July 1, 1924. 1,499,963

O. E. BECKMAN

COMBINATION LOCK FOR SEDANS AND COUPÉS

Filed Sept. 6, 1923 2 Sheets-Sheet 1

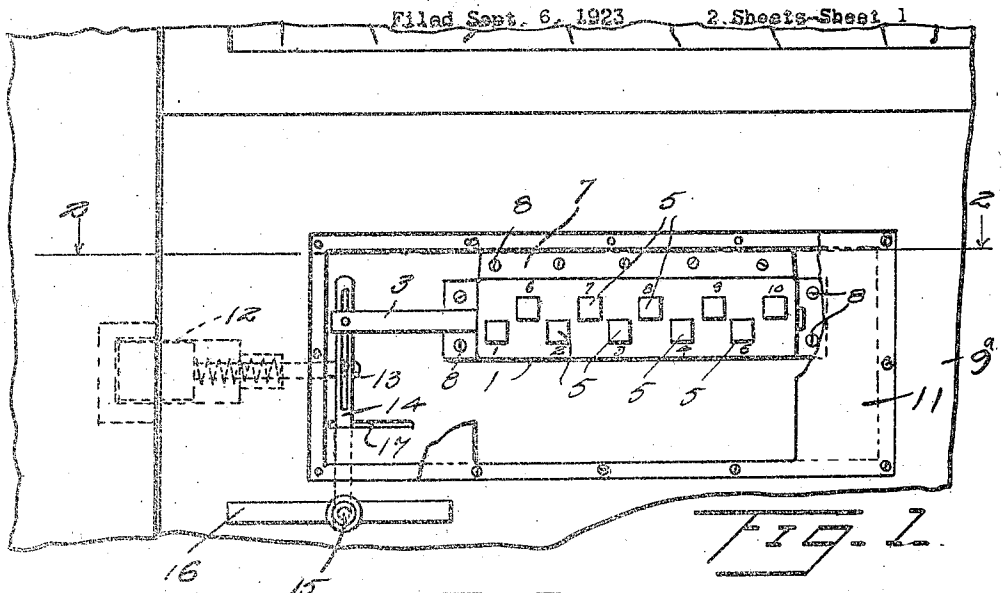


Fig. 1.

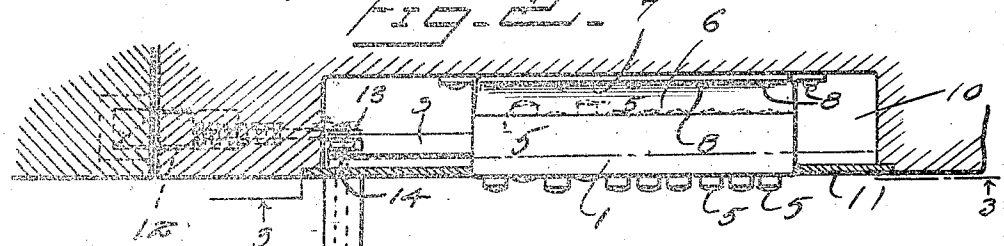


Fig. 2.

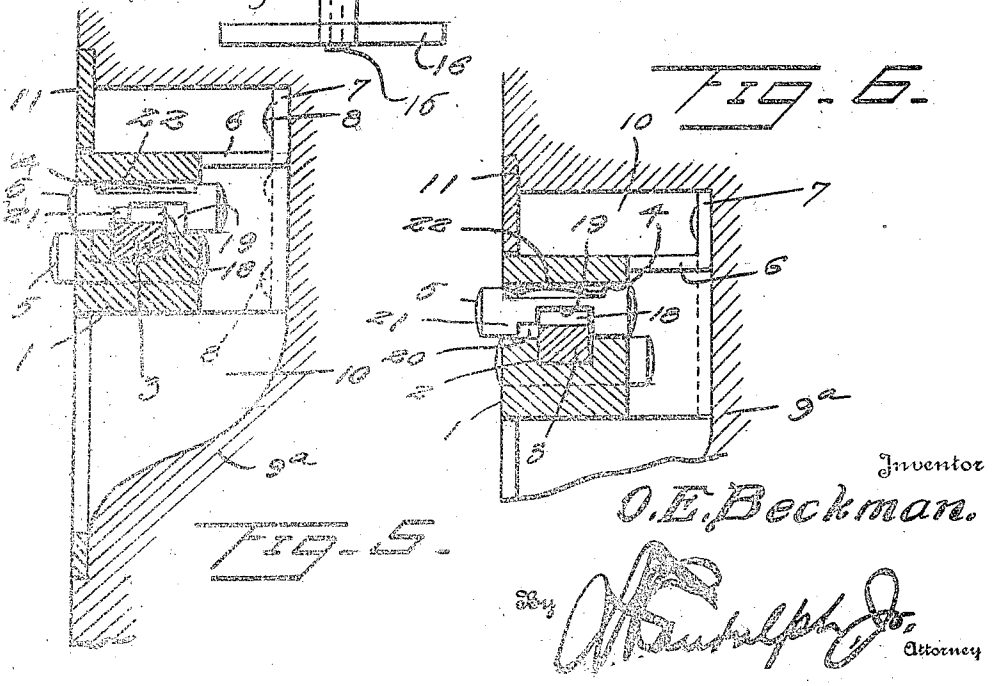


Fig. 3.

Fig. 4.

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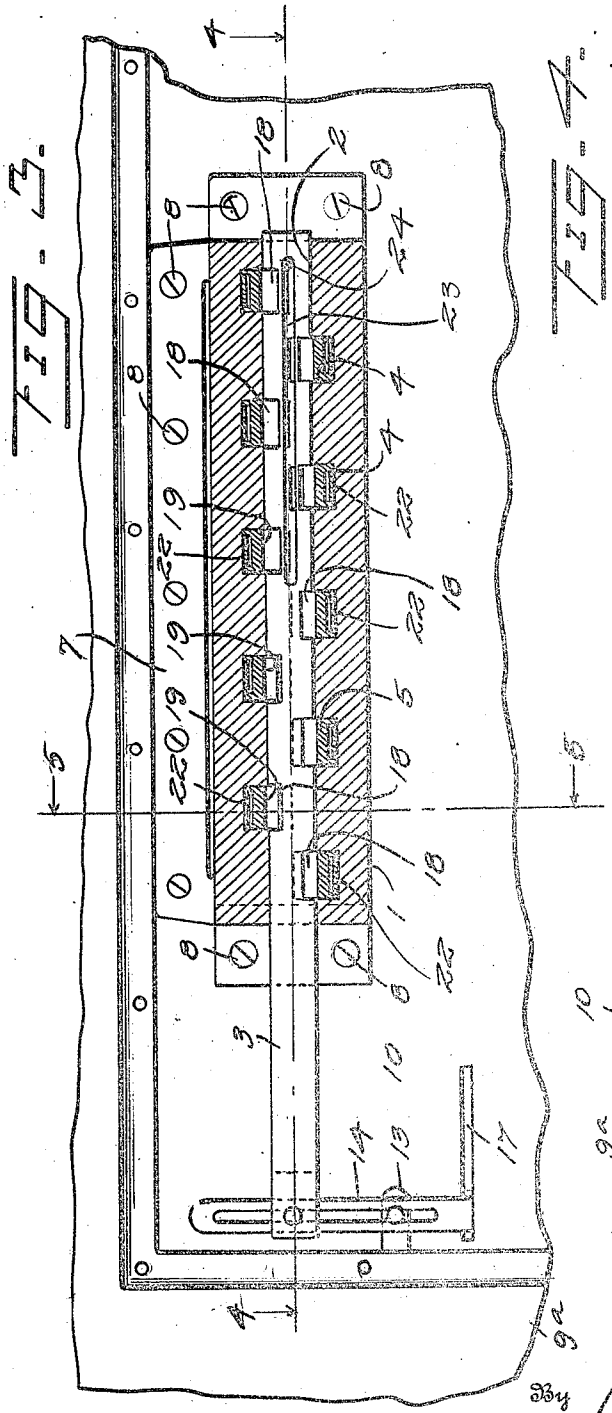


Fig. 3.

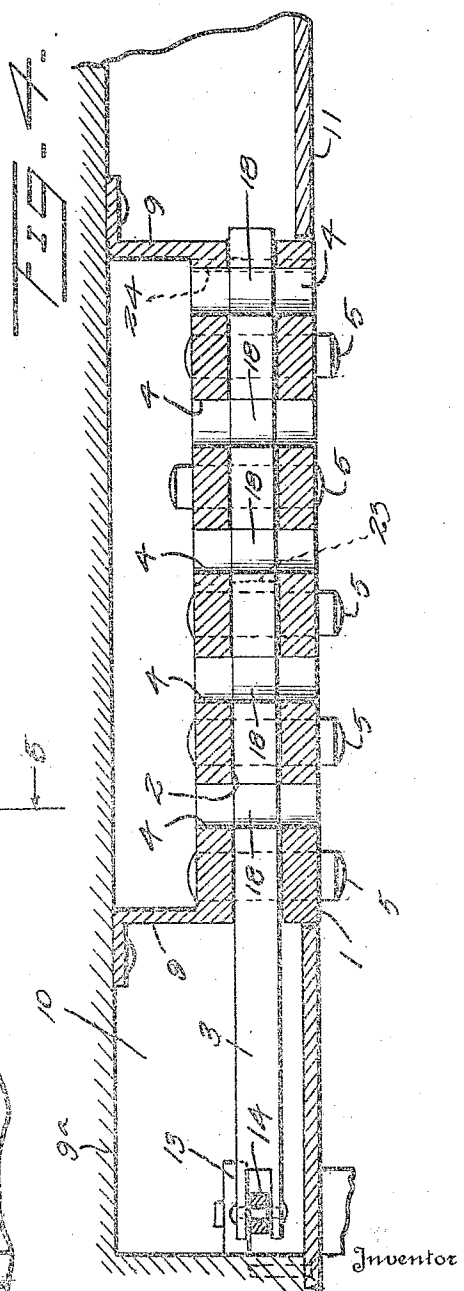


Fig. 4.

Inventor

O. E. Beckman.

By

Attorney

Patented July 1, 1924. 1,499,963

UNITED STATES PATENT OFFICE.

OSWALD E. BECKMAN, OF MEDIAPOLIS, IOWA.

COMBINATION LOCK FOR SEDANS AND COUPÉS.

Application filed September 6, 1923. Serial No. 661,200.

To all whom it may concern:

Be it known that I, OSWALD E. BECKMAN, a citizen of the United States, residing at Mediapolis, in the county of Des Moines and State of Iowa, have invented certain new and useful Improvements in Combination Locks for Sedans and Coupés; 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.

The invention has relation to locks of the permutation type and has for its object the provision of a lock designed more particularly for closed vehicles, such as a sedan or coupé, the lock embodying a casing and transversely sliding members operating through opposite sides of the casing, and the primary object of the invention is to mount the lock upon the door of the vehicle so as not to project beyond the outer side thereof and yet admit of ready access to both ends of the tumblers, whereby the same may be operated from either side of the casing.

Other objects and advantages will be apparent and suggest themselves as the nature of the invention is understood.

While the drawings illustrate an embodiment of the invention it is to be understood that in adapting the same to meet different conditions and requirements, various changes in the form, proportion and minor details of construction may be resorted to without departing from the nature of the invention.

Referring to the accompanying drawings forming a part of the application:

Figure 1 is an elevational view of a portion of a vehicle body and door provided with a permutation lock embodying the invention, a portion of the covering plate being broken away,

Figure 2 is a horizontal section on the line 2—2 of Figure 1,

Figure 3 is a sectional detail on the line 3—3 of Figure 2, looking in the direction of the arrows,

Figure 4 is a sectional detail on the line 4—4 of Figure 3, looking in the direction of the arrows,

Figure 5 is a transverse section on the line 5—5 of Figure 3, looking to the left as designated by the arrows, the tumblers being in locking position, and

Figure 6 is a view similar to Figure 5 with the tumblers adjusted to release the lock bolt.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawings by like reference characters.

The numeral 1 designates the lock casing which may be of any construction, according to special requirements and methods of formation. As shown, the lock casing consists of an elongated block having a longitudinal opening 2 to receive the lock bolt 3 and a plurality of transverse openings 4 to receive the tumblers 5 which have a transverse sliding movement. A longitudinal flange 6 projects laterally from the inner or rear side of the casing 1 about in line with the top of the casing and terminates in an upwardly disposed lip 7 which is apertured to receive screws or like fastenings 8 whereby the lock is made secure when in operative position. Similar flanges 9 are provided at opposite ends of the casing 1 and their outturned ends or lips receive screws or fastenings 8 to secure the lock in the required position. The flanges 6 and 9 project from the same side of the lock casing and serve to space the same from the part to which the lock is attached, whereby to admit of ready access to the inner or rear side of the lock for operation of the tumblers.

The numeral 9ª designates the door of a closed vehicle, such as a sedan or coupé. A recess 10 is formed in the outer side of the door 9ª to receive the lock and the lower portion of the recess is flared for ready reception of the fingers when introduced into the recess to reach the rear of the lock for manipulation of the tumblers when it is required to press the same outwardly. A covering plate 11 extends over the recess 10 and is cut away to expose the front side of the lock and the lower portion of the recess 10 immediately therebelow. The covering plate 11 is preferably let into the door so as to come flush with the outer side thereof.

The usual spring actuated latch 12 is fitted to the swinging edge of the door and is adapted to engage a portion of the vehicle body bordering upon the door opening whereby to hold the door in closed position. The stem 13 of the latch 12 is in engagement with an arm 14 fast to the spindle 15 to which the operating handle 16 is attached.

The arm 14 operates in a slot 17 intersecting the recess 10. The lock bolt 3 is in engagement with the arm 14 and is movable therewith. Obviously, when movement of the lock bolt is prevented by the tumblers, the door is locked and may not be opened until the tumblers are moved into a position to release the lock bolt to admit of free action of the lock and the latch 12.

The tumblers 5 are preferably disposed in two rows, the one above and the other below the lock bar 3 and the latter is provided in opposite sides with notches 18 in coincident position with the tumblers to receive the same. Each of the tumblers 5 is provided in a side with a notch 19 to receive the lock bolt 3. A wall of the notch 19 is cut away, as indicated at 20, to provide for a limited movement of the tumbler whereby the portion 21 adjacent the cutaway portion 20 is adapted to enter the notch 18 of the lock bolt and prevent movement thereof. A flat spring 22 is fitted in a recess formed in a side of the tumbler opposite the notch 19 and frictionally engages a wall of the transverse opening 4 to prevent a too free movement of the tumbler and normally hold the same in the required adjusted position. The cutaway portion 20 determines the amplitude of movement of the tumblers and in either position of the latter, one end is about flush with a side of the lock casing and the opposite end projects a short distance thereabeyond so as to be pressed upon to move the tumbler into locking or released position. The lock bolt 3 extends into the openings 4 and serves to prevent displacement of the tumblers.

The outer or exposed side of the lock casing is provided with indicia opposite to the tumblers to designate the same. When the tumblers are moved to bring the notches 18 in full register with the lock bolt 3, the latter is free to move so that upon manipulating the handle 16, the latch 12 may be thrown to release the door which may be opened. When the door is closed and the latch 12 in locking engagement with the body of the vehicle bordering upon the door opening and one or more of the tumblers 5 thrown to bring the notch 18 out of register with the lock bolt and the portion 21 in engagement with the notch 18 of the lock bolt, movement of the latter is prevented and the door made fast. The construction is such as to admit of the tumblers being moved inwardly or outwardly by exerting pressure upon the ends thereof, and when moving the tumblers outwardly, the fingers of the hand are introduced into the recess 10 and moved to enter the space in the rear of the lock, whereby to engage the tumblers and press the same outwardly. The tumblers may be adjusted so that by moving certain ones inwardly and certain ones outwardly, the notches 19 thereof will be brought in full register with the lock bolt 3, whereby to admit of free movement of the latter and operation of the latch 12 by means of the handle 16 so that the door may be opened or closed as required.

The lock bolt 3 is limited in its forward movement to insure registering of the tumblers 5 with the notches or cutaway portions 18 thereof and, as shown, the means consists of a longitudinal slot 23 formed in the lock bolt and a pin 24 passing through said slot and supported at its ends in the lock casing upon opposite sides of the lock bolt receiving opening 2. This is indicated most clearly in Figure 3 of the drawings. It is also observed that the combination may be changed when required by reversing the position of selected tumblers. In practice, it is necessary only to provide one door of a sedan or coupé with the improved lock, as the other doors may be locked upon the inside.

What is claimed is:

1. In combination with a part having a recess in a side thereof, a permutation lock secured within the outer portion of the recess to admit of ready access to the front and rear sides of the lock for manipulation of the tumblers to secure or release the lock bolt as required, and a covering plate disposed at the front side of the recess and having an opening therein to expose the front side of the lock and admit of the hand being introduced into the recess to manipulate the tumblers of the lock from the inner or rear side, each of said tumblers extending through the front and rear sides of the casing.

2. In combination with a part having a recess in a side thereof provided with a flared wall, a permutation lock secured within said recess and spaced from the flared wall and rear side thereof to admit of ready access to the rear of the lock for manipulating the tumblers, each of said tumblers extending through the front and rear sides of the casing, and a covering plate at the front of said recess and having an opening to expose the front side of the lock and admit of the hand entering the flared portion of the recess and engaging the tumblers in the rear of the lock.

3. A permutation lock comprising a lock casing, a lock bolt and transversely sliding tumblers projecting through the front and the rear side of the casing, the latter having a flange projecting laterally therefrom and constituting attaching means for securing the lock in operative position and providing a space in the rear of the lock to admit of operation of the tumblers both from the front and the rear of the lock, each of said tumblers extending through the front and rear sides of the casing.

4. A permutation lock comprising a casing, a lock bolt and transversely sliding tumblers projecting through the front and the rear sides of the casing, the latter having longitudinal and end flanges projecting laterally from the same side and serving as spacing and securing means for attaching the lock when in operative position and providing a space in the rear thereof to admit of the tumblers being pressed outwardly.

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

OSWALD E. BECKMAN.

Witnesses.

PAUL C. SWAN,

J. H. SCOTT.