B. DEREN.

TRUNK LOCK.

APPLICATION FILED MAY 21, 1919.

1,321,605. Patented Nov. 11, 1919.

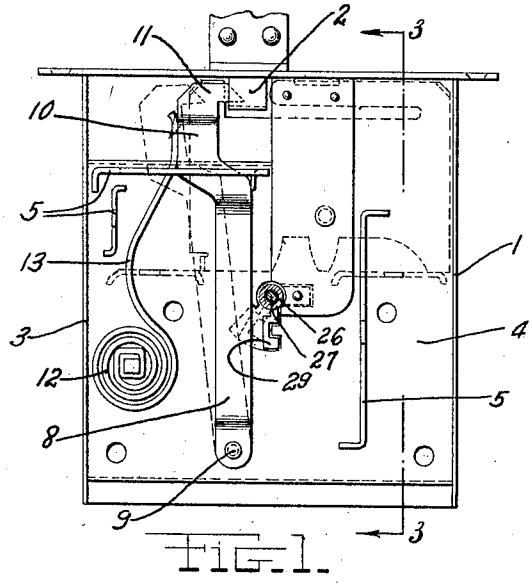


FIG. 1.

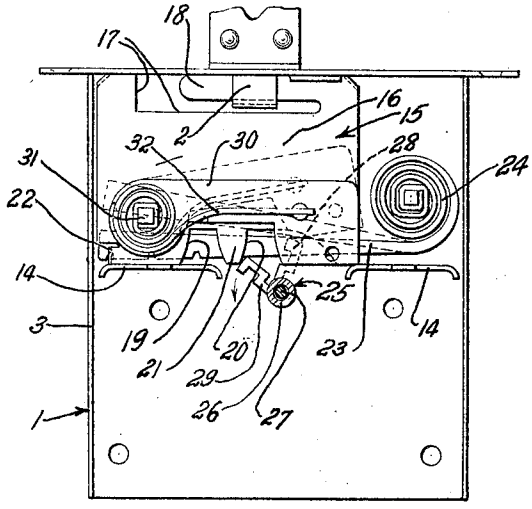


FIG. 2.

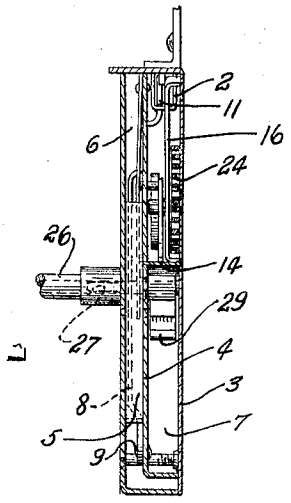


FIG. 3.

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TRUNK-LOCK.

1,321,605. Specification of Letters Patent. Patented Nov. 11, 1919.

Application filed May 21, 1919. Serial No. 298,592.

To all whom it may concern:

Be it known that I, BRONISLAW DEREN, a citizen of Poland, residing at Seymour, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Trunk-Locks, of which the following is a specification.

This invention relates to improvements in locks and more particularly to that class of locks which are adapted for use on trunks, chests and similar articles.

The principal object of the invention is to provide a lock combining maximum safety with simplicity of construction and ease of operation.

Another object of the invention resides in the provision of a lock in which a single key is used to actuate a latch and throw a bolt upon successive operations.

With these and other objects in view, as will become apparent as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts, as will be fully set forth in the following specification, and claimed and illustrated in the accompanying drawings in which—

Figure 1 is a view of the lock showing the cover removed and the latch in closed position.

Fig. 2 is a sectional view through the lock taken beneath the partition wall, and

Fig. 3 is a sectional view on line 3—3 of Fig. 1.

Referring to the drawings in detail, the numeral 1 designates as an entirety the lock, while the numeral 2 designates the staple through which the latch and bolt enter when the device is in locked position. The lock consists of a casing 3 having a partition wall 4 arranged between the front and back walls and supported on suitable spacers 5. The casing will thus be divided into the chambers 6 and 7 in which the latch and bolt are respectively operable.

The latch comprises a lever 8 pivoted at its lower end, as at 9, to the partition wall 4, and the upper end of said lever is off-set, as at 10, and this off-set portion has formed integral with its upper end a tongue 11 which normally enters the staple 2. A volute spring 12 is secured against rotation in the chamber 6 in any desired manner and is provided with a resilient arm 13 which bears on the latch to normally urge the same into closed position.

Slidably mounted on the guides 14, arranged between the rear and partition walls of the lock, is the bolt, designated generally by the numeral 15, which comprises a plate 16 having its upper edge provided with an L shaped recess 17 to form the locking tongue 18 which enters the staple 2 when the device is in locked position. The lower edge of the plate 16 is provided with spaced recesses 19 and 20 which form a downwardly extending tongue 21, the use of which will appear as the description proceeds. A laterally bent ear 22 is formed at the forward end of the plate 16, adjacent its lower edge, and coöperates with the notched arm 23 of a volute spring 24 which is fixed in the chamber 7.

In order to control the movements of the latch and bolt a key, designated generally by the numeral 25, is provided and this key consists of a tubular shank 26 through which a shank 27 is rotatable. The shank 27 is longer than the shank 26 and carries at its inner end a bit 28. The tubular shank is provided at its inner end with a bit 29 and these bits, while being of the same general construction, are spaced from each other a distance sufficient to avoid interference, when in the lock, with the wall 4. It is to be understood that the shanks are provided with suitable heads (not shown) by means of which they may be independently rotated.

In describing the operation it will be assumed that the device is locked, whereupon the key 25 is inserted through a keyhole in the front plate of the casing. The inner shank 27 is then rotated and it will be seen that the bit 28 will engage the arm 23 of the spring 24, thus lifting the same so that the ear 22 will clear the walls of the notch in said arm.

It will be understood that one or more tumblers 30 mounted on a suitable pivot 31 may be arranged within the chamber 7 and these tumblers are designed to be lifted against the pressure of a suitable spring 32 when the key is operated.

Upon further movement of the key the bit will engage the rear wall of the notch 20 in the plate 16, thus forcing the said plate backward. A second rotation of the shank 27 will again lift the arm 23 so that the ear 22 will clear the second notch and further rotation of the key will cause the bit to engage the front wall of the tongue 21 and complete

the rearward movement of the bolt, thus withdrawing the tongue 18 from engagement with the staple 2.

The next operation is the turning of the tubular shank 26 which will cause the bit 29 to engage the lever 8 and swing the same against the tension of the spring arm 13 and withdraw the tongue 11 from the staple 2, thus enabling the staple to be withdrawn. The locking of the device is accomplished in a similar manner except that movement of the shank 26 and bit 29 is unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention, certain minor changes in the construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What is claimed is—

In a chambered lock-casing, a bolt-plate in one of the chambers slidably mounted, an L-shaped recess in said plate for forming a locking tongue, a staple adapted to receive said tongue, spaced recesses in the lower edge of said plate, a downwardly extending tongue formed by said recesses, a latch in the second chamber having a tongue adapted to engage in said staple, an ear on said plate, a notched volute spring plate with which said ear coöperates, spring-controlled tumblers in one of said chambers, and a key provided with bits on its shank adapted to lift said tumblers against the action of the springs, and to engage the tongue of said bolt plate and the lower side of said spring-plate for releasing the last named plate from said ear, and withdrawing said plate locking tongue from engagement with said staple and for withdrawing the latch-tongue from engagement with said staple, substantially as described and for the purpose set forth.

In testimony whereof I have affixed my signature.

BRONISLAW DEREN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."