J. P. FROMMER.

LOCK.

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1,366,909.

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Fig. 1.

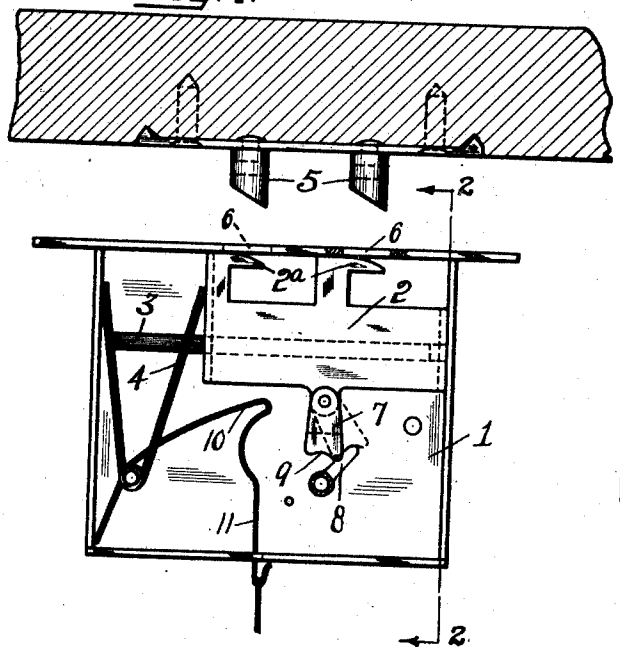


Fig. 2.

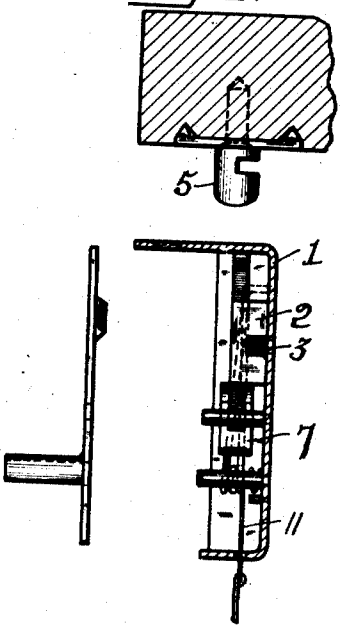
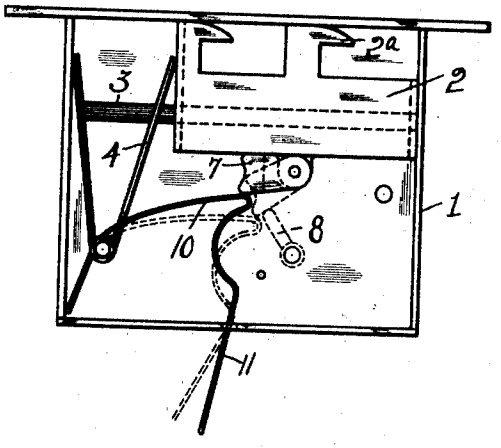


Fig. 3.



INVENTOR

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UNITED STATES PATENT OFFICE.

JOSEPH P. FROMMER, OF TOLEDO, OHIO.

LOCK.

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To all whom it may concern:

Be it known that I, JOSEPH P. FROMMER, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Lock; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to locks and has for its object the provision of a simple and efficient lock which can only be unlocked by a delicate handling or manipulation of the key by a person familiar with the construction, thereby making it valuable for use where a secure but inexpensive lock is desired.

A further object of the invention is the provision in a lock of secret means which is adjustable to render it impossible to unlock the lock by means of a key, thereby preventing an opening of the lock except by persons understanding the adjustment and manner of operation of the secret means.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figure 1 is an elevation of the lock with the front plate removed and with the part carrying one member thereof in section. Fig. 2 is an edge elevation thereof with the lock in section on the line 2, 2 in Fig. 1 and with the front plate spaced from the lock, and Fig. 3 is an elevation of the lock similar to that shown in Fig. 1 with the tumbler member held out of key engaging position.

Referring to the drawings, 1 designates the case of a lock in which a bolt or catch member 2 is mounted for sliding movements, being guided in such movements, in the present instance, by a rib 3. The member 2 is normally held in operative or catch position by a spring 4 and, in the present instance, is of the type having catch fingers 2^a on one side edge thereof for catch engagement with catch studs 5 when projected through registering openings 6 in the adjacent side of the case. The lock shown is of the type preferred for use in connection with chests, trunks, or the like, and the bolt member 2 may be changed to suit it for use in connection with a horizontal swinging door or for other purposes.

The bolt member 2 is provided on its lower edge, in the present instance, with a tumbler 7, which is pivoted to the bolt member for swinging movements longitudinally thereof. This tumbler is disposed over the key 8, when the latter is inserted into the lock, and is adapted to hang by gravity action in vertical position with its lower end adjacent to the key shaft. The lower end of the tumbler is preferably inwardly notched or recessed, as at 9, with the farther edge or lip of the recess (relative to the unlocking turning movement of the key 8) preferably extended. When the key is inserted into the lock it is turned to the right, or in the opposite direction, in the present instance, to the desired unlocking or retracting movement of the bolt member 2, and when the lip or wing on the key engages the adjacent side of the tumbler 7, which hangs in the path of the turning movement of the key, it causes a swinging of the tumbler to the right a distance sufficient to allow the wing of the key to pass thereunder. The turning movement of the key is done very slowly so that when the recess in the end of the tumbler drops into engagement with the key wing the operator notices a slight click or jar of the key. He then turns the key to the left or reverses its movement thereby exerting an unlocking pressure on the bolt member 2 through the medium of the tumbler longitudinally thereof so as to force the bolt member rearward to its released or unlocked position. The purpose of making the farther lip or edge of the tumbler recess 9 of greater length than the other is to prevent the tumbler from falling past the key as the edge of the key wing passes the rear edge or lip of the recess 9 unless the turning of the key is continued.

It is apparent that with my invention the forward turning movement of the key has to stop at a certain point in order to prevent the tumbler from swinging rearward past the same and it is therefore difficult for a person not understanding the lock mechanism to unlock the lock.

A spring finger 10 is is provided within the case 1 at the rear of the tumbler 7 in position, when drawn down from normal position, to engage the forward edge of the

tumbler 7 and hold it in inoperative position out of the path of turning movement of the key, as shown in Fig. 3. To place the tumbler in this inoperative position the spring finger 10 is first drawn down to the dotted line position shown in Fig. 3 and the key then operated or turned to the left to swing the tumber above the free end of the spring 10 after which the spring is released and forces the tumbler up to the inoperative full line position shown in Fig. 3. The lock cannot now be opened until the spring finger has been drawn down to permit the tumbler to swing down to its normal operative position. The spring finger 10 has an extension or draft member 11 extending downward from its free end through the bottom of the case 1 and this may be connected by a flexible draft member to a pull or operating means, not shown, located at any convenient hidden point so that a person not knowing the location of the exposed end of the draft member or the pull or operating means associated therewith, could not unlock the lock.

I wish it understood that my invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claim.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is,—

In a lock, a case, a bolt member mounted for horizontal sliding movements, means yieldingly retaining the bolt member in locking position, a tumbler suspended from the bolt member for free swinging movements whereby it normally hangs in vertical position by gravity, said tumbler being swung from normal position by a rotating key, and when at a predetermined point in its swinging movement relative to the bolt member, being operable by a predetermined movement of the key to impart a retracting movement to the bolt member, and a spring member operable to retain the tumbler in substantially longitudinal relation to the bolt member and out of key engaging position, and means extending from said spring member without the case and operable to move the spring member to release the tumbler.

In testimony whereof I have hereunto signed my name to this specification.

JOSEPH P. FROMMER.