

J. M. VAN HORN & C. H. DOUGLAS.

Window-Blinds.

No. 153,405.

Patented July 21, 1874.

Fig. 1.

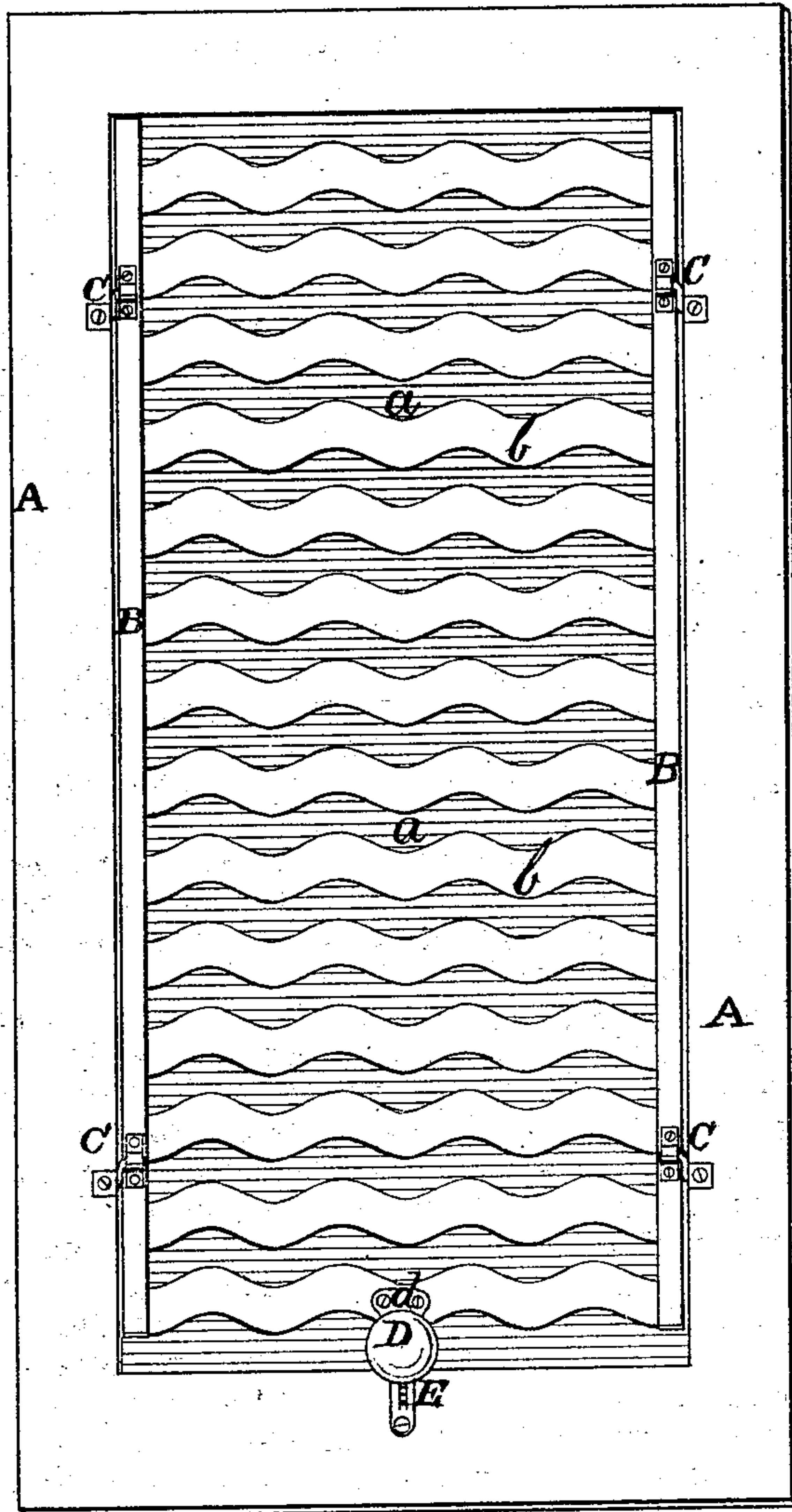
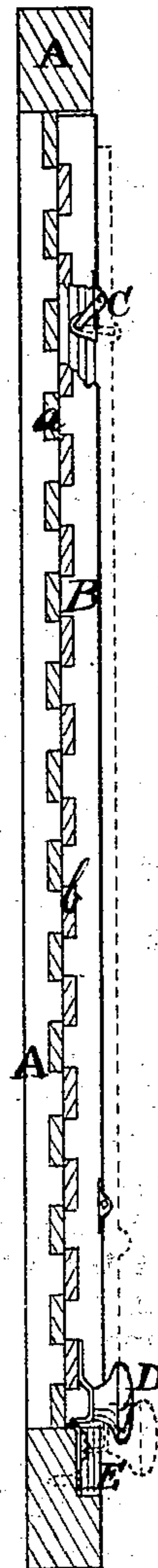


Fig. 2.



Witnesses:  
John J. Peters  
Wendell R. Curtis

Inventors:  
James M. Van Horn  
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# UNITED STATES PATENT OFFICE.

JAMES M. VAN HORN AND CHARLES H. DOUGLAS, OF HARTFORD, CONNECTICUT.

## IMPROVEMENT IN WINDOW-BLINDS.

Specification forming part of Letters Patent No. **153,405**, dated July 21, 1874; application filed May 25, 1874.

*To all whom it may concern:*

Be it known that we, JAMES M. VAN HORN and CHARLES H. DOUGLAS, both of Hartford, State of Connecticut, have invented an Improved Window-Blind, of which the following is a specification:

Figure 1 of the accompanying drawing is a front view of one panel of a blind embracing our invention, and Fig. 2 is a vertical section of the same.

A is a frame similar to those in common use for blinds, to which is permanently attached a set of slats, *a a*, which may be either plain or ornamental. B B are strips or rails, to which are secured a set of slats, *b*, corresponding with the openings between slats *a*, and are attached or hung to the frame A by four cranks, C C C C, with suitable boxes or plates on the end of each, one plate being secured to the frame A and the other to the rails B. By this means the slats *b* are made movable for the purpose of opening and closing the spaces between the slats *a*, and at the same time are thrown outward a little from the slats *a* when half open, as represented by the dotted lines in Fig. 2, thus avoiding the friction and chafing of paint or varnish that would occur if they slid together. The movable slats are operated by a knob, D, at the bottom, and are held in any desired position by the metal catch *d*, to which the said knob is attached, which springs against the ratchet E in the bottom rail of frame A. By this device the blinds may be closed as tightly as a shutter, and securely held there, and not only the light may be thus excluded, but the windows may be shielded entirely from storms. This blind may be used inside or outside of windows, and may be applied to car-windows.

The set of slats *b b* can be connected to the frame A A so as to be movable in either a curve or an angle with the flat surface of the slats *a a*, by having pins or rollers on the strips B B, which project into curved or angular grooves in the frame A A, or into grooved metal plates secured thereto. This device may be preferred to the cranks in some instances.

The results obtained by having the slats *b b* to move in a curve or an angle, as described, are as follows: First, they may be moved fully half the width of the openings for the admission of light or air, without admitting the direct rays of the sun; secondly, they may, by this device, be pressed tightly upon the openings when closed; and, thirdly, they may be opened and closed without friction upon the other slats.

We do not claim, broadly, opening and closing perforations or openings of any kind through the panels of either shutters or blinds by sliding one panel upon the other, as that is old; but we are not aware that blinds have ever before been constructed as herein described, with one set of slats to move in a curve or at an angle with the other set.

We claim as our invention—

1. A blind constructed with two sets of slats, one of which is stationary, and the other movable in a curved or bent path, by the means described, so as to avoid chafing, substantially as specified.

2. The cranks C C C C, in combination with the movable slats *b*, for the purpose specified.

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Witnesses:

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