

(No Model.)

2 Sheets—Sheet 1.

E. WAGNER.
WINDOW.

No. 313,138.

Patented Mar. 3, 1885.

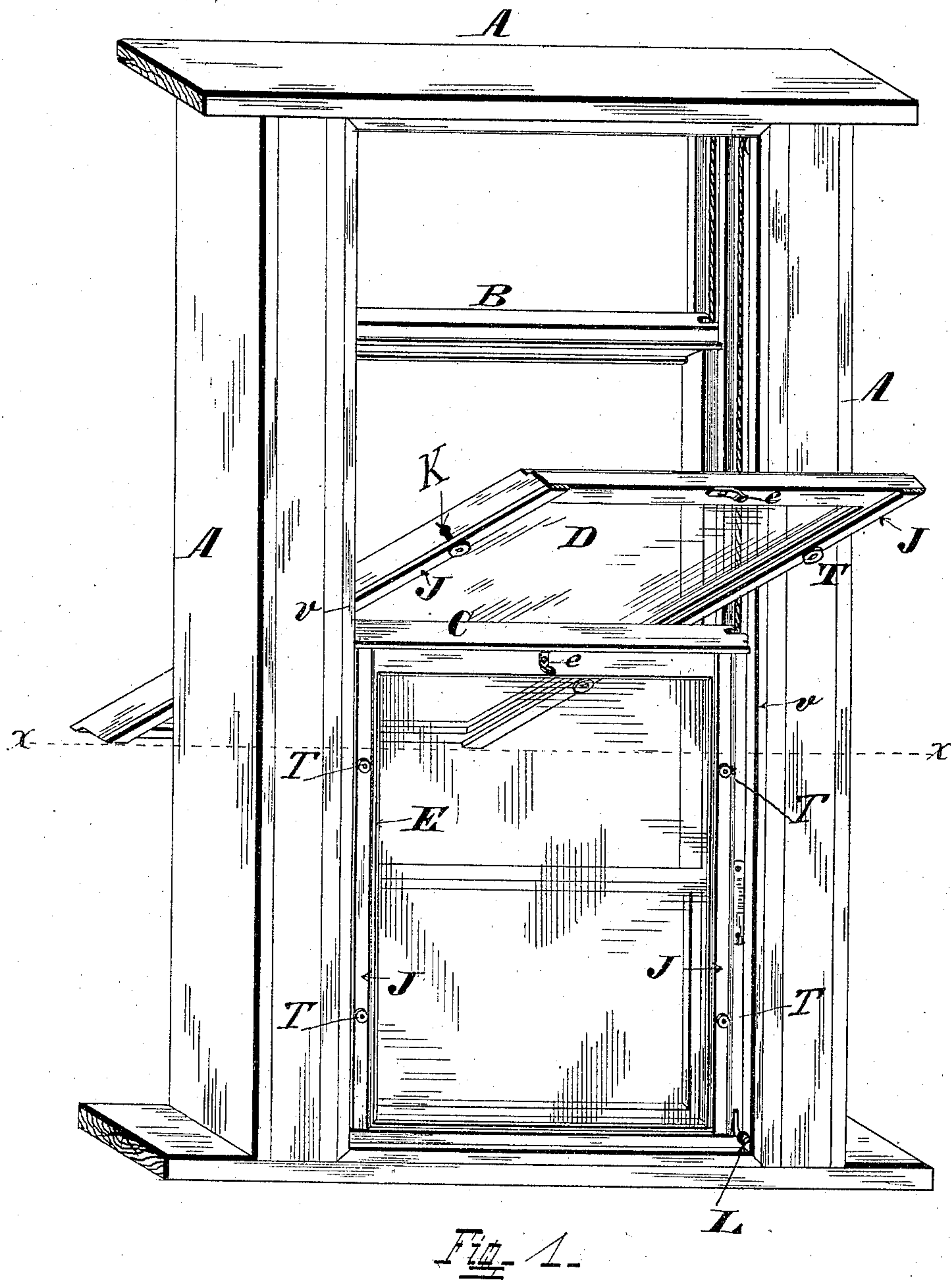


Fig. 1.

Attest
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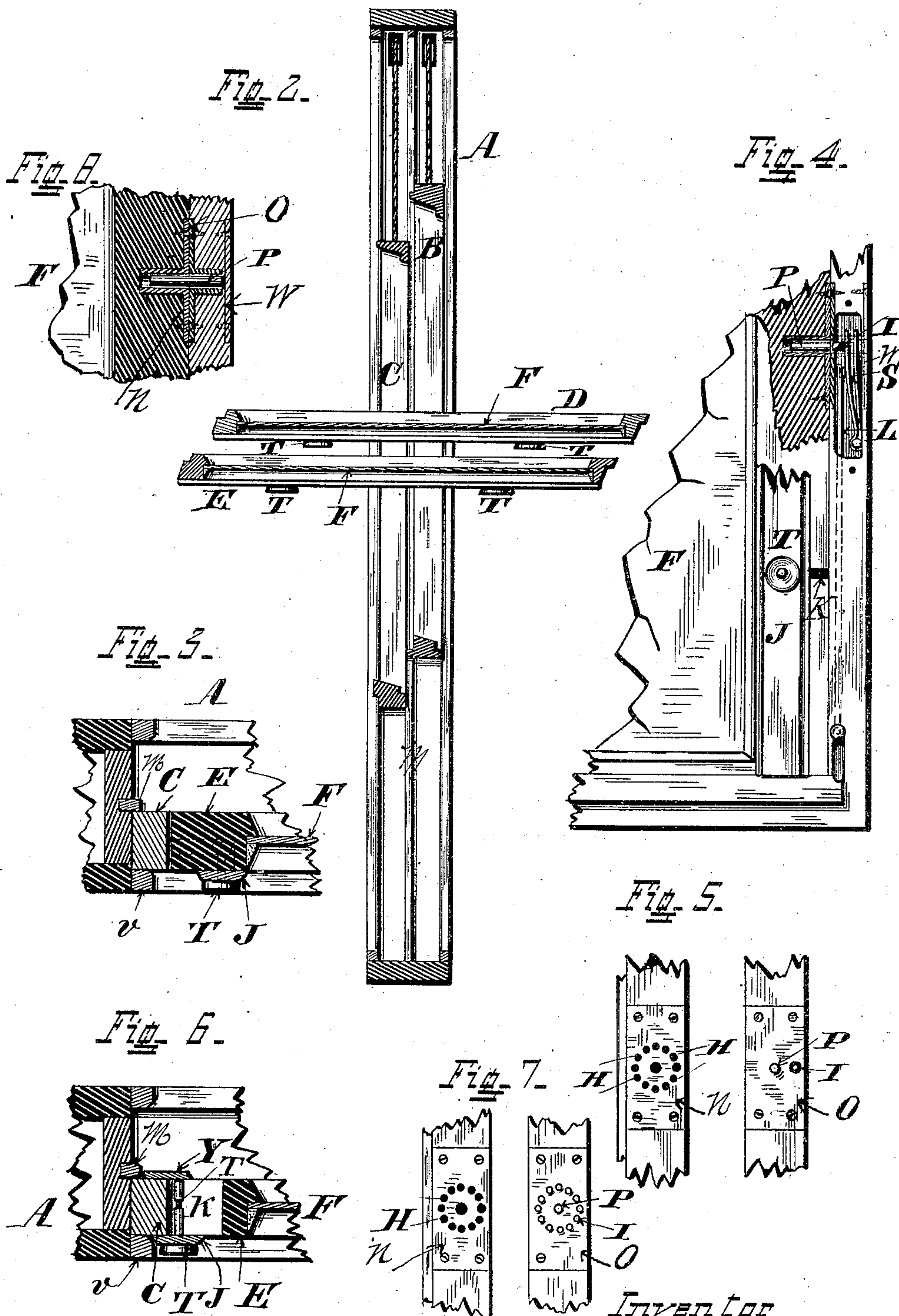
Inventor
Emil Wagner
by Wm. S. Furling, Atty.

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Boston B. Shaffer

Inventor
Emil Wagner
by J. S. Truitt, Atty.

UNITED STATES PATENT OFFICE.

EMIL WAGNER, OF CINCINNATI, OHIO, ASSIGNOR TO THE PATENT REVOLVING WINDOW SASH COMPANY, OF SAME PLACE.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 313,138, dated March 3, 1885.

Application filed June 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, EMIL WAGNER, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Window-Sashes, of which the following is a specification.

My invention relates to that class of window-sashes in which there is an outer frame, which slides up and down in the window-casing in the ordinary way, and in which is pivoted the sash proper, so that it can be tipped at any desired angle for ventilating purposes, or reversed, if desired, thus enabling the outer portion of the sash and glass to be brought within reach of those whose duty it is to clean the window, and facilitating and making more thorough the work without incurring the danger of accidents, which are so common in this line of labor, especially on high buildings.

The objects of my improvements are, first, to lock and hold the sash in any desired attitude, whether it be set at any given angle or is in its normal and usual position; second, to make the joint between the sliding frame and the sash air-tight, and at the same time prevent the frame and sash from rattling. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of a window-casing containing my improvements, and shows the lower sliding frame and its contained sash in their normal position, while the upper sliding frame is slightly lowered and its contained sash tipped at an angle. Fig. 2 is a vertical section of the window-casing, the sliding frames and their sashes, the sliding frames being respectively raised and lowered out of their normal position while their contained sashes are tipped to a horizontal attitude. Fig. 3 is a horizontal section, taken on line *x x*, Fig. 1, through the lower portion of the window-casing, the sliding frame and its sash, and shows the sliding slat which covers or uncovers the joint between the sliding frame and the pivoted sash. Fig. 4 is an enlarged front view of a portion of the sliding frame and pivoted sash, with a part cut away so as to exhibit my locking device. Fig. 5 shows front views, respectively, of the plate on the sash

which contains perforations, into which the pin enters, so as to lock the sash in any desired position, and the plate on the sliding frame, containing the pivot on which the sash turns. Fig. 6 is a horizontal section taken through the lower portion of the window-casing, the sliding frame, and the pivoted sash, and shows a modification of the means employed to render the sash air-tight—viz., that instead of one sliding slat, as shown in Fig. 3, being used to cover the joint, two such slats are used, one on the interior, the other on the exterior. Fig. 7 is a view showing a modification of the means to lock the sash, as exhibited in Fig. 5—viz., that instead of employing one pin to engage with the perforations, I use a number of such pins as will equal the number of perforations. Fig. 8 is a view showing more clearly than Fig. 4 my manner of pivoting the sash to the sliding frame, and showing the thimbles or tubular pins in which the pivots on each side of the sash work.

A is the window casing or frame. B and C respectively are the top and bottom sliding frames, while D and E are their contained sashes, F representing the panes of glass therein. The sliding frames are so constructed as to pass entirely around their respective sashes, and they are hung in the window-casing as are ordinary sashes—viz., by ropes and counterpoise-weights. The sashes are mounted or horizontally pivoted within the said sliding frames by means of pivots P, placed upon each side of the sliding frame, so as to engage with the sash. I prefer to pivot the sashes horizontally instead of vertically, as by the former method the ventilation will be more perfect, because the frames can be respectively lowered and raised and the sashes tipped, as seen in Fig. 2, thus affording scarcely any resistance to the free ingress and egress of the air, while if the sashes were mounted in the frames in a vertical manner and then turned the frames could not be either raised or lowered, as is obvious. I however do not limit myself to the horizontal pivoting, as my improvements can just as well be adapted and applied to a sash pivoted vertically.

S is a spring properly boxed or incased in the sliding frame. This spring is actuated by

the lever L, whose end may be wedge-shaped or provided with a lug, as shown in Fig. 4.

I is a pin attached to the spring S and at right angles to it. This spring is designed to enter or engage with the holes H in the sides of the sashes or a plate attached thereto. The upper and lower ends of the sashes are rabbeted, so as to prevent drafts of air from entering at those points.

J J are interior slats designed to slide laterally, so as to cover and uncover the joints between the sash and the sliding frame and make the window air-tight. These slats are beveled at their sides, as shown, to enable them, when covering the said joints, to extend between the sliding frame and the ordinary slat, U, which holds the said sliding frame in its position in the window-casing. This will so bind the sliding frame and sash as to prevent their rattling and the consequent noise, which is so annoying in the sashes now in use. The pivoted sashes are provided with a slot, K, as seen more clearly in Fig. 4 and in the upper sash of Fig. 1, and into this slot is fitted a small nut provided with a female screw. By means of this nut and the screw T, inserted through the slats, the slats J are made loose or tight, as the case might be, to shift the slats so as to cover or uncover the said joints between the sash and the sliding frame and to tighten or loosen them in either position.

The slat that I have been describing is shown more clearly in Fig. 3.

I have shown in Fig. 6 not only an interior slat, but also an exterior one, as Y. This outer slat, Y, is beveled the same as the inner one, and is designed to fit between the sliding frame and the usual parting-strip, M. These inner and outer slats are connected together by extending the screw T so that the outer slat can be manipulated as is the inner one, and simultaneously.

In order to make the frame and sash at the point of pivoting stronger and more durable, I provide the plates N and O, which are attached to the sash and sliding frame, respectively, and opposite each other, with thimble or tubular bearings. The plate W has attached to it the pivots P, on which the sash works. These pivots are inserted from the outside of the sliding frame in a line, so as to enter the tubular bearings on the sash. I have illustrated this method in Fig. 8. By this means the sash and frame are so connected as to make it impossible for them to become disengaged or out of plumb, thus greatly strengthening the device and adding to its usefulness.

As a modification of the means for locking the sash, I may provide the spring with a number of pins equal to the number of holes in the sash, as seen in Fig. 7. These pins are arranged so as to engage with the said holes and add to the strength of the structure.

e e are temporary catches on the sash, designed to engage with a slot in the sliding

frame, so as to prevent the sashes from being turned when the pins I are not in their proper position.

The operation of my sash is as follows: The mechanism being arranged as shown, and the sashes in their normal position, if it is desired to tip or partially reverse the sash, the lever L is pushed up and it throws back the spring S, which carries with it the pin or pins I, thus releasing the sash and permitting it to be set at any desired angle, after which the lever is withdrawn from the spring, which resumes its natural position and throws the pin or pins I into the holes or keepers H, thus holding the sash firmly at the point to which it was set.

I am aware that to avoid the usual bead-strips for retaining the sash in the window-frame, sheet-metal strips have been applied to the face of the sash, slotted, made laterally adjustable to permit movement into and out of grooves in the frame, and held in place by clamping-screws, and that an adjustable strip has been applied to the meeting-rails of sash to make a close joint, and these I do not claim.

I am also aware that locking devices or detents have been provided to hold a pivoted sash at any desired angle; but, so far as I am aware, these have invariably been applied to the tipping frame and more or less exposed to view. Under my plan, however, the detent and its controlling device are applied to the outer frame, and do not move with the tipping of the sash; hence the manipulation is much easier and the window is not disfigured or obscured by unsightly fastening devices.

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

1. The combination, substantially as herein set forth, of an outer sliding sash-frame, an inner sash pivoted in said frame, a series of holes or depressions arranged in the edge of the sash concentrically about the pivot, a spring-arm provided with a pin to enter said notches and secured in the outer frame, and a bar or lever seated in the outer frame and adapted to withdraw the locking-pin from its hole in the inner frame when moved.

2. In combination with outer frame, C, inner frame, E, pivoted to the outer frame, plate O, applied to frame E, and provided with perforations H, spring S, provided with pin I to enter said perforations, and slide L, arranged substantially as shown, to press back said spring and withdraw the pin from the perforations, said locking-pin being wholly independent of the pivots of the sash.

3. In combination with a reversible window-sash, the plates N and O, provided with tubular bearings, in which the pivot P works, when arranged as shown and described, and for the purpose set forth.

4. An interior sliding slat, J, adapted to cover and uncover the joint between the sliding window-frame and its sash, and whose

side edge is beveled so as to admit of its passage between said sliding frame and its retaining-slat, in combination with the screw T, and a nut incased within a slot in the sash, so
5 as to fasten or unfasten said slat J, substantially as shown and described.

10 5. In combination with an outer sliding sash-frame, a sash pivoted therein, a spring locking-pin mounted in the sliding frame and adapted to enter a recess in the pivoted frame, and a slide or releasing device mounted in the sliding frame and adapted to control the locking-pin, substantially as set forth, whereby
15 the releasing device is retained within easy reach during the adjustment of the pivoted frame.

6. In combination with a sliding sash-frame

and with a sash pivoted therein, a laterally-adjustable slat or strip adapted to cover the line between the two frames and to be removed 20 from over said line, as set forth.

7. In combination with an outer sliding frame and a sash pivoted therein, a laterally-movable slat applied to the face of one of said frames, and adapted to lap upon the other when 25 adjusted for that purpose, a nut seated and laterally adjustable within the frame to which the slat is applied, and a bolt or screw passing through the slat and entering the nut, substantially as and for the purpose set forth.

EMIL WAGNER.

Witnesses:

W. ELLWOOD WYNNE,
BARTON B. SHIFFER.