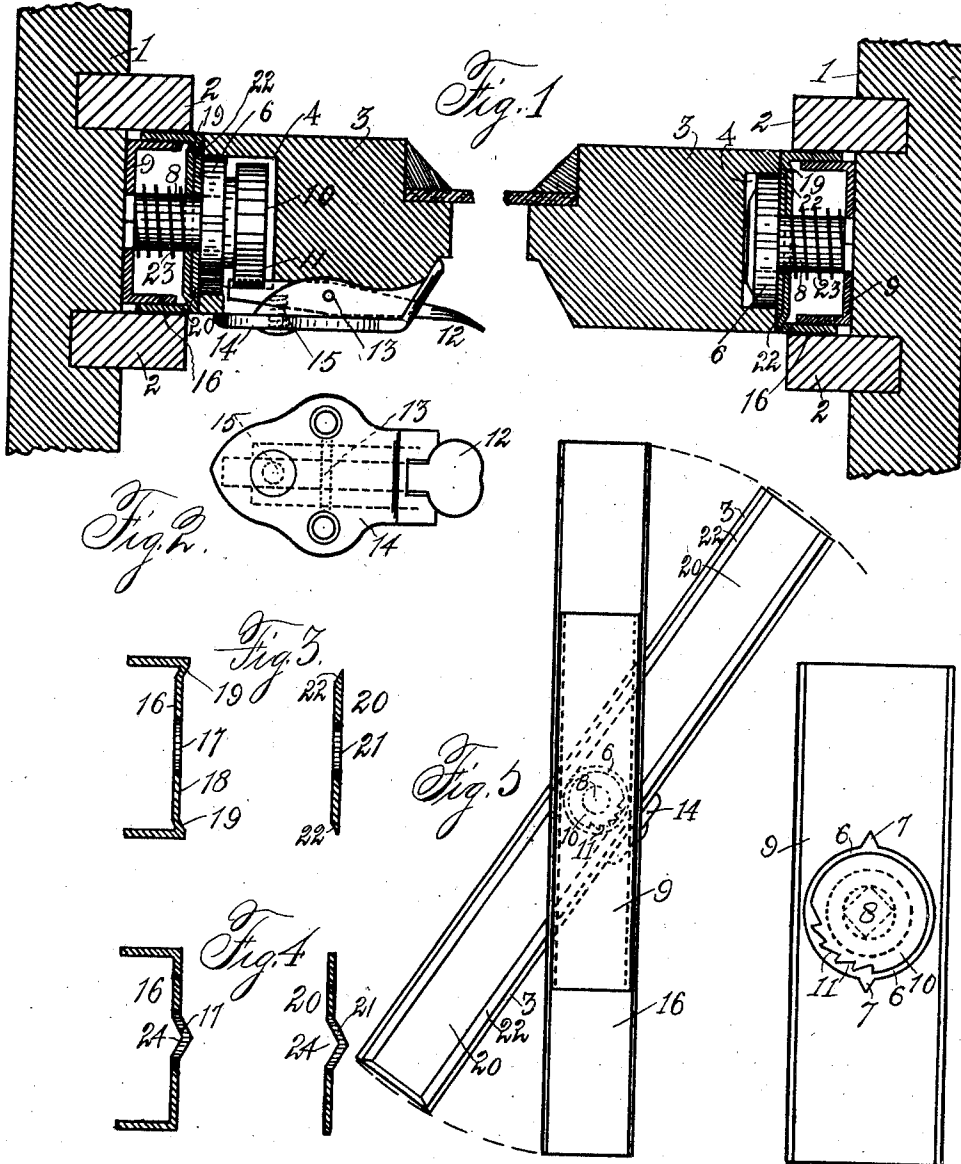


N. W. HARTMAN.
WINDOW SASH.
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Patented Sept. 5, 1911.



Witnesses:
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UNITED STATES PATENT OFFICE.

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WINDOW-SASH.

1,002,396.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, NOBLE W. HARTMAN, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Window-Sashes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The purpose of my invention is to furnish a window-sash which shall be vertically movable between its stops and which shall also be revoluble upon its horizontal axis so that either side of the window pane or panes may be turned inwardly thus furnishing excellent means of ventilation and overcoming the familiar difficulties and dangers attending the cleaning of the outside of windows, especially in high buildings.

It is my intention, moreover, to furnish a device which may be readily attached to old windows.

My invention is also designed to furnish a device of the character described which shall serve as side weather-strips for the sash.

My invention also relates to means for retaining the sash at any desired tilted position.

I attain these objects by means of the devices and arrangement of parts hereinafter described and shown, and illustrated in the accompanying drawings, in which,—

Figure 1 is a central horizontal sectional plan-view of a sash (part of the glass being removed) provided with my device; Fig. 2, a side-elevation of the spring-catch hereinafter referred to, detached; Fig. 3, a central transverse section of the two metallic strips 16—20, hereinafter referred to; Fig. 4, a like view of a modified form of said strips; Fig. 5, a side-elevation of my device, detached, seen from the left in Fig. 1, and Fig. 6, a side-elevation of the channeled metallic strip 9, hereinafter referred to, detached, with the segmental ratchet-wheel and washer, hereinafter referred to, in place.

Like numerals of reference indicate like parts throughout the drawings.

In the drawings, 1—1 are window-frame parts having the usual pairs of vertical parallel stops 2 between which, as ordinarily constructed, the stiles 3 of the window-sash slide vertically. In my device the width of the window-sash is somewhat less than the distance across the window opening between the opposed edges of the stops. When my device is applied to old windows those parts of the sash which project between the stops is sawed off or otherwise removed. Of course new windows designed for use in connection with my device have sashes made correspondingly narrow.

4 is a round hole or recess let into the outer edge of the stile of the sash midway of its height. Into this recess is sunk a washer 6 which fits with a close fit and is flush with the edge of the stile. The washer is provided with projections 7 which engage corresponding notches in the margin of the hole 4 and which prevent the rotation of the washer independently of the sash. The hole through the washer furnishes a bearing for a short stout shaft 8 the outer end of which is rigidly secured by riveting or otherwise to a sheet metal strip 9 having its margin bent toward the sash at a right angle, as shown, so that the strip 9 forms a thin channel-bar. This strip is vertically slidable between the stops 2. Rigidly secured to the opposite end of the shaft 8, and within the recess 4, is a disk 10 the periphery of which has a toothed or notched portion 11 which extends around one quarter of the circumference of the disk, as shown in Fig. 6.

12 is a thumb-latch or dog pivoted, as at 13, in a housing 14 which is let into the inner side of the stile 3 and is there secured by screws or otherwise. The latch at one end projects so that it may be actuated by the thumb or finger of the operator but does not project far enough to interfere with the parallel movement of the neighboring sash,—if there be one. The opposite or inner end of the latch 12 is, by a spring 15 held in normal engagement with the teeth 11 upon the ratchet-disk 4.

16 is a strip of sheet metal of the length of the sash and having its margins bent at a right-angle to form flanges which overlap the flanges of the strip 9 and having through its center a hole 17 for the passage of the shaft 8. The face of the strip 16 which is

toward the sash is counter-sunk, as at 18, the margin of the depressions being beveled, as at 19.

20 is a flat sheet metal strip of the length 5 of the sash and which is rigidly secured by screws or otherwise to the outer edge of the sash and which has through its center a hole 21 for the passage of the shaft 8. The strip 20 is of the width of the counter-sunk portion 10 18 and has beveled edges 22 which coincide with and fit against the beveled edges 19 of the depression 18. Interposed between the opposed faces of the strips 9 and 16 and surrounding the shaft 8 is a stout coiled 15 spring 23 which yieldingly holds the strip 9 against the window-frame and which holds the strip 16 pressed toward the sash.

Thus far I have confined this description to but one side of the sash. The opposite 20 vertical side of the sash is, however, equipped in exactly the same manner as above described, except that in windows which are not too heavy the ratchet-wheel and the dog 12 may be omitted.

25 The operation of my device is as follows: The parts being assembled as illustrated in Fig. 1, the window-sash,—which may be supplied with the usual cords and weights,— 30 may be raised and lowered in the usual way in the ways formed by the stops 2 and the window-frame. When the sash is raised or lowered the metal strips 9, 16, and 20 move with the sash. Should it be desired to tilt 35 the sash, the catch 12 is released from the teeth 11 of the disk 10 and now the washers 6 journaled upon the shafts 8 form pivotal supports for the sash upon which the sash may be turned to any desired angle to the 40 vertical and nearly inside out, if required. The catch 12 and the teeth 11 arranged in a quarter circle prevent the window from accidentally swinging open beyond a horizontal plane. The beveled shape of the teeth and 45 the dog, while permitting the window to be closed without the manipulation of the catch, will not permit the window to open except when the dog is disengaged from the ratchet-teeth. When the catch is released and the 50 bottom of the sash is pressed outwardly the beveled edges of the parts 20 press against the corresponding beveled portions of the strips 16 and by their wedgelike action press the plate 16 outwardly,—that is, into the 55 channels between the stops 2,—overcoming the resistance of the springs 23. The sash may now be swung upon its pivots to any de-

sired position. When the sash is swung upon its pivots into upright position the springs cause the members 16 to snap into engagement with the strips 20, thus forming close 60 weatherproof joints between these two members. The sliding fit of the resilient flanges of the parts 16 against the opposed faces of the stops 2 also form a weatherproof joint.

My device is equally applicable to win- 65 dows in which there is but one sash, not designed to be raised and lowered.

In Fig. 4 I have shown the plates 16 and 20 constructed in modified form, the countersunk beveled features which provide for the wedgelike action above referred to and 70 which furnish the weather-proof joint above described being provided in the form of central longitudinal beveled ribs 24 one of which coincides with and fits into the other. 75 The action of these two parts and their effect one upon the other is substantially the same as above described. The construction first described is, however, preferred.

Having described my invention, what I claim and desire to secure by Letters Patent 80 is,—

In a device of the class described, in combination with a window frame having sash stops, a sash having oppositely disposed recesses in the side stiles thereof, coöperating 85 channeled members retained between said stops upon each side of the window frame, one of said coöperating members upon each side of the window frame being provided with a central aperture and having upon the 90 side toward the sash a longitudinal depression having inclined side edges, a metal strip secured to each side stile of the sash and covering the said recesses, said strips having 95 beveled side edges and a central aperture, the beveled edges of said metallic strips conforming to and coöperating with the inclined side edges of the said channeled members, shafts secured to certain of said channeled mem- 100 bers extending through the apertures in said strips and into the recesses in said stiles, said apertures forming bearings for said shafts, and means for locking the sash in any de- 105 sired position.

In testimony whereof I affix my signature 105 in presence of two witnesses.

NOBLE W. HARTMAN.

Witnesses:

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