

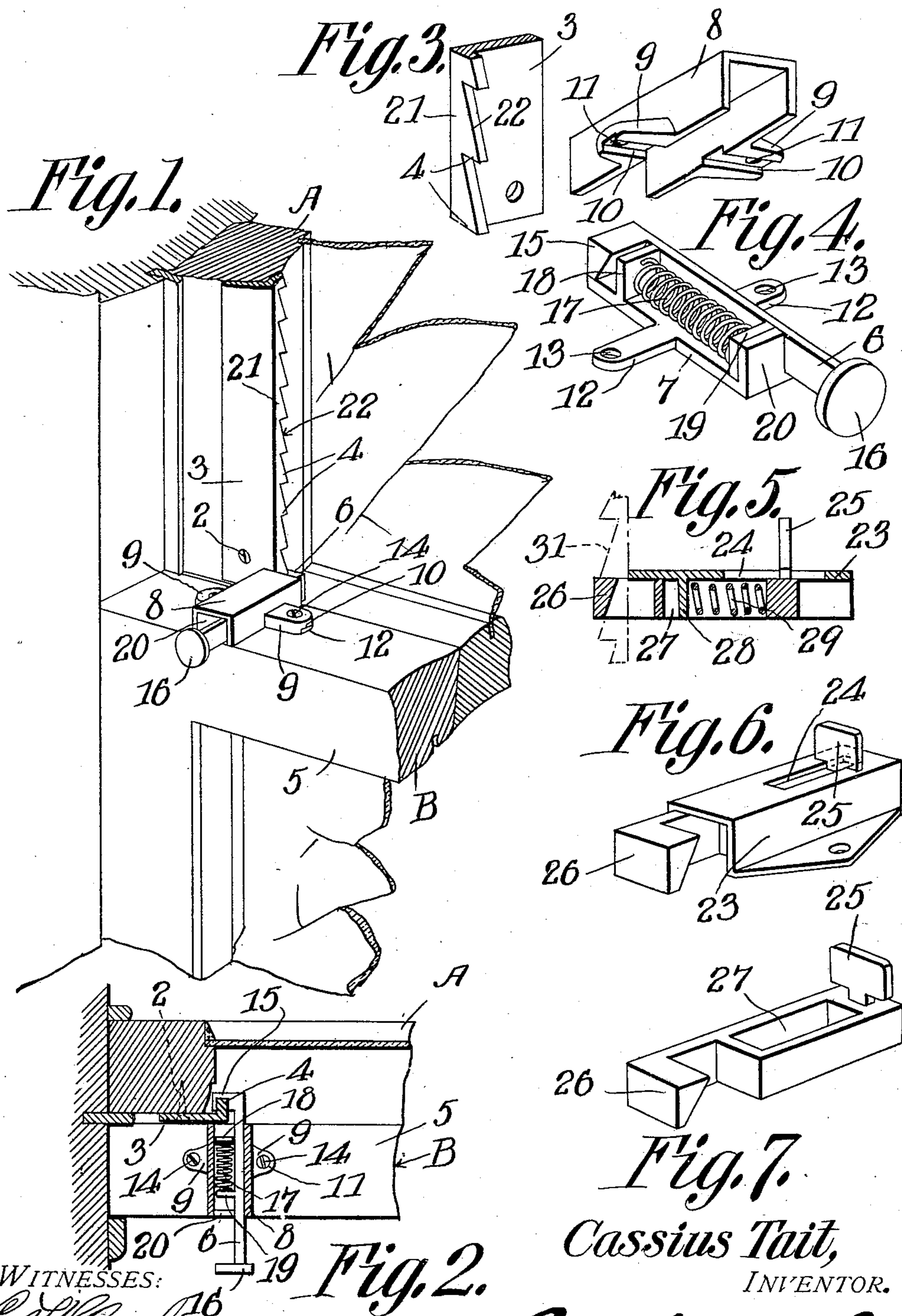
No. 860,770.

PATENTED JULY 23, 1907.

C. TAIT.

WINDOW FASTENER.

APPLICATION FILED JULY 23, 1906.



WITNESSES:

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Fig. 2.

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UNITED STATES PATENT OFFICE.

CASSIUS TAIT, OF KANKAKEE, ILLINOIS.

WINDOW-FASTENER.

No. 860,770.

Specification of Letters Patent.

Patented July 23, 1907.

Application filed July 23, 1906. Serial No. 327,423.

To all whom it may concern:

Be it known that I, CASSIUS TAIT, a citizen of the United States, residing at Kankakee, in the county of Kankakee and State of Illinois, have invented a new and useful Window-Fastener, of which the following is a specification.

This invention relates to a fastening or locking device for two relatively movable members and is designed more particularly for use as a sash fastener which positively locks the sash in closed position, or from being opened, and yieldingly locks them open so that the sashes can be closed by merely pushing on the upper sash and pulling on the lower one.

One of the objects of the invention is to provide a fastening device of this character which is of simple and improved construction, inexpensive to manufacture, easy to operate, and readily applied to ordinary window sashes without requiring a cutting away or mutilation of the latter in fitting the members of the fastening device.

A further object of the invention is the provision of a plate having ratchet teeth for attachment to the upper sash and a spring actuated bolt on the lower sash coöperating with the ratchet teeth to permit the sashes to be held in any desired open position or closed position, and to be positively locked from being opened from the outside.

With these objects in view, and others, as will appear as the nature of the invention is better understood, the invention comprises the various novel features of construction and arrangement of parts, which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates certain of the embodiments of the invention, Figure 1 is a perspective view of the fastening device employed as a sash fastener, portions of the window sashes being shown and locked in closed position by the fastener. Fig. 2 is a transverse section of Fig. 1, the plane of the section being through the upper part of the casing or housing for the locking bolt. Fig. 3 is a fragmentary perspective view of the ratchet teeth. Fig. 4 shows in perspective the locking bolt and casing therefor, disassembled, the top part of the casing being shown in a lifted position. Fig. 5 is a longitudinal section of a modified form of locking bolt. Fig. 6 is a perspective view of the modified form. Fig. 7 is a perspective view of the bolt removed.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

In the present instance, I have elected to illustrate the invention as a sash fastener, but I desire to have it understood that the same is not necessarily limited to this use.

Referring to the drawing, A designates a portion of an upper sash and B a portion of a lower sash. To the side

rail 1 of the upper sash is secured, by means of screws 2 or equivalent means, a plate 3 having the serrations or ratchet teeth 4 along one of its edges. The teeth or serrations are formed in a marginal web or flange that is disposed at right angles to the body of the plate, as clearly shown in Fig. 2. The plate is presented to the front face of the rail 1 with the serrations or teeth 4 in an outward direction. It may be here remarked that the plate 3 may be used in connection with the middle rail of the sash, if preferred.

The bolt of the fastening is mounted on the top rail 5 of the lower sash either at the end or the middle thereof, according to whether the serrated plate 3 is mounted on the side or the middle rail of the upper sash. The bolt 6 is mounted in a casing or housing comprising a base plate 7 and a box 8. The box 8 is open at its ends and bottom and is provided with laterally extending lugs 9 arranged on the side walls thereof adjacent the bottom edges. These lugs are provided with recesses 10 in their bottom surface and at their outer ends are perforated, as at 11. The bottom plate 7 fits into the open bottom side of the box 8 and is provided with arms 12 that assemble in the slots 10 of the lugs 9. The arms 12 are provided with perforations 13 that register with the perforations 11 so as to receive screws 14, or other securing means, for attaching the casing to the top rail 5, as clearly shown in Fig. 1. The longitudinal axis of the casing is disposed at right angles to the plane of the sashes, and the bolt 6 is mounted within the casing to move longitudinally with regard to the latter. The bolt 6 is provided with a head 15 that is of angular shape to correspond to the serrations or teeth 4. The head end of the bolt is adapted to project through the rear open end of the casing and the opposite end projects through the front end of the casing and is provided with an enlargement 16 that forms a thumb piece or button for actuating the bolt. The bolt is normally maintained in an indrawn position by means of a helical compression spring 17 arranged within the casing. Adjacent the rear end of the base plate is an upwardly extending lug or projection 18 that forms an abutment for one end of the spring. The opposite end of the spring abuts a laterally extending projection or lug 19 adjacent the front end of the bolt. The compression spring is disposed with its axis parallel to the longitudinal axis of the casing and with the line of movement of the bolt. The front end of the base plate is also provided with an upwardly extending projection 20 that serves as an end wall for closing the front end of the casing, and also as a stop for limiting the inward movement of the bolt. The body of the bolt 6 is rectangular in cross section and disposed with its long cross-sectional dimension vertical. The movement of the bolt is guided by the bottom plate and the top wall of the box and by one of the side walls of the latter and the corresponding ends of the projec-

tions 18 and 20 of the base plate. The head 15 and projection 19 of the bolt extend at right angles to the length of the latter in the same direction and in overlapping relation to the projections 18 and 20, respectively.

As shown in Figs. 1 and 2, the bolt casing is disposed centrally in front of the serrations or ratchet teeth 4, and the body portion of the bolt adjacent the head 15 is disposed along the side edge 21 of the plate 3. The head 15 will thus extend along the rear of the plate 3 and cooperate with the serrations or ratchet teeth 4. The long bevel 22 of the ratchet teeth is disposed downwardly so that the bolt can slide downwardly over the teeth 4, or the plate 3 upwardly with respect to the bolt. This permits of one or the other, or both, of the sashes to be closed by pushing upwardly on the upper sash and pulling downwardly on the lower sash without having to press the button 16 inwardly to disengage the bolt from the teeth. The spring 17 is of sufficient tension to hold the head 15 in locking engagement with any of the teeth 4, so that the one or both sashes will be held open, and to permit the bolt to yield and slide over the teeth during the closing of either or both sashes. In any position of the sashes, the fastening acts as a positive lock for preventing the sashes from being opened by merely exerting a pushing or pulling movement on them. The fastening thus prevents the sashes from being opened from outside the window. In order to open the sashes, the bolt must first be pressed inwardly, as by means of a thumb pressing on the button 16. This moves the head 15 rearwardly so as to lie out of the path of the teeth 4. With the thumb still pressing on the button 16, the sash or sashes are opened to the desired extent and then the pressure on the button 16 is relieved, so that the bolt can be indrawn under the action of the spring 17 and interlock with the adjacent tooth of the plate 3. It will thus be seen that either one or both sashes may be closed without any attention being given to the fastening device. To open the sashes, however, the fastening is first required to be unlocked and after the sashes are opened, the fastening will automatically lock the latter in position.

The principle of operation underlying the modified construction shown in Figs. 5 to 7 is the same as that already described, so that a mere description of the structural differences of the modified form of fastening is deemed sufficient. The casing 23 of the fastening is constructed without the base plate and is provided with a slot 24 in its top wall through which the finger piece 25 of the bolt extends. The head 26 of the bolt is of the same shape as that previously described so as to operate in connection with a serrated plate similar to that shown in the main construction. The body portion of the bolt is provided with a rectangular slot 27 into which depends a lug or projection 28 on the top wall of the casing 23, as shown in Fig. 5. In the slot 27 is arranged a helical compression spring 29 which at its front end abuts the front wall of the slot 27 and at its rear end the projection 28. This spring maintains the head 26 of the

bolt in engagement with the teeth 31 shown in dotted lines in Fig. 5. The finger piece 25 projects upwardly through the slot 24 from the front end of the bolt, and it cooperates with the walls of the slot to hold the bolt in the casing.

I have described the principle of operation of the invention, together with the apparatus which I now consider to be the best embodiment thereof, but I desire to have it understood that the apparatus shown is merely illustrative, and that various changes may be made, when desired, as are within the scope of the invention.

What is claimed is:—

1. In a sash fastener, the combination of a plate provided with serrations, with a bolt, a laterally extending head thereon, a laterally extending abutment adjacent the end of the bolt opposite from the head, a base plate having upwardly extending lugs forming abutments and laterally extending apertured lugs, a compression spring held between the abutment of the bolt and one of the lugs of the base plate, a casing having an open bottom to fit over the bolt and base plate and provided with recessed apertured lugs which receive the lateral lugs of the base plate, and fastening devices extending through the apertures of the lugs of the base plate and casing.
 2. The combination of two relatively movable members, with a fastening device comprising a plate secured to one of the members and provided with ratchet teeth extending from one side thereof, and a spring pressed bolt mounted on the other member and disposed at the side of the plate opposite from that having the teeth to cooperate with the latter for permitting of relative movement of the members only in one direction.
 3. The combination of two relatively movable members, with a fastening device therefor comprising a plate having a longitudinal web extending rearwardly therefrom and provided with serrations, means for securing the plate to one of the members, a casing of inverted U-shaped cross section secured to the other member and provided with open ends, a base plate disposed in the casing and having an upwardly projecting lug partly closing one end of the casing, a bolt guided longitudinally in the casing and having its extremities extending from the open ends thereof and provided with a lug adapted to abut the said lug of the base plate to limit the forward movement of the bolt, a head on the rear end of the bolt extending behind the plate to engage the serrations thereof, a thumb piece on the front end of the bolt, and a spring in the casing and arranged to yieldingly hold the bolt with its head in engagement with the serrations.
 4. A fastening comprising a box having laterally extending slotted and perforated lugs, a plate having arms disposed in the slots of the lugs and perforations registering with those of the lugs, a bolt mounted in the box, and a spring arranged to normally hold the bolt indrawn.
 5. A fastening comprising a box open at its bottom, a base plate closing the bottom of the box and provided with a pair of spaced projections forming respectively a stop and an abutment, a bolt mounted at one side of the projections for longitudinal movement in the box and provided with a projection forming an abutment adapted to engage the stop, and a compression spring arranged with its ends engaging the abutments.
- In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CASSIUS TAIT.

Witnesses:

J. E. HEFFLEY,
GEORGE E. JACKSON.