

H. K. STEVENS & O. F. MORSE.

Ventilator.

No. 161,910.

Patented April 13, 1875.

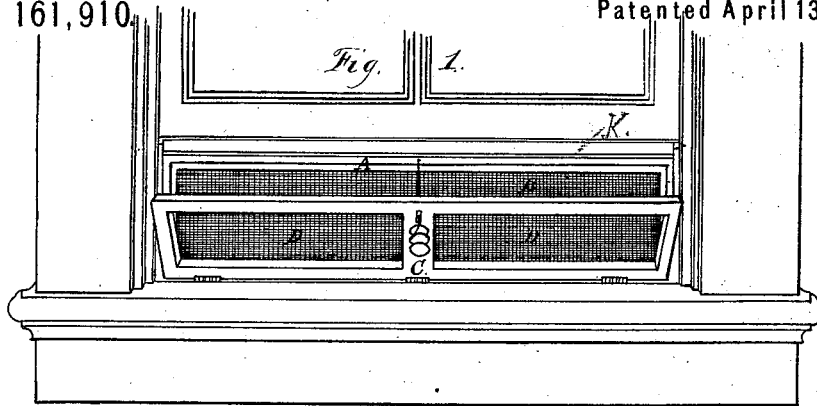


Fig. 2.

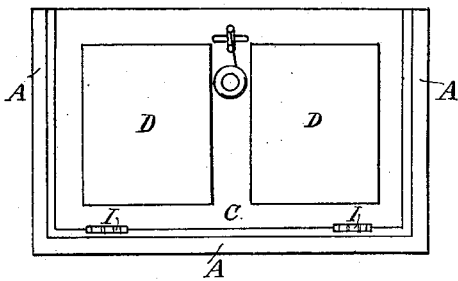


Fig. 3.

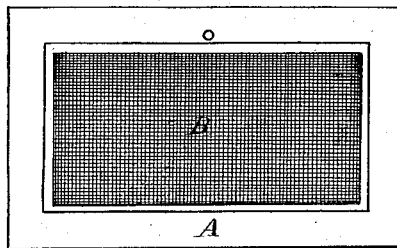


Fig. 4.

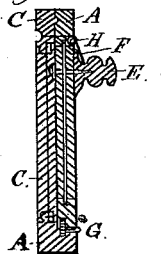
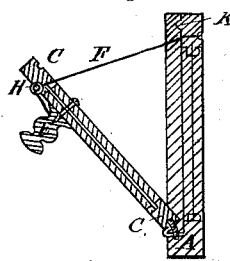


Fig. 5.



Witnesses.

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# UNITED STATES PATENT OFFICE.

HIRAM K. STEVENS AND OSCAR F. MORSE, OF PROVIDENCE, R. I.

## IMPROVEMENT IN VENTILATORS.

Specification forming part of Letters Patent No. **161,910**, dated April 13, 1875; application filed February 24, 1875.

*To all whom it may concern:*

Be it known that we, HIRAM K. STEVENS and OSCAR F. MORSE, both of the city and county of Providence, State of Rhode Island, have invented Improvements in Ventilators, of which the following is a specification:

Our improvements and invention consist in a frame covered on one side with wire-netting to prevent the ingress of insects, combined with a door of any suitable size, which shuts into this frame, such door being operated by a knob with a cord attached, this cord passing over a pulley fixed in the frame of the door; also, of two or more springs, inserted substantially as shown, and serving to force open the door when the cord is loosened by means of the knob, for the purpose of admitting air, the whole forming a simple, cheap, and desirable ventilator for buildings, &c.

In the accompanying drawings, forming part of this specification, Figure 1 represents a front or inside view of a ventilator constructed according to our invention, represented as open; Fig. 2, a front or inside view, closed; Fig. 3, an outside view, showing the wire-netting and its frame; Fig. 4, a sectional end view, closed; and Fig. 5, a sectional end view, opened.

A represents the frame, which contains the wire-netting; B, the wire-netting; C, the door or inside of the ventilator; D, the panels of the door; E, a knob; F, a cord, one end of which is attached to knob E, from which it passes through frame C, and over a pulley fixed in frame C. The other end of said cord is fastened to frame A in any appropriate manner. G, springs, which force the door open when

the cord F is loosened, by turning the knob E; I, butts; H, a pulley.

Two or more springs may be used to force the door C open, or one very strong spring would answer the purpose as well; or the springs may be dispensed with, as the door, being hinged at the bottom, would open of itself when the cord is loosened, but not so readily as when springs are used.

At the top of frame A there is a tongue or projection, K, (shown in Figs. 4 and 5,) which fits snugly into a groove at the top of door C, so that there is no chance for air to get in when the ventilator is closed.

Our invention is applicable to the windows of railroad-cars, as well as to the windows of dwellings.

The panels of door C are preferably made of glass to admit light.

Thin perforated sheet metal may be used instead of wire-netting, if desired.

The ventilator may be placed at the top or bottom of a window.

Having now described our invention, we claim—

As a new article of manufacture, a ventilator constructed substantially as described, having the combination of the door C, knob E, cord F, springs G, or their equivalents, pulley H, and butts I, all constructed and operating substantially as and for the purpose set forth.

HIRAM K. STEVENS.  
OSCAR F. MORSE.

Witnesses:

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