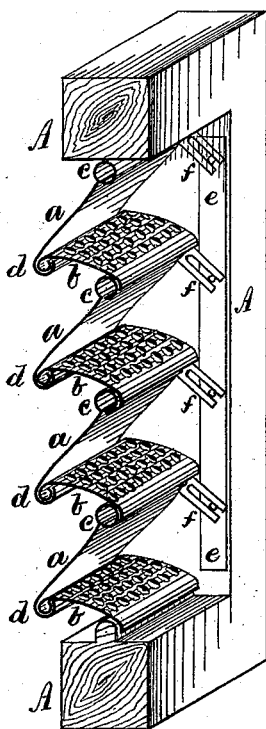


(No Model.)

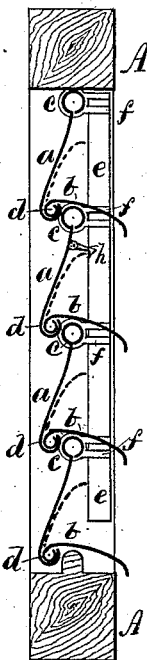
G. HAYES.  
LOUVER AND BLIND.

No. 345,693.

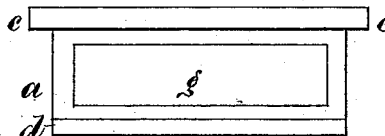
Patented July 20, 1886.



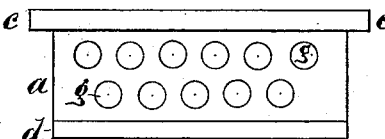
*Fig. 1.*



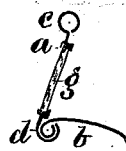
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Fig. 5.*

Witnesses

*Ed. Baldwin*  
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Inventor

*Geo. Hayes*

# UNITED STATES PATENT OFFICE.

GEORGE HAYES, OF NEW YORK, N. Y.

## LOUVER AND BLIND.

SPECIFICATION forming part of Letters Patent No. 345,693, dated July 20, 1886.

Application filed January 2, 1886. Serial No. 187,347. (No model.)

### *To all whom it may concern:*

Be it known that I, GEORGE HAYES, a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Louvers and Blinds, of which the following is a specification.

My invention relates to slats for blinds or shutters principally, but adapted for use as a panel to doors and many other parts of buildings, railroad-cars, and marine-vessels; and it consists in a slat of two folds jointed or hinged together, one part or fold pivoted to the frame, cheeks, or jambs, forming a support therefor, the said part being opaque or without apertures and adapted to serve as a water-shed and protector to the opening; also to exclude the sun's direct rays. The other part is perforated (or otherwise apertured) with suitable-sized openings, to serve as a ventilating-screen, affording passage of air, while excluding flies, mosquitos, and other insects. This part is joined to the ray and water-shed portion by a flexible joint or hinge at the lower edge of the opaque or unapertured part, and is inside the same and under cover thereof always when in use.

In the accompanying drawings, Figure 1 is a perspective view (with the near end in section) of a frame containing a series of the slats with moving apparatus, the slats shown in position for ventilation to the exclusion of insects, &c. Fig. 2 is a vertical section of the same with the slats shown as closed entirely. Fig. 3 is a face elevation (inside) of one slat, to illustrate how a pane or plate of glass may be inserted. Fig. 4 is a similar view showing how globes or "bull's-eyes" of glass may be inserted. Fig. 5 is a section of a slat with its screen, the slat having glass inserted.

In the drawings, *a* represents a slat (or portion of slat) formed of any opaque material, preferably sheet metal, hung to a frame, *A*, which may be the frame of a window blind or shutter, the frame of a window-opening, the "stiles" and "rails" of a door, or any other suitable opening where screened ventilation is desirable. The slat is provided with pivots at *c*, formed therein or attached thereto, or forming part of the frame, as desirable, and at its lower edge provided with a roll extending entirely across its length or at intervals to receive and hold the screen portion thereto.

*b* is the perforated or otherwise apertured part forming a screen. A roll in one edge thereof is made to fit into the part of the slat *a* formed to receive it. In this manner a joint is formed uniting the two parts together and admitting of free action, as shown at *d*.

I do not confine myself strictly to the joint so formed, as the screen may be otherwise hung to the slat; but it is necessary that the joining should admit of free movement, as it is intended that the screen *b* should set with its inner edge over the pivot-roll of the slat next below when in series, as shown in Figs. 1 and 2, and also admit of being turned up into the position shown by dotted lines in Fig. 2, to admit of free vision when desired. One screen may thus be lifted or turned up at a time and a view outwardly be obtained.

*e* represents a sliding bar having projecting points at proper intervals, and *f* represents levers fitted to the slat *a* or its pivot, and having forked end (or slotted) engaging with the points on the bar. The bar may be moved by hand or any other suitable means, and all the slats moved or rocked thereby.

Figs. 3, 4, and 5 show glass inserted in the slat. The glass is marked *g*. A proper rabbet is formed in the slat for its reception. One slat or all of the series may be thus provided. The glass may be colored or plain, but sufficiently opaque to exclude the direct rays of the sun, if desirable. The screen *b*, when turned up to the position shown by dotted lines in Fig. 2, can be held by a catch, as shown at *h*, and in that case will move with the slat *a*, which may then be opened wide.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A movable louver or blind slat having hinged or jointed thereto at its lower edge interiorly an apertured flap as a ventilating and insect screen, operating, when the slat is sufficiently opened, essentially as shown and described.

2. A louver or blind slat consisting of an opaque portion and an apertured portion hinged or jointed together, the opaque portion pivoted or otherwise hung to the supporting frame and the apertured portion hung by a flexible joint to the opaque portion at its lower edge, interiorly, to operate essentially as shown and described.

3. In combination with the louver or blind slat *a*, the screen-flap *b*, jointed or hinged thereto at *d*, essentially as shown and described.

4. A movable louver or blind slat having attached thereto at or near its lower edge a movable apertured screen adapted for opening independently to admit of free vision, essentially as shown and described.

5. In combination, two or more movable louver or blind slats, each having hinged or jointed to its lower edge an apertured screen hung in a frame so that a panel is formed

thereby, adapted for ventilation to the exclusion of insects, substantially as shown and described.

6. In combination with the slats *a*, having screens *b* attached, as set forth, the moving bar *c* and levers *f*, substantially as shown and described.

GEO. HAYES.

Witnesses:

JACOB J. KOCH,

CHARLES HAYES.