

A. HOLZHAUER, JR.
LOCK.

APPLICATION FILED JULY 13, 1912.

Patented Feb. 4, 1913.

2 SHEETS—SHEET 1.

1,052,341.

Fig. 1.

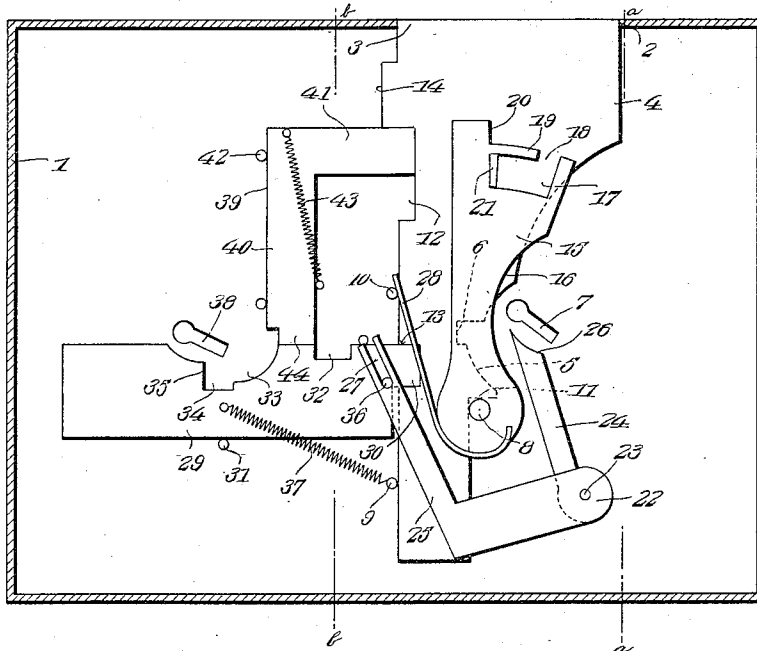
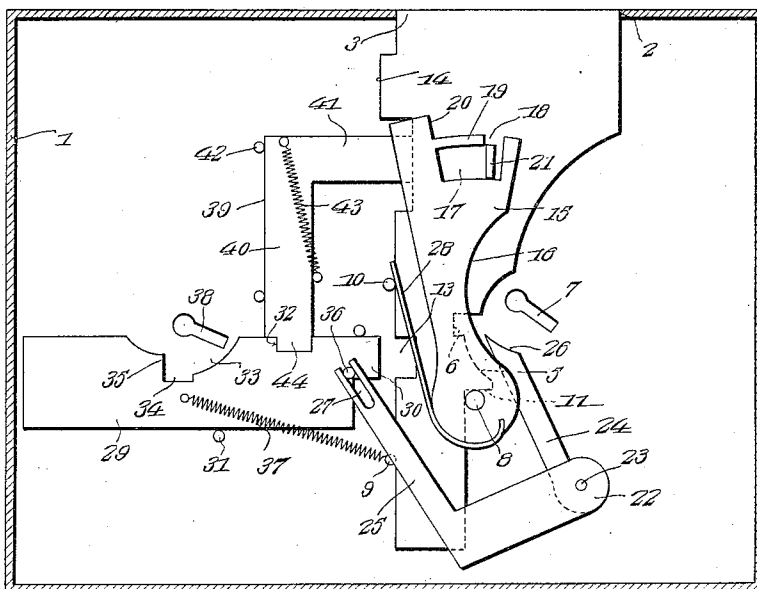


Fig. 2.



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2 SHEETS—SHEET 2.

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Fig. 3

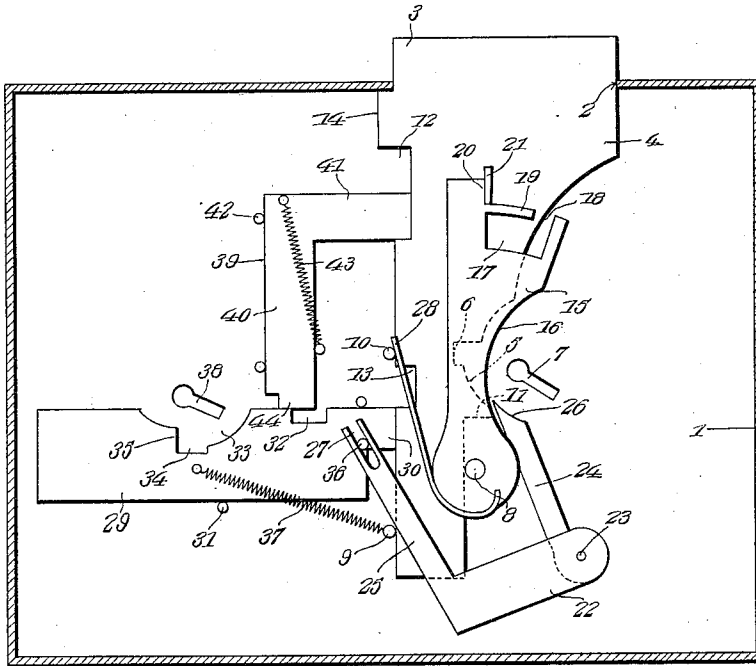


Fig. 4

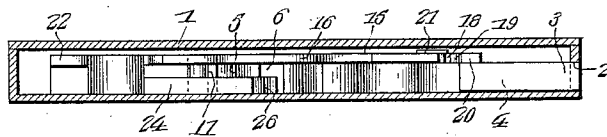
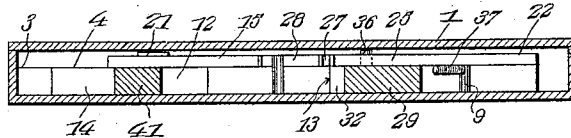


Fig. 5



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ALOIS HOLZHAUER, JR., OF MILWAUKEE, WISCONSIN.

LOCK.

1,052,341.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALOIS HOLZHAUER, Jr., a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Locks, of which the following is a specification.

This invention is an improved lock especially adapted for use on lockers, hat and clothes boxes and the like, to which the parties holding the keys are to have access but once, the object of the invention being to provide a lock which may be readily locked and the key then taken out, and which can afterward be unlocked, and will then serve to prevent the key from being taken out, and which requires the services of an attendant to reset the lock and release the key.

The invention consists in the construction, combination and arrangement of devices, hereinafter described and claimed.

In the accompanying drawings:—Figure 1 is a plan of a lock constructed in accordance with my invention, showing the operating parts of the same in open or unlocked position after having been operated by a key, the casing being indicated in section. Fig. 2 is a similar view of the same, showing the parts of the lock in position ready for locking by a locking key. Fig. 3 is a similar view, showing the parts in locked position. Figs. 4 and 5 are sectional views on the planes indicated by the lines *a—*a** and *b—*b**, respectively, of Fig. 1.

The lock case 1 may be of any suitable construction and has an opening 2 in one side through which the outer end 3 of the bolt 4 may move. The bolt is provided on one side with a recess 5 and a notch 6, for engagement by the ward of a suitable key, to operate the bolt, the key hole being engaged at 7 in one side of the case. Guide studs 8, 9 and 10 are here shown arranged on opposite sides of the bolt, near the inner end thereof, the bolt being formed with a shoulder 11 which engages the pin 8 and forms a stop for the bolt when the latter is in withdrawn or unlocked position. On the side of the bolt opposite that provided with the recess 6 and key notch 7 is a longitudinal recess 12 near the outer end of the bolt and a stop recess 13 near the inner end of the bolt, there being a stop shoulder 14 at the outer end of the recess 12 which by co-action with the outer wall of the lock case

limits the outer movement or locking movement of the bolt.

A key actuated bolt detent 15 is pivotally mounted on the pin 8, is arranged on one side of the bolt so that the latter is free to slide independently of the detent, the detent being provided in its outer side with a cam face 16 adapted to be engaged by the ward of the key and being provided at its free end with a curved slot 17 open at its outer side at an intermediate point as at 18, the outer side of the slot being partly formed by a projection 19, at the outer side of which, at its inner end, is a shoulder 20. The bolt has a stop lug 21 projecting from that side thereof on which the detent bears and when the bolt is in initial, unlocked position, as shown in Fig. 1, the stop lug 21 thereof is in the inner end of the slot 17.

A key retainer 22 is arranged in the lock case, is pivotally mounted as at 23 and is substantially U-shaped and provided with a pair of slightly diverging arms 24—25. The arm 24 is arranged in the path of the ward of the key and has a terminal provided with a cam surface 26 which is adapted to be engaged by the ward of the key. The arm 25 which is longer than the arm 24 has a slot 27 in its outer end. A spring 28 has its free end bearing against one side of the guide pin 10, the opposite end of the said spring being bent around the rounded pivotal end of the detent 11 and secured thereto, the office of this spring being to normally hold the detent in the position indicated in Fig. 1 and with the cam surface of the detent within the path of the ward of the key.

A setting bolt 29 is arranged at right angles to the locking bolt 4 for slight longitudinal movement toward and from the said locking bolt and is provided at its inner end with a projection 30 which is adapted to engage the notch 13. The setting bolt is guided and held in place by suitable guides 31 and is provided in one side, at a suitable distance from the projection 30 with a notch 32 and is also provided in the same side with a recess 33 for the reception of the ward of a setting key, the said recess having a notch 34 and a shoulder 35 for engagement by the ward of the setting key. A stud 36 projects from one side of the setting bolt at a point near the inner end thereof and operates in the slot 27 of the key retainer 22.

A spring 37 is connected to the setting bolt and serves to normally hold the latter with its projection 30 in engagement with the notch 13 of the locking bolt 4, as shown in Fig. 1. The key hole for the setting key which actuates the setting bolt is indicated at 38. A stop for the setting bolt is indicated at 39 and is here shown as comprising an arm 40 parallel with the locking bolt 4 and an arm 41 at right angles to the arm 40 and the end of which is in engagement with the recess 12 of the locking bolt. The arm 40 of the setting bolt stop is arranged for sliding movement between guide pins 42 and a spring 43 is provided to draw the setting bolt stop toward the setting bolt so as to engage the projecting end 44 of the arm 40 with the recess 32 of the setting bolt when the latter is withdrawn from the notch or recess 13 of the locking bolt, as shown in Fig. 2. Normally, as shown in Fig. 1, the projection 44 of the setting bolt stop bears against one side of the setting bolt at a point between the notches or recesses 32-33.

The operation of my improved lock is as follows: Let it be assumed that the parts of the lock are in initial position as shown in Fig. 2 with the locking bolt in withdrawn position, the stud 21 thereof being in engagement with the inner end of the slot 17 of the detent 11 and the projection 30 of the setting bolt withdrawn from the recess 13 of the locking bolt and held in position by engagement of the projection 44 of the stud 39 with the recess 32 of the setting bolt 29. When the locking ward which operates in the key hole 7 is turned in the required direction to move the bolt 4 to locking position, it first passes the cam projection 26 of the key retainer. Continued movement of the key causes the latter to actuate the detent 11 and turn it on its pivot 8 against the tension of the spring 28 a sufficient distance to bring the opening 18 in alinement with the stop 21 and at this point the ward of the key engages the notch 6 of the locking bolt and the latter, is, by the final movement of the key, moved to the locking position shown in Fig. 3. As the locking bolt completes its outward locking movement, the inner end of its recess 12 engages the arm 41 of the setting bolt stop 39 and moves the said stop longitudinally against the tension of its spring 43 so as to withdraw the said stop from engagement with the recess 32 of the setting bolt, and, hence, the spring 37 acts to move the setting bolt toward the locking bolt and engage its projection 30 with the outer side of the locking bolt at a point beyond the recess 13, such movement of the setting bolt by the engagement of its lug 36 with the slot 27 of the key retainer serving to partly turn the key retainer so as to again dispose the cam projection 26

thereof within the path or radius of the ward of the locking key. Hence, the locking key can be withdrawn from the lock case. It may afterward also be reinserted in the key hole and turned to move the locking bolt to the releasing position shown in Fig. 1 but after thus unlocking, the key can not be withdrawn from the lock because the continued turning of the key engages it with the arm 24 of the key retainer and, hence, the key is held in the lock. The reverse movement of the bolt 4 by the locking key causes the projection 30 of the setting bolt to reengage the recess 13 of the locking bolt and, hence, before the locking key can be withdrawn from the lock case an attendant must insert a setting key through the key hole 38 and turn the setting key so as to cause it to engage the shoulder 35 of the setting bolt and move the latter outwardly so as to release the projection 30 from the recess 13 of the locking bolt and cause the stud 36 and slot 27 to turn the key retainer so as to withdraw the outer end of its arm 24 from the path of the locking key, this outward movement of the setting bolt causing its recess 32 to be reengaged by the projection 44 of the setting bolt stop 39. Hence, while my improved lock may be readily once locked, the key taken out, and afterward unlocked, the key can not then be taken out nor can the lock be again locked until after the attendant by means of his setting key has reset the lock.

While I have herein shown and described a preferred form of my invention, I would have it understood that changes may be made in the form, proportion and construction of the several parts without departing from the spirit of my invention and within the scope of the appended claims.

I claim:—

1. A lock having a key operated locking bolt, a key retainer, and a setting bolt coacting with the key retainer, the said setting bolt being adapted to be actuated by a setting key and serving to normally hold the locking bolt in withdrawn position, the key retainer having means operated by the initial movement of the locking key to release the setting bolt from the locking bolt, and a stop for the setting bolt to lock the latter when in withdrawn position, released from the locking bolt, the locking bolt and the setting bolt stop having coacting means to cause the locking bolt to release the setting bolt when the locking bolt is in locking position.

2. A lock having a key operated locking bolt, a key retainer, and a setting bolt coacting with the key retainer, the said setting bolt being adapted to be actuated by a setting key and serving to normally hold the locking bolt in withdrawn position, the

key retainer having means operated by the
initial movement of the locking key to re-
lease the setting bolt from the locking bolt,
and a stop for the setting bolt to lock the
5 latter when in withdrawn position, released
from the locking bolt, the locking bolt and
the setting bolt stop having coacting means
to cause the locking bolt to release the set-
ting bolt when the locking bolt is in locking
10 position, and a pivotally mounted locking

key actuated detent, said detent and lock-
ing bolt having coacting means to cause said
detent to lock said locking bolt both in
withdrawn and in locking position.

In testimony whereof I affix my signature 15
in presence of two witnesses.

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Witnesses:

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