

(Model.)

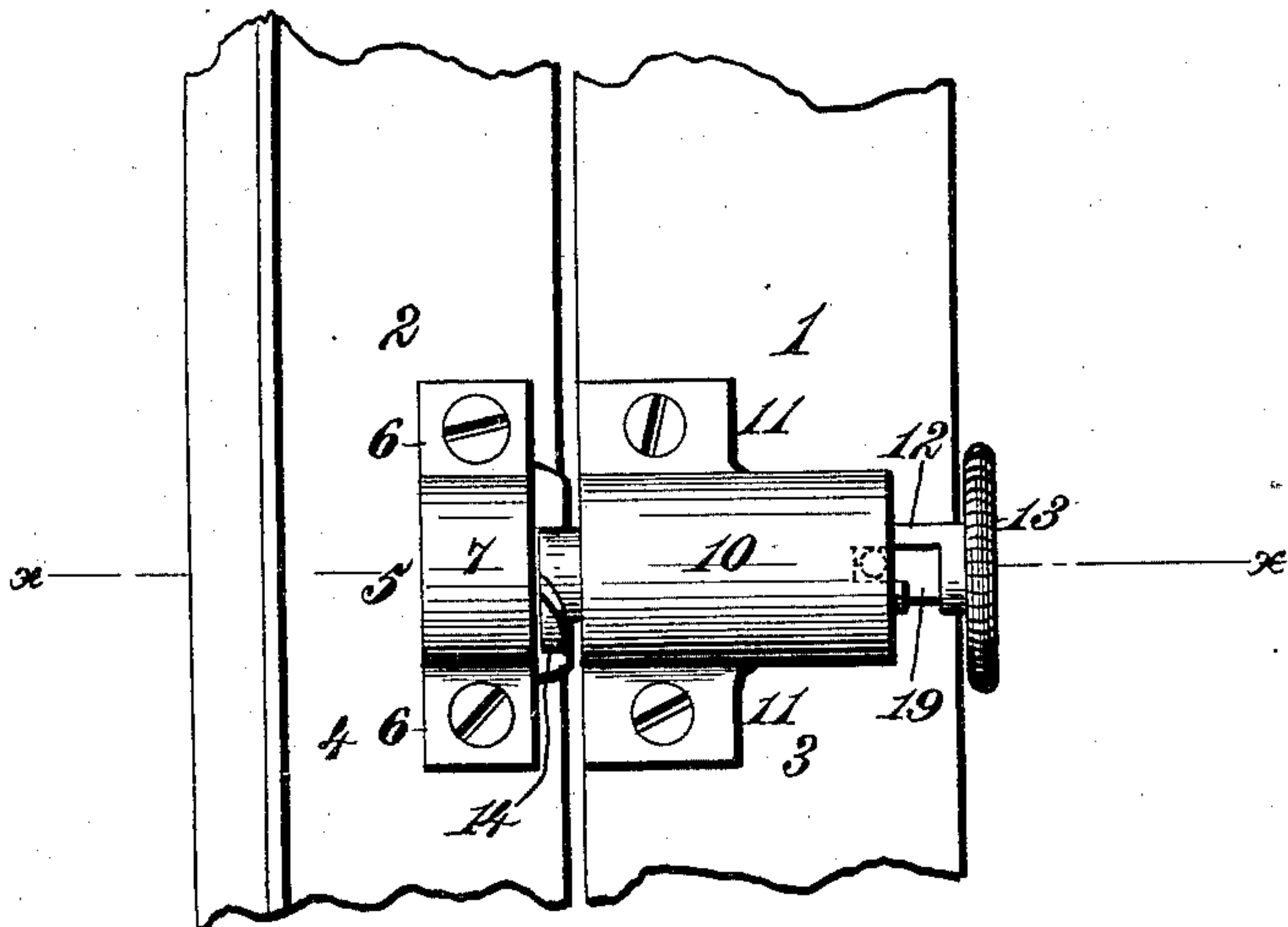
W. H. KING.

FASTENER FOR MEETING RAILS OF SASHES.

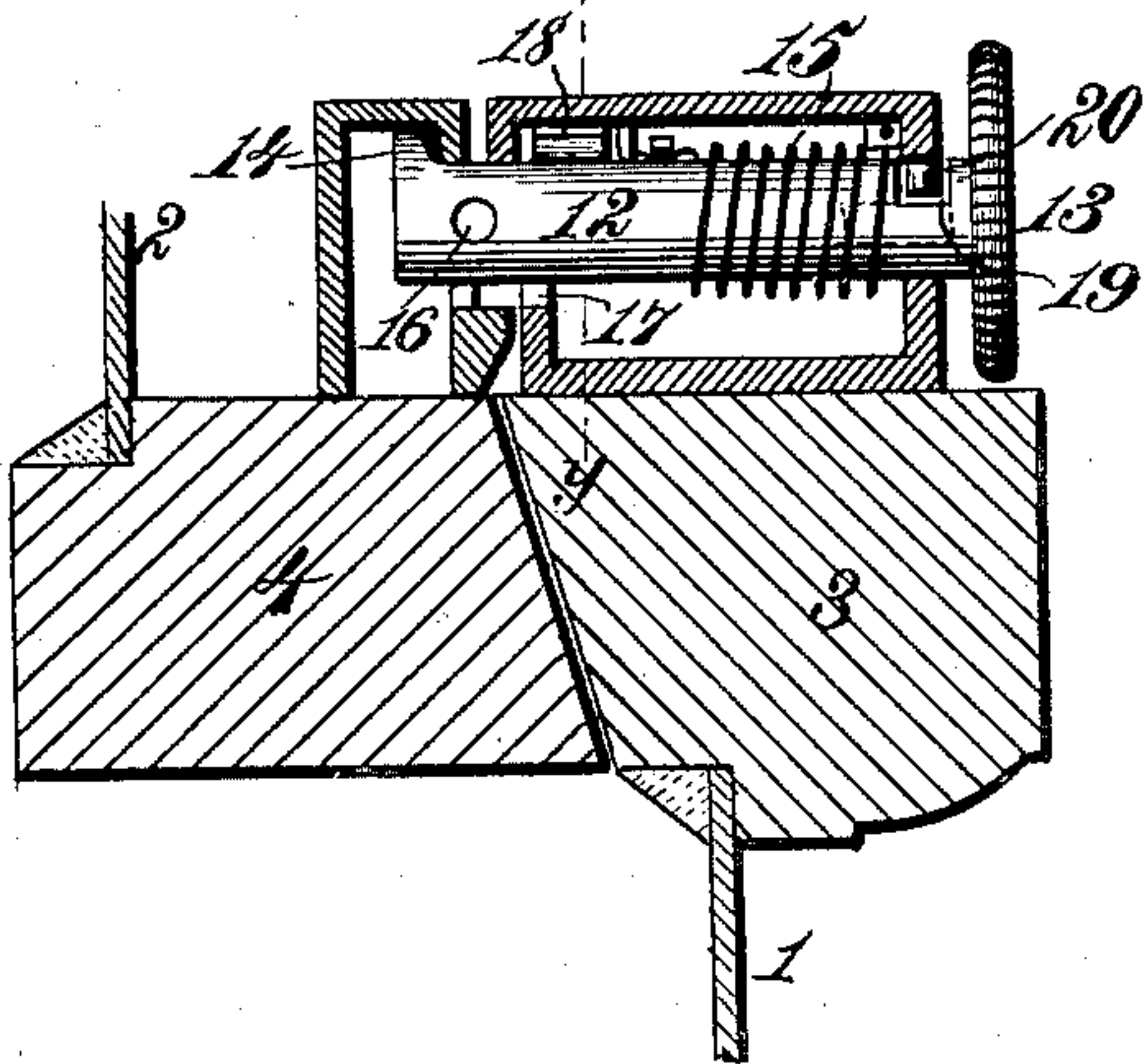
No. 368,595.

Patented Aug. 23, 1887.

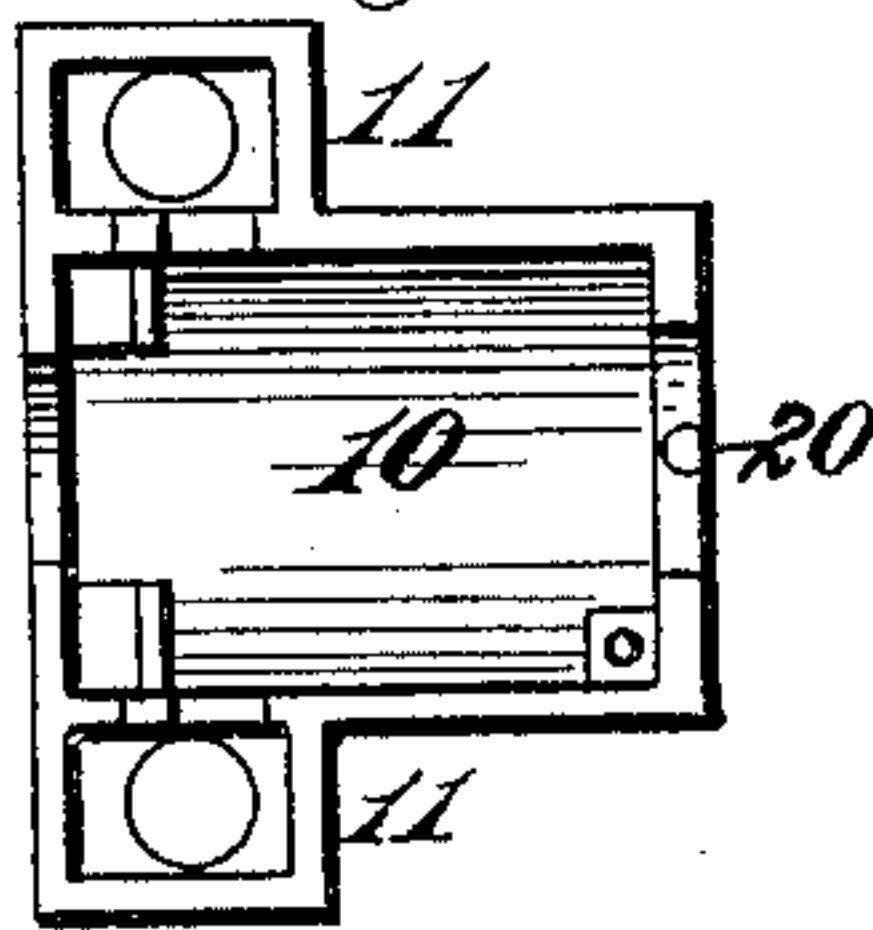
*Fig. 1.*



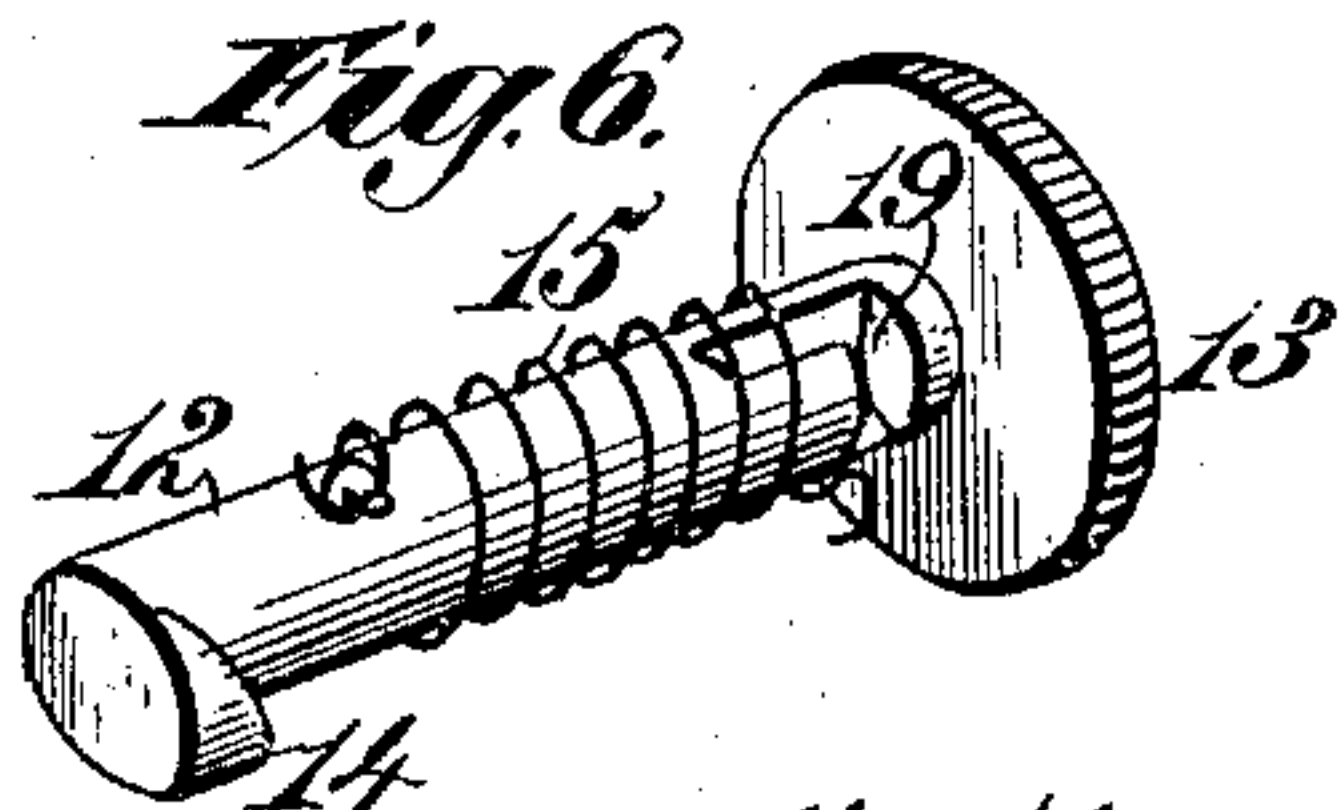
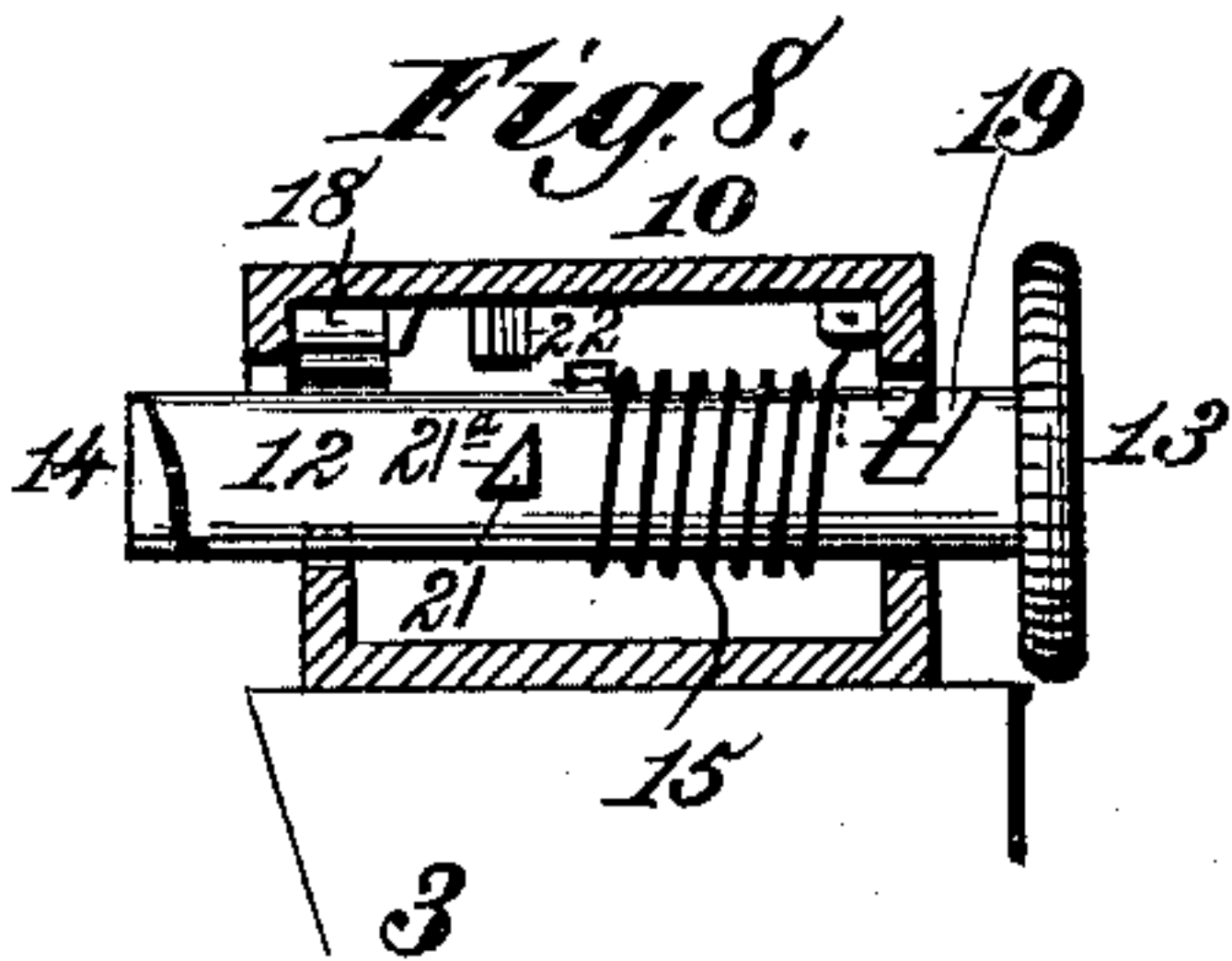
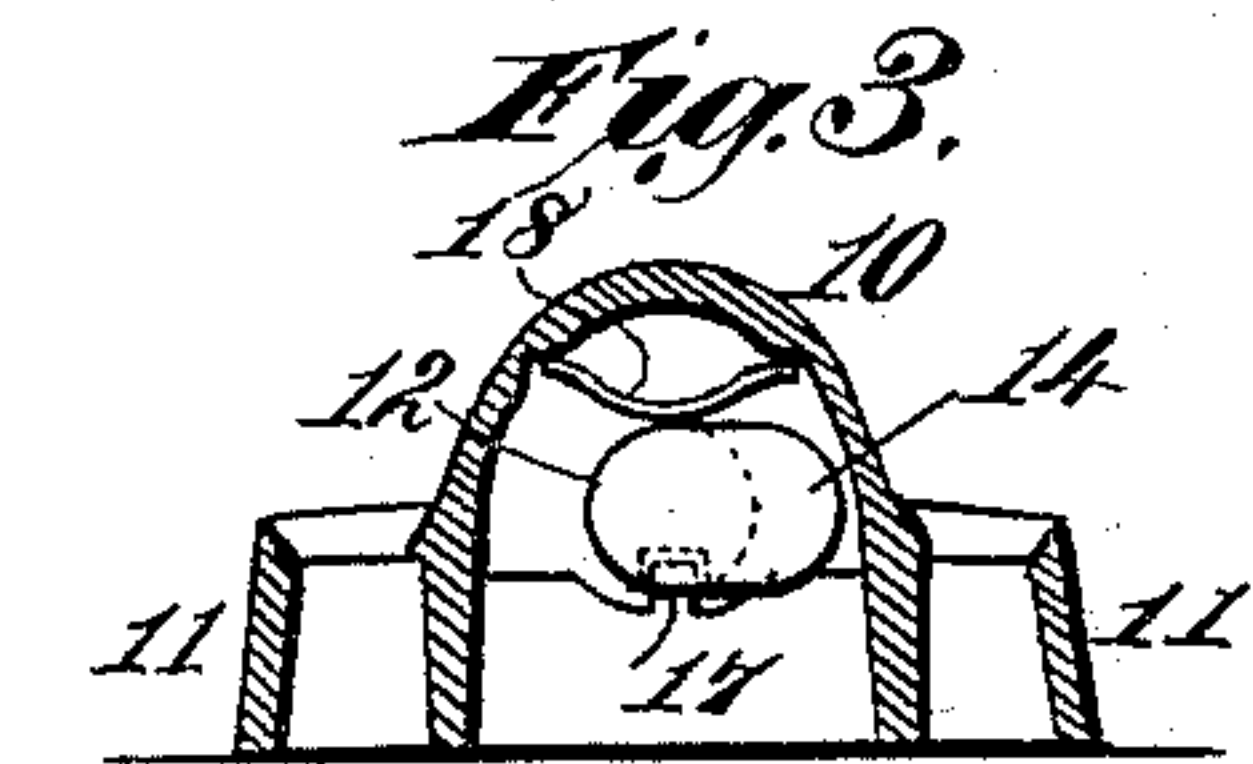
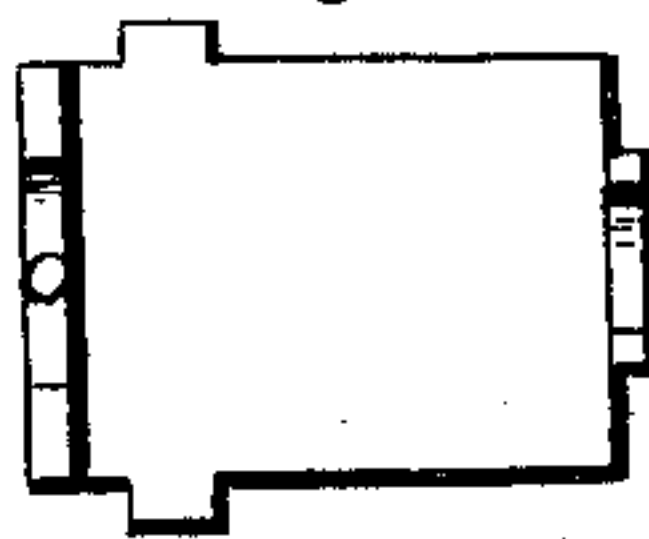
*Fig. 2.*



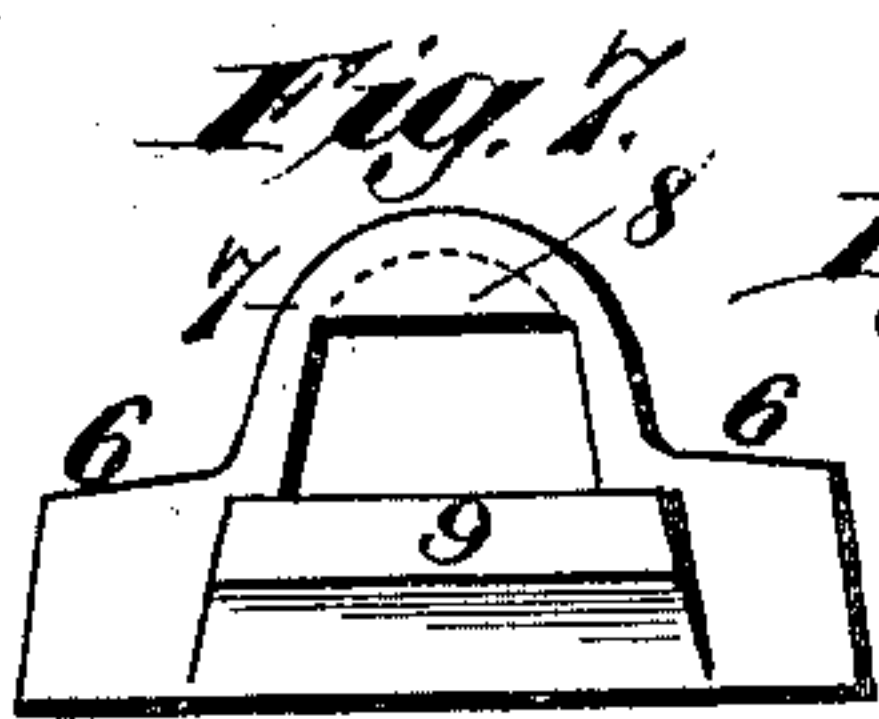
*Fig. 4.*



*Fig. 5.*



Witnesses,  
*Robert Everett,*  
*Geo W Rea,*



Inventor:  
*W. Haskell King.*  
By *James L. Norris.*  
*Atty*



# UNITED STATES PATENT OFFICE.

W. HASKELL KING, OF GUILFORD, CONNECTICUT.

## FASTENER FOR MEETING-RAILS OF SASHES.

SPECIFICATION forming part of Letters Patent No. 368,595, dated August 23, 1887.

Application filed December 14, 1886. Serial No. 221,550. (Model.)

*To all whom it may concern:*

Be it known that I, W. HASKELL KING, a citizen of the United States, residing at Guilford, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Sash-Fasteners, of which the following is a specification.

My invention relates to window-sash fastenings, and the purpose thereof is to provide a cheap, simple, and strong fastening or lock for the meeting-rails of a window, whereby said rails may be not only securely locked, but drawn closely together by the automatic action of the locking-bolt, thereby giving protection against the entrance of unauthorized persons; preventing the insertion of thin-bladed instruments to force the lock; closing the space between the meeting-rails, and thereby preventing cold-air drafts, and, finally, avoiding the rattling of the sashes during a high wind.

To these ends the invention consists in a locking-bolt mounted in a bolt-casing upon the meeting-rail of the lower sash, said bolt being provided with a cam-lip on its end and receiving from a suitable spring a combined outward and torsional movement, the cam-lip engaging with a flange formed within a boss upon the opposite sash-rail.

It also consists in providing said bolt with means whereby it may be held retracted against the tension of the spring until the meeting-rails are brought into or nearly into juxtaposition, when it is released by the point of the bolt striking a projecting ledge or flange on the engaging-boss, whereby the bolt is thrown off the detent and instantly shot and turned.

Referring to the drawings, Figure 1 is a plan view of the parts in place on the sash-rails, showing the bolt in an unlocked position. Fig. 2 is a central longitudinal section taken on the line *xx* of Fig. 1. Fig. 3 is a transverse section taken on the line *yy* of Fig. 2. Fig. 4 is a view of the upper portion of the casing. Fig. 5 is a plan view of the lower portion of the casing. Fig. 6 is a detailed perspective view of the bolt. Fig. 7 is a face view of the keeper. Fig. 8 is a sectional view of a modification of the invention shown in Fig. 1, showing a cam within the casing in

lieu of or in connection with the cam on the bolt.

In the said drawings, the reference-numeral 1 designates the lower sash, and the numeral 2 the upper sash, having meeting-rails 3 and 4, respectively.

Upon the rail 4 is mounted a keeper-boss, 5, having lugs 6, by which it is attached, and provided with a central semicircular portion, 7, chambered and open upon the side next the rail 3, a flange, 8, of segmental form, being cast across the upper part of the opening. This flange is preferably of the form shown in Fig. 2—that is, thicker above than at its lower edge. In front of the opening to the chambered part 7 is a ledge or bar, 9, for a purpose presently to be described.

Upon the rail 3 is mounted a lock-casing, 10, fastened by lugs 11. Within said casing is arranged a bolt, 12, having a hand-hold, 13, on one projecting end, and provided upon the opposite end, which also projects outside the case, with a cam-lip, 14, having its engaging surface inclined to correspond with the inclined face of the flange 8. The said surface of the cam-lip is also given a spiral inclination or “pitch,” whereby the rotary movement of the bolt, after the lip and flange are engaged, will tend to draw the bolt into the keeper-boss.

Coiled around the bolt 12 is a spiral spring, 15, bearing against the outer end of the casing, and having its other end connected to the bolt, the parts being so placed that the spring not only projects the bolt outward, but simultaneously twists or gives torsional movement to the same.

In the bolt, not far from the locking end, is formed a cavity, 16, which will engage with a point or detent, 17, on the lock-casing when the bolt is drawn back far enough to release the keeper-boss. A spring, 18, presses the bolt down and effects this engagement automatically whenever the bolt is retracted and turned into proper position.

In the shank of the bolt 12, near the hand-hold, is cut an angular slot, 19, with which a pin, 20, engages to guide the retractile movement; but this is not an absolutely essential feature of my invention.

The operation of the parts is as follows: The



bolt 12 being drawn back and turned until the detent 17 has engaged the aperture 16 in the bolt, the sash may be raised and lowered without trouble. When it is desired to lock the sash, the window-sash 1 is thrown down completely, whereby the end of the bolt 12 strikes the ledge 9, throwing the bolt off the detent 17. The spring 15 at once shoots the bolt into the keeper-boss 5, and at the same time gives it a torsional movement, thereby engaging the cam-lip 14 with the flange or lip 8. The pitch of the cam-lip draws the meeting-rails of the sashes together, closing the space tightly, while the said engagement also gives great security to the fastening.

This lock is not only extremely simple and cheap in construction, but it is wholly automatic in action, and thereby gives protection against carelessness on the part of servants, by which windows are frequently left unfastened at night. It also affords protection against picking, shuts out drafts of cold air, and prevents the troublesome rattling of the sashes in high winds.

It should be noted, also, that when the parts are engaged the ledge or bar 9 is drawn over the space between the meeting-rails, as shown in Fig. 2, thereby interposing an effectual barrier to the entrance of knives or similar instruments.

I have shown in Fig. 8 a modified construction, whereby the automatic action of the bolt is aided and a close union of the meeting-rails insured. Upon the bolt 12, within the lock-casing, I mount a cam-lug, 21, having a cam-face, 21<sup>a</sup>, which is adapted, when the torsional movement of the bolt takes place, to engage with a cam-lug, 22, on the lock-casing, whereby a retractile movement is given to the bolt. This cam engagement does not take place until the lip 14 has engaged the flange 8.

It should be understood that I may use the modification shown in Fig. 8 with a cam-lip, 14, having a spiral inclination or pitch on its engaging face, or I may use it in connection with a cam-lip having a straight face, or one formed at right angles with the axis of the bolt. The same result may be effected also by cutting the groove 19 spirally, as shown in said Fig. 8, and I propose to employ this form of groove or the cam-lug 21, either one in

conjunction with the cam-lip 14, whether the same has a straight or inclined engaging face.

Heretofore a sash-fastener has been used in which the end of the bolt is T-headed and engages with a pair of cams on the opposite rail, the bolt being turned by hand. A spring-actuated bolt has also been made having a spiral slot which engages with a nipple in the keeper, and in both these forms the meeting-rails are drawn together by the torsional movement of the bolt. I make no claim, broadly, to such device.

Having thus described my invention, what I claim is—

1. In a sash-fastener, the combination, with a bolt having a cam-lip on its end, provided with a spiral pitch on its engaging face, a spring giving outward projection to said bolt and simultaneous torsional movement, a detent on the lock-casing holding said bolt retracted, a keeper having a flange with which said cam-lip engages, and a ledge or bar, 9, on the keeper, by which the bolt is released from the detent as the sash is closed, substantially as described.

2. The combination, with a bolt having a cam-lip on its end, of a spring giving outward projection to said bolt and simultaneous torsional movement, a detent on the lock-casing holding the bolt retracted, a keeper having a flange with which the cam-lip of the bolt engages, a ledge or bar, 9, on the keeper 5, by which the bolt is released from said detent, a cam-lug on the bolt having an inclined engaging face, and a lug on the lock-casing with which said cam-lug engages, whereby the bolt is shot, turned, and retracted simultaneously, substantially as described.

3. The combination, with the lock-casing having a detent, 17, of the bolt 12, having an engaging aperture, 16, the spiral spring 15, the spring 18, the keeper 5, having a flange, 8, and the ledge or bar 9, the bolt 12 being provided with a cam-lip, 14, having a spiral engaging surface or pitch, substantially as described.

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

W. HASKELL KING.

Witnesses:

JAMES L. NORRIS,  
GEORGE W. REA.