

No. 662,722.

Patented Nov. 27, 1900.

O. F. HELFRITZ.  
SASH HOLDER.

(Application filed Sept. 21, 1900.)

(No Model.)

Fig. 1.

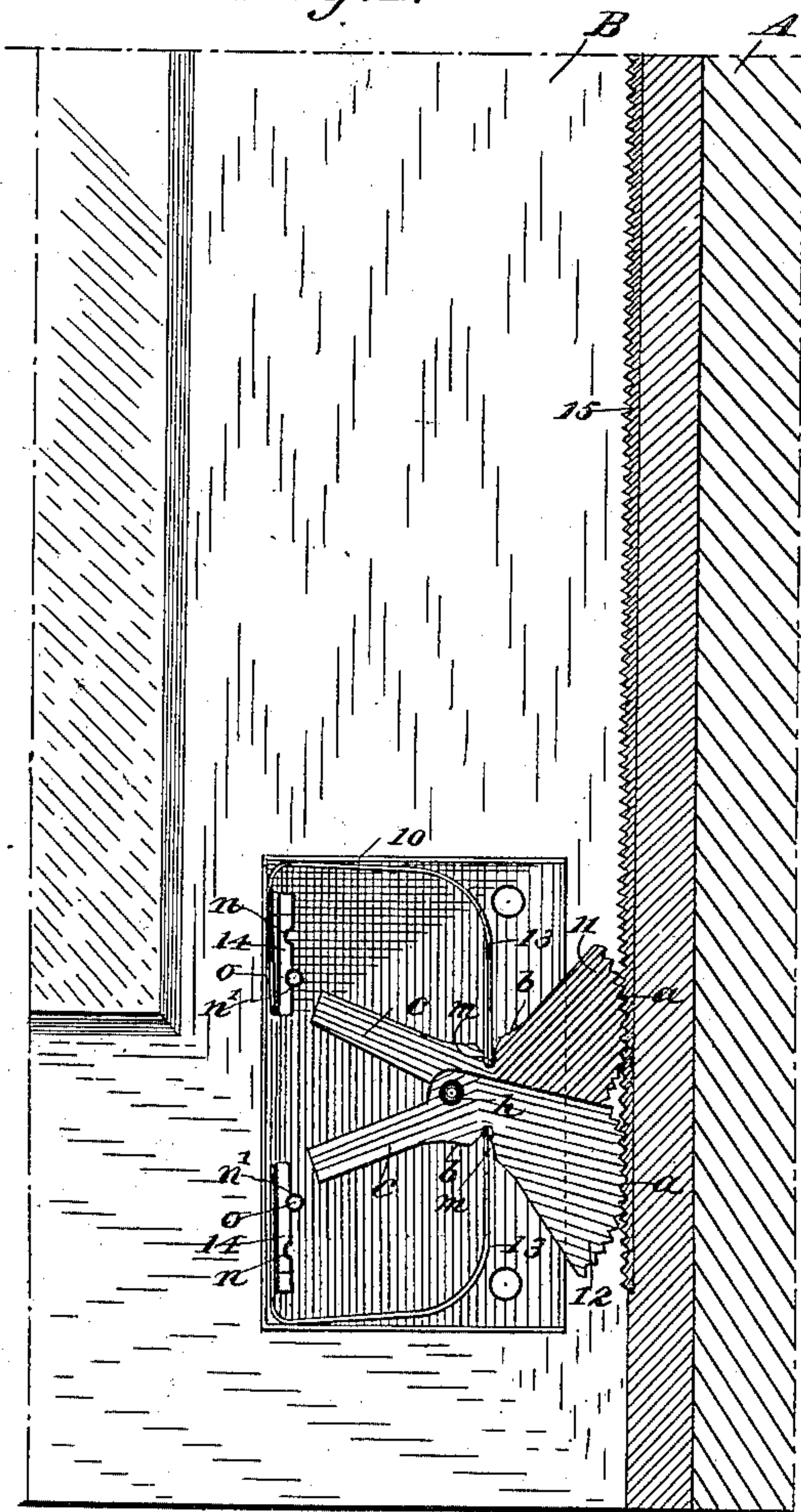


Fig. 2.

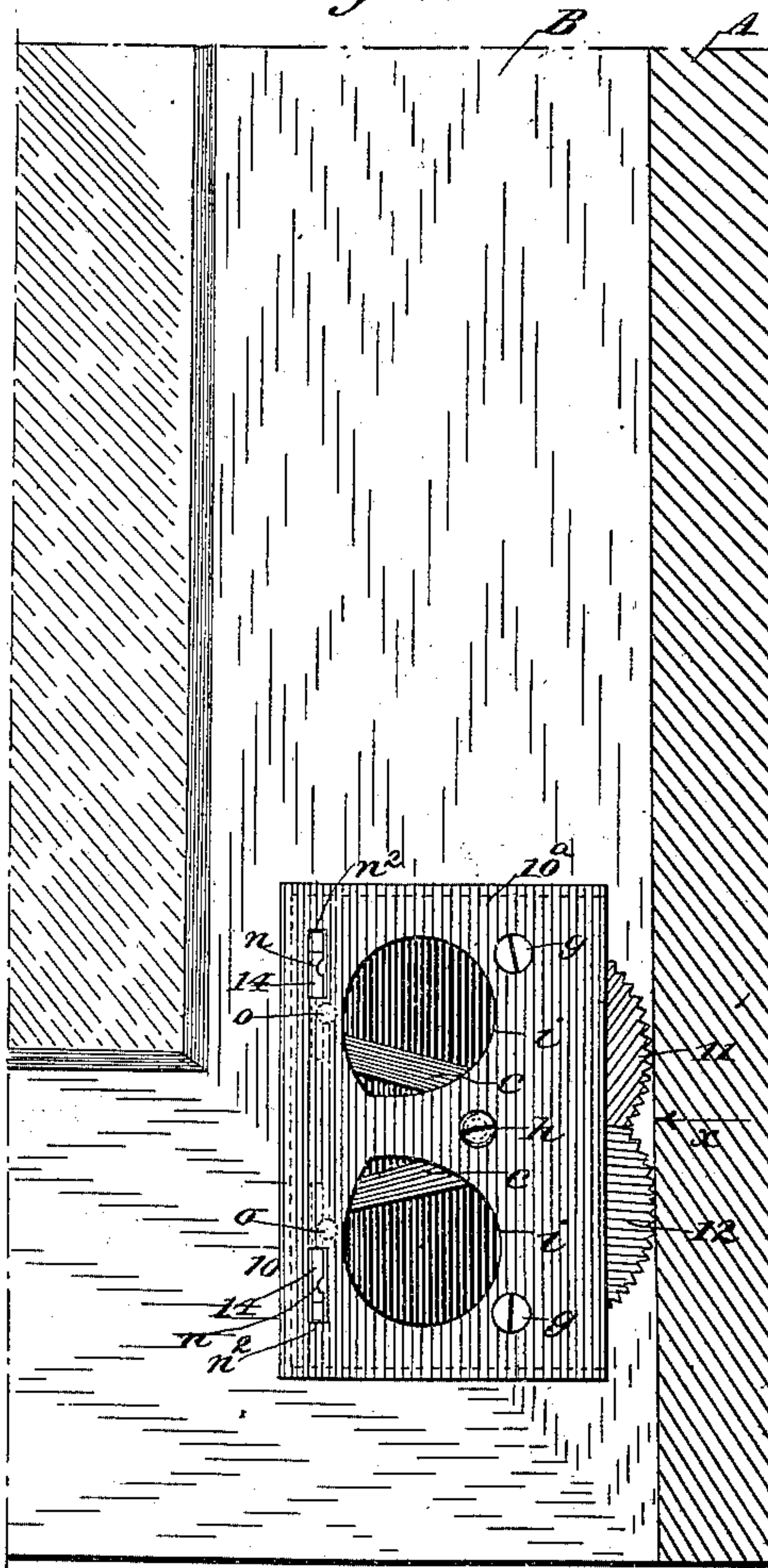


Fig. 3.

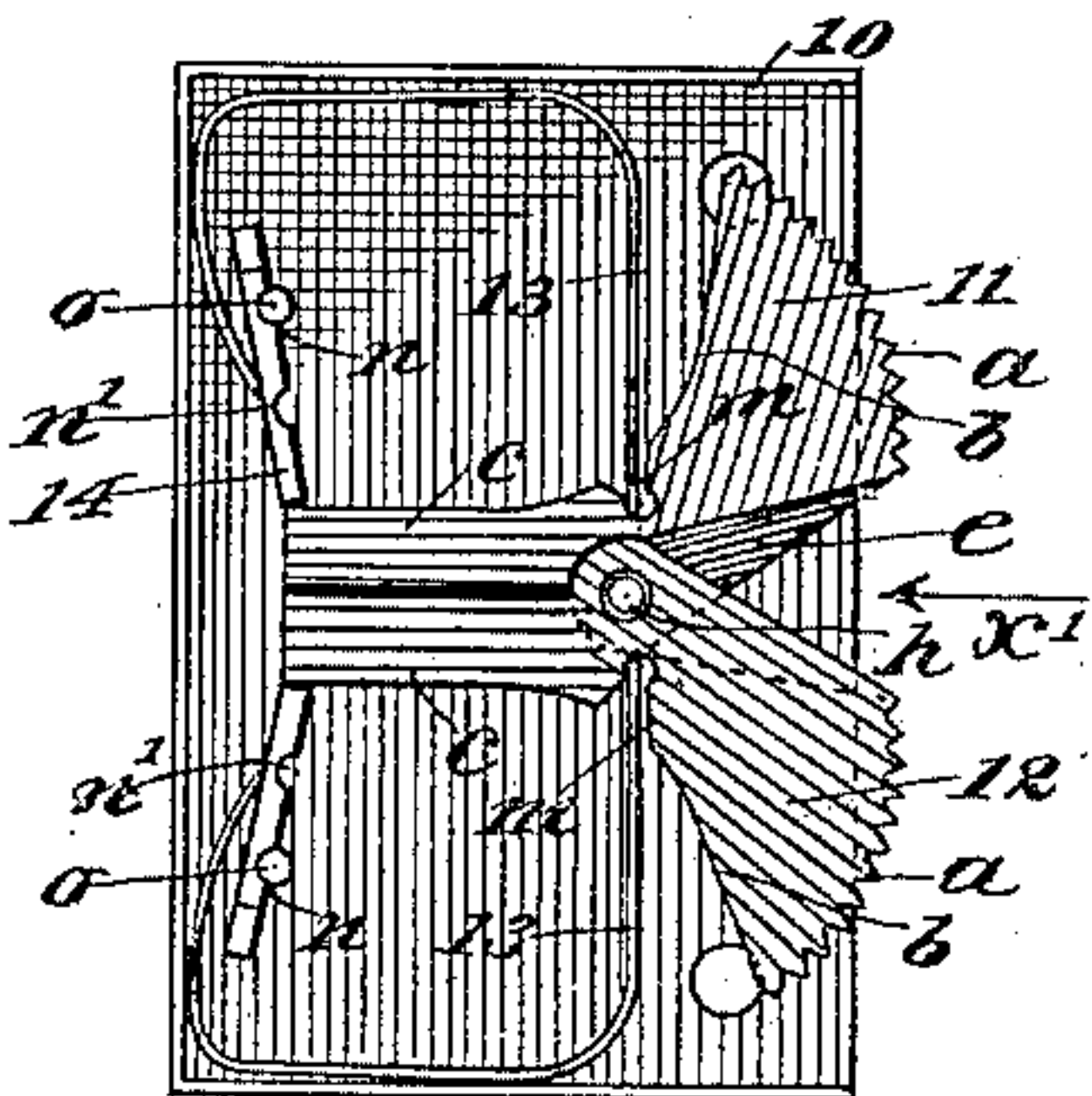


Fig. 7.

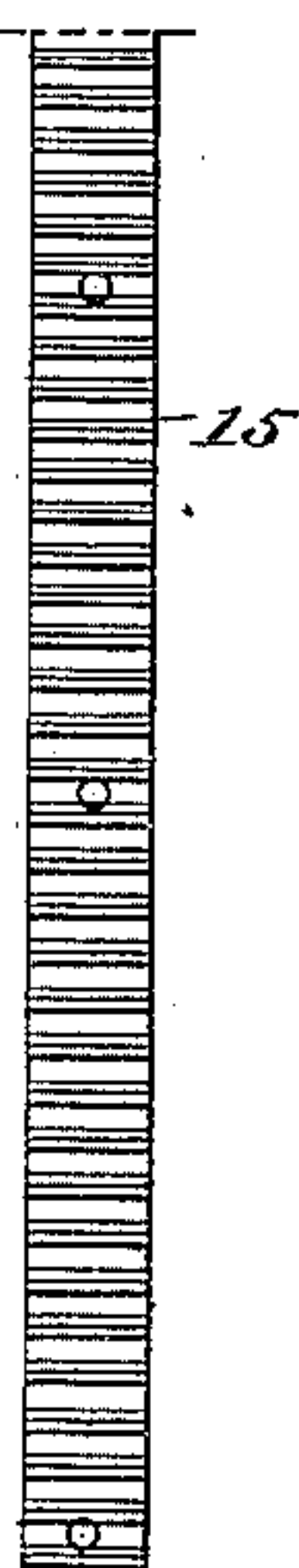


Fig. 4.

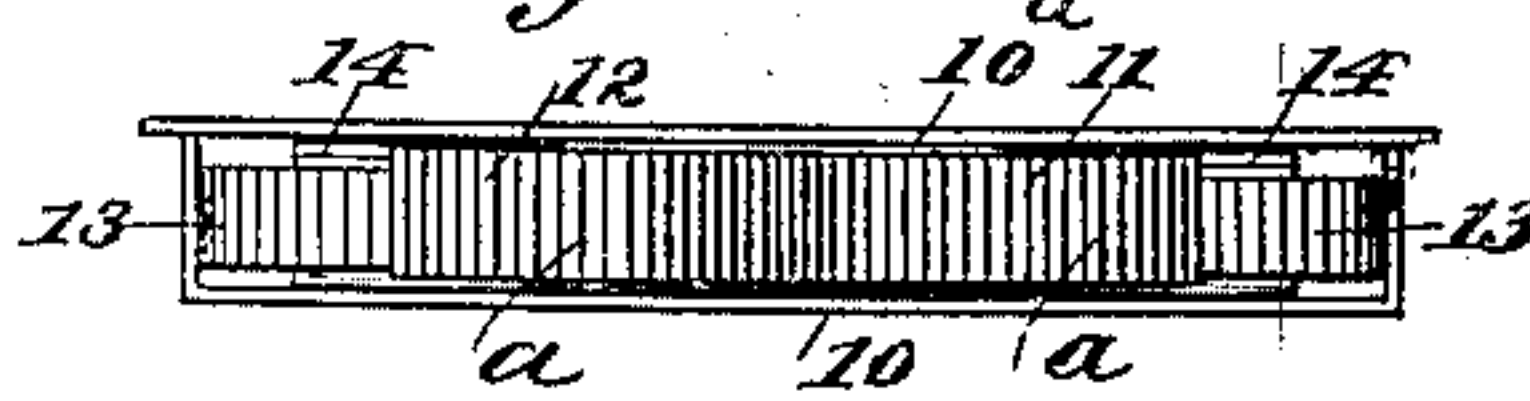


Fig. 5.

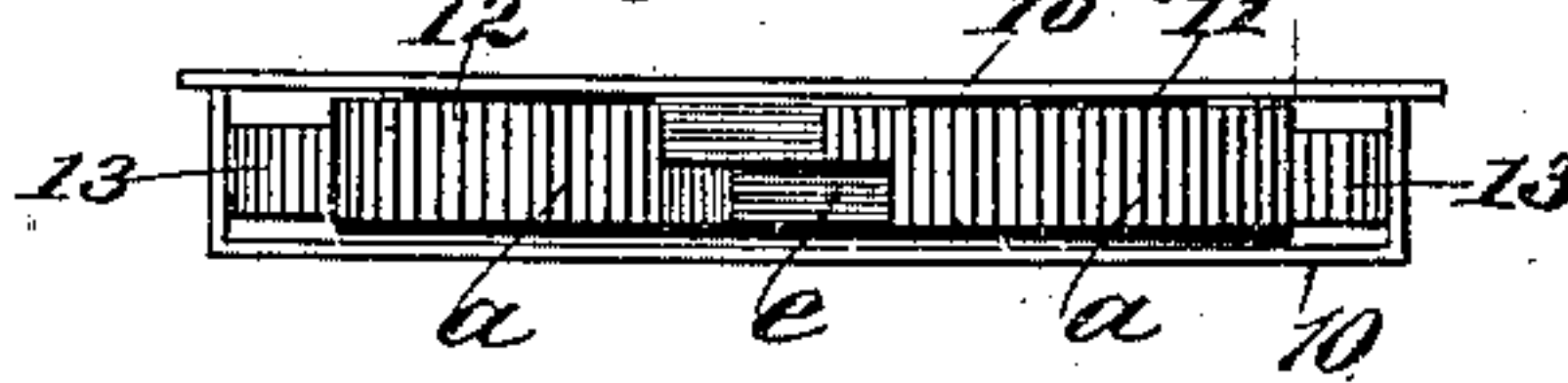
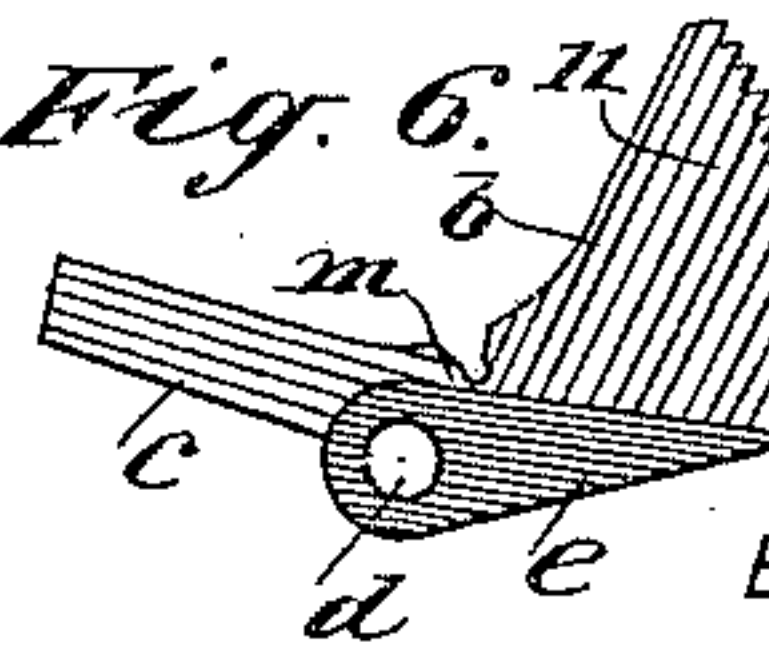


Fig. 6.



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# UNITED STATES PATENT OFFICE.

OTTO FRANK HELFRITZ, OF CHICAGO, ILLINOIS.

## SASH-HOLDER.

SPECIFICATION forming part of Letters Patent No. 662,722, dated November 27, 1900.

Application filed September 21, 1900. Serial No. 30,657. (No model.)

*To all whom it may concern:*

Be it known that I, OTTO FRANK HELFRITZ, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Sash Holder and Lock, of which the following is a full, clear, and exact description.

This invention relates to a class of sash-locks which engage the sashes and the side of the window-casement to hold the sashes at desired points of vertical adjustment and lock the same either closed or partially opened.

The object of the invention is to provide a sash-lock of the class indicated of novel simple construction and adapted for very effective service either as a sash-holder or as a burglar-proof sash-lock.

The invention consists in the novel construction and combination of parts, as is hereinafter described, and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view in part of a window-sash and window-casement, together with the improvement thereon, having the working parts fully exposed and shown adjusted to hold the window-sash closed. Fig. 2 is a side view of the sash and casement in part, the sash-lock thereon having its front wall in place and the working parts adjusted to retain the sash closed, the lock in this arrangement having positive engagement with the jamb of the window-casement. Fig. 3 is a detached side view of the sash-lock, the front of the lock-case being removed, exposing the working parts that are adjusted to retract the locking-arms, which are normally spring-pressed toward the window-casement. Fig. 4 is a front edge view of the sash lock and holder seen in the direction of the arrow *x* in Fig. 2, showing the working parts as adjusted to lock a sash fast upon the jamb of a window-casement. Fig. 5 is a similar view, but showing the locking-arms of the device adjusted to release a sash and seen in the direction of the arrow *x'* in Fig. 3; and Fig. 6 is a detached plan view of one of the locking-arms of the improved sash lock and holder. Fig. 7 is a front view of the rack.

In the drawings, which illustrate the construction and application of the invention, A indicates a portion of a window-casement jamb or side stile, and B a lower sash in part, the lower right-hand corner portion of the sash being shown, whereon the casing 10 of the sash-lock is secured. The casing 10 is rectangular and may with advantage have greater vertical dimension than breadth, as is clearly shown in Figs. 1, 2, and 3.

Two locking-arms 11 12 are provided, each consisting of a flat block convexed on the front edge, whereon teeth *a* are formed. Each forward portion of a locking-arm 11 or 12 has its rear edge *b* curved inwardly, and from the rear portion thereof a finger-piece *c* extends rearwardly at an obtuse angle to the edge *b*, as clearly shown in Fig. 6. At the junction of the finger-piece *c* with the body of the arm a perforation *d* is formed in each arm 11 12, and a wing member *e* is formed on the body portion of each locking-arm of half of the thickness of the main portion of the arm and the finger-piece thereon. Each wing member *e* is of greatest breadth at its rear near the perforation *d*, and at said ends of the wings the edges thereof are shaped to afford a knuckle-joint when one wing is imposed flatwise upon the other.

The cover 10<sup>a</sup> of the casing 10 is held in connection therewith by screws *g*, which engage registering perforations in the casing and the cover, and a pivot-screw *h* passes through the cover and screws into opposite perforations in the back wall of the casing 10 when the working parts of the device are located in the casing. As shown in Fig. 2, two similar apertures *i* are formed in the cover 10<sup>a</sup>, said apertures having such relative positions as to expose the fingers *c* for free manipulation. The front edge of the casing 10 is open throughout its extent, and said casing is of such capacity between its back wall and the cover as to receive the lapped arms 11 12, that may be held to rock toward and from each other by the pivot-screw *h*, that passes through the registering perforations *d* and, as before stated, enters opposite perforations in the cover and back wall of the casing 10, as before mentioned.

Forward of and near the pivot-screw *h* notches *m* are oppositely formed in the edges



5 *b* of the arms 11 12 for the reception of the corresponding ends of two bowed plate-springs 13. The springs 13 are substantially U-shaped and, as shown, are introduced and seated within the casing 10, so that the bow portion of each spring which intervenes the legs thereof has loose contact with the rear wall of the casing. The leg of each spring 13 which is opposite the one engaged at its end in an appropriate notch *m* is disposed along the inner surface of the rear wall of the casing 10 so as to press thereon, and the tension of the springs 13 is normally exerted to press each other, and consequently spread the fingers *c* apart, as clearly shown in Fig. 1.

Two keeper-bars 14 are loosely positioned in the casing 10, transversely thereof and adjacent to the rear wall of the same, and in the forward edge of each keeper-bar two suitably-spaced notches *n n'* are formed, the notch *n* in each bar being near the outer end thereof and the notch *n'* near the opposite or inner end of the keeper-bar. Two slots *n<sup>2</sup>* are formed in the cover 10<sup>a</sup> of the casing 10, directly above the keeper-bars 14, exposing their outer edges, so that the bars may be readily manipulated to slide them from the exterior of the casing. A detent-pin *o* is located in the casing 10 at the front of each keeper-bar 14, and said pins are adapted to respectively enter a notch *n* or *n'* of the bar, such engagement being effected by a longitudinal sliding movement of the keeper-bar and pressure of the leg of the bowed spring 13, that is between the rear wall of the casing and rear of the keeper-bar.

It will be seen that if the keeper-bars 14 are moved far enough toward the end walls of the casing 10 to cause the notches *n'* therein to receive the bodies of the detent-pins *o* the normally-bowed rear legs of the springs 13 will be flattened, and thus adapted to hold the keeper-bars in position, while the forward legs of the bowed springs press endwise upon the arms 11 12, so as to rock their inner edges toward each other and diverge the fingers *c*, as indicated in Figs. 1 and 2. When the locking-arms 11 12 are rocked toward each other, as just explained, the serrated convex edges *a* are moved outward from the casing 10 and may have contact with a serrated rack 15, that is secured on the upright jamb of the window-casement, so as to mesh the teeth of the locking-arms with those of the rack, as shown in Fig. 1, and as this contact of parts is enforced by the springs 13 it will be apparent that the window-sash will be held stationary while such a toothed engagement of the locking-arms with the rack 15 is maintained.

In order to move the sash B, the operator grips the finger-pieces *c* with the thumb and finger of one hand, and thus rocks said fingers toward each other, the openings *i* in the cap-piece 10<sup>a</sup> affording free access to the finger-pieces, as clearly shown in Fig. 2. Upon compression being applied to the fingers *c* and

their resultant movement toward each other the main portions of the locking-arms 11 12 are rocked away from each other and their convex serrated front edges *a* are retracted from the rack 15 in an obvious manner, thereby releasing the arms 11 12 from said rack, which will permit the sash B to be elevated to a desired height. Then the release of pressure on the finger-pieces *c* will permit the springs 13 to throw the toothed edges *a* out into mesh with the rack 15, and thus lock the sash at a desired point of adjustment.

It is evident that if the casing 10 of the sash lock and holder is embedded in the sash, so as to dispose the toothed edges of the arms 11 12 opposite the face of the stile of the window-casement A, wherein the sash B is held to slide, the teeth *a* on said convex edges will have enforced engagement with said face of the casement-stile and by friction thereon hold the sash raised or lowered, this engagement of parts being clearly shown in Fig. 2.

It is desirable at times to hold the locking-arms 11 12 out of engagement with the casement-jamb or the rack 15 thereon. To this end the keeper-bars 14 may be moved endwise and toward each other, so as to cause the pins *o* to enter respective notches *n* in said bars, which will permit the tension of the rear legs of the bowed springs 13 to press the inner ends of the keeper-bars forwardly. If the arms 11 12 are in engagement with the rack 15 or stiles of the window-casement A, by applying pressure upon the finger-pieces *c*, so as to rock them toward each other, the spring-pressed inner ends of the keeper-bars 14 will assume positions over the free ends of the finger-pieces and hold them from divergence, as clearly shown in Fig. 3.

It will be seen that by the inward sliding movement of either keeper-bar 14, so as to effect a locking engagement of its inner end with an adjacent end of a respective finger-piece *c*, the locking-arm that said finger-piece is a portion of may be held retracted and only the other arm have engagement with the rack 15 or window-stile, as the case may be. This provision is of advantage where it is desirable to adapt the sash for free sliding movement upwardly and hold it at any desired point of elevation, which can be effected if the upper keeper-bar 14 is slid inwardly, so as to lock the uppermost arm 12 out of contact with the rack 15 or jamb of the window-casing. Furthermore, if the upper keeper-bar 14 is moved so as to release the end of the finger-piece on the uppermost locking-arm 11 and the lower keeper-bar 14 is slid inwardly, so as to engage with the lower finger-piece *c* on the locking-bar 12, the latter will be held away from the stile of the casement A and only the locking-arm 11 have engagement with the rack 15 or stile of the casement.

By the adjustment of parts just explained it will be seen that the depression of the upper finger-piece that is on the upper locking-



bar 11 will suffice to permit an elevation of the sash that will descend by its gravity when free to do so and when seated upon the sill of the window-casement A will be held by the upper locking-arm from elevation until said arm is released by manipulation. This sash-lock cannot be opened from the exterior of the window without breaking the window-glass.

10 The invention is applicable to all slidable windows and is particularly advantageous as a holder and lock for car-windows.

Having fully described my invention, I claim as new and desire to secure by Letters  
15 Patent—

1. A sash-lock comprising a casing, two locking-arms having convex outer edges, pivoted in said casing and held to rock toward and from each other, means for rocking said  
20 arms toward each other at their outer ends, so as to project said ends from the casing, and two keeper-bars adapted to hold the locking-arms retracted by their engagement with members of said arms at their rear ends.

25 2. A sash-lock comprising a casing, two locking-arms in said casing each having a convex serrated forward edge, and a laterally-bent finger at the opposite end, said arms being lapped and pivoted together intermediately of their ends, bent springs adapted to  
30 rock the outer ends of these arms toward each other and thus project them from the casing, and slidable keeper-bars which are exposed for manipulation through slots in the outer side of the casing, rear ends of the bent  
35 springs pressing the keeper-bars to hold them as adjusted.

3. A sash-lock comprising a rectangular casing open at the front, and apertured at  
40 the front side, two lapped and pivoted arms held to rock in the casing so as to project or retract forward curved and serrated edges of the arms, laterally-bent fingers on the rear portions of the arms adapted for manipula-

tion through the casing-apertures, bowed  
45 springs engaging the ends of their front legs with notches in outer side edges of the locking-arms so as to press said arms toward each other, and means for holding the fingers  
50 folded toward each other, thus retracting the front edges of the locking-arms.

4. A sash-lock, comprising a casing, two locking-arms adapted to lap at adjacent edges and pivoted together at the rear ends of the lapped portions, the pivot passing through  
55 opposite perforations in the casing, laterally-bent finger-pieces on the rear portions of the locking-arms, bowed springs adapted to press the forward portions of the locking-arms toward each other, and thus project said por-  
60 tions beyond the open front of the casing, and keeper-bars longitudinally adjustable in the casing and adapted to hold the finger-pieces folded toward each other or release  
65 said fingers.

5. In a sash-locking device, the combination with a window-casement, a sash held to slide therein, and a serrated rack secured on the casement, of a sash-lock, comprising a casing, two locking-arms having convex serrated  
70 forward edges, and lapped and pivoted at their rear edges, finger-pieces on the rear portions of the locking-arms, bowed springs the forward legs of which engage with the locking-arms so as to normally press them toward  
75 each other, and longitudinally-slidable and rockable keeper-bars, spring-pressed by the rear legs of the bowed springs, so as to hold the finger-pieces rocked toward each other or  
80 release them.

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

OTTO FRANK HELFRITZ.

Witnesses:

ADOLPH D. WEINER,  
RICHARD E. KROPF.