No. 886,108. PATENTED APR. 28, 1908.

W. G. ALLEN.

SASH LOCK.

APPLICATION FILED OCT. 29, 1907.

2 SHEETS—SHEET 1.

FIG. 1.

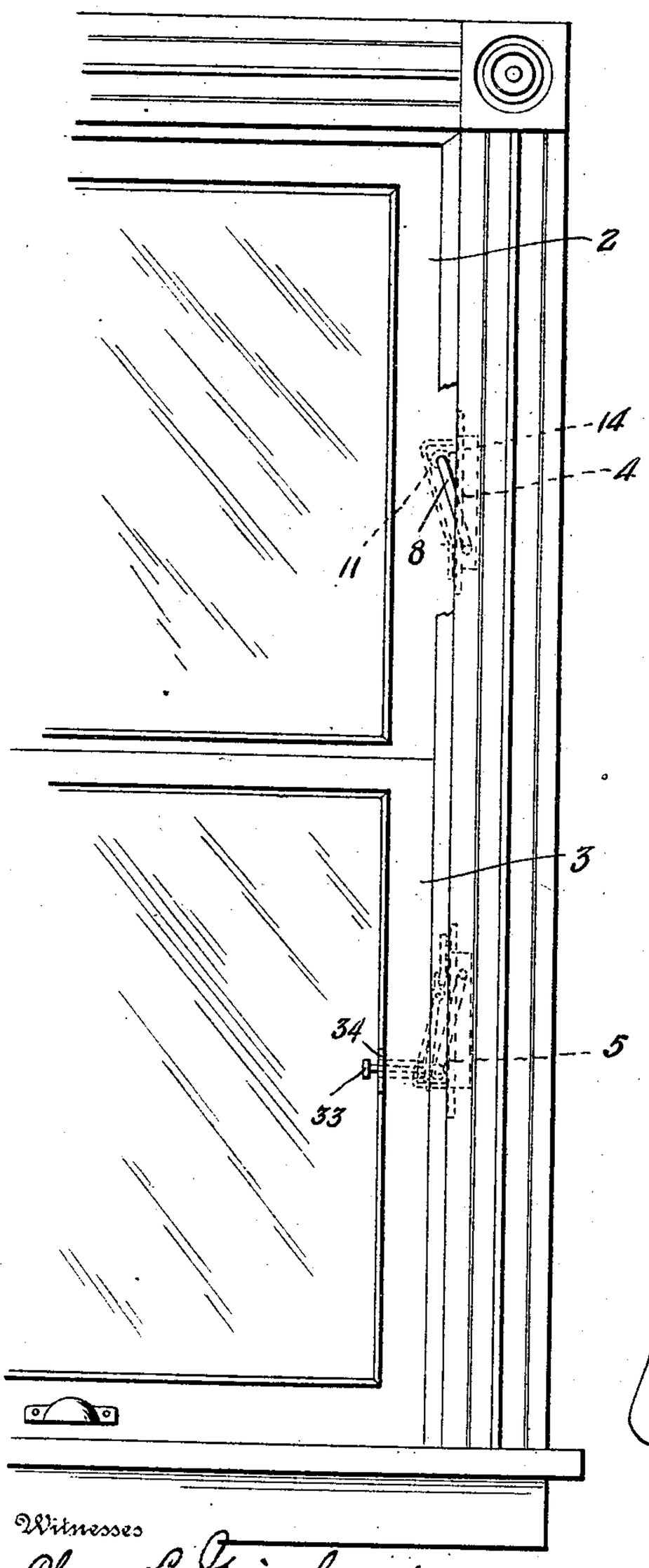
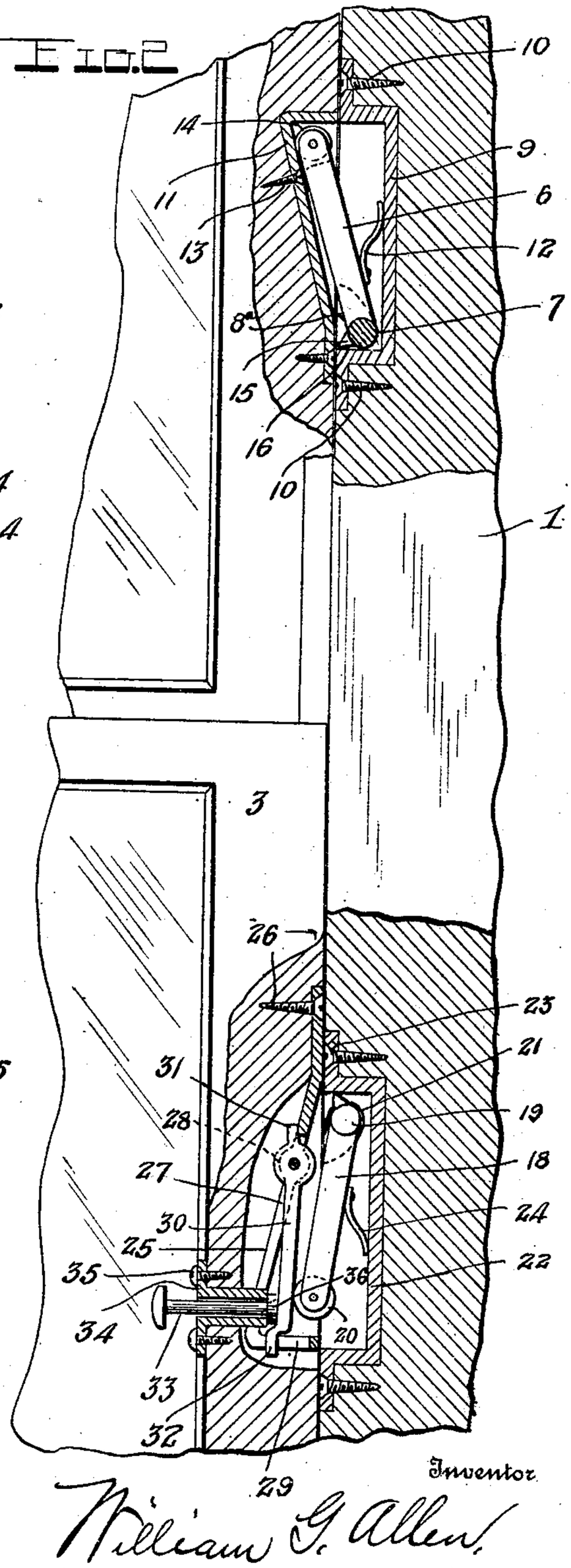


FIG. 2.



Witnesses
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2 SHEETS—SHEET 2.

FIG. 3.

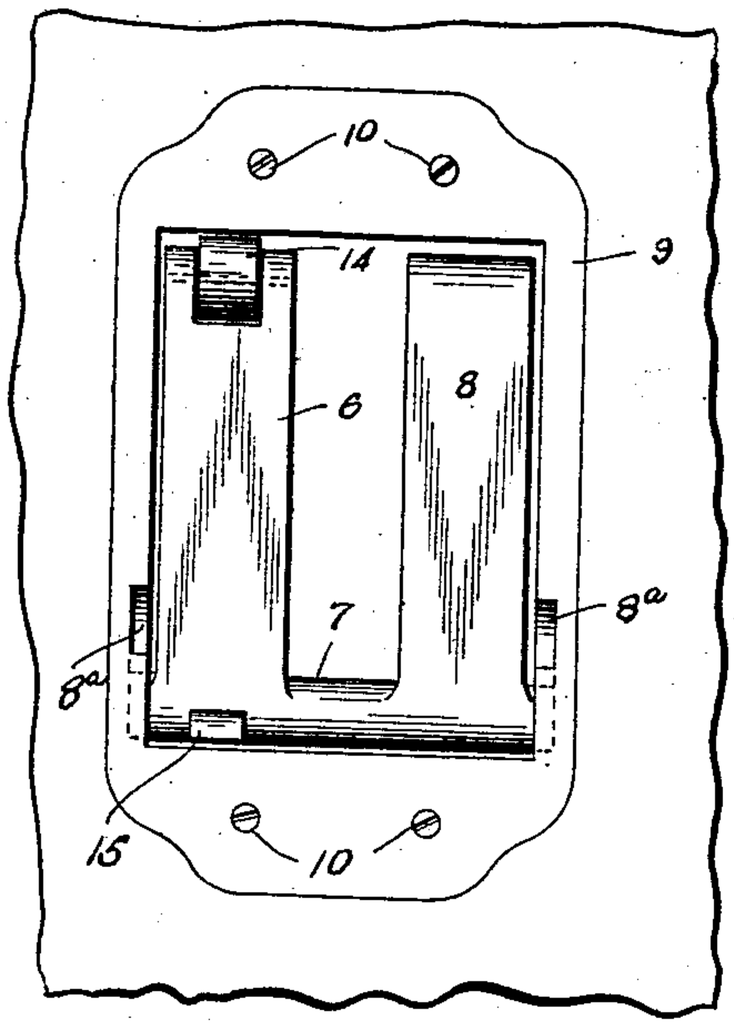


FIG. 4.

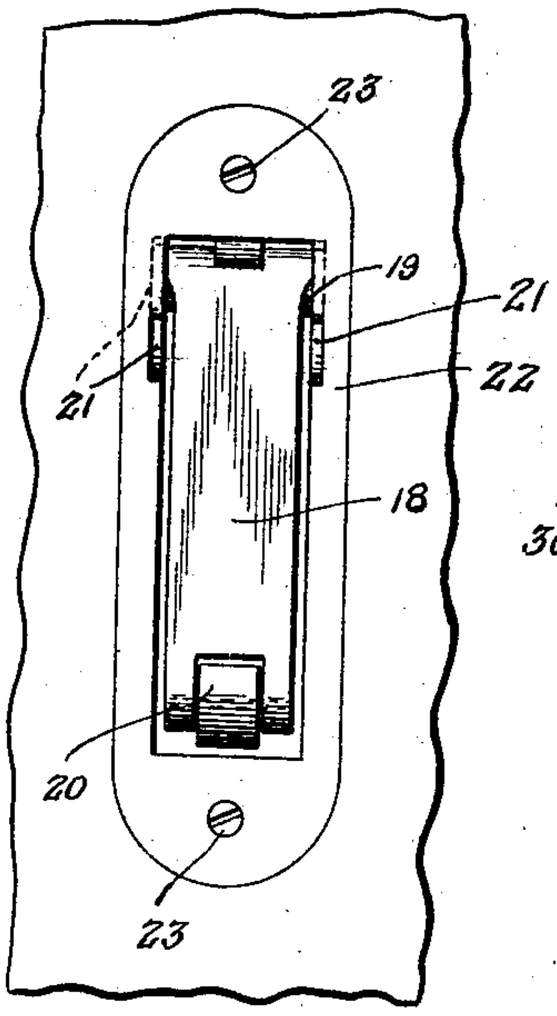


FIG. 9.

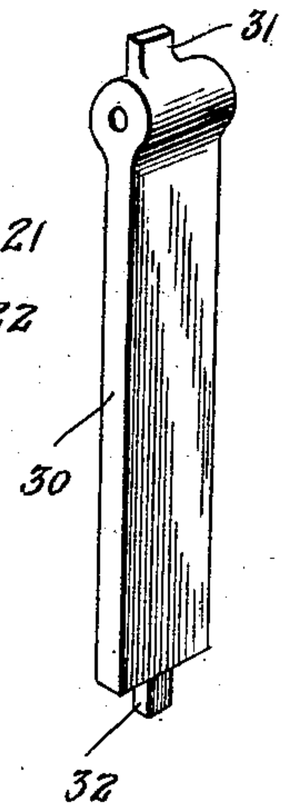


FIG. 5.

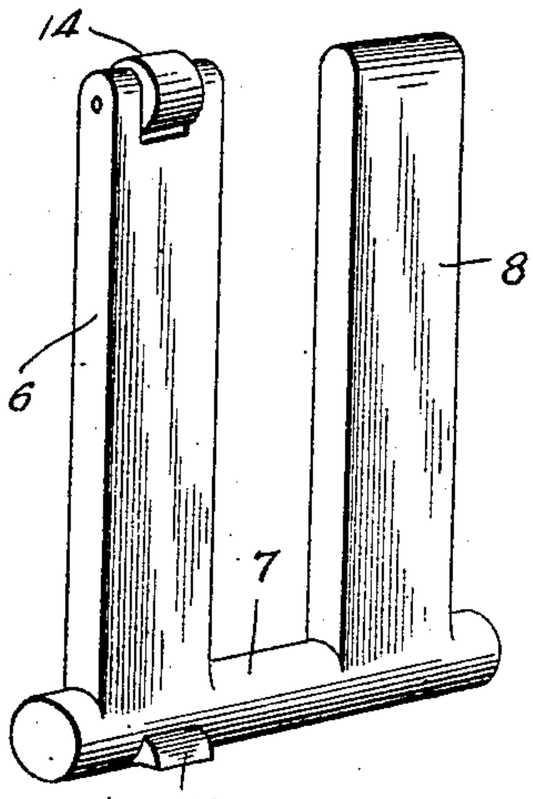


FIG. 6.

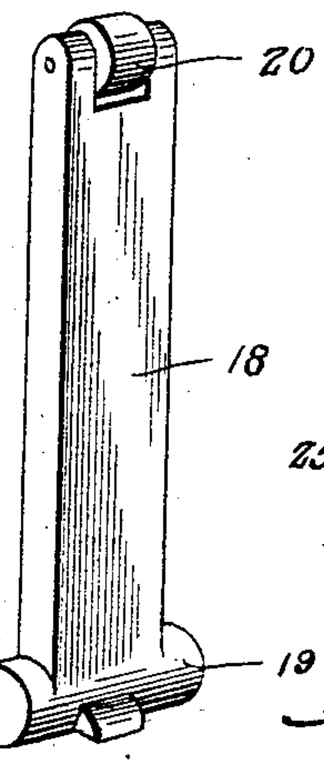


FIG. 7.

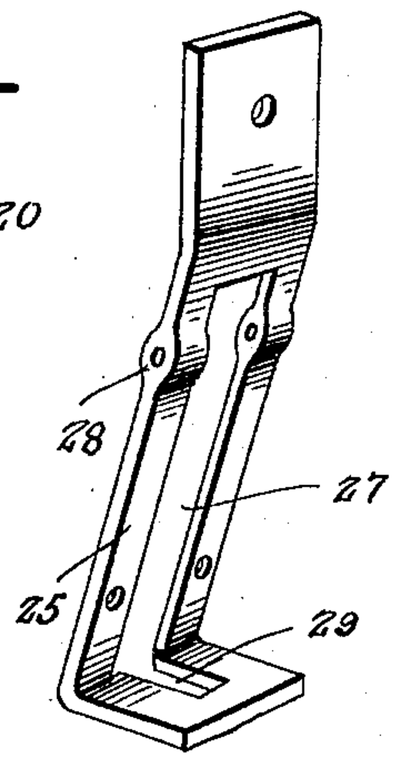
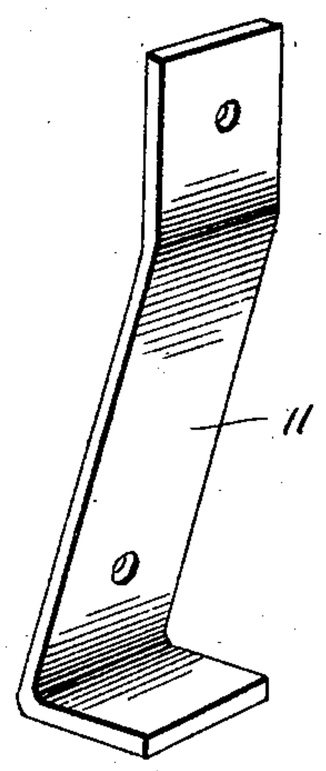


FIG. 8.



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UNITED STATES PATENT OFFICE.

WILLIAM G. ALLEN, OF SOUTH BETHLEHEM, PENNSYLVANIA.

SASH-LOCK.

No. 886,108. Specification of Letters Patent. Patented April 28, 1908.

Application filed October 29, 1907. Serial No. 399,639.

To all whom it may concern:

Be it known that I, WILLIAM G. ALLEN, a citizen of the United States, residing at South Bethlehem, in the county of Northampton and State of Pennsylvania, have invented certain new and useful Improvements in Sash-Locks, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in automatic sash locks and consists of the novel features of construction and the combination and arrangement of parts hereinafter described and claimed.

The object of the invention is to provide a simple and practical lock of this character which will be automatic in its operation and which will effectively fasten both of the sashes.

The above and other objects of the invention are attained in its preferred embodiment illustrated in the accompanying drawings, in which

Figure 1 is a front elevation of one side of a window showing my improved sash lock applied thereto; Fig. 2 is a vertical sectional view through the same; Fig. 3 is a view of a portion of the window frame showing the locking pawl for the upper sash in elevation; Fig. 4 is a similar view showing the locking pawl for the lower sash; Figs. 5 and 6 are detail perspective views of the two locking pawls; Figs. 7 and 8 are perspective views of the two ratchet plates; and Fig. 9 is a similar view of the swinging plate or member carried by the lower ratchet plate.

In the drawings 1 denotes a portion of the window frame, 2 and 3 the upper and lower sashes, 4 a locking device for the upper sash adapted to be controlled by the lower sash and 5 a locking device for the lower sash adapted to be manually controlled. The lock 4 which is adapted to be automatically or self actuated to its locking position and to be retracted or unlocked by the upward movement of the lower sash 3, comprises a swinging dog or pawl 6 formed integral with a pivot 7 which also carries an arm 8. The pivot or journal 7 is mounted in a bearing recess 8^a formed in the lower portion of a recessed bearing plate 9 set in a recess in the frame 1 and secured by screws or the like 10. The recess in the bearing plate 9 is of such size as to receive the pawl 6 and the arm and said plate is so arranged in the frame 1 that said pawl is disposed opposite the edge of the upper sash 2 while the arm 8 is disposed opposite the groove in the frame in which the lower sash 3 slides. The pawl 6 is adapted to engage a ratchet 11 provided in the adjacent edge of the sash 2 and it is projected outwardly from the plate 9 and into the ratchet by a leaf spring 12 secured upon its inner face and adapted to bear against the bottom of the recess in the plate 9. The ratchet 11 may be simply a recess in the sash 2 but as shown it consists of an angular metal plate secured in a recess by screws or similar fastenings 13. In the upper or free end of the pawl 6 I preferably journal an antifriction roller 14 and for the purpose of limiting the outward swinging movement of the pawl I provide its pivot 7 with a stop lug 15 adapted to engage a shoulder 16 formed by the bottom of the recess in the bearing plate 9 as clearly shown in Fig. 2.

The locking device 5 for the lower sash is automatically or self actuated to its locking position and adapted to be retracted or unlocked by hand, and it comprises a swinging locking pawl 18 provided at one end with a pivot 19 and at its other end with a roller 20. The pivot 19 is mounted in bearing recesses 21 formed in the upper portion of a recessed bearing plate 22 secured upon the inner face of the window frame 1 by screws or the like 23. The pawl 18 carries a leaf spring 24 which actuates it outwardly as shown in Fig. 2. It will be noted that the pawl 18 and its bearing plate 22 are similar to the pawl 6 and the bearing plate 9 but that these parts are in an inverted position and the arm 8 is omitted from the pivot of the pawl. The pawl 18 is adapted to enter a ratchet 25 formed in the adjacent edge of the lower sash 3 and preferably in the form of an angular metal plate secured in a recess in said sash by screws 26 and similar in shape to the ratchet plate 11. The plate 25, however, is formed in its inclined vertical portion with a slot 27 and also with a bearing 28, and in its lower horizontal portion with a slot 29 of slightly less width than the slot 27. Pivoted in the bearing 28 and arranged to swing within the angle of the plate 25 is a swinging member or plate 30 formed at its upper end with a stop finger 31 and at its lower end with a similar finger 32. The finger or stop 31 is adapted to limit the inward swinging movement of the plate 30 and the stop 32 which swings in the slot 29 is adapted to limit the outward movement of the same. The plate 30 hangs

loosely from its pivot and is actuated inwardly by the roller 20 on the pawl 18 as seen in Fig. 2. It is adapted to be swung outwardly to force the pawl 18 out of the ratchet 25 and into the recess in the bearing plate 22 by a push rod 33 arranged for sliding movement in a bearing sleeve 34 set in the window sash 3 and secured by screws 35 passed through apertured ears on its outer end. The rod 33 has a finger piece at its outer end and upon its inner end is a washer head 36 which retains it in the sleeve and is adapted to bear against the plate or member 30.

In operation it will be seen that when the window sashes are in their closed positions the springs 12, 24, will force the locking pawls 6, 18 outwardly into the ratchets 11, 25 and lock the sashes in such position. When it is desired to open the window the push rod 33 is moved inwardly to cause the swinging plate 30 to move the pawl 18 out of the ratchet 25 and into the recessed plate 22 so that the lower sash may be readily raised. As the latter moves upwardly its upper corner will engage the arm 8 on the pivot of the pawl 6 and force said arm, and consequently the pawl 6, inwardly into the plate 9, thereby releasing the upper sash which may be then raised or lowered as desired. When the two sashes are moved to their closed positions the pawls will automatically lock them.

Having thus described my invention what I claim is:

1. The combination with a window frame and a sash, of a vertically disposed recessed bearing plate set in the frame and formed in the inner faces of its opposite side walls, adjacent its top, with bearing recesses, a spring projected pawl having pivots at its upper end to engage said bearing recesses, a ratchet plate set in the sash and adapted to receive the free lower end of the pawl, said ratchet plate being angular and formed with a vertical slot, a swinging member pivoted at its upper end in the vertical slot in the ratchet plate, stops for limiting the swinging movement of said member, a bearing sleeve in the sash and a push rod slidable in said sleeve and adapted to engage and actuate the free lower end of said member to cause the latter to retract the pawl, substantially as set forth.

2. The combination with the frame and the upper and lower sashes of a window, of a bearing plate set in the frame and having a recessed body and apertured attaching flanges, said recessed body being formed in its opposing side walls with curved bearing recesses opening upon the front face of the plate, a pivot removably arranged in said curved bearing recesses, a locking pawl projecting from said pivot adjacent to one end and adapted to enter a ratchet recess in the upper sash, a retracting arm projecting from said pivot adjacent to its other end and adapted to extend into the path of the lower sash, a spring for projecting said pawl, and means for securing the lower sash in its closed position.

3. The combination with the frame and the upper and lower sashes of a window, of a bearing plate set in the frame and having opposing bearing recesses in its side walls, a pivot arranged in said bearing recesses, an integral locking pawl formed upon said pivot and adapted to enter a ratchet recess in the upper sash, an integral retracting arm formed upon said pivot and adapted to project into the path of the lower sash, a spring for projecting said pawl, a second bearing plate set in the lower part of the frame, a spring projected locking pawl pivoted in the last mentioned plate, a ratchet plate set in the lower sash and adapted to receive the last mentioned pawl, a pivoted member in said ratchet plate adapted to engage said pivoted pawl and a push rod arranged in the lower sash and adapted to actuate the said pivoted member to retract said pivoted pawl.

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

WILLIAM G. ALLEN.

Witnesses:
W. B. BURG,
HERBERT CASHNER.