

UNITED STATES PATENT OFFICE.

ANTHONY COSEGLIA, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO
AUTOSALES CORPORATION, A CORPORATION OF NEW YORK.

LOCK.

1,325,622.

Specification of Letters Patent.

Patented Dec. 23, 1919.

Application filed December 22, 1914. Serial No. 878,474.

To all whom it may concern:

Be it known that I, ANTHONY COSEGLIA, a subject of the King of Italy, and a resident of New York city, in the county and State of New York, have invented certain new and useful Improvements in Locks, of which the following is a specification.

My invention relates to locks generally and has for its object the provision of a lock characterized by simplicity of construction and operation and which embodies certain features of novelty as hereinafter specified.

One feature of my invention resides in a pair of oppositely movable bolts which are normally held locked in locking position and are simultaneously actuated into unlocking position by the mere insertion of a key of special construction. No turning or other manipulation of the key is necessary to operate the lock, but a mere insertion of the key is all that is required.

Another feature of novelty which characterizes my invention resides in means which positively prevent a withdrawal of the key unless the locking bolts are in locking position, and the bolts cannot move into locking position unless the door or cover of the box or other receptacle to which the lock is applied, is in full closed position. So that, when the operator is able to withdraw the key, he knows that the bolts are in locking position and that the box or receptacle is safely locked.

The above and other features and advantages of my invention will become apparent from the detailed description of the accompanying drawings which illustrate a preferred embodiment of my invention and in which—

Figure 1— is a face view of my lock with the cover plate removed, the parts being shown in normal or locking position;

Fig. 2— is a view similar to Fig. 1, showing the position of the parts when a proper key is fully inserted into the lock;

Fig. 3— is a cross section approximately on line 3—3 of Fig. 2, looking in the direction of the arrows;

Fig. 4— is a cross section on line 4—4 of Fig. 2, looking in the direction of the arrows; and

Fig. 5— is a transverse cross section on line 5—5 of Fig. 2, looking in the direction of the arrows.

The operative parts of my lock are mount-

ed on a suitable base plate 1 and accommodated in a recess indicated as a whole by 2. In this way the parts of the lock do not project beyond the thickness of the base plate 1, as indicated in Figs. 3, 4, and 5. The base plate 1 is provided with a cover plate 3 for retaining the movable parts within the recess 2. Broadly speaking, the support in which or on which the operative parts of the lock are mounted, may be called a casing. So that, when I use this term in the claims I use it as a convenient term to indicate broadly any structure for supporting the movable parts.

Within the recess 2 of the base plate 1 are slidably mounted the oppositely movable bolts 4 and 5. The bolt 4 operates in the extension 2^a of the recess indicated as a whole by 2, while the bolt 5 operates in the shorter extension 2^b of the recess 2. The outer ends 6 of these bolts are the locking ends and are normally held projected in locking position by suitable means such as the springs 7 and 8 which normally tend to push the bolts apart. The bolts 4 and 5 are normally held locked in locking position by a pair of tumblers 9 and 10, which operate in recesses 11 and 12 in the base plate 1. The tumbler 9 is associated with the locking bolt 4 while the tumbler 10 acts upon the bolt 5. Each of the tumblers 9 and 10 is provided with a recess 13 which is adapted to be brought into alinement with the inner end of the corresponding bolt. Normally the bolts are held pressed against the bottom of their respective slots by suitable springs 14, arranged within the recesses 11 and 12. It will be noticed that the recesses 11 and 12 are offset with respect to each other and that the tumblers terminate at different distances from the bottom of the key slot 15. This is for the purpose of rendering the actuation of the tumblers 9 and 10 into releasing position impossible unless a key of certain predetermined construction be used. When the tumblers are in their normal position, as shown in Fig. 1, it will be seen that the recesses 13 are out of alinement with the inner ends 16 and 17, respectively, of the bolts 4 and 5, and the bolts are, therefore, locked in their locking position.

On the stud 18 in the recess of the base plate 1 is pivoted an arm 19 which at its lower end is in the path of movement of the inserted key K and at its other end is

adapted to engage the bolt 4. The bolt 5 is provided with a lug or extension 20 arranged to be engaged by the shoulder 21 of the key K. Broadly speaking, the arm 19 and the extension 20 are key-actuated means for the bolts 4 and 5, respectively, and in the broad aspect of my invention these key-actuated means for the bolts may be mechanically embodied in various forms.

The key K is formed with inclined operative portions 22 and 23 and a pair of inoperative portions 24 and 25.

It is to be understood that the projecting ends 6 of the bolts engage in suitable recesses or openings provided in the door or cover of the receptacle to which the lock is applied. Or, if the lock itself is mounted in the door or cover, then the bolt-engaging recesses would be in the adjacent fixed wall of the receptacle, which might be a box, trunk, safe, room, etc. Preferably, the cooperation between the locking ends 6 of the bolts 4 and 5 and the engaging recesses is such that the ends 6 do not snap into place, as in ordinary snap locks, but the bolts must in withdrawn position be brought into alinement with the engaging recesses and then allowed to move into locking position. For the purpose of this invention, however, it is sufficient to say that the locking bolts 4 and 5 are normally mounted in locking position, as shown in Fig. 1, without specifying any further mechanism or structure affected thereby.

The operation of the lock is as follows: When the key K is inserted into the key-slot 15, the beveled front end 26 of the key raises the tumblers 9 and 10. When the tumblers rest on the parallel or inoperative portions 24 and 25, respectively, the recesses 13 are in alinement with the inner ends of the bolts 4 and 5, and the latter are, therefore, free to be moved into unlocking position. The front end of the key and the shoulder 21 thereof do not engage the pivoted arm 19 and the extension 20 of the bolt 5, until the tumblers have reached the inoperative portions 24 and 25 of the key. During the interval in which the key engages the pivoted arm 19 and the extension 20 to move the bolts inwardly into unlocking position, the tumblers are retained in unlocking position by the portions 24 and 25 of the key. When the bolts are in full unlocking position, as shown in Fig. 2, it will be seen that the inner ends 16 and 17 rest in the recesses 13 of the tumblers 9 and 10, respectively. It is obvious that the key cannot be withdrawn, unless the tumblers are free to ride over the inclined portions 22 and 23 of the key. It is also obvious that this upward movement of the tumblers cannot take place unless the inner ends 16 and 17 of bolts 4 and 5 are withdrawn from the recesses 13—in other words, unless the

bolts 4 and 5 are in locking position. Consequently, before the operator can withdraw the inserted key, the cooperating members or recesses for the ends 6 of the bolts must be in position to allow the bolts to move into locking position under the influence of the springs 7 and 8. If the bolts do not move into locking position, it is because the door or cover of the receptacle to which the lock is applied is not in properly closed position, or because the spring means which normally impel the bolts into locking position are out of working order. In other words, when the operator finds that he can withdraw the key, he is assured that the bolts are in proper locking position.

It will be observed from the foregoing description that I have provided a lock which is compact in form so as to occupy but little space; which is simple in construction, involving but few movable parts; which is operated upon a mere insertion of the key without the necessity of turning the same; and which affords sure means to the operator of its condition by positively preventing the withdrawal of the key unless the bolts are in locking position.

While I have herein shown a specific embodiment of my invention, I would have it clearly understood that I do not intend to be limited to the precise form or arrangement of parts, as it is obvious that various changes and modifications may be made without departing from the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a lock, a casing provided with a key-slot adapted to prevent turning of the inserted key, a pair of oppositely movable bolts, key-controlled mechanism for normally locking said bolts in locking position, separate actuating means for each bolt, said means projecting into said key-slot to be engaged and actuated by the inserted key, and a key adapted upon insertion into said key-slot to move said mechanism into releasing position and to engage both of said means for operating said bolts into unlocking position.

2. In a lock, a pair of oppositely movable bolts, means for normally maintaining said bolts in locking position, a pair of tumblers for normally locking said bolts in locking position, an independent key-operated device associated with one of said bolts for actuating the same into releasing position, a portion of the other bolt extending into the path of the inserted key, in combination with a key adapted to move said tumblers into releasing position, and to engage said device and said extending portion, whereby the unlocked bolts are moved into unlocking position by the inserted key.

3. In a lock, a casing provided with a key-slot adapted to prevent turning of the inserted key, a pair of oppositely movable bolts, means for normally locking said bolts against movement into unlocking position, key-actuated operating means for each bolt, and a key adapted upon insertion into said key-slot to first move said bolt-locking means into unlocking position and then engage said bolt-operating means to move said bolts at substantially the same time into unlocking position.

4. In a lock, a casing provided with a key-slot adapted to prevent turning of the inserted key, a bolt slidably mounted in said casing, a key adapted to be inserted into said key-slot to operate said bolt into unlocking position, a device for normally locking said bolt in locking position and adapted to be actuated by the inserted key into bolt-releasing position, and means on said bolt for locking said device in key-actuated position when said bolt is in unlocking position, whereby said device locks said key against withdrawal from the key-slot unless said bolt is in locking position.

5. In a lock, a casing provided with a key-slot adapted to prevent turning of the inserted key, a pair of oppositely movable bolts mounted in said casing, a key adapted to be inserted into said slot, means actuated by the inserted key to operate both of said bolts into unlocking position, and means whereby said key is locked against withdrawal from said slot unless both of said bolts are in locking position.

6. In a lock, a flat casing, a pair of oppositely slidable bolts mounted in said casing and arranged to operate in the plane thereof, said casing being provided with a key-slot arranged substantially parallel with the path of movement of said bolts and adapted to prevent turning of the inserted key, key-actuated means whereby said bolts are operated, and a key adapted upon insertion into said slot to actuate said means and thereby cause operation of said bolts at substantially the same time.

7. In a lock, a casing, a pair of oppositely slidable bolts mounted on said casing and arranged to operate in the same plane, said casing being provided with a key-slot arranged parallel with the path of movement of said bolts, said key-slot being adapted to prevent turning of the inserted key, key-actuated means for operating both of said bolts at substantially the same time, a key adapted upon insertion into said slot to actuate said means, and means to positively lock said key against withdrawal from said

slot unless both of said bolts are in locking position.

8. In a lock, a casing provided with a key-slot adapted to prevent turning of the inserted key, a pair of oppositely movable bolts, means for normally maintaining said bolts in locking position, key-controlled mechanism for normally locking said bolts in locking position, separate key-actuated means for each bolt, and a key adapted upon insertion into said slot to move said mechanism into releasing position and to engage both of said key-actuated means for operating said bolts into unlocking position, said mechanism preventing the withdrawal of said key unless said bolts are in locking position.

9. In a lock, a flat plate provided with a recess on one face thereof, said recess having a pair of substantially aligned and oppositely arranged extensions, a pair of oppositely movable bolts mounted in said recess extensions, said recess having a third extension which constitutes a key-slot adapted to prevent turning of the inserted key, a key adapted to be inserted into said slot, and bolt-actuating means engaged by different portions of the inserted key, whereby both of said bolts are operated at substantially the same time upon insertion of the key.

10. In a lock, a pair of oppositely movable bolts, means for normally holding said bolts in locking position, said lock being provided with a key-slot adapted to prevent turning of the inserted key, key-actuated means for operating said bolts, a key adapted upon insertion into said slot to actuate said means and thereby operate both of said bolts into unlocking position at substantially the same time, and means to lock said key against withdrawal from said slot unless both of said bolts are in locking position.

11. In a lock, a slidable bolt maintained normally in locking position, a tumbler held normally in a position to lock said bolt in locking position, a key for moving said tumbler into releasing position and operating said bolt into unlocking position, and means whereby the unlocked bolt holds said tumbler locked in key-actuated position, so that said tumbler prevents withdrawal of said key from the lock unless said bolt is in locking position.

In witness whereof I hereunto subscribe my name this 17th day of December, 1914.

ANTHONY COSEGLIA.

Witnesses:

A. D. GROVER,
V. C. WOLFSBAUCK.