H. L. AGEE.

OPERATING MECHANISM FOR WINDOW SASH AND SCREENS.

APPLICATION FILED JAN. 20, 1916.

1,186,263.

Patented June 6, 1916.

2 SHEETS—SHEET 1.

Fig. 1

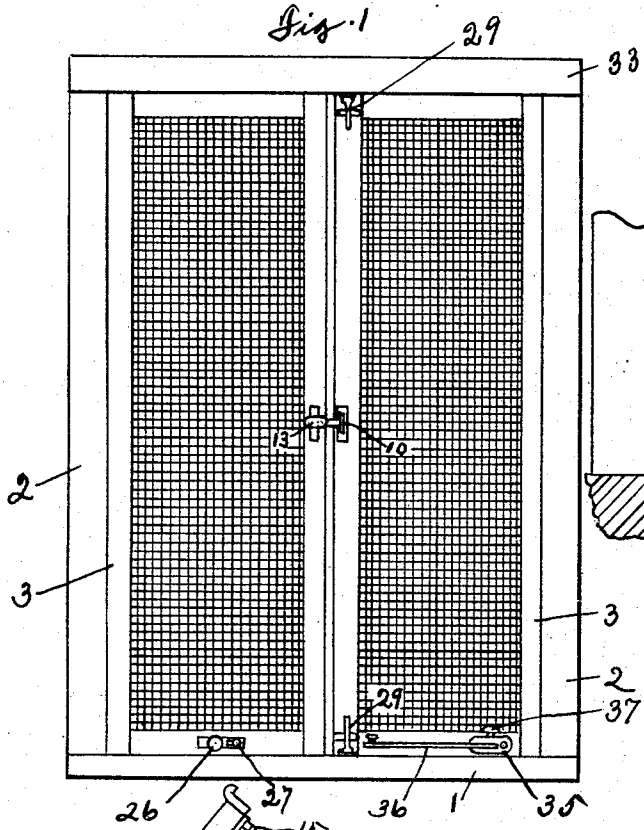
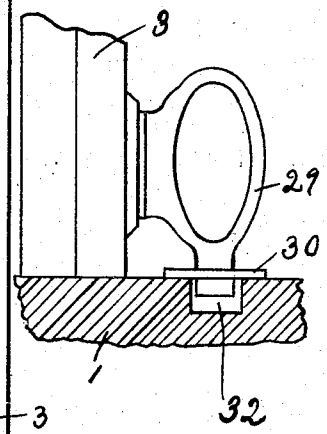


Fig. 3



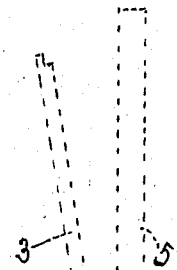


Fig. 2

Fig. 4

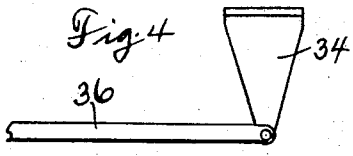
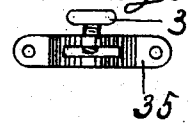


Fig. 5



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2 SHEETS—SHEET 2.

Fig. 6

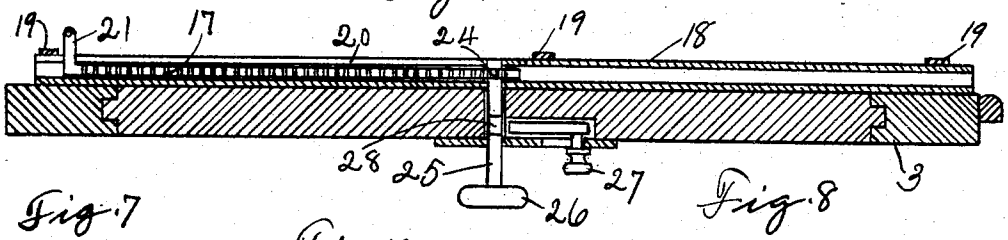


Fig. 7

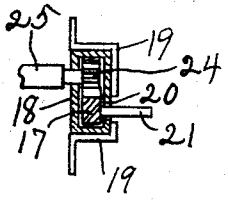


Fig. 10

Fig. 8

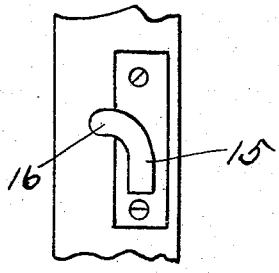
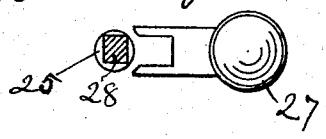


Fig. 9



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UNITED STATES PATENT OFFICE.

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OPERATING MECHANISM FOR WINDOW SASH AND SCREENS.

1,186,263. Specification of Letters Patent. Patented June 6, 1916.

Application filed January 20, 1916. Serial No. 73,087.

To all whom it may concern:

Be it known that I, HOWARD L. AGEE, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Operating Mechanism for Window Sash and Screens, of which the following is a specification.

My invention relates to devices for opening and closing window sash and screens and more particularly to hinged sash and screens, and the object is to provide certain convenient devices for operating sash and screens in opening and closing the sash and screens and for adjusting and locking the same in any desirable positions and by which the sash can be opened and adjusted to any desirable positions without moving the screens and for opening both screens and sash and adjusting and locking the same in any desirable positions.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claims.

Figure 1 is an interior elevation of a double sash which is equipped with the improved operating devices. Fig. 2 is a plan view of the same, the sash and screen being swung partly open on one side, the sash and screen being closed on the other side and the open position being indicated by dotted outline. Fig. 3 is a detail view of a screen lock on an enlarged scale. Fig. 4 is a detail view of the sash operating device shown on the right sides of Figs. 1 and 2. Fig. 5 is a detail view of the locking device for the sash shown on the right sides of Figs. 1 and 2. Fig. 6 is a horizontal section of the locking and operating devices shown on the left sides of Figs. 1 and 2. Fig. 7 is a vertical section of the operating rack and the casing therefor. Fig. 8 is a detail view of the sash lock on an enlarged scale. Fig. 9 is a detail view of the locking device shown in Fig. 6. Fig. 10 is a plan view of a single sash and screen.

Similar characters of reference are used to indicate the same parts throughout the several views.

The operating devices herein set forth are particularly adapted for sash and screens that are hinged to swing horizontally. In the drawings, a window sill 1 is shown and window frames are mounted on the sills 1 and the frames include stops 2 for the screens 3, stops 4 for the sash 5, upright frame pieces 6 to which the screens are hinged and upright frame pieces 7 to which the sash 5 are hinged. The screens 3 are connected to the frames by hinges 8 and the sash are connected to the frames by hinges 9. Where there are double screens the inner edges of the screens 3 are locked together by a catch 10 and a rocking bolt 11 which has a lug 12 to engage the catch 10. The rocking bolt 11 is mounted in the screen frame and is provided with a handle 13. In the forms of the devices shown on the left sides of Figs. 1 and 2 and in Fig. 10, the bolt 11 has a lug 14 which is adapted to engage a catch 15 which is attached to the sash 5 for locking the sash to the screen 3 when the sash and screen are closed. The catch 15 has a portion 16 thereof curved laterally. The object of this curved part 16 is to provide a means for forcing the sash in place. The sash is sometimes swollen and requires force to bring the sash in place against its stop. It is necessary to provide the part 16 because the catch 15 could not be used for this purpose on account of the lug 12 which would prevent the screen from being closed if the bolt 11 was turned far enough to make the lug 14 engage the catch 15.

Provision is made for operating the sash without moving the screen, and two forms of operating devices are shown. A movable rack 17 is mounted in a casing 18 which is attached to the bottom part of the screen 3 by any suitable means, as by brackets 19. The casing 18 has a slot 20 in the outside thereof and a lug 21 which is integral with the rack 17 projects through the slot 20. A lug or bracket 22 is attached to the sash 5. A link bar 23 is pivotally connected to the lug 21 and to the bracket 22. The rack 17 is moved or reciprocated in the casing 18 by a pinion 24 which is rigid with a shaft 25 which is journaled in the lower part of the screen frame 3. The shaft 25 is provided with a knob or handle 26. When the shaft 25 is turned the rack 17 will be moved. The sash can be opened and closed by simply turning the handle 26 without moving the screen 3. The sash and screen can be moved together if desirable. The sash 3 would have to be released from the catch 10 in order to be moved or swung on its hinges. The sash 5 can be locked in any position desirable. A fastener 27 is provided and made movable in the screen frame 3. The fastener 27 will engage a square portion 28 of the shaft 25 and prevent this shaft from turning. This

will lock the rack 17 against movement. The screens 3 are locked in the closed position by the locking bolts 29 which are secured to the screen frame. A plate 30, having a slot 31 therein, is attached to the window sill 1 and a recess 32 is formed in the window sill 1 for the bolt 29. A similar fastening device is provided for locking the screen to the cap 33 of the window.

A variation in the devices for adjusting the sash is provided and shown on the right sides of Figs. 1 and 2. A lug 34 is attached to the lower part of the sash 5 and projects through the lower part of the screen 3. A bracket 35 is attached to the lower part of the screen 3 and the lug 34 extends within the bracket 35. A bar or handle 36 is pivotally connected to the lug 34 and this bar or handle will also move freely through the bracket 35 so that the sash 5 can be swung to the position by the dotted outline shown on the right side of Fig. 2, and this can be done without moving the screen 3. The screen can also be swung on its hinges and opened. The bar or handle 36 can be locked at any adjustment desirable in the bracket 35. A thumb bolt 37 is screwed into the bracket 35 and may be used to clamp the bar 36 at any point desirable to hold the sash 5 in position. The sash may also be locked closed by the thumb bolt 37.

What I claim, is,—

1. In a sash and screen operating mechanism, hinges for mounting the sash and screen, and means operatively connecting the sash and screen together whereby the sash and screen may be swung open or closed together and whereby the sash may be opened or closed without moving the screen.

2. In a sash and screen operating mechanism, hinges for mounting the sash and screen, and means mounted on the screen and operatively connected with the sash whereby the sash may be opened or closed without moving the screen and whereby the sash may be held at different positions relative to the screen.

3. In a sash and screen operating mechanism, hinges for mounting the sash and screen, a casing attached to said screen, and a rack movable in said casing and operatively connected with said sash for opening or closing the sash.

4. In a sash and screen operating mechanism, hinges for mounting the sash and screen, a casing attached to said screen, a rack movable in said casing and operatively connected with said sash, and means mounted on said screen for moving said rack.

5. In a sash and screen operating mechanism, hinges for mounting the sash and screen, a casing attached to said screen and having a slot in the face thereof, a link bar pivotally connected to said rack and to said sash, and a pinion operatively connected with said screen for operating said rack.

6. In a sash and screen operating mechanism, hinges for mounting the sash and screen, a bar operatively connected to said sash and to said screen for holding said sash at different positions relative to said screen and means connected to said bar and mounted on said screen to actuate said bar for moving said sash to different positions relative to said screen.

7. In a sash and screen operating mechanism, hinges for mounting the sash and screen, and means operatively connecting said sash and screen for opening and closing the sash and the screen together and for holding said sash at different adjustments relative to said screen and for moving said sash to different positions relative to said screen without moving the screen.

8. In a sash and screen operating mechanism, hinges for mounting said sash and screen, means including a bar operatively connecting said sash and screen for opening and closing the sash and the screen together, means for actuating said bar to move said sash to different positions relative to said screen, means for locking the screen closed, and means for locking the sash to the screen when closed.

9. In a sash and screen operating mechanism, hinges for mounting the sash and screen, a bar pivotally connected with said sash and operatively connected with said screen, means connected with the screen for actuating said bar to move the sash to different positions, and means on said screen for holding said bar at different adjustments.

10. In a sash and screen operating mechanism, means for mounting said sash and screen, a casing having a slot in the face thereof mounted on said screen, a rack movable in said casing, a bar pivotally connected to said rack and to said sash, and a pinion and a shaft therefor journaled in said screen for moving said rack.

11. In a sash and screen operating mechanism, means for mounting said sash and screen, a casing having a slot in the face thereof attached to said screen, a rack movable in said casing, a bar pivotally connected to said sash and to said rack, a pinion and a shaft therefor journaled in said screen for moving said rack, and means mounted on said screen for locking said bar to hold said screen and sash at different positions relative to each other.

In testimony whereof, I set my hand this 5th day of January, 1916.

HOWARD L. AGEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."