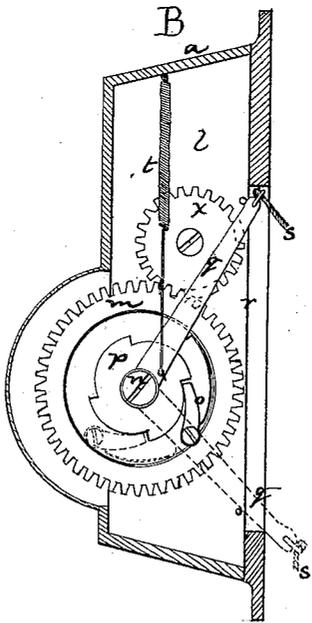
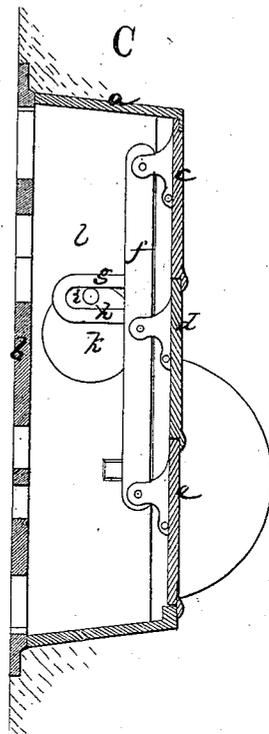
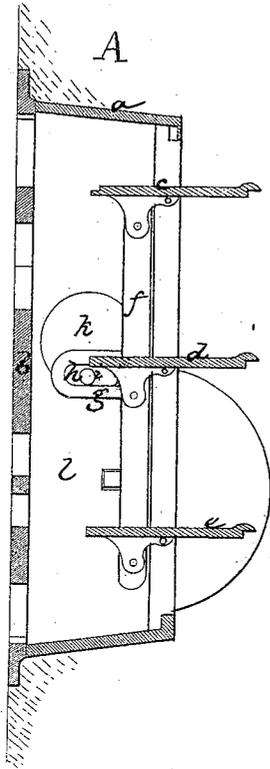


G. CROMPTON.  
Register.

No. 129,006.

Patented July 16, 1872.



Witnesses.  
P. B. Rider.  
L. C. Catina.

Inventor  
George Crompton,  
By his Atty.  
Crossly & Gould.

# UNITED STATES PATENT OFFICE.

GEORGE CROMPTON, OF WORCESTER, MASSACHUSETTS.

## IMPROVEMENT IN REGISTERS.

Specification forming part of Letters Patent No. 129,006, dated July 16, 1872.

*To all whom it may concern:*

Be it known that I, GEORGE CROMPTON, of Worcester, in the county of Worcester and State of Massachusetts, have invented an Improved Ventilator; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates particularly to that class of ventilators in which a series of open-and-shut slats are applied to an open or open-work frame that is set into the wall of a room, said slats coming into one vertical plane, and filling the back of the frame to close the ventilator, and being swung on pivotal centers, so that each stands in a horizontal plane with open spaces between them to open the ventilator.

In my invention I connect with the slide that is pivoted to and simultaneously actuates all the blades mechanism by which, by successive and exactly similar manipulations, the slide may be closed when open; or opened when closed, so that, without direct access to the ventilator, and by pulling upon a suitable cord or wire in the same direction, the desired result is obtained, the ventilator being either opened or closed, as may be desirable. It is in such a provision that my invention consists, as well as in the specific means for reaching the result, and in a provision by which the slats are locked in open or shut position; so that their position cannot be changed by the action of the wind or by other manipulation than actuating the open-and-shut lever.

The drawing represents in sectional elevations at A and C, and in end view at B, a ventilator embodying my invention.

*a* denotes an ordinary box or register-frame, with its front open-work plate *b*. *c d e* denote the series of blades, each pivoted in the rear part of the frame *a*, and each connected to a vertical slide, *f*, by a stud-pin extending from an ear upon the slat into a pivot-hole in the slide. The slide is held in place by the ears at one side, and suitable guide-faces extending from the frame at its other side. At the front of the slide is an arm, *g*, in which is a horizontal slot, *h*, and into this slot extends a crank-pin, *i*, projecting from a wheel, *k*,

mounted on a shaft or pin journaled in and extending through the end wall *l* of the frame *a*, the wheel *k* being on the inner side of the wall, and a gear-pinion, *x*, being fixed on the outer end of the pin outside of the wall. The teeth of a gear, *m*, mesh into the teeth of this pinion, and impart rotative movement to the crank-wheel. The gear *m* turns on a pin, *n*, and has jointed to it a spring-pawl, *o*, that engages with a ratchet-wheel, *p*, mounted and turning on said pin, said ratchet having extended from it a lever-arm, *q*. The upper end of this arm extends through or lies back of the top of a slot, *r*, in the front plate *b*, and has connected to it a pendent cord or wire, *s*. To the arm the lower end of a spring, *t*, is attached, the upper end of said spring being fastened to the frame, the stress of the spring at all times holding the arm in its uppermost or normal position, except when the lever is being drawn down by pulling upon the cord.

By drawing down the cord to the extent of capability of downward movement of the arm *q* the pinion *x* and crank-wheel *k* are so rotated as to bring the crank-pin either to the top of the wheel or to the bottom of the wheel, the pin, in passing up and reaching its uppermost position, pressing up the slide and closing the valves, blades, or slats; and, in passing down and reaching its lowermost position, pressing down the slide and opening the slats. Whenever the arm is drawn down to the extent of its capability of movement the pawl-wheel is brought to such position that one of the teeth of the ratchet will be left in or nearly in contact with the pawl, when the arm is thrown up by its spring upon release of the cord, the slats being always left wide open or wholly closed by a complete downward movement of the arm *q*.

To regulate the extent of opening from either a closed or wholly open position the arm is drawn only partially down, any movement of the arm short of the complete movement leaving the blades or slats partially open, and in such position that by again drawing down the arm the extent of opening may be increased or diminished.

Bringing the slats to a complete open or a complete closed position leaves the crank-pin directly under or directly over the center of the crank-wheel, the line from the wheel-cen-

ter to the pin being perpendicular to the pin-actuated slot, by which "dead-center" position the slats are locked in open or shut position, so that no action or the wind against them can open them at all if closed, or at all close them if open.

My improved method of operating the ventilator enables it to be opened and closed without direct or immediate access to the slats by the easiest possible manipulation, and by precisely the same action to close them that is used to open them.

I claim—

1. A ventilator, the slats of which are both opened and closed by drawing down an act-

uating-arm, *q*, substantially as shown and described.

2. The combination of the crank-wheel *k*, pinion *x*, gear *m*, ratchet *p*, pawl *o*, and arm *q*, for opening or closing the slats, substantially as shown and described.

3. In combination with the slotted arm *q*, the crank-wheel and pin, so arranged that the slats are locked in open or shut position by the position of the crank-pin *i* directly below or above the center of the crank-wheel, substantially as shown and described.

Witnesses:

J. A. WARE,  
J. B. SYME.

GEO. CROMPTON.