

T. L. RIVERS.
Trunk-Locks.

No. 140,308.

Patented June 24, 1873.

Fig. 1.

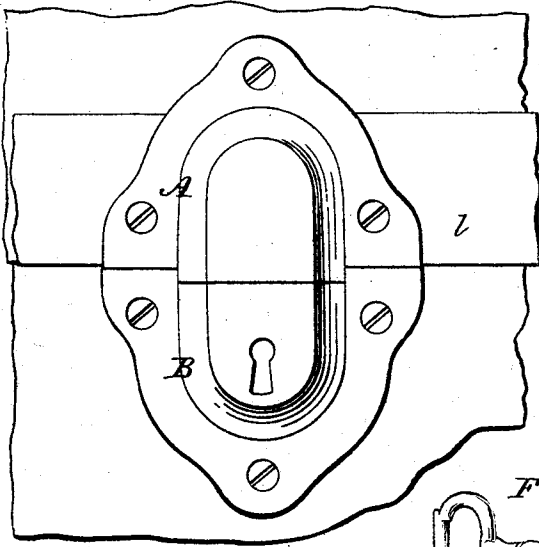


Fig. 2.

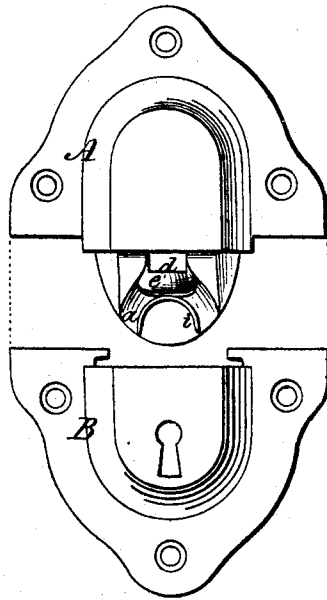


Fig. 7.

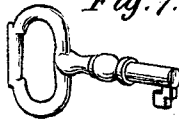


Fig. 3.

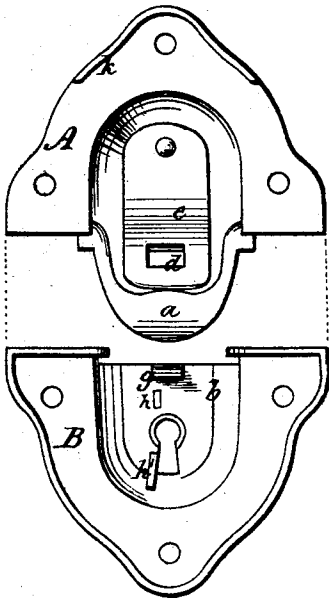


Fig. 4.

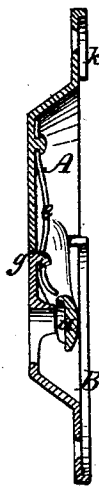


Fig. 5.

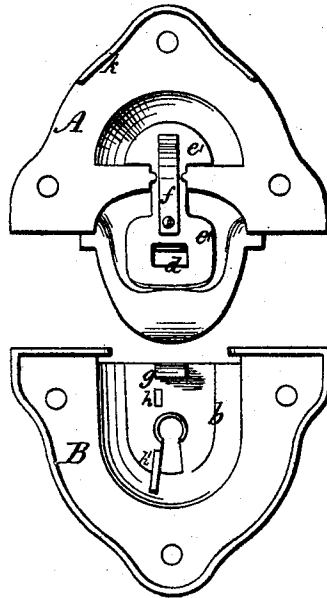


Fig. 6.



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IMPROVEMENT IN TRUNK-LOCKS.

Specification forming part of Letters Patent No. **140,308**, dated June 24, 1873; application filed March 27, 1873.

To all whom it may concern:

Be it known that I, THOMAS L. RIVERS, of the city of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Trunk-Locks, of which the following is a specification:

My invention consists in combining a recessed lid-plate having a guide or guard, and carrying a latch which vibrates in a line at right angles to the face-line of the plate, with a recessed body-plate, which is provided with a keeper arranged for engaging with an eye in the latch, and from which the latch may be disengaged by means of a key or equivalent device; and also in combining with the lock-plate a longitudinally-curved latch composed of spring metal, and in arranging the free end of the latch adjacent to coincident bearing-surfaces on the plate so that undue strain on the latch will slightly elongate it and cause the end of the latch to bear against the coincident surfaces on the plate.

Referring to the drawings, Figure 1 represents a lock embodying my invention attached to the body and lid of a trunk as if closed and locked. Fig. 2 represents, in front view, the lock detached from the trunk and the two parts separated. Fig. 3 represents the same in rear view. Fig. 4 represents the same in cross-vertical section. Fig. 5 represents a modification of my lock. Fig. 6 represents a top view of the body-plate, and a horizontal sectional view of the guide of the lid-plate. Fig. 7 represents a key fitted to operate a lock constructed as shown.

A denotes the lid-plate, and B the body-plate of the lock-case. They are chambered face-plates, as shown in the drawings, and are fitted to be attached to the outside front of the trunk by rivets. The lid-plate is provided with a downward-projecting guide, *a*, which is fitted to freely enter and closely fill an opening, *b*, in the body-plate B. Within the chamber of the lid-plate the spring-latch *l* is fitted so that its lower or free end can vibrate from front to rear in the lock-case. The spring-latch is riveted at its upper end to the plate. The rivet-stud may practically be cast with the plate, and thereby obviate the necessity of using separate rivets, as ordinarily applied.

The spring-latch is longitudinally curved, and at its lower end is also curved and fitted so as to fully occupy the interior of the guide *a* at that point, whereby, when longitudinal strain is applied to the spring-latch, it will be mainly borne by the contact of the end of the latch with the interior adjacent surfaces of the guide *a* instead of being wholly by the rivet, by means of which it is attached to the plate. Near the lower end of the latch is the eye *d* for receiving the keeper.

In locks such as are illustrated in Fig. 5 the latch *c'* is composed of metal which does not possess any inherent spring functions. It is provided with engaging-shoulders for securely connecting with the lid-plate, and may have extensive shoulders for engaging with one or more fixed keepers on the body-plate. A separate spring, *f*, is requisite, when so constructed, for properly actuating the latch. This spring *f* may be riveted directly to the back of the latch, as shown, and arranged to bear against the side of the trunk or valance, or against the under side of a cross-plate bridging the chamber. As the lock-cases will, when cast, generally be composed of some malleable metal, certain projections can readily be provided in the interior, which can be bent over, for holding the latch in place, prior to its being applied to a trunk in the way of its use.

The body-plate B of the case is provided with a keeper, *g*, cast with the plate, projecting inward from the center of the chamber, and arranged to enter and engage with the eye *d* of the latch. The body-plate B is also provided with a key-hole, which is guarded on one side, as at *h'*, so as to admit of the movement of the key in but one direction. Between the keeper *g* and the key-hole is a stop, *h*, which limits the movement of the key. On the front side of the lower end of the guide *a* a semicircular guard, *i*, is placed equidistant on all sides from the center of the barrel of the key-hole, and the key is so fitted that it must pass the guard, as in the case of locks generally, before the exposed portion of the latch can be reached.

I am well aware that key slots and guards in great variety may be adopted from the many well-known lock-systems in general use, and thereby give to my lock any desired degree of

security. For ordinary uses the lock will be amply guarded by the devices shown.

Fig. 7 represents a key, which is fitted to operate upon such locks as are shown and described.

It will be seen that the bit of the key for a short distance extends on a line with the end of the stock, is then turned shortly toward the butt of the key, and then again on a line parallel with the first extension. On the rear side of the bit of the key is a rounded projection. When inserted into the key-hole, and turned therein, the recess between the bit of the key and the stock is filled by the tubular wall of the key-hole on that side, and the end of the bit, avoiding the guard *i*, is so pressed between the rear surface of the body-plate and the end of the spring-latch that the latter is pressed to the rear and disengaged from the keeper.

In fitting the lid-plate to a trunk, it will be preferable that the projecting flange *k* be cut away flush with the main rear surface of the plate, of a width corresponding with that of the valance *l* of the trunk, so that strain on the plate will be at least partially borne by the edge of the valance.

It will be readily obvious that the spring-latch, in being inclosed by the guide *a*, is at all times effectually protected against being bent or otherwise injured while the trunk is open or in the act of closing. By inclosing the spring-latch in the guide, and thereby securing its accurate entrance to its chamber, the automatic locking device may be combined in one plate and the key-hole and its system

of guards in the other plate, and thus produce an effective and durable lock at extremely low cost.

The system of key-guards may be made quite complicated, and yet be capable of being cast ready for use without the application of skilled labor. The latch *e*, made of spring metal, can be formed and fitted in cutting and shaping dies, and attached to its plate by the cast-rivet stud, herein described, and thus the lock may be completed without requiring any mechanical fitting or adjustment, except at the points where the latch and keeper are to be in contact.

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

1. The recessed plate A provided with a guide and guard, *a*, and the latch, which vibrates in a line at right angles to the face-line of the plate, in combination with the body-plate B, which is provided with the recess *b* and the keeper *g*, arranged so that an eye in the latch may engage therewith and be disengaged therefrom by means of a key, substantially as shown and described.

2. The longitudinally-curved latch, composed of spring metal, in combination with the lock-case, and arranged so that its free end will engage with the coincident bearing-surfaces on the plate when subjected to undue strain, substantially as described.

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