

No. 665,446.

Patented Jan. 8, 1901.

H. C. KNOX.
BOX FASTENER.

(Application filed Mar. 22, 1900.)

(No Model.)

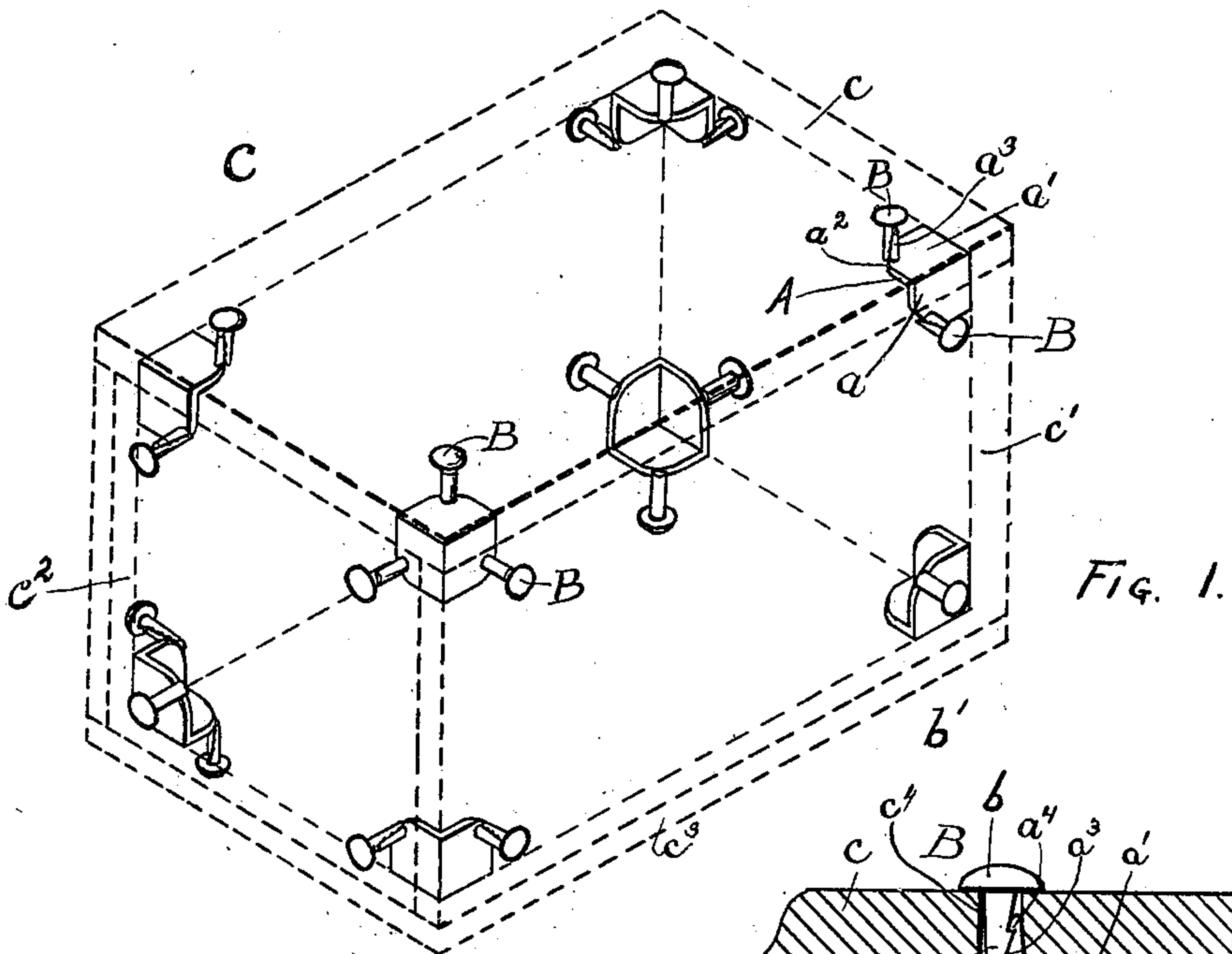


Fig. 1.

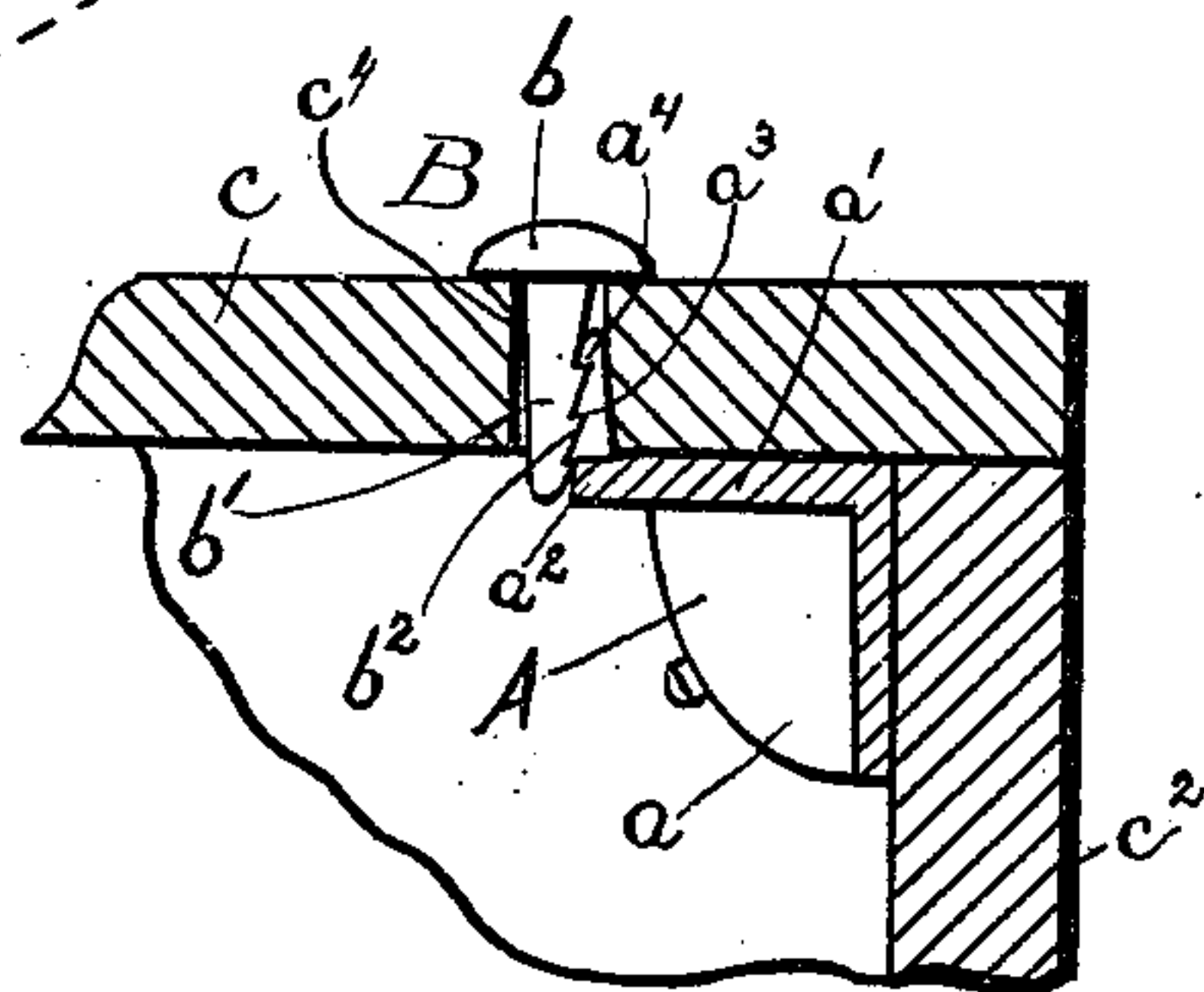


Fig. 2.

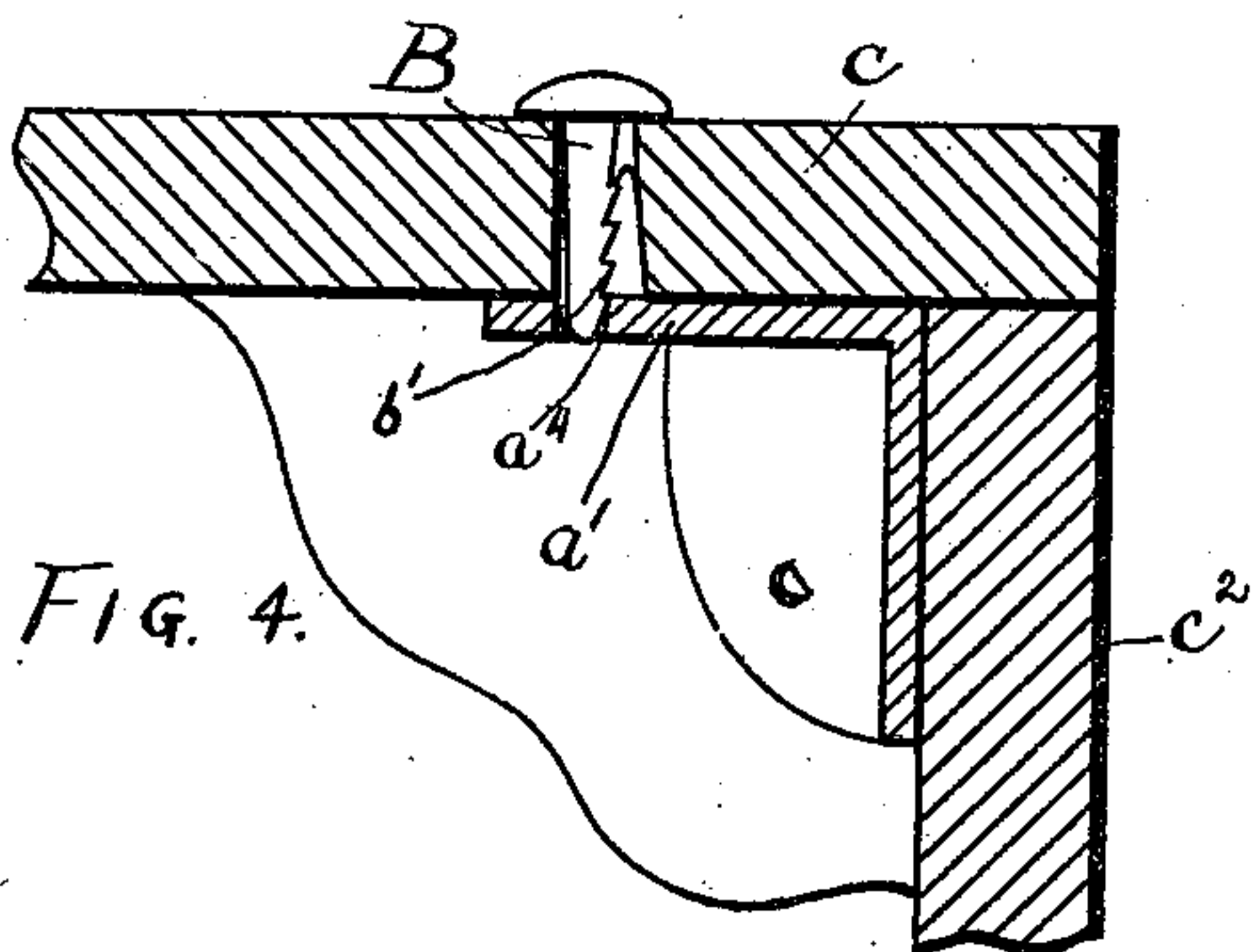


Fig. 4.

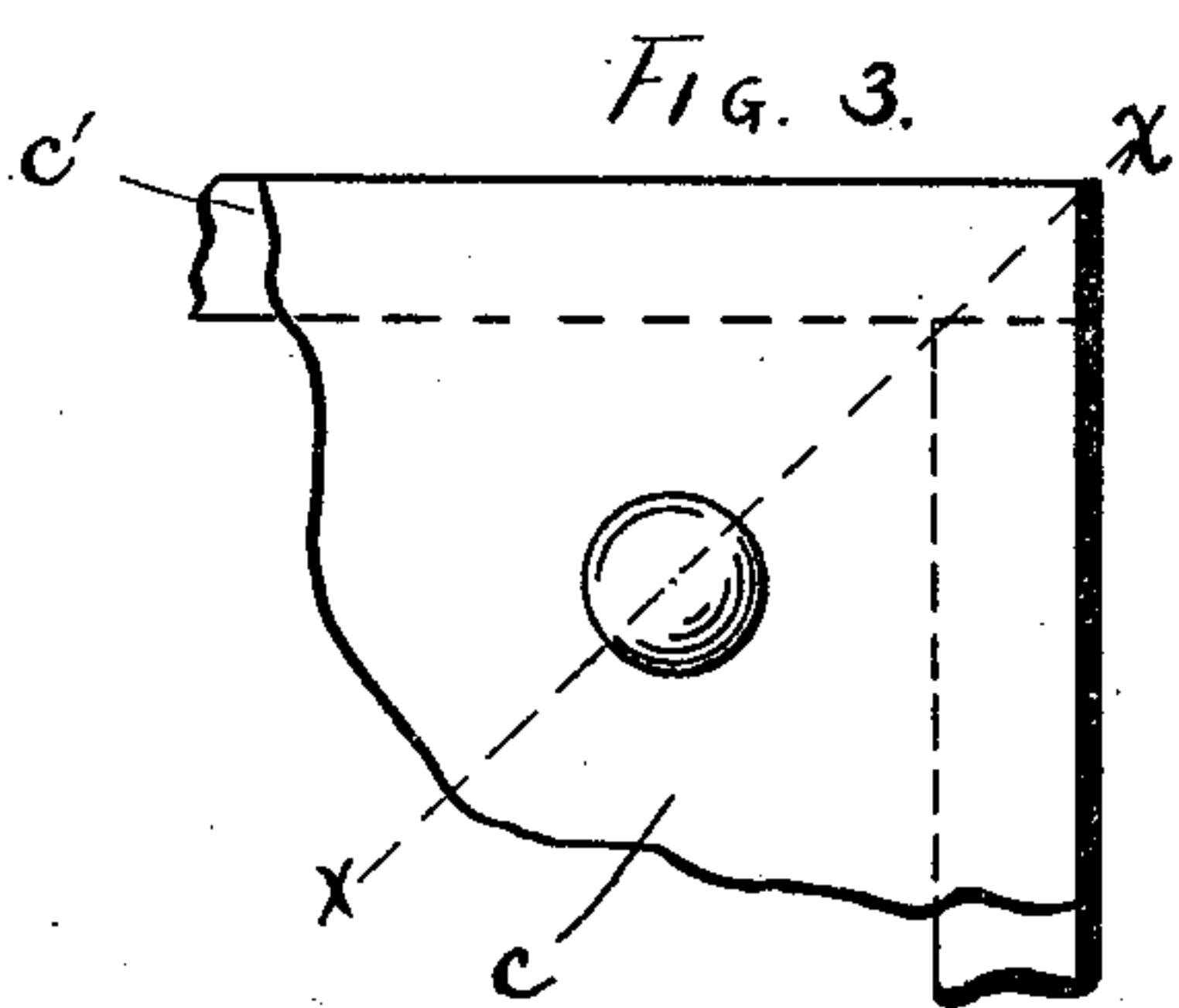


Fig. 3.

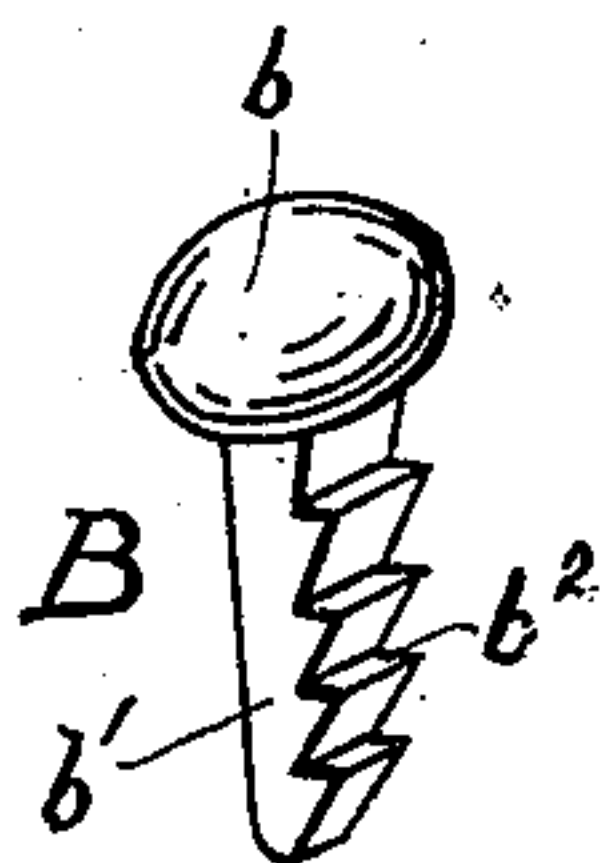


Fig. 5.

WITNESSES

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BOX-FASTENER.

SPECIFICATION forming part of Letters Patent No. 665,446, dated January 8, 1901.

Application filed March 22, 1900. Serial No. 9,731. (No model.)

To all whom it may concern:

Be it known that I, HARRY C. KNOX, a citizen of the United States of America, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Box-Fasteners; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The object of my invention is to provide a fastening for boxes and similar receptacles whereby the contents of the box may be sealed, and which will necessitate the breaking of the cover of the box to remove the contents, and which fastening may be utilized to secure the various parts of the box together.

The invention consists in the novel construction and combination of parts, such as will be first fully described and specifically pointed out in the claims.

In the drawings, Figure 1 is a view of the invention applied to a box, being shown in perspective and the parts of the box in dotted lines. Fig. 2 is a sectional view of a portion of the top and side of the box, near one end of the box, upon the line xx of Fig. 3, showing the bracket in section and the serrated stud and bolt. Fig. 3 is a broken plan view of the end of the box. Fig. 4 is a view of the parts as seen in Fig. 2, the top portion of the bracket being shown extended and perforated to receive the end of the bolt. Fig. 5 is a detail view of the bolt.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

Referring to the drawings, A represents a corner-bracket for the corners of a box, which consists of the upright sides a , extending at right angles to each other, and the horizontal top a' , extending from one side a to the other and rigidly connected with said sides, the forward edge a^2 of said top describing the arc of a circle. Upon the top a' of the bracket A, in line vertically with the edge a^2 of the bracket, is an upwardly-extended stud a^3 , which is semicircular in cross-section, with the outer edges extending upwardly and inclined toward each other. Upon the face of

the stud, in the vertical plane of the edge a^2 , are the serrations or ratchet-teeth a^4 , one below another in series.

B represents the fastening-bolt, having a head b and a shank b' , which shank slightly exceeds the length of the stud a^3 , the sides of the shank tapering slightly toward its outer end. In one side of the shank b' are the serrations or teeth b^2 , which engage with the teeth or serrations a^4 and secure the shank and stud to each other.

In the application of the improved fastening to the cover of a box, let C represent the box, and c the top, c' the sides, c^2 the ends, and c^3 the bottom, of the box. In the top c of the box is a perforation c^4 (see Fig. 2) opposite the stud a^3 and nearly of the same size as the circumference of the shank b' of the bolt B. The stud a^3 is made to extend upwardly within the perforation c^4 about two-thirds the distance from the inner side to the outer side of the cover c , which would be in ordinary boxing material about one inch. The shank of the bolt B is then placed within the same perforation c^4 , with the teeth b^2 toward the teeth a^4 in stud a^3 , and the bolt driven into the opening until the head b bears upon the upper surface f of the cover c , in which movement the teeth a^4 upon stud a^3 grasp the teeth upon the shank b' as far upward as the teeth are presented, securing the shank and stud from disengagement without breaking the cover. In the forcing of the shank b' within the opening c^4 the elasticity of the wood is sufficient to insure a constant pressure upon the shank and hold the teeth of the shank and stud firmly together, the shank meeting some resistance in entering the opening c^4 as the bolt is driven in the opening. In Fig. 1 I have shown the studs so arranged that the teeth or serrations upon the studs in diagonally opposite corners of the box are opposite in position. In this manner the strain upon the wood when the bolts are driven in place is toward the central portion of the cover, from which the expansion comes from elasticity or from dampness. The position of the studs also will prevent splitting of the cover, and the bolt in ordinary lumber may be driven at an angle to the run of the grain. The brackets A, as seen, are provided with studs projecting from the

sides a , which are the same as the stud a^3 , so that the ends and sides, as well as the bottom, of the box are secured together by the employment of the bolt B, the said parts of the box being provided with openings to receive the studs, as described of the opening c^4 . As an additional security to the lower end of bolt B, I have shown in Fig. 4 the horizontal portion a' of the bracket extended outwardly and perforated at a^4 , the stud being located upon the inner side of the perforation, so that when the bolt B is inserted in position the lower end of the shank will extend within said perforation and offset any liability, should it occur, of a separation of the lower part of the shank from the stud.

My invention serves to make the contents of a box inaccessible without the breaking of the cover or other parts of the box and for shipping purposes will prevent unauthorized inspection of any goods which are placed in the box, thus affording a sealed package for transportation. The brackets may be connected with all parts of the box and their form changed as necessity may require.

The top plate a' of the bracket may be employed without using the sides of the bracket, which plate may be secured directly to the box and like modifications within the purview of the invention.

In my improved box-fastener no lateral strain can be applied to break the engaging devices for the bolt or displace the bolt from the stud when the bolt is secured thereto within the perforations in the top or sides of the box.

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

1. A box having suitable perforations and

a bracket within said box for securing one part of the box to another having sides arranged at an angle to each other and a top, and studs upon and extending upwardly from the top of said bracket within said perforations in the box having ratchet-teeth upon the side thereof and a bolt having a head and a shank provided with ratchet-teeth adapted to enter the perforations in said box and engage with the teeth on said stud.

2. A box having suitable perforations and a bracket within said box for securing one part of the box to another having side plates arranged at an angle to each other and a top, and studs upon and extending upwardly from the outer edge of the top of said bracket within said perforations having ratchet-teeth upon the side thereof and a bolt having a head and a shank provided with ratchet-teeth adapted to enter the perforations in said box and engage with the ratchet-teeth on said stud and means substantially as described for preventing a separation of the lower part of the shank from the stud.

3. A box having a removable cover and perforations in said cover and brackets having side plates arranged at an angle to each other and a top, said brackets being connected with the inner sides of the box studs upon the outer edge of the top of said brackets extending upwardly within the perforations in said cover and provided with serrations in vertical series and a bolt having a head and a shank provided with serrations adapted to enter said perforations in said cover and engage with the serrations on said studs.

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Witnesses:

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