

P. P. BILHORN.  
 SPRING LATCH.  
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944,713.

Patented Dec. 28, 1909.

Fig. 1

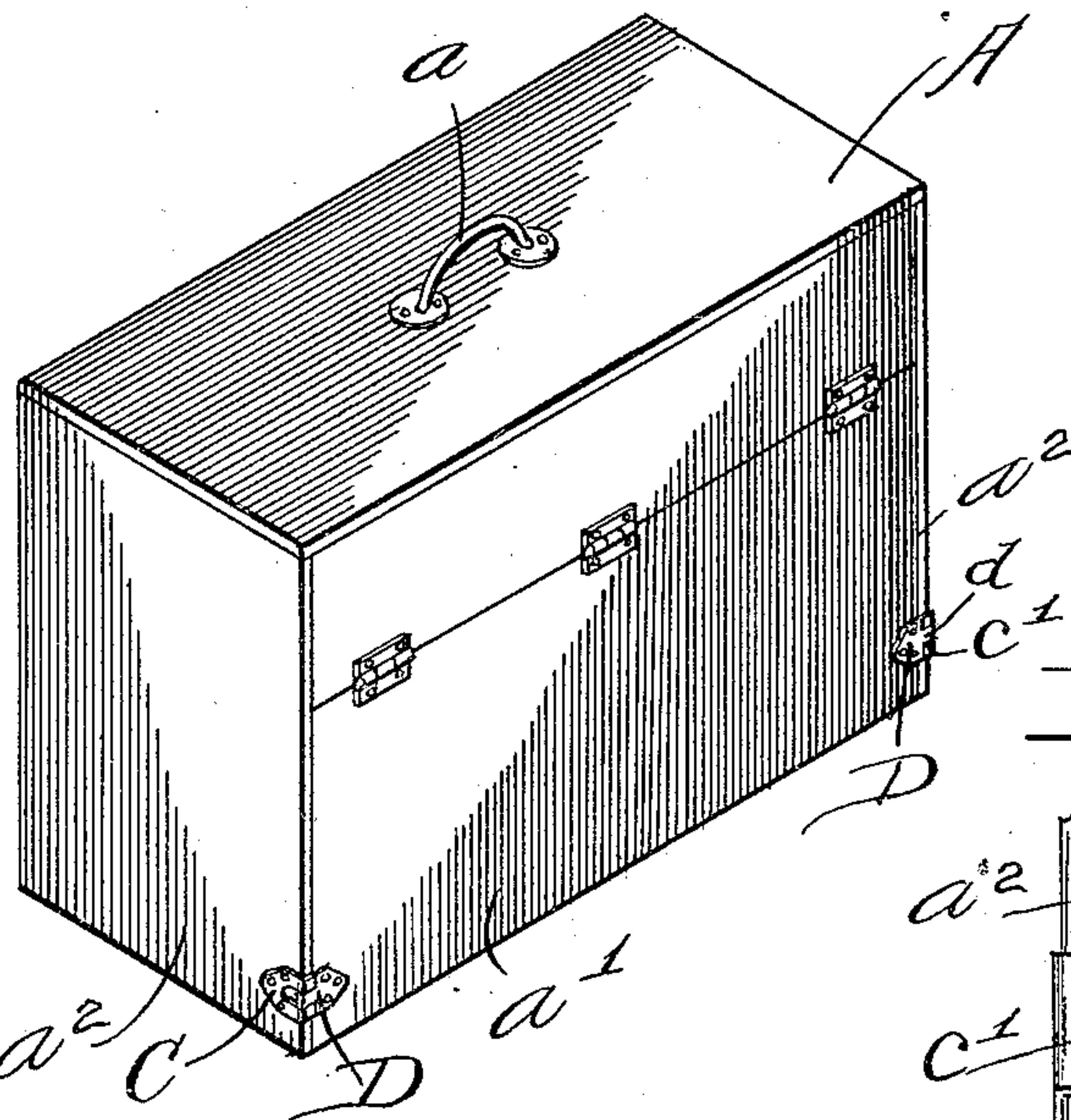


Fig. 2

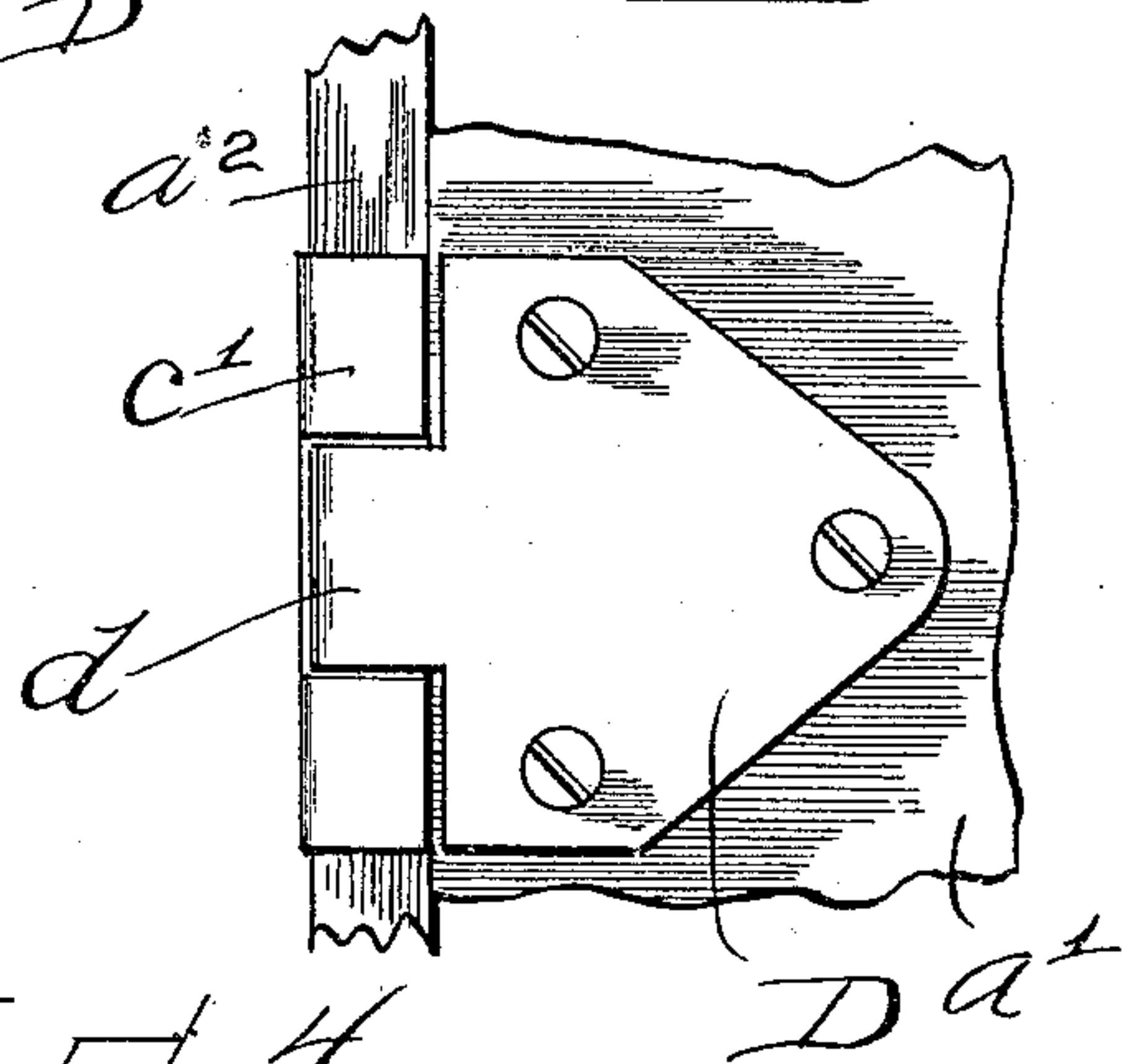


Fig. 3

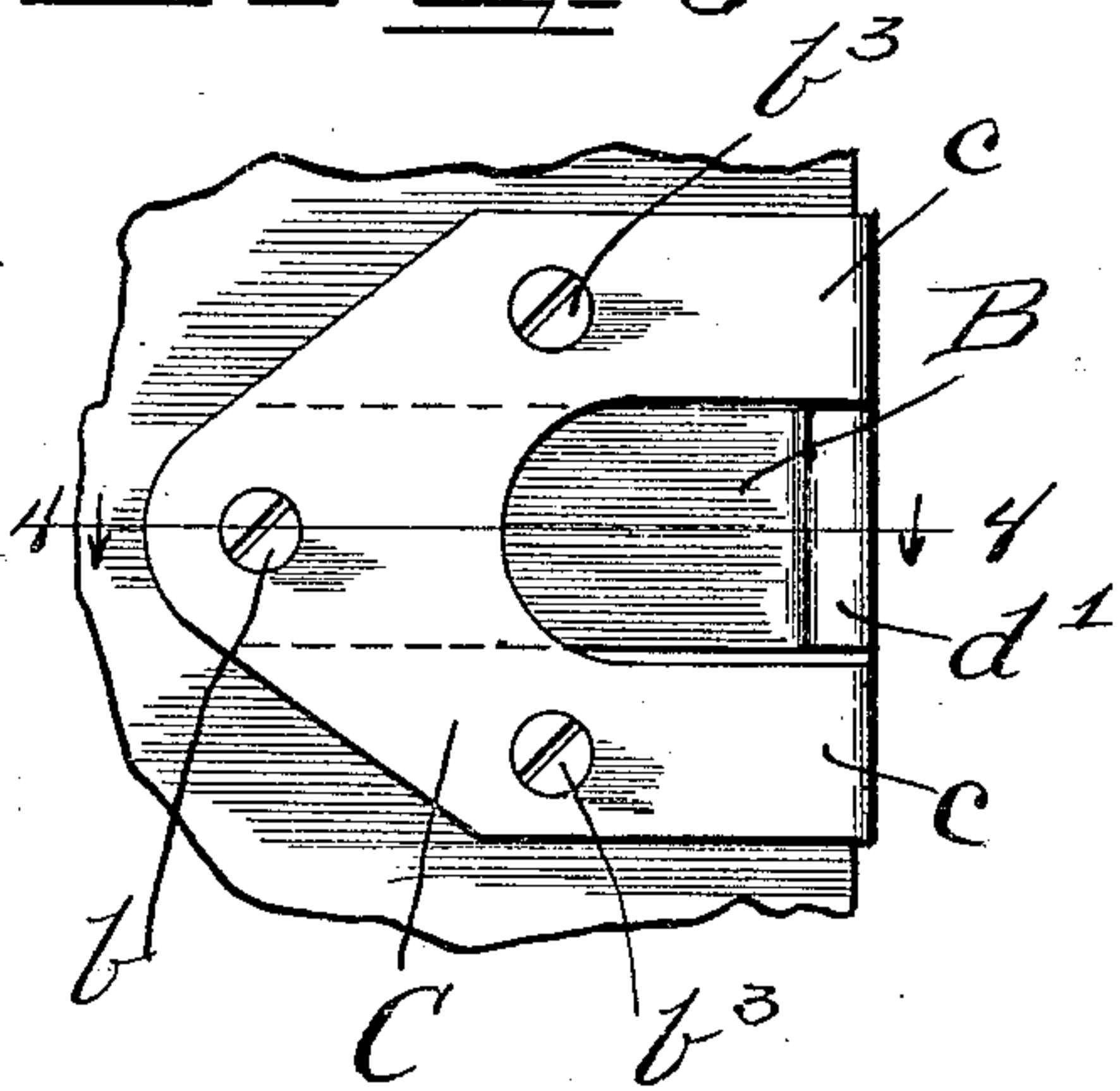
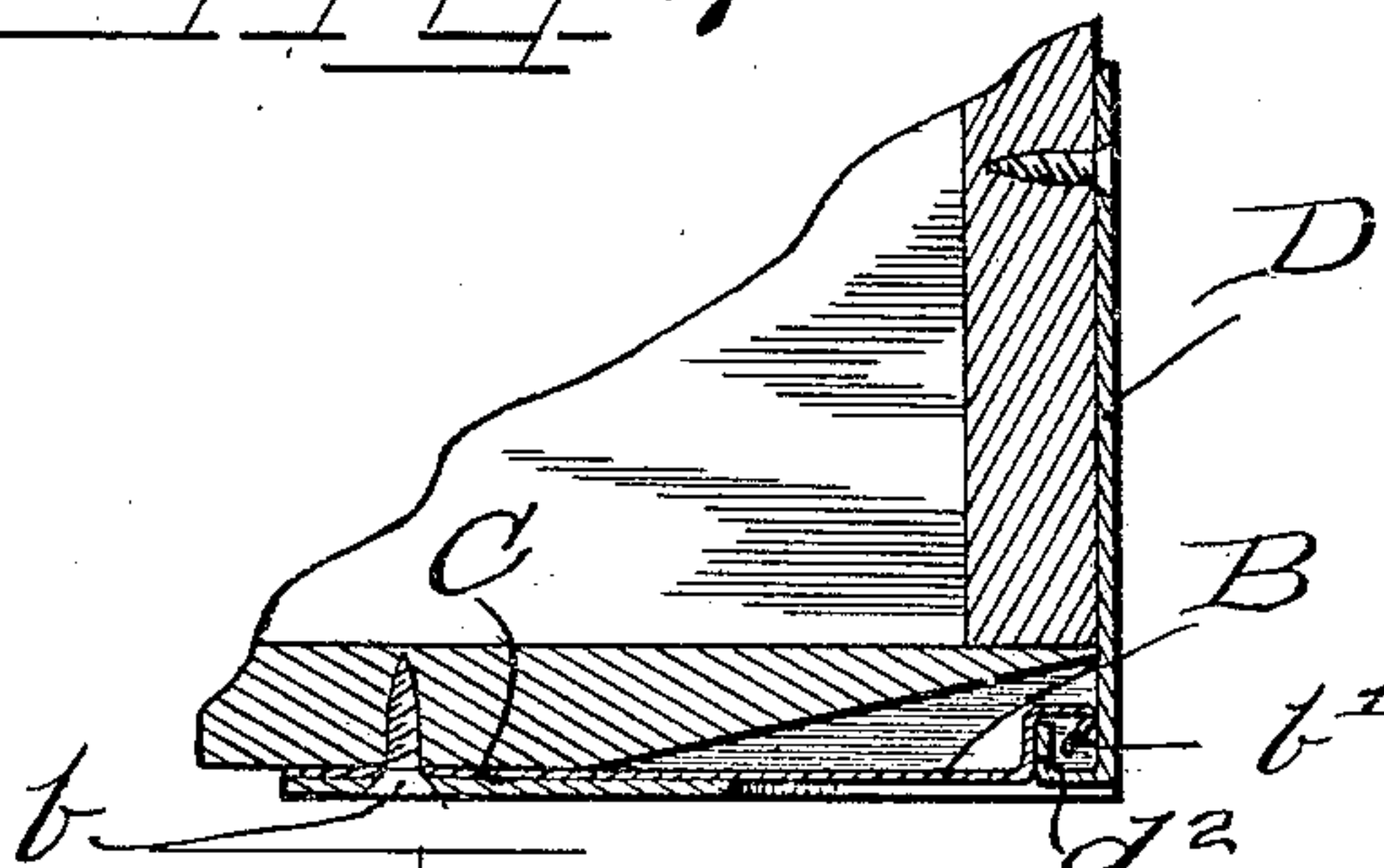


Fig. 4



WITNESSES

J. O. Angell.

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Att'y.



# UNITED STATES PATENT OFFICE.

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## SPRING-LATCH.

944,713.

Specification of Letters Patent.

Patented Dec. 28, 1909.

Application filed October 26, 1908. Serial No. 459,493.

*To all whom it may concern:*

Be it known that I, PETER P. BILHORN, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Spring-Latches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of this invention is to afford a spring latch or catch adapted to very rigidly and firmly secure in close position any mutually folding elements in such relation as to prevent the release or separation of said elements one from the other until the catch or latch is manually actuated for that purpose.

The invention is shown embodied in connection with the case of a folding organ, such as set forth in my prior patent, No. 670,551, issued to me on the 26th day of March, 1901, though obviously adapted for many other purposes.

The object of the invention is not only to afford an exceedingly strong, simple, durable and comparatively inexpensive latch or fastening means, but also to afford fastening means to serve the purpose both for ornamentation and to prevent injury to the boxes and cases such as described, said fastening means being conveniently, if desired, constructed both as a bumper to protect the angle or corners and as attaching means.

It is also an object of the invention to afford a latch which, although it may be instantly released by slight pressure at the proper point, is so constructed as to not be capable of accidental release by ordinary handling of the box or case to which applied.

The invention consists in the matters hereinafter described and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a perspective view of a box or case such as may be used for folding organs and many other purposes, and provided with catches embodying my invention. Fig. 2 is an enlarged, fragmentary front elevation thereof. Fig. 3 is an enlarged fragmentary end elevation thereof. Fig. 4 is a fragmentary section taken on line 4-4 of Fig. 3.

As shown in the drawings: A, indicates

a box or casing provided with a handle *a*, and having, as shown, a hinged section *a'*, in one side thereof adapted to fit between the end walls *a<sup>2</sup>*, to afford a close joint, and adapted to be firmly locked in relation with said end walls by means of the catches or latches forming the subject matter of this invention. Said latches, as shown, comprise a tongue B, of plate or sheet metal, adapted to be secured to the end wall of the case near the bottom thereof by means of a screw *b*, as shown in Figs. 3 and 4. As shown, the end wall is cut away immediately beneath said tongue to afford space for the free or outer end thereof to be pressed inwardly, as shown in Fig. 4, and said free or outer end thereof is bent inwardly, then outwardly in a line substantially parallel with the plane of said tongue, and the free extremity *b'*, thereof is bent obliquely rearwardly, as shown in Fig. 4, to afford a catch.

A cover plate C, stamped to afford parallel arms *c*, which are bent at a right angle at their extremities *c'*, as shown in Fig. 2, to engage over the edge of the end wall *a<sup>2</sup>*, is secured on said end wall by means of the screw *b*, which also screws the tongue in place, and also by means of screws *b<sup>3</sup>*, one on each side of said tongue and extending through the cover plate, said arms affording an opening therebetween substantially equal to the width of the tongue, said opening being sufficiently large to permit the finger of the operator to be inserted therein to press the tongue inwardly.

Secured on the front or cover portion of the case is the hook plate D. This, as shown, is shaped to correspond substantially with the general interior outline of the cover plate to afford an ornamental finish, and is provided centrally with an integral tongue or blade *d*, of a width to extend between the arms *c*, of the cover plate. Said tongue, as shown, at its outer end *d'*, is bent inwardly at right angles, as shown in Figs. 3 and 4, and the extremity thereof *d<sup>2</sup>*, is bent inwardly substantially parallel with the plane of the tongue *d*, and in position to engage in the hook formed at the outer end of the tongue B, as shown in Fig. 4.

The operation is as follows: When it is desired to open the case, the finger of the operator is inserted between the arms *c*, of the cover plate at each end of the case and



the tongue B, pressed inwardly sufficiently to release the ends  $d^2$ , of the tongue of the hook plate. This having been accomplished, the fingers engage the projecting end of the tongue  $d$ , which enables the cover to be lifted, thus separating the parts. In closing, it is only necessary to let the cover or case fall together or close by gravity, for howsoever gently the parts may be brought together, both the tongues being resilient, the inwardly directed end  $d^2$ , of the tongue D, slides over the outwardly directed inclined end  $b'$ , of the tongue B, thus bringing the parts into mutual locking engagement.

Of course, owing to the construction, any external shock or blow not sufficient to injure the parts will prove insufficient to detach the tongues, and if desired, the angles of the cover plate may be constructed as bumpers to protect the angles of the case, though obviously the arms of the cover plate flanging inwardly serve this purpose excellently well without ostensibly appearing as such.

Of course, I am aware that any exterior configuration of the hook plate and cover plate may be adapted to be either ornamental or otherwise, and too, it is obvious that the device may be otherwise applied than it is herein shown, and that details of construction may be varied without departing from the principles of this invention.

I claim as my invention:

1. In a device of the class described a metallic plate slotted longitudinally providing arms, each of which is shaped to fit around the edge of the member to which attached, a spring latch member secured on the inner side of plate and extending across the slot, said spring member adapted to be engaged for releasing the latch and a metallic plate provided with a member to fit between the arms and engage the latch.

2. In a device of the class described a plurality of plates adapted to act as bumper plates, one provided with a slot, and the other with a member of a width to engage in the slot, and a latch member shaped at its end to automatically engage the aforesaid member and positioned beneath the slot adapted to be engaged and forced inwardly to release the member.

3. A latch embracing two sheet metal, resilient tongues, one provided with an outwardly, the other with an inwardly directed hook, adapted to mutually engage, and a cover plate for one of said tongues affording guide arms between which the other of

said hooks extends when in engaging position.

4. A latch for the purpose specified embracing two resilient tongues of sheet metal, one provided with an outwardly, the other with an inwardly directed hook, adapted to mutually engage, a cover plate for one of said tongues affording arms between which the other of said hooks extends when in engaging position, and an end flange on each arm adapted to engage partly around the member on which said tongue is secured.

5. In a device of the class described a resilient member having a hook at one end thereof, a member fitted over one end thereof and slotted to expose the hooked end of the resilient member and a member provided with a hooked extension adapted to engage the hook of the resilient member.

6. In a device of the class described rigid bumper members, adapted to protect the article to which attached, one provided with parallel arms, and the other provided with a lock member adapted to fit between the two arms and a resilient latch extending longitudinally of the arms adapted to engage the lock member.

7. In a device of the class described a protecting plate provided with arms, a resilient latch member exposed between the arms having its end directed inwardly, then outwardly with the extremity inclined rearwardly and a plate provided with an extension having its end directed transversely with the extremity directed rearwardly to engage the inclined extremity of the latch to automatically force the latch adapting the extremities to interlock.

8. In a device of the class described a plate adapted to be secured to one member, provided with an extension of less width, a plate adapted to be secured to an adjacent member having arms, the outer ends of which are adapted to fit over the edge of the member to which attached, one on each side of the extension and a resilient latch concealed from injury by one of the plates and adapted to engage the extension to lock the members together.

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

PETER P. BILHORN.

Witnesses:

C. W. HINS,  
K. E. HAMIAH.