

(No Model.)

2 Sheets—Sheet 1.

W. S. SAYERS.
VENTILATOR.

No. 338,304.

Patented Mar. 23, 1886.

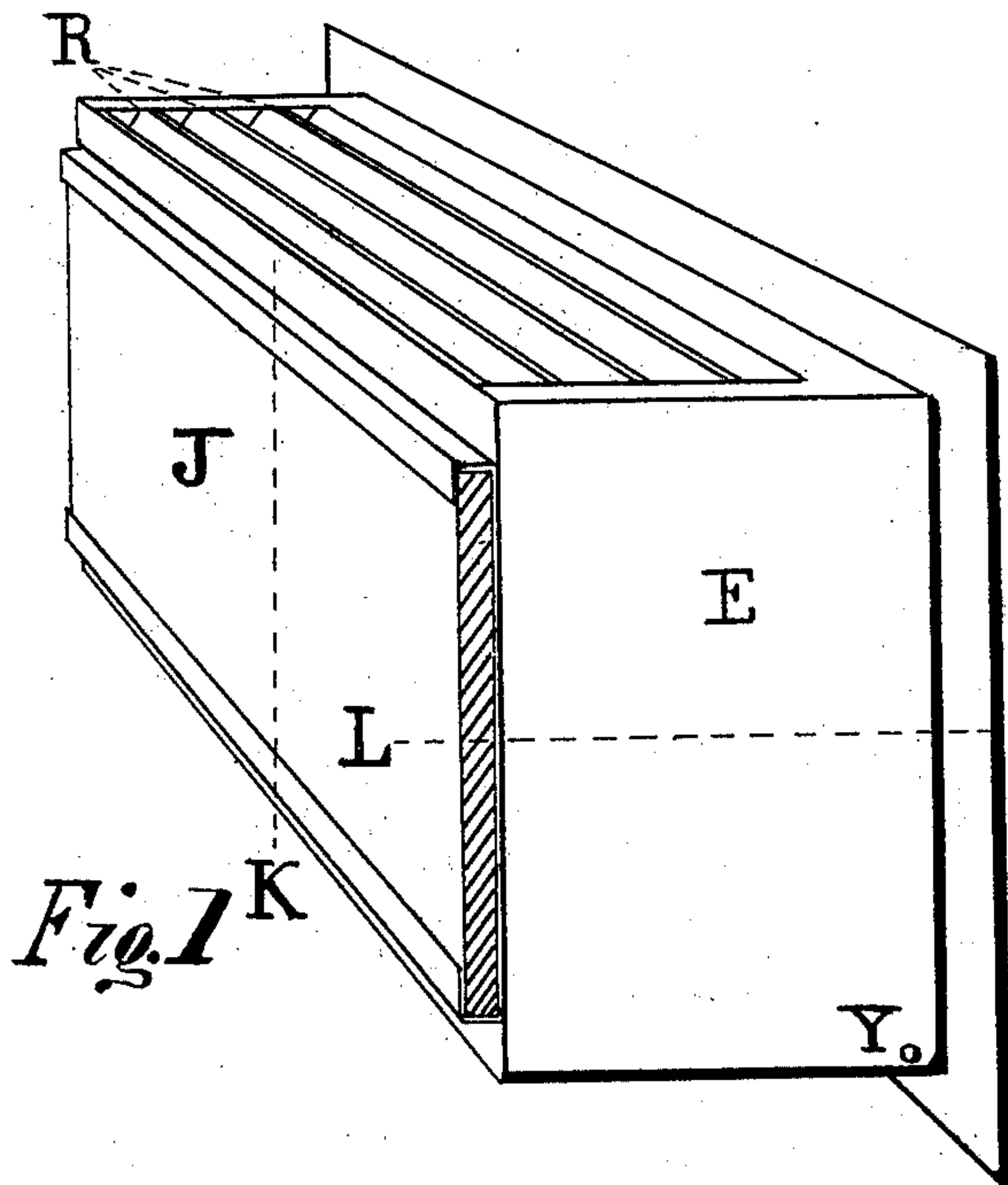


Fig. 1

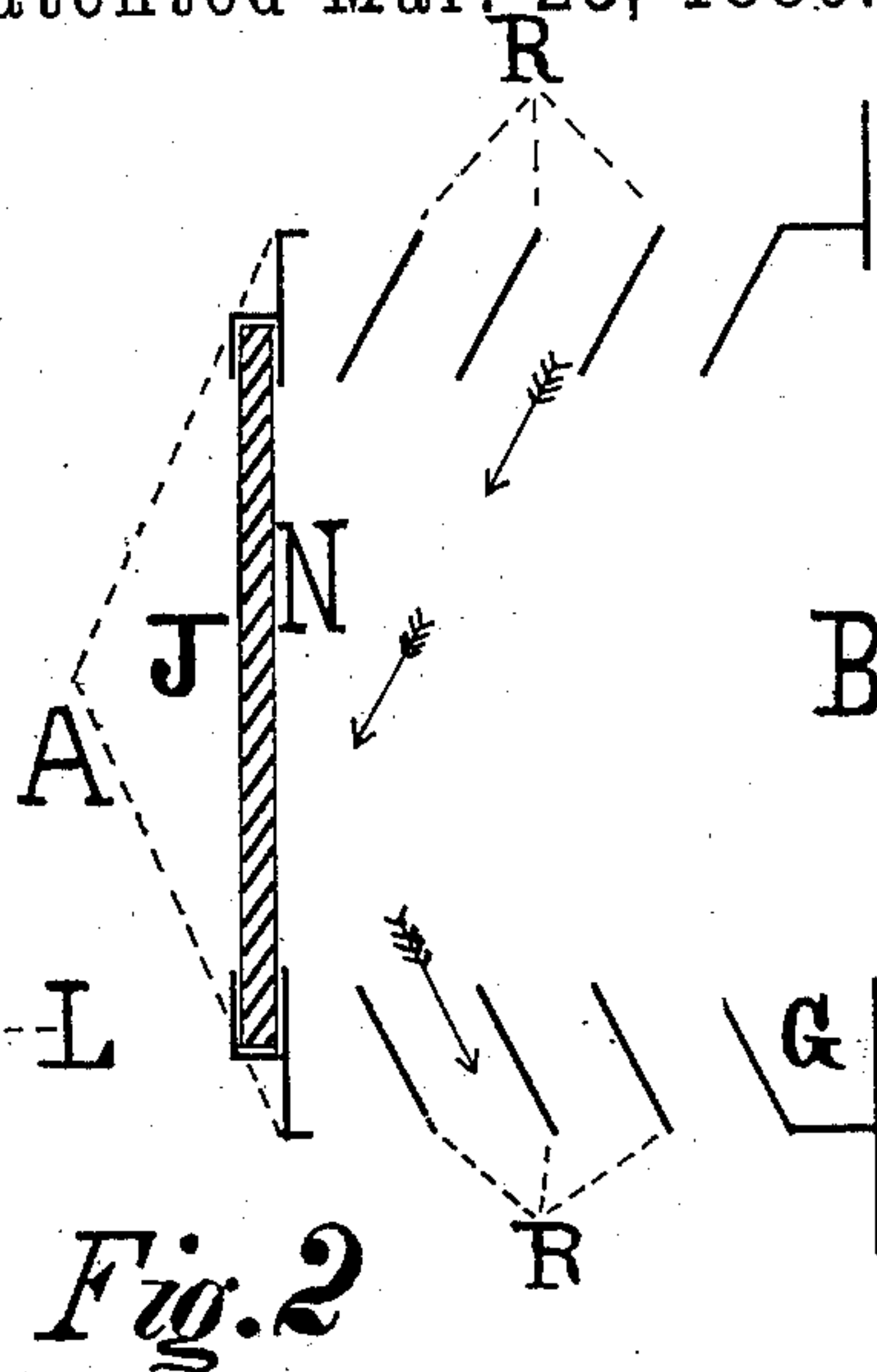


Fig. 2

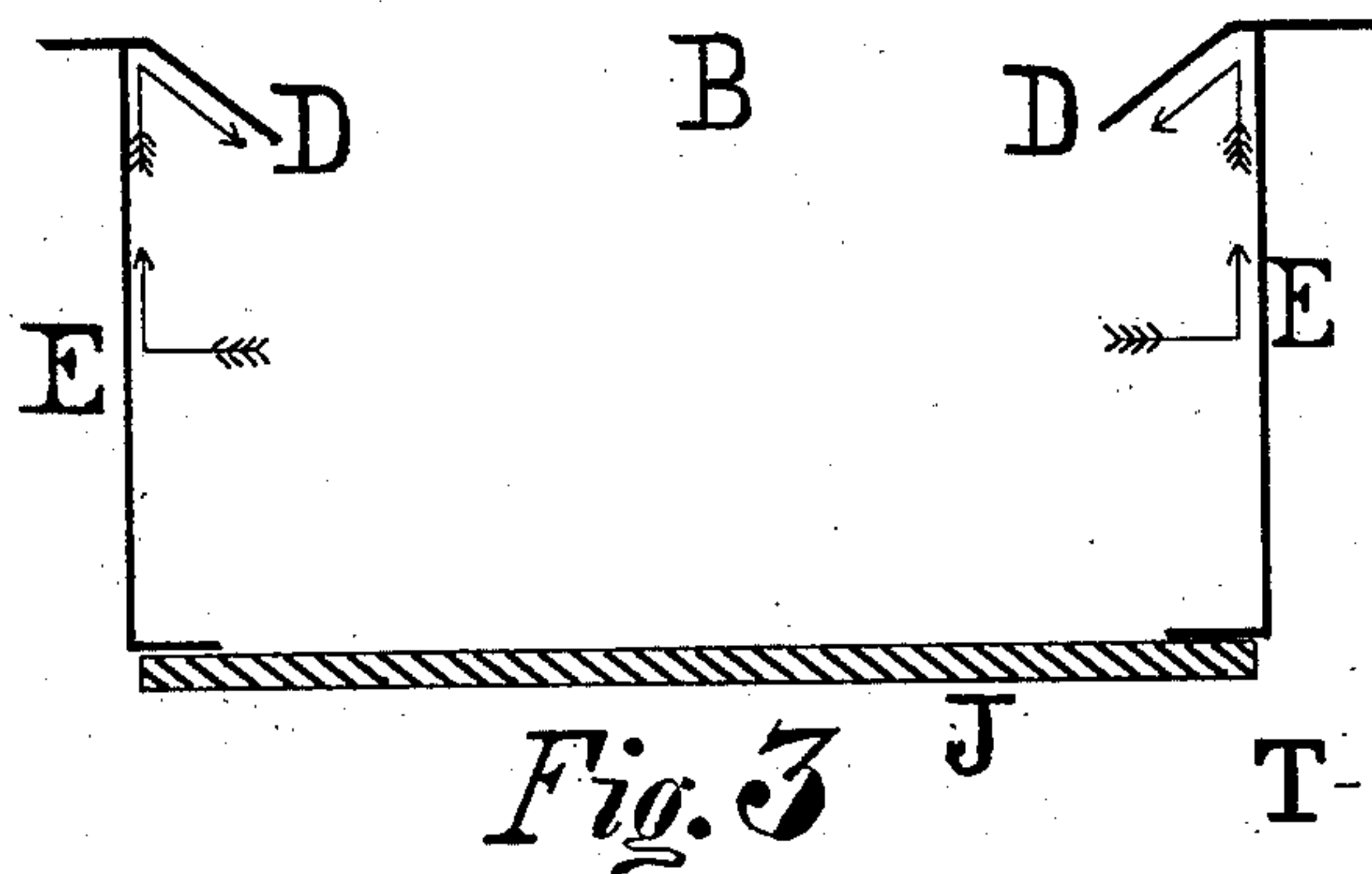


Fig. 3

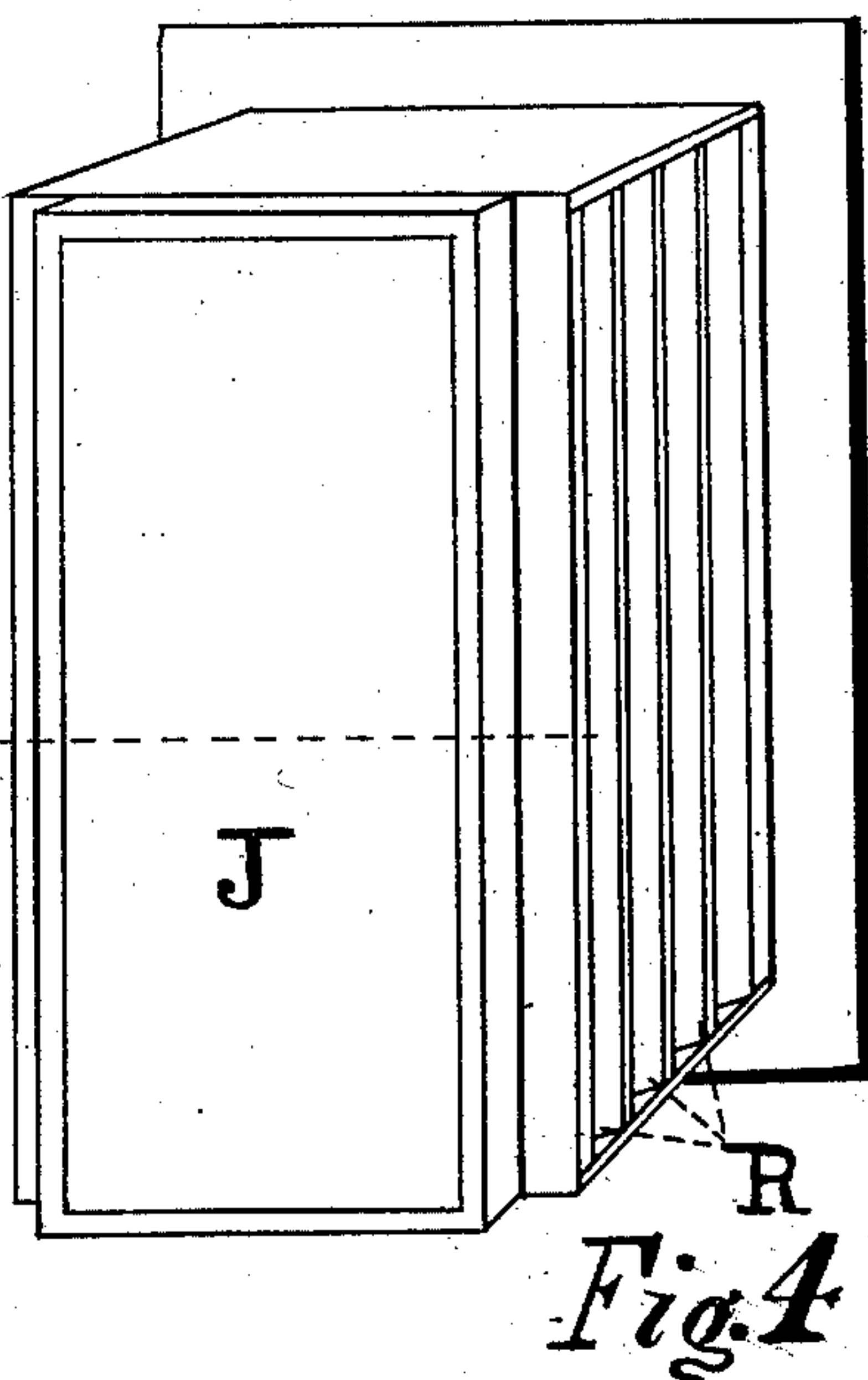


Fig. 4

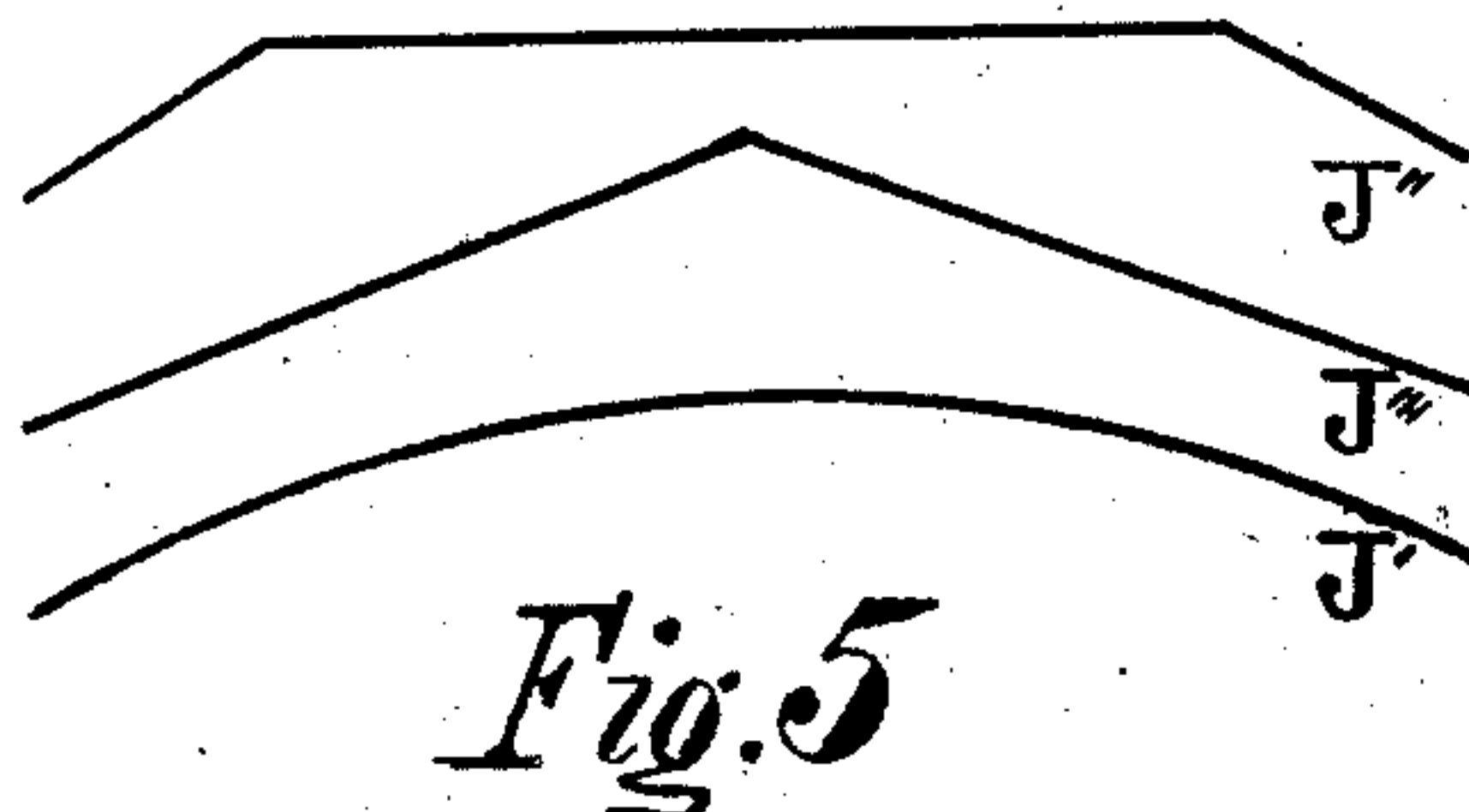


Fig. 5

WITNESSES:

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William E. Templeton

INVENTOR

Walter Scott Sayers

(No Model.)

2 Sheets—Sheet 2.

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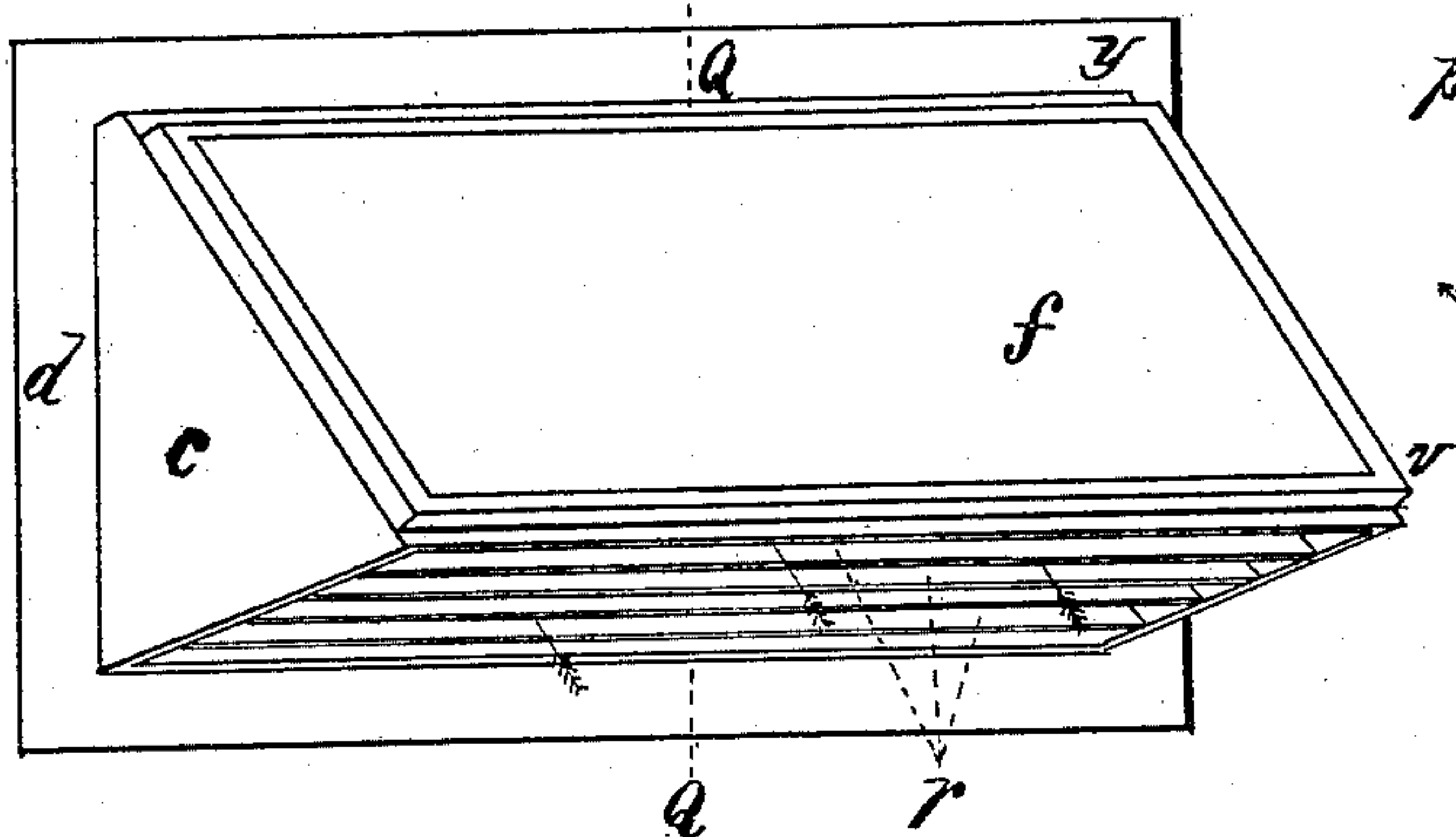


Fig. 6

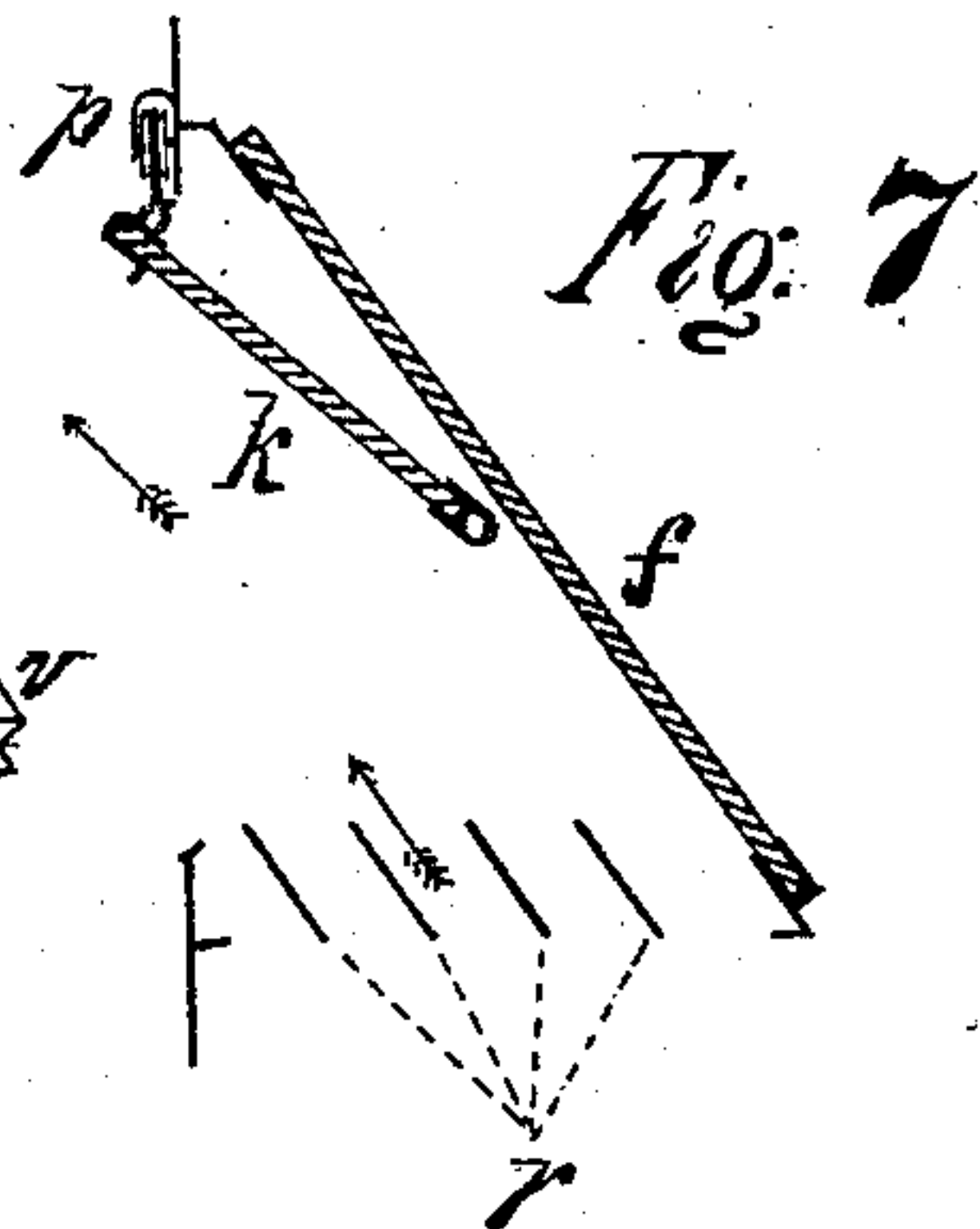


Fig. 7

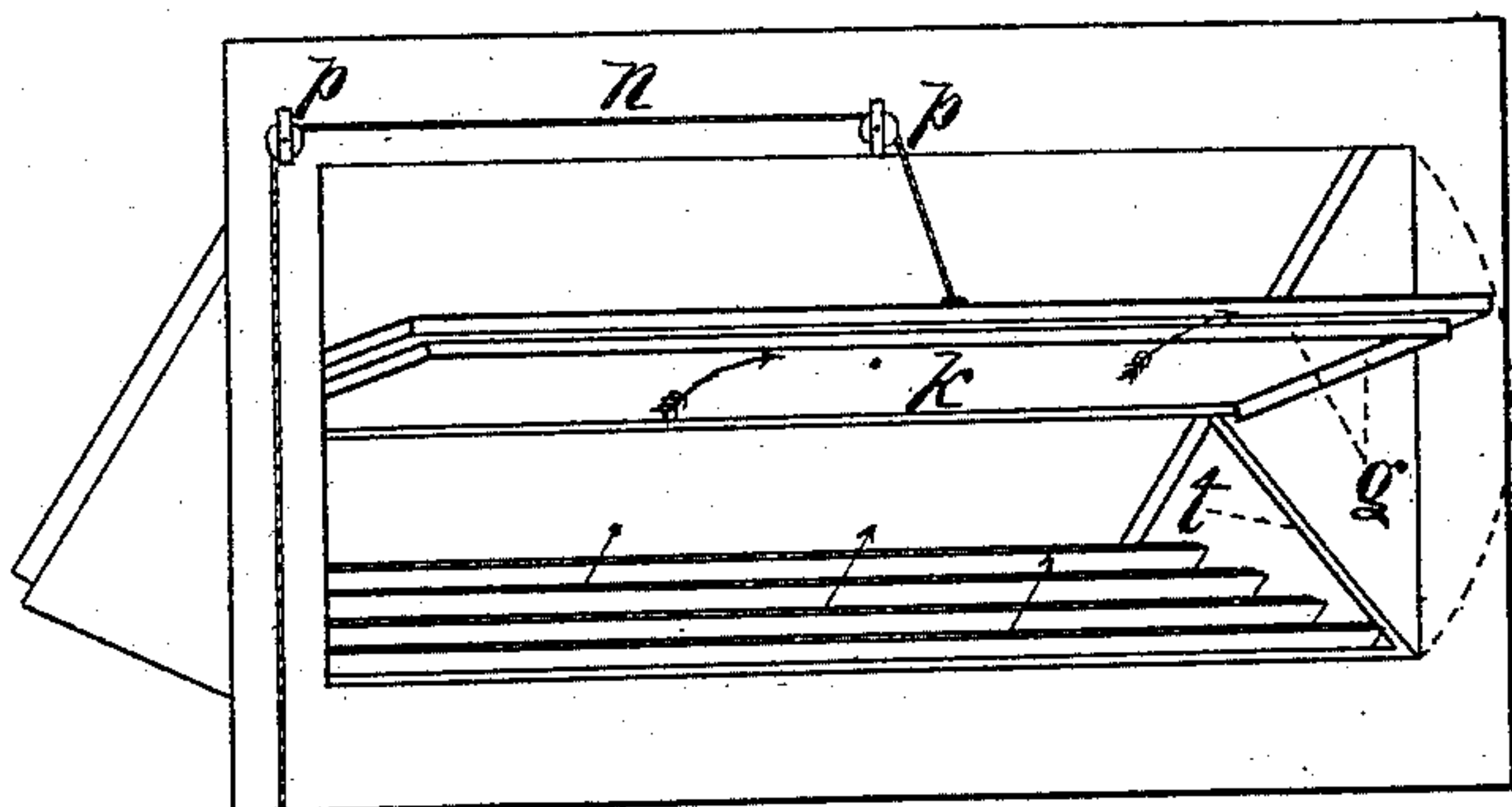


Fig. 8

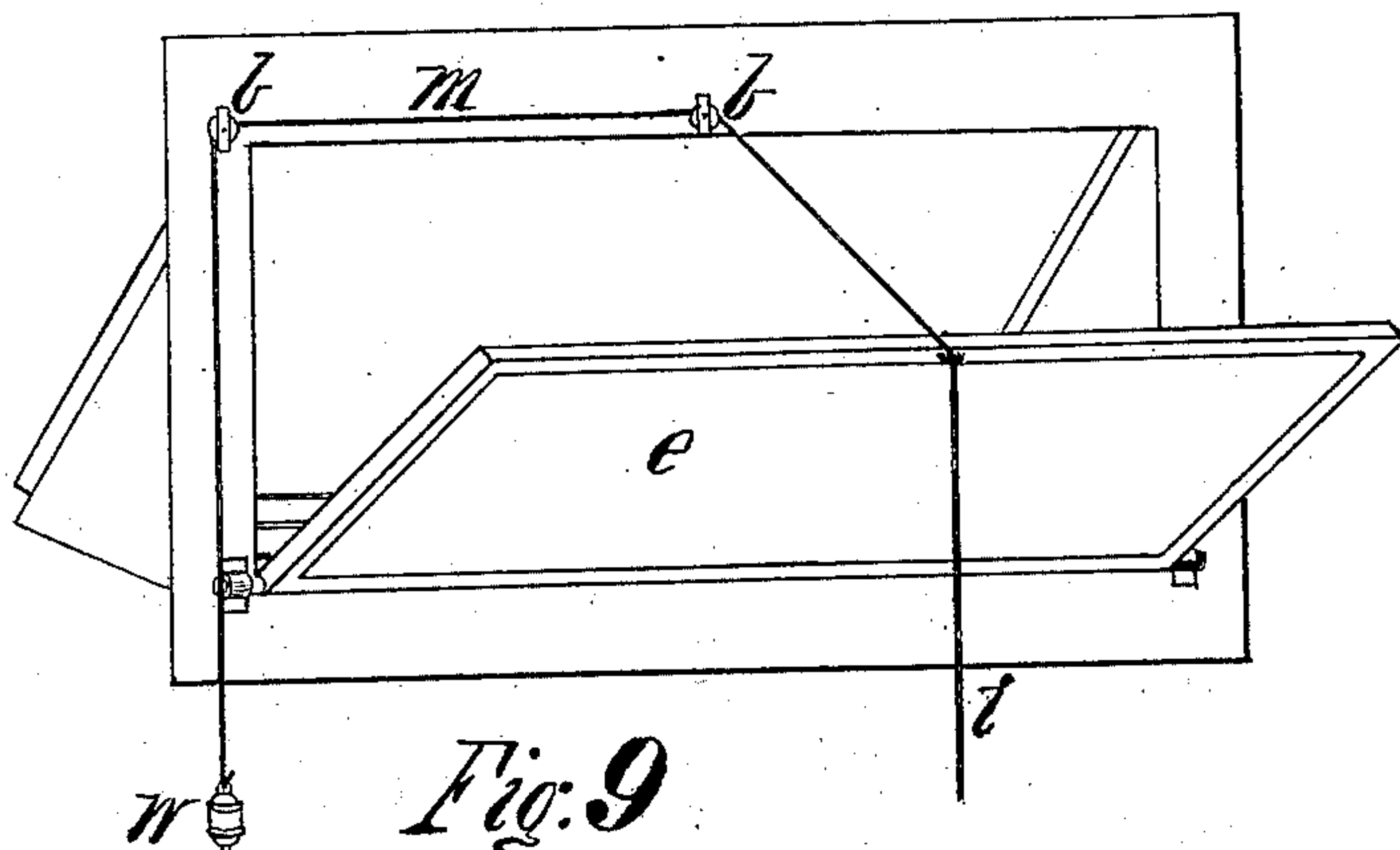


Fig. 9

WITNESSES:

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UNITED STATES PATENT OFFICE.

WALTER SCOTT SAYERS, OF CHICAGO, ILLINOIS.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 338,304, dated March 23, 1886.

Application filed January 7, 1885. Serial No. 152,226. (No model.)

To all whom it may concern:

Be it known that I, WALTER SCOTT SAYERS, a citizen of the United States, residing at the city of Chicago, in the county of Cook, State of Illinois, have invented a new and useful Improvement in Ventilators, of which the following is a specification.

My invention relates to that class of ventilators for windows, side walls, skylights, and other structures.

The principal object of my invention is to furnish a ventilator to give light and air through the same opening, and made in such form that when applied to windows it does not interfere with the raising or lowering of the window-sashes, and otherwise constructed so that the air is deflected in an upward current into the building, so as to prevent direct downward drafts from the incoming air. I attain these objects in the manner illustrated in the accompanying drawings, in which—

Figure 6 is a perspective front or exterior view of the ventilator. Fig. 7 is a vertical section of Fig. 6 through on the line Q Q. Fig. 8 is a perspective view of the rear of Fig. 6, showing the valve *k* partly open. Figs. 1, 2, 3, 4, 5 show other forms of the ventilator, to which reference is made in this specification.

In Figs. 6, 7, 8, 9, similar letters refer to similar parts throughout the drawings.

One of the objects of my invention is to prevent direct downward drafts from the air entering the building through the ventilator, this being a very great objection to many ventilators. This defect I overcome by making the ventilator in a box or tube form, C, Fig. 6, having the external opening at the bottom of such box or tube, and making the face *f* sloping, as shown in Fig. 6, so that the air in passing through the box or tube C is deflected by the inner face or surface of the sloping face *f* in an upward-inclined current into the building, the force of this upward current being diffused and spent in the air at the top of the apartment.

Practical tests show that when the box or tube C is made with the face *f* in any other form this upward current is not so well obtained. The box or tube C is therefore designed and formed with the sloping face *f*, so as to obtain the above object in the most effective manner.

In tubes of large dimensions, to further aid this object, I make the box C with a series of louvers, *r*, Figs. 7, 6, placed in a horizontal plane at the bottom or external opening of the ventilator, as shown in Figs. 6, 7. I prefer to make the louvers *r* fixed or stationary and set at or nearly the same angle of deflection as the face *f*. These louvers I prefer to make of metal, so as to offer the least possible obstruction to the passage of the air through the ventilator. If so desired, these louvers may be arranged to open and close in the manner of Venetian blinds.

For the purpose of closing the ventilator, it is made with a valve, *k*, Figs. 7, 8, which may be hinged to the ventilator in various ways, some of these ways being shown in Figs. 7, 8, 9. In some instances it may be hinged to the walls of air-ducts used in connection with the ventilator. The method most preferred and employed, as being the most practical for general use, is that shown in Figs. 7, 8. As shown in these drawings, the valve *k* is hinged on one of its edges close up to the face *f*, so that when the valve is fully open it does not project beyond the back face of the box or tube C, Fig. 7, and while in such position it does not obstruct the upward current of air. By hinging the valve to a point lower down on the inside of the face *f* than what is shown in Fig. 7 the arc (see dotted lines in Fig. 8) described by the opening and closing of the valve *k* is made to fall entirely within the vertical line of the back face of the box or tube to which the pulleys *p p* are attached. This is of great practical value and importance in many cases.

The box or tube C being chiefly designed in form and the arrangements of its several parts for use in windows, the special advantage of hinging the valve *k* in the manner described is at once apparent, the ventilator being applied to the upper sash of windows by means of the flange *d*, Fig. 6, which is placed in the rabbet made for the glass, the flange being secured in the rabbet by any of the usual methods of glazing. When thus applied, the valve *k* may be fully opened or closed, or allowed to remain open in any position, without interfering with the raising or lowering of either of the sashes.

The valve *k* is operated by a cord or chain,

n, passing over pulleys *p p*, Fig. 8. To the lower end of the cord *n* is attached an adjustable counterbalance-weight, *h*, Fig. 8. This weight holds the valve *k* in any position to which it may be adjusted. The pulleys *p* may be placed in positions best suited to the several parts of buildings in which the ventilator is used.

In order that the valve *k* may form an airtight joint when it is shut, it is made with a flange, *g*, combined with the metal frame of the valve, as shown in Fig. 8. This flange, in combination with the flange *t*, as shown in Fig. 8, against which the valve *k* closes, effectually prevents the wind from blowing through the joint in any sensible degree when the valve is closed.

As shown in Fig. 6, the ventilator is made with a flange, *d*, to afford the means of readily applying the ventilator to various kinds of structures, whether of wood, metal, or glass.

As before stated, one of the objects of this ventilator is to afford light in conjunction with ventilation, this being a great desideratum in a large majority of cases. In order therefore to improve in this respect upon other ventilators now in use, I make the sloping face *f* as shown in Figs. 6 and 7, and the vertical face *J* in Fig. 1 of glass. I also make the valve *k* and *e* in Figs. 8 and 9 of glass, so as not to obstruct the light given through the face *f*.

For ornamental purposes, the face *f* may be made of stained, figured, or other ornamental glass.

The glass face *f* and *J*, as shown in Figs. 1, 2, 6, 7, is held in place by a metal frame or groove formed on the face of the ventilator. This metal groove, covering the edges of the glass, as shown, may be arranged in such manner as to readily allow the glass face to be repaired, if broken.

The glass valve *k* is made with a metal frame, as shown in Fig. 8, so as to hold the glass securely in place. I prefer to make this frame of metal, as it offers more advantages than any other material for this purpose.

As shown in Fig. 8, the frame of the valve is made in combination with a flange, *g*, for the purpose before stated.

It is evident that the box or tube *C*, having its external opening at the bottom, as shown in Figs. 6, 7, may be made with its face *f* in different forms, either vertical, as shown at *J* in Fig. 1, or in a quadrant form, and having

the valve *k* and louvers *r* arranged in the same manner and relative position, as shown in Figs. 7, 8, the valve *k* being hinged close to the inner side or surface of the face, and the louvers *r* fixed in the bottom opening. When the box or tube *C* is made with its face *f* in a vertical position, as shown at *J* in Fig. 1, the top of such box or tube is closed, and may be made either flat, as shown in Fig. 1, or in a rounding or sloped form, so as to shed rain. The top in any of these forms may be made of glass, in order to afford more light. A wire-netting may also be used to cover the external opening of the box or tube *C*, to prevent the entrance of flies, dust, &c.

I am aware that prior to my invention side wall ventilators have been made in various forms and operated by valves. I therefore do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a ventilator, the bevel-faced box or tube *C*, Fig. 6, having its external opening at the bottom, as shown in Figs. 6, 7, and having its face *f* made of glass and inclined upward and inward, in order to deflect the air in passing through the box or tube *C* into the building in an inclined upward current, all substantially as and for the purpose specified.

2. In a ventilator, the box or tube *C*, having its external opening at the bottom, as shown at Figs. 6, 7, in combination with the valve *k*, hinged on one edge to the inner surface of the face *f*, so that the falling of the valve *k* closes the opening at the bottom of the box or tube *C*, as and for the purpose described.

3. The combination of the louvers *r* with the box or tube *C*, the louvers *r* being placed in a horizontal plane in the external opening at the bottom of the box or tube *C*, and set at an angle of deflection, as shown at Fig. 7, substantially as and for the purpose described.

4. The combination of the box or tube *C* with the series of louvers *r*, set in the external opening at the bottom of said box or tube, the valve *k*, hinged to the inside face of the front face *f*, and the balance-weight *h*, attached to the valve *k*, all substantially as and for the purpose set forth.

WALTER SCOTT SAYERS.

Witnesses:

WILLIAM NEIL,

WILLIAM E. TEMPLETON.