(No Model.)

F. W. MIX.

TRUNK OR BOX FASTENER.

No. 352,627. Patented Nov. 16, 1886.

Fig. 1.

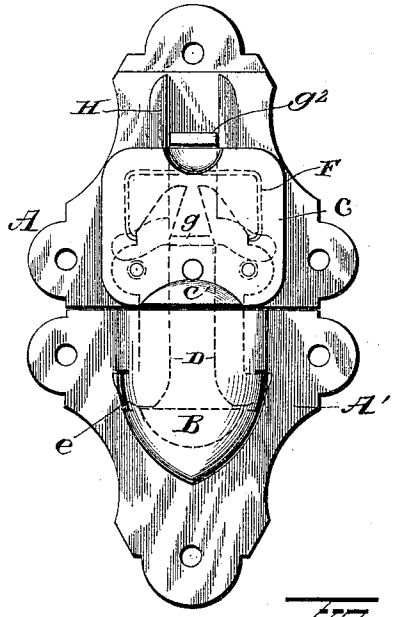


Fig. 2.

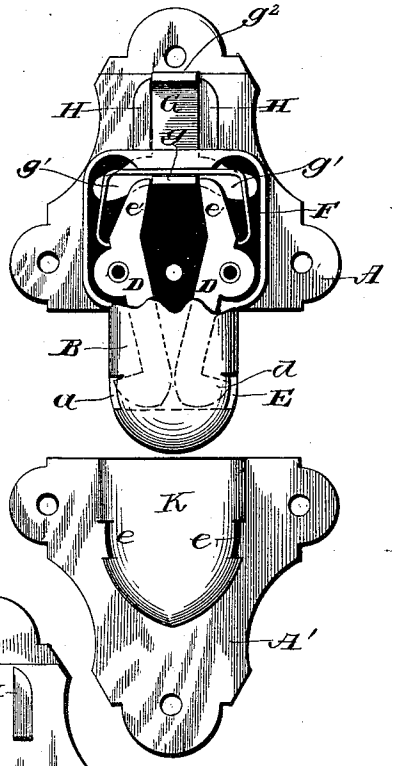


Fig. 3.

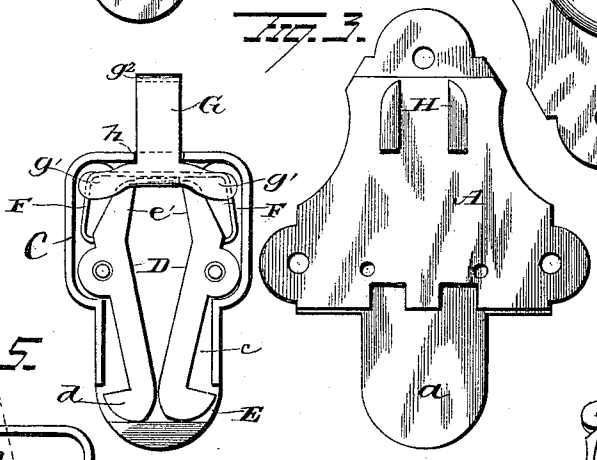
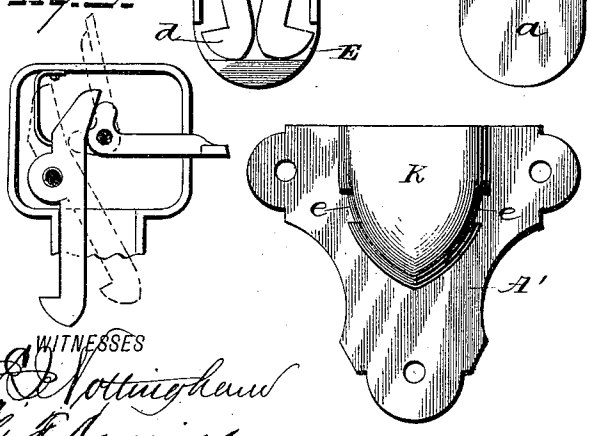


Fig. 5.



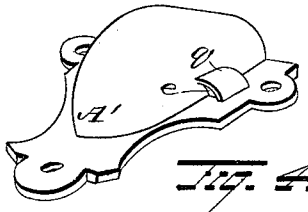


Fig. 4.

WITNESSES

G. F. Downing

INVENTOR

Frank W. Mix

By H. A. Simmons

Attorney

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

FRANK W. MIX, OF NEW BRITAIN, CONNECTICUT.

TRUNK OR BOX FASTENER.

SPECIFICATION forming part of Letters Patent No. 352,627, dated November 16, 1886.

Application filed September 8, 1886. Serial No. 213,022. (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 or box fasteners.

The object is to provide a fastener which will effectually prevent the endwise and sidewise rocking movements of the cover on the body of the trunk or box, as well as hold the cover down in close contact with the body.

A further object is to provide a fastener which shall present a smooth exterior surface free from projections which would be liable to catch the clothing, and in which the locking-bolt may be set to lock automatically or not when the cover is lowered.

A further object is to provide a fastener which will stand the punishment to which trunks are subjected in traveling without liability of being broken or bent out of shape.

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

In the accompanying drawings, Figure 1 is a front view of the fastener in locked adjustment. Fig. 2 is a view of the same in open adjustment, a portion of the casing being removed. Fig. 3 is a detached view of the upper or cover plate and half-casing, showing the locking mechanism; and Figs. 4 and 5 represent modifications.

The fastener is of the dowel-and socket type, the dowel being preferably, although not necessarily, attached to the upper or cover plate and the socket formed in the lower or body plate.

A represents the upper or cover plate, and A′ the lower or body plate. They are preferably formed somewhat similar in shape, with a view of presenting a symmetrical appearance, being widest at or near their meeting edges and tapering in a neat graceful form toward their opposite ends, each plate being provided with three perforations (more or less) for their attachment to the cover and body of the trunk or box. The plate A is provided with a flat tongue, *a*, projecting from its lower edge, and forming the back of the hollow dowel B.

To the front of the plate A a half-casing, C, is secured, its lower portion, *c*, projecting downwardly in conformity with the tongue *a*, and forming the top and side casing of the said hollow dowel B. The casing C is preferably re-enforced at its front edge, *c′*, where it comes into contact with the upper edge of the lower or body plate A′, to prevent it from becoming bruised or bent out of shape by the impact when the cover falls suddenly into place.

Within the half-casing C a pair of locking-bolts, D, are pivotally secured, and allowed a limited rocking movement toward and away from the opposite edges of the half-casing C and dowel B. The lower ends of the bolts D are provided with hooks *d*, pointing toward the edges of the dowel, and adapted when the lower ends of the bolts are swung outwardly or away from each other to project through openings E in the edges of the dowel and engage offsets or catches *e* in the edges of the lower or body plate. The upper ends of the bolts D gradually incline toward each other, or their edges *e′*, lying toward each other, are so inclined, and said upper ends are drawn toward each other by a spring, F, which extends around their ends and bears against their opposite faces.

The operating-slide consists of a flat bar or plate, G, provided at its lower end with an outwardly-projecting lug, *g*, adapted to be inserted between the upper ends of the bolts, and with a pair of wings, *g′*, which extend from the opposite edges of its lower end out to the inside walls of the half-casing C. The wings *g′* serve to keep the ends of the spring from any possible displacement; and, further, by their bearings against the walls of the casing serve to keep the lug *g* centrally located within the casing, or located in the desired position relatively to the ends of the bolts.

The flat bar or plate G fits loosely, and is adapted to slide in a recess, *h*, in the top of the casing, the back of the bar moving in contact with the front of the plate A. The upper end of said bar G is provided with a thumb-piece, g^2, which rests against the top of the half-cas-

ing when the bar G is depressed, its outer edge only projecting beyond the edge of the casing to be engaged by the finger.

Above the upper edge of the half-casing C the plate A is provided with a pair of guide-cheeks, H, between the faces of which the bar G is adapted to slide, and which serve to protect it from becoming bent or broken. The upward slide of said bar, because of the inwardly-inclined edges of the bolts, spreads the upper arms of the bolts apart, and therefore draws the hooked ends of the same toward each other within the dowel B. When the bar G is nearly or quite at the extreme upper end of its throw, the operating-edges of the upper ends of the bolts will be so nearly parallel that the lug *g* will be held in position between them by the tension of the spring; but when started on its downward stroke the edges of the upper ends of the bolts become more and more inclined until their pressure is sufficient to send the bar G rapidly down to the lower end of its stroke, and the hooked ends of said bolts are thrown out into locking adjustment.

The lower or body plate, A′, is provided with a socket or recess, K, adapted to fit the dowel B.

I find it convenient to form the lower end of the dowel in a rounded point, as shown, in order to enable it to strike within the mouth of the socket, even when the cover is slightly out of true, and in order that its fit may be quite snug when the cover is closed and yet not render its outer lower edge liable to strike over on the upper outer edge of the socket-wall as the cover is being closed.

It will be observed that when the parts are in closed adjustment the upper and lower plates have an extended bearing along their meeting edges, and that the edges and front of the dowel have an extended bearing against the walls of the socket, while the back of the dowel is in close contact with the front of the trunk or box. The above-mentioned extended bearings are of great advantage in effectually preventing the rocking motion of the cover on the body and the consequent loosening of the hinges and splitting of the edge portions of the cover and body. The smooth rounded exterior of the fastener admits of its being ornamented by chasing or by being highly polished. When the bolts are withdrawn from the catches, they will so remain, unless it be the desire of the operator to set them for automatically locking. This is done by sliding the bar down, and thereby allowing the hooked ends of the locking-bolts to spring out beyond the edges of the dowel. The lower faces of the hooked ends of the locking-bolts are beveled, so that the fall of the cover will by their contact with the edges of the socket-wall crowd them back within the dowel and hold them there until they reach the catches, when they will spring out and secure the cover to the body. It is often, however, a great annoyance to be obliged to unlock the fasteners every time the cover is to be lifted, and hence the above arrangement for locking the spring-actuated bolts in withdrawn adjustment becomes a great convenience.

The catches for engaging the hooked ends of the locking-bolt might consist of shoulders or offsets in the walls of the socket, instead of openings extending through the walls, and the projecting points of the locking-bolts might be protected by guards *q*, as shown in Fig. 4, to prevent any possibility of their catching the clothing. One locking-bolt might be employed instead of the two, and be operated by a cam-lever, as shown in Fig. 5; or a lever might be employed to operate the pair of locking bolts.

It is evident that various other devices than those shown might be employed to operate the locking bolt or bolts, and that slight changes in the form and arrangement of the several parts might be resorted to without departing from the spirit and scope of my invention; hence I would have it understood that I do not wish to limit myself strictly to the construction herein set forth; 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 spring-actuated locking-bolt adapted to swing within a hollow dowel, of a bar for operating the locking-bolt, adapted to work independently of the locking-bolt, substantially as set forth.

2. In a trunk or box fastener, the combination, with a pair of spring-actuated locking-bolts adapted to swing within a hollow dowel, of a bar adapted to lock the bolts in released adjustment and also permit the bolts to operate automatically, substantially as set forth.

3. In a trunk or box fastener, the combination, with a pair of spring-actuated locking-bolts pivoted at points between their ends and provided with hook-shaped lower ends, of a bar or plate adapted to engage the upper ends of the locking-bolts, substantially as set forth.

4. In a trunk or box fastener, the combination, with a securing-plate provided with a flat tongue projecting from one of its edges, of a casing provided with a projection adapted to conform to the shape of the tongue and form a hollow dowel, and a locking-bolt adapted to swing within the hollow dowel, substantially as set forth.

5. In a trunk or box fastener, the combination, with a pair of locking-bolts secured in rocking adjustment within a hollow dowel, their lower or hooked ends adapted to project through the sides of said dowel, of the spring bearing against their upper ends, and the winged operating-bar, 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.