Feb. 7, 1933. A. R. LINDSAY 1,896,907

DOORLATCH

Filed Jan. 30, 1929

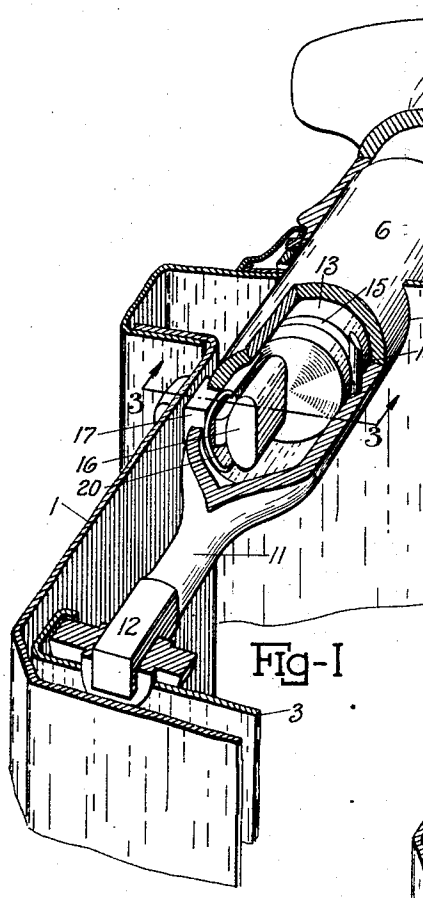


Fig-I

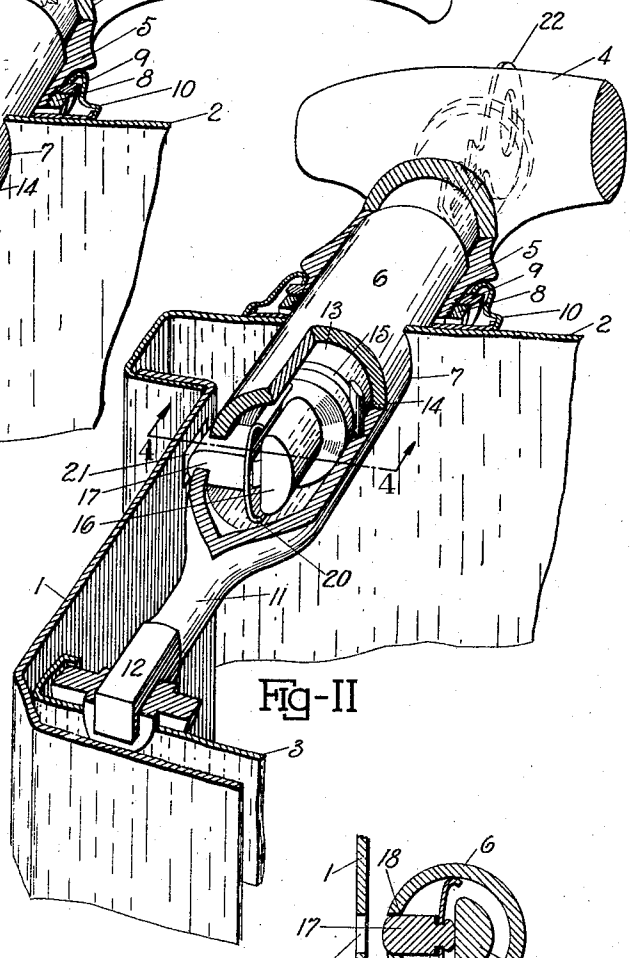


Fig-II

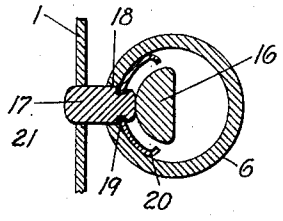


Fig-III

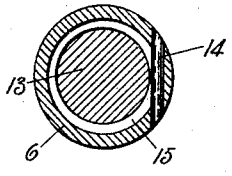


Fig-V

Fig-IV

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Patented Feb. 7, 1933 1,896,907

UNITED STATES PATENT OFFICE

ALEXANDER R. LINDSAY, OF DETROIT, MICHIGAN, ASSIGNOR TO THE STUDEBAKER CORPORATION, OF SOUTH BEND, INDIANA, A CORPORATION OF NEW JERSEY

DOORLATCH

Application filed January 30, 1929. Serial No. 336,194.

This invention relates to door latch operating handles, and particularly to means for locking the handle against rotation to thereby prevent the unauthorized opening of the door of which the latch mechanism forms a part.

The principal object of this invention is to provide a rotatable latch operating handle having a hollow shell extending into the door in which is rotatably mounted a key-controlled cylindrical member having a projection at the inner end thereof eccentrically mounted relative to the longitudinal axis of said member engageable with a locking member for moving the same into engagement with the door to thereby lock the door latch handle against rotative movement, and spring means for moving the locking member out of engagement with the door to permit rotative movement of the door latch operating handle.

A further object is to provide a leaf spring secured to the lock member adapted to be placed under tension when the lock member is in extended position and operable to retract the lock member.

The above being among the objects of the present invention, the same consists of certain features and combinations of parts to be hereinafter described, and then claimed having the above and other objects in view.

In the accompanying drawing which illustrates a suitable embodiment of my present invention,

Figure I is a perspective view, certain parts being broken away and in section, showing the locking member in locked position.

Figure II is a perspective view similar to Figure I showing the lock member in retracted position.

Figure III is a sectional view taken on the line 3—3 of Figure I, showing the lock member engaging the door.

Figure IV is a sectional view taken on the line 4—4 of Figure II, showing the lock member in retracted position.

Figure V is a sectional view showing the pin for preventing longitudinal movement of the cylindrical member relative to the hollow shell.

Referring in detail to the drawing in which like numerals refer to like parts throughout the several views, I have shown for the purpose of illustration, a section of a motor vehicle door comprising an edge face member 1 having its front face covered with a sheet metal plate 2. The latch mechanism 3, a portion only of which is shown in Figures I and II, is secured to the rear face of the door structure.

The latch mechanism may be of any desired type and is actuated by means of the exterior handle 4 having a shank 5 in which is secured a hollow shell 6 adapted to rotate with the handle 4 and to be inserted through an opening 7 in the face plate 2. A nut 8 is threadably secured to the shank 5 of the handle 4 against which is seated a washer 9 interposed between the nut 8 and the escutcheon plate 10 for holding the handle against longitudinal movement. The hollow shell 6 terminates at its inner end in a shaft 11 having a square portion 12 adapted to operate the latch mechanism 3 by the rotation of the handle 4.

A cylindrical member 13 rotatably mounted in the hollow shell 6 is held against longitudinal movement relative thereto by means of the pin 14 secured in the shell 6 and seating in a groove 15 formed in the cylindrical member 13 as is clearly shown in Figures I, II and V. A member 16 is eccentrically formed on or is secured to the inner end of the cylindrical member 13.

A locking member 17 is slidably supported in a slot 18 formed in the hollow shell 6 and has a reduced portion 19 adapted to receive and be further supported by a spring 20. The spring 20 is secured to the lock member 17 by riveting the inner end thereof over the spring or otherwise securing the same thereto. The locking member 17 is held in engagement with the member 16 at all times by means of the spring 20, and is adapted to be moved to the extended position as is shown in Figures I and III by means of the member 16, and when in that position is received in a slot 21 formed in the edge member 1 of the door. When the locking member 17 is moved to the extended position to engage the

door edge member 1, the spring 20 is held under tension as is clearly shown in Figure III. When the member 16 is rotated to the position shown in Figures II and IV, the tension of the spring 20 is relieved, the same acting to retract the locking member out of engagement with the door edge member 1.

The cylindrical member 13 is provided with any suitable lock therein engageable with the handle 4 to normally prevent rotation of the cylindrical member 13 relative to the handle 4. When the key 22 is inserted in a proper slot in the cylindrical member 13, the lock mechanism is disengaged from the handle 4 and the cylindrical member 13 is permitted to be rotated by the key 22 from the position shown in Figure I to the position shown in Figure II or vice versa. As the lock mechanism in the cylindrical member 13 forms no part of my invention, the same will not be described further but reference may be had to the patent application to James R. Hughes, Serial No. 333,178, filed January 17, 1929, for a clearer understanding of the same.

Having described the construction of the parts forming my invention, the operation thereof should be readily understood. When it is desired to lock the latch mechanism against movement, the key 22 is inserted in the cylindrical member 13 so that it can be rotated independently of the handle 4 and the hollow shell 6, to rotate the member 16 180 degrees from the position shown in Figure II to the position shown in Figure I. When in this position, the key 22 can be withdrawn whereby the cylindrical member 13 cannot be rotated independently of the handle 4, and because the lock member 17 is extended into the slot 21 formed in the door edge member 1, the door handle 4 and the latch mechanism operatively connected therewith is thus locked against movement.

In the same manner the key 22 can be inserted in the cylindrical member 13 when the locking member 17 is in locked position so that the member 16 can be rotated 180 degrees to the position shown in Figure II. When rotated to this position, the spring 20 will retract the locking member 17, moving the same out of the slot 21 in the door edge member 1. The key 22 can then be withdrawn from the cylindrical member 13 and the cylindrical member 13 will rotate with the handle 4 and the hollow shell 6 so that the latch mechanism can be operated in the usual manner for opening and closing the door.

It will thus be seen that I have provided a simple and efficient means for locking the latch mechanism against movement and while I have shown one embodiment of my invention, it is to be understood that formal changes can be made therein without departing from the spirit and substance of my invention, the scope of which is commensurate with the appended claims.

What I claim is:

1. In combination with a door structure having an opening in the edge face thereof, a rotatable latch operating handle including a tubular shell mounted in the side face of said door, a cylindrical member rotatably mounted within said shell, key-operated means inserted in the exposed outer end of said cylindrical member for rotating the same, a member eccentrically formed on the end of said first member opposite to said key-operated means, a locking member supported by said shell transversely of said first member in engagement with said second member whereby rotation thereof in one direction moves said locking member into the opening in the edge face of said door, and a leaf spring supported by said locking member within said tubular shell for retracting said locking member when said second member is turned in the opposite direction.

2. In combination with a door having a sheet metal edge member provided with an opening therein, a rotatable latch operating handle having a tubular shell mounted in the side face of said door, a locking member extending transversely of and slidable through an opening formed in said shell, a cylindrical member slidably mounted in said shell having an eccentric thereon engageable with said locking member for moving the same into the opening in the edge face of said door to constrain said latch operating handle against rotative movement, and a spring secured to said locking member adjacent the inner end thereof for retracting said locking member to move the same out of engagement with said door edge member.

3. In combination with a door having a sheet metal edge member provided with an opening therein, a rotatable latch operating handle having a tubular shell mounted in a side face of said door, said tubular shell having a slot formed therein adjacent the inner end thereof, a locking member slidably mounted in the slot in said shell, a key-controlled member rotatably mounted in said shell, an eccentric on said member engageable with the end of said locking member for moving the same into the opening in the edge face of said door, and a leaf spring secured adjacent the end of said locking member within said hollow shell for moving said locking member out of engagement with the edge face of said door.

4. In combination with a door having an edge member provided with an opening therein, a rotatable latch operating handle provided with a slot therein mounted in the face of said door, a locking member mounted in said slot and slidable in said shell into and out of engagement with the opening in the edge member of said door, a key-controlled cylindrical member rotatably mounted in said shell, means on said key-controlled member

engageable with the end face of said locking member for moving said locking member into engagement with said door to thereby restrain rotation of said latch operating handle, and spring means supported by said locking member engageable with the inner face of said shell for moving said locking member out of engagement with said edge member of said door.

Signed by me at Detroit, Michigan, this 28 day of January, 1929.

ALEXANDER R. LINDSAY.

CERTIFICATE OF CORRECTION.

Patent No. 1,896,907. February 7, 1933.

ALEXANDER R. LINDSAY.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 2, line 124, claim 4, before "face" insert the word "side"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 9th day of May, A. D. 1933.

M. J. Moore.

(Seal) Acting Commissioner of Patents.