A. M. McGIFF AND H. CHINSKY.

AUTOMOBILE LOCK.

APPLICATION FILED JAN. 31, 1919.

1,324,457.

Patented Dec. 9, 1919.

3 SHEETS—SHEET 1.

Fig. 1.

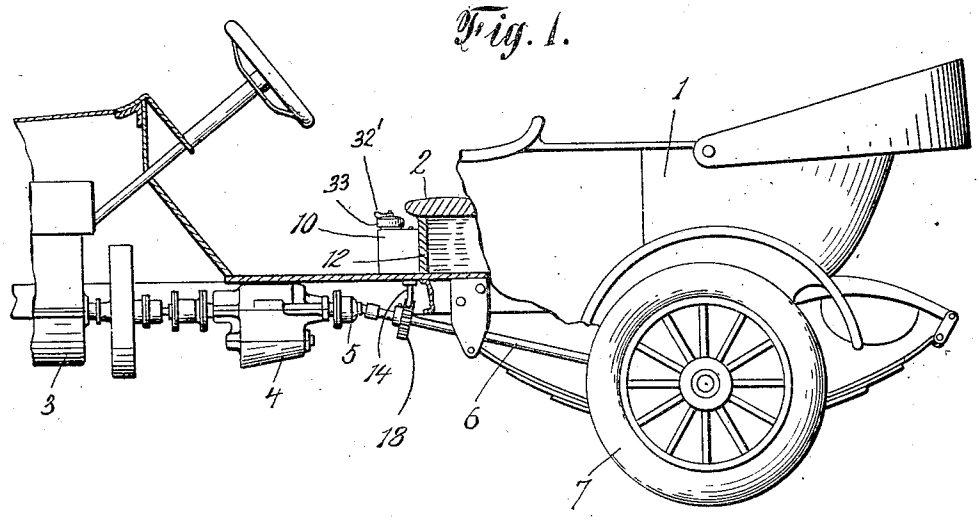


Fig. 2

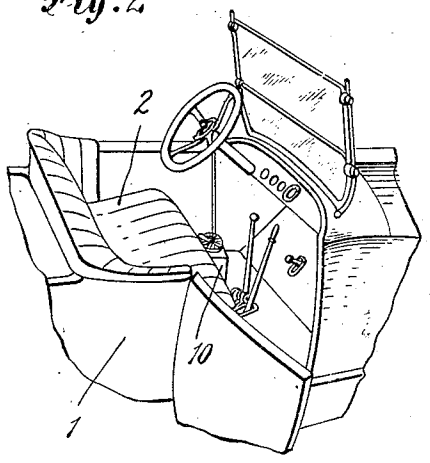
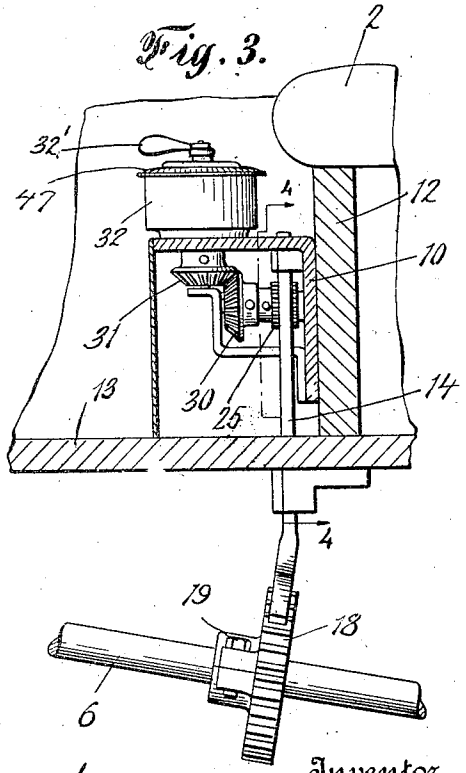


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 4.

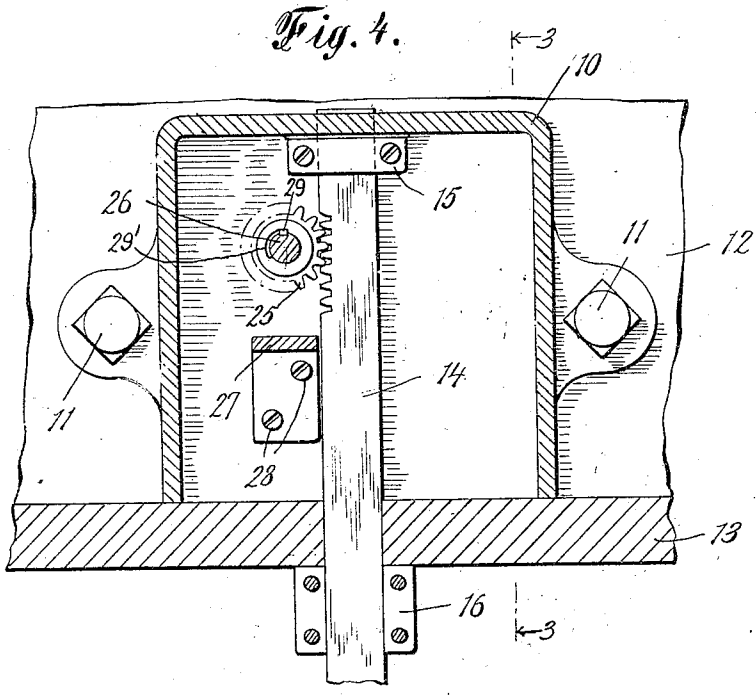


Fig. 5.

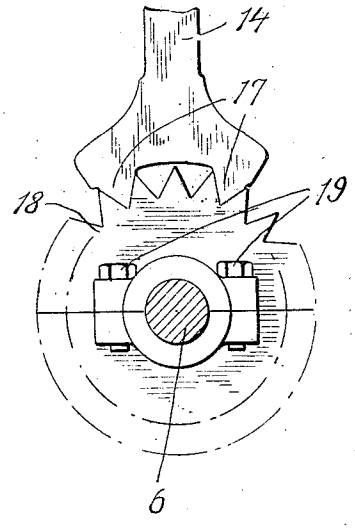
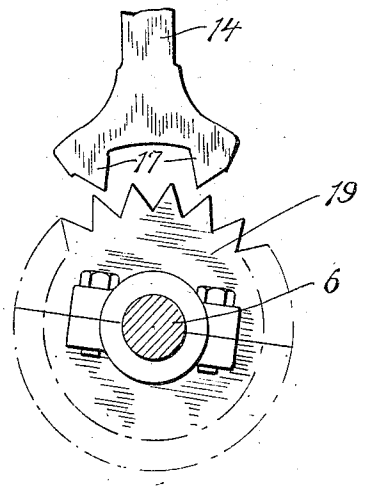


Fig. 6.



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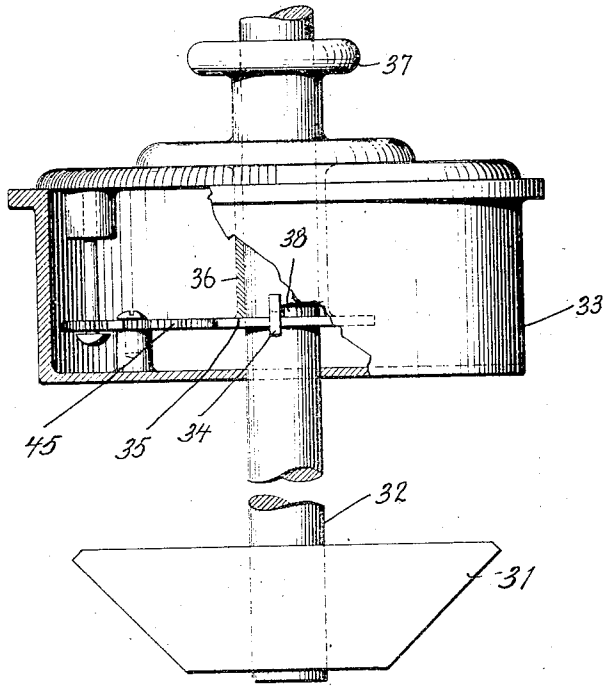
3 SHEETS—SHEET 3.

Fig. 7.



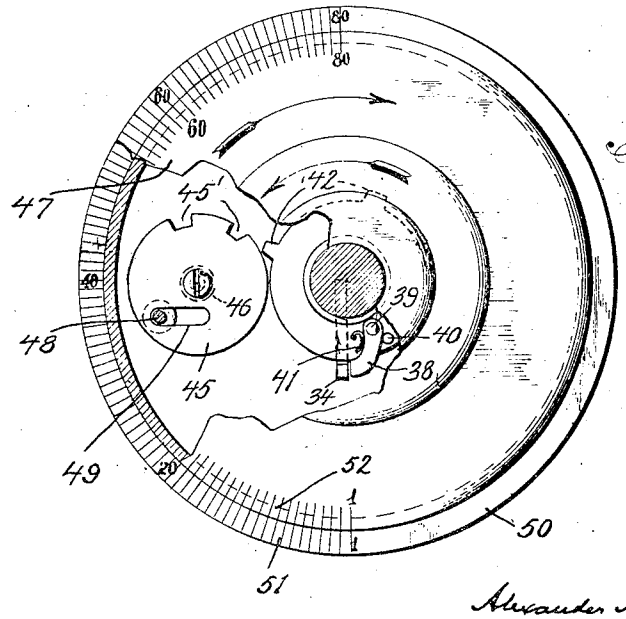


Fig. 8.

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UNITED STATES PATENT OFFICE.

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AUTOMOBILE-LOCK

1,324,457. Specification of Letters Patent. Patented Dec. 9, 1919.

Application filed January 31, 1919. Serial No. 274,172.

To all whom it may concern:

Be it known that we, ALEXANDER M. McGIFF, a citizen of the United States, and a resident of the city, county, and State of New York, and HARRY CHINSKY, a citizen of the United States of America, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Automobile-Locks, of which the following is a specification.

This invention relates to a lock for automobiles, or self propelled vehicles in general, whereby the propelling mechanism may be locked against movement during absence of the driver.

The invention has for an object to provide a novel and simple locking device capable of easy attachment to automobiles of ordinary type.

For further comprehension of the invention and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

Figure 1 of the drawings is a part side elevation and part longitudinal section of an automobile having the invention applied thereto;

Fig. 2 is a fragmentary perspective view thereof;

Fig. 3 is an enlarged detail view of the locking device, this view being taken on the line 3—3 of Fig. 4;

Fig. 4 is a transverse section on the line 4—4 of Fig. 3;

Fig. 5 is a detail view showing the ratchet wheel on the drive shaft and the keeper engaging therewith;

Fig. 6 is a similar view with the keeper withdrawn;

Fig. 7 is a detail elevation with the casing partly broken away, of the combination locking mechanism;

Fig. 8 is a plan view thereof, parts being shown in horizontal section.

The body of an automobile of ordinary construction is shown at 1, the driver's seat at 2, the motor at 3, this latter being connected by the usual transmission gearing 4 and universal joint 5 to the drive shaft 6 which connects in the usual manner to the rear wheels, one of which is shown at 7.

Our improved locking device comprises a casing 10 secured as by the bolts 11 to the wall 12 extending up from the floor 13 of the automobile. A rack bar 14 extends vertically through this casing, being guided at upper and lower ends in suitable guide brackets 15 and 16, and has formed integral with its lower end a pair of spaced teeth 17 which are adapted to engage a ratchet wheel 18 rigidly fixed to the drive shaft 6. This ratchet wheel is here shown as made up of two halves secured together by the bolts 19.

A pinion 25 meshes with the teeth of the rack bar 14, this pinion being mounted on a stub shaft 26 which extends between and is journaled in, the rear wall of the casing 10 and an angle bracket 27 fixed, as by screws 28, to the said rear wall. A lost motion connection is provided between the pinion and shaft as indicated by the key 29 on the shaft projecting into widened groove 29′ in the pinion boring. Secured also upon this stub shaft 26 is a bevel pinion 30 meshing with a second bevel pinion 31 on the lower end of a spindle 32 which is journaled at its lower end in the angle bracket 27 and extends upwardly centrally through a cylindrical casing 33 mounted on top of the casing 10, this casing 33 containing my improved combination lock whereby the spindle, and in consequence the rack bar 14, is locked in position. The upper end of the spindle projects through the top of the casing and is provided with a thumb piece 32′ for adjustment.

As here shown a hook 34 projects horizontally from the spindle 32 below a circular flange 35 fixed on a sleeve 36 surrounding the spindle and extending downwardly through the top of the casing 33 and having an exterior knob 37 for adjustment. The end of the hook 34 projects across the face of a pawl 38 pivoted as at 39 on the flange 35 and pressed back or out, against a stop 40 by a spring 41. The periphery of the flange 35 is formed with a number of uneven teeth 42.

A disk 45 is pivoted upon a stud 46 on the bottom of the casing 33, this disk lying in a common horizontal plane with the flange 35 with its periphery close to that of the latter

and having formed therein a series of irregularly spaced notches 45′ whose spacing is different from that of the teeth 42. This disk is connected to the adjustable top 47 of the casing by a pin 48 projecting down from the top through a slot 49 in the disk. The casing 33 is formed at its upper edge with a peripheral flange 50 having indicating marks 51 which co-act with indicating marks 52 on the top 47.

The operation is as follows: When the lock is set, with teeth 17 engaging wheel 18, the parts are in the position shown in Fig. 8 with the hook 34 projecting across the pawl 38 and one of the teeth on flange 35 in close proximity to the periphery of disk 45 whereby flange 35 is held against forward or unlocking movement. The top 47 is then turned by hand until the proper registering marks on the top and the gland 50 show that a notch 45′ is registering with the tooth. The knob may then be rotated until the tooth clears the notch when the second tooth will then bear on the periphery of the disk 45. The disk is then moved until the second notch registers with this tooth when the knob may be further rotated causing pinion to rotate and lift the teeth 17 from the wheel 18, the initial movement, as will be apparent is taken up by the lost motion between the pinion 25 and rack bar 14. To again set the lock the spindle 32 will be rotated backward to the position shown while the flange 35 will be rotated farther in the same direction until the ratchet 38 rides under the hook and springs out, leaving the parts in the position shown.

It will be obvious that the above described lock may be made use of for stopping purposes should the emergency brake of the vehicle refuse to work.

What we claim as new and desire to secure by Letters Patent is:—

1. In combination with the driving shaft of an automobile and means for holding said shaft against rotation, of a casing having a spindle therein rotatable in one direction to engage said holding means and in the opposite direction to release the same, a sleeve rotatable on said spindle, a disk having slots, teeth projecting from said sleeve normally preventing rotation of said sleeve in the direction to release said holding means, means whereby rotation of said spindle in the direction to release said holding means is prevented without similar rotation of said means, and means for adjusting said disk to permit successive engagement of said teeth with said slots to permit rotation of said sleeve and of said spindle.

2. In combination with the driving shaft of an automobile and means for holding said shaft against rotation, of a casing having a spindle therein rotatable in one direction to engage said holding means and in the opposite direction to release the same, a sleeve rotatable on said spindle, a disk having slots, teeth projecting from said sleeve normally preventing rotation of said sleeve in the direction to release said holding means, means whereby rotation of said spindle in the direction to release said holding means is prevented without similar rotation of said means, and means for adjusting said disk to permit successive engagement of said teeth with said slots to permit rotation of said sleeve and of said spindle, said holding means comprising a gear on said shaft, a rack having a forked end engageable with said gear, a pinion engaging said rack, and connecting means whereby rotation of said spindle causes rotation of said pinion.

3. In an automobile locking device, the combination with a part to be locked, of a retaining device engaging said part, a spindle operatively connected to said retaining device, a sleeve freely surrounding said spindle, a circular flange fixed to said sleeve, a disk mounted for rotary movement in a common plane with said flange, said disk and flange having complementary parts adapted to prevent forward rotary movement of the flange except when the disk is in a predetermined position, means whereby the disk may be set in the said predetermined position, and a member fixed to said spindle and coöperating with a part carried by said flange whereby rotation of the spindle in one direction is prevented.

4. In an automobile locking device, the combination with a part to be locked, of a retaining device engaging said part, a spindle operatively connected to said retaining device, a sleeve freely surrounding said spindle and adapted for manual manipulation, a flange fixed to said sleeve, a disk mounted for rotary movement adjacent said flange, said disk and flange having complementary parts adapted to permit of forward movement of the flange by a step by step movement as the disk is successively moved to predetermined positions, means whereby the disk may be set in the said predetermined positions, and a member fixed to said spindle and coöperating with said flange whereby rotation of the spindle in one direction is prevented.

5. In an automobile locking device, the combination with a part to be locked, of a retaining device engaging said part, a spindle operatively connected to said retaining device, by a lost motion connection, a sleeve freely surrounding said spindle and adapted for manual manipulation, a flange fixed to said sleeve, a disk mounted for rotary movement adjacent said flange, said disk and flange having complementary

parts adapted to permit of forward movement of the flange by a step by step movement as the disk is successively moved to predetermined positions, means whereby the disk may be set in the said predetermined positions, and a member fixed to said spindle and coöperating with said flange whereby rotation of the spindle in one direction is prevented.

In testimony whereof, we have signed our names to this specification.

ALEXANDER M. McGIFF.
HARRY CHINSKY.