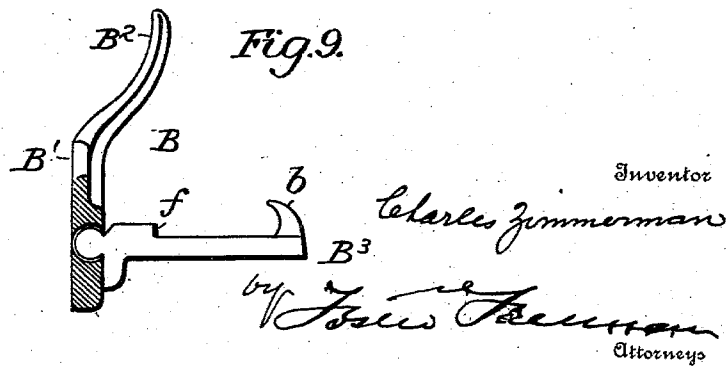
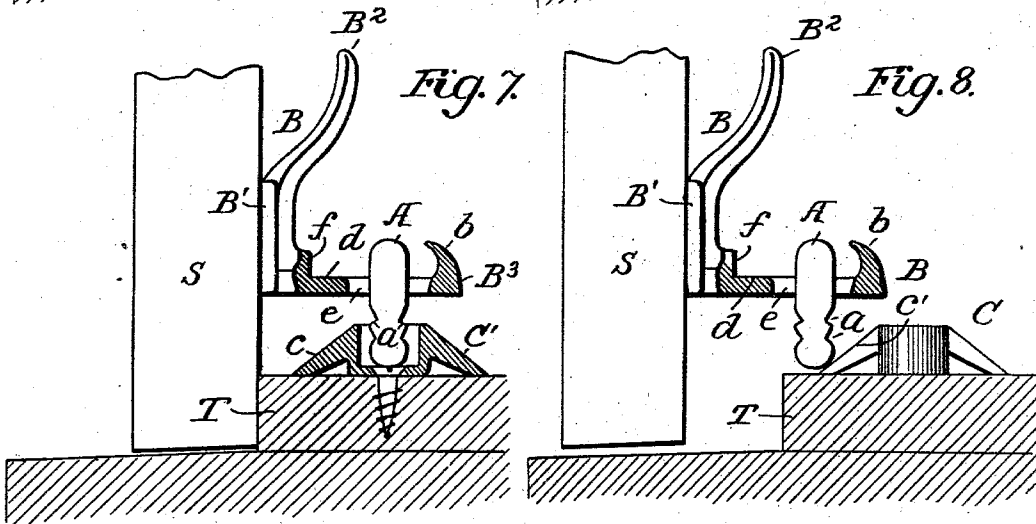
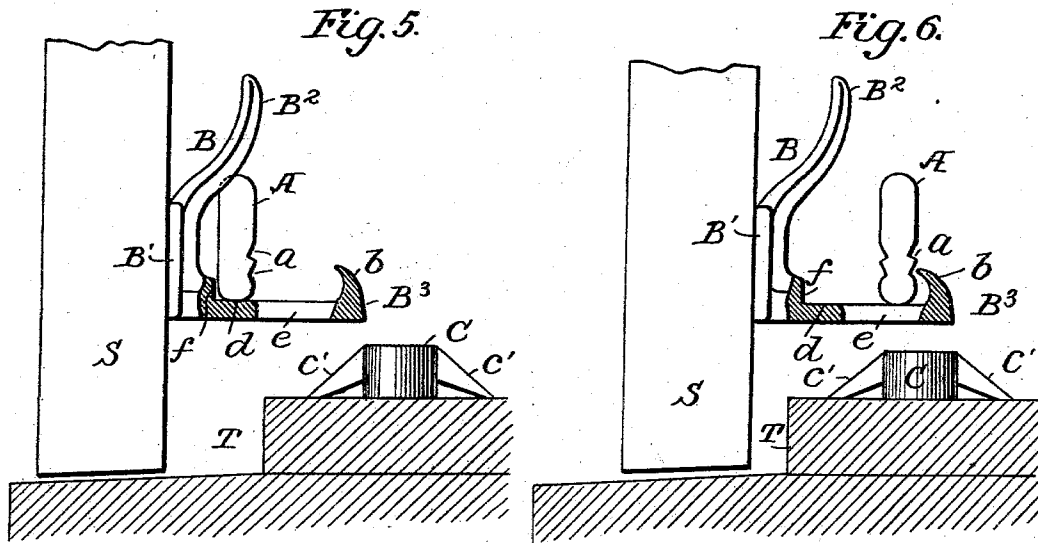


C. ZIMMERMAN.
SHUTTER BOWER AND FASTENER.

APPLICATION FILED JAN. 5, 1903.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses

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UNITED STATES PATENT OFFICE.

CHARLES ZIMMERMAN, OF ARABY, MARYLAND.

SHUTTER BOWER AND FASTENER.

SPECIFICATION forming part of Letters Patent No. 740,970, dated October 6, 1903.

Application filed January 5, 1903. Serial No. 137,912. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ZIMMERMAN, a citizen of the United States, residing at Araby, Frederick county, State of Maryland, have invented certain new and useful Improvements in Shutter Bowers and Fasteners, of which the following is a specification.

My invention relates to shutter bowers and fasteners, and has for its object to improve and simplify the construction of such articles and to provide such a construction as will avoid the objections to those heretofore made; and to these ends my invention consists in the various features of construction and arrangement of parts adapted to operate substantially as hereinafter more particularly set forth.

Referring to the accompanying drawings, Figure 1 is a perspective view of a window shutter and sill, showing the shutter bower and fastener in position, the shutter being held and locked open. Fig. 2 is an enlarged perspective view of the shutter portion of the locking device or fastener. Fig. 2^a is a detail of a modification. Fig. 3 is a side view of the same attached to the shutter. Fig. 4 is a detailed view of a portion of the brace-rod, showing one arrangement of notches. Figs. 5, 6, 7, and 8 are side views, partly in section, showing the parts in various positions; and Fig. 9 is a side view, partly in section, showing a modification in the construction of the locking device.

My present invention relates generally to that class of shutter bowers and fasteners disclosed in my prior patents Nos. 537,334, of April 9, 1895, and 564,548, of July 21, 1896, and embodies improvements in the details of construction and arrangement of parts, providing an improved mode of operation whereby some of the difficulties and objections arising in the use of the devices shown in my prior patents are overcome.

Referring to the accompanying drawings, S represents a shutter, and T a portion of the sill of a window to which the shutter bower and fastener are attached and are adapted to operate, broadly speaking, in a well-known way. Mounted in the sill is a sill-plate C, provided with a number of openings *c*, one of which is shown elongated, and the side of the sill-plate is inclined, as at *c'*. This sill-plate

can be attached to the sill in any desired way, as by screws or otherwise. Also mounted on the sill is a socket E, into which the end of the brace-rod may be placed when it is desired to open the shutter to its full extent, it being shown as partially open in Fig. 1, with the brace-rod engaging one of the openings in the sill-plate C, and it will be understood that the position of the shutter could be adjusted by adjusting the brace-rod in different positions in the sill-plate.

Attached to the shutter is a bracket D, which is of the usual construction, and connected to the bracket is the brace-rod A, it being provided with a bent end adapted to cooperate with the sill-plate and socket E for holding the shutter in the desired open position in the usual way.

B represents the lock piece or portion of the locking device which is adapted to be attached to the shutter, and my improvements are more especially directed to the details of construction of this part of the device, although it also includes other parts, as will be pointed out hereinafter. This "lock," as I call it for convenience, may be of various forms, but is purposely shown as conforming in general design to the lock of my previous patents, but it differs therefrom essentially in details of construction, which produce a different mode of operation of the device. This lock comprises, broadly speaking, a base-piece B¹, an upwardly-projecting pull-piece B², and a forward extension B³, which is rigidly connected with the base-piece and is preferably formed integral therewith, although it may be separately made, as indicated in Fig. 9. In my prior constructions this extension B³ was pivoted to the base portion and served in itself as a locking-piece to directly engage and lock with the sill-plate; but in the present construction the lock or locking-piece B does not in itself engage with the sill-plate, but it serves as a carrier and support for the brace-rod A, the bent end of which cooperates with the lock B and engages the sill-plate C, and the locking device proper includes the lock-piece B, the brace-rod A, and the sill-plate C. This lock-piece B is peculiarly constructed and is provided with a lug or projection *b* on its outermost portion which extends upward and inward,

forming, in effect, a hook and having a relatively sharp edge on its innermost extension. The lock-piece is also provided with a rest portion or receptacle *d*, and between this rest portion and the lug is an opening *e*. At the inner portion of the rest or receptacle there is a shoulder *f*, and all these parts and specific constructions are important in the perfection of my invention. While this lock may be used with the brace-rod A of the usual construction, in order to secure all the advantages of my invention the bent end of the brace-rod is provided with one or more notches *a* on one side of the bent end, or, as shown, the notches may extend on more than one side, although the principal advantages arising from this construction can be obtained by using the notches on one side only, as will appear hereinafter.

Such being the general construction of my improvements, the advantages thereof will be largely understood by those skilled in the art, but may be more thoroughly appreciated in describing the ordinary operation of closing and locking the shutter. We assume that the parts are in the position shown in Fig. 1, and when it is desired to close the shutter the brace-rod is removed from the sill-plate and placed on the lock B, and then the shutter is closed in any desired way, as by means of the finger-pull B³ or by taking hold of the shutter itself or otherwise, and the shutter is usually slammed shut, and of course it is desirable that it shall be automatically locked in the operation. The bent end of the brace-rod may be placed in the opening *e* of the lock, or it may be placed upon the rest or receptacle *d*, as shown in Fig. 5, and when in the latter position the shoulder *f* will prevent the rod sliding toward the shutter, and the momentum given to it in closing the shutter will throw it across the hole *e* and its end will strike the lug *b*, as shown in Fig. 6, and the end of the lug impinging upon one of the notches *a* of the brace will prevent its flying out of engagement with the lock, and it will eventually drop into and through the hole *e* into one of the openings *c* of the sill-plate C and the parts will become locked, as shown in Fig. 7. If perchance in closing the shutter the bent end of the brace-rod A is placed in the hole *e* of the lock-piece B on the shutter before closing, when the shutter is closed the end of the brace-rod will impinge upon the inclined portion *c'* of the sill-plate C, as shown in Fig. 8, and this will tend to lift the end of the brace-rod and is liable to throw it out of engagement with the lock B; but the projection *b* in my improved device will engage one of the notches *a* on the end of the rod and prevent its flying out, and when the shutter is completely closed the brace-rod will fall downward by gravity into one of the openings *c* of the sill-plate C, as shown in Fig. 7. The bracket D to which the brace-rod is pivoted will prevent the rod from twisting when its free end engages the projection *b*, so that

a firm and effective pull can be applied to the shutter for closing it.

When the shutter is closed from the inside, if the brace-rod is placed in the hole *e* the rod may be used to pull the shutter closed, and in thus pulling the shutter the bent end of the rod *a* is liable to be pulled out of position; but the projecting end of the lug will engage one of the notches in the brace-rod and prevent this taking place. So, too, if perchance there is a downward pull on the brace-rod which would prevent its being elevated when it is used to close the shutter the end of the rod would impinge upon the inclined portion *c'* of the sill-plate and is liable to be thrown out of the hole *e*; but the projecting end of the lug will engage one of the notches in the rod and prevent this happening, and when the rod is released it will fall into the opening in the sill-plate and the parts will be securely locked together. So, too, the advantages of my improved construction are very apparent if perchance the shutter is closed from the outside and the brace-rod is supported either on the rest portion of the lock or in the opening therein, and when the shutter is pushed to close the same the brace-rod is liable to fly out and become disengaged from the lock; but the projecting end of the lock will prevent this and insure the bent end of the brace-rod dropping into the opening in the sill-plate, so that the parts will be automatically locked.

It is apparent that some of the advantages thus stated will follow the use of a brace-rod of the usual construction—that is, without the notches *a*; but it is not as effective and certain in its operation as when the rod is provided with the notches. While the lug is preferably a single lug, it is manifest that it may be divided in the middle, as indicated in Fig. 2, making a two-part lug or practically two lugs, or, as indicated in Fig. 2^a, it may have two extensions, being, in effect, two lugs, one being higher than the other, so that one of them will bear upon the body of the brace-rod while the other engages the downward projecting portion of the brace-rod.

While the features of novelty herein set forth are comparatively simple when considered in the abstract, in practice they are of great importance in tending to produce a perfectly-operating shutter-bower of the character described, and the features of construction involve improved functions and improvements in the operation of the device. Thus, for instance, the notches in the rod cooperating with the lug having the inwardly-projecting edge or end prevent the rod from jumping out of the lock-hole when the shutter is closed rapidly from the outside or inside. So, also, it prevents the rod from being pulled out of the hole when the shutter is being closed from the inside by means of the rod, and it affords a convenient and effective locking mechanism which is not likely

to get out of order and is exceedingly cheap in construction.

What I claim is—

1. In a shutter bower and fastener, a lock-plate adapted to be attached to the shutter comprising a body portion, a rigid extension connected thereto, and an inwardly-extending lug, substantially as described.

2. In a shutter bower and fastener, a lock-plate adapted to be attached to the shutter comprising a body portion, a rigid extension connected thereto provided with a rest or receptacle and an opening, substantially as described.

3. In a shutter bower and fastener, a lock-plate adapted to be attached to the shutter comprising a body portion, a rigid extension connected thereto provided with a rest or receptacle, an opening, and an inwardly-projecting lug, substantially as described.

4. In a shutter-bower, a lock-plate adapted to be attached to the shutter provided with a rigid extension having a divided lug at its outer edge, substantially as described.

5. In a shutter bower and fastener, the combination with a lock-plate adapted to be attached to the shutter and provided with an inwardly-extending lug, of a sill-plate, and a brace-rod, the end of which is provided with a notch, substantially as described.

6. In a shutter bower and fastener, the

combination with a lock-plate adapted to be attached to the shutter having a rigid extension provided with an opening and an inwardly-projecting lug, of a sill-plate having an opening and a brace-rod having a bent end and provided with a notch, substantially as described.

7. In a shutter bower and fastener, the combination with a lock-plate adapted to be attached to the shutter and having a rigid extension having an opening and provided with a lug, a sill-plate having an opening and an inclined side, and a brace-rod having a bent end, substantially as described.

8. In a shutter bower and fastener, the combination with a lock-plate adapted to be attached to the shutter comprising a body portion, a rigid extension connected thereto, said extension being provided with a rest portion, an opening, and an inwardly-extending lug, of a sill-plate having an opening, and a brace-rod having a bent end adapted to cooperate with the lock-plate, substantially as described.

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

CHARLES ZIMMERMAN.

Witnesses:

IRA TYLER,
C. H. THOMAS.