A. E. HANSON.

WINDOW SASH LOCK.

APPLICATION FILED APR. 11, 1910.

1,023,014. Patented Apr. 9, 1912.

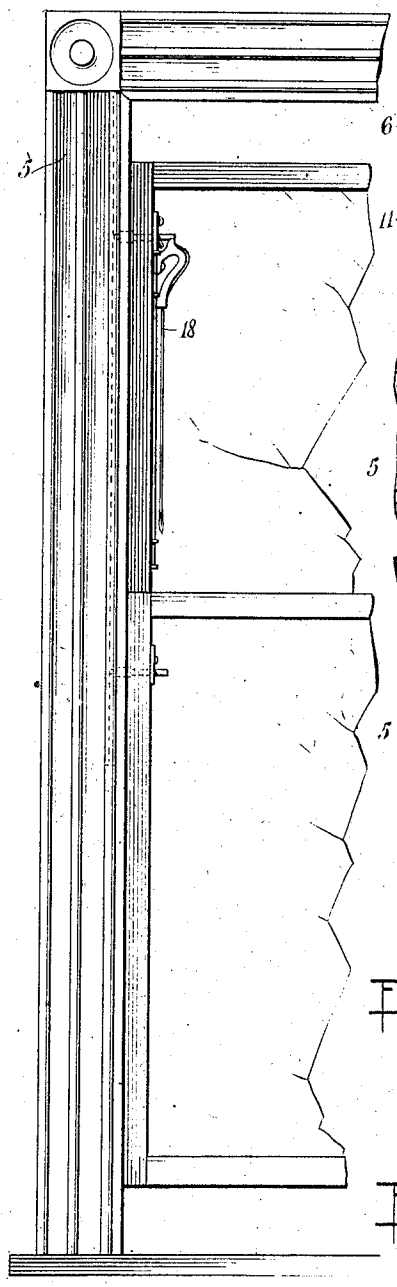

Fig. 1.

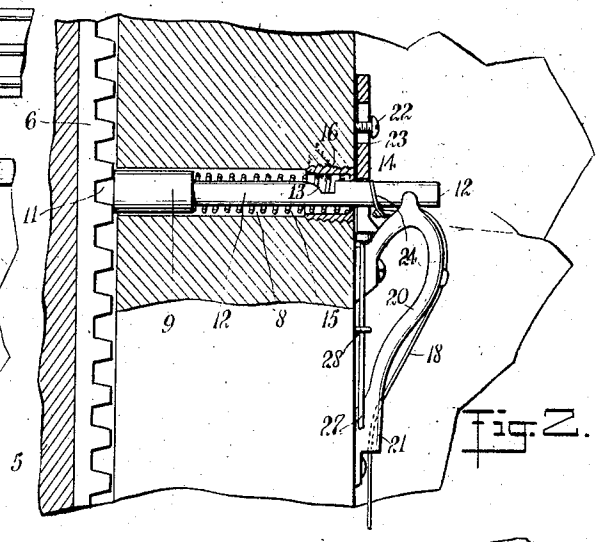

Fig. 2.

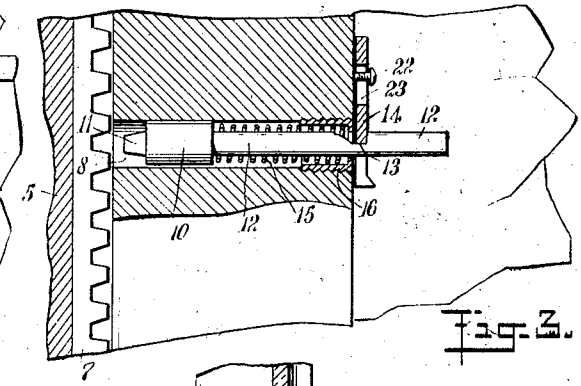

Fig. 3.

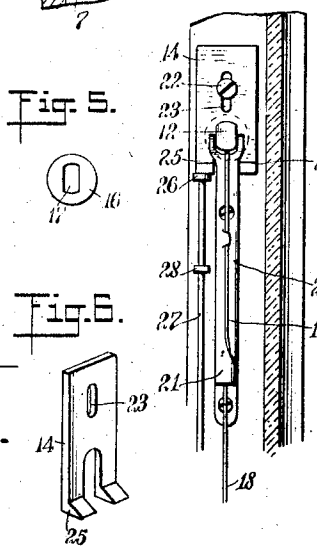

Fig. 4.

Fig. 5.

Fig. 6.

WITNESSES:

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UNITED STATES PATENT OFFICE.

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WINDOW-SASH LOCK.

1,023,014. Specification of Letters Patent. Patented Apr. 9, 1912.

Application filed April 11, 1910. Serial No. 554,594.

To all whom it may concern:

Be it known that I, ALBERTUS E. HANSON, a citizen of the United States, and a resident of Mason City, in the county of Cerro Gordo and State of Iowa, have invented a new and Improved Window-Sash Lock, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide a sash lock which permits the window to be locked in a closed or partially opened position for purposes of ventilation; and to provide a lock which is simple, efficient and durable in form and construction.

One embodiment of the present invention is disclosed in the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a fragmentary view in side elevation, of a window structure provided with locks constructed and arranged in accordance with the present invention; Fig. 2 is a vertical section on an enlarged scale, taken through the center of the sash stile, showing the bolt and operative connections therewith mounted on the upper sash of the window and in locked position; Fig. 3 is a vertical section on an enlarged scale, showing the bolt and connections for operating the same as applied to the lower sash of the window; the bolt being shown in its retracted position in which the window is unlocked; Fig. 4 is an edge view of the stile of the upper sash, showing in elevation the latch plate, bracket, and operative connections therewith; Fig. 5 is an end view of the guide socket thimble for the locking bolt; Fig. 6 is a detail view in perspective of the drop plate for maintaining the bolt in retracted position.

The present invention is embodied in the mechanical construction illustrated in the drawings, wherein a window frame 5 is provided with an upper rack 6 and a lower rack 7. The racks 6 and 7 are secured in the side of the frame 5 between the guide stops for the different sashes. The pitch or spacing of the teeth of the racks is regulated to suit the demands of the trade.

Opposite each rack, and in the stile of each of the sashes, are formed perforations 8, 8. Within the perforations are placed bolts 9 and 10, the barrels whereof are formed to a diameter corresponding with the perforations 8, 8, to slide therein. The outer end of each bolt is provided with a squared tooth 11, shaped to mesh with the teeth of the racks 6 and 7. Each bolt is provided with a shank 12, sufficiently elongated to extend beyond the stile of the sash when the tooth 11 is engaged with the rack 6 or the rack 7.

Each bolt is formed to an oval shape in the shank thereof, and is provided with a recess 13 into which a locking plate 14 drops when the bolts are withdrawn from engagement with the said racks. The rear end of the said recess is abrupt, as shown in the drawings, while the forward end thereof is inclined, permitting the bolt to be withdrawn freely and beyond the abrupt wall of the recess 13, so that the plate 14 may drop into the recess freely.

Surrounding each bolt, and resting against the barrel thereof, is a spiral spring 15, so held by screw threaded thimbles 16, the ends whereof are provided to form an oval shaped or elongated guide for the shanks 12 of the said bolts. To insert the thimbles 16 in the perforations 8 they are screwed therein much in the manner of inserting a screw socket.

In mounting the bolts 9 and 10 the shanks 12, 12 thereof are first provided with the springs 15, 15, which are threaded over the said shanks to rest on the barrels of the said bolts 9 and 10. The shanks 12 and barrels of the said bolts are then inserted through the outer edge of the stiles of the sash, and the shanks are extended through perforations 17 formed in the thimbles 16. In this position the springs 15 are seated in the thimbles 16. The shanks 12 are protruded through the elongated perforations 17 of the thimbles 16 until the recess 13 extends under the plate 14, in which position the said plate will drop into the said recesses and prevent the projection of the bolts from the said perforations.

The plates 14 are provided with elongated slots 23, through which are inserted screws 22. The plates are also provided with feet 25, 25, which assist in lifting the plates out of engagement with the recesses 13, also for weighting the plates to seat the same in the said recesses.

In the lower sash the rack, bolt, spring, socket, and plate constitute the entire lock. In the upper sash a bracket 20 is provided to guide a cord 18 when retracting the said

bolt to unlock the same from the rack 6. The bracket is formed substantially as shown in the drawings, and is provided at the lower end with an open loop 21, through which the cord is passed when not being operated to retract the bolt 9. The cord 18 slides over the top of the said bracket 20, and is connected to the shank 12 by means of a wire loop 24. The loop 24 is suitably connected to the shank 12 and operates to stop the shank 12 from being projected outward from the perforation 8 when the sash is lifted from the frame. A small groove is formed in the shank 12 to receive the said loop 24. In the upper sash the plate 14 may be extended beyond the reach of the operator, and for that reason there is provided a small operating rod 27, which is mounted in guides 28, and is provided with a head 26 which rests under one of the feet 25 on the plate 14. When the rod is raised, it lifts the plate 14 out of engagement with the recess 13 and permits the spring 15 to force the said bolt into engagement with the rack 6.

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

1. In combination with a window frame having a rack fixedly disposed therein and a sash slidable therein, a lock, comprising a bolt mounted in a perforation in said sash and adapted to engage the said rack in holding relation, said bolt extending inward beyond the stile of said sash, and said bolt having formed in the upper portion thereof a recess arranged to extend beyond the inner surface of said stile only when the said bolt is drawn from engagement with said rack; a sliding plate adapted to rest upon said bolt and arranged to drop into the said recess when the said bolt is retracted, said plate being provided with extended projections at the bottom of said plate to afford means for lifting the said plate; and a lifting rod guidedly mounted on said stile beneath the said projections on said plate.

2. In combination with a window frame having a rack fixedly disposed therein and a sash slidable therein, a lock comprising a bolt mounted in a perforation in said sash and adapted to engage said rack, said bolt being provided in the upper portion thereof with a recess arranged to be exposed only when the said bolt is withdrawn from engagement with the said rack; a plate slidingly mounted on said sash above said bolt and supported by said bolt, said plate being adapted to enter said recess when said recess is exposed; and means adapted to engage said plate to lift the same from engagement with said bolt, said means being manually operative at a point removed from said plate.

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

ALBERTUS E. HANSON.

Witnesses:
SAMUEL A. KOCH,
GEO. H. MCLAURY.