(No Model.) 2 Sheets—Sheet 1.

# J. A. HUNTER & F. H. KNIGHT.

## LOCK HINGE.

No. 452,478. Patented May 19, 1891.

Fig. 1.

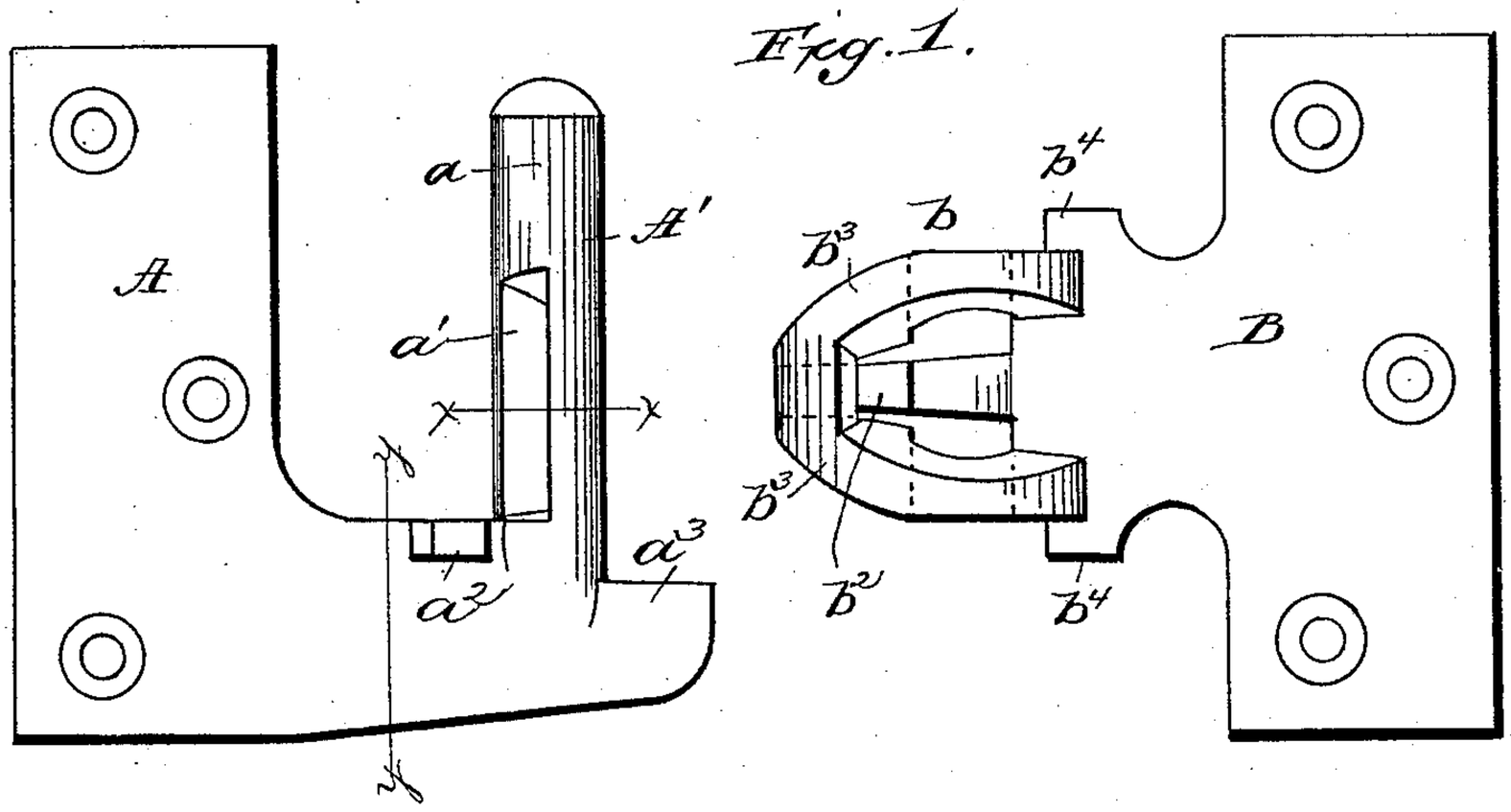


Fig. 2.

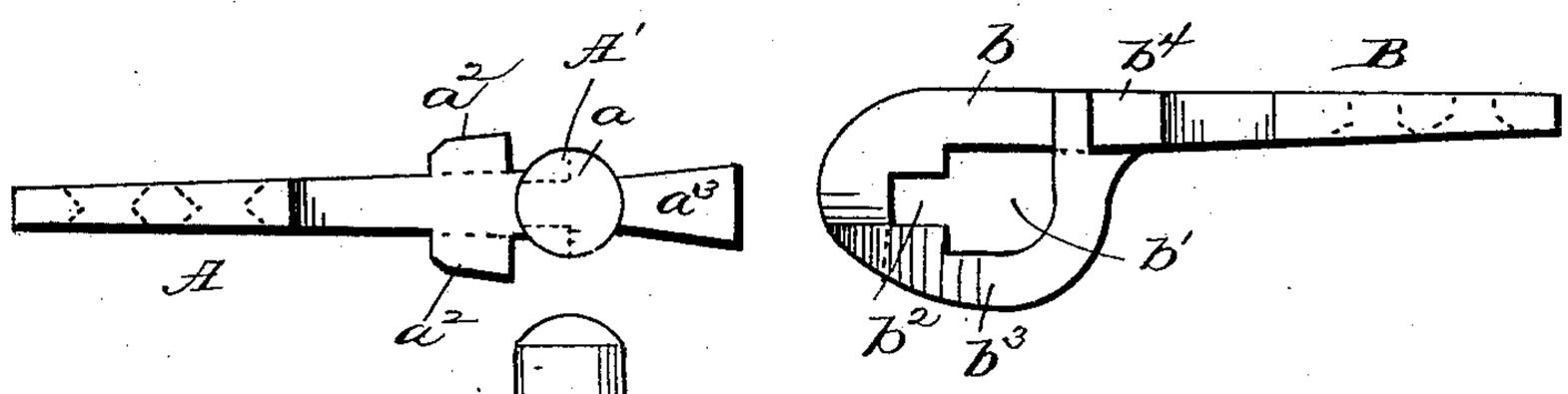


Fig. 3.

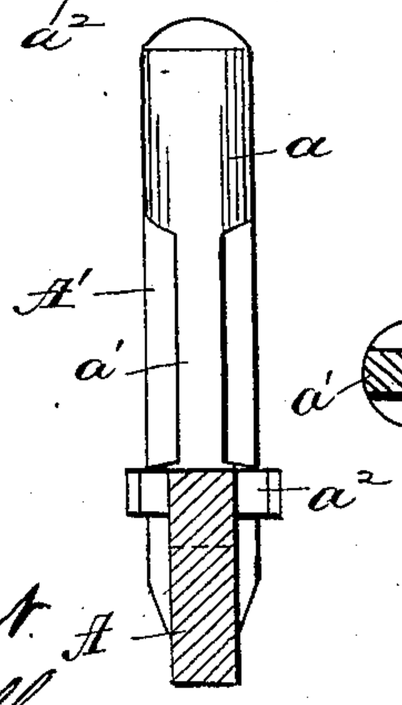


Fig. 4.




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(No Model.) 2 Sheets—Sheet 2.

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## LOCK HINGE.

No. 452,478. Patented May 19, 1891.

Fig. 5.

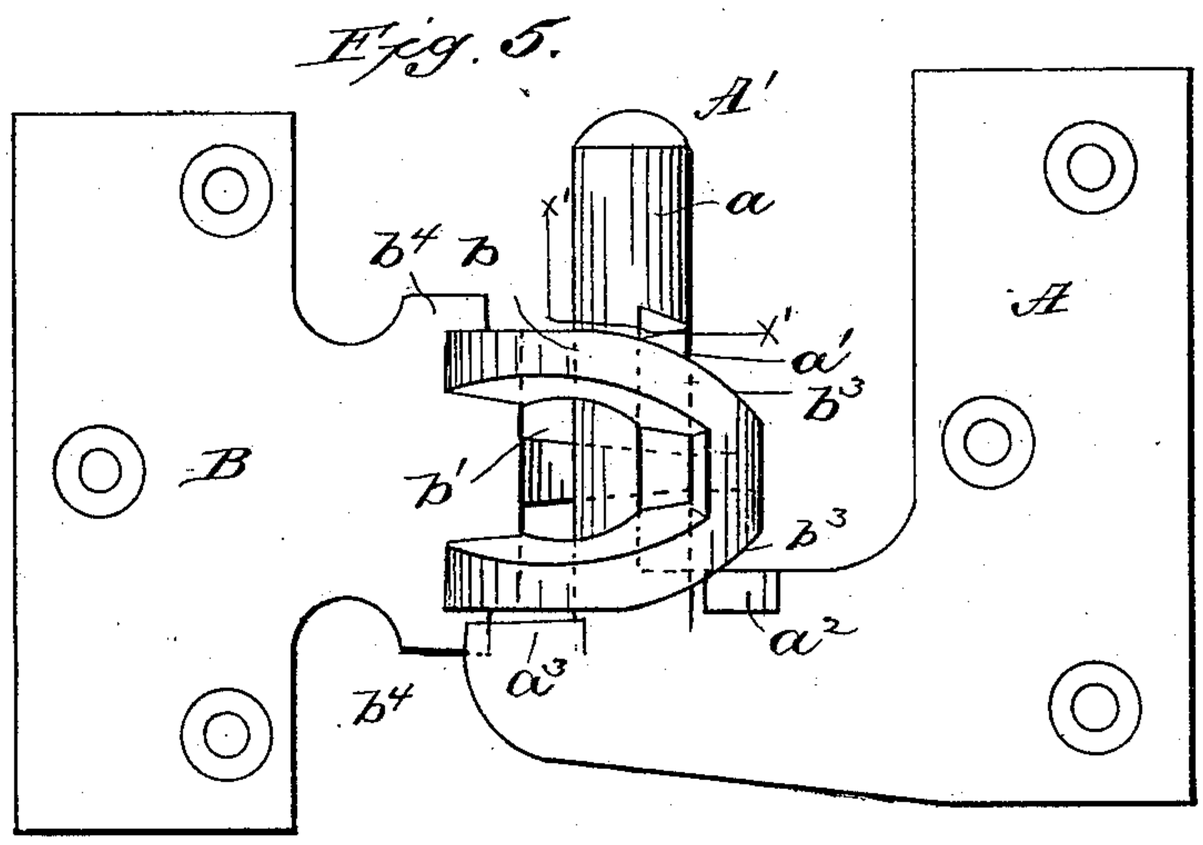



Fig. 6

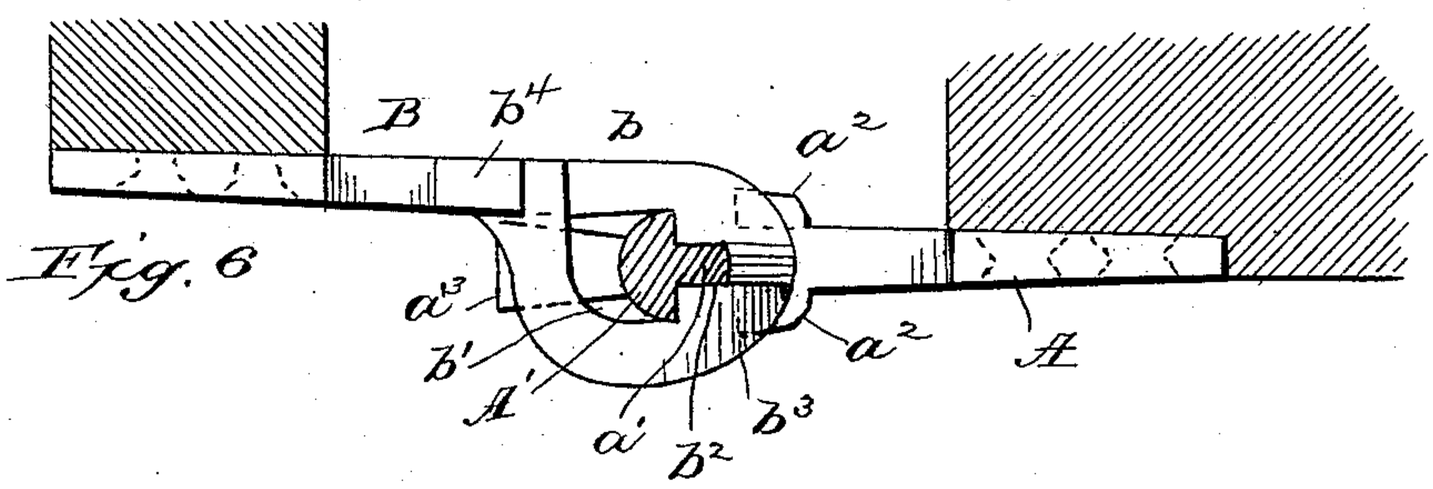
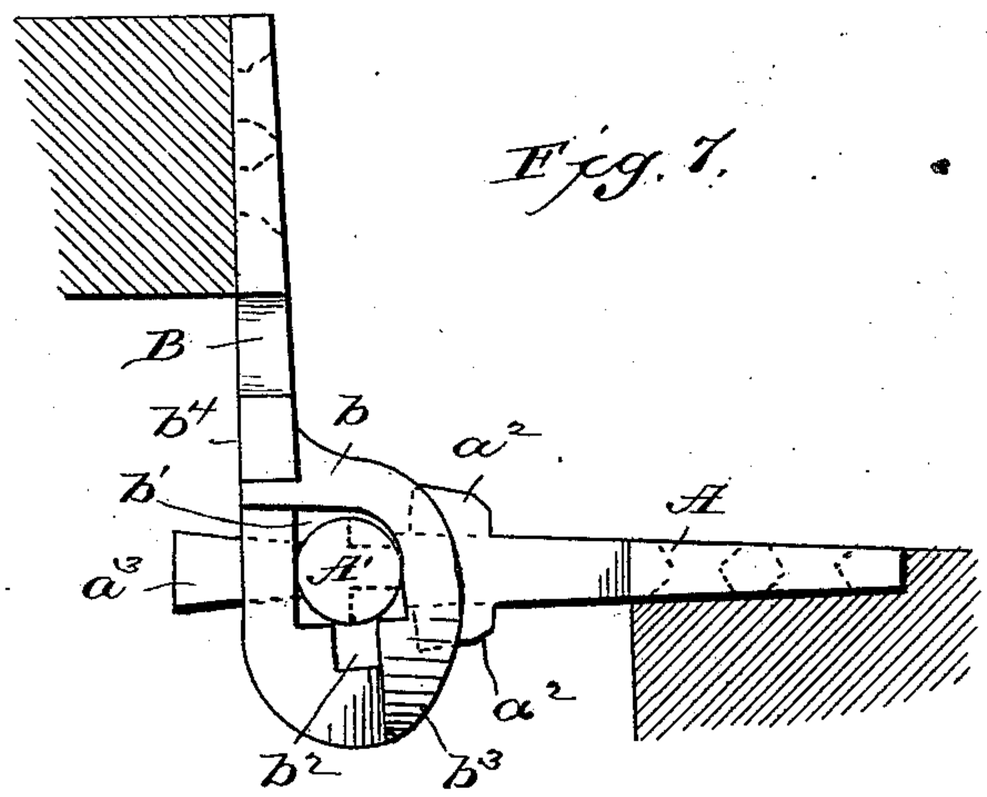



Fig. 7.

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# UNITED STATES PATENT OFFICE.

JOHN A. HUNTER, OF GETTYSBURG, PENNSYLVANIA, AND FRANK. H. KNIGHT, OF WASHINGTON, DISTRICT OF COLUMBIA.

## LOCK-HINGE.

SPECIFICATION forming part of Letters Patent No. 452,478, dated May 19, 1891.

Application filed March 17, 1891. Serial No. 385,409. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN A. HUNTER, of Gettysburg, in the county of Adams and State of Pennsylvania, and FRANK. H. KNIGHT, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Hinges; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in that class of hinges designed particularly for use on window blinds or shutters; and it consists in the novel construction and combination of parts hereinafter specifically described and claimed.

Referring to the accompanying drawings, Figure 1 represents a side view of the parts composing our improved hinge, the same being detached. Fig. 2 is a top plan view of the same. Fig. 3 is a sectional view taken on the line $y$ $y$, Fig. 1; Fig. 4, a sectional view taken on the line $x$ $x$, Fig. 1. Fig. 5 is a side elevation of the hinge, showing the parts connected and in open locked position. Fig. 6 is a sectional plan view taken on the line $x'$ $x'$, Fig. 5. Fig. 7 is a top plan view showing the position of the parts while unlocked and capable of being turned.

Similar letters of reference in the several figures indicate the same parts.

The letters A and B indicate the two parts of the hinge, the former constituting what is known as the "fixed leaf" and the latter the "swinging leaf."

The fixed leaf A is provided with a pintle A', whose upper portion $a$ is made, preferably, cylindrical, but whose body portion is recessed at opposite sides, so as to form a longitudinal rib $a'$, as shown particularly in Figs. 1, 3, 4, and 6. In rear of the pintle A' the leaf is formed with projections $a^2$ $a^2$, extending out on opposite sides, as shown in Figs. 1, 2, and 3, while in front of the pintle an extension $a^3$ is provided, for a purpose to be presently explained.

The swinging leaf B is provided with a socket portion $b$, having a main aperture $b'$ extending vertically through it, of sufficient size to accommodate without binding the cylindrical portion of the pintle A', (see Figs. 2 and 7,) and having also a slot $b^2$, leading into said main aperture $b'$, for receiving at the appropriate times the longitudinal rib $a'$ of the pintle. The upper and lower surfaces of the socket portion $b$ are made rounding or inclined, as shown at $b^3$ $b^3$, Figs. 1 and 5, and lugs or projections are formed at $b^4$ $b^4$ for cooperation with the extension $a^3$ of the stationary leaf when the parts are locked together, and it will be noted that the projection $a^3$ is substantially horizontal. Thus when the leaves are moved bodily toward each other the inclines lift the projection $b^4$ over the projection $a^3$, doing away with the necessity of any complicated arrangement of locking projections.

It should be understood that our hinge is intended for use only on the lower portion of a blind or shutter, the upper portion of the latter being supported by an ordinary hinge, such as now found in the market.

By reference to Figs. 5 and 6 the position of the parts of the hinge when locked together will be seen. It will be noted that the movable leaf B is drawn outward so as to bring the locking-rib $a'$ into the locking-recess $b^3$ of the fixed leaf, and also that the lug $b^4$ stands below and behind the projection $a^3$.

When it is desired to unlock the parts and turn the movable leaf, the latter is pushed inwardly slightly, which has the effect to disengage the rib $a'$ from the recess $b^2$ and also to cause the inclined or rounded lower surface $b^3$ to ride up onto the projection $a^2$, and thus raise the lug $b^4$ above the plane of the top of the projection $a^3$. A slight turn of the movable leaf will now cause the said leaf to further rise by the action of the rounded surface $b^3$, so as to carry the upper portion of the slot $b^2$ above the rib $a'$ and opposite the cylindrical portion $a$ of the pintle, thereby enabling the movable leaf to freely turn without liability of re-engagement. Upon the turning of the movable leaf back to first position the parts will become automatically locked, as before.

The movable leaf is made alike at top and

bottom, so as to be reversible, as will be readily understood.

By recessing the pin to form the locking-rib and forming a recess in the socket it will be seen that when the rib is withdrawn from the recess and given even a very slight turn the play of the pin in the socket is absolutely prevented, as the pin then fits snugly into the socket. Further, it will be seen that by forming the rounded bearing above the recess or in position to bear against the cylindrical upper end of the pin when elevated by the incline a broad bearing-surface is afforded to sustain the wear in opening and closing the shutter.

We claim as our invention—

1. In a hinge, the combination, with the leaf having the substantially cylindrical pin recessed at opposite sides to form the locking-rib formed integral therewith, of the leaf having the socket for the pin with the recess at one side for the reception of the locking-rib, substantially as described.

2. In a hinge, the combination, with the leaf having the cylindrical pin recessed at opposite sides throughout a portion of its length to form the locking-rib, of the leaf having the socket for the pin with the short recess at one side for the reception of the locking-rib and the incline for throwing the rib into the recess, substantially as described.

3. In a hinge, the combination, with the leaf having the pin with the locking-rib, of the leaf having the socket with the rounded bearings for the pin at top and bottom and the short central recess for the locking-rib, substantially as described.

4. In a hinge, the combination, with the leaf having the pin with the cylindrical upper portion and lower portion recessed to form a locking-rib, of the leaf having the socket with the rounded bearing for the pin at the top, the recess for the rib below the rounded bearing above the locking-rib, substantially as described.

5. In a hinge, the combination, with the leaf having the cylindrical pin, locking-rib, and substantially horizontal projection $a^3$, of the leaf having the elongated socket for the pin, the recess and downward projection $b^4$, and the inclines for disengaging said projections by moving the leaves vertically with relation to each other, substantially as described.

6. In a hinge, the combination, with the leaf having the cylindrical pin with the locking-rib, of the leaf having the socket for the pin with the recess for the locking-rib, said socket having the inclined or rounded bearing-surfaces at top and bottom, and co-operating projections on each side of the pin, whereby the socket-leaf may be reversed, substantially as described.

7. The combination of the fixed leaf having the pintle recessed at opposite sides to form the locking-rib, and having the projection $a^2$, with the reversible movable leaf having the socket portion provided with the large aperature and the recess leading into the same, and with the inclined or rounded bearing-surfaces at top and bottom, substantially as described.

8. The combination of the fixed leaf having the pintle recessed at opposite sides to form the locking-rib, and having also the projections $a^2$ and the extension $a^3$, with the reversible leaf provided with the aperture and recess, as described, and also provided with the inclined or rounded bearing-surfaces at top and bottom, and with the lugs $b^4$, substantially as described.

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