Sept. 8, 1925. 1,552,410

O. A. ANDERSON

GEAR SHIFT LEVER

Original Filed April 25, 1921

Fig. 1.

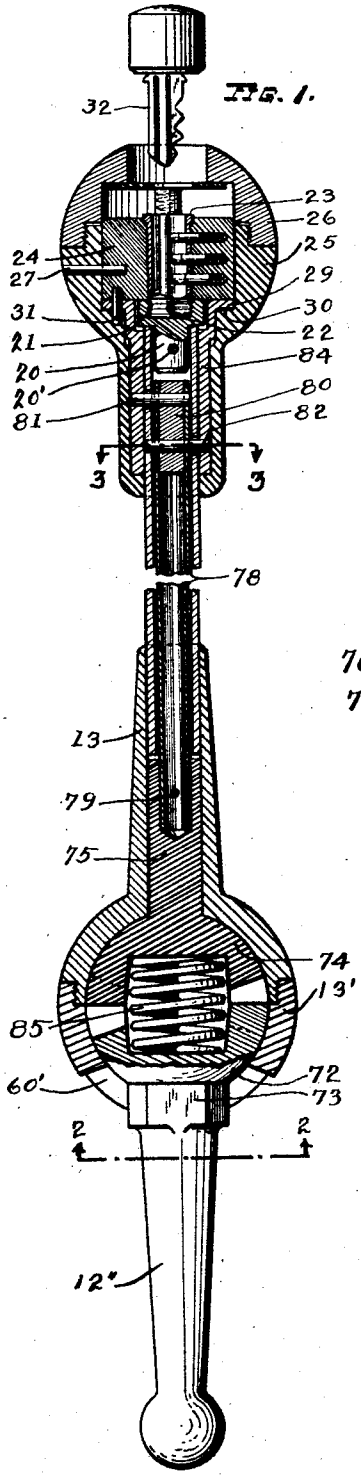


Fig. 3.

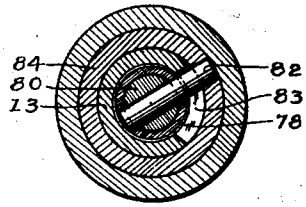


Fig. 4.

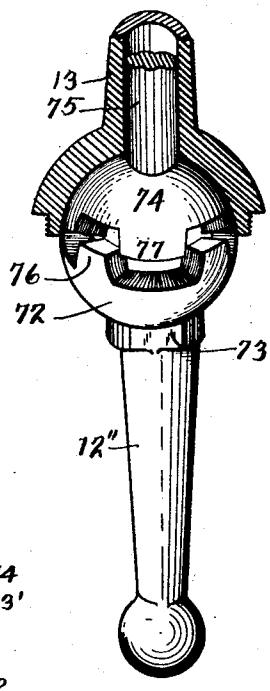


Fig. 5.

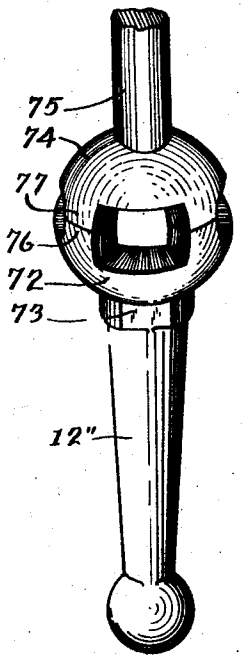
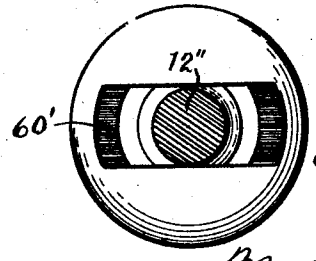


Fig. 2.



Inventor
O. A. Anderson.

By

Attorney

Patented Sept. 8, 1925. 1,552,410

UNITED STATES PATENT OFFICE.

OLAF A. ANDERSON, OF HAMILTON, OHIO.

GEAR-SHIFT LEVER.

Original application filed April 25, 1921, Serial No. 464,121. Divided and this application filed June 9, 1922. Serial No. 566,987.

To all whom it may concern:

Be it known that I, OLAF A. ANDERSON, a citizen of the United States, and a resident of Hamilton, county of Butler, State of Ohio, have invented certain new and useful Improvements in Gear-Shift Levers, of which the following is a specification.

This invention relates to locking devices for motor vehicles and more particularly to devices for rendering the usual gear-shift lever of a motor vehicle inoperative.

One of the objects of the invention is to provide a device of the type referred to by which the gear-shift lever may be rendered inoperative in any of its positions and without regard to whether the gears are in mesh or in neutral. A further object of the invention is to provide a locking device which will render the gear-shift lever ineffective to shift the gears although permitting the lever to be moved freely in any direction.

Another object of the invention is to provide a locking device which may be controlled by a key adapted to be inserted in a lock at the top of the gear-shift lever and in which the key will be entirely housed within the usual knob at the top of the lever when the lever is operative.

Other objects of the invention and the features of novelty will be apparent from the following description taken in connection with the accompanying drawings, of which:

Figure 1 is a longitudinal section through a lever embodying my invention;

Fig. 2 is a transverse section on the line 2—2 of Fig. 1; and

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is a perspective view of parts shown in Fig. 1; and

Fig. 5 is a view similar to Fig. 4, but showing the parts in a different relation.

This application is a division of my application #464,121, filed April 25, 1921.

The form of the invention illustrated comprises a lever formed of two sections, the section 12″ representing the gear-shifting section and the section 13, the handle. The section 12″ has a hemispherical portion 72 arranged in a spherical socket in the section 13 and being retained therein by a member 13′ having a screw threaded connection with the member 13, proper. The section 12″ projects through a substantially rectangular slot or opening 60′ in the member 13′ and has the flattened sides 73 which cooperate with the sides of the opening 60′ and confine the relative movement of the lever sections to a single plane.

Arranged in the socket of the section 13, above the hemispherical part 72, is a corresponding hemispherical member 74 having a stem 75 extending longitudinally of the section 13 and rotatable therein. The adjoining faces of the members 72 and 74 are provided with jaws 76 and 77, respectively, arranged for interengagement at the ends, as indicated in Fig. 5, and when thus engaged the section 12″ is held against movement relative to the section 13, but when the part 74 is rotated to bring its jaws 77 into registration with the spaces between the jaws 76, as indicated in Fig. 4, relative movement of the lever sections is possible.

A tubular rod 78 is secured to the stem 75, as by a pin 79, and carries, in its upper end, a plug 80 and the oppositely projecting pins 81 and 82, the outer ends of which project through circumferentially extending slots 83 in the section 13 and into suitable openings in the sleeve 84 which forms a part of the knob 25 which is rotatable on the lever section 13. There is also secured to the upper end of the section 13, by a pin 20′, or in any other suitable manner, a plug or adapter 20 which, in turn, has rigidly attached to it, as by the threads 21 and pin 22, the barrel 23 of a pin lock. The cylinder 24 of this lock is housed in an opening in the knob 25, this knob being formed of two sections which are screwed together at 26. The cylinder 24 and the knob 25 are secured together against relative rotation by the pin 27. The sleeve 84 has a flange 29 arranged between the bottom of the cylinder 24 and a shoulder 30 in the knob, and is held against rotation relative to the knob by a pin 31. The lock, comprising the barrel 23 and the cylinder 24, therefore, serves to secure the knob 25 against rotation on the handle section 13 when the key 32 is removed from the barrel 23 according to the well-known principle of the pin lock illustrated.

When the knob 25 is rotated the tubular rod 78 will also be rotated because of the permanent connection with the knob through the pins 81 and 82 and the slots 83 are made of sufficient length so that the knob 25 may be rotated sufficiently to turn the member 74

from the position shown in Fig. 4 to the position shown in Fig. 5. If, when the member 74 is in the position shown in Fig. 4, the key 32 is removed from the lock, the knob will be thereby locked against rotation and the handle section 13 of the lever may be swung back and forth without moving the gear-shifting section 12'', and with the parts in this relation it will be impossible to shift the gears of a vehicle. When, however, the key 32 is inserted in the lock and the knob turned to position the member 74, as shown in Fig. 5, the lever sections will be rigidly connected together and act as a unit and it will then be possible to shift gears.

A spring 85 is preferably arranged in suitable openings therefor in the parts 72 and 74 and, by the tension exerted on these parts, tends to hold the lever section 12'' in the normal relation to the section 13, indicated in Fig. 1, even though the parts are arranged as indicated in Fig. 4 and permit relative movement of the sections.

Having thus described my invention, what I claim is:

1. In a device of the class described, the combination of a lever comprising two sections hinged together, a rotary member arranged in the hinged connection between the sections and adapted in one position to prevent relative movement of said sections and in another position to permit such relative movement, and means for rotating said member.

2. In a device of the class described, the combination of a lever comprising two sections having a connection permitting relative swinging movement, one of said sections having its end provided with alternately arranged jaws and spaces, and a rotatable member having jaws adapted when in registration with the first-mentioned jaws to form a rigid connection between said sections preventing relative movement therebetween and when in registration with said spaces to permit relative movement of said sections.

3. In a device of the class described, the combination of a lever comprising two sections having a ball and socket connection, the ball of which is provided with alternately arranged jaws and spaces, and a rotatable member in the socket of said connection having jaws adapted when in registration with the first-mentioned jaws to rigidly connect said sections and prevent relative movement therebetween and when in registration with said spaces to permit relative movement of said sections.

4. In a device of the class described, the combination of two members arranged end-to-end and having cooperating ends and having a ball and socket connection the ball of which is of substantially hemispherical form and provided with alternately arranged jaws and spaces, and a rotatable member in the socket of said connection having means adapted when in registration with the first-mentioned jaws to rigidly connect said two members and when in registration with said spaces to permit relative movement between said members.

5. In a device of the class described, the combination of two members arranged end-to-end and having cooperating ends and having a ball and socket connection the ball of which is of substantially hemispherical form and provided with alternately arranged jaws and spaces, a rotatable member in the socket of said connection having jaws adapted when in registration with the first-mentioned jaws to rigidly connect said two members and when in registration with said spaces to permit relative movement between said members, and a spring between the said members adapted to hold said two members in their normal relation when the parts are arranged for relative movement therebetween.

6. In a device of the class described, the combination of two members arranged end-to-end and having cooperating ends and having a ball and socket connection the ball of which is of substantially hemispherical form and provided with alternately arranged jaws and spaces, a rotatable member in the socket of said connection having jaws adapted when in registration with the first-mentioned jaws to rigidly connect said two members and when in registration with said spaces to permit relative movement between said members, and a rotatable knob on one of said two members having connection with said rotatable member for actuating the latter.

7. In a device of the class described, the combination of two members arranged end-to-end and having cooperating ends and having a ball and socket connection the ball of which is of substantially hemispherical form and provided with alternately arranged jaws and spaces, a rotatable member in the socket of said connection having jaws adapted when in registration with the first-mentioned jaws to rigidly connect said two members and when in registration with said spaces to permit relative movement between said members, a rotatable knob on one of said two members having connection with said rotatable member for actuating the latter, and means for locking said knob against rotation.

In testimony whereof I affix my signature.

OLAF A. ANDERSON.