E. R. CREAMER.

LOCK FOR AUTOMOBILES AND THE LIKE.

APPLICATION FILED MAR. 6, 1908.

915,416. Patented Mar. 16, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

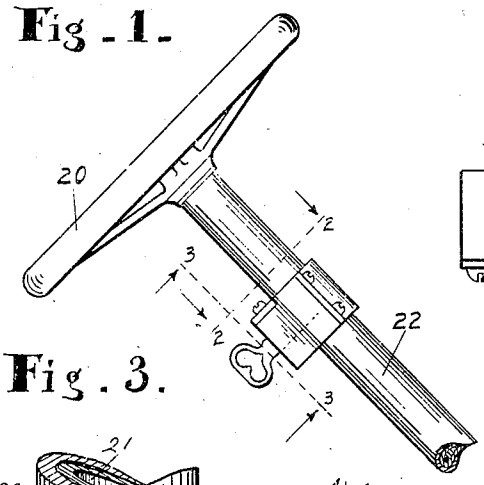


Fig. 2.

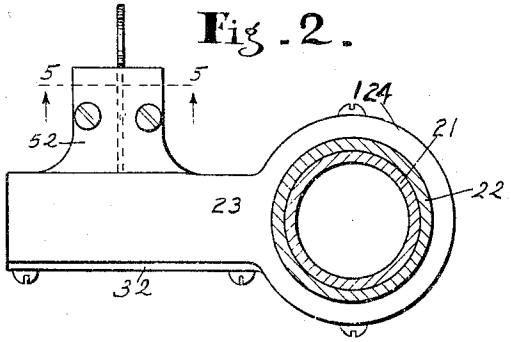


Fig. 3.

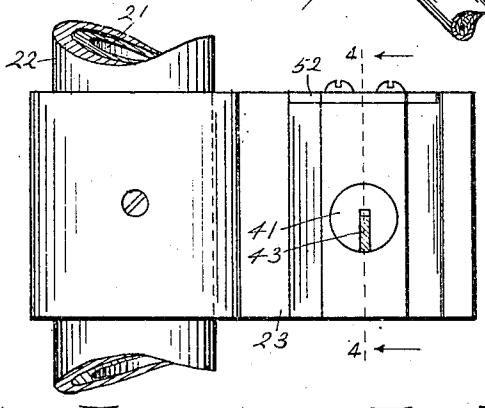


Fig. 4.

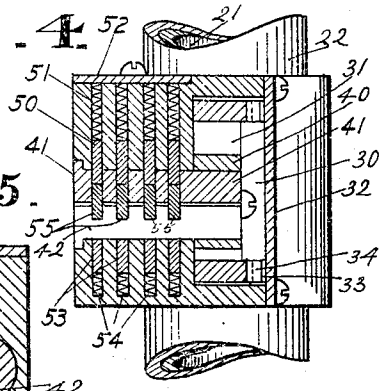


Fig. 5.

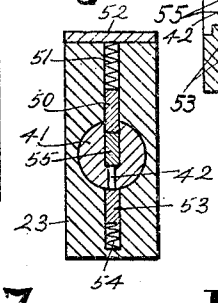


Fig. 6.

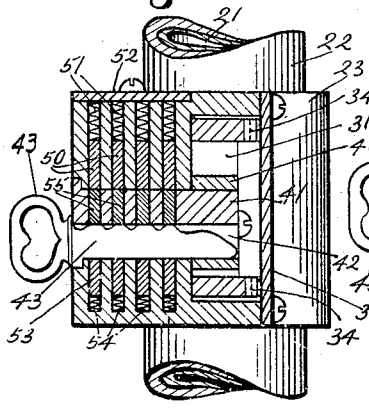


Fig. 7.

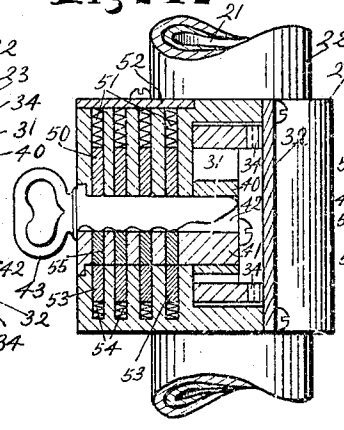
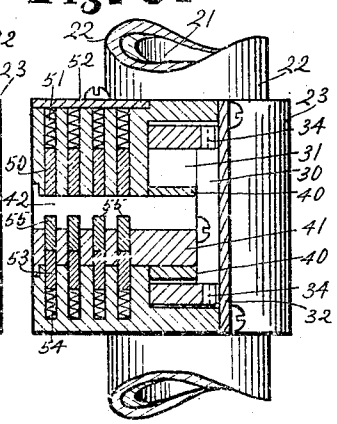


Fig. 8.



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2 SHEETS—SHEET 2.

Fig. 9.

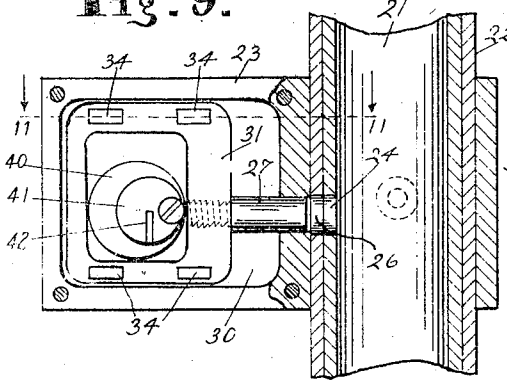


Fig. 10.

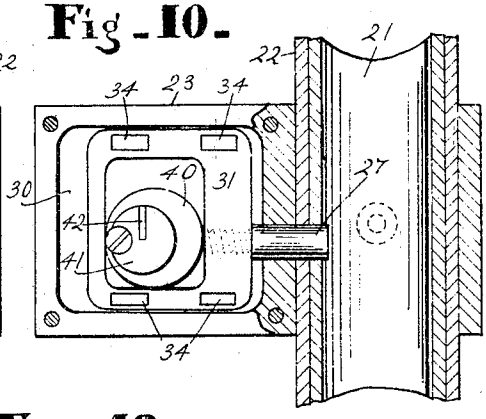


Fig. 11.

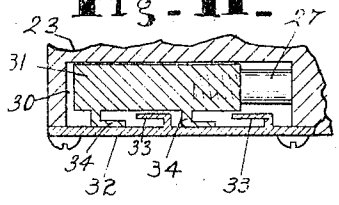
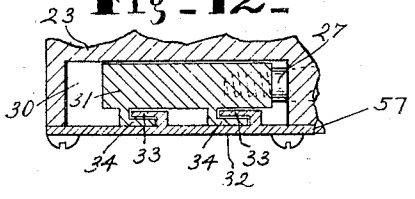


Fig. 12.



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UNITED STATES PATENT OFFICE.

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LOCK FOR AUTOMOBILES AND THE LIKE.

No. 915,416. Specification of Letters Patent. Patented March 16, 1909.

Application filed March 6, 1908. Serial No. 419,436.

To all whom it may concern:

Be it known that I, EDGAR R. CREAMER, of Huntington, county of Huntington, and State of Indiana, have invented a certain new and useful Lock for Automobiles and the Like; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

The object of this invention is to provide a practical and effective means for locking automobiles and the like, so that they cannot be driven away by any one who cannot release the lock; and especially for locking the steering apparatus thereof so that the lock will be accessible to the chauffeur and so that the bolt of the lock may be locked by him in both the unlocking and locking positions.

The feature of this lock consists in means for locking the bolt in both the locking and unlocking positions thereof. To that end I provide in a suitable casing or stationary frame a key shaft having a diameter at least twice the width of the key and provided with a set of holes or recesses carrying what is here called a middle set of tumblers or pins. In the stationary frame or casing there are two oppositely located series of tumblers or pins, one diametrically on each side of the key shaft, and spring-pressed so that they will be adapted to enter the holes or recesses in the key shaft when the latter is turned in proper position and the key is removed therefrom. But when the key is inserted in the key shaft, the middle set of tumblers carried by the key shaft hold the other tumblers out of the path of movement of the key shaft, whereby it can be given rotary movement.

By reason of the foregoing construction, when the key shaft is given a half revolution and the key is removed, the bolt will be locked and held locked by a set of tumblers, and when the key shaft is turned another half revolution and the key removed, the bolt will be locked in the unlocking position and held so by the other set of tumblers.

Another feature of the invention consists in mounting the bolt on a sliding frame having a central opening into which the key shaft projects and which opening is larger than the key shaft and the key shaft carries an eccentric operating in said opening for moving said frame and bolt and holding it in the position to which the same may be moved.

Another feature of the invention consists in providing said bolt frame with catches adapted to engage catches on the removable front plate so that when the bolt is in the locking position, said front plate cannot be removed even if the screws extending through it are taken out, for it is locked to the bolt frame and the bolt frame is held in place by the bolt and the eccentric.

The general nature of my invention will be understood from the accompanying drawings and the following description and claims.

Figure 1 is a side elevation of the upper part of the steering apparatus of an automobile, the lower portion being broken away. Fig. 2 is a horizontal section on the line 2—2 of Fig. 1. Fig. 3 is a rear elevation of parts on the line 3—3 of Fig. 1, the key being in section and parts broken away. Fig. 4 is a vertical section on the line 4—4 of Fig. 3. Fig. 5 is a section on the line 5—5 of Fig. 2. Fig. 6 is the same as Fig. 4 with the key inserted, showing the center tumblers moved upwardly by the key to the periphery of the key shaft. Fig. 7 is the same after the key has had a half turn. Fig. 8 is the same as Fig. 7 with the key removed and the parts in position when the steering gear is locked. Fig. 9 is a front elevation of the lock with the front plate removed and the tube and steering shaft shown in vertical section, the bolt being in unlocking position. Fig. 10 is the same with the bolt in locking position. Fig. 11 is a horizontal section on the line 11—11 of Fig. 9, showing the parts in unlocking position. Fig. 12 shows the same parts in locking position.

In the drawings there is shown a steering wheel 20 on the steering shaft 21 which is tubular and is mounted within the stationary steering tube 22. The lock as shown in the first twelve figures is applied for locking and unlocking the steering post 21 in engagement with the tube 22.

The casing 23 is secured by the ring 124 upon the stationary tube 22 so as to carry the lock. As shown in Fig. 9, the steering post has a hole 24 adapted at times to register with the hole 26 in the tube 22 and receive the lock bolt 27, as shown in Fig. 10, when the steering apparatus is locked.

The lock construction is as follows: The

casing 23 has a chamber 30 for the reciprocation of the bolt frame 31, see Fig. 11. The bolt 27 is secured to said frame 31, as seen in Fig. 9. The chamber 30 is closed by the front plate 32 and it has extending inwardly from it catches 33 adapted to engage corresponding catches 34 from the bolt frame 31, when the bolt is operated and the parts locked, as shown in Fig. 12. The bolt frame 31 has a rectangular central opening in which the eccentric 40 operates, said eccentric being secured on the key shaft 41, which has a slot 42 for the key 43. When the device is unlocked, the frame 31 is withdrawn by a half rotation of the key and key shaft and eccentric 40, as shown in Fig. 9. When the key is turned a half rotation the key shaft and eccentric 40 force the bolt into locking engagement. In either locking or unlocking position, therefore, the bolt and bolt frame are firmly held in place by the eccentric 40.

As shown in Figs. 4 to 8, there are three sets of tumblers, the upper set of tumblers 50 being mounted in the frame 23 and consisting of pins or plates pressed downwardly by spiral springs 51, said springs being accessible by the removable top plate 52. There is also a lower set of tumblers 53 in said casing 23 and corresponding with the tumblers 50 but forced upwardly by the springs 54. Both sets of tumblers 50 and 53 are thus normally pushed toward the key shaft 41. Said key shaft is provided with a central set of tumblers 55 in suitable recesses or holes extending through the portion thereof opposite the key slot, as shown in Fig. 4. The tumblers 55 and the holes in which they are mounted are adapted to register with the other tumblers 50 and 53.

Before the key is inserted the tumblers are in the position shown in Fig. 4, the upper set of tumblers projecting into the recesses in the key shaft and thus locking it so as to hold the lock bolt 27 in the unlocked position shown in Fig. 9. When the key is inserted as shown in Fig. 6, it forces the middle set of tumblers 55 upwardly to the upper periphery of the key shaft, whereby the key can be given a half rotation and bring the parts in the position shown in Fig. 7, which will cause the bolt to lock as shown in Fig. 10. In the position shown in Fig. 7, the upper set of tumblers are still held in their upper positions by the periphery of the key shaft, while the lower set of tumblers are held in their lower disengaging positions by the middle set of tumblers, which are in this instance pressed downwardly. When the key is removed from the position shown in Fig. 7, the lower set of tumblers will be spring-pushed upwardly into the position shown in Fig. 8, and therefore, into locking engagement with the key shaft, and thus the bolt 27 will be held in its locking position.

When the bolt is in the locking position, as in Fig. 10, it is impossible to remove the front plate 32 even if the screws be taken out for it is in locking engagement with the bolt frame 31 which is held from backward movement by the bolt and the eccentric, and the the plate 32 is held from the opposite movement by the shoulder 57.

What I claim as my invention and desire to secure by Letters Patent is:

1. A lock including a key shaft provided with a recess on one side thereof, oppositely located spring-actuated tumblers adapted successively to engage the recess in the key shaft as it is given a semi-rotary movement, an eccentric on the key shaft, a sliding frame movable and held by said eccentric, and a bolt connected with said frame.

2. A lock including a casing, a key shaft mounted therein with a recess on one side, oppositely located spring-actuated tumblers adapted to engage said recess when the key shaft is given a semi-rotary movement, an eccentric on the key shaft, a bolt frame actuated and held by said eccentric and having on its outer face suitable catches, a bolt secured to said frame and extending through a part of the casing, a removable front plate provided with inwardly extending catches adapted to engage the catches on the bolt frame when the bolt is moved to the locking position, and a shoulder on the casing to prevent the releasing movement of said plate whereby said plate cannot be moved while the bolt is in the locking position, substantially as set forth.

3. A lock including a casing, a key shaft therein provided with a longitudinal key slot and a radially extending recess from the periphery into said key slot, oppositely located spring-actuated tumblers mounted in the casing and adapted successively to enter said recess at each semi-rotary movement of the key shaft, a tumbler in the recess in the key shaft that is actuated and controlled by the insertion or removal of the key, a bolt, and means actuated by the key shaft for moving and holding the bolt.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

EDGAR R. CREAMER.

Witnesses:
OLIVE BREEDEN,
V. H. LOCKWOOD.