No. 780,951. PATENTED JAN. 24, 1905.

O. KULHANEK.

SASH LOCK.

APPLICATION FILED JAN. 23, 1904.

Fig. 1.

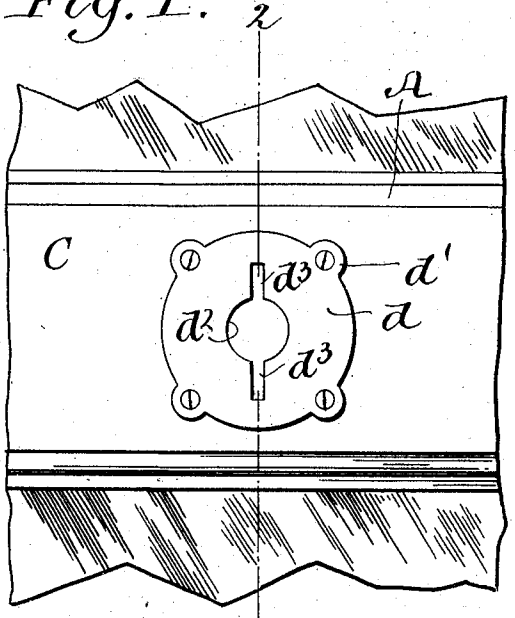


Fig. 2.

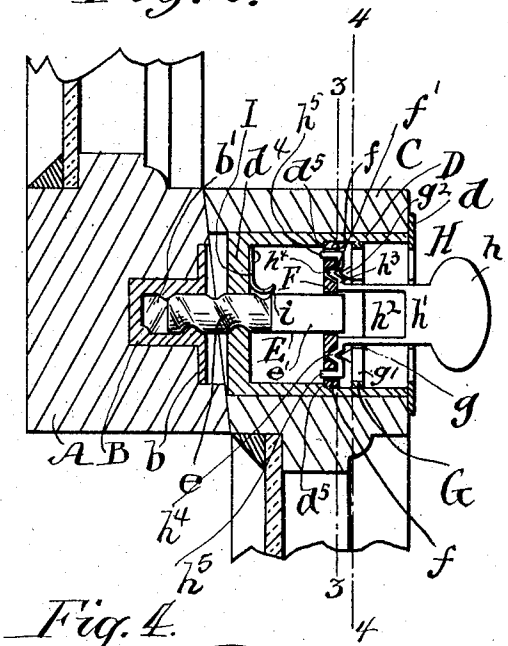


Fig. 3.

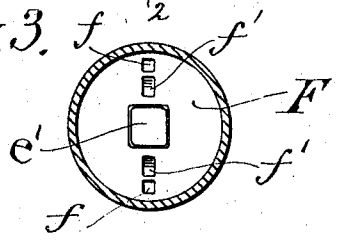


Fig. 4.

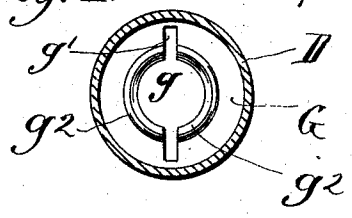


Fig. 5.

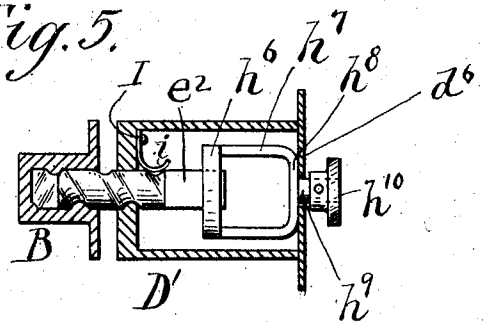
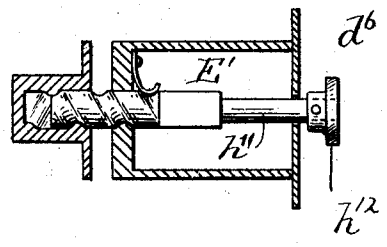


Fig. 6.



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No. 780,951. Patented January 24, 1905.

UNITED STATES PATENT OFFICE.

OTTO KULHANEK, OF BROOKLYN, NEW YORK.

SASH-LOCK.

SPECIFICATION forming part of Letters Patent No. 780,951, dated January 24, 1905.

Application filed January 23, 1904. Serial No. 190,288.

To all whom it may concern:

Be it known that I, OTTO KULHANEK, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Sash-Locks, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to sash-locks, and has for its more prominent objects high efficiency of operativeness as well as locking capacity.

A further important object is the prevention of unauthorized disengagement of the locking device.

The invention will be hereinafter fully described, and specifically set forth in the annexed claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a view of a portion of a window viewed at the inner side thereof and indicating more particularly the inner meeting-rail equipped in accordance with my invention. Fig. 2 is a vertical sectional view of parts represented in Fig. 1, the section being taken in the plane indicated by the broken line 2 2 of said latter figure. Figs. 3 and 4 are sections through the housing of the inner rail, the sections being in the planes indicated by the broken lines 3 3 and 4 4, respectively, of said figure. Figs. 5 and 6 are vertical longitudinal sections illustrating modifications of the lock.

Mortised in the face of the outer and upper meeting-rail A, at the inner side thereof, is a socket B, the exterior flange b of which is countersunk within the face of the rail to be flush therewith. The recess of this socket has an internal thread b', preferably of the comparatively coarse character indicated in Fig. 2.

Snugly within an appropriate opening in the inner rail C is the cylindrical housing D, the head d at the inner face of said rail being presented by an independent section and forming a flange bearing against said inner face, perforated radial ears d' providing for the securement of the head to confine the housing in position by screws. This head d contains a key-opening, consisting of a central aperture d^2 and diametrically-located top and bottom intersecting radial slots d^3.

Bearing in a threaded opening in the head d^4 at the opposite end of the housing is the threaded portion e of a horizontal bolt E, the threads of which portion e being of coarse character, so as to engage within the socket B. That end e' of the bolt which is within the housing is square-ended and occupies a correspondingly-shaped opening therefor in a disk F, also contained within the housing and bearing against an annular shoulder d^5, limiting the longitudinal movement of the disk in one direction. This disk F has in its face nearest the head d upper and lower pairs of small recesses $f f'$, the latter contracting, while the recesses f extend horizontally through the disk, as illustrated most clearly in Fig. 2. Also located within the housing between the disk F and head d is a second disk G, which is in juxtaposition to the disk F and has a central circular opening g, with upper and lower intersecting vertical slots g'. On that face of the disk G immediately opposite the disk F is an annular rib g^2, which immediately surrounds the opening g and is interrupted at diametrically opposite points by the slots g'. It will be seen by reference to Fig. 2 that the rib in cross-section partakes generally of the contour of the recesses f', which are in close relation with respect thereto.

In operating the improved sash-fastener an independent key H is employed, said key embodying a head h, shank h', the latter having a longitudinal recess h^2 of such ample capacity as to permit the square end of the bolt E to move into the same as it moves farther along within the housing. Two diametrically-located integral tangs h^3 extend generally at right angles from the inner end of the shank h', and each has an angular bend h^4 for adapting it to snugly engage within one of the recesses f', while the outer terminal portion h^5 of each tang is bent horizontally to enter one of the recesses f.

It will be readily comprehended that with the disk F so positioned that its recesses $f f'$ are in longitudinal register with the slots g' of the disk G the tang-carrying end of the

key can be inserted through the head d and disk G and caused to engage the disk F, the arrangement of openings f' and bends h^4 permitting the latter to clear the rib g^2 when the key and disk F are rotated. This rotation will by reason of the engagement of the square end with said disk effect the turning of the bolt E and result in the withdrawal of the threaded end of the same from the socket B and its engagement within the same, according to the direction of rotation. The movement of the threaded end of the bolt within the socket will manifestly tend to draw the meeting-rails together, besides positively locking these parts against relative movement.

The coarse character of the engaging threads of the bolt and socket enables the locking or release of the parts with a comparatively limited number of revolutions of the bolt. Moreover, such feature provides a stronger and more durable engagement than were the threads of finer gage. With a view of guiding said bolt and preventing undesirable rotation thereof, which would loosen the parts, I secure on the inner side of the head d^4 a leaf-spring I, having its free end i' bent to bear within the thread-groove of the bolt. This arrangement of spring, while preventing a too free movement of the bolt, will not interfere with the convenient rotation of said bolt during the locking and unlocking operations.

The position of the rib g^2 precludes the manipulation of the disk F by the insertion of a wire, and hence the fastener can only be operated by the special key H.

I may embody certain novel features of the invention in a sash-lock without involving the employment of a removable key. For instance, in the construction illustrated in Fig. 5 I have represented the square end e^2 of the bolt as normally occupying a correspondingly-shaped opening in a disk h^6 integrally carried by a yoke h^7 within the forward part of the housing D', the forward portion h^8 of said yoke bearing against the inner side of the head d^6 of said housing and provided with a short stem h^9, projecting through an opening therefor in said head and provided with a small operating-head h^{10}. Manifestly by rotating the head h^{10} in one direction or the other the bolt will be correspondingly revolved and yet permitted to partake of a longitudinal movement relative to the yoke and its disk.

In Fig. 6 I have shown the bolt E' as being integrally provided with a cylindrical stem h^{11}, extending through a circular opening therefor in the head d^6 and provided at its projecting end with a small operating-head h^{12}.

It will be seen from the foregoing that a sash-lock embodying my improvements is not only comparatively inexpensive and readily applied, but can be quickly adjusted to intimately and positively secure the meeting-rails together or as quickly unlock the same when desired.

I do not wish to be understood as limiting myself to the particular construction and arrangement of parts shown and described, but reserve the right to such modifications as may be fairly within the scope of my invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A sash-lock, comprising two parts, one a socket fastened in the lower rail of the upper sash of a window, and having an interior screw-thread of long pitch, the other part fastened in the upper rail of the lower sash of such window, a revoluble bolt in said last-named part, having a screw-thread on its inner end of proper pitch to engage the thread in said socket, and arranged to engage the same, a leaf-spring in said last-named part, having one bent end, engaging the screw-thread of said bolt by its frictional contact normally holding said bolt in position and guiding the same to proper engagement with the screw-thread in said socket, and means for turning said bolt.

2. A sash-lock comprising a socket, the recess of which is interiorly threaded, a housing containing a bolt, the threaded portion of which is engaged within the correspondingly-conditioned opening in an end of said housing, a disk revoluble within said housing and in key engagement with the bolt, said disk having recesses, and a key insertible through the housing-front and provided with bends for engaging within said disk-recesses.

3. A sash-lock comprising a socket, the recess of which is interiorly threaded, and a housing containing a bolt with a threaded portion engaging within the threaded opening in an end of said housing, a disk within the housing and in key engagement with the bolt to revolve the same but permit relative longitudinal movement thereof, said disk containing angular recesses f', a second disk provided with a rib angular in cross-section and in close relation with said angular recesses, the second disk having a suitable key-opening, and a key insertible through the housing-front and second disk and provided with tangs having angular bends to engage the recesses f', and clear the rib.

4. A sash-lock comprising a socket, the recess of which is interiorly threaded, and a housing containing a bolt having a threaded portion engaged within a correspondingly-conditioned opening in an end of said housing, said bolt having a square end e', a revoluble disk provided with a central square opening receiving the bolt end e', said disk further provided with outer horizontal and inner angular recesses, a second disk having a central opening with intersecting slots, together with a detachable key insertible through the second disk and provided with lateral tangs

having angular bends and outer horizontal terminals for engaging the recesses in the first-mentioned disk.

5. A sash-lock comprising a socket, having an interiorly-threaded recess, and a housing containing a bolt provided with a threaded portion engaged within a correspondingly-conditioned opening in an end of the housing, said bolt provided with a square end e', a revoluble disk within said housing and having a square central opening receiving said end e', said disk also having outer horizontal and inner angular recesses, a second disk provided with a central opening and intersecting slots and having on its face opposite the first disk, a rib angular in cross-section in juxtaposed relation to the angular recesses of the first-mentioned disk, and a detachable key insertible through the slotted opening of the second disk and provided with lateral tangs having angular bends adapted to engage within the angular recesses of the first-mentioned disk and clear the angular rib of the second disk, said tangs also having outer horizontal terminals designed to engage within the horizontal recesses of said first-mentioned disk.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 18th day of January, 1904.

OTTO KULHANEK.

Witnesses:
B. PATTERSON,
M. SHIPLEY.