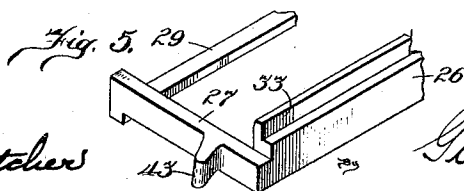
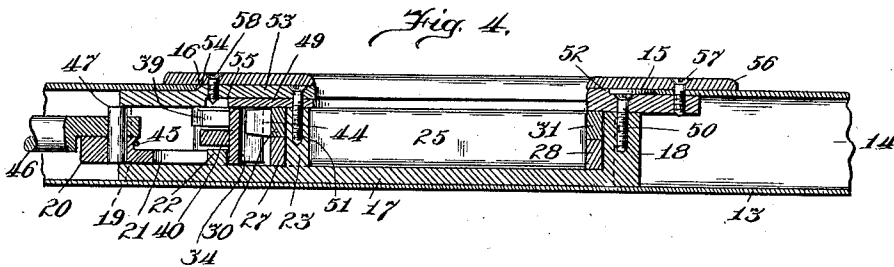
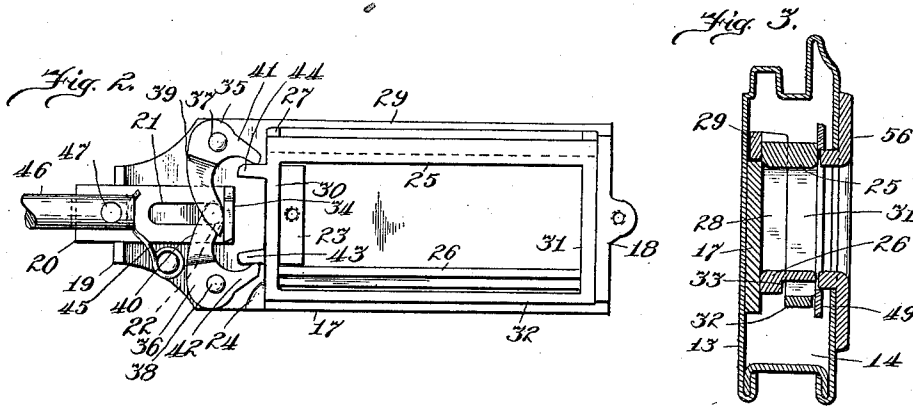
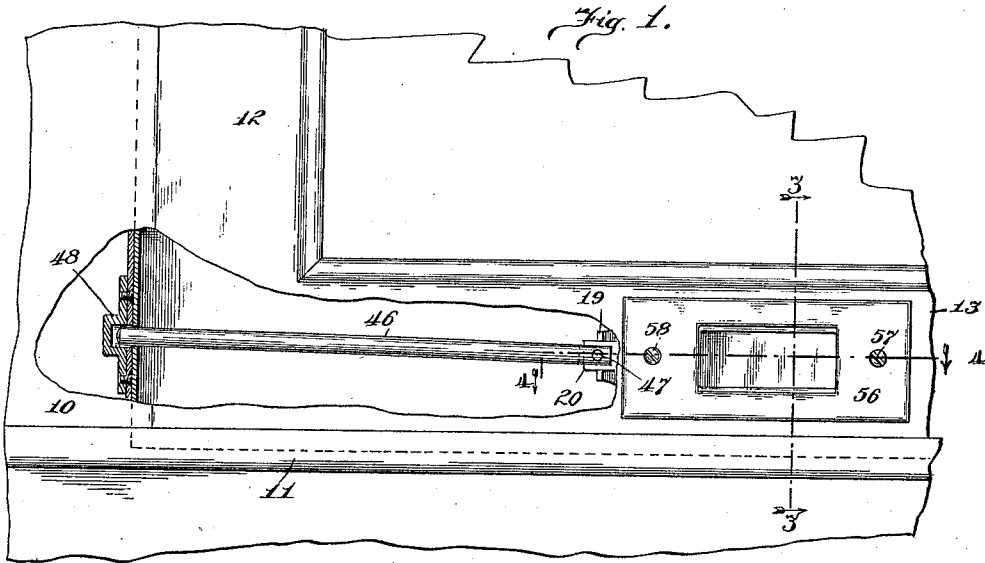


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 LOCK FOR WINDOW SASH.  
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# UNITED STATES PATENT OFFICE.

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## LOCK FOR WINDOW-SASH.

1,029,804.

Specification of Letters Patent.

Patented June 18, 1912.

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*To all whom it may concern:*

Be it known that I, JAMES A. GIESE, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Locks for Window-Sash, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to metallic window sash having a chambered rail, and a lock housed within the chamber of the rail; the objects of the invention being to provide improved means for removably securing the lock within the rail; for removably securing to the bolt-head of the lock a pivoted bolt; and to provide improved means for actuating a reciprocating bolt-head. These objects are attained in the construction hereinafter described, and which are illustrated in the accompanying drawings in which—

Figure 1 is a detail of the sash and window casing, some of the parts being broken away to show the internal construction; Fig. 2 is an elevation of the lock with some parts removed; Fig. 3 is a sectional view on the line 3—3 of Fig. 1; Fig. 4 is a sectional view on the line 4—4 of Fig. 1; and Fig. 5 is a detail in perspective of one of the bolt-controlling elements of the lock.

The window casing is represented at 10 and the bottom sill of the window at 11. The sash so far as shown comprises a side rail 12 and a bottom rail 13. The bottom rail is made of sheet metal, and is chambered, as shown at 14. A lateral aperture is formed in one of the side walls of the rail 13, the ends of the aperture being indicated at 15, 16.

The lock casing comprises a bottom plate 17, and a rearward end wall 18. The opposite or outer end of the plate 17 is upturned, as shown at 19, and is slotted to provide a sideway for a reciprocating bolt-head 20, the inner end of which is slotted, as shown at 21, to receive a guide-stud 22 projecting upwardly from the plate 17. Back of the stud 22 and spaced apart therefrom a wall 23 rises from the plate 17 and, with the wall 18 and a stud 24 rising from one edge of the plate 17 forward of and spaced apart from the wall 23, serves as a guide for the bolt-controlling elements.

The bolt is controlled by a pair of oblong rectangular frames accessible to the

fingers of the operator through the lateral aperture in the rail 13, one of the side members, as 25, 26, of each of the controlling elements forming a finger-piece extending along the side of the sash aperture, their width corresponding substantially to the depth of the chamber of the lock casing. The side 26 and ends 27, 28, of one of the bolt-controlling elements slide upon the plate 17 and bear, respectively, against the outer face of the wall 23 and the inner face of the wall 18, the end 27 also bearing against the inner face of the stud 24.

The width of the ends 27, 28, is substantially one half of the depth of the chamber of the lock casing. The remaining side member 29 of this controlling element is located below the ends 27, 28, the plate 17 being cut away for its accommodation. The end members 30, 31, of the other controlling element slide upon the ends 27, 28, and the remaining side member 32 of this element which lies back of the side member 26 is approximately one-half the width thereof, the member 26 being rabbeted, as shown at 33, for its accommodation.

The inner end of the bolt-head 20 is upturned, as shown at 34. A pair of angle levers 35, 36, are pivoted upon studs 37, 38, rising from the plate 17, adjacent its opposite edges and intermediate of the upturned end 19 of the plate, and the wall 23. The arms 39, 40, of the angle levers 35, 36, overlap and bear against the outer face of the upturned end 34 of the bolt-head. The arms 41, 42, of the angle levers bear against the outer faces, respectively, of lugs 43, 44, projecting forwardly, respectively, from the members 27 and 30 of the controlling elements.

A spring 45 urges the bolt-head 20 outwardly or toward the end of the sash rail 13. A bolt 46 is loosely pivoted upon a stud 47 rising from the bolt-head 20, and projects through the end of the rail 13, and is adapted to engage the socket plate 48 fitted within the stile of the window casing 10. When the bolt-head is advanced by the spring 45, the sides 25 and 26 of the controlling elements are drawn toward each other. The application of pressure upon either of these sides of the controlling elements will move it laterally and withdraw the bolt. By making the controlling elements rectangular in form they are rendered much more rigid

than when they are simply three-sided or U-shape, and their distortion under the strains incident to service is thereby prevented.

5 The bolt casing is provided with a top or cover plate 49, apertured to permit access to the controlling elements and secured to the walls 18, 23, by means of screws 50, 51. This top plate 49 projects backwardly beyond the wall 18. The lock casing is of greater length than the aperture in the rail 13, its width, however, permitting it to freely enter this aperture.

10 The lock is fitted within the rail by inserting it through the aperture, sliding it forward therein to permit the rearward end of the plate 40 to enter the aperture and then sliding it backwardly until an upstanding shoulder 52 on the cover plate abuts against the end 15 of the rail aperture. A retaining plate 53 is now inserted between the forward end of the lock and the side wall of the rail 13, this plate being provided with a shoulder 54 which abuts against the end 16 of the rail aperture, and a downstanding shoulder 55 which engages the forward end of the cover plate 49. The screw 51 may serve the added purpose of fastening the retaining plate to the lock casing. The lock is now securely held within the rail, being prevented from endwise movement by engagement with the ends 15, 16, of the sash rail aperture, and against lateral movement by the snug fit of the retaining plate between the sides of the rail aperture. The retaining plate 53 is of sufficient length to project over or, as shown, partially over the stud 47, and thus prevents the disengagement of the bolt 46 from the stud 47, this engagement having been effected after the insertion of the lock and before the retaining plate is placed. While the lock is now rendered serviceable, an apertured escutcheon plate 56 is preferably fitted to the side of the rail 13, being secured by means of screws 57, 58, one of which is shown as passing through the side of the sash rail and entering the plate 49, which is made of sufficient thickness to provide ample stock for this purpose, the other screw being set into the retaining plate 53.

As thus constructed and arranged the sash rail is equipped with a lock which is conveniently inserted and removed, which is securely held in position and which is easily operated for withdrawing the bolt, its finger pieces serving as pulls for either raising or

lowering the sash. The pivotal attachment of the bolt to the bolt-head compensates for any inaccuracies of workmanship in positioning the lock aperture of the rail and the bolt-hole in the end thereof.

I claim as my invention—

1. In a sash and lock therefor, in combination, a chambered sash rail having a lateral aperture, a lock casing adapted to fit within the chamber of the rail and being of greater length than the lateral aperture and having a shoulder for engaging one end wall thereof, and a retaining plate removably attached to the lock casing and engaging the opposite end wall of the aperture.

2. In combination, a chambered sash rail having a lateral aperture, a lock fitted within the rail and comprising a reciprocating bolt-head, sliding rectangular bolt-operating elements, one thereof being superposed upon the other, one side member of each of such elements constituting an operating plate and their ends being in sliding engagement, and levers interposed between the controlling elements and the bolt-head.

3. A sash lock comprising a base plate, a bolt-head reciprocating upon such plate, a rectangular controlling element slidably mounted upon the base plate, one of its sides constituting a pressure plate, its rearward face being rabbeted and its opposite side being at the edge of and in line with the base plate, a second rectangular controlling element, one side of which constitutes a pressure plate opposed to the first-named pressure plate, the remaining side of the second controlling plate being adapted to enter the rabbet of the first-named pressure plate, and levers engaged, respectively, by the two controlling elements and each engaging the bolt-head.

4. In combination, a chambered sash rail having a lateral aperture, a lock fitted within the rail and comprising a reciprocating bolt-head, sliding rectangular bolt-controlling elements, one thereof being superposed upon the other, one side member of each of such elements constituting a pressure plate and their ends being in sliding engagement, and means interposed between the controlling elements and the bolt-head for retracting the latter.

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