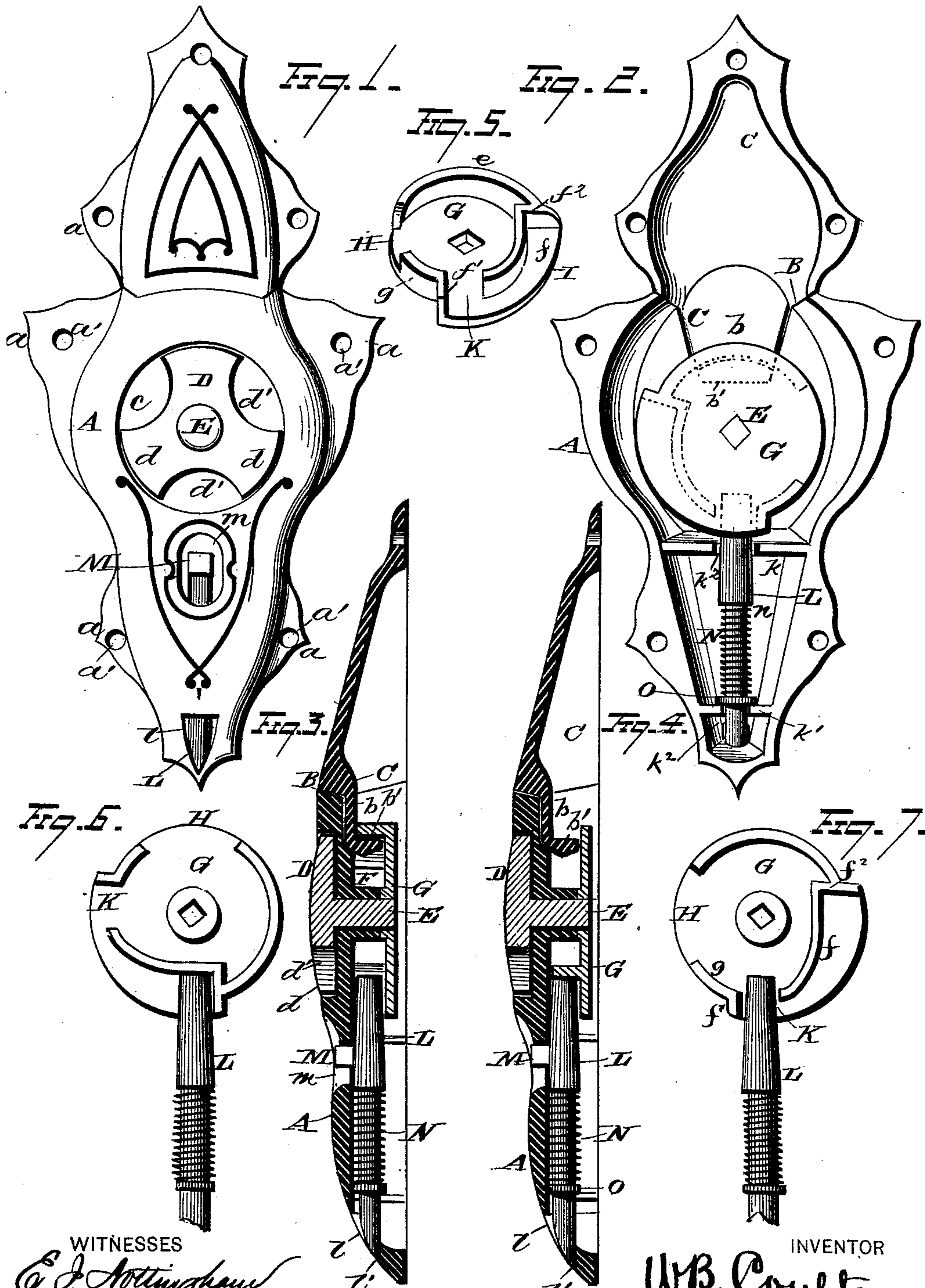


W. B. COULTER.
Trunk-Fastener.

No. 222,577.

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WITNESSES
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IMPROVEMENT IN TRUNK-FASTENERS.

Specification forming part of Letters Patent No. **222,577**, dated December 16, 1879; application filed April 22, 1879.

To all whom it may concern:

Be it known that I, WILLIAM B. COULTER, of Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Trunk Bolts or 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in trunk bolts or fasteners for trunks or chests, of such construction that the bolt cannot be shifted or changed from a locked to an unlocked position without first disengaging a secondary bolt or catch, which operates to retain the main bolt in a locked position.

A further object of my invention is to provide a trunk bolt or fastener which shall be simple and durable in its construction and of small initial cost in its manufacture; and to these ends my invention consists, first, in a trunk bolt or fastener, in the combination, with a rotary disk-bolt, of a sliding bolt or equivalent device connected therewith, and adapted to retain the rotary bolt in a locked position until said sliding bolt or other device is disengaged from the rotary disk-bolt.

My invention further consists, in a rotary disk-bolt provided with a cam and a bolt-opening, of a sliding bolt or equivalent device, said parts being constructed and arranged so that the bolt is retained in an unlocked position by the frictional contact of a spring-pressed sliding bolt or equivalent device, and secured against displacement when in a locked position by the direct engagement therewith of the sliding bolt.

My invention further consists in certain details of construction and combinations of parts, as will hereinafter be described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my improved trunk bolt or fastener. Fig. 2 is a plan view of the rear side of the same. Fig. 3 is a vertical section of the device when locked, and Fig. 4 is a vertical section showing the position of the parts when the

trunk-bolt is unlocked. Fig. 5 is a view, in perspective, of the rotary disk-bolt. Fig. 6 is a view of the rotary disk-bolt and sliding bolt, showing their relative position when the bolt is unlocked; and Fig. 7 is a similar view, showing the relative position of the parts when the bolt is locked.

A represents the casing of my improved trunk bolt or fastening, and is constructed of malleable cast-iron or other suitable material. Casing A is provided with outwardly-projecting lugs or flanges *a*, which are perforated at *a'* for the reception of screws, nails, or rivets for securing the casing to the trunk or other receptacle.

The upper portion of the casing is constructed with an opening, B, for the reception of the catch C, which is provided with a flange, *b*, having a projection, *b'*, extending inwardly at right angles therewith. The face of casing A has a circular recess, *c*, formed therein, which constitutes a receptacle for the finger-piece D, the latter being formed with radial wings *d* and finger-slots *d'*, so that it may be readily turned by the thumb and finger.

Finger-piece D is, preferably, made of cast metal, and of a thickness equal to the depth of the recess *c*, so that the outer surface of the finger-piece D will be practically flush with the outer surface of the casing, and thus the piece D be protected from injury or prevented from becoming accidentally displaced. Finger-piece D is provided with a stud, E, which is preferably cast solid therewith, said stud being of sufficient length to project through the perforated bearing or hollow stud F, cast solid on the rear face of casing A.

The end of stud E is made square or angular, and to such portion thereof is rigidly secured the rotary disk-bolt G, the attachment being effected by upsetting the end of the stud E. It will thus be observed that the hollow stud F on the rear face of the casing serves a twofold purpose—to wit, as a journal-bearing for the stud of the finger-piece D and as a support for the rotary disk-bolt G, which latter rests upon the outer flat end of the hollow stud. The finger-piece D and rotary disk-bolt G are thus rigidly secured to each other, and

the bolt thus enabled to be operated or rotated by rotating the finger-piece on the outside or face of the casing.

The rotary disk-bolt is constructed as follows: On the periphery of the disk-bolt is formed a segmental locking-flange, *e*, which projects laterally from the disk at right angles thereto, said flange being of sufficient length to span the opening B in the upper portion of the casing, and of sufficient width to insure a firm engagement with the flange *b'* of the catch-piece C. One side of the rotary disk-bolt is provided with a segmental flange, *f*, at opposite ends of which are formed the radial stop-flanges *f'* *f''*, for a purpose hereinafter described. Connecting with the stop-flange *f'* is a short flange, *g*, between the end of which and the end of the locking-flange *e* is formed an opening, H, for the reception and release of the catch-piece flange *b*. Connecting with the inner end of the stop-flange *f''* is a cam-flange, I, which extends outwardly from the center of the rotary disk, and between the outer end of said cam-flange I and the stop-flange *f'* is formed a bolt-opening, K, for the reception of a sliding bolt or supplemental locking device, as will be hereinafter described.

Casing A is provided with the ribs *k* *k'* on its rear side, each of said ribs having a groove or slot, *k''*, formed therein, within which rests a sliding bolt, L. The lower end of the sliding bolt projects through an opening, *l*, formed in the lower end of the casing. Opening *l* is formed in tapering lower end of the casing, so that it can be made without coring in the process of casting, and also provides a bearing, *l'*, for one side of the bolt end. Sliding bolt L is preferably cast in a single piece, and formed with a thumb-piece, M, which projects through an elongated opening, *m*, in the casing, thereby enabling the bolt to be operated by the hand from outside the casing.

N is a spiral spring which surrounds the sliding bolt, one end of said spring resting against a shoulder, *n*, formed on the bolt, while the opposite end is supported by a washer, O, which rests upon the rib formed on the casing.

Having fully described the construction of my improved device, I will now describe its operation.

When the cam-bolt is locked the end of the sliding bolt is pressed upward by the spiral spring and enters the bolt-opening K in the rotary bolt, and thus prevents the displacement of the rotary disk-bolt. This is an important and valuable feature of my invention.

Many trunk bolts or fastenings have heretofore been constructed in such a manner that the bolt is kept locked solely by a spring pressing upon the thumb-piece or other device employed for operating the bolt. These devices have been found defective and objectionable in use, for the reason that the notorious rough usage to which trunks are subjected *in transitu* on railroads causes the fastenings to become

shifted from a locked to an unlocked position, or, in other words, the bolt-operating device is often pushed sidewise with sufficient force to overcome the strength of the springs employed for retaining the bolts in a locked position.

My improvement obviates all these objections, as the rotary disk-bolt is secured in a locked position by a sliding bolt which directly engages therewith, and it is impossible to unlock the bolt without first disengaging the sliding bolt therefrom, and then rotating the disk-bolt from its locked to unlocked position. When the fastening is unlocked it is retained against displacement, or from being accidentally locked, by means of the spring-pressed sliding bolt resting against the lowest portion of the cam-flange.

When the disk-bolt is turned from an unlocked to a locked position sufficient force must be exerted on the finger-piece D to force the sliding bolt downward against its spring, which is effected by the cam-flange, and this requirement is a preventive against any accidental displacement or disarrangement of the parts of the bolt. The rotary disk-bolt is thus positively secured either in a locked or unlocked position, and when in an unlocked position may be shifted to a locked position by simply rotating the finger-piece D; but when in a locked position the sliding bolt must be shifted by hand before the rotary disk-bolt can be turned. The sliding bolt is kept from displacement by the slots in the ribs formed on the casing, and its lower end held in place by its being projected through a slot in the lower part or end of the casing, and its upper end by the flange on the rotary disk-bolt, which flange overlaps the upper end of the bolt, while the rotary disk-bolt is limited in its movement by the stop-flanges *f* *f'* coming in contact with the end of the sliding bolt.

It is evident that the rotary disk may be constructed and arranged to lock and unlock by turning in a direction reverse to that of the disk-bolt shown in the accompanying drawings; also, that other devices than a sliding bolt—such as an eccentric or latch—may be employed for retaining the rotary disk-bolt in its locked or unlocked position; and, further, that the rotary disk-bolt may be secured to the casing in a position reverse to that shown in the accompanying drawings—that is to say, with the disk supported upon the casing, and the locking-flange projecting outwardly therefrom. In such construction the flange formed eccentrically to the center of the disk with which the end of the bolt engages may be provided with a lip to prevent the displacement of the sliding bolt, and also many other slight changes in the construction and arrangement of parts may be resorted to without departing from the spirit of my invention, and hence I would have it understood that I do not limit myself to the exact construction 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 bolt or fastening, the combination, with a rotary disk-bolt, of a sliding bolt constructed and arranged to engage with said rotary disk-bolt and retain the same either in a locked or unlocked position, substantially as set forth.

2. In a trunk bolt or fastening, the combination, with a rotary disk-bolt provided with a cam-bearing and a bolt-opening, of a spring-pressed sliding bolt for enabling the rotary disk-bolt to be locked by rotating the same, and prevent its being unlocked without first disengaging the sliding bolt from the bolt-opening in the rotary disk-bolt, substantially as set forth.

3. In a trunk bolt or fastening, a rotary disk-bolt provided with a segmental locking-flange, an opening for the catch, a cam-flange, and a supplemental bolt-opening, substantially as set forth.

4. In a trunk bolt or fastening, the combination, with a rotary disk-bolt provided with a bolt-opening, a cam-flange, and stop-flanges located on opposite sides of said bolt-opening,

of a spring-pressed sliding bolt for retaining said rotary disk either in an unlocked or locked position, substantially as set forth.

5. In a trunk bolt or fastening, the combination, with a rotary disk-bolt and a finger-piece connected therewith for moving the same, of a sliding bolt located in slots or openings formed in ribs on the rear face of the casing, substantially as set forth.

6. In a trunk bolt or fastening, the combination, with a rotary disk-bolt provided with a cam-bearing and an outwardly-projecting flange, of a sliding bolt, one end of which is held in place by said outwardly-projecting flange, substantially as set forth.

7. In a trunk bolt or fastening, the combination, with a rotary disk-bolt, of a sliding bolt provided with a thumb-piece which projects through an elongated slot in the bolt-casing, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 16th day of April, 1879.

WILLIAM B. COULTER. [L. S.]

Witnesses:

W. H. HUTCHINSON,
H. BECKWITH.