desired may only extend a portion of the length of the strap as shown in the drawings, or it may be made co-extensive with the entire strap or even larger or smaller if desired, the object being to reinforce the strap next to the pintle where the greatest strain will be exerted.

D' is a tongue integral with the plate D and equal in width to the distance between the knuckles of the strap B. The tongue D' is bent at right angles to the plate D and will be projected through the opening B' in the plate B when adjusted for use.

The screw holes *b* in the plate D correspond with the screw holes in the strap B so that the screws to fasten the hinge to the jamb or post, will pass through both the plate D and the strap B. The tongue D' being at right angles to the strap B will come against the inside of the door jamb or post. It is provided with screw holes *b'* through which it will be screwed fast to the jamb or post. The strap C will be fastened to the door or gate in the usual manner. By this construction of a supplemental plate having a laterally projected tongue, and applied as above described, the strap or leaf of the hinge is reinforced and strengthened next to the knuckle where the greatest strain is exerted, and the tendency to loosen or pull out the screws is prevented by the strap which receives the strain in the direction of its length, on the opening of the gate.

In the modification shown in Figs. 4, 5 and

6, the reinforcing plate D^2 is applied to the strap C^2 having the single middle knuckle. The slots C^3 are cut back a distance from the pintle equal to the thickness of the ears D^3 on the plate D^2 . The plate D^2 is like the plate D , both in construction and application, except that it is provided with the two outside tongues D^3 instead of the single middle one. Fig. 4 shows the manner in which the several parts will be fitted together for use.

My reinforcing plate may be applied to any strap hinge by enlarging the slot B' , where the single tongue is used, or the slots C^3 where the plate with the double tongue is employed. The necessary enlargement is readily made by cutting out with a cold chisel or by filing. For general use however it will be more convenient to cut the slot deep enough in the process of manufacture.

In the shipment of my improved hinges, the hinges proper can be packed in the usual

manner and the reinforcing plates nested separately.

I claim—

The combination, with the pintle and leaves of a strap hinge, one of which leaves is cut away opposite to the knuckle or eye of the other leaf, so as to leave a slot when such knuckle or eye is placed in position, of an independent and removable reinforcing piece bent at a right angle to form two plates, of which one overlies the said cut away leaf, and the other is adapted to pass through said slot, and both are adapted to be secured to adjacent sides of a gate post or door jamb, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM B. DEMING.

Witnesses:

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