No. 648,838. Patented May 1, 1900.

# L. I. BODENHEIMER.

## TRUNK.

(Application filed Sept. 22, 1899.)

(No Model.)

Fig. 1.

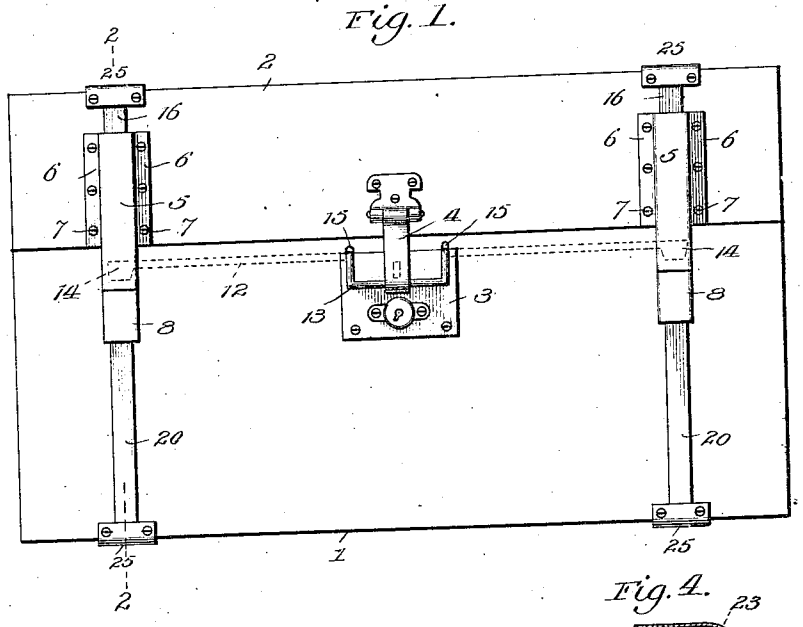



Fig. 2.

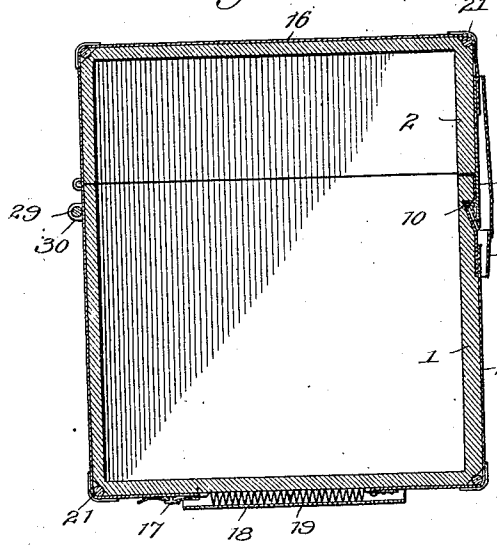



Fig. 3

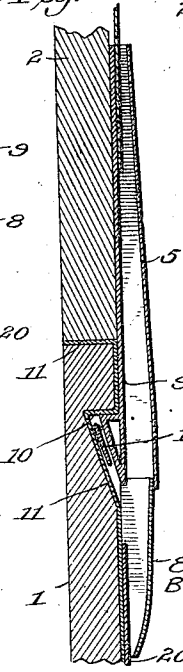



Fig. 4.

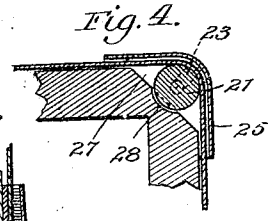
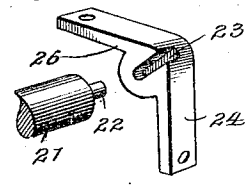



Fig. 5




Witnesses

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# UNITED STATES PATENT OFFICE.

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## TRUNK.

SPECIFICATION forming part of Letters Patent No. 648,838, dated May 1, 1900.

Application filed September 22, 1899. Serial No. 731,295. (No model.)

*To all whom it may concern:*

Be it known that I, LEVI ISAAC BODENHEIMER, a citizen of the United States, residing at High Point, in the county of Guilford and State of North Carolina, have invented certain new and useful Improvements in Trunks, of which the following is a specification.

My invention relates to trunks, and more particularly to improved automatic means for firmly securing the lid or cover of a trunk in closed position.

The importance of supplementing the usual central lock of a trunk with additional fastenings near the ends of the trunk is well understood, and it has been common heretofore to provide catches or projections upon the front of a trunk-lid, over which spring-pressed loops or bails pivotally secured to the body of the trunk are engaged. The objections to this form of fastening, aside from its liability to breakage, are that it is hard to manipulate with the fingers, and a slight warping of the trunk will so affect the relative positions of the spring loops and catches as to prevent their proper engagement. Again, it is now almost a universal custom to employ a strap surrounding a trunk as a supplemental fastening to protect the locking devices from strain and injury incident to the rough handling of baggage in travel. This strap-fastening is defective for the reason that it is inconvenient to adjust and fasten and also because it can seldom be drawn sufficiently taut to serve the purpose in view.

The present invention aims to remedy the defects and objections above referred to and to provide fastening devices which will operate automatically to lock the trunk-lid and to provide bracing and securing straps which will be drawn tightly into position by the mere closing down of the lid.

A further object of the invention is to provide a simple and convenient device for releasing the trunk-fastenings and means for automatically raising the trunk-lid and sustaining it in raised position, thus effectually preventing all liability of accidents caused by the falling down of the lid after it has been raised to permit access to the interior of the trunk.

A further object of the invention is to protect the securing-straps of the trunk and the trunk itself from injury by rough handling in transit.

The construction of the improvements will be fully described hereinafter in connection with the accompanying drawings, and the novel features will be defined in the appended claims.

In the drawings, Figure 1 is a front elevation of a trunk provided with my improved fastening devices. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is an enlarged detail section of parts shown in Fig. 2. Fig. 4 is an enlarged section through one of the corner-irons of the trunk, and Fig. 5 is an enlarged detail perspective illustrating a portion of one of the corner-iron rollers and one of its bracket-bearings.

The reference-numeral 1 designates a trunk box or body provided with the usual hinged lid 2. A lock 3 of any preferred construction is provided at the front of the trunk, as is usual, to secure a hasp 4, depending from the front of the lid. Adjacent to each end of the trunk-lid and at the front thereof is secured a casing 5, formed with flanges or ears 6, perforated to receive screws 7. These casings extend below the lid to overlap the body of the trunk and to aline with the casings 8, secured to the trunk. Within each of the casings 5 is secured a spring-catch 9, adapted to engage a shoulder 10, formed by recessing the front of the trunk, as best illustrated in Fig. 3. The inclined surfaces of the recess and the shoulder 10 are preferably provided with a covering or wear plate 11 of sheet metal, bent to conform to the shape of the recess and shoulder and fitting over the top edge of trunk-body.

12 designates a rocking rod formed at its center with a handle or bail 13 and at each of its ends with an arm or projection 14. This rod is seated in a groove or recess formed in the front wall of the trunk, and its bail or handle 13 projects through slots 15, communicating with said groove or recess. The arms or projections 14 extend into the recesses below the shoulders 10, as shown in Fig. 3, and their function is to force the spring-catches 9 out of engagement with the shoulders 10 when the bail or handle 13 is raised.

16 designates straps, preferably of leather,

secured at their upper ends to the spring-catches 9 and passing from thence rearward over the top of the lid 2, downward over the rear side of the trunk, and then passing under the bottom thereof, where they are secured by buckles 17 to the rear ends of coil-springs 18, arranged within casings 19, secured to the bottom of the trunk. The front ends of these springs are secured to straps 20, which pass from under the trunk up in front thereof and into the casings 8, where their ends are firmly secured.

To prevent wear or abrasion of the straps by frictional contact with the corners of the trunk, I provide each of said corners with an antifriction-roller 21, formed with journals 22, having bearing in slots 23, formed in angle-brackets 24, secured to the trunk-corners in pairs and covered by bent plates or caps 25. The angle-brackets 24 are formed on their inner sides with triangular webs 26, and the slots 23 permit the rollers to be easily dropped into position before the straps and the caps 25 are applied. The straps, as clearly shown in Fig. 2, pass over these rollers, thus avoiding undue friction and wear. The corners of the trunk are beveled at the points 27, opposite the rollers, and slightly hollowed out, as shown at 28, to allow a free revolution of the rollers.

In addition to the corner-rollers I preferably provide at the back of the trunk, opposite each of the straps 16, a roller 29, supported by suitable brackets 30.

In applying the straps (which are preferably of machine-stretched leather) I raise the lid of the trunk to an angle of from thirty to forty-five degrees and then attach the straps. This insures the required tension of the straps and the requisite expansion of the springs 18 when the lid is closed down, and the buckle attachment of the lower ends of the straps 16 permits of any adjustment that may be necessary to compensate for slack or looseness of the straps.

The hasp 4 is curved or bent outward near its lower end to adapt it to embrace the bail 13 when the latter is turned down, as shown in Fig. 1, and thus the hasp serves as a securing means for the bail in addition to its function as a locking device for the lid.

The operation of the devices constructed and arranged as above described is as follows: The mere closing down of the trunk-lid causes the spring-catches 9 to engage the shoulders 10, thus firmly holding the lid in its closed position. At the same time the straps are drawn firmly around the ends of the trunk under the leverage of the lid and against the tension of the springs 18. The hasp is then forced over the bail and locked to secure the bail and lid. To open the trunk, it is only necessary to unlock the hasp and lift the bail 13, which through the medium of the rocking rod 12 and arms 11 forces the spring-catches 9 out of engagement with the shoulders 10, thus releasing the lid, which is immediately and automatically thrown up by the contraction of the springs and maintained in raised position until closed by a force sufficient to overcome the contractile tension of the springs.

The corner-irons not only serve to protect the straps, but also serve as guards to prevent injury to the trunk when it is rolled or turned.

While the construction shown in the drawings is operative and effective, I would have it understood that I do not restrict the invention to all of the details shown and described, but reserve the right to make all such variations and modifications in the details of construction as may properly fall within the scope of the following claims.

I claim—

1. The combination with a trunk, of lid-securing means therefor, comprising catches secured to the lid adjacent to the ends thereof; means on the body of the trunk for engaging said catches; and a rocking device provided with projections adapted to contact with and release said catches, and a handle for operating the rocking device to release said catches simultaneously.

2. The combination with a trunk, of lid-securing means therefor, comprising catches secured to the lid adjacent to the ends thereof; means on the body of the trunk for engaging said catches; a rocking device provided with projections adapted to contact with, and release said catches, and a handle for operating the rocking device to release said catches simultaneously; and a locking device for securing said rocking device against movement.

3. The combination with a trunk and its hinged lid; of casings secured to the front of the lid near the ends thereof; spring-catches within said casings; shoulders on the trunk-body to engage said catches; and means for releasing the catches comprising a rocking rod formed at its ends with arms or projections and at its center with an operating-handle.

4. The combination with a trunk and its hinged lid; of catches secured to the lid; means for releasing said catches, and springs for automatically raising the lid when the catches are released, said springs being secured to the exterior of the trunk, and connected to the lid by straps or bands.

5. The combination with a trunk and its hinged lid; of catches for automatically locking the lid; straps surrounding the trunk, and springs to which said straps are connected.

6. The combination with a trunk and its hinged lid, of automatically-locking catches thereofor; means for releasing the catches; straps tensioned by springs, passing around the trunk; and rollers over which said straps extend.

7. The combination with a trunk and its hinged lid, of casings secured to the bottom of the trunk, springs supported in said cas-

ings; and straps secured to said springs, and to the trunk.

8. The combination with a trunk, of corner-irons secured thereto; antifriction-rollers mounted on said corner-irons; straps passing over said rollers; and springs for tensioning said straps.

9. The combination with a trunk and its hinged lid, of spring-catches secured to the front of the lid; means on the trunk-body to engage said catches; releasing means for said catches; springs supported on the under side of the trunk-bottom; straps secured at their upper ends to the lid and at their lower ends to the rear ends of the spring; and straps secured at their upper ends to the trunk-body and at their lower ends to the front ends of said springs.

In testimony whereof I affix my signature in presence of two witnesses.

LEVI ISAAC BODENHEIMER.

Witnesses:

MIRIAM L. ADAMS,

SAIDEE E. STANFORD.