(No Model.)

W. M. MORTON.

FASTENER FOR THE MEETING RAILS OF SASHES.

No. 470,945. Patented Mar. 15, 1892.

Fig. 1

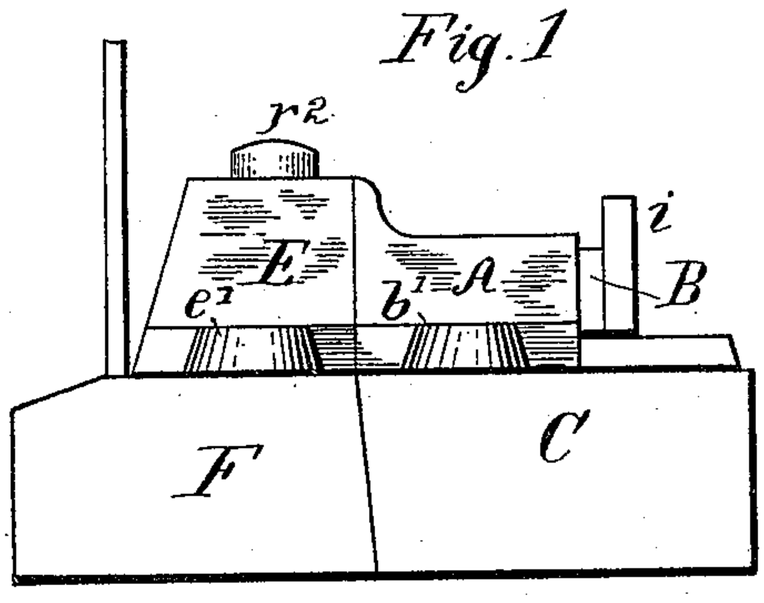


Fig. 2

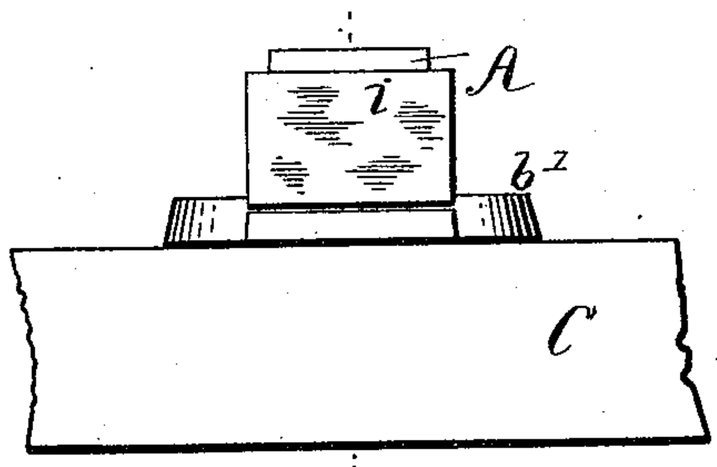


Fig. 3

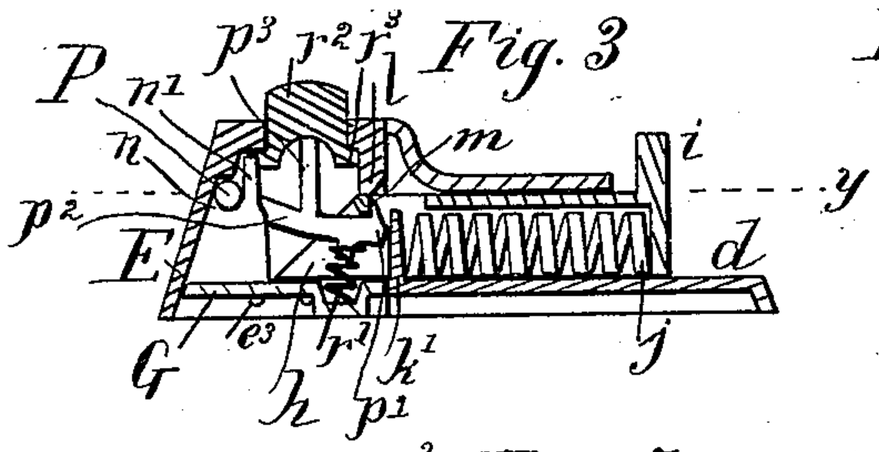


Fig. 4

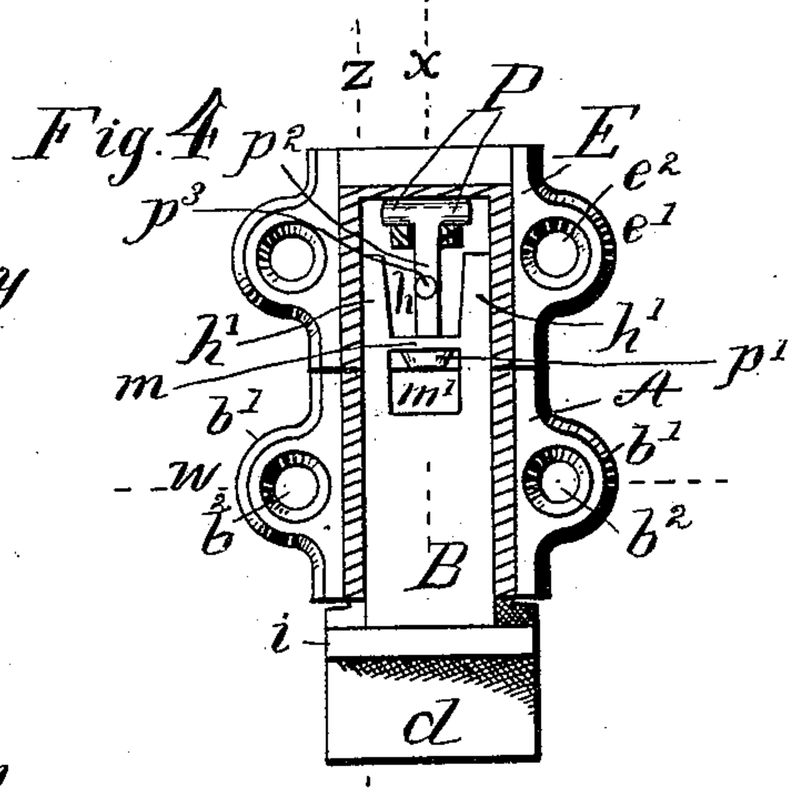


Fig. 5

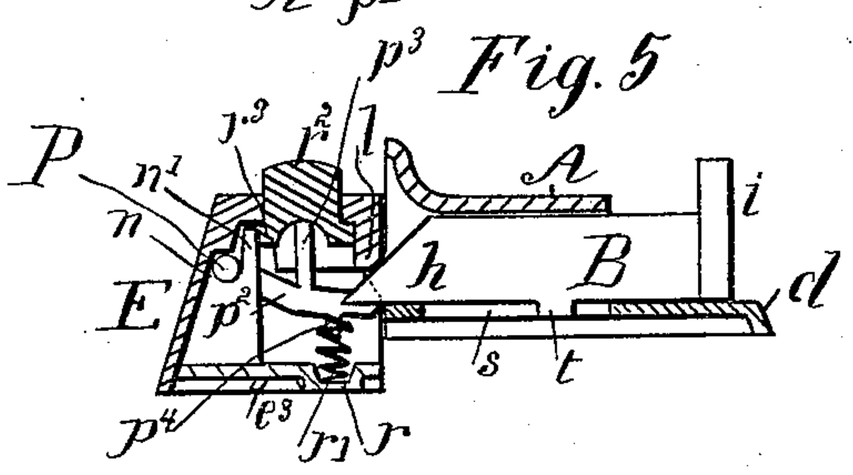


Fig. 6

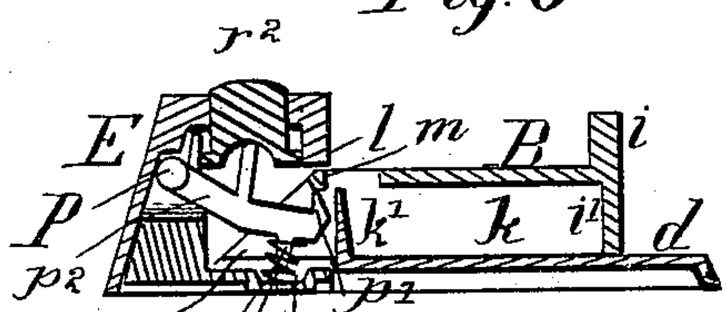


Fig. 7

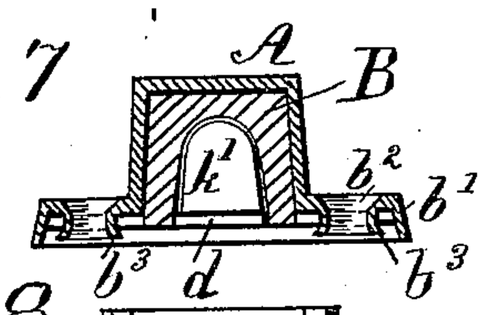


Fig. 8

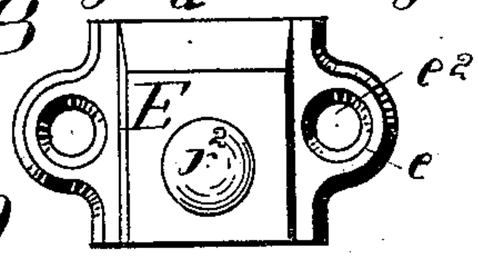


Fig. 9

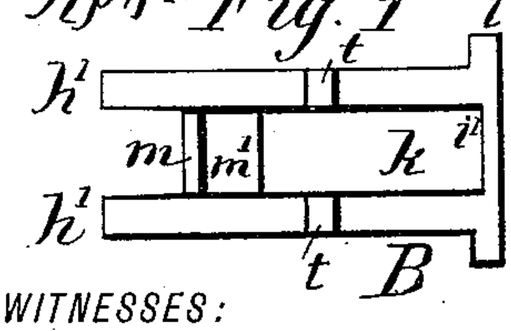
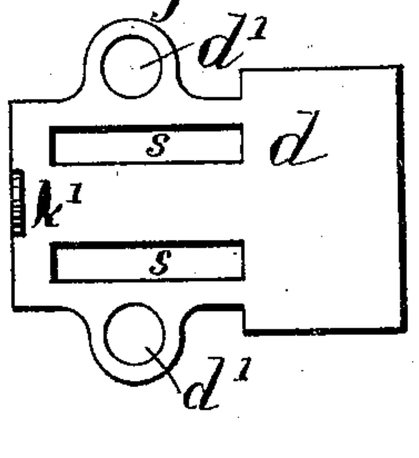


Fig. 10



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UNITED STATES PATENT OFFICE.

WILLIAM M. MORTON, OF NEW HAVEN, CONNECTICUT.

FASTENER FOR THE MEETING-RAILS OF SASHES.

SPECIFICATION forming part of Letters Patent No. 470,945, dated March 15, 1892.

Application filed November 2, 1891. Serial No. 410,684. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. MORTON, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Fasteners for the Meeting-Rails of Sashes, of which the following is a specification.

My invention relates to fasteners for the meeting-rails of sashes, and has for its object to provide a cheap, simple, and durable sash-fastener adapted to automatically clamp the meeting-rails together and firmly draw the sashes to their respective seats against the horizontal parts of the frame. It is desirable that the vertical and lateral clamping operations of the sash-fasteners shall be to a certain extent independent of each other to permit the sashes to be brought tightly together under varying conditions, due to the shrinking or swelling of the sash-rails or the parts of the window-frame. After a sash-fastener is first applied to the windows the sash-rails usually shrink, and then it is no longer possible to draw them tightly together with the clamping mechanism, the movement of which is limited and adapted only to the original thickness of the rails; but it is highly important to retain the sash-rails tightly together, in order to exclude wind and moisture and prevent rattling. My improved fastener is adapted to avoid this fault by the automatic action of the bolt, as hereinafter explained.

A further object is to adapt the action of the parts to a simple horizontal movement of the operating device to lock the sashes and to release by spring-recoil controlled by disengagement of a catch operated by a depressing-button, all as hereinafter described.

To this end the invention consists in the novel combination and arrangement, on the respective sashes, of the horizontal spring-actuated wedge-bolt adapted to force the sashes to their seats and a holding-catch and operating mechanism for engaging the bolt to hold the meeting-rails together and in the construction of parts, all as hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side view of my improved sash-fastener as mounted on the meeting-rails of the sashes. Fig. 2 is a front view of the same. Fig. 3 is a central vertical section through Fig. 1 on line x, Figs. 2 and 4. Fig. 4 is a horizontal section on the line y, Fig. 3. Fig. 5 is a vertical section on the line z, Fig. 4, showing the parts in unlocked position, with the bolt commencing to enter the housing on the opposite rail. Fig. 6 is a central vertical section similar to Fig. 3, but showing the holding-catch depressed to release the bolt. Fig. 7 is a cross-sectional view of the bolt and its housing on the line w, Fig. 4. Fig. 8 is a plan view of the rear housing. Fig. 9 is a plan view of the bolt, viewed from the lower side. Fig. 10 is a plan view of the base-plate.

Referring to the drawings, A designates the housing or case in which the bolt B is fitted and adapted to slide. It is provided with the ears b', having perforations b^2 for the reception of ordinary screws for holding the housing in position on the front meeting-rail C or top of the lower sash. A base-plate d is set under the housing to support the bolt, being formed with perforations d', adapted to set over suitable sleeves b^3, cast on the housing around the perforations b^2 therein, the sleeves being then riveted over to hold the bed-plate in place, as fully shown in Fig. 7. The rear housing E upon the rail F of the upper sash is shaped to match the inner end of the bolt-housing A and has similar ears e', perforations e^2, sleeves e^3 around the perforations, and a bed G is secured in the said rear housing similarly as the base-plate d is fastened in the front housing. The bolt B passes entirely through the housing A, its length being sufficient to enable its rear end h to enter and engage the rear housing E, with its outer end projecting on the front side of the housing A. Said front end is provided with a thumb-plate i, by which the bolt may be pushed rearwardly, and it is automatically actuated in the reverse direction or outward by means of a spring j, which is received in a recess k on the lower side of the bolt, the spring being arranged to exert its pressure between the outer end i' of the bolt and a vertical projection k' on the base-plate d at the inner end of the housing. Said spring normally holds the bolt withdrawn from the rear housing E, into which it may be entered by pressure on the

thumb-plate *i* sufficient to counteract the pressure of the spring. At its rear end the bolt is beveled on its upper side, forming a wedge, which is adapted to engage the upper part *l* of the housing to draw the parts into the same horizontal plane as the bolt is entered. The recess *k* aforesaid forms twin prongs *h'*, and at the base of the wedge said prongs are joined by a bar *m* on the upper side of the bolt, with space *m'* forward of the bar forming a shoulder, for the purpose hereinafter described.

On the bed G at the rear side of the housing E are two half-bearings *n* and corresponding prongs *n'* at the forward side of the bearings. These are adapted to support the twin trunnions P of a tongue p^2, which is provided with an upwardly-projecting beveled catch *p'* at its outer end adapted to hook under and engage the shoulder or bar *m* on the bolt as the bolt is forced into place in the rear housing. A projection p^4 on the lower side of the tongue and a cavity *r* in the bed-plate retain a spring *r'* in position to normally hold the tongue up, whereby the catch is automatically hooked onto the bar after the bar has depressed and passed up the beveled edge of the latch to its upper edge. On the upper side of the tongue is a projection p^3, which supports a cupped button r^2, fitted in a circular seat in the upper part of the housing and retained in place against the force of the spring *r'* by a flange r^3, adapted to engage a corresponding shoulder below the said seat. The base-plate is formed with the longitudinal slots *s*, which receive suitable projections *t* on the lower side of the bolt, adapted to guide and limit the throw of the bolt.

In operation it will be seen that the bolt is adapted by the engagement of its wedge-shaped rear end with the rear housing to force the sashes into place vertically, and after the catch *p'* engages the shoulder or bar *m* of the bolt the spring *j* will clamp the sashes tightly together wholly independent of the elevating movement of the bolt or of any slight variation in the thickness of the rails due to shrinking or swelling of the wood. The bolt is provided with a certain amount of extra lengths for clearance, as represented by the space between the forward side of the housing A and the thumb-plate *i* in Figs. 1, 3, and 4, which clearance insures the engagement of the parts under all conditions. A simple rearward push on the thumb-plate locks the parts, and a slight pressure upon the button r^2 will disengage the catch and permit the automatic release of the bolt by means of the spring *j*, as shown in Figs. 3 and 6. The bolt is heavy and strong and cannot be forced back from without. All the parts are simple, and may be readily cast or easily stamped out from sheet metal. The lock in use is simple and durable and is of neat and ornamental design.

I claim as my invention—

1. A sash-fastener comprising, in combination, a housing or case adapted to be secured on the front sash-rail, a horizontal bolt fitted to slide in said housing, provided with an engaging abutment or shoulder and having its rear end beveled or wedge-shaped on its upper surface, a spring adapted normally to retract said bolt, a housing or case adapted to be secured on the rear sash-rail for the reception of said wedge-shaped end of the bolt, a catch or beveled hook guided or held in said rear housing, a spring for actuating said catch into engagement with the shoulder of the bolt, and an external knob or button for releasing the catch, substantially as specified.

2. In a sash-fastener, the combination of a housing or case adapted to be secured on the front sash-rail, a horizontal bolt fitted to slide in the housing, having the wedge-shaped or beveled rear end and provided with an engaging shoulder or abutment thereon facing forward and a rearwardly-facing recess or socket, a spring received in said recess or socket, compressed between the forward end thereof and an abutment or shoulder on the case, a housing adapted to be secured on the rear sash-rail, a beveled hook or catch pivoted or hinged in said rear housing and adapted to engage the forwardly-facing abutment of the bolt, a spring for actuating said catch or hook into engagement with the bolt, and an operating part or button projecting external to the housing for releasing the hook from the bolt, substantially as and for the purpose specified.

3. In a sash-fastener, the combination of the front housing A, having the perforated ears *b'*, the base-plate *d* beneath the housing, the bolt B, arranged to slide in the housing upon said plate, wedge-shaped at its rear end and provided with a shoulder or abutment *m*, the bolt being recessed, a spring *j*, received in the recess of the bolt, a projection on the base-plate, adapted to resist the tension of the spring rearwardly, the rear housing E, having ears *e'*, the plate G, secured thereto, the tongue p^2, pivoted in the rear housing and provided with the beveled catch *p'*, a spring for actuating said tongue and catch, a button r^2 in engagement with the tongue for depressing the same, all arranged as and for the purpose specified.

WILLIAM M. MORTON.

Witnesses:
MARY HUDSON,
ELENA LENDBLA.