

No. 652,001.

Patented June 19, 1900.

O. A. KEIL.
LOCK HINGE.

(Application filed Jan. 25, 1900.)

(No Model.)

Fig. 1.

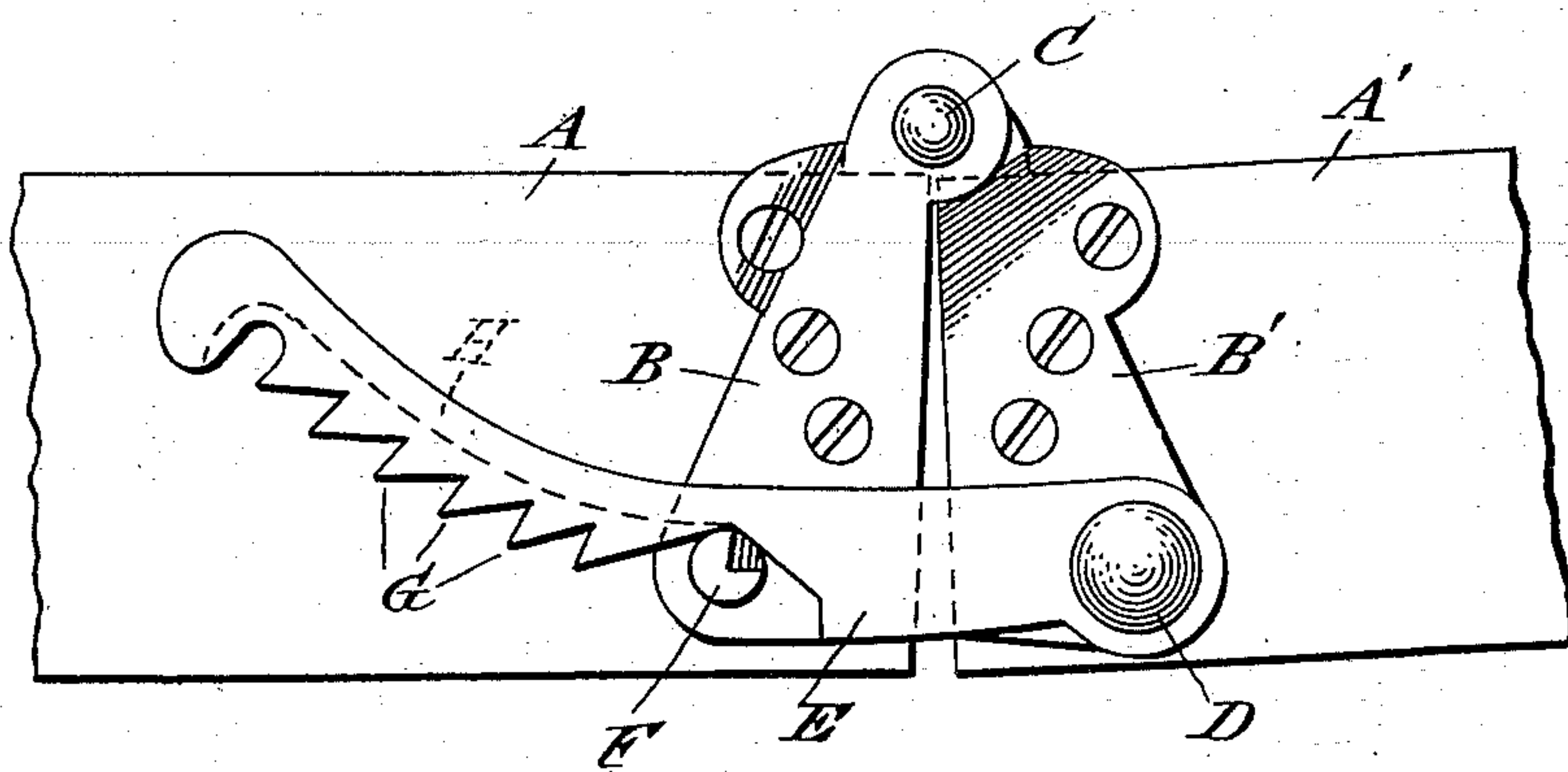


Fig. 2.

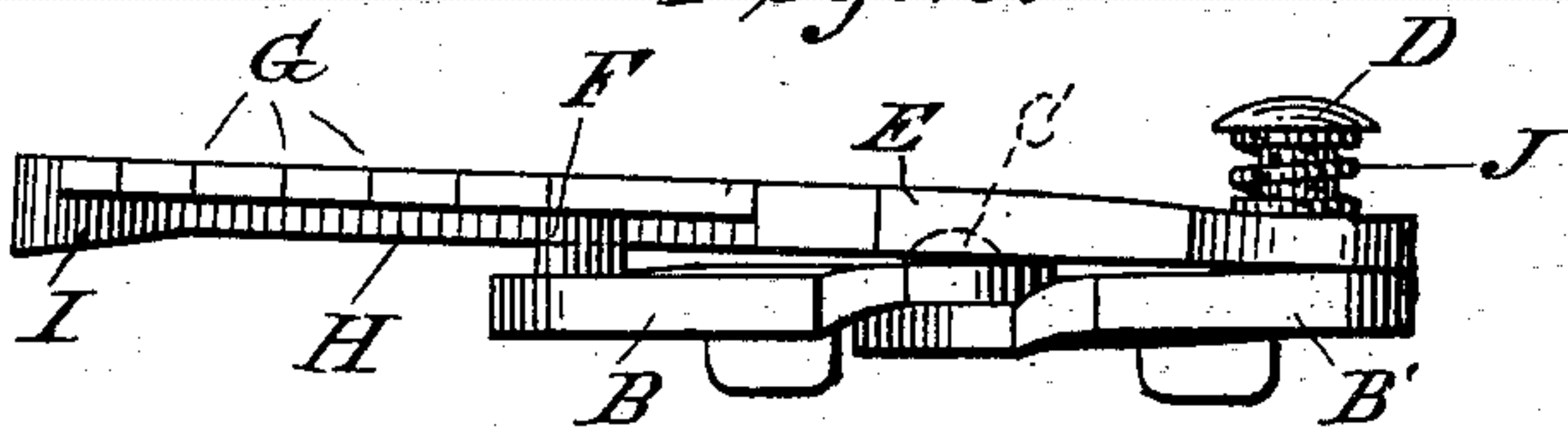
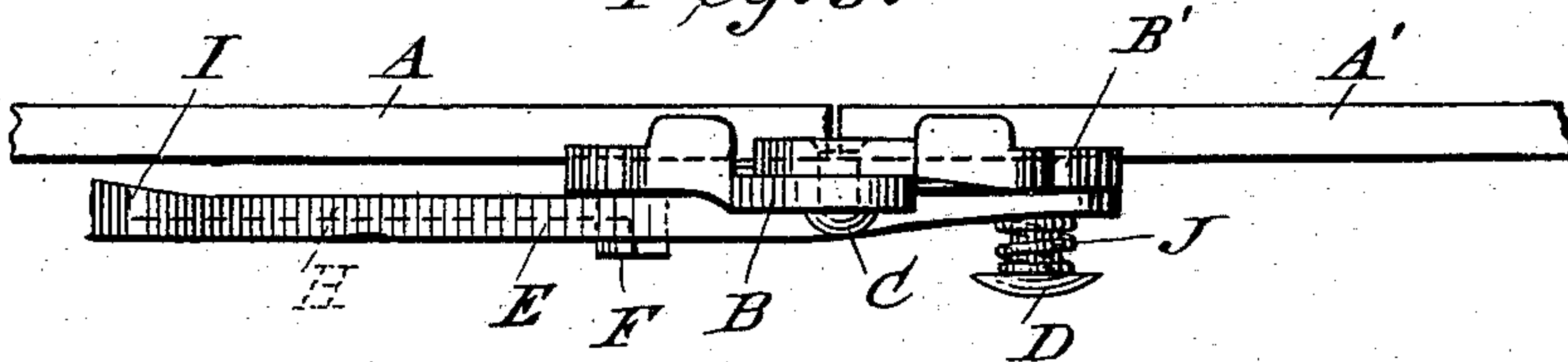


Fig. 3.



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UNITED STATES PATENT OFFICE.

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LOCK-HINGE.

SPECIFICATION forming part of Letters Patent No. 652,001, dated June 19, 1900.

Application filed January 25, 1900. Serial No. 2,720½. (No model.)

To all whom it may concern:

Be it known that I, OSCAR A. KEIL, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Lock-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.

My invention relates to improvements in lock-hinges, and more particularly to such hinges when adapted to use in conjunction with couches having adjustable ends; and its object is to provide the same with a simple and effective ratchet mechanism whereby when the movable part of the hinge is raised to the full extent of its movement the locking means will be automatically disengaged and return to its former position; and the device consists of a suitable hinge provided with a projecting lug at one side and having a pivoted locking ratchet-bar provided with a lateral enlargement and a flange whereby the lug is laterally disengaged from the ratchet-teeth and returns to the starting position in engagement with the flange, as hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a device embodying my invention; Fig. 2, an inverted plan of the hinge and locking-ratchet, and Fig. 3 a plan view of the device as shown in Fig. 1.

Like letters refer to like parts in all of the figures.

A represents the fixed portion of a couch or other device, to which one plate of the hinge is attached.

A' is the portion of the couch adjustable about the axis of the hinge.

B and B' are the respective hinge-plates attached to the respective parts A and A' and pivotally connected at C near the adjacent upper angles of the parts A and A'.

D is a pivot-bolt near the outer lower angle of the hinge-plate B', to which bolt is pivoted a ratchet-bar E', extending across the face of the hinge-plates. Upon the plate B

is a stud or lug F, upon which is supported the ratchet-bar E, which latter is provided with a series of teeth G, adapted to engage the stud F and support the adjustable portion A' in an inclined position and at various angles. Said ratchet-bar is also provided with a flange H, adapted to engage the stud F and slide thereon, and also at its movable end said ratchet-bar is provided with a lateral enlargement I, whereby when the portion A is raised sufficiently said enlargement will engage the plate B of the hinge and move the ratchet-bar E outward to disengage the ratchet-teeth G from the stud F by moving the same laterally beyond the end of the stud, as shown in Fig. 2, in which position the ratchet-bar will drop slightly and engage the flange H with the stud, in which relation the ratchet-bar will run back freely on the same to the starting position, where the last tooth of the ratchet is cut down to the plane of the flange H to permit reengagement of the teeth with the stud. The ratchet-bar E is somewhat loosely pivoted on the bolt D to permit of lateral movement of its free end, and the spring J, between the head of the bolt D and the side of the ratchet-bar, presses the latter toward the hinge-plates.

The operation of my device is as follows: When the portion A is raised to an inclined position, the various ratchet-teeth G will traverse and engage the stud F and hold the said portion in inclined position. When raised sufficiently, however, the laterally-enlarged portion I' strikes the plate B and crowds the free end of the ratchet-bar outward away from the hinge-plate B sufficiently to bring the ratchet-teeth outside the plane of the stud F, when the bar will drop slightly until the stud F engages the flange H, when it will run freely back on the same with its end sliding along the inner face of the teeth G without engaging therewith. When the stud F reaches the position shown in Fig. 1, the first ratchet-tooth being cut down to the plane of the flange H, the end of the stud no longer engages the inner side of the ratchet-teeth and the bar E is free to move inward against the surface of the hinge-plate B under the action of the spring J.

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

1. The combination of hinge-plates, a stud on one of the hinge-plates, a bar having teeth to engage the stud and pivoted to the other hinge-plate and also laterally movable at its free end, and means for moving the bar laterally to disengage its teeth from the stud, substantially as described.

2. The combination of two plates pivotally connected, a stud on one of said plates, a bar pivotally connected to the other plate and provided with ratchet-teeth and a flange to engage the stud, and a lateral enlargement on the bar to engage the hinge-plate, substantially as described.

3. In combination with hinge-plates, a stud on one of the plates, a bar pivoted to the other plate and laterally movable at its free end and also having ratchet-teeth to engage the stud, and a lateral enlargement on the free

end of the bar to engage the hinge-plate and move the bar laterally, and a spring engaging the bar, substantially as described.

4. The combination of plates adapted to be secured to the respective fixed and movable portion of a couch and pivotally connected at their ends, a stud near the lower outer angle of one of said plates, a pivot-bolt near the lower outer angle of the other plate, a bar pivotally and laterally movable on the said bolt and having ratchet-teeth, and a flange to engage said stud, a lateral enlargement at the inner side of the free end of said bar, and a spring engaging the outer side of said bar and pressing the same toward the plates, substantially as described.

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

OSCAR A. KEIL.

Witnesses:

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