No. 649,212. Patented May 8, 1900.

O. D. REEVES.

SASH HOLDER AND FASTENER.

(Application filed July 21, 1899.)

(No Model.)

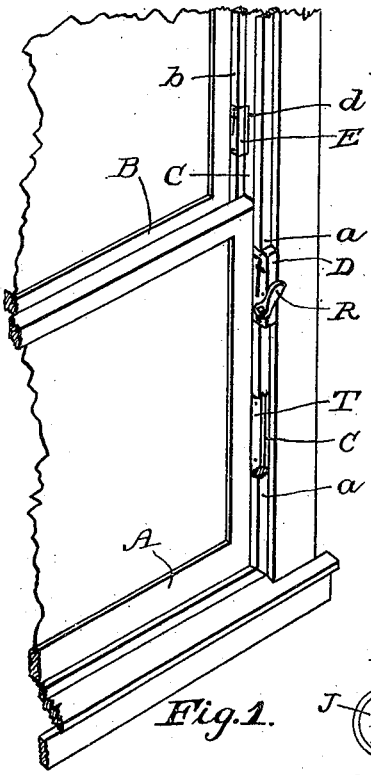

Fig. 1.

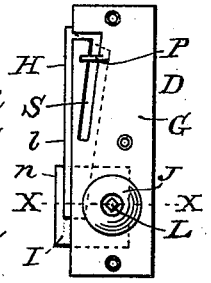

Fig. 2.

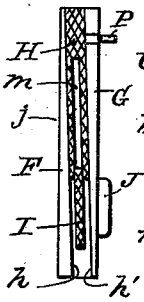

Fig. 3.

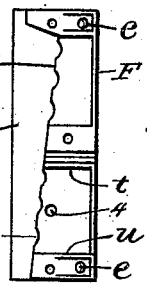

Fig. 4.

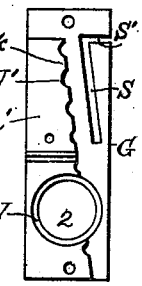

Fig. 5.

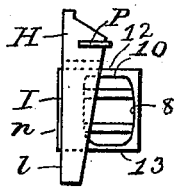

Fig. 6.

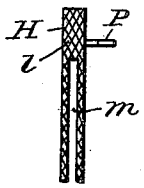

Fig. 7.

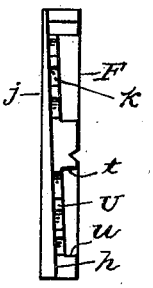

Fig. 8.

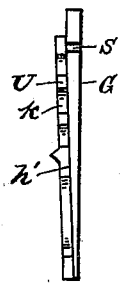

Fig. 9.

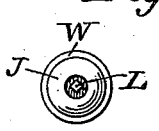

Fig. 10.

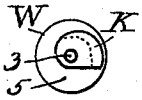

Fig. 11.

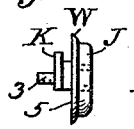

Fig. 12.

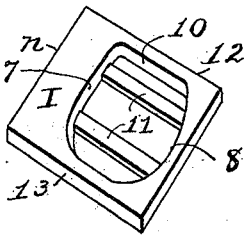

Fig. 13.

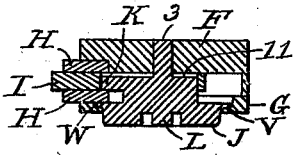

Fig. 14.

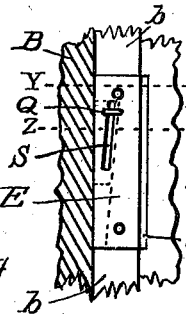

Fig. 15.

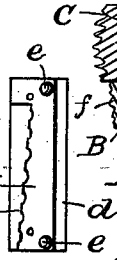

Fig. 16.

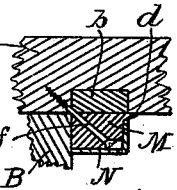

Fig. 17.

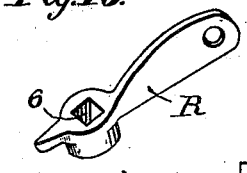

Fig. 18.

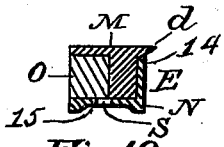

Fig. 19.

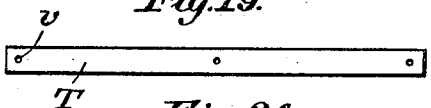

Fig. 21.

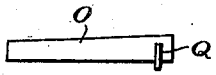

Fig. 20.

Witnesses:

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By E. T. Silvius.

Attorney.

UNITED STATES PATENT OFFICE.

ORANGE D. REEVES, OF INDIANAPOLIS, INDIANA.

SASH HOLDER AND FASTENER.

SPECIFICATION forming part of Letters Patent No. 649,212, dated May 8, 1900.

Application filed July 21, 1899. Serial No. 724,597. (No model.)

To all whom it may concern:

Be it known that I, ORANGE D. REEVES, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Sash-Locks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and numerals of reference marked thereon, which form a part of this specification.

This invention relates to sash-locks of the class designed to be secured to the window-casing and operating to bind the sash; and the objects in view are to provide an improved gravity-wedge lock adapted to limited spaces for application, as for upper sashes, and also adapted for the lower sash, and particularly to provide such a lock as shall bind the sash in two directions to more surely prevent the rattling thereof in the frame by wind-currents. Other objects are to provide a positive lock and one protected against ordinary tampering therewith and which may be cheaply manufactured and be durable and economical in use.

The invention consists in providing a wedge-channel so formed that a gravity-wedge descending therein and in contact with a window-sash shall cause the sash to bind both against the slide-strip at the opposite or outer side of the sash and against the side of the window-frame opposite to that at which the lock is attached, an improved gravity-wedge provided with a transverse slit or recess at its lower portion, a dead-lock bolt of novel form working across the recess in the wedge, a novel frictional controller operating the dead-lock bolt, and certain improvements in the details of construction of the case, whereby the same may be securely attached in the parting or slide strip between the two sashes and drawn toward the upper sash, with an extended base bearing on the solid part of the frame at the side of the strip-recess, as will be more fully described hereinafter; and the invention consists also in the parts and combination and arrangement of parts described, and pointed out in the claims.

Referring to the drawings, in which like letters and numerals of reference in all the figures indicate like parts, Figure 1 represents a fragmentary perspective view of a window, illustrating the application of my invention; Fig. 2, a front elevation of my lock as adapted more particularly for use with a lower sash and showing both the gravity-wedge and dead-lock partly projecting as when in operative position; Fig. 3, an elevation of the operative side of that shown in Fig. 1; Figs. 4 and 5, plan views of the interior of the case; Figs. 6 and 7, detail views of the gravity-wedge; Figs. 8 and 9, side elevations of the two parts of the case; Figs. 10, 11, and 12, front, rear, and side views, respectively, of the dead-lock controller; Fig. 13, a perspective view of the dead-lock; Fig. 14, a transverse sectional view taken on a line X X in Fig. 2; Fig. 15, a fragmentary detail view showing the front of the lock as particularly adapted for use with the upper sash; Fig. 16, a plan view of the interior of the body part of the case for the upper-sash lock; Fig. 17, a fragmentary transverse sectional view taken on a line Y Y in Fig. 15; Fig. 18, a perspective view of the dead-lock key; Fig. 19, a transverse sectional view of the upper lock, taken on a line Z Z in Fig. 15; Fig. 20, a front view of the gravity-wedge as used in the upper-sash lock, and Fig. 21 a plan view of the sash-protector.

In practically carrying out my invention I provide a suitable metallic case in which I mount the working parts and which is usually composed of a body part having suitable bolt and screw holes and a cap having also holes to receive retaining-bolts; but in some cases the cap may be retained by wood-screws which secure the whole case to the window frame or casing.

While I show two forms of lock as being sometimes desirable under certain conditions, in many cases the lower-sash lock D may be used with an upper sash B, and the upper-sash lock E may be used with a lower sash A. When the slides *a* or *b* are set in grooves in the window-frame C, I provide a thin lip *d*, particularly on the body of the case for the upper lock, which must usually be narrow and of the width of the slide *b*, the latter being cut away flush with the face of the frame

and leaving but a thin part in the groove, and in this case the lip *d* extends over the slide and bears upon the more solid frame at the edge of the groove, so that the lock is prevented from tilting over when the weight of the sash is upon the wedge. I also preferably provide angular screw-holes *e*, so that the retaining-screw *f* may enter the solid wood of the frame C and tend to draw the lock toward the sash.

The pattern of lock D as I preferably construct it consists of the body F and cap G, constituting the case, and gravity-wedge H, the dead-lock I, the controller K, and the key R. The case has an oblique angular channel in which the wedge works, and is formed by side walls *h* and *h'*, which are disposed angularly to the base *j* of the case, and a bottom bearing U and U', the latter being permissibly formed entirely in the body portion. To prevent undue friction, the wedge-bearings preferably have recesses *k*, so that the bearing contact is not continuous. The effect of the laterally-angular channel is to cause the wedge after biting the sash to force the sash to the opposite side of the window-frame at the same time that it is being clamped against the slide-strip at the side of the sash opposite the lock. The cap G has an angular slit S and in some cases a continuing slit S', extending to the edge of the cap, in which the shank of the finger-hold P or Q of the wedge works. The wedge H has a slit or recess *m*, extending from its lower end upward nearly to its upper end, to receive the dead-lock bolt I, so that the whole lock is not required to be excessively long; but when the dead-lock is not employed a solid wedge O may be used. The bolt I works in a recess in the body F and between guides *t* and *u*. The controller K is in the form of a cam and has a stem 3, working in a circular bearing-socket 4 in the base of the body F, and a beveled circular frictional flange W, bearing against a corresponding lip V at the edge of an aperture 2 in the cap G, these frictional bearings being designed to prevent accidental rotation of the controller, as well as intentional movement, without the use of the proper key R therefor. At the outside of the flange W is preferably a projection J, having a central recess in which is a key-post L in alinement with the stem 3, and a key R, having a suitable socket, is adapted to be applied to the key-post when operating the dead-lock. This socket may be open at the top, as at 6, or it may be closed. The periphery of the projection J acts as a journal in the aperture 2 and preferably extends slightly at the front of the cap G, and the back 5 bears against the thin bottom part 11 of the dead-lock bolt I, this bottom being preferably two connecting strips across the opening in the bolt, at the front of which is a bearing 7, engaged by the cam to push the bolt out, and at the back a bearing 8 to withdraw the bolt. The bolt is rectangular in plan, having guide edges 12 and 13 bearing at *t* and *u*, respectively, and is of sufficient thickness to neatly fill the slit *m* in the wedge.

While the lock D may be used with an upper sash, usually the dead-lock is not required, and in the interest of economy I usually construct the upper-sash lock more simply, as E, the body M of the case having the angular wedge-channel above described and a solid wedge O, and the cap N has a lip 14 at the side of the case extending to the lip *d*, and usually has a depression 15, in which the finger-hold Q works.

The sides *l* and *n* of the wedge and bolt, respectively, being preferably milled, I provide a sash-protector T to prevent abrasion of the face of the sash, and it is composed of a thin strip of suitable material, as a composition of lead and alloy, having holes *v* and secured to the sash by nails or screws. In Fig. 1 a portion of the slide *a* is broken away to partially expose the protector, which is of suitable length to correspond with the travel of the sash relatively to the lock.

In operation the gravity-wedge constantly presses against the sash except when raised manually. Thus the sash is prevented from dropping when not counterbalanced by weights, and the upper sash cannot be lowered except by releasing the wedge pressure against it. To prevent the lower sash from being raised, the dead-lock bolt is forced against it and withdrawn to release it.

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

1. A sash-lock case provided with a longitudinal plane wedge-channel whose sides are parallel and situate angularly to the base-line of the case.

2. A sash-lock case provided with a longitudinal wedge-channel whose bottom is situate angularly to the working edge of the case and whose sides are parallel and situate angularly to the base-line of the case.

3. A sash-lock comprising a case having a longitudinal vertical plane wedge-channel, a gravity-wedge provided with a transverse recess and mounted in the channel, horizontal guides and a recess in the case intersecting the vertical wedge-channel, a dead-lock bolt working horizontally in the guides and across the vertical wedge-channel and transverse recess of the wedge, and a frictional controller for operating the dead-lock bolt.

4. A sash-lock provided with a slitted wedge working vertically and a dead-lock bolt working through the slit in the wedge horizontally.

5. A sash-lock comprising a case provided with a longitudinal wedge-channel inclined angularly both to the working edge and to the base-line thereof, a wedge provided with a transverse recess and working longitudinally in the wedge-channel, horizontal guides and a recess in the case intersecting the wedge-channel, a dead-lock bolt working horizon-

tally in the guides and recess and across the inclined wedge-channel and transverse recess of the wedge, and a controller engaging the dead-lock bolt.

6. In a sash-lock, the combination with a case, of a longitudinal wedge-channel whose working bottom is angular to the working edge of the case and whose sides are parallel and inclined to the base-line of the case, a wedge provided with a transverse recess and having a milled or serrated working front and a back corresponding in angularity to the working bottom of the wedge-channel and having parallel sides fitting slidingly to the sides of the wedge-channel, a dead-lock bolt mounted in the case and working across the transverse recess of the wedge, a finger-hold whereby such wedge may be raised manually, and means whereby the dead-lock bolt may be operated.

7. In a sash-lock, the combination with a case, of a longitudinal wedge-channel the bottom of which is angular to the working edge of the case and the sides of which are parallel and inclined to the base-line of the case, the recesses in the bottom of such channel, a wedge in such channel, and a finger-hold whereby the wedge may be lifted.

8. In a sash-lock, the combination of a case provided with a vertically-disposed wedge-channel and a horizontally-disposed recess and bolt-guides intersecting the wedge-channel, a gravity-wedge provided with a transverse recess and working longitudinally in the wedge-channel, means whereby the wedge may be raised manually, a dead-lock bolt sliding horizontally in the recess and bolt-guides and across the wedge-channel and recess of the wedge, a case-cap provided with a circular aperture opening into said recess and having an annular beveled frictional bearing at the inner edge thereof, a dead-lock-bolt controller engaging such annular frictional bearing and provided with a cam engaging such dead-lock bolt, and a lever whereby to operate such controller.

9. In a sash-lock, the combination with a case, of the lip projecting from the base, the wedge-channel, the slit in the front of the case, the finger-hold working in said slit, and the angular aperture extending through the case to receive a screw whereby said case is drawn toward the sash, substantially as set forth.

10. In a sash-lock, the combination of the case having the slitted cap and provided with the angularly-situate wedge-channel, the wedge having the finger-hold working in said slit and provided with the slit extending from the lower end thereof, the dead-lock bolt working through the slit in said wedge, the frictional dead-lock controller provided with the key-post set in a recess, and the attachable key, substantially as set forth.

11. In a sash-lock, the combination of the sash and its frame, the lock-case having the longitudinal wedge-channel, the wedge provided with the slit or recess and working in such wedge-channel, the horizontal guides in such case, the dead-lock bolt working in such guides and also in such slit or recess, the dead-lock controller having the frictional bearing in such case and engaging the dead-lock bolt, the controller-key actuating such controller, and the protecting-strip attached to the sash and engaged by such wedge and by such dead-lock bolt, substantially as set forth.

12. In a sash-lock, the combination of the case, the wedge-channel, the gravity-wedge provided with a slit or recess and working vertically in such wedge-channel, the horizontal guides in such case, the dead-lock bolt mounted in such guides and working horizontally in such guides and in such slit or recess and comprising a body having the opening therein and the opposing forward and rearward bearing-faces in such opening, the controller comprising the cam working against such bearing-faces and having a frictional bearing in such case, and a lever-key whereby such controller may be actuated.

In testimony whereof I affix my signature in presence of two witnesses.

ORANGE D. REEVES.

Witnesses:
MARQUIS L. JOHNSON,
E. T. SILVIUS.