W. G. BULKLEY.

FASTENERS FOR THE MEETING-RAILS OF SASHES.

No. 184,501. Patented Nov. 21, 1876.

Fig. 1

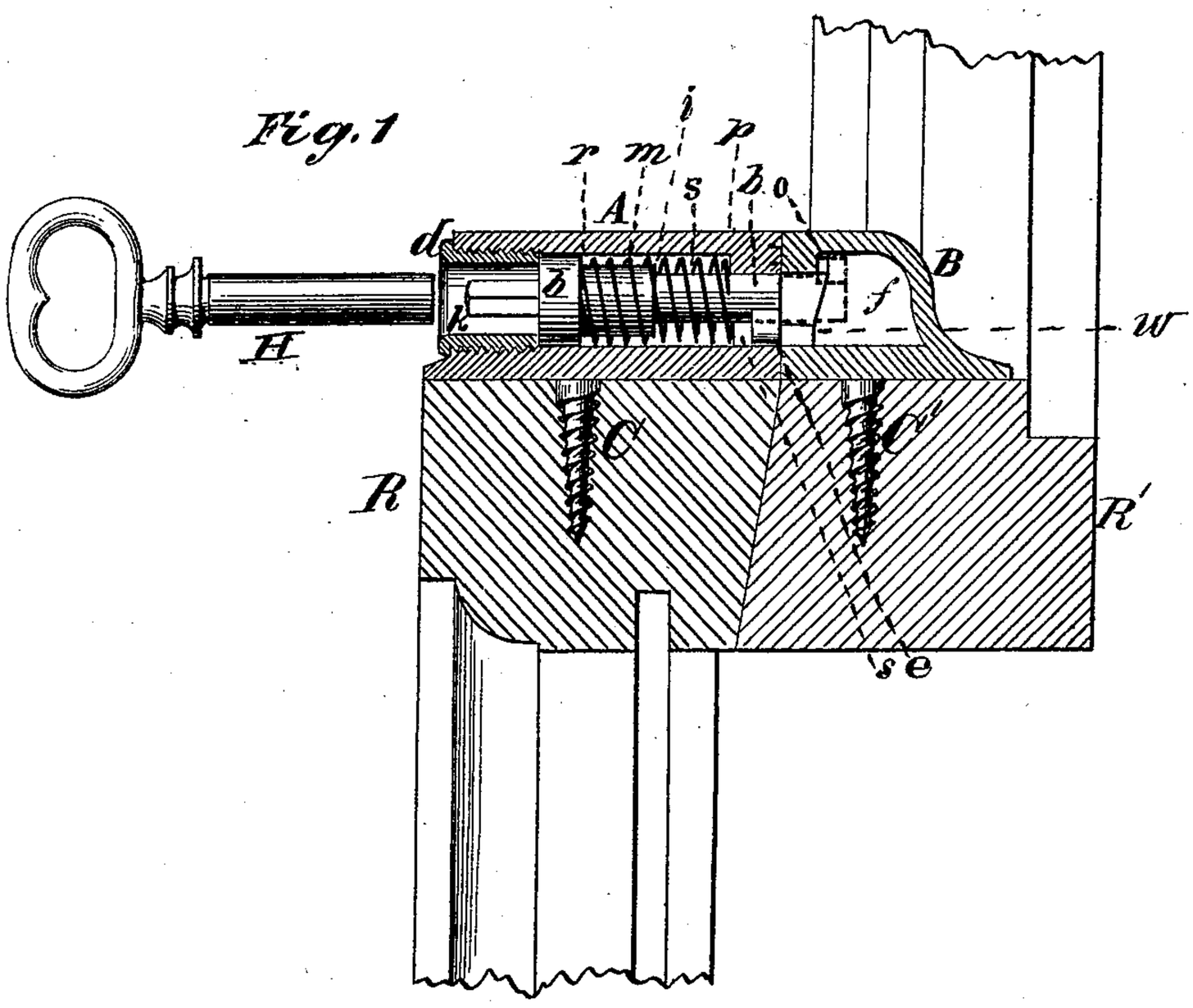


Fig. 3

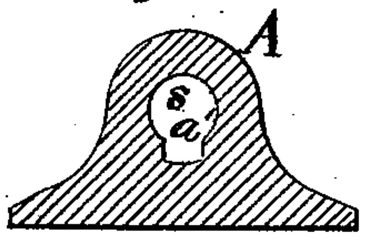


Fig. 2

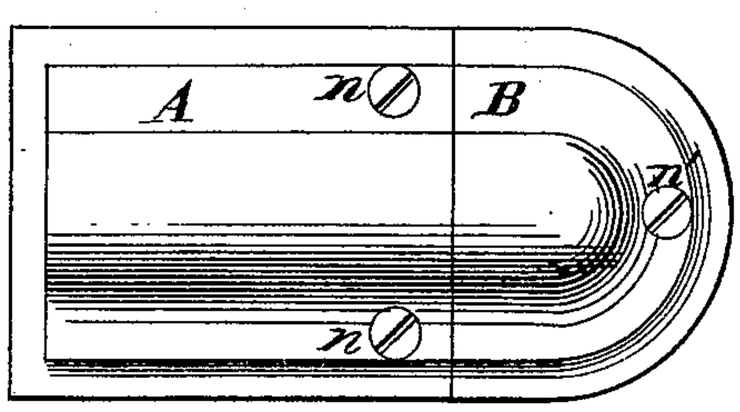
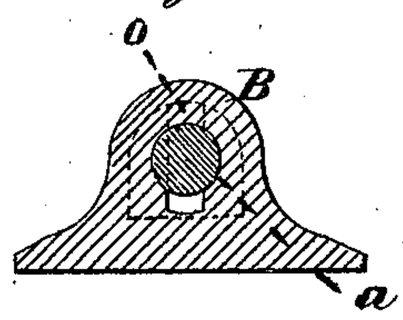


Fig. 4



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UNITED STATES PATENT OFFICE.

WILLIAM G. BULKLEY, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN FASTENERS FOR THE MEETING-RAILS OF SASHES.

Specification forming part of Letters Patent No. **184,501**, dated November 21, 1876; application filed April 7, 1876.

To all whom it may concern:

Be it known that I, WILLIAM G. BULKLEY, of Jersey City, in the county of Hudson and the State of New Jersey, have invented an Improvement in Window-Locks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms a part of the specification.

My invention consists in a novel construction of a window-lock, whereby it cannot be unlocked from the outside of the window, and whereby it cannot be unlocked from the inside without a key, the lock being composed of a spring-bolt socket-plate carrying a spring-bolt of peculiar form, and a catch-plate, also of peculiar construction, which is engaged by the said spring-bolt when the window is locked, the key being required both to lock and unlock the same.

Figure 1 is a cross-section through the meeting-rails of the upper and lower sashes of a window, and a longitudinal section through the plates of the lock. Fig. 2 is a top view of the lock. Fig. 3 is a view of that end of the spring-bolt socket-plate which meets the catch-plate when the plates come together, and Fig. 4 is a view of that end of the catch-plate which meets the spring-bolt socket-plate.

R and R′ represent, respectively, the meeting-rails of the lower and upper sashes. To the rail R of the lower sash is attached the spring-bolt socket-plate A, with its attachments. To the rail R′ of the upper sash is attached the catch-plate B. The plates A and B are attached to the rails of the sashes by screws C C′, which are firmly attached to said plates, preferably by placing said screws in the molds in casting the plates, and pouring the melted metal around the heads of said screws, according to a well-known method of attaching screws to plates of brass and other metals; or the said screws may be attached to the said screw-plates in any other way. The said screws are gimlet-pointed, and are screwed into the sash-rails by turning the plates. Small screws or nails *n n′* are subsequently inserted through countersunk holes in said plates into the sash-rails to hold the plates from turning, and screwing out the screws C C′. In the spring-bolt socket-plate A is formed a socket, *s*, in which the spring-bolt *b* works. A coiled spring, *m*, which abuts against the shoulder *p* in the socket *s*, and against the shoulder *r* on the spring-bolt *b*, tends constantly to thrust the said spring-bolt away from the catch-plate B, but a bush, *d*, which screws into the end of the socket *s*, prevents the coiled spring *m* from pushing the said spring-bolt out of the said socket. The spring-bolt *b* is, moreover, provided with a head, *k*, of angular or other form, which will prevent the key K, when fitted and applied to said head, from turning without also turning the said spring-bolt. The said spring-bolt turns freely in the socket *s* when not engaged with the catch-plate B, and when the bit *e* on the end of said bolt is pushed out of the socket, as hereinafter described. Another shoulder, *i*, on the spring-bolt *b*, abuts against the shoulder *p* of the socket *s* when the said spring-bolt is pressed toward the catch-plate, and thus prevents the end of said spring-bolt from entering so far into the catch-plate as to interfere with its free working, and also to prevent rattling of the sashes.

On the end of the spring-bolt *b* is formed a bit, *e*, resembling a key-bit, and in that end of the socket *s* nearest the catch-plate B is a key-hole-shaped opening, *a′*, through which the end of the spring-bolt upon which the said key-bit is formed passes when pressed forward. A similar opening, *a*, in the catch-plate B, admits the end of the spring-bolt into the chamber *f* in the interior of said catch-plate, the position of the said spring-bolt, when so passed into said catch-plate and locked therein, being shown in dotted outline in Fig. 1. The front wall *w* of the chamber *f* is preferably made with its inner surface inclined backward, so that when the spring-bolt turns on its longitudinal axis the bit *e* of the said spring-bolt will draw the bolt a little way into the said catch-plate. In the upper part of the said inclined wall *w* is formed a notch, *o*, corresponding in shape to the shape of the bit *e*, which the said bit *e* engages when the bolt is turned to bring the said bit over said notch *o*, the spring *m* throwing the bolt backward sufficiently to force the said bit *e* into the said notch *o*. The bolt *b* is of a length sufficient to bring its end, with the bit *e* formed

thereon, flush with the flat end of the socket-plate A, and it cannot be turned without pressing it far enough out of said socket-plate to free the said bit *e* from its engagement in the key-hole-shaped opening in the end of said socket-plate. A projection, *g*, in the catch-plate, prevents the bolt from turning too far in unlocking.

The operation is as follows: The key K, being applied to the head *k* of the bolt *b*, is pressed toward and through the opening *a* in the catch-plate B till the bit *e* enters the chamber *f* in said catch-plate. The key is then turned, which causes the bit *e* on the bolt *b* to turn and slide over the inclined inner surface of the wall *w* till it is brought over the notch *o*, when the spring *m* throws the bolt backward, and causes the said bit *e* to engage the said notch *o*. In unlocking the bolt, the key is pressed toward the catch-plate till the shoulder *i* on the lock abuts against the shoulder *p* of the socket. This releases the bit *e* from its engagement with the notch *o*. The key is then slightly turned, and the pressure thereon removed. The continued turning of the key brings the bit *e* opposite that part of the opening *a* in the catch-plate which corresponds in shape with the shape of said bit, when the spring suddenly withdraws the bolt and completes the unlocking.

I claim—

The combination of the spring-bolt *b*, having the bit *e*, and key-head *k*, adapted to be operated both in locking and unlocking the lock by means of a detachable key, K, with the spring-bolt socket-plate A, and the catch B, substantially as described.

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Witnesses:

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