No. 857,642. PATENTED JUNE 25, 1907.

J. LORENZ.

VENTILATOR.

APPLICATION FILED NOV. 13, 1905.

2 SHEETS—SHEET 1.

Fig. 2.

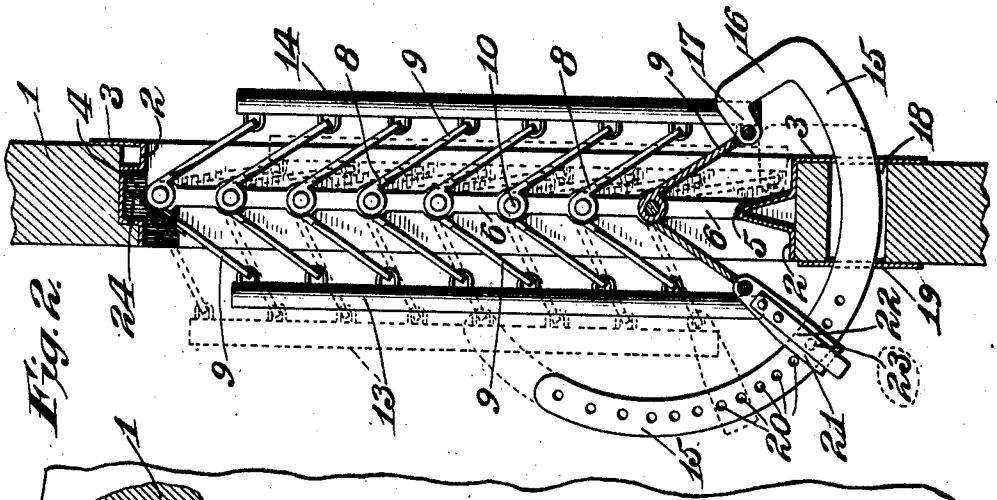
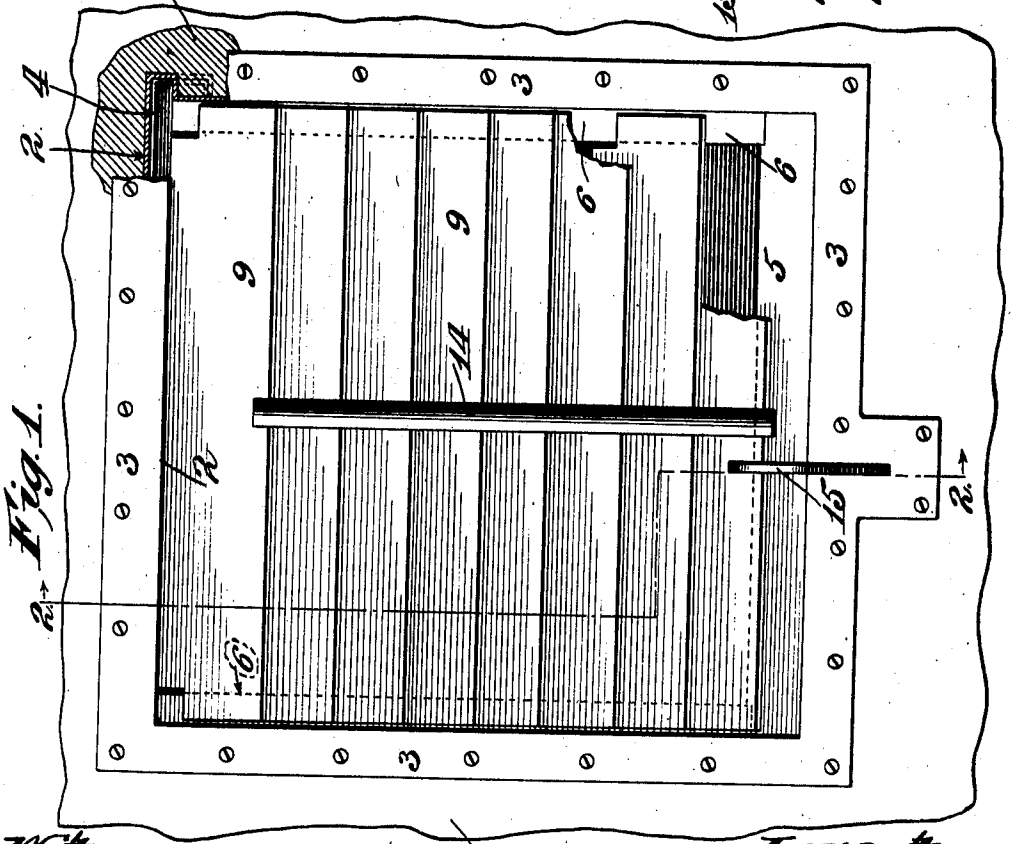


Fig. 1.



Witnesses:
Gladys Walton.
Elliott R. Goldsmith.

Inventor:
Jacob Lorenz
By Hugh K. Wagner
Wilkinson Atty.

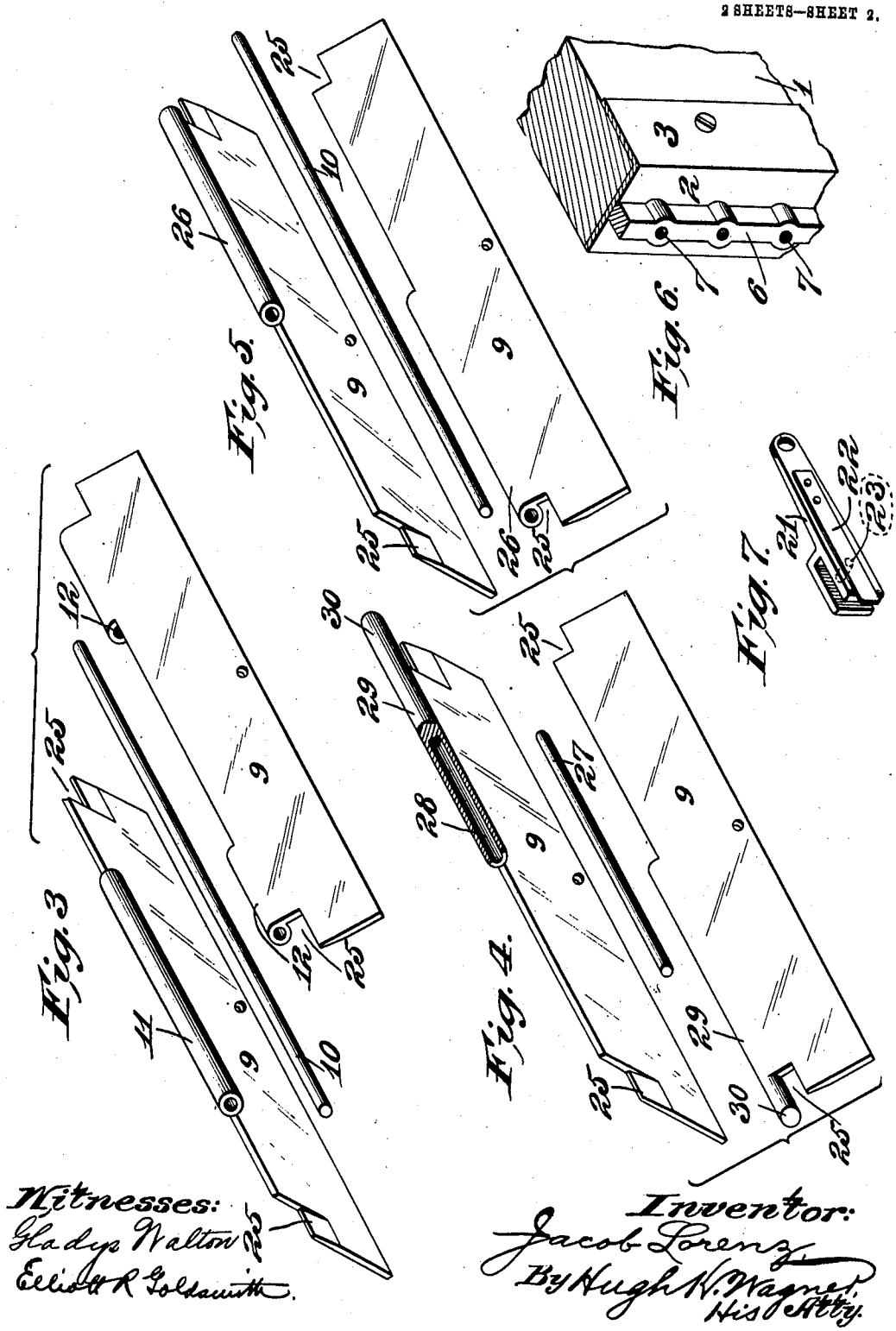
No. 857,642. PATENTED JUNE 25, 1907.

J. LORENZ.

VENTILATOR.

APPLICATION FILED NOV. 13, 1905.

2 SHEETS—SHEET 2.



Witnesses:
Gladys Walton
Elliott R. Goldsmith.

Inventor:
Jacob Lorenz
By Hugh V. Wagner
His Atty.

UNITED STATES PATENT OFFICE.

JACOB LORENZ, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-THIRD TO JOHN S. EVARD, OF ST. LOUIS, MISSOURI.

VENTILATOR.

No. 857,642. Specification of Letters Patent. Patented June 25, 1907.

Application filed November 13, 1905. Serial No. 287,032.

To all whom it may concern:

Be it known that I, JACOB LORENZ, a citizen of the United States, residing at the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Ventilators, of which the following is a specification.

This invention relates to means for combining ventilation with privacy, and is an improvement on the device invented by me, and described in United States Letters-Patent No. 802,000 issued October 17, 1905.

In the accompanying drawings, forming a part of this specification, in which like numbers of reference denote like parts wherever they occur, Figure 1 is a front view of a house-shutter equipped with my device; Fig. 2 is a sectional view, on the line 2—2, Fig. 1, looking to the right, the full lines showing the slats in ventilating position, while the dotted lines show same closed by wind pressure from without; Fig. 3 shows the construction of the hinged portion of the slats; Figs. 4 and 5 illustrate modifications thereof; Fig. 6 is a perspective fragmentary detail of the facing of the side frames which directly receives the rod or pintle on which the slats are pivoted; and Fig. 7 is a detail of the sector lock.

The shutter frame 1 may be of any desired construction. Within same is located a metal frame 2, having the flange 3, by which it is screwed or otherwise secured to the frame 1. Said metal frame 2 is formed with a ridge 5 on the inside of its lower portion and with a groove 4 across the inside of its upper portion. Attached to each side of the metal frame 2 is a cleat 6, provided with recesses 7. A plurality of V-shaped slats 8, having independently-movable wings 9, are pivoted in said cleats 6 by rods or pintles 10, which pass through sleeves 11 and 12 on the wings 9 and enter the recesses 7. Controlling-rods 13 and 14 are attached by staples or other suitable means to the inner and outer wings 9, respectively, so that all the wings of either series will move together; and, by means of devices yet to be described, both series may be caused to move in unison by the actuation of the controlling-rod 13.

The sector 15, by means of its irregular radial arm 16, is attached to the outer wing 9 of one of the V-shaped slats 8, and, by reason of the L 17 of said arm 16, when the sector 15 is caused to move, movement is imparted, also, to the wing 9 to which said L is attached, both traveling in the same arc of a circle. As the controlling-rod 14 is connected to the wing 9 thus actuated by said sector 15, motion is thus communicated through it from the sector 15 to the other wings 9 in the same outer series.

The sector 15 passes through the slot 18 in the frame 1, the flange 3 and plate 19 covering said slot and preventing vision therethrough and being themselves slotted so as neatly to fit said sector 15 and affording bearings therefor. The inner end of said sector 15 is elongated, and provided with a plurality of perforations or recesses 20, whereby said sector and all the wings 9 of both series may be locked in any desired position by means hereinafter described.

A bifurcated stud 21 fixed to one of the inner wings 9 and provided with a leaf spring 22 bearing pin 23 locks the inner series of wings 9 in any desired position by means of the protrusion of said pin 23 through one of the openings 20. When thus locked (as in the position shown in Fig. 2, for instance) the movement of the controlling-rod 13, or of the sector 15, or of one of the inner wings 9, or of the outer wings 9 by wind-pressure (for instance), will cause all the V-shaped slats 8 and connected parts to move in unison.

In Fig. 3 I have shown my preferred means for pivoting the wings 9 so that each one may be movable either independently of, or in conjunction with, its partner. Each inner wing 9 is provided with a long sleeve 11 adjacent the middle of its length, and each outer wing 9 is provided with a pair of short sleeves 12 at a point not opposite said sleeve 11 on the companion wing. All these sleeves are arranged in alinement with each other, so that the rod or pintle 10 can pass through them all and enter the recesses 7. Said sleeves and rod form the apex of the V-shaped slats when the rod is in position. The ridge 5 and the projection 24 above the apex of the highest V-shaped slat entering into the groove 4, prevent vision above or below the main device. The use of the notches 25 is for a similar purpose, and has been described in my former patent.

Figs. 4 and 5 illustrate modifications of the means shown in Fig. 3 for pivoting the V-shaped slats. In Fig. 5, the only change

consists in having a single sleeve 26 on each wing, each of said sleeves occupying about one-half of the length thereof. In Fig. 4, the rod 27 is shorter than the rod 10, and is inserted in tubular portions 28 of cylindrical enlargements 29 (solid or plugged at their ends) formed integral with the pair of wings 9 shown in Fig. 4. The solid ends 30 serve as pivots for the V-shaped slats in this construction.

It will be obvious that many minor changes in the form and arrangement of the several parts of my said invention may be made without departing from the nature and spirit thereof. For instance, the terms inner and outer as hereinabove used are relative, and the arrangement can easily be reversed if desired.

With the device described in my former patent No. 802,000, it was impossible, owing to the integral construction of the V-shaped slats, for a person in the house who desired to look out to see between the slats, but in the present device each series of wings 9 is independently actuatable, and each series can be raised to the position shown in the dotted lines in Fig. 2, or to any other desired angle, and both series of wings 9 thus practically put in the same plane. By tilting the outer slats obliquely upward, and the inner slats obliquely downward, sunlight can be admitted.

Having thus described my said invention, what I claim and desire to secure by Letters-Patent is:

1. In a device of the character described, the combination of two series of wings, both series of wings having a common series of pivots, controlling-means for each to cause same to operate in unison, a sector connecting both said controlling-means, and means for detachably connecting said sector to the inner one of said controlling means.

2. In a device of the character described, the combination of two series of wings, both series of wings having a common series of pivots, controlling-means for each to cause same to operate in unison, a sector connecting both said controlling-means, and means for adjusting the position of said sector relative to the inner of said controlling means.

3. In a device of the character described, the combination of two series of wings, both series of wings having a common series of pivots, controlling-means for each to cause same to operate in unison, and a sector connecting both said controlling-means, said sector having perforations therethrough, and the inner of said controlling-means having a projection thereon and means connected therewith to lock said sector by means of said perforations.

4. In a device of the character described, the combination of two series of wings, both series of wings having a common series of pivots, controlling-means for each to cause same to operate in unison, a sector connecting both said controlling-means, and a bifurcated projection upon the inner of said controlling-means, said sector passing through the bifurcation thereof, said bifurcation serving as a guide.

5. In a device of the character described, the combination of two series of wings, both series of wings having a common series of pivots, controlling-means for each to cause same to operate in unison, a sector connecting both said controlling-means, said sector having recesses therein, and a spring-pressed pin connected with said controlling-means for locking said sector by means of said recesses.

6. In a device of the character described, the combination of a frame having an opening therethrough, face-plates covering said opening each provided with a narrow slit, a plurality of series of wings, said series of wings having a common series of pivots, controlling-means to cause each one of each series of wings to move in unison with the others of said series, and a sector connecting the controlling-means for both of said series.

7. In a device of the character described, the combination of a main frame and an internal frame fitted thereto, said internal frame having a flange for attachment to the main frame, a slot in said flange, a plurality of V-shaped slats having independently-actuatable wings supported in said internal frame, a common series of pivots for said wings, and a sector cross-connecting said series of wings, said sector passing through and being guided by said slot.

8. In a device of the character described, the combination of a main frame and an internal frame fitted thereto, said internal frame having a flange for attachment to the main frame, a slot in said flange, a slot in said main frame with which said first-mentioned slot registers, a plurality of V-shaped slats having independently-actuatable wings supported in said internal frame, a common series of pivots for said wings, and a sector cross-connecting said series of wings, said sector passing through and being guided by said slots.

9. In a device of the character described, the combination of a frame, a slot in said frame, a plurality of V-shaped slats having independently-actuatable wings supported in said frame, a common series of pivots for said wings, and a sector cross-connecting said series of wings, and passing through and being guided by said slot.

10. In a device of the character described, the combination of a frame provided with a ridge in its lower portion and a groove in its upper portion, V-shaped slats supported in said frame, the wings of the lowest of said slats impacting against said ridge, and a

member secured to the topmost slat, projecting beyond the apex thereof and into said groove.

11. In a device of the character described, the combination of a frame provided with a ridge in its lower portion and a groove in its upper portion, said groove extending into and forming a recess in the sides of said frame, V-shaped slats supported in said frame, the wings of the lowest of said slats impacting against said ridge, and a member secured to the topmost slat and projecting beyond the apex and the ends thereof and into said groove and said recess.

In testimony whereof I have affixed my signature in presence of two witnesses.

JACOB LORENZ.

Witnesses:
GLADYS WALTON,
ELLIOTT R. GOLDSMITH.