

B. A. Jenkins.

Window Shutter.

N^o 93,996.

Patented Aug. 24, 1869

Fig. 1.

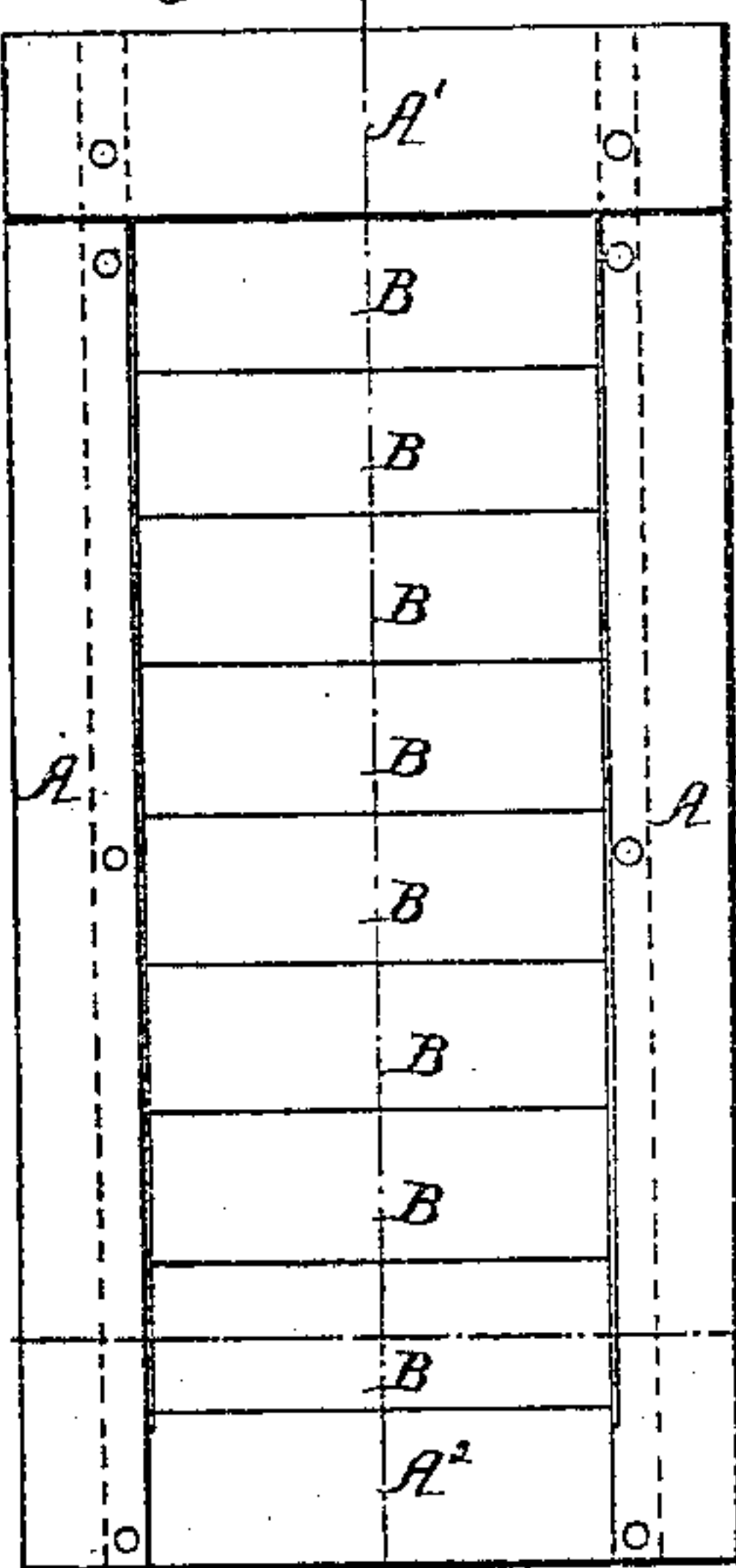


Fig. 2.

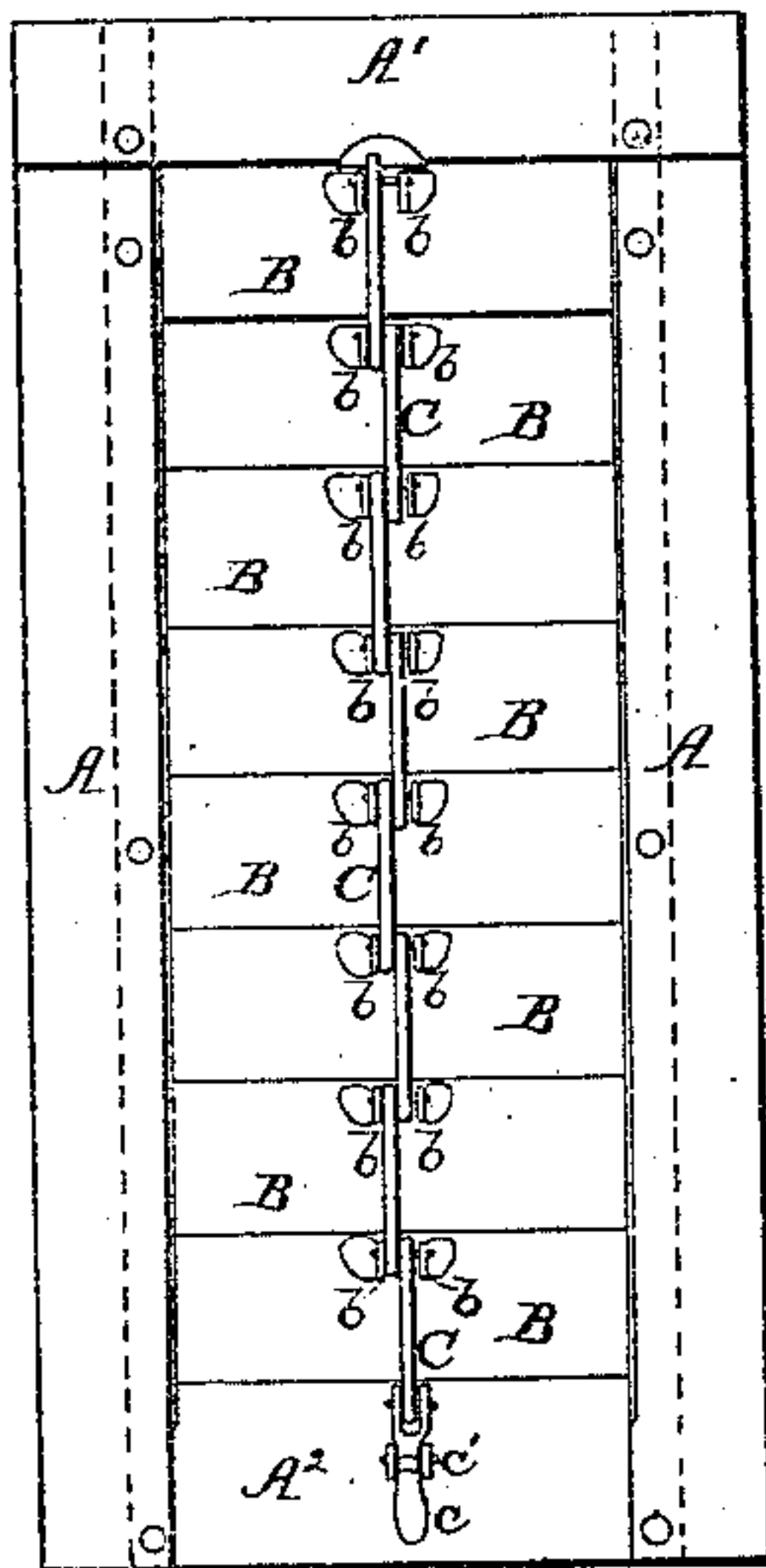


Fig. 3.

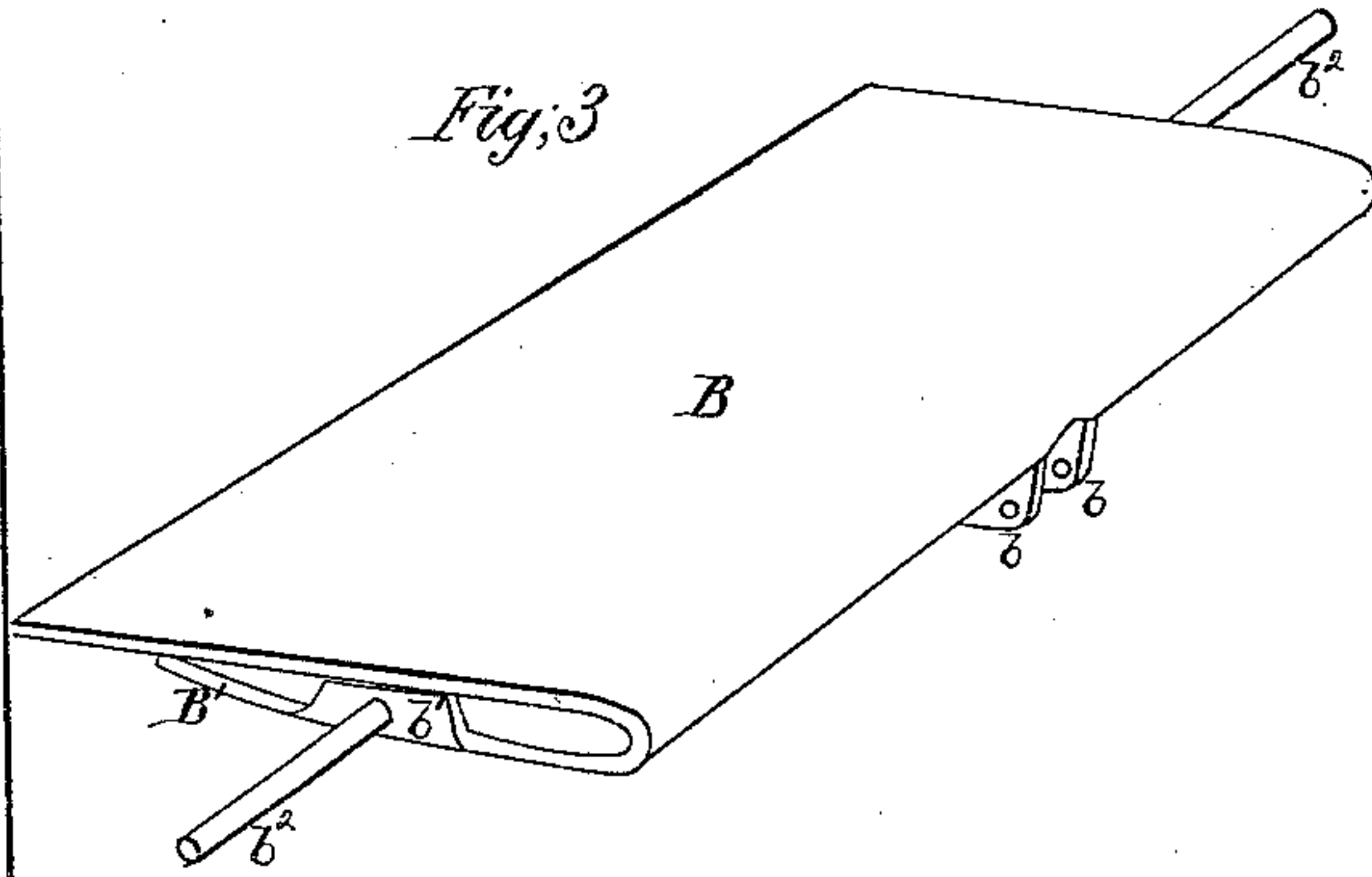


Fig. 5.

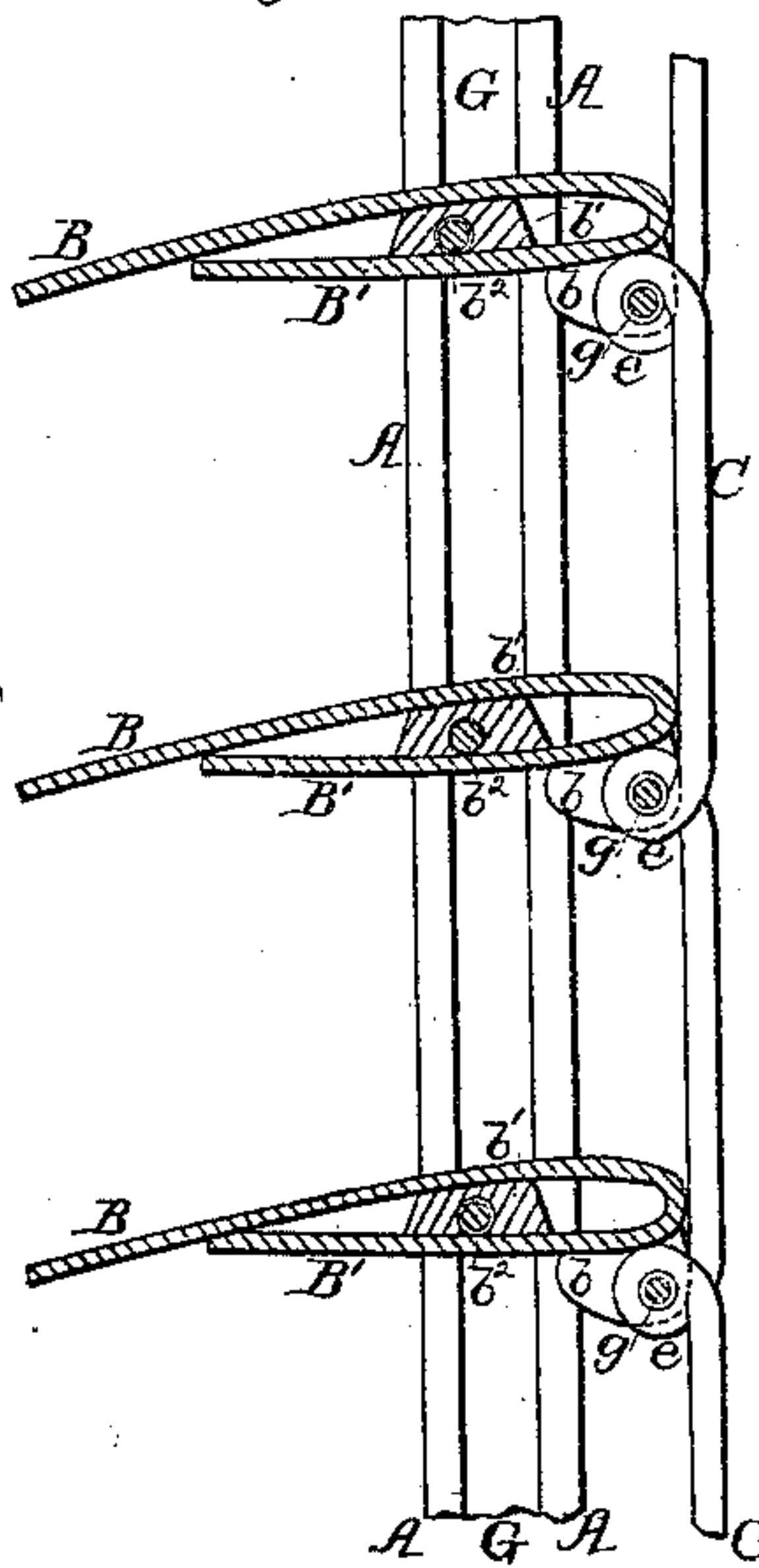


Fig. 4.

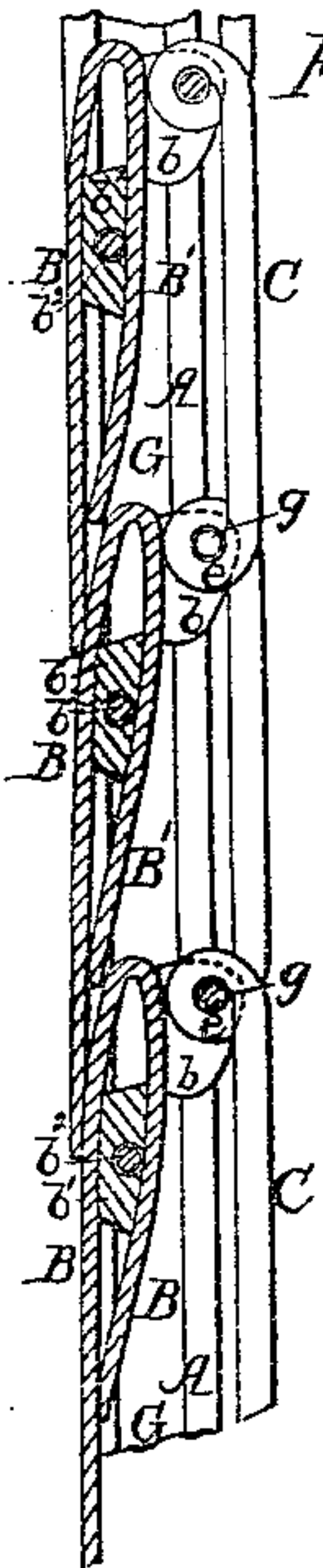


Fig. 6.

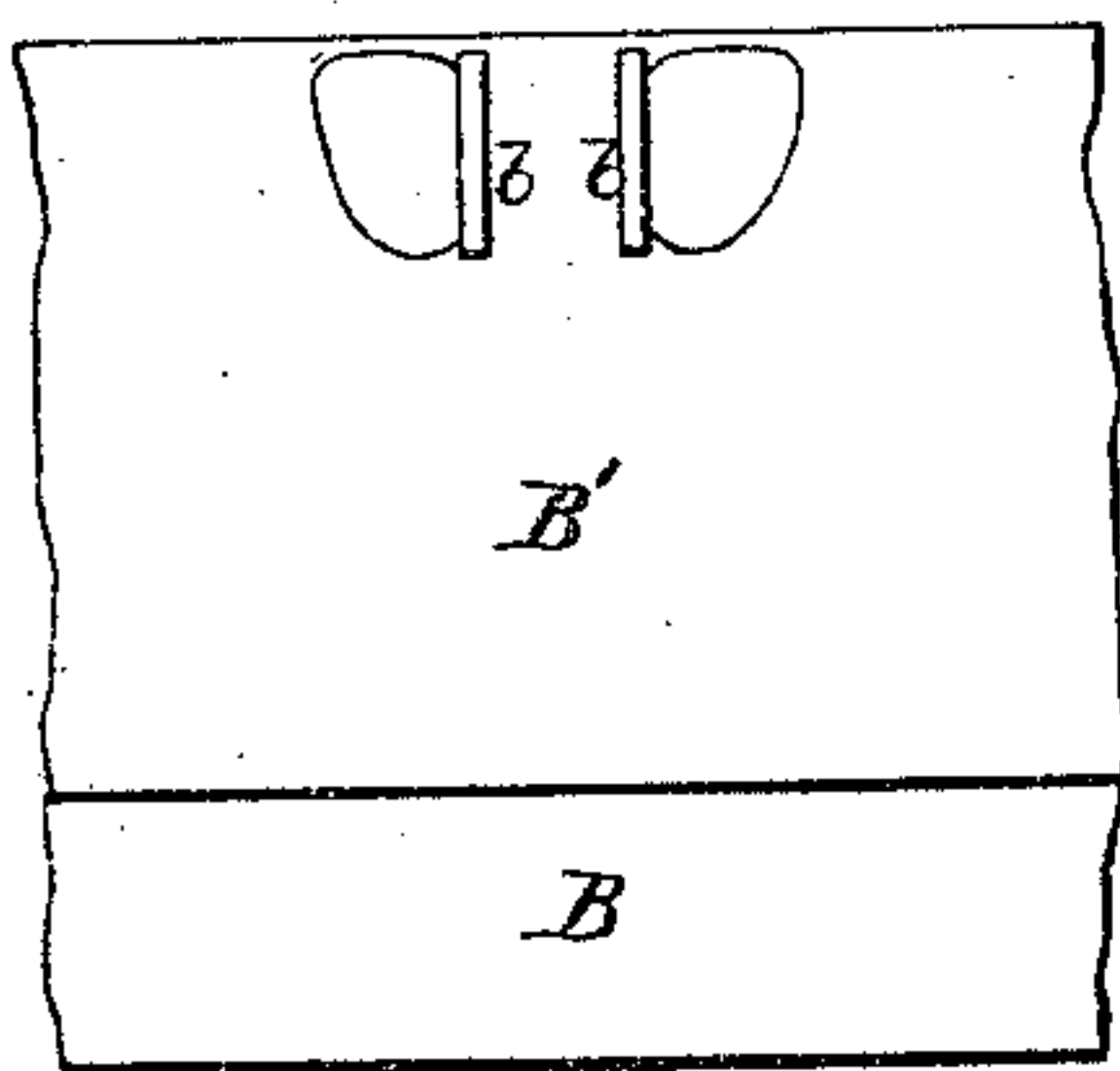
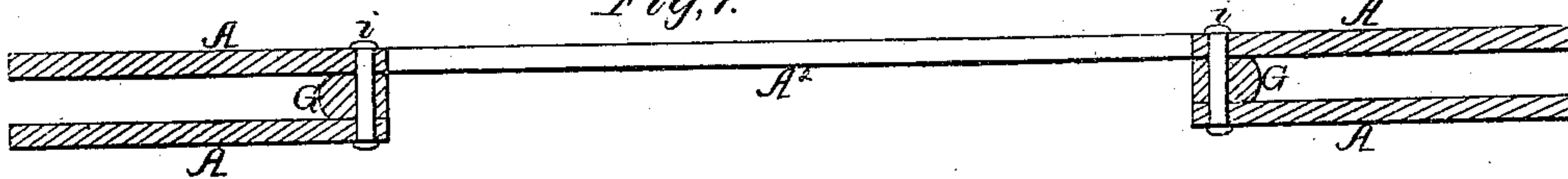


Fig. 7.



Witnesses.
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B. A. JENKINS, OF LA CROSSE, WISCONSIN.

Letters Patent No. 93,996, dated August 24, 1869.

IMPROVED METALLIC WINDOW-SHUTTER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, B. A. JENKINS, of La Crosse, in the county of La Crosse, and State of Wisconsin, have invented certain new and useful Improvements in Metallic Window-Shutters; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a view of the outside of the shutter, showing the slats shut.

Figure 2 is a view of the inside of the shutter, showing the slats shut.

Figure 3 is a perspective view of one of the slats, enlarged.

Figure 4 is an enlarged section, taken transversely through three slats closed.

Figure 5 is a similar view of three slats open.

Figure 6 is a portion of a slat, showing the manner of forming the ears to which the slat-rod is pivoted.

Figure 7 is an enlarged horizontal section through the shutter-frame, showing the manner of constructing the vertical parts of this frame.

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

This invention relates to certain novel improvements on the metallic shutter for which Letters Patent of the United States were granted to me, on the 17th day of November, 1868.

The nature of my invention and improvement consists—

First, in providing for constructing the pieces constituting the frame of a shutter of narrow metallic plates, riveted to interposed spacing and stiffening-bars, and united at their ends, so as to form a shutter-frame having hollow walls, which can be made stronger and cheaper than metallic shutter-frames made of plates bent in the form of the letter U, as will be hereinafter explained.

Secondly, in a hollow metallic shutter-slat, constructed of sheet-metal, bent so as to leave its overlapping edge of a single thickness, and so that the pivotal ears or lugs constitute a part of and are produced out of the said plate, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, I have represented a window-shutter having its slats pivoted to it, so that they will all vibrate about their respective pivotal connections, which are at an intermediate point between the longitudinal edges of each slat; but in carrying out my invention, the slats may be made stationary, or they may be connected to their frame by pivots at their corners.

The frame of the shutter consists of upright pieces, united at their upper ends, by riveting or otherwise, to a cross-piece, A^1 , and at their bottom ends by a cross-plate, A^2 , as shown in the drawings.

Each one of the uprights of the shutter consists of two plates, A A, of suitable width and thickness, secured, by means of rivets i , to a bar, G, which is of such width and thickness as to afford all the inflexibility required, and leave a narrow air-circulating space between the plates A A, as clearly shown in fig. 7.

This bar G is flat on three sides, and presents a flat finished surface upon the inner edge of its upright, or that edge which lies nearest the ends of the slats B.

The upper cross-piece A^1 may be made as described for the upright pieces, viz, of two plates, riveted along their inner edges to a spacing and stiffening-bar; or, if desirable, this cross-piece may be made of a single plate, bent in the form of the letter U. In either case, an air-circulating space is between its front and back-plates. The bottom ends of the uprights may be connected by rivets, or otherwise, to the ends of a single plate, A^2 , shown in figs. 1, 2, and 7, which need not be double.

The frame of the shutters described in the schedule annexed to my Letters Patent above referred to, was made of upright and horizontal pieces, each one of which consisted of a thin plate, bent so as to present, in cross-section, the form of the letter U. Shutters made in this way are very substantial, and in many other respects desirable; but owing to the necessity of bending the metal in the U-form, the very best and most expensive wrought-plate is required. To obviate this expense, I now make each one of the uprights of the shutter-frames of two narrow plates, of an inferior quality, but, for all practical purposes, just as good a metal, and unite these plates by riveting them to an interposed bar, as described, thus enabling me to manufacture the shutters for less cost than hitherto.

The bars G G are drilled at required points for receiving the pivot-rods b^2 of the movable slats, if movable slats are used.

I construct each one of the slats B of a single plate of sheet-metal, of proper width and length, and so shape the plate, before it is bent, as to leave at the required points ear-pieces, b^1 , through which holes are made, of proper size to receive the rod b^2 , by which the slat is pivoted to the bars G G of plates A A.

I also form ears b on each side of the middle of the length of the slat, and at a proper distance apart, by means of a suitable cutting-tool, which produces these ears out of the metal composing the slat. They are then perforated and turned out, as shown in figs. 3 and 6, and serve to receive the pins or pivots g , by which the rod or wire C is pivoted to the slat, as clearly shown in figs. 2, 4, and 5.

After preparing the slat-plate as described, it is bent, as shown in the drawings, so as to form an air-circulating space for about two-thirds of its width, and extending from one end to the other; and that portion of this slat which overlaps another slat, when the slats are closed, as shown in fig. 4, is made single, so as to prevent too great a thickness in the shutter.

Having bent the slat-plate as described and shown, the ears $b^1 b^1$, at its ends, are bent at right angles to their plate, so as to receive through them the rod b^2 , by which the slat is pivoted to the bars $G G$ of the frame.

Having arranged all the slats, thus constructed, within their frame, they are all connected together, by means of a rod, C , having eyes e formed on it in a suitable manner, which eyes are inserted between the ears $b b$ of their respective slats, and connected to these ears by transverse pivots g .

By giving the rod C an upward thrust, the slats will all shut, as shown in figs. 1, 2, and 4, and by moving it downward the slats will all open, as shown in fig. 5.

I do not confine my improved shutter or door-frame to the use of movable slats, as the ends of the slats may be secured rigidly to the frame. Nor do I con-

fine my improved slats to a metallic frame, constructed as herein described, as it is obvious that these slats are applicable to other frames, and will possess the same capabilities and advantages wherever applied. Nor do I desire to claim broadly a metallic shutter-frame and metallic slats made hollow, as these things have been done before my invention and improvement herein described.

What I claim as new, and desire to secure by Letters Patent, is—

1. Constructing the uprights of a hollow metallic shutter-frame of plates $A A$, fastened at their edges to a stiffening and spacing-bar, G , substantially as and for the purposes described.

2. The construction of a hollow slat, B , of a plate of metal, bent substantially as described, and having end-pieces $b^1 b^1$, for receiving rod b^2 , formed on it, substantially as set forth.

3. The ears $b b$, formed on the hollow metallic slat B , substantially as described, and for the purpose set forth.

B. A. JENKINS.

Witnesses:

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