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SASH FASTENER.

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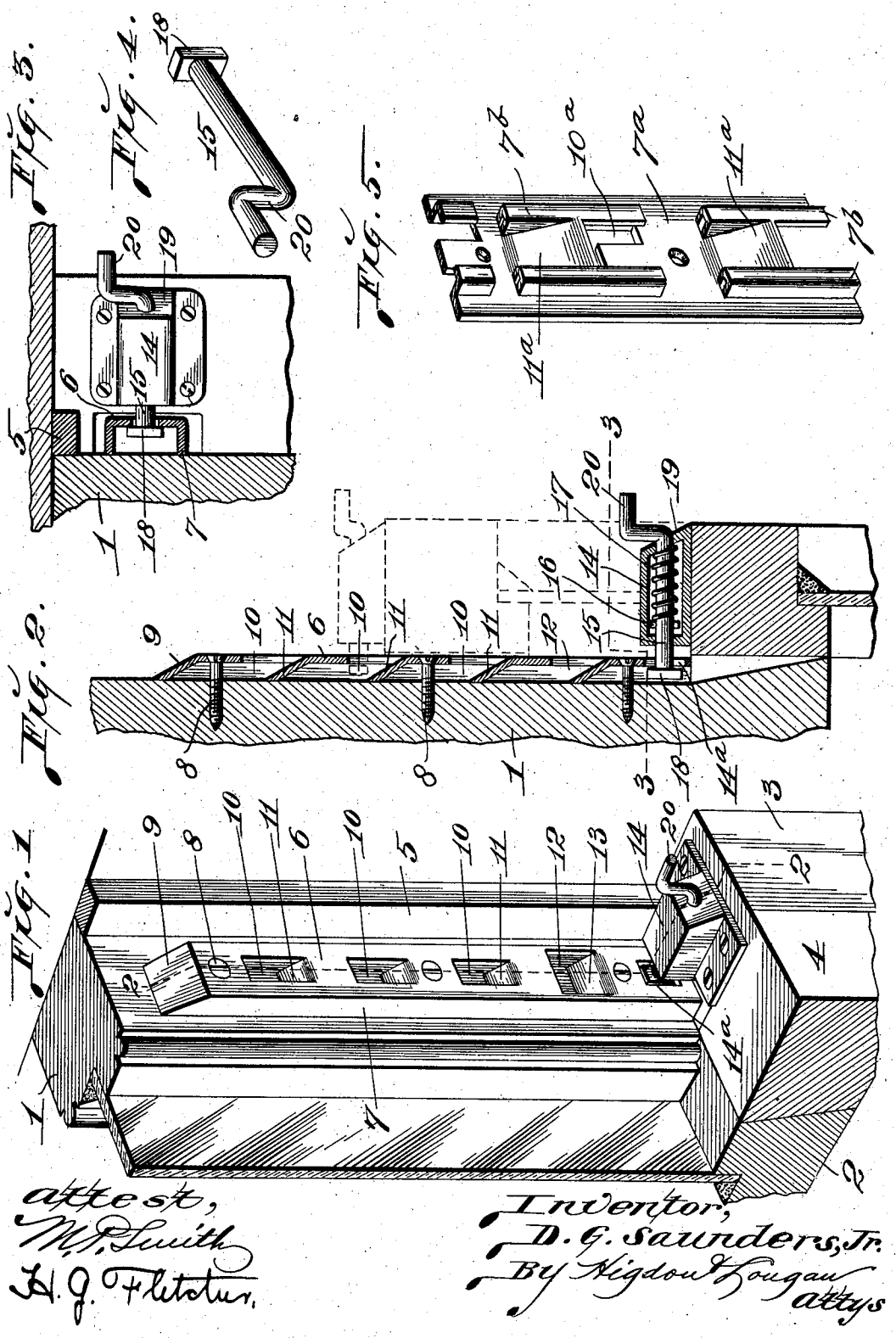

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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SASH-FASTENER.

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To all whom it may concern:

Be it known that I, DANIEL GREEN SAUNDERS, Jr., a citizen of the United States, and a resident of Kansas City, Missouri, have invented certain new and useful Improvements in Sash-Fasteners, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a sash-fastener; and the object of my invention is to construct a simple inexpensive device which is attached to window-sash and which while allowing said sash to be slightly opened for the purposes of ventilation yet locks said sash very securely together and prevents their being opened by a person on the outside of the window.

A further object of my invention is to construct a lock-plate and bolt-casing of sheet metal in order to greatly reduce the cost of manufacture of the device.

A further object of my invention is to so construct a sash-fastener that when the locking-bolt is turned in a certain position the meeting-rails of the sash will be drawn together, so as to form a tight joint between the two sash.

My invention consists of a lock-plate adapted to be fixed to one of the side rails of the upper window-sash and a locking-bolt movably held in a housing that is carried by the top rail of the lower sash.

My invention further consists in certain novel features of construction and arrangements of parts, that will be hereinafter shown, described, and claimed.

In the drawings, Figure 1 is a perspective view of my improved sash-fastener, the same being applied to the sash of a window. Fig. 2 is a vertical section taken on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section taken on the line 3 3 of Fig. 2. Fig. 4 is a perspective view of the locking-bolt made use of in carrying out my invention. Fig. 5 is a perspective view of the lower portion of a modified form of the locking-plate of my improved device.

Referring by numerals to the accompanying drawings, 1 indicates the side rail of the upper sash, and 2 the meeting-rail of said upper sash. 3 indicates the side rail of the lower sash, and 4 the meeting-rail thereof. These rails are all of the usual construction, and the sash are arranged to slide vertically in the usual window-casing being separated by the usual parting-strip 5.

The locking-plate of my improved device is preferably stamped from sheet metal and is located on the face of the lower end of the side rail 1. This locking-plate comprises a vertical strip 6 of sheet metal, having its side edges 7 bent rearwardly and adapted to rest directly upon the face of the rail 1. This locking-plate is rigidly fixed to the rail 1 by means of screws 8 or similar fastening devices. The upper end of this strip 6 is bent rearwardly at an angle to form an inclined face 9 at the upper end of the locking-plate. Formed in the strip 6, below the inclined upper end thereof, is a series of rectangular apertures 10, which are formed by punching out the material in the strip 6 and bending the punched-out material inwardly from the lower ends of said apertures 10, so that they form inclined or beveled faces 11, that extend from the lower portions of the apertures 10 upwardly and inwardly to the face of the side rail 1. Immediately below the lowermost one of these apertures 10 is an aperture 12, considerably wider than the apertures 10, which wide aperture 12 is made by punching out the material in the face of the strip 6. This punched-out material is bent inwardly and extends from the lower end of the aperture 12 upwardly and inwardly to the face of the rail 1, thus forming an inclined face 13. Immediately below the aperture 12, adjacent the lower end of the strip 6, is an aperture 14^a, the same being preferably of equal width with the apertures 10.

Positioned on top of the rail 3 of the lower sash and immediately in front of the lower end of the locking-plate just described is a sheet-metal housing 14, in which is arranged for horizontal movement the shank of a locking-bolt 15. Passing through this locking-bolt inside the housing 14 is a pin 16, and located upon said bolt and interposed between said pin and the front end wall of said housing is an expansive coil-spring 17. The rear end of the shank of the bolt 15 is provided with a square head 18, that is adapted to enter the apertures 10, 12, and 14^a, and said square head 18 is slightly narrower in width than are the apertures 10 and 14^a; but it is of such length that when the bolt 15 is given a quarter of a turn the end of said head 18 will engage behind the edges of the front wall of the locking-plate adjacent the apertures 10 and 14^a.

The front end 19 of the housing 14 is beveled off or formed on an angle, and the rear end of the bolt 15, that projects beyond this end wall, is formed into a small crank-handle 20. This crank-handle 20 is so formed that when it is moved downwardly in either direction to rock the bolt 15 the vertical arm of said crank-handle will engage against the beveled face 19 of the housing, and as a result the rear end of the bolt 15, carrying the head 18, will be drawn forwardly a slight distance, and when the head 18 is engaged in any one of the apertures of the locking-plate the tendency will be to draw said locking-plate and the upper sash into close engagement with the lower sash.

In Fig. 5 I have shown a modified form of the locking-plate, which modified form consists of a flat plate 7^a, preferably sheet metal, from which is stamped vertical ribs 7^b, between which are formed recesses 10^a, which correspond to the apertures 10, previously described, and inclined faces 11^a are formed between the ribs 7^b, which inclined faces correspond to the inclined faces 11, previously described.

In the use of my improved sash-fastener the head 18 on the end of the bolt 15 passes through an aperture 14^a of the locking-plate when the sash of the window are closed, and when the bolt 15 is rocked the ends of the head 18 will engage behind the side edges of the aperture 14^a and the crank 20 on the forward end of the bolt 15 will bear on the inclined face 19, and as a result the bolt will be moved a slight distance forwardly through the housing 14, and the meeting-rails of the sash will be tightly drawn together. The head of the bolt 15 is drawn into the space between the lower end of the locking-plate and the rear end of the housing 14 by pulling the bolt 15 forwardly, thus compressing the spring 17, and when in this position either or both of the sash may be moved vertically, as desired. The bolt is held in this withdrawn position by swinging the crank-handle 20 downwardly into a horizontal position. The upper sash can be lowered or the lower sash raised a short distance, and said sash can be locked together, allowing the head 18 of the locking-bolt to engage any one of the apertures 10.

The aperture 12 is made purposely wide in order that the head 18 will pass into said aperture, even though it be turned into a horizontal plane, in which position it will not pass through any of the apertures 10 or the aperture 14^a, owing to the fact that it is greater in length than is the width of said apertures.

A sash-fastener of my improved construction can be very cheaply manufactured, inasmuch as the main parts thereof can be readily stamped from sheet metal, and the device is very easily applied to window-sash and forms a very simple, easily operated, and effective fastener.

I claim—

1. In a sash-fastener, the combination with a housing secured to one of the sash and provided with a series of openings through its front wall one of which is wider than the remaining openings there being inclined faces extending upwardly and rearwardly from the lower edges of said openings, of a housing secured to the opposite sash, and a locking-bolt movably positioned in said housing, which locking-bolt is provided at its forward end with an elongated rectangular head of such width as to enter any of the apertures while in a vertical position, and the ends of the head adapted to engage behind both side edges of the openings when the bolt is rotated a quarter of a turn; substantially as specified.

2. In a sash-fastener, a housing fitted to one of the sash, a locking-bolt arranged for rotation therein, an elongated head integral with the forward end of the locking-bolt, and a vertically-arranged housing on the opposite sash provided in its front wall with a series of rectangular openings of such size as to receive the rectangular head of the locking-bolt while the same is in vertical position, and one of said apertures being widened in order to receive the rectangular head when the same is in a horizontal position; substantially as specified.

3. A sash-fastener, constructed with a housing secured to one of the sash and provided with a series of openings through its front wall one of which openings is wider than the remaining openings, there being inclined faces extending upwardly and rearwardly from the lower edges of all of the openings, and the upper end of the housing being inclined upwardly and rearwardly, a housing secured to the opposite sash, a locking-bolt movably positioned in said last-mentioned housing which locking-bolt is provided with an elongated rectangular head at its forward end which head is adapted to enter any of the narrow openings in the first-mentioned housing while in a vertical position, and to enter the wide opening while in a horizontal position; substantially as specified.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

DANIEL GREEN SAUNDERS, JR.

Witnesses:
O. C. GIBBS,
WILBER GILBERT.