

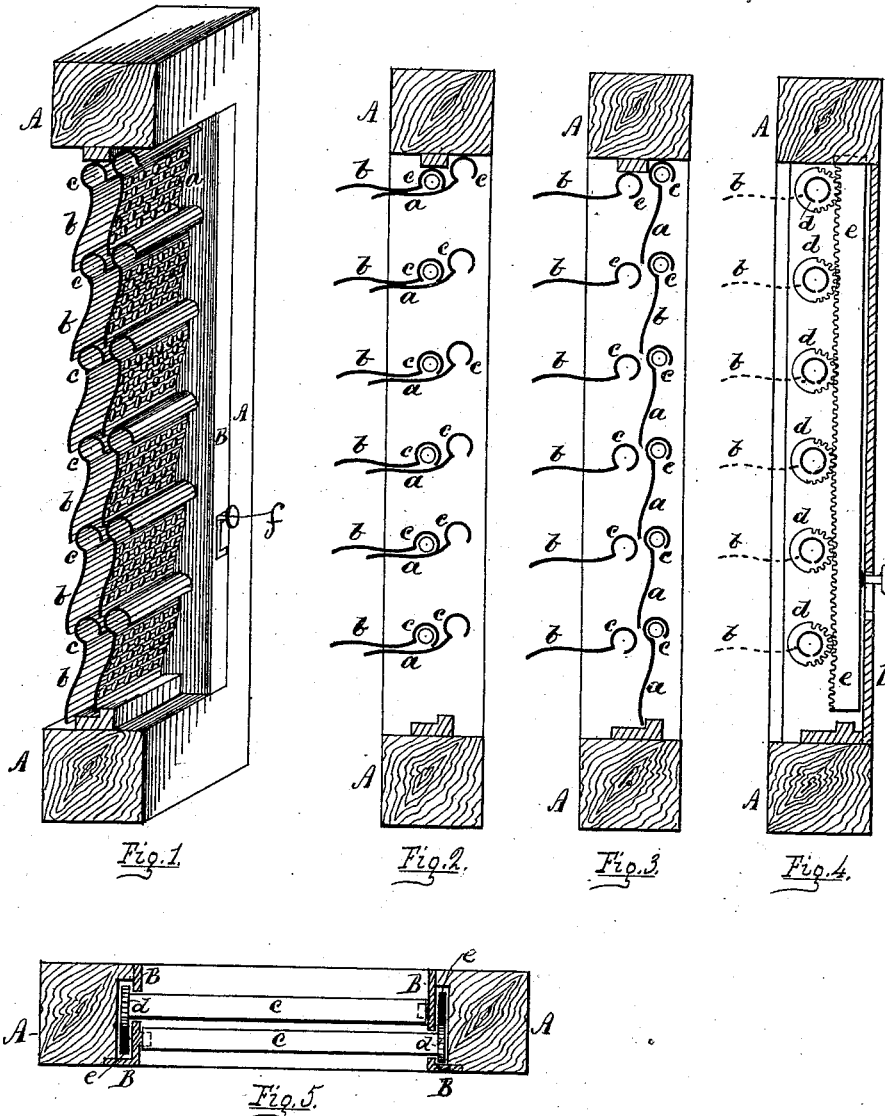
(No Model.)

G. HAYES.

BLIND AND OTHER VENTILATING ADJUNCTS TO BUILDINGS.

No. 345,690.

Patented July 20, 1886.



WITNESSES

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BLIND OR OTHER VENTILATING ADJUNCT FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 345,690, dated July 20, 1886.

Application filed October 2, 1885. Serial No. 172,793. (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
5 Improvements in Blinds, Louvers, and other Ventilating Adjuncts to Buildings, Rail-Cars, and Marine Vessels, of which the following is a specification.

My invention consists of a ventilating-panel
10 for window-blinds, doors, turrets, and tower-openings; also window and ventilating openings to railroad-cars and marine vessels, and comprises a double set of slats, forming two series hung separately, the inside series perforated or otherwise apertured, to allow pas-
15 sage of air-currents and form a screen to exclude flies, mosquitoes, and other insects, also dust, snow, hail, rain, &c., the outside series unapertured, to form a protector for the screen-series, and to shade from the direct rays of the sun and aid in excluding storms, &c. Both
20 series are hung so as to admit of their being opened and closed by suitable moving mechanism, whenever desirable.

25 It further consists of a frame provided with pivots, upon which the above-mentioned slats may be hung, and to which the operating devices hereinafter mentioned may be attached or connected, the said frame adapted to be in-
30 serted (after the slats and other appliances are in place) into blind-stiles, door-stiles, window and other openings.

35 It further consists in the combination of moving or operating devices, hereinafter more fully described, with the above-mentioned frame and slats.

In the accompanying drawings, Figure 1 is a vertical section and partial perspective, showing the slats in a blind or door panel, 40 the two series shown entirely closed. Fig. 2 is a vertical section of the same, with the slats shown fully open for unobstructed vision. Fig. 3 is a vertical section of the same, with the outer series fully open and the inner series closed, giving a screened ventilation, exclud-
45 ing the direct rays of the sun, rain, hail, snow, and insects. Fig. 4 is a vertical section of the frame or boxing which sustains the slats, and to which they are pivoted. The face-plate
50 thereof is removed, to expose the operative mechanism by which the slats are moved.

Fig. 5 is a horizontal section through the blind, to show how the pivots are arranged and op-
erated.

A represents the blind-stiles and rails (or it 55 may be any frame-work) or sides of the opening in which the ventilating-panel may be inserted.

The slats are arranged vertically in two series. The inner series, *a*, being perforated or 60 otherwise apertured, form a ventilating-screen. The outer series, *b*, are opaque, or without apertures, and serve as a cover and shade.

All the slats are preferably made of sheet 65 metal; but other material may be used therefor. They are formed with a roll at the upper edge, as at *c*, and may be molded into ornamental forms. Lateral extensions of the said pivot-rolls form pivots, as shown in Fig. 5; but separately formed pivots may be used 70 and securely attached thereto. As shown in Fig. 5, one slat has a pivot formed of the roll at one end, passed through a hole in the side support. The other end of the same slat is supported by a pivot extending from the side 75 support entering the hollow of the roll. The other slat (shown in Fig. 5) is similarly constructed; but the location of roll-pivot and inserted pivot is reverse to that of the slat first mentioned. In this manner the slats of the 80 two series are hung.

The side supports, *B*, are of any suitable material and formed with projecting pivots and holes alternating, as shown in Fig. 5, and with a top and bottom rail connected, form a 85 frame, which may, after being filled with the two series of slats, be inserted into any suitable opening and fastened therein.

The side supports, *B*, are formed so as to constitute a boxing, space being left behind on 90 each side between the side supports, *B*, and the jambs *A* of the opening to admit of the moving mechanism being placed and operated therein. Each slat has one extension of pivot-roll passed through a hole in the side sup- 95 port, *B*—those of the forward or outside series at one side and those of the inside series at the opposite sides. Where the said pivots reach the interior of the boxing the moving mechanism for that series is arranged, con- 100 sisting of gear-wheels or pinions, attached to the pivots, and a rack-bar gearing therewith.

The rack-bar slides up and down vertically, turning the pinions and rocking the slats, and by having the like arrangement at each side, as shown in Fig. 5, each series may be moved independently of the other, or both at the same time. To move the rack, a lever may be used, or a button, as in Fig. 1 at *f*, operating through a slot.

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

1. A ventilating-panel comprising a series of double blind or louver slats, each consisting of the part *b*, hung outside, and the part *a*, hung inside, both adjacent, and adapted to be operated simultaneously or independently, substantially as shown and described.

2. A window-blind containing a double set of slats separately hung, the outer set, *b*, unapertured, and the inner set, *a*, perforated or otherwise apertured, the outer set a ray and water shed, and the inner a ventilating-screen, substantially as shown and described.

3. A ventilating-panel consisting of a frame adapted for inserting into an opening and containing two separate sets of movable slats, *a* and *b*, arranged therein, with suitable operating mechanism, essentially as shown and described.

4. In combination with frame B, having pivots forming a part thereof, the separate sets of

slats *a b*, arranged therein, substantially as shown and described.

5. In combination with the frame B, provided with pivots, and separate slats *a* and *b*, the sliding bars *c*, and pinions *d*, arranged substantially as shown and described.

6. A panel for blinds and louvers containing an arrangement of double slats, one perforated (or apertured) and one plain, the said two slats being separate and distinct from each other, adapted for opening in unison, essentially as shown and described.

7. In combination with a blind or door frame or other suitable opening having movable slats therein, a set or series of movable apertured slats separate from the former and forming a ventilating-screen capable of being opened by moving mechanism, essentially as shown and described.

8. In combination with pivoted blind-slats, a series of movable apertured slats separate from the former and provided with operative mechanism by which they may be closed to form an insect-screen and opened for vision, substantially as shown and described.

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Witnesses:

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