

L. W. GATES.
 COMBINED HANDLE AND LOCK FOR VEHICLE DOORS.
 APPLICATION FILED JAN. 26, 1911.

990,541.

Patented Apr. 25, 1911.

Fig. 1.

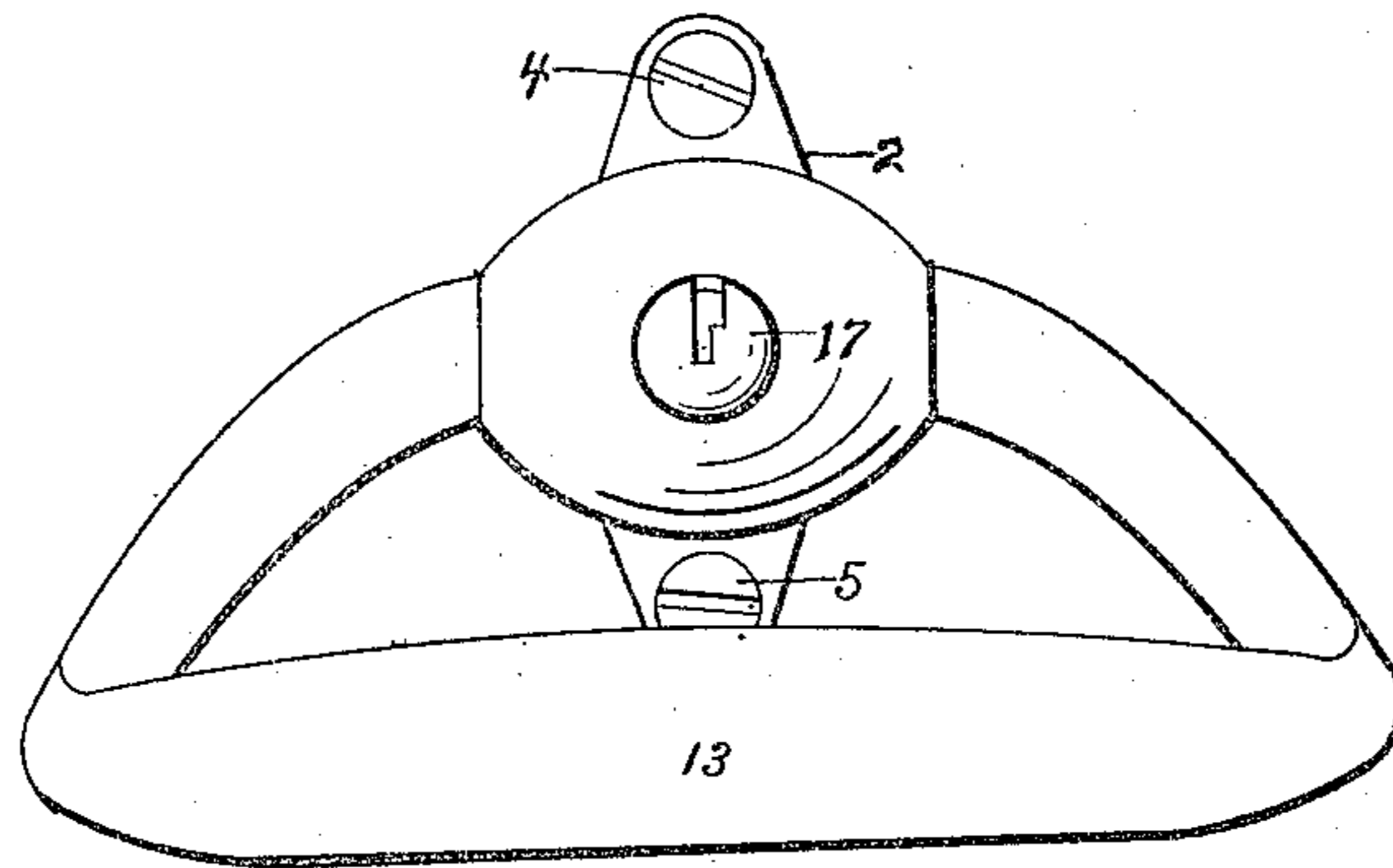


Fig. 2.

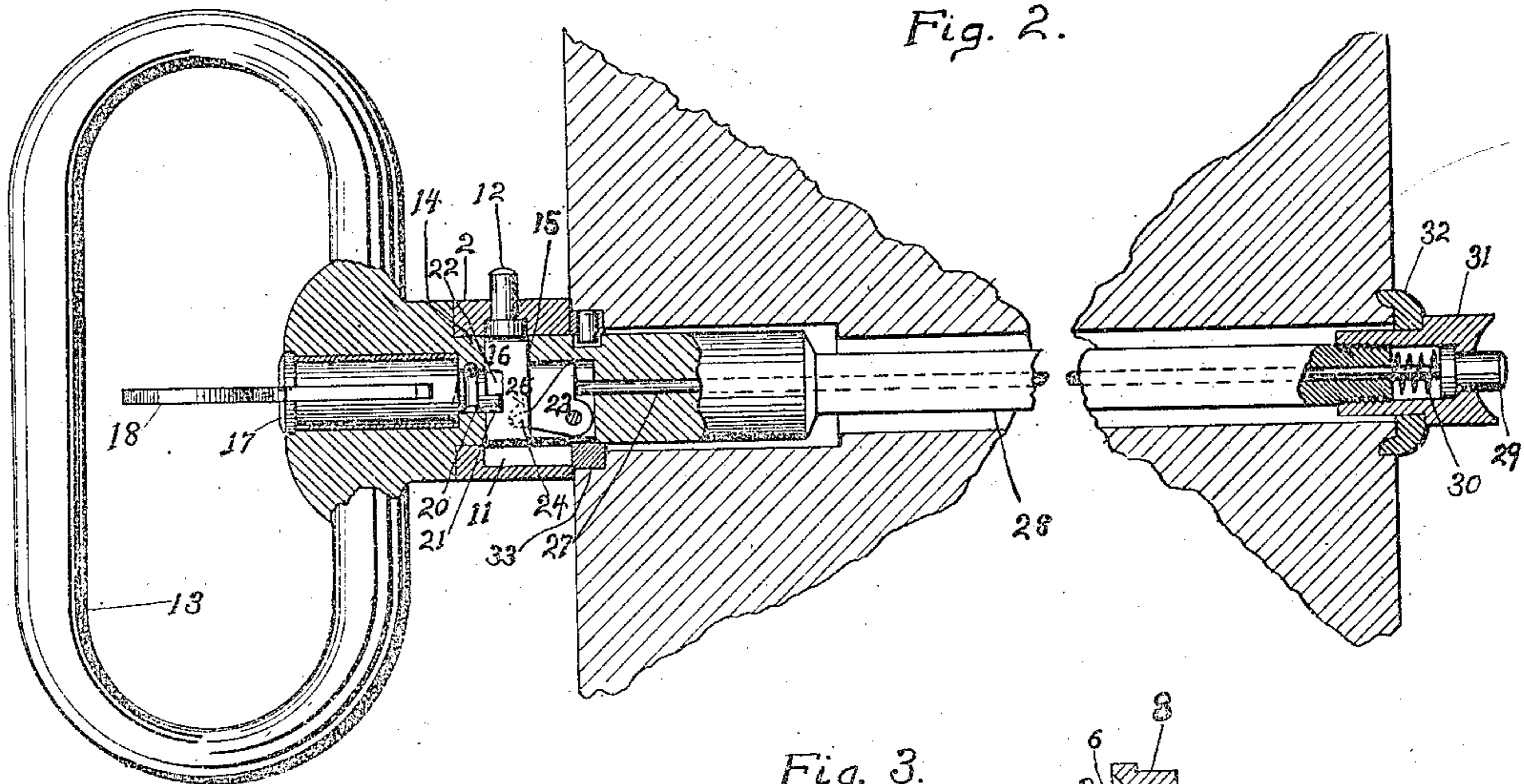


Fig. 3.

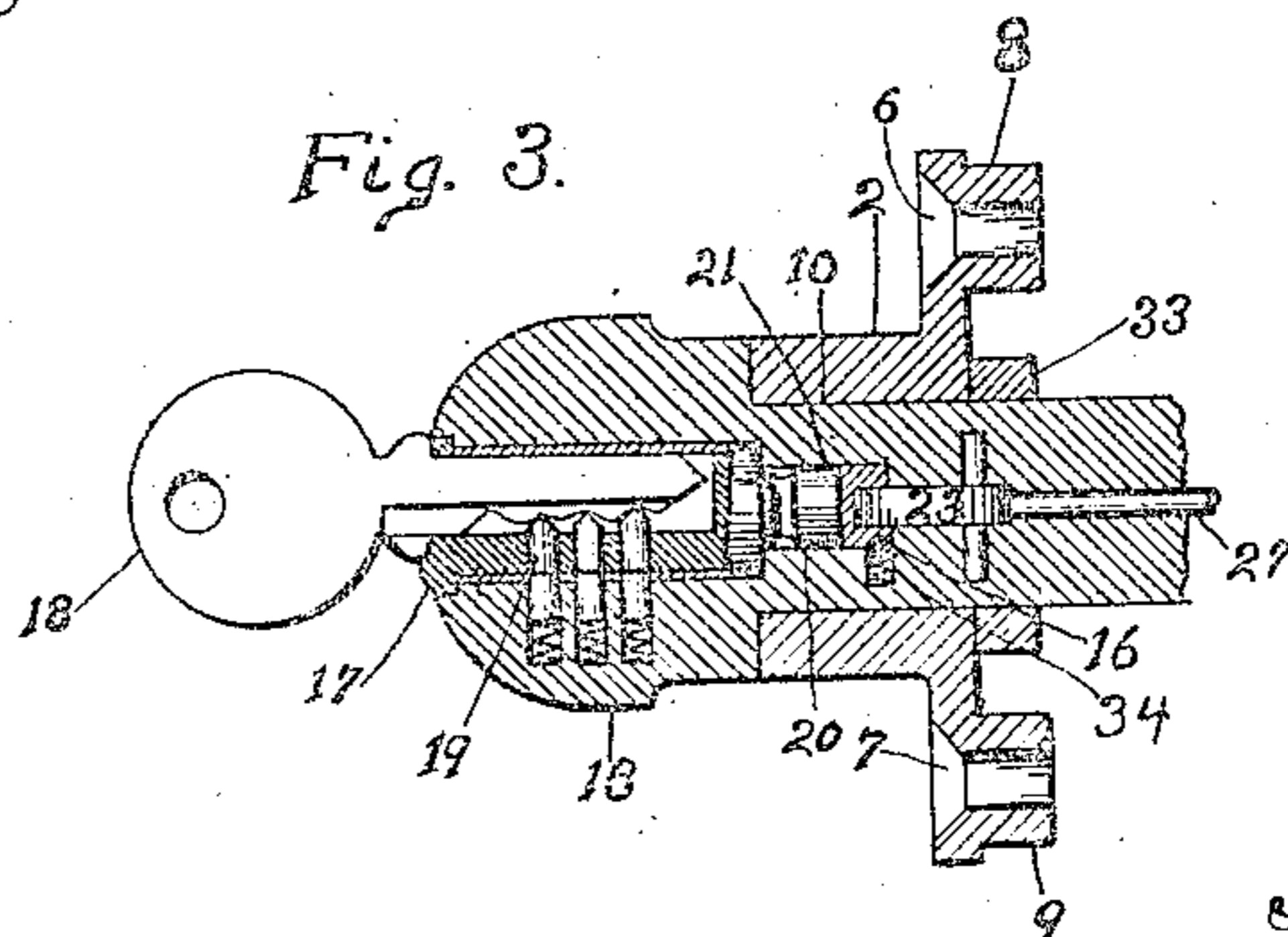
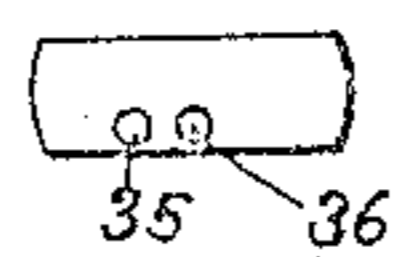


Fig. 4.



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UNITED STATES PATENT OFFICE.

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COMBINED HANDLE AND LOCK FOR VEHICLE-DOORS.

990,541.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS W. GATES, a citizen of the United States, residing at West Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Combined Handles and Locks for Vehicle-Doors; and I do hereby declare the following, when taken in connection with the accompanying drawings and the characters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a front view of a combined lock and handle constructed in accordance with my invention. Fig. 2 a view partly in transverse section showing the device applied to a vehicle door. Fig. 3 a vertical sectional view of the locking mechanism. Fig. 4 a view of the bolt, detached.

This invention relates to an improvement in combined handle and lock for vehicle doors especially designed for use on automobile doors where at times it is desirable to lock the door and at the same time leave it to be opened in the usual way from the inside. In leaving a vehicle it is, of course, desirable to lock both doors, but if the lock is operated only by a key it is necessary to go around the vehicle to lock the left hand door if the person gets out through the right hand door.

The object of this invention is to provide a lock for vehicle doors which may be thrown into locked position from either the outside or inside of the door, and without the use of a key, so that a person leaving the vehicle can lock the left hand door from the inside and the right hand door from the outside, or vice versa, or fix the locks of both doors from the inside so that when either door is closed it will be locked; and the invention consists in the construction hereinafter described and particularly recited in the claims.

In illustrating my invention I have shown it adapted for a loop handle, but it will be evident that the style of handle may be varied at will. In carrying out my invention I employ a socket 2 adapted to be secured to a vehicle door 3 by screws 4 and 5 passing through screw holes 6 and 7, which holes extend through plugs 8 and 9 formed on the rear face of the socket, whereby the

socket may be firmly secured to the door and held against turning even if the screws are removed. This socket has a central opening 10 and a bolt-receiving or locking recess 11, and mounted in one side of the socket opposite the bolt-receiving recess 11 is a push-button 12. The central portion of the handle 13 has an inwardly extending reduced portion or shank 14 to enter the central opening 10 formed for it in the socket, and in this reduced portion is a transverse rectangular opening 15 to receive a rectangular bolt 16 one end of which is adapted to enter the bolt-receiving or locking recess 11. In the center of the handle or knob is a pin-tumbler cylinder 17 adapted to be turned by a key 18 operating on pins 19 in the usual manner of pin-tumbler locks. At the inner end of the cylinder is a roll-back 20 having a finger 21 adapted to enter a notch 22 formed in the front face of the bolt whereby the bolt may be turned from the locked to the unlocked position by the rotation of the cylinder by the proper key. Pivotaly mounted in the reduced portion of the knob shank and in rear of the bolt is a two-armed lever 23, one arm 24 extending into a notch 25 formed in the rear face of the bolt, and the other arm 26 extending into the path of the push-rod 27 which extends through the knob-spindle 28 to the inside of the door where it is provided with a push-button 29, a spring 30 within a socket 31 tending to normally hold the push-button 29 into its out or operative position. The socket 31 bearing on a collar 32 secured to the inner face of the door 3 prevents the outward movement of the knob spindle. It will be understood, without illustration, that this knob spindle operates the latch-mechanism, not shown, which mechanism may also be operated in the usual manner by a lever accessible to the inside of the vehicle. The knob shank is held against outward movement by a collar 33 which is fixed to the shank and bearing against the inner face of the collar. The bolt being turned to its retired or unlocked position, as shown in Fig. 2 of the drawings, permits the knob to be freely turned in the usual manner for operating the latch mechanism.

When leaving a vehicle, say, by the right hand door, the operator will press the push button 29 on the inside of the left hand door, and this inward movement of the

button forces the rod 27 against the lever 23, and this lever 23 engaging with the bolt 16 will throw the bolt 16 into the locking-notch 11 of the socket 2, thus locking the knob of the left hand door against rotation. The operator then leaves the vehicle by the right hand door, and when the door is closed he forces the push-button 12 inward which engages with one end of the bolt 16 and forces it into the locking notch 11 in the same way as before described. Both doors are then firmly locked. Or the lock-bolt of both doors may be thrown to the locked position from the inside. To enter by either door, a suitable key entered into the cylinder 17 will turn that cylinder and retire the bolt permitting the door to be opened by turning the knob. To prevent the bolt from being thrown to its locked position or unlocked position by any jar, a spring plunger 34 will be arranged above or below the bolt and adapted to engage with the notches 35 or 36 formed in the bolt whereby the bolt will be frictionally held in its locked or unlocked position, but not with sufficient force to prevent the bolt from being moved by the push-buttons or key mechanism.

I claim:—

1. A combined lock and handle for vehicle doors comprising a socket, said socket formed with a locking notch, a push button arranged in the socket opposite said locking-notch, a handle having a shank adapted to enter said socket, a bolt mounted in said shank, key-operated mechanism mounted in said handle and adapted to move said bolt into its unlocked position which bolt may also be thrown to its locking position by the push button.

2. A combined lock and handle for vehicle doors comprising a socket, means for firmly securing the socket to the outer face of the door, said socket formed with a locking-

notch, a push-pin mounted in said socket opposite said locking-notch, a handle having a shank adapted to pass through said socket, a transversely movable bolt in said shank, key-operated mechanism in said handle and adapted to move said bolt which is also adapted to be moved by said push-button, a two-armed lever mounted in said shank in rear of said bolt one arm of said lever engaging with said bolt and adapted to move the same, a rod engaging with the other arm of said bolt, said rod extending through the vehicle door and adapted when moved from its inner end to throw said bolt into its locked position.

3. A combined lock and handle for vehicle doors comprising a socket adapted to be secured to the outer face of a vehicle door, said socket formed with a locking-notch, a handle having a shank extending through said socket, a transversely movable bolt in said shank and adapted to enter said locking-notch, key-operated mechanism mounted in said handle and adapted to retire said bolt, a two-armed lever mounted in said shank in rear of said bolt and having one of its arms engaging with the said bolt, a knob spindle extending through the vehicle door, a rod extending through said spindle and bearing at one end upon said lever, a socket on the inside of the door, a button mounted in said socket and secured to the inner end of said rod whereby the lever may be turned and the bolt thrown to its locked position from the inside of the door.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

LOUIS W. GATES.

Witnesses:

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