

E. L. Brown,

Sash Lock.

No. 109801.

Patented Dec. 6. 1870.

Fig. 1.

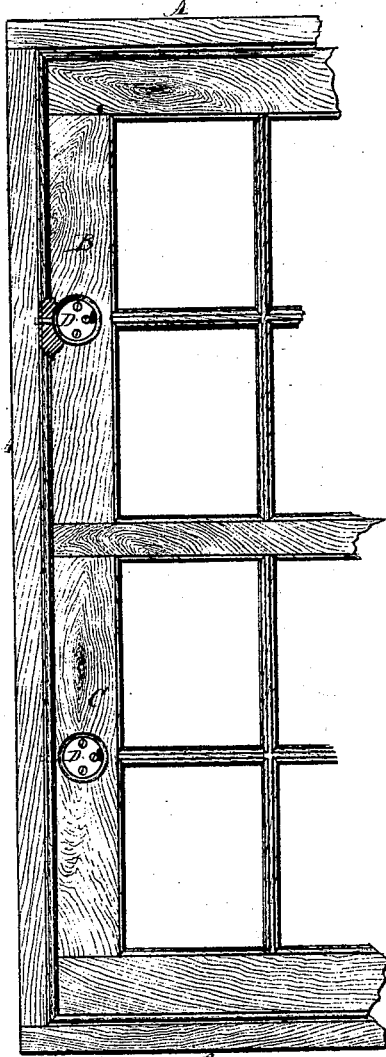


Fig. 2.

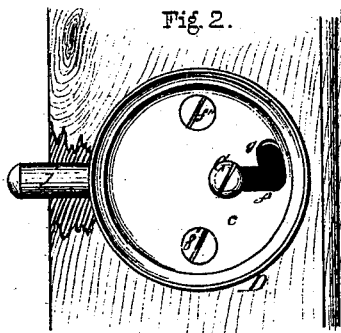


Fig. 3.

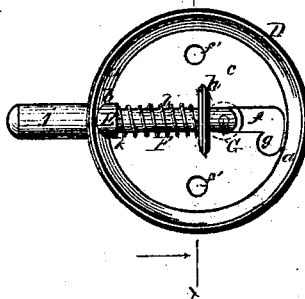
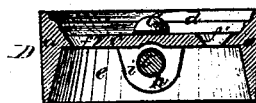


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

ERASTUS L. BROWN, OF NORWICH, NEW YORK.

IMPROVEMENT IN SASH-LOCKS.

Specification forming part of Letters Patent No. 109,801, dated December 6, 1870.

To all whom it may concern:

Be it known that I, E. L. BROWN, of Norwich, in the county of Chenango, and in the State of New York, have invented certain new and useful Improvements in Sash-Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation, showing one side of a window-frame with the locks in position upon the upper and lower sashes; Fig. 2, a plan view of a front portion of the side rail of a sash and of the lock in position, fastening the sash; Fig. 3, a plan view of the under side of the lock; and Fig. 4, a vertical cross-section on the line *xx* of Fig. 3, showing that part of the lock to the right of said line.

Like letters of like kinds denote like parts in each figure.

The nature of my device relates to locks for fastening either the lower or upper sashes of windows at any desired point; and the object sought to be attained is the production of a sash-lock which shall be cheap, simple, durable, and effective, which shall be applicable, without change of any part of it, to either upper or lower sashes, which may easily, and without the exercise of mechanical skill, be placed upon sashes, requiring for this purpose only the tools ordinarily found in households, which may be unlocked and fastened in that position, so that both hands may be used in raising or lowering the sash; and my invention consists in the novel form and construction of the case, which is circular in form, with an opening on one side for the bolt, with a diaphragm which divides it into two cup-shaped recesses, in the upper one of which the stud is protected from injurious contact, and in the lower recess there is a yoke upon the under side of said diaphragm to receive and guide the bolt, thereby avoiding the need of a second opening in the walls of the case, the whole cast in one piece, all as more fully hereinafter described.

In the drawings, A represents a window-frame; B, the upper and C the lower sashes of the same, each of ordinary construction; and D, the shell of my sash-lock, of which the following is a full and accurate description:

The case is annular in form, having walls *a*, the outsides of which slope inwardly a little from top to bottom, and in one of these walls, near its vertical center, an opening, *b*, pointing toward the center of the case, for the passage of the bolt. These walls are connected together by a diaphragm, *c*, which is arranged horizontally at a distance about one-third of the space between the top and the bottom of the walls, and divides the case into an upper chamber, *d*, and a lower chamber, *e*. This diaphragm has a slot, *f*, for the stud of the bolt, which slot is recessed at its outer end, *g*, so as to hold the stud when the bolt is drawn back, and openings *f'* for screws *f''*, to hold the lock to the sash. This diaphragm has also secured to its under side, near its center, a yoke, *h*, provided with an opening, *i*, which receives the inner end of the bolt. The bolt, which is denoted by the letter E, has a head, *j*, occupying about one-half of its length, a right-angled shoulder, *k*, where it is joined to the neck *l*, which is of lesser diameter than the head, and a threaded opening at its inner end, into which the stud is screwed. When placed in position, the head protrudes through the opening *b* in the walls of the case, and the neck protrudes through the opening *i* in the yoke. Between this yoke and the shoulder *k* a spiral spring, F, is wound around the neck of the bolt, one end of which spring rests against said yoke and the other against the shoulder before spoken of. A stud, G, fastened to the inner end of the neck of the bolt, as described, and protruding through the slot *f*, with its head upon the upper side thereof, serves as a handle by which to withdraw the bolt.

This lock is placed upon the sash by boring a hole in the side of the rail of a suitable size for its reception, and a smaller hole in the edge of the rail for the bolt. The stud is unscrewed from the bolt, when the latter, with its spiral spring, may be removed. The case is then placed in the hole made for it, the bolt, having the spiral spring around its neck, is inserted in the opening in the wall of the case from the outside, the stud is screwed into the bolt, and the case fastened to the rail. The case should in all instances be inserted far enough to bring its outer face in line with the surface of the rail. Suitable holes for the reception of the

head of the bolt for locking the sash may be placed at such points as will be most convenient in the casing of the window.

The case is cast in one piece, of suitable metal, including the yoke; but I find it cheapest to cast them of iron, as shown in the model exhibited herewith. The opening in the wall of the case for the bolt is bored out in the usual manner, and a smaller tool inserted afterward in this opening serves to bore out the opening in the yoke for the neck of the bolt. The bolt may be either of cast or wrought metal, as suits the convenience of the manufacturer; but I find it cheapest to strike them up with suitable dies.

The advantages of the peculiar construction of the case are as follows: It is cast in one piece, and therefore has the greatest strength with the least weight and the smallest cost. Its circular form not only adds to its strength, but makes it more convenient to put upon the sash. The diaphragm also adds greatly to its strength, whereby all parts may be made lighter. In addition, it gives an upper chamber, in which the studs may be out of the way, so that the lock may be fitted to an upper sash, and a lower chamber, in which the bolt and spring are arranged strongly and securely within a yoke making a part of the case.

The advantages of the bolt and spring consist in their simplicity of parts and of con-

struction, by which the bolt and spring may be placed in the case while it is upon the sash, and also in their cheapness and efficiency.

The advantages of the whole lock consist in its adaptability to upper and lower sashes, in the fact that its normal condition is that of locking, that it may be fastened back when unlocked, so that both hands may be employed to raise or lower the sash, in its cheapness, its durability, and in its efficiency.

I am aware that sash-locks have been made with circular cases, with cases adapted for putting on by the use of boring-tools, and with an arrangement of bolts and springs somewhat resembling mine, and I do not claim the specific or general features of such. Therefore

What I regard as novel therein and claim as my invention is—

The circular case *D*, provided with the diaphragm *e*, the slot *f*, the opening *b*, and the yoke *h*, all cast in one piece and combined with the bolt *j*, substantially as described and shown, and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of October, 1870.

ERASTUS L. BROWN.

Witnesses:

E. C. BROOKS,

A. H. GOODWIN.