(No Model.)

F. W. MIX.

TRUNK OR BOX FASTENER.

No. 355,333. Patented Jan. 4, 1887.

Fig. 1.

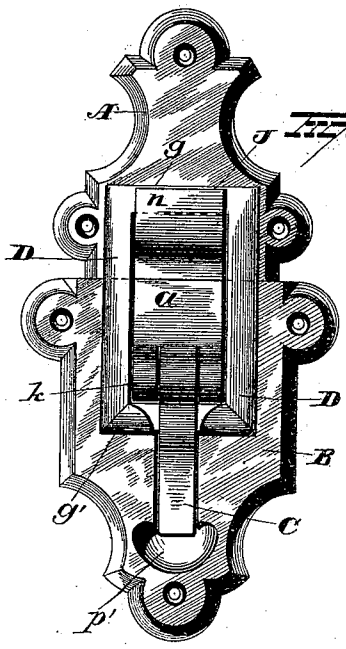


Fig. 4.

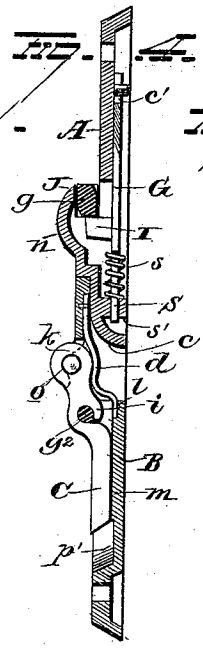


Fig. 2.

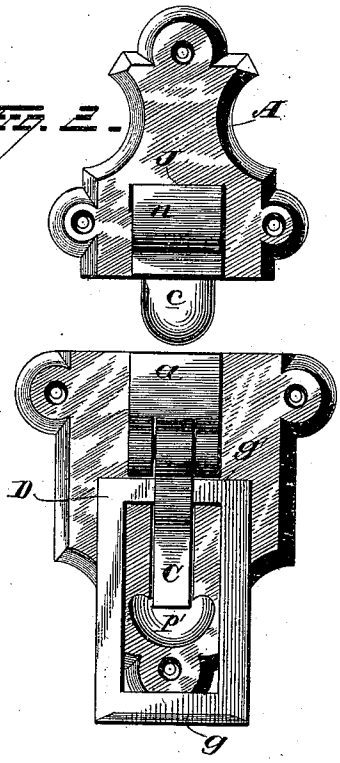


Fig. 3.

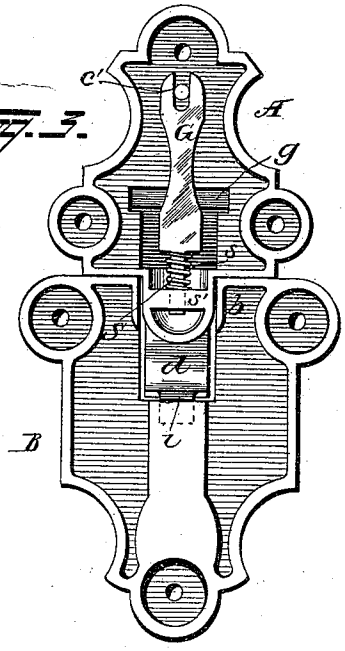


Fig. 5.

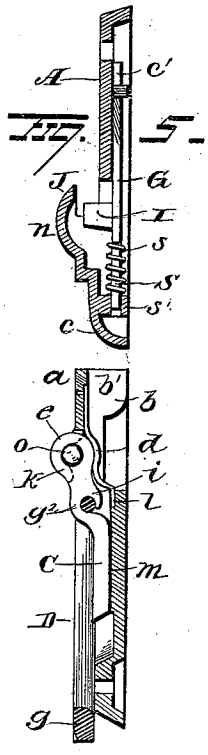


Fig. 6.

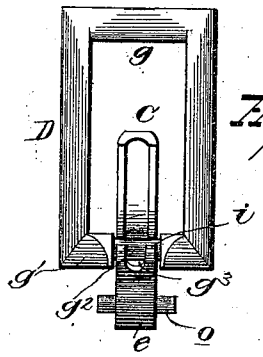
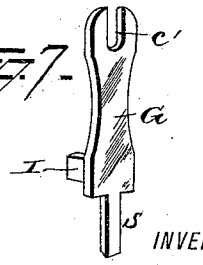


Fig. 7.



WITNESSES

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UNITED STATES PATENT OFFICE.

FRANK W. MIX, OF NEW BRITAIN, CONNECTICUT.

TRUNK OR BOX FASTENER.

SPECIFICATION forming part of Letters Patent No. 355,333, dated January 4, 1887.

Application filed September 28, 1886. Serial No. 214,748. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. MIX, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Trunk or Box Fasteners; and I do hereby 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.

My invention relates to an improvement in trunk-fasteners, and especially to the type of trunk-fastener patented to H. A. Seymour, August 4, 1885, No. 323,830.

The object of the invention is to provide a trunk-fastener in which a loop may be actuated by a lever in locking and unlocking the fastener, the parts to be so combined and arranged that the loop cannot be accidentally displaced or unlocked.

A further object is to produce a trunk-fastener which shall be simple and durable in its construction and adapted to be manufactured at a small initial cost.

With these ends in view my invention consists in certain features of construction and combination of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of one form of my improved trunk or box fastener in its locked position. Fig. 2 is a plan view showing the fastener in an unlocked position. Fig. 3 is a rear face view of the device. Fig. 4 is a longitudinal section of the attached parts, showing the same in their locked position. Fig. 5 is a longitudinal section showing the parts in their unlocked position. Fig. 6 is an enlarged view of the cam-lever, showing the manner of its attachment to the lower bar of the swinging loop. Fig. 7 shows the yielding slide-bar removed from its position on the rear face of the top plate.

A represents a plate constructed to be secured to the front vertical face of a trunk-lid, and B a plate adapted to be secured to the body of the trunk in a line with the plate A on the lid. Plate B is formed with a recessed projection, *a*, the upper end of which is provided with parallel rearwardly-projecting flanges *b*, that together form a socket, *b'*, which is designed to receive the dowel *c*, that is on the lower face of plate A. The dowel *c* is rounded on its free end to permit its ready engagement with the receiving-socket *b'*.

C is a cam-lever pivoted in the lower portion of the recessed projection *a*. The walls of the projection *a* have rounded projections made on their front face, and seats *k* on their inner surfaces, forming bearings for the trunnions *o*, which latter are preferably cast integral with the lever C. The cam-lever C is retained in a vertically-swinging connection within these bearings by the holder *d*. (See Figs. 4 and 5.) This holder is made to fill the recessed projection *a* edgewise, one end being riveted to the rear side of the fastening-plate B, while the other end is provided with a lip, *l*, which rests on the outer surface of the vertical plate within the groove *m*. Holder *d* extends forward a proper distance to afford an abutment or bearing for the rounded boss *e* on the cam-lever C, and thus permit its swinging movement and retain it in place. This manner of connection is cheap and strong in construction and reliable in operation.

D is a loop or rectangular link having parallel top and bottom bars *g g'*. The lower cross-bar, *g'*, is provided with a round bearing, g^2, which is supported in a seat, g^3, formed in the lever C, which latter part is bent so that the lower bar, *g'*, of the loop D will be retained in contact with the lower wall of the box *a* when the loop D is in its locked position. The free end of the cam-lever C is adapted to lie in a groove, *m*, in the plate B, made for its reception, so as to be flush with the exposed face of the plate when the fastener is locked. This groove *m* is cupped at its lower end, as shown at *p'*, to afford access to the free end of the cam-lever C, to permit its ready operation. The cam-lever C has a projecting flat lip, *i*, cast thereon, which is located just above the half-bearing formed on its rear side for the reception of the shouldered journal g^2 on the lower cross-bar, *g'*, of loop D. This lip *i* is of proper length to be bent around the journal g^2, and thus pivotally connect the loop to the lever.

The upper plate, A, is constructed with a box or recessed projection, *n*, that extends outwardly from its front face, the front wall of said box being made to extend upwardly to

form a lip, J. A yielding slide-bar, G, is connected with the rear side of plate A, the upper end of such bar being provided with a slot, *c'*, within which engages a projecting stud on plate A, and thus retains the upper end of the bar G against lateral displacement.

The lower end of the yielding bar G is provided with a shank, S, which has a spiral spring, *s*, placed on it. This spring has a bearing upon the shoulder, formed by reducing the bar G, to form the shank, and it, as well as the lower end of the shank, is supported by a lip, *s'*, cast integral with the plate A and bent round to form a box-bearing of proper size to permit the sliding therein of the shank *s* and consequent vertical movement of the bar G. The yielding slide-bar G is provided on its front face with a shouldered projection, I, which extends within the recess or space in rear of lip J and is located below the upper edge of the lip. The length of the loop D is proportioned to permit its upper cross-bar to be raised above the upper edge of the lip J by elevating the cam-lever C so that the upper cross-bar of the swinging loop D will engage the projection I on the yielding bar G, when the cam lever C is depressed to lock the fastener.

It is evident that a depression of the lever C will cause the loop D to bear upon and correspondingly depress projection I and its supporting slide-bar G. The force of the spring *s* on the yielding bar G tends to force the loop D in an upward direction, and thereby serves to prevent the cam-lever from swinging outwardly and carry the pivotal bearing of the loop past the journaled center of the cam-lever C, and in this way obviates danger of accidental displacement of the lever or loop.

It is evident that slight changes might be made in the construction and relative arrangement of the different parts of the fastener without departing from the spirit or scope of my invention; and I do not limit myself to the precise construction and arrangement of parts shown and described; but,

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

1. In a trunk or box fastener, the combination, with a top and bottom plate provided with dowel-and-socket connection, the top plate having a projecting lip formed thereon, of a swinging loop, a lever for actuating the loop, and a yielding bearing or projection located in rear of the lip on the top plate, substantially as set forth.

2. In a trunk or box fastener, the combination, with a top and bottom plate, of a swinging loop, a lever for actuating the loop, and a yielding bar located in a recess in the rear surface of the top plate, said bar being provided with a projection with which engages the cross-bar on the free end of the swinging loop, substantially as set forth.

3. In a trunk or box fastener, the upper plate having a projection cast integral therewith and bent to form a bearing, in combination with a reciprocating bar provided with a shank that is retained within said bearing, substantially as set forth.

4. In a box or trunk-fastener, the combination, with a swinging loop, of a lever having a projection cast integral therewith and bent over to form a bearing within which the cross-bar of the loop is pivotally secured, substantially as set forth.

5. In a trunk or box fastener, the combination, with a lever journaled in bearings in the rear side of the plate, of a holder secured at its ends to the plate and adapted to prevent the displacement of the lever, substantially as set forth.

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

FRANK W. MIX.

Witnesses:
H. C. FOSS,
E. L. PRIOR.