Aug. 24, 1926. 1,597,642

W. A. WARNE

LOCK

Filed August 29, 1925 3 Sheets-Sheet 1

Fig. 1.

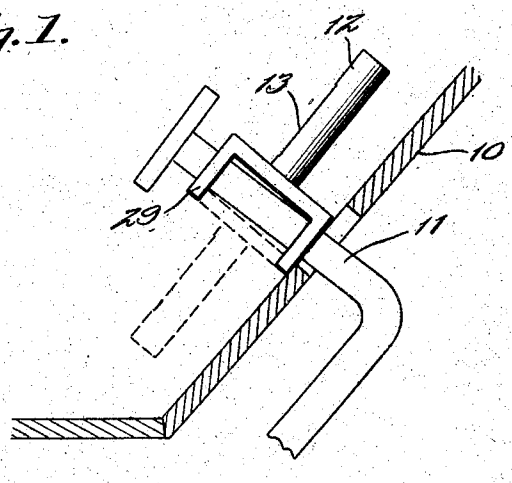


Fig. 3.

Fig. 2.

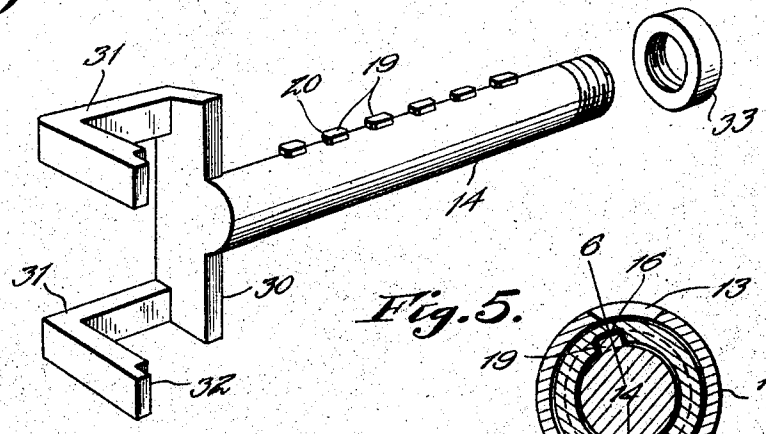
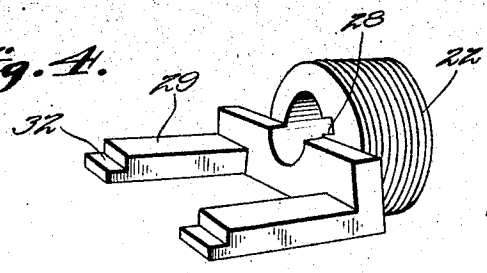


Fig. 5.

Fig. 4.



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Filed August 29, 1925 3 Sheets-Sheet 2

Fig. 6.

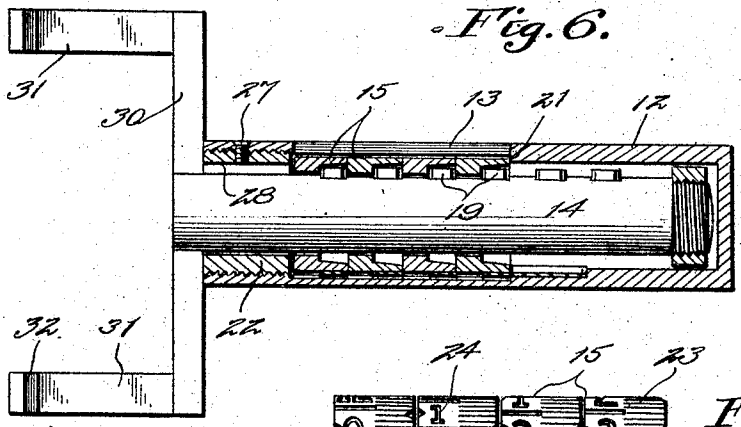


Fig. 9.

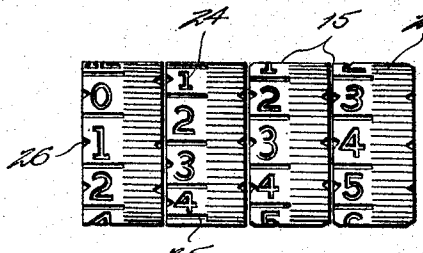


Fig. 7.

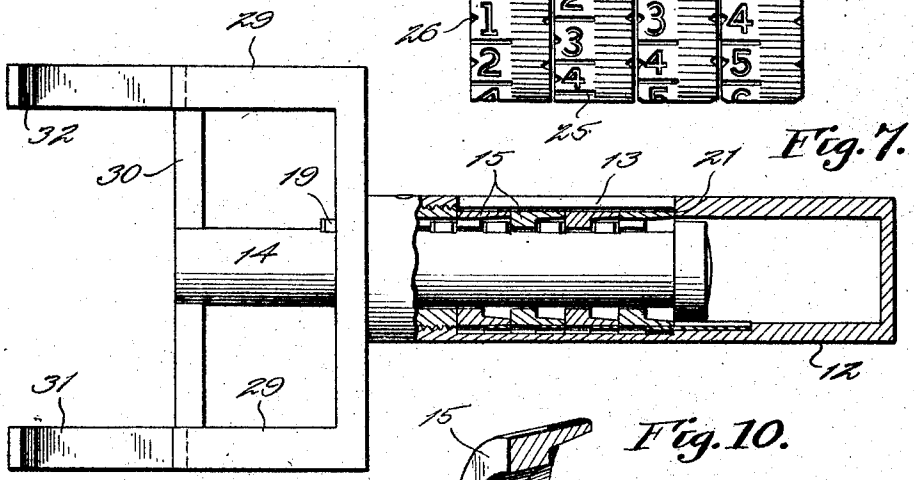


Fig. 10.

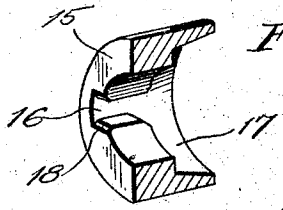
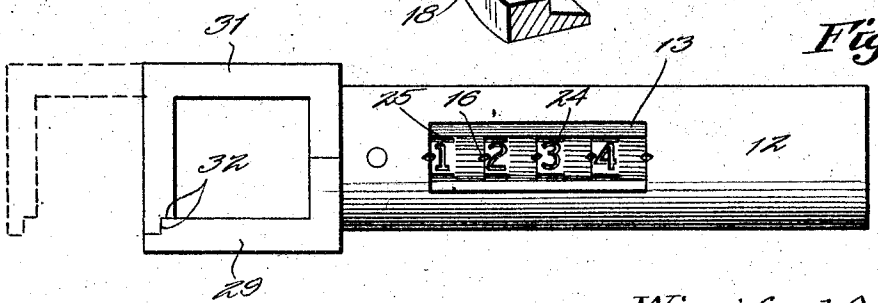


Fig. 8.



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Aug. 24, 1926. 1,597,642

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LOCK

Filed August 29, 1925 3 Sheets-Sheet 3

Fig. 11.

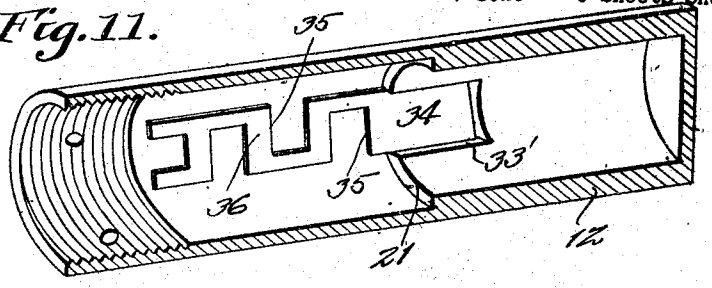


Fig. 13.

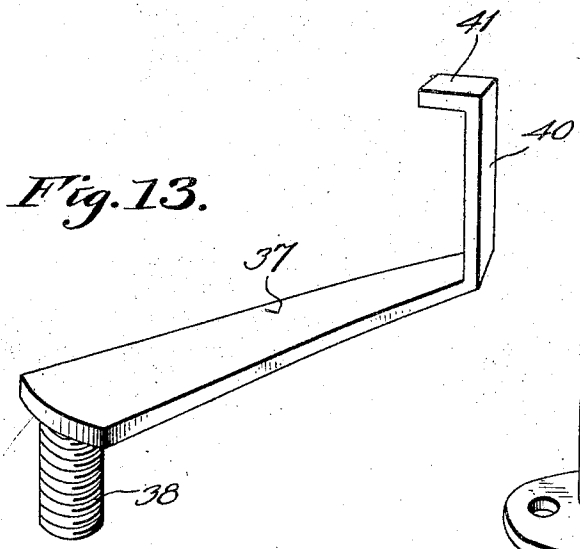


Fig. 14.

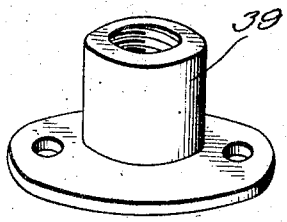
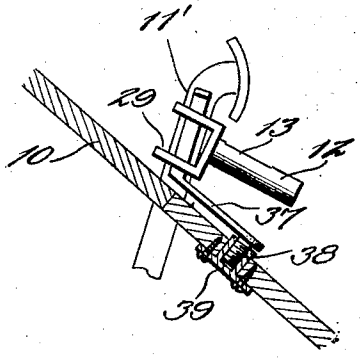


Fig. 12.



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Patented Aug. 24, 1926. 1,597,642

UNITED STATES PATENT OFFICE.

WINNIFRED A. WARNE, OF SAN ANTONIO, TEXAS.

LOCK.

Application filed August 29, 1925. Serial No. 53,293.

This invention relates to improvements in locks and has especial relation to permutation locks, an object being to provide a lock of this type having means for removable engagement with the shank of the clutch release or other pedal of an automobile for the purpose of holding the pedal against downward movement, and thus preventing the release of the clutch and the shifting of the transmission gears.

Another object of the invention is the provision of a lock of this character having a simple and novel construction and arrangement of operating mechanism, the latter being readily assembled and securely held in place and being capable of providing a wide variety of different combinations of numbers for controlling the operation of the lock.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is a fragmentary sectional view showing a portion of the floor of an automobile with the lock applied to the shank of one of the controlling pedals.

Figure 2 is a detailed perspective view of the shank of the lock with the shackle arms carried thereby.

Figure 3 is a detailed perspective view of the retaining nut for the shank.

Figure 4 is a detail perspective view of the plug and the plug carried shackle arms.

Figure 5 is a transverse sectional view taken through the lock barrel with the shank in released position.

Figure 6 is a longitudinal sectional view on the line 6—6 of Figure 5.

Figure 7 is a view similar to Figure 6 but showing the shackles open.

Figure 8 is an elevation with the shackles closed, the dotted lines showing the open position of the shackles.

Figure 9 is a detail view of the tumblers.

Figure 10 is a detail sectional view taken axially through one of the tumblers.

Figure 11 is a longitudinal sectional view of the barrel or cylinder of the lock.

Figure 12 is a view similar to Figure 1 but illustrating an auxiliary means for connecting the lock with the floor boards of an automobile.

Figure 13 is a detail perspective view of the connecting device illustrated in Figure 12.

Figure 14 is a detail perspective view of the socket or thimble shown in Figure 12.

Referring in detail to the drawings wherein like characters of reference denote corresponding parts, the reference character 10 indicates a portion of the floor boards of an automobile through which projects the shank 11 of the controlling pedal, for example the clutch release pedal of the automobile.

The lock which is adapted to engage around the shank 11 as shown in Figure 1 of the drawings, comprises a barrel 12 which is provided with a sight opening 13 and which is adapted to receive a shank 14, the latter being preferably cylindrical throughout its length.

Rotatably mounted upon the shank 14 is a plurality of tumblers 15. These tumblers are each provided with a notch 16 which opens into the bore of the tumbler, one end of the notch opening into an annular recess 17 whose walls are beveled as indicated in Figure 10 of the drawings. The opposite ends of the walls of the notch 16 are also beveled as shown at 18. Extending from the shank 14 are spaced lugs 19 and the corners of these lugs are likewise beveled as indicated at 20. This permits of the legs readily entering the notches 16 when the lugs and notches are in alignment but prevents operation of the lock by "sound and feel." The tumblers are capable of rotation upon the shank 14 and are held against axial movement in one direction by means of an annular shoulder 21 arranged within the barrel 12 and against movement in an opposite direction by means of a plug 22 located within the open end of the barrel. A threaded engagement is provided between the plug 22 and the barrel 12 so that the plug may be accurately adjusted to permit of free rotation of the tumblers without undue end play. The tumblers are provided upon their periphery with serrations 23 and with numbers or indicia 24. The numbers are divided by axially disposed lines 25 and notches 26, the latter being arranged between the lines and indicating the numbers 1, 2 and 3 and so forth, while the lines are arranged between the numbers and indicate one-half, one and one-half, two and one-half and so forth. The notches 16 are

arranged differently with respect to the numbers or to the divisions between the numbers, or half numbers so that a wide range of combinations of numbers may be provided. The plug 22 is held in adjusted position by means of a set screw 27 whose outer end or head may be riveted so as to prevent its removal. The plug 22 is also provided with an axially disposed notch 28 for the passage of the lugs 19.

Extending from the outer end of the plug 22 are spaced arms 29, while the shank 14 carries a transversely disposed arm 30 from which extend spaced substantially L-shaped arms 31. The arms 29 and 31 have their outer ends notched as indicated at 32 and when the shank is at the limit of its inner movement, the notched ends of the arms 29 and 31 will engage so as to provide spaced shackles for engagement around the shank 11 of the clutch pedal. The barrel of the lock may extend in one position with respect to the pedal when the shackles are engaged, as illustrated by the full and dotted lines in Figure 1 of the drawings. Outward movement of the shank 14 is limited by means of a nut 33 which is threaded upon the inner end of said shank and which engages the tumblers as shown in Figure 7 of the drawings.

Secured within a recess 33′ provided in the barrel 12 is a flat bar 34. The opposite edges of this bar are provided with notches 35, the material between these notches defining yieldable arms 36 which engage the tumblers 23 and hold the latter against accidental movement.

In the operation of the lock, the tumblers are manipulated until the proper combination of numbers appears within the sight opening 13, the numbers 1, 2, 3 and 4 appearing in Figure 8. When the tumblers are in this position, the notches 16 will be aligned with the lugs 19 so as to permit the shank 14 to be drawn outward as shown in Figure 7 of the drawings and by the dotted lines in Figure 8. The spaced shackles may thus be engaged around or removed from the shank of the pedal and the lock shank 14 moved inward, whereupon rotation of the tumblers will lock the shank in place. When in locked position, the lugs 19 will occupy the recesses 17 of the tumblers.

In the types of automobiles where the floor boards are readily removable, there is provided a substantially L-shaped arm 37 which carries at one end a threaded stud 38. This stud is engageable in the threaded bore of a socket or thimble 39 which is secured to and extends through the floor board 10. The right angled extension of the L-shaped arm 40 is designed to be placed against the shank 11′ of the pedal so that the spaced shackles may be engaged around both the shank and said extension. The upper extremity of the extension 40 is provided with a lug 41 so that the shackles are positioned between the arm 37 and the lug 41.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention what is claimed is:—

1. A lock comprising a barrel having a longitudinally disposed sight opening therein, a hollow plug secured at one end of the barrel, a longitudinally slidable shank within the barrel and extending through the plug, an arm carried by the plug, an arm carried by the shank and engageable with the plug carried arm to provide a shackle and a plurality of indicia carrying tumblers mounted for rotation within the barrel and detachably engaging the shank to control longitudinal sliding movement of the latter.

2. A lock comprising a barrel having a longitudinally disposed sight opening therein, a hollow plug secured at one end of the barrel, a longitudinally slidable shank within the barrel and extending through the plug, spaced parallel substantially L-shaped arms carried by the plug, spaced parallel substantially L-shaped arms carried by the shank and engageable with the plug carried arms to provide a double shackle and a plurality of indicia carrying tumblers mounted for rotation within the barrel and detachably engaging the shank to control longitudinal sliding movement of the latter.

3. A lock comprising a barrel having a longitudinally disposed sight opening therein, a hollow plug secured at one end of the barrel, a longitudinally slidable shank within the barrel and extending through the plug, spaced arms carried by the plug, spaced substantially L-shaped arms carried by the shank and engageable with the plug carried arms to provide spaced parallel shackles and a plurality of indicia carrying tumblers mounted for rotation within the barrel and detachably engaging the shank to control longitudinal sliding movement.

4. A lock comprising a barrel having a longitudinally disposed sight opening therein, a hollow plug secured at one end of the barrel, a longitudinally slidable shank within the barrel and extending through the plug, tumblers rotatable upon the shank and having indicia thereon visible through the sight opening of the barrel, a stop shoulder provided in the barrel to engage one of the tumblers to limit axial movement in one direction, means to adjustably position the plug to limit axial movement of the tumblers in an opposite direction, means co-operating with the indicia upon the tumblers to lock

and release the shank and sectional shackles carried by the shank and plug.

5. A lock comprising a barrel having a longitudinally disposed sight opening therein, a hollow plug secured at one end of the barrel, a longitudinally slidable shank within the barrel and extending through the plug, tumblers rotatable upon the shank and having indicia thereon visible through the sight opening of the barrel, a stop shoulder provided in the barrel to engage one of the tumblers to limit axial movement in one direction, means to adjustably position the plug to limit axial movement of the tumblers in an opposite direction, means cooperating with the indicia upon the tumblers to lock and release the shank, sectional shackles carried by the shank and plug and a friction member located within the barrel, said member having notches extending from opposite edges thereof to provide spaced transversely arranged tumbler engaging yieldable arms.

In testimony whereof I affix my signature.

MR. WINNIFRED A. WARNE.