

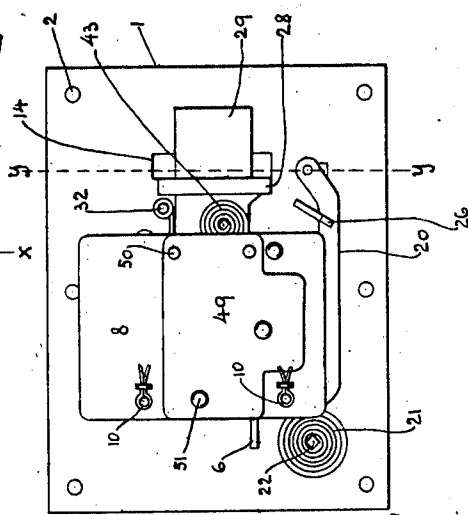
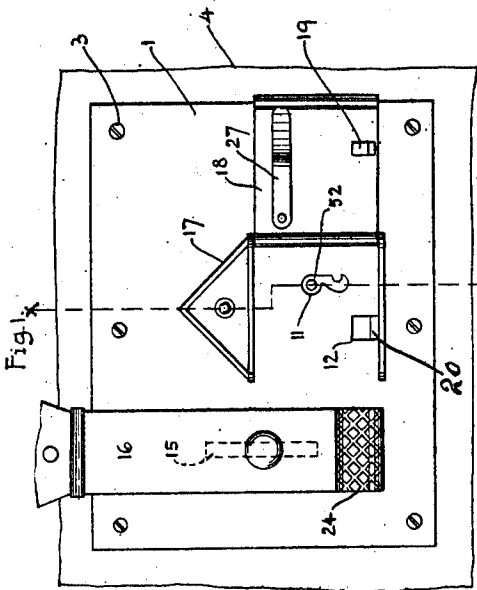
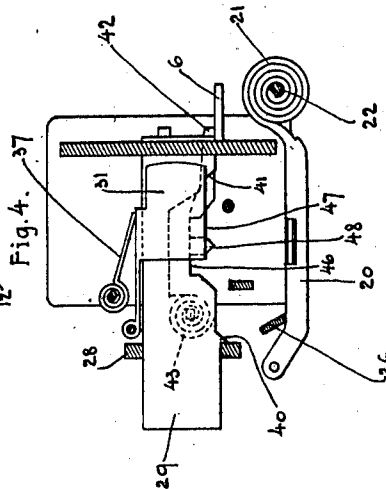
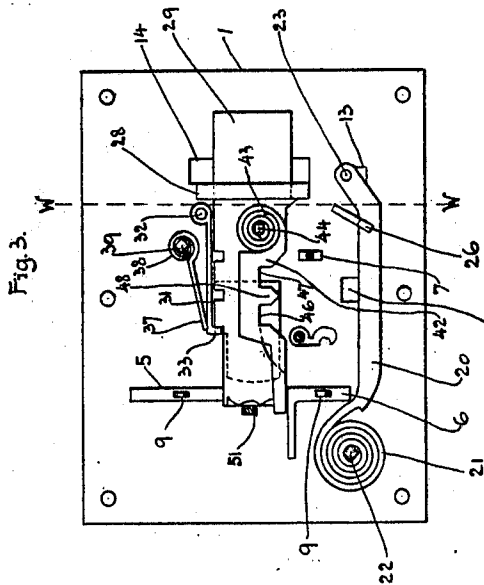
LOCK.

APPLICATION FILED JAN. 17, 1910.

989,093.

Patented Apr. 11, 1911.

2 SHEETS-SHEET 1.



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Fig. 2.

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2 SHEETS—SHEET 2.

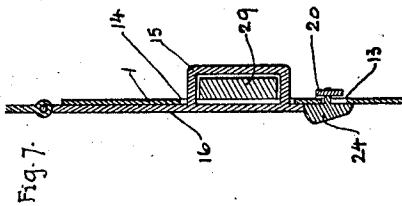


Fig. 7.

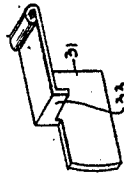


Fig. 9.



Fig. 11.

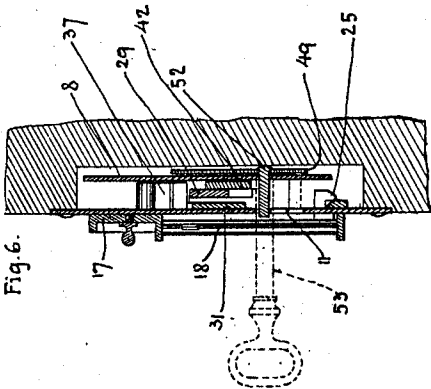


Fig. 6.

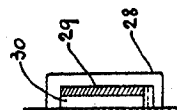


Fig. 8.

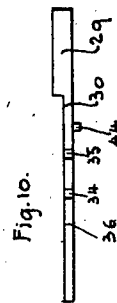


Fig. 10.

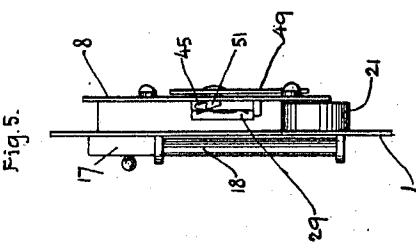


Fig. 5.

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UNITED STATES PATENT OFFICE.

ADAM WESOLOWSKI, OF PITTSBURG, PENNSYLVANIA.

LOCK.

989,093.

Specification of Letters Patent.

Patented Apr. 11, 1911.

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To all whom it may concern:

Be it known that I, ADAM WESOLOWSKI, a subject of the Emperor of Austria-Hungary, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Locks, of which the following is a specification, reference being had therein to the accompanying drawing.

- 10 This invention relates to locks, and the object of my invention is to provide a lock that cannot be opened even by a person in possession of the proper key unless the person is familiar with the operation of the lock.
- 15 A further object of the invention is to provide a lock that can be advantageously used in connection with trunks and valises, and lids provided with hasps.

With the above and other objects in view which will more readily appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts to be presently described and then claimed.

- 25 In the drawings, Figure 1 is a front elevation of the lock with the shield in an open position, Fig. 2 is a rear elevation of the lock detached from its support, Fig. 3 is a similar view of the lock with the rear plate removed, Fig. 4 is a front elevation of the locking mechanism partly in section, Fig. 5 is an edge view of the lock, Fig. 6 is a vertical cross sectional view of the same, taken on the line X—X of Fig. 1, Fig. 7 is a similar view taken on the line Y—Y of Fig. 2, Fig. 8 is a cross sectional view of a portion of the lock taken on the line W—W of Fig. 3, Fig. 9 is a perspective view of the pivoted detent, Fig. 10 is a plan of the lock bolt,
- 40 Fig. 11 is a perspective view of a portion of the key for the lock.

In the accompanying drawings, 1 designates a front plate provided with openings 2, whereby the plate can be secured by screws 3 or similar fastening means to a suitable support 4, said support being cut away to provide clearance for the locking mechanism carried by the rear side of the front plate 1.

50 5, 6 and 7 designate posts for supporting a rear plate 8, the posts 5 and 6 having apertured lugs 9, whereby the rear plate 8 can be secured upon the posts 5 and 6 and 7, by cotter pins 10.

55 The front plate 1 is provided approximately centrally thereof with a key-hole

opening 11 and is further provided at a point adjacent to the opening 11 with a latch opening 12. Formed in the front plate 1 is a clearance opening 13 for a shield releasing lever and said plate 1 is furthermore provided with an opening 14 for the passage of a staple 15 carried by a hasp 16.

17 designates a housing secured upon the forward side of the front plate 1 adjacent to the key-hole 11 and the latch opening 12. The housing 17 is provided with a pivoted shield 18, similar to a door, and which is adapted to swing over the openings 11 and 12 and conceal the same.

19 designates a latch carried by the inner side of the shield 18 and which is adapted to extend through the latch opening 12 and engage the shield releasing lever 20. One end of the lever 20 is shaped to form a spiral spring 21 which is connected to a post 22 carried by the rear side of the plate 1. The opposite end of the lever is provided with a pin 23 extending through the clearance opening 13, the end of the pin at the forward side of the plate 1 having a large knurled presser block 24 of a sufficient size to cover the clearance opening 13 and prevent the same from being observed from the forward side of the plate 1. The latch 19 is beveled, as at 25, to easily ride into engagement with the shield releasing lever 20, and to prevent said lever from being displaced, the rear side of the plate 1 is provided with a guide 26 for said lever.

27 designates a spring carried by the inner side of the shield 18, this spring being placed under tension when the shield is closed, whereby said spring will force the shield open, when the lever 20 releases the latch 19 of said shield.

28 designates a yoke carried by the rear side of the plate 1 adjacent to the opening 14. Slidably mounted in the yoke 28 and between the posts 5 and 6 is a lock bolt 29. The rear end of the lock bolt 29 is reduced, as at 30, to provide clearance for a pivoted detent 31 carried by a post 32 mounted upon the rear side of the plate 1. The detent 31 is shaped to form a tooth 33 adapted to engage in notches 34 and 35 provided therefor in the upper edge of the lock bolt 29 and also against a shoulder 36 formed on the bolt 29. The detent 31 is held in engagement with the bolt 29 by the projecting end 37 of a spiral spring 38 secured to a post 39 carried by the rear side of the plate 1. The

lower edge of the bolt 29 is provided with a depending lug 40 adapted to engage the yoke 28 and limit the locking movement of the bolt. The lower portion of the bolt is cut away, as at 41, to allow the lower edge of the detent to extend below the lower edge of the bolt, the object of which will presently appear.

42 designates a tumbler having one end shaped to form a spiral spring 43, which is connected to a pin 44 carried by the rear side of the locking bolt 29. The opposite end of the tumbler 42 extends outwardly upon the post 6, and is beveled, as at 45. The tumbler intermediate the ends thereof is cut away to provide two notches 46 and 47 and a central lug 48.

49 designates a resilient plate having one edge thereof fixed, as at 50 to the outer side of the rear plate 8, while the opposite edge is provided with a beveled tooth 51, adapted to extend through the rear plate and engage the free end of the tumbler 45, for supporting it in an elevated position, as best shown in Fig. 5.

52 designates a post way carried by the plate 49 which extends through the plate 8 and into the key-hole 11.

53 designates the cylindrical shank of a key having a semicylindrical bit 54 supported tangentially relative to the key-shank.

Operation: Assuming that the shield 18 is closed, and held in a locked position by the lever 20, it is necessary for a person to open the lock to press downwardly upon the block 24, this block moving the lever 20 out of engagement with the latch 19 and allowing the spring 27 to throw the shield 18 open. The key can now be placed in the lock to move the lock bolt 29 to release the staple 15 of the hasp 16. With the tumbler 42 held in an elevated position by the tooth 51, the bit 54 of the key cannot contact with the tumbler, and when rotated in the lock simply contacts with the pivoted spring pressed detent 31, raising said detent without touching or moving the bolt 29. By turning the key to the right or left as often as a person desires, it will be impossible to move the lock bolt 29 by so manipulating the key. To place the lock in position whereby the key can be used for moving the lock bolt 29, the end of the key shank 53 is pressed upon the end of the key post 52, forcing the plate 49 rearwardly and removing the tooth 51 from beneath the beveled free end of the tumbler 42. The tumbler 42 immediately descends and is limited in its downward movement by the post 6, while the resilient plate 49, the tooth 51 and key post 52 assume their normal position. The tumbler 42 is now in position to be engaged by the key if fully placed in the lock and rotated. The bit 54 first engages the pivoted detent 31 and raises said detent taking the

tooth 33 out of engagement with the shoulder 36. A further movement of the key causes the bit 54 thereof to engage the tumbler 42 and move said arm, together with the locking bolt to which it is attached rearwardly, the tooth 33 of the detent engaging in the notch 34 of the lock bolt 29. The lock bolt 29 is what may be termed half-way open, but the staple 15 of the hasp 16 is just as securely held as though the lock bolt had not been moved. Another rotation of the key causes the bit 54 to again elevate the detent 31, the bit this time engaging the lug 48 and moving the tumbler 42 and the locking bolt rearward, to release the staple 15 of the hasp 16. The pivoted detent 31 holds the locking bolt in an open position by the tooth 33 thereof engaging in the notch 35 of said bolt.

In unlocking the bolt, the key is turned to the right, and in locking the bolt, the key is turned to the left. Assuming now that the key has been twice rotated to the left to place the bolt 29 in a locked or closed position, the third rotation of the key causes the bit 54 thereof to impinge the free end of the tumbler 42, elevate said tumbler 42 until it passes the tooth 51 and is held by said tooth, the tooth receding to allow the beveled end of the tumbler 42 to pass by, and thus assume its normal position to hold the tumbler 42 in an elevated position out of the path of a rotative movement of the bit 54.

It will be observed from the foregoing description taken in connection with the drawings, that the whole secret of opening the lock depends upon properly manipulating the lock independent of the rotative movement of the key, it being first impossible to place the key within the lock without knowing the secret of opening the shield, and then impossible to release the locking bolt without knowing the secret of pressing upon the key guide to release the tumbler whereby the key can be used for opening the locked bolt.

While in the drawing forming a part of this application there is illustrated the preferred embodiments of my invention, I would have it understood that the details of construction can be varied or changed as to shape, proportion and manner of assemblage as will fall within the scope of the claim hereunto appended.

Having now described my invention, what I claim as new, is:—

A lock comprising a pair of fixed plates, the rear one of said plates being provided with a plurality of openings, a lock bolt arranged between said plates and supported by the front one thereof, a resilient supporting member arranged exteriorly of said rear plate and having one of its ends connected to the said plate, said member having its other end provided with an inwardly extending beveled tooth projecting

through one of the openings of the rear plate, said member further provided intermediate its ends with a key post extending through another opening of said rear plate,
5 said lock bolt provided with a single curved cut-away portion upon the under side thereof, an actuating key, a key actuated tumbler adapted to solely operate said bolt and arranged against the latter and having one
10 end provided with a beveled extension and adapted to be engaged by said tooth for maintaining the tumbler out of the path of the key designed to actuate the same, said tumbler further having its other end extended and coiled upon itself to provide a
15 spring tending to maintain the tumbler in the path of the key, the central lower projection carried by said tumbler and regis-

tering with said cut-away portion of the bolt, a squared pivot upon said bolt and extending through the coiled extended end of the
20 said tumbler for connecting the latter to the bolt, said tumbler being positioned for contact with said key, said key adapted to operate within said cut-away portion of the bolt and
25 free from contact with the latter, and a spring controlled means carried by one of the plates and normally engaging the lock bolt for maintaining it from shifting.

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

ADAM WESOLOWSKI.

Witnesses:

A. H. RABSAG,
K. H. BUTLER.

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