H. WATSON.

WINDOW.

APPLICATION FILED JAN. 8, 1920.

1,360,481.

Patented Nov. 30, 1920.

2 SHEETS—SHEET 1.

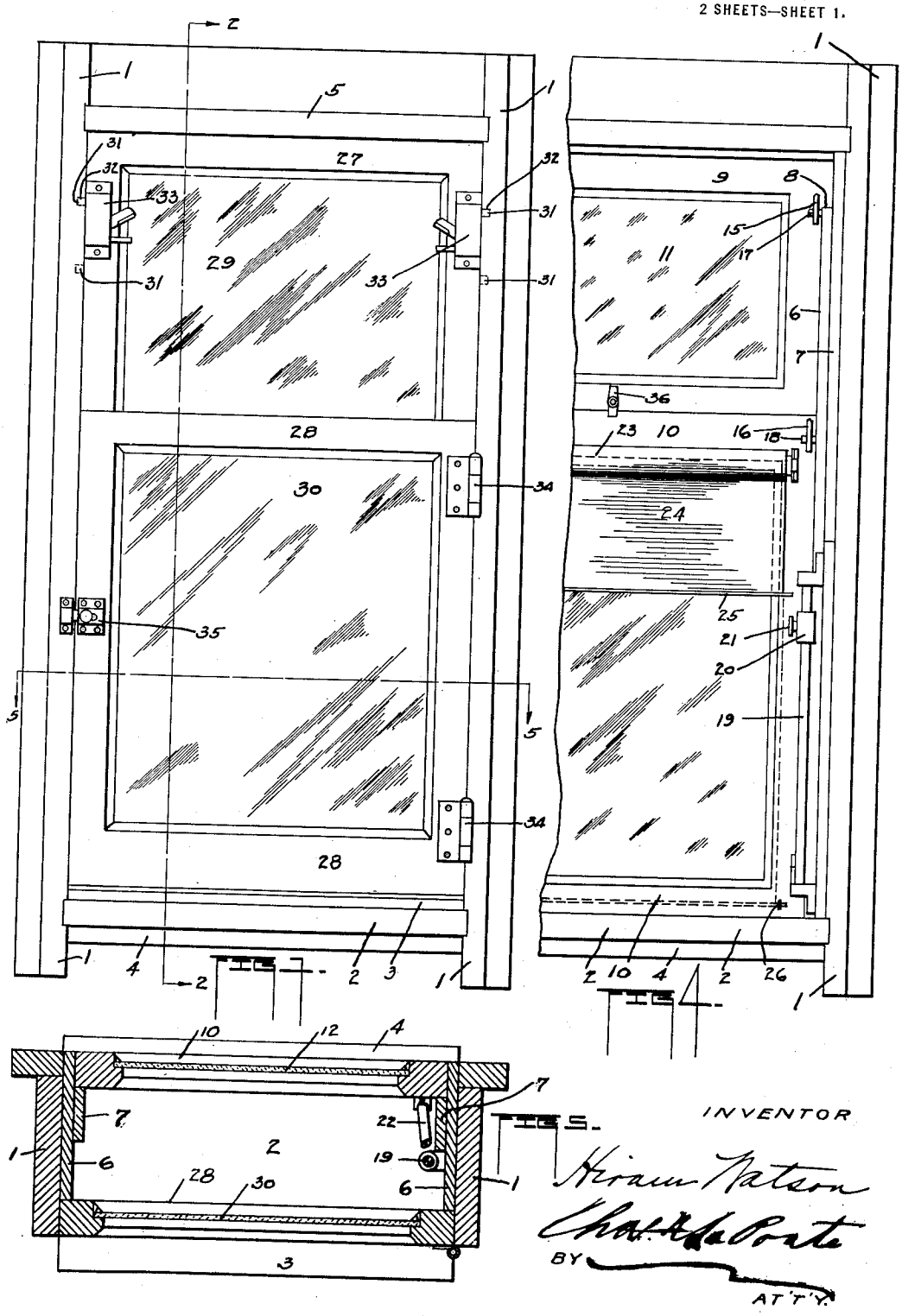


FIG. 5.

INVENTOR

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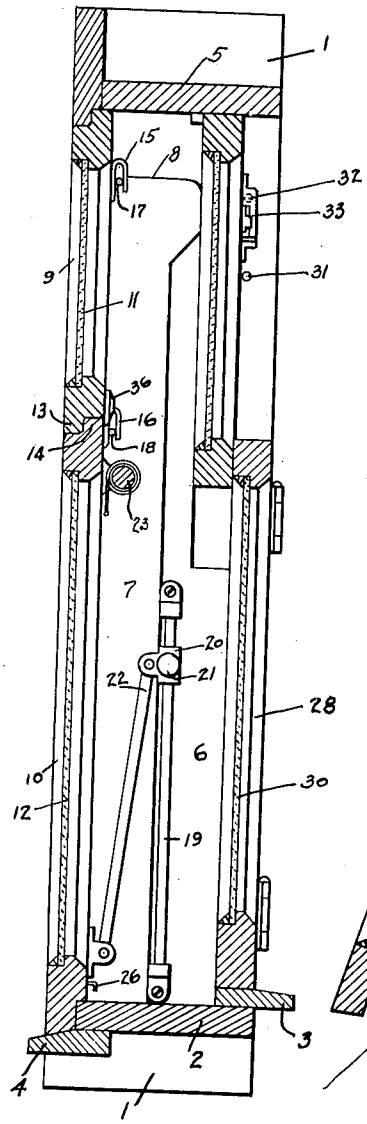


FIG 2.

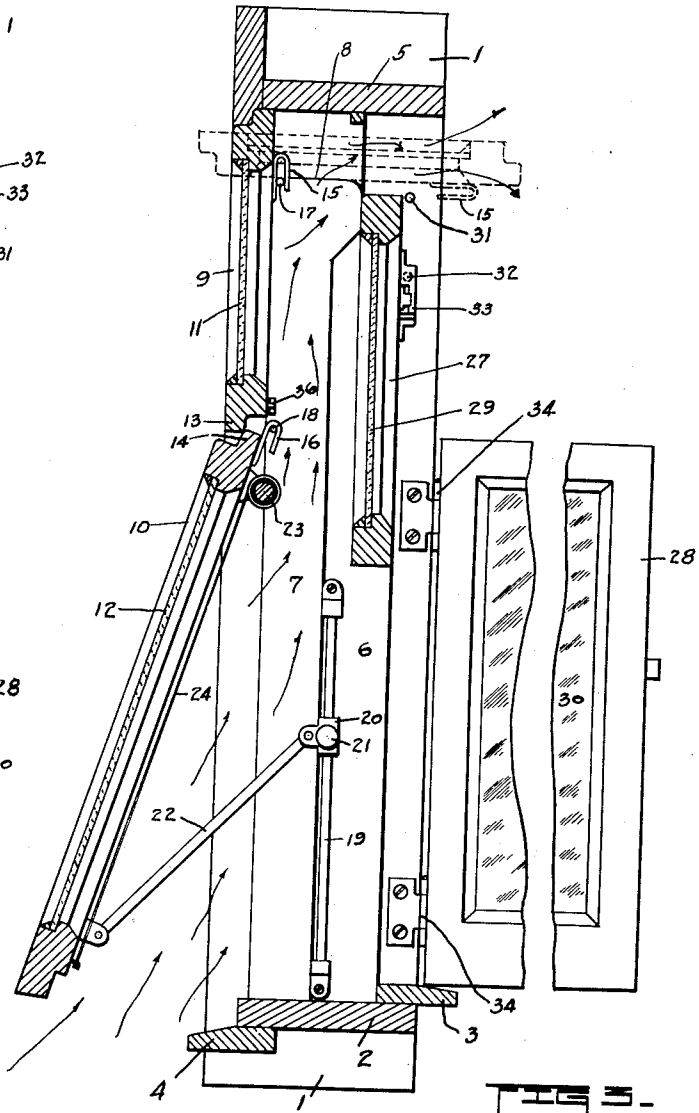


FIG 3.

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UNITED STATES PATENT OFFICE.

HIRAM WATSON, OF PEORIA, ILLINOIS.

WINDOW.

1,360,481. Specification of Letters Patent. Patented Nov. 30, 1920.

Application filed January 8, 1920. Serial No. 350,117.

To all whom it may concern:

Be it known that I, HIRAM WATSON, a citizen of the United States, and a resident of Peoria, in the county of Peoria and State of Illinois, have invented new and useful Improvements in Windows, of which the following is a specification.

This invention has reference to windows, and it has for one of its objects to provide a window-frame, with inner and outer upper and lower sashes producing, when the sashes are closed, an air-jacket between the same to prevent cold air penetrating to the interior of the dwelling.

A further object of the invention, is a window-frame provided with inner and outer, upper and lower sashes; the upper and lower outer sashes supported in the frame in such a manner that they may be swung outwardly at their lower ends, and the lower outer sash maintained in different angular positions, while the upper outer sash, in addition to having a swingable relation with the frame may be moved into a horizontal position for removal from the frame, if desired. The upper inner sash is adjustable vertically in the frame, and the inner lower sash is swingably supported at one side of the frame.

The invention has for a further object to provide a window-frame with inner and outer upper and lower sashes of the character hereinbefore stated which will permit easy and convenient access to all sashes for the purpose of cleaning the glass; for ventilation in extreme cold weather without permitting the cold blasts of air to blow directly into the dwelling; for use as an awning, the outer lower sash being provided with a roller awning or shade, and for screening in a convenient and simple manner, all of which will more fully appear in detail in connection with the description of the drawings, hereto attached and made a part hereof, in which:—

Figure 1 is an elevation of my improved window, looking at it from the inside of the dwelling;

Fig. 2 is a vertical sectional view, as the same would appear, if taken on the line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 2, except that the several sashes are shown in positions, into which they are capable of being moved;

Fig. 4 is a partial elevation of the window, looking at it from the inside of the dwelling, with the inner upper and lower sashes removed, and

Fig. 5 is a cross-section in plan, as the same would appear if taken on the line 5—5, Fig. 1.

Like characters of reference denote corresponding parts throughout the figures.

The frame, as a whole, is designated 1 and is provided with a sill 2, inner and outer stools 3 and 4 on which rest the inner and outer lower sashes, when in closed position, and 5 refers to the top-plate. Spacing plates 6, 6, and 7, 7 are secured to the inner opposite sides of the frame, the latter stopping short of the top-plate 5 to provide a shelf 8 spaced below the top-plate, for purposes to be described.

9 and 10 designate, respectively, the upper and lower outer sashes. These sashes are preferably provided with panes of glass 11 and 12. The upper sash 9 normally rests on the top of the lower sash 10, their meeting ends being provided with off-set meeting edges 13 and 14 to produce an overlapping and tight joint when said sashes are in closed position. The lower sash 10 when closed rests on the stool 4 and against the sill 2. I prefer that the sash 9 be shallower than the sash 10 which will position their meeting ends above a central line midway of the frame between the sill 2 and the top-plate 5. The sashes 9 and 10, at or near their upper ends, and adjacent their opposite side edges, have connected thereto, downwardly turned hooks 15 and 16, which hooks embrace horizontally disposed pins 17 and 18 respectively, connected to and projecting inwardly from the spacing plates 7, 7. The arcuate ends of the hooks 15 and 16 do not normally rest on their respective pins 17 and 18, when the sashes 9 and 10 are closed, but when the sashes are swung outwardly they each drop slightly until the arcuate ends of said hooks engage the pins.

The lower outer sash 10 may be held swung outwardly in different angular positions by the following means: 19 designates a vertically disposed rod, so supported in the frame that there may be moved up and down thereon, the sleeve 20 which may be secured in different positions by a set screw 21. Pivotally connected with said sleeve 20 is a bracing rod 22, which at its lower end has a pivotal connection with the lower part of the sash 10. It is obvious that when the set screw 21 is released, that the sash 10 may be

swung outwardly, as shown in Fig. 3, the sleeve 20 sliding downwardly on the rod 19, and the sleeve may be secured by tightening up the screw 21 to retain the sash 10 in different angular positions. Releasing the screw 21 will permit the sash 10 to swing inwardly and close, the sleeve 20 sliding upwardly on the rod 19. To the top of the sash 10, on the inside, is journaled a self-acting spring type roller 23 carrying an awning, blind or shade 24, of any suitable material, which is preferably provided with a rod 25 at its free end, which, when the awning or shade is pulled down, may be caught under hooks 26 which serve to hold the awning or shade in such position. By releasing the rod 25 from the hooks 26, the roller 23 acts automatically to roll up said awning or shade.

The sash 9, as stated, may be swung outwardly at its lower end, and it is also possible when said sash is swung outwardly and upwardly into a horizontal position, to draw the said sash inwardly, in the manner shown in dotted lines in Fig. 3, the shelf portions 8 on the plates 7 providing a rest and runway on which to move said sash. Turning the sash 9 into a horizontal position makes it possible to release the hooks 15 from the pins 17 and connect them thereto, as will be understood. It is necessary, however, to drop the upper inner sash before the sash 9 may be withdrawn, as shown in Fig. 3, all of which will now be explained.

The upper inner sash is designated 27 and the lower inner sash 28. Each of said sashes is preferably provided with a pane of glass 29 and 30, respectively. The lower end of the sash 27 overlaps the upper end of sash 28, being situated therebehind, and the meeting points of these two sashes is approximately in the same horizontal plane as the meeting point of the sashes 9 and 10. The sides of the frame 1, see Fig. 1, are provided with spaced recesses or sockets 31 to receive pins 32 forming part of well known clasps 33 secured to the sides of the sash 27. When the sash 27 is raised, the pins 32 are inserted into the top recesses or sockets 31, and when it is desired to lower said sash the clasps 33 are actuated to withdraw the pins 32, permitting the sash to be lowered when the pins 32 may be inserted into the lower recesses or sockets 31. When the sash 27 is in this last mentioned position, the sash 9 may be swung into the position shown in Fig. 3, and removed from the frame 1.

The sash 28 is preferably hung at one side on hinges 34 so that the sash may be swung from one side backwardly and inwardly, and a clasp 35 is employed to fasten the sash to the frame, when the sash is closed.

As best seen in Fig. 4, a cleat 36, which is pivoted to the lower end of the sash 9, may be employed to lock the sash against accidental outward movement.

While I have shown the sashes 9, 10, 27 and 28, provided with glass panes, it is obvious that any one may be provided with screen wire, or similar sashes substituted provided with screen wire, if it is thought best, during the summer season to provide any of such sashes with screen wire.

The value of the air space between the inner and outer, upper and lower sashes, will be apparent, it is thought, without any further description relating thereto.

Assuming that it is desirable to ventilate the dwelling, the lower outer sash 10 will be swung outwardly into a position similar to that shown in Fig. 3, with the sashes 9, 27 and 28 closed; however, the sash 27 will be lowered into the position shown in Fig. 3, permitting the air to pass into the window, up and under the outer lower sash 10, between the sashes 9 and 27 and pass over the upper inner sash 27 into the dwelling. If desirable, the upper inner sash 27 may be closed and the lower inner sash 28 swung open into the position shown in Fig. 3, when the air would pass up, under the lower outer sash 10 and directly into the dwelling.

Assuming that it is desired to wash the glass panes of the various sashes, access may be had to both sides of the glass pane in the sash 28 by swinging it open into the position shown in Fig. 3; access may be had to both sides of the glass pane of the sash 27 by releasing the clasps 33 and removing the sash 27 out of the frame. If it is desired to only wash the upper and lower outer sashes, the sash 9 may be swung outwardly and upwardly into a horizontal position and removed from the frame by withdrawing it into the dwelling in the manner shown in dotted lines in Fig. 3, when access may be had to the glass pane of this sash. By opening the inner lower sash 28, access may be had to the inside of the lower outside sash 10, and when the upper outside sash 9 has been removed, as well as the upper inside sash 27, access may be readily had to the outside of the pane in the lower outside sash 10, by swinging such sash upwardly into a substantially horizontal position.

For awning purposes, and also for ventilation, the lower outside sash 10 may be swung outwardly into a position, substantially like that shown in Fig. 3, and awning or shade lowered into the position shown in said figure. In this connection, if it is desirable, the lower inside sash 28 may be swung open, or if the screen is used in place of the pane 30 in said sash 28, then the sash 28 could remain closed.

My invention, as should now be apparent, contemplates as an improvement in window-

frames, a unitary structure which includes the frame and the double set of window sashes, combining the feature of a storm-window, awning and screen. The structure, as shown, obviates the use of sash-weights and cords and the construction to include the same, and therefore, as a whole, is economical to use. The fact that the cleansing of the window panes of the inner and outer sashes may be done from the inside of the dwelling, will reduce the cost of their use in public buildings, and also reduce the hazards incident to cleaning windows.

I wish it understood that the means shown for holding the outer lower sash in adjusted positions may be of such a character that the sash may be detached from such means, permitting the sash to be detached from the frame, in manner similar to the upper outer sash; and while the upper inner sash, in this instance, is capable of only a limited vertical adjustment, it is understood that it could be so arranged as to be lowered the length of the frame.

What I claim is:

1. A window, including in combination, a frame, upper and lower sashes having off-set meeting ends, supporting means for each sash on the frame, means on each sash to engage said supporting means to permit said sashes to be swung outwardly at their lower ends, said engaging means on the sashes having play relative to said supporting means, whereby the sashes have a limited longitudinal movement before engagement of said engaging and supporting means to allow of the swinging movement of said sashes.

2. A window, including in combination, a frame, upper and lower inner and outer sashes forming an air space therebetween, the upper and lower outer sashes supported so as to be swung outwardly at their lower ends, the upper inner sash being vertically adjustable in the frame, the lower inner sash having a swingable connection with the frame so as to swing in a vertical plane, and means to support the lower outer sash in different adjusted positions.

3. A window, including in combination, a frame, upper and lower inner and outer sashes forming an air space therebetween, the upper and lower outer sashes supported so as to be swung outwardly at their lower ends, a roller journaled at the top of the lower outer sash, a blind connected to said roller adapted to be drawn down to cover said sash, means on the lower outer sash to hold the said blind in a lowered position, and means to support said lower outer sash in different adjusted positions.

4. A window, including in combination, a frame, upper and lower inner and outer sashes forming an air space therebetween, the upper and lower outer sashes supported so as to be swung outwardly at their lower ends, the upper inner sash being vertically adjustable in the frame, the lower inner sash having a swingable connection with the frame so as to swing in a vertical plane, a roller journaled at the top of the lower outer sash, a blind connected to said roller adapted to be drawn down to cover said sash, means on the lower outer sash to hold the said blind in a lowered position, and means to support said lower outer sash in different adjusted positions.

5. A window, including in combination, a frame, upper and lower inner and outer sashes forming an air space therebetween, said lower outer sash being supported so as to be swung outwardly at its lower end, means to sustain said lower outer sash in different adjusted positions, and means to sustain the upper inner sash in a lowered position in the frame so as to leave an open space thereabove; whereby air entering the frame below the lower outer sash will pass up between the double sashes and enter the dwelling above said inner upper sash.

6. A window, including in combination, a frame, upper and lower inner and outer sashes forming an air space therebetween, said upper outer sash supported so as to be swung upwardly and outwardly into a substantially horizontal position, and withdrawn when in such position into the interior of the building, and means to sustain the upper inner sash in a lowered position in said frame, to permit the withdrawal of the upper outer sash inwardly from said frame.

7. A window including in combination, a frame, upper and lower inner and outer sashes forming an air space therebetween, said upper and lower outer sashes having off-set meeting ends, supporting pins on the frame near the top of the upper and lower outer sashes, pin engaging hooks on each upper and lower outer sash embracing said pins and having arcuate ends normally out of contact with said pins, said sashes having limited longitudinal movement to bring the arcuate ends of said hooks into engagement with said pins and thereby provide a pivotal relation between pins and hooks to permit the lower ends of said sashes to be swung outwardly.

8. A window, including in combination, a frame, upper and lower inner and outer sashes forming an air space therebetween, said upper inner sash being vertically adjustable in said frame, the lower inner sash having a swingable connection with the frame so as to swing in a vertical plane, the upper and lower outer sashes each supported at their upper ends so as to be swung outwardly at their lower ends, and said upper outer sash having a removable relation with the frame permitting withdrawal from the frame in a horizontal plane above the inner

upper sash, when the latter is in a lowered position.

9. A window, including in combination, a frame, upper and lower inner and outer sashes forming an air space therebetween, said upper inner sash being vertically adjustable in said frame, the lower inner sash having a swingable connection with the frame so as to swing in a vertical plane, the upper and lower outer sashes each supported at their upper ends so as to be swung outwardly at their lower ends, and said upper outer sash having a removable relation with the frame permitting withdrawal from the frame in a horizontal plane above the inner upper sash, when the latter is in a lowered position, means to hold the outer lower sash in different adjusted positions, and a blind for covering said lower outer sash and carried thereby.

10. A window, including in combination, a frame, upper and lower sashes having off-set meeting ends, supporting means for each sash on the frame, means on each sash to engage said supporting means to permit said sashes to be swung outwardly at their lower ends, said engaging means on the sashes having play relative to said supporting means, whereby the sashes have a limited longitudinal movement before engagement of said engaging and supporting means to allow of the swinging movement of said sashes, means to hold the lower outer sash in different adjusted positions, and a blind for covering said lower outer sash and carried thereby.

In witness whereof, I have hereunto affixed my hand this 6th day of January, 1920.

HIRAM WATSON.