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C. W. GILLETT

STEERING WHEEL LOCK

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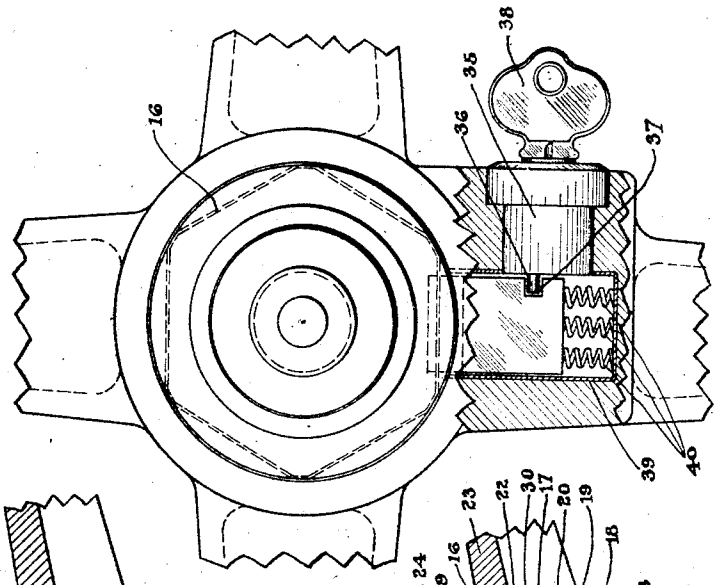


Fig. 3.

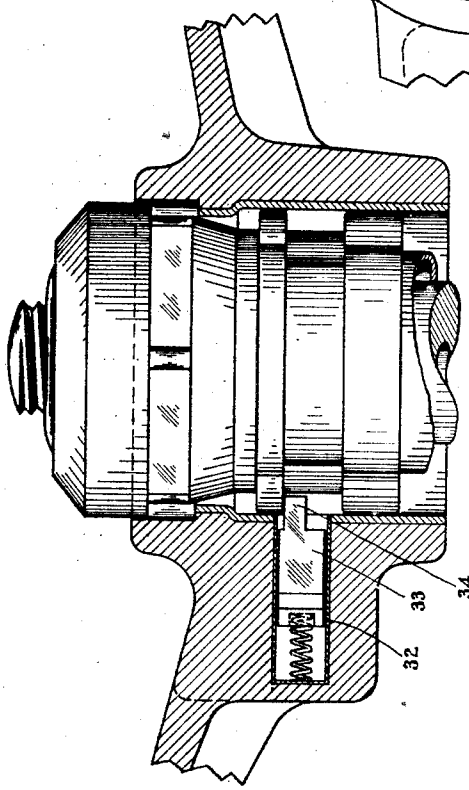


Fig. 1.

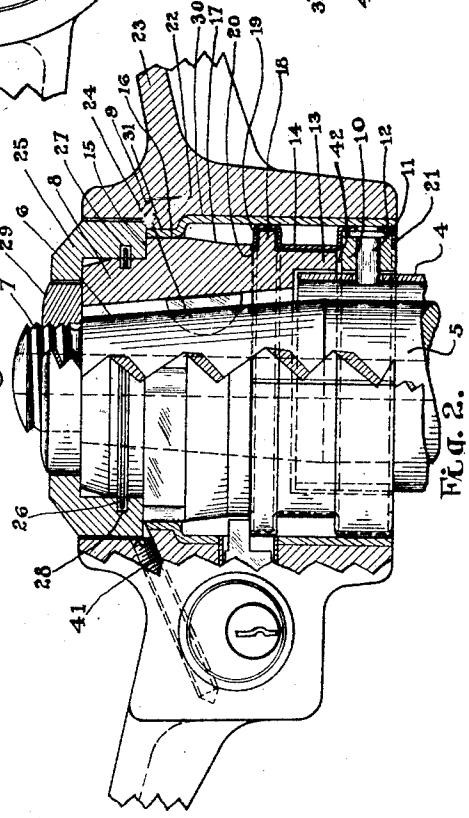


Fig. 2.

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CHARLES W. GILLETT, OF CHICAGO, ILLINOIS.

STEERING-WHEEL LOCK.

Application filed November 5, 1920. Serial No. 422,049.

My invention relates to improvements in steering wheel locks, preferably for use on standard cars, and has for its object the production of a device in which all danger of driving a locked car by friction is eliminated.

A further object is the production of a device utilizing novel means for preventing any unauthorized person from operating the same, and also for preventing anyone from tampering with the operative parts of the device.

A further object is the production of a device of simple and cheap construction, one that can be readily assembled, and one not liable to disarrangement of parts.

These and such other objects as may appear hereinafter are attained by my device, an embodiment of which is illustrated in the accompanying drawing, in which—

Figure 1 represents a side elevation, partly in section, showing my device in unlocked or spinning position;

Fig. 2 represents a view similar to Fig. 1, showing my device in locked or steering position with portions broken away; and

Fig. 3 represents a top plan view of Fig. 1, with a portion broken away showing the lock cylinder and bolt.

Like numerals of reference indicate like parts in the several figures of the drawing.

Referring now to the drawings—4 represents the hollow steering post column or sleeve within which is mounted the steering post 5, tapered at the top as shown at 6, and terminating in a screw-threaded end or extension 7. A two-piece hub is mounted on the shaft and sleeve, the upper or main section 8 of which surrounds the top of the shaft and is keyed thereto as shown at 9,—the lower or auxiliary section 10 being mounted on the column 4 and held in position by a bolt 11 having a peripheral flange 12 at or near its outer end. The upper section 8 has a downwardly projecting peripheral flange 13 surrounding loosely the top of the column. Surrounding the lower portion of the member 8 and the member 10 is a sleeve or collar 14, preferably made in sections so as to be easily slipped in place.

The upper member 8 of the hub is cut away at the top forming a peripheral shoulder 15 below which is formed a hexagonal flange 16. The hub slopes downwardly below the shoulder, as shown at 17, leaving a considerable open space between the hub and the spider. At some little distance below the hexagonal flange is a circular flange 18, above and around which the circular collar 14 fits. The inner periphery of the top or horizontal extension of the sectional collar enters a circumferential groove 20 in the member 8, and the lower extension 21 fits below the member 10, locking the members in inoperative relation to each other.

The hub 22 of the spider 23 of the wheel has a peripheral shoulder 24 registering with the shoulder 15 on the member 8, and a protecting cap 25 fits between the spider hub and the member 8, the bottom of the cap resting on the shoulders 15 and 24. The cap is held locked in position through the medium of an expanding spring 26 fitting within grooves 27 and 28 in the cap. A nut 29 is screwed on the end 7 of the steering shaft, fitting within the central opening in the cap 25.

Within the spider hub a steel shell or lining 30 is provided, and the upper inner periphery of the hub 23 below the shoulder 24 is provided with a hexagonal flange 31 around which the shell extends. This hexagonal flange 31 fits snugly around the hexagonal flange 16 of member 8 so that when the parts are in the position shown in Fig. 2, the steering shaft hub and wheel are rigid, and the parts are in steering position.

Within the hub of the wheel I provide a horizontal chamber 32 in which is mounted a locking bolt 33 having an extension 34 adapted to enter within the inner periphery of the hub. A lock cylinder 35 is fitted within the hub, the latch or dog 36 of which enters a socket 37 in the locking bolt.

It is evident, therefore, that the turning of the key 38 will actuate the locking bolt 33. The bolt socket or chamber 32 is provided with a steel lining 39 to prevent tampering with the bolt, and springs 40 are positioned within the chamber back of the bolt, tending to hold the bolt in forward position within the hub. The position of the bolt with relation to the hub is such that when the car is in driving position, as shown in Fig. 2, with the hexagonal flanges in engaged position, the end 34 of the locking bolt is above the flange 18, thus holding the parts in mesh and locking the car in a steering or driving position, the wheel being supported on the hub by the bolt.

When it is desired to lock the car, the key is turned, retracting the bolt, permitting the

wheel to drop to the position shown in Fig. 1,—the bolt 34 then being below the flange 18; and when it is in this position it is impossible to raise the wheel to bring the members together and steer the car.

The lock cylinder is held in position by means of a bolt 41 inserted diagonally within the steering hub, the head of the bolt being always concealed and inaccessible when the members are assembled.

It will be noted that the sectional steel collar 14 fits loosely about the upper member 8 of the hub, and snugly against the outer periphery of the lower member 10; also that the upper and lower members 8 and 10 of the hub are separated from each other, as shown at 42, and both are held within the sectional collar or sleeve out of frictional engagement with each other.

In the operation of my device, with the wheel in spinning position, as in Figure 1, it is impossible to steer the car by friction. In other forms of locking devices for steering wheels, it is possible, by bearing down on one side and pulling up on the other, to induce sufficient friction between the parts to permit the steering of the car, although in a somewhat imperfect manner, but still sufficient to get away with locked cars. In my construction, if downward pressure is brought to bear on one side,—say the right hand side, as shown in the drawing,—the tendency will be for the lower part of the steering wheel lining to press against that portion of the sectional sleeve 14 that surrounds the member 10. The member 10 is rigid on the steering post sleeve or column, and the sectional sleeve is loosely mounted on both of the hub members 8 and 10. Pressure in a less degree will be exerted against that portion of the sectional sleeve that surrounds the flange 18, but no frictional engagement can be effected between the members. On the left side, the wheel will be forced upward and the only possible frictional engagement will be that of the locking bolt 34 against the under surface of that portion of the section of the sleeve 14 that surrounds the flange 18, as seen in Figure 1. On this side the upward movement of the wheel tends to separate the inner periphery of the spider hub from the sectional sleeve.

It will be seen that there is no possibility of effecting any frictional engagement between the inner periphery of the spider hub and locking bolt with the hub 8 rigid with the steering post, for the sectional sleeve and lower hub 10 interpose a positive protection. The lower member 10 fits snugly within the spider and prevents the insertion of any tool or instrument that might tend to throw the members into frictional engagement with the steering post when the device is locked against steering. The steel jacket on the inner periphery of the steering wheel hub and surrounding the locking bolt serves as a positive protection against tampering with the operable parts of the device.

While I have illustrated certain specific means through the medium of which the desired results may be obtained, it is understood that I do not limit myself to such specific parts and members, as other means may be employed without departing from the spirit of my invention.

I claim—

1. In a locking device for automobiles, the combination with a steering post, a flanged hub mounted on said post, a steering wheel mounted thereon to move from a first to a second position, a supplemental hub mounted below said hub, means whereby when said wheel is in one position, rotation of said wheel will cause rotation of said post, and when said wheel is in the other position rotation of said wheel will cause it to spin and not rotate said post, locking means for retaining said wheel in either of said positions, and means for preventing the rotation of said post by friction when said wheel is in spinning position, said means including a sleeve loosely fitting over the flange of said hub and the supplemental hub.

2. In a locking device for automobiles, the combination with a hollow steering post column, a steering post mounted within said column, a main hub mounted on said post, a steering wheel shiftably mounted thereon to move from a first to a second position, an auxiliary hub spaced from said main hub and secured to said steering post column, means whereby when said wheel is in said first position rotation of said wheel will cause rotation of said post, and when said wheel is in said second position rotation of said wheel will not cause rotation of said post, said supplemental hub being constructed and arranged to prevent engagement of said wheel and said main hub when in said second position.

In witness whereof, I have hereunto subscribed my name.

CHARLES W. GILLETT.