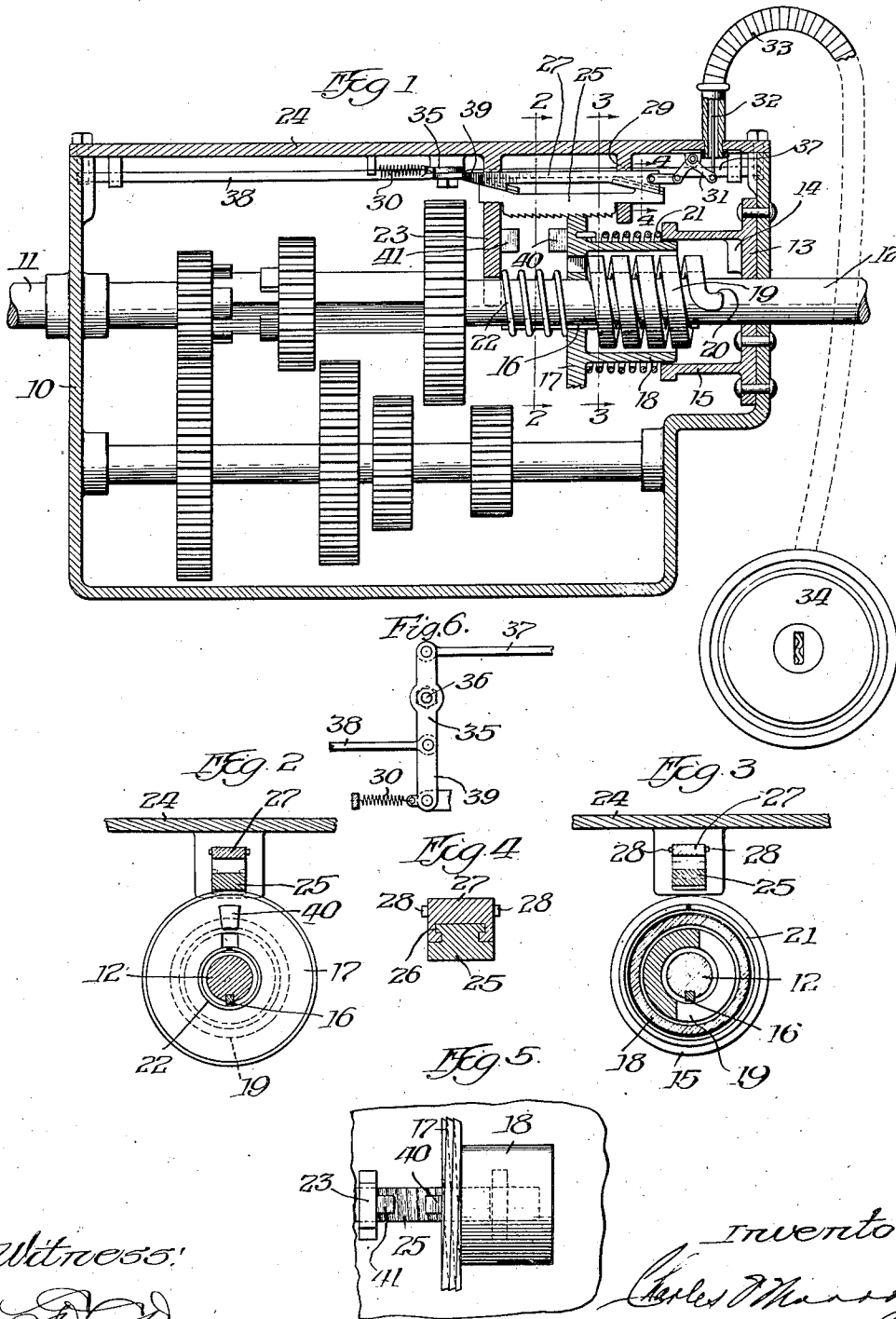


C. F. MURRAY.  
 AUTOMOBILE LOCK.

APPLICATION FILED MAY 22, 1917. RENEWED OCT. 2, 1920.

1,422,221.

Patented July 11, 1922.



# UNITED STATES PATENT OFFICE.

CHARLES F. MURRAY, OF EVANSTON, ILLINOIS.

## AUTOMOBILE LOCK.

1,422,221.

Specification of Letters Patent.

Patented July 11, 1922.

Application filed May 22, 1917, Serial No. 170,124. Renewed October 2, 1920. Serial No. 414,338.

*To all whom it may concern:*

Be it known that I, CHARLES F. MURRAY, a citizen of the United States, and resident of Evanston, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Automobile Locks, of which the following is a specification.

My invention relates to locks for vehicles and particularly to a lock adapted to be applied to the transmission casing thereof.

An object in the present construction is to provide a simple form of locking device which may be located within the transmission casing or if desired, in the rear axle and by means of which the power transmitting shaft is securely and permanently locked against any forward movement of the vehicle. This provision, however, is ineffective unless the car can be moved a limited distance before the lock comes into action. This permits all the usual movements of the car as required by the municipalities when the car is left on the streets. It also permits the car to be moved as required when in public garages or other buildings. The present device when in locked position will absolutely prevent extensive movement of the car without disturbing the transmission casing. The arrangement is such that not only is the transmission shaft locked but the transmission casing is also locked against removal of the cover. Even though the thief has plenty of time, access to the casing cannot be secured without destroying it.

The invention will be more readily understood by reference to the accompanying drawing, wherein,

Fig. 1 is a vertical sectional view through a transmission casing to which my improvement has been applied;

Figs. 2, 3 and 4 are sectional views on the lines 2—2, 3—3, and 4—4 respectively of Fig. 1;

Fig. 5 is a bottom plan view showing the means for advancing the clutch spring into locking position; and

Fig. 6 is a bottom plan view showing the means for locking the casing cover in place.

In the drawings the transmission casing is shown at 10. Mounted therein are the usual

change speed gears which need not be specifically described. The drive shaft 11, enters the casing and is connected to the engine. The driven shaft 12, extends rearwardly and is positively connected to the drive wheels. Surrounding the shaft 12, and secured to the casing is a plate 13, having a stop lug 14, thereon, and provided with a cylindrical extension 15. Slidably mounted on a spline 16, carried by the shaft 12, is a worm gear 17, also having a cylindrical extension 18. Mounted within the cylindrical portion 18, and anchored to the worm gear 17, is a powerful, helical spring 19. The advance end 20, of the spring is adapted to engage with the lug 14, and when so engaged the shaft is firmly locked. The purpose in providing the spring is to reduce the shock of engagement in locking as, of course, the shaft is rotating when the locking action takes place. The worm gear 17, is normally maintained in the position shown in the drawings by two springs 21, 22, which bear respectively against the cylindrical portion 15, and a downwardly extending wall or diaphragm 23, integral with the cover 24, of the transmission casing.

As a means for advancing the worm gear 17, and consequently the clutch spring 19, I provide a bar 25, the lower surface of which is provided with teeth adapted to engage the gear 17. As the bar is rigidly held the gear will be caused to advance as it is rotated. The bar is provided on its upper surface with inclined dovetailed portions 26, which interfit with similar portions on a member 27. On the sides of the bar 27, I provide guides 28, which engage with ways in the wall 29. As the member 27, is reciprocated it will be seen that the member 25, will be raised and lowered into and out of engagement with the periphery of the worm gear 17. As a means for reciprocating the member 27, I provide the spring 30, and the bell crank 31, connected to a wire or cable 32, which is accommodated within an armored conductor 33. This is connected to a lock point in the vehicle. The tendency of the spring 30, is to move the parts to the position shown in the drawings, and when in

this position the rotation of the shaft 12, which follows movement of the car, will cause the advance of the spring clutch 19, into such position that it may engage the lug 14.

As an additional precaution against tampering, I provide, as best shown in Fig. 6, means for locking the cover on the transmission case. This means comprises a lever 35, pivoted at 36, to the cover, and to which rods 37, 38, are connected. These rods extend in opposite directions and engage with suitable recesses in the body of the casing 10. The long end 39, of the lever 35, is also connected to the member 27, and moves therewith under the action of the spring 30, or of the locking cable 32. Thus it will be seen that when the parts are in locked position the cover of the transmission casing cannot be removed. If the locking connection is cut the parts will assume or remain in locked position.

As an added precaution against unauthorized removal of the car by running it backwards, I provide a lug 40, on the worm 17, and a similar lug 41, on the wall 23. If, while the parts are in locked position, the car is attempted to be run backwards these two lugs will engage. As the speed at which it may be moved backwards will not be great at the time of engagement, it is not thought to be necessary to provide a resilient clutch member but if such be found necessary, a spring similar to the one indicated at 19 may be employed.

Obviously the construction is capable of modifications other than those herein disclosed and I do not wish to be limited other than as indicated in the appended claims.

I claim:

1. In a vehicle lock, the combination of a casing, a shaft, a clutch member in the form of a spring mounted in the casing and adapted to arrest the rotation of said shaft without material shock, said spring being normally in inoperative position and means for moving said spring into clutching position in consonance with the rotation of the shaft and after a predetermined number of rotations of the shaft, substantially as described.

2. In a vehicle lock, the combination of a casing, a propeller shaft entering the casing, a relatively heavy spring, and a stop within the casing, screw means for relatively moving said spring and stop to bring the same into such position as to prevent rotation of the shaft, and means for locking said screw means, substantially as described.

3. In a vehicle lock, the combination with a casing having a stop, of a shaft connected to traction wheels and projecting into said casing, a clutch in the form of a relatively heavy helical spring having a projection on one end, screw means for moving said spring

into such position as to cause engagement of the projection on the spring with said stop to prevent the rotation of the shaft, and means for locking said screw means substantially as described.

4. In an automobile lock, the combination with the transmission casing and propeller shaft, of a worm gear slidably mounted on the shaft, a resilient clutch member connected to and movable with said gear, a rack adapted to be moved into and out of engagement with said gear, and locking means for securing said rack in locked position, substantially as described.

5. In an automobile lock, the combination with the transmission casing and propeller shaft, of a worm gear slidably mounted on the shaft, a resilient clutch member connected to and movable with said gear, a rack adapted to be moved into and out of engagement with said gear, and locking means for said rack, said locking means being located at a distance, substantially as described.

6. In a vehicle lock, the combination of a casing having a closure, means for positively locking a power transmitting element within said casing, and means for simultaneously locking the closure against removal, substantially as described.

7. In a vehicle lock, the combination of a casing having a closure, a shaft therein, means in said casing for locking said shaft against rotation, and means operable by said locking means for securing said closure against removal, substantially as described.

8. In a vehicle, the combination of a traction wheel driving shaft, a casing within which said shaft terminates, a cover for said casing, a lock within the casing for preventing the rotation of said shaft, and means operable simultaneously with said locking means for preventing the removal of said cover when the parts are in locked position, substantially as described.

9. In a device of the class described, the combination of a casing having a closure, a shaft, means in the casing for locking the shaft against rotation, and means controlled by the same lock for securing said closure against removal when the parts are in locked position, substantially as described.

10. An automobile locking device comprising in combination a transmission casing, a propeller shaft terminating therein, a clutching device adapted to engage the shaft and said casing to prevent rotation of the propeller shaft, means in said casing actuated by the rotation of said shaft for moving said clutching device into clutching position following a predetermined number of revolutions of said shaft, and a lock for said last named means.

11. An automobile locking device comprising in combination a transmission casing, a

propeller shaft terminating therein, a clutch-  
ing device adapted to engage the shaft and  
said casing to prevent rotation of the pro-  
peller shaft, screw means actuated by the  
5 rotation of said shaft for moving said  
clutching device into clutching engagement  
following a pre-determined number of revo-

lutions of said shaft, and a lock for said  
screw means.

Signed at Chicago, Ill., this 16th day of 10  
May, 1917.

CHARLES F. MURRAY.

Witness:

T. D. BUTLER.