

Feb. 8, 1927.

1,616,609

W. N. DAVIS

LATCH OPERATING DEVICE

Filed Jan. 30, 1925

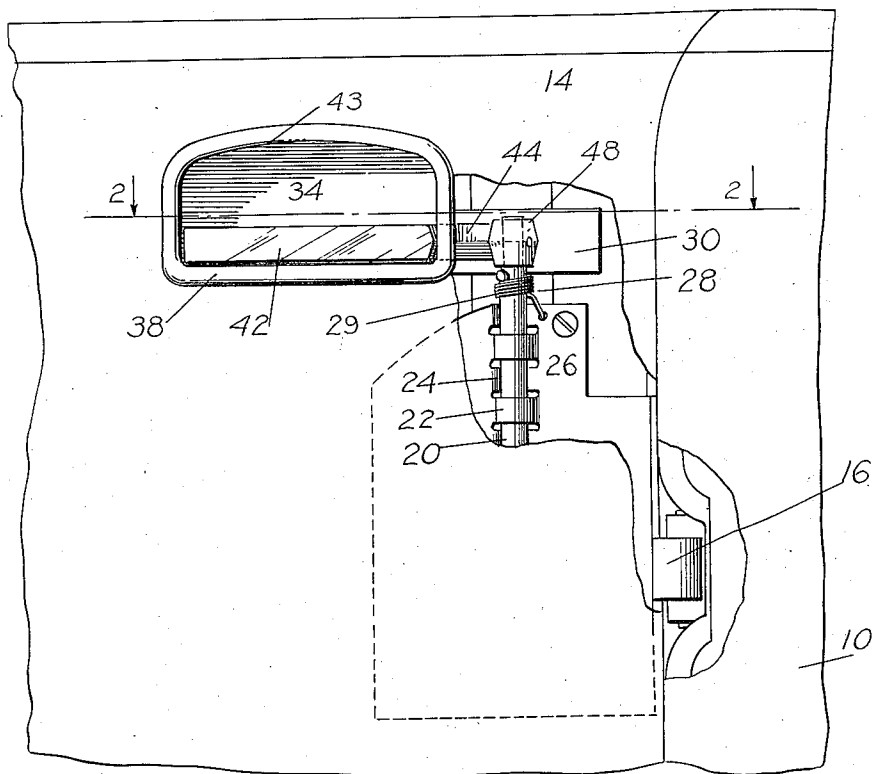


Fig. 1

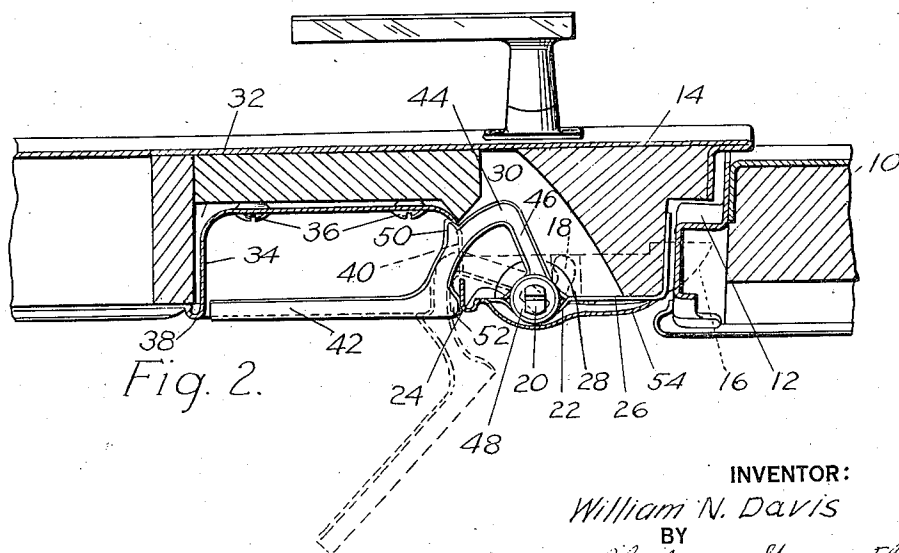


Fig. 2.

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Patented Feb. 8, 1927.

1,616,609

UNITED STATES PATENT OFFICE.

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LATCH-OPERATING DEVICE.

Application filed January 30, 1925. Serial No. 5,738.

This invention relates to latch operating devices and is herein shown as embodied in means for operating the latch of an automobile door.

5 An object of the invention is to provide an improved latch manipulating means which is readily accessible although substantially housed within a door frame or the like. Another object is to provide a device
10 of this character which is of simple construction and easily attached to an automobile door frame without leaving any unsightly or projecting parts to catch on extraneous objects such as the clothing of passengers.

In the drawings, Figure 1 is an inside view, with parts broken away, of an automobile door having the invention applied thereto.

20 Figure 2 is a section on the line 2-2 of Figure 1.

The numeral 10 indicates a part of an automobile body having an abutment 12 for a swinging door 14. Slidably mounted in the door in any suitable manner is a fastener
25 comprising a bolt 16 which can be withdrawn by a cam 18 near the lower end of a vertical bolt-operating shaft 20. The shaft is rockably mounted substantially at the inner surface of the door in a series of bearing loops 22 and 24 struck outwardly and inwardly respectively from a plate 26 which is attached by screws to the door frame. The plate 26 extends across a vertical semi-circular recess 28 which receives the inwardly
30 extending loops 24 and partially houses the shaft. A coil spring 29 fastened to the plate 26 and to the shaft tends to slide the bolt to locking position.

40 The semicircular recess 28 opens into a deeper and wider recess 30 and the latter opens into one end of a substantially oblong recess 32 of greater vertical height than the recess 30. A dished plate or cup 34 has its bottom attached by screws 36 to the door frame at the bottom of the recess 32 and its rim is bent into an ornamented bead 38 which is arranged to border the recess at the inner surface of the door. A slot 40 at one end of the dished plate, behind the bead 38, allows
50 the passage of an arm for operating the shaft 20.

The operating arm comprises a handle portion 42 normally lying across the dished
55 plate flush with its rim and at the lower side

of the opening. This leaves room above and behind the handle for the operator to insert the fingers of his hand. The upper side of the dished plate is rounded as at 43 the better to fit the hand without the necessity
60 of making the plate so large as to be unsightly. The operating arm also comprises a bent section by which it is connected to the operating shaft 30. One portion 44 is curved on substantially an arc having its
65 center at the axis of the shaft and another part 46 is straight and has an eye 48 at the end which is secured to the upper end of the shaft. One side of the curved portion 44 is provided with a lug 50 which limits the
70 swing of the operating arm in one direction and one side of the straight portion 46 limits the swing in the other direction as indicated in dotted lines in Figure 2. The handle portion 42 also has a projection or
75 lobe 52 which hides that part of the slot which is not filled by the curved portion 44. Any suitable shield or casing 54 may be arched over the shaft and its bearings to protect the upholstery and this casing may
80 if desired be a part of the dished plate.

It will be noted that the visible part of the operating device is only a short handle which is flush with the door and that the recess formed by the dished plate is of minimum size for its purpose with no visible
85 breaks either in the body part or in the rim. All the parts can be easily attached from one surface of the door and a neat and finished appearance ensues. Although the invention has been described by reference to a specific construction, it should be understood that, in its broader aspects, it is not
90 necessarily limited to the form selected for mere illustrative purposes.

I claim:

1. In a device of the class described, a door having a recess opening to the inner surface thereof, a fastener comprising a vertical, bolt-operating shaft at the surface of
100 the door, an operating arm connected to the shaft normally lying across the open end of the recess at one side thereof and flush with the inner surface of said door adapted to be swung outwardly to rotate
105 said shaft.

2. In a device of the class described, a door having a recess opening to the inner surface thereof, a fastening device comprising a bolt operating shaft in the door at
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one side of said recess and spaced therefrom, an operating arm comprising a handle portion and a rearwardly extending offset portion connected to the shaft of said fastening device, said handle portion located in said recess with its outer surface flush with the inner surface of said door adapted to be swung outwardly to rotate said shaft.

3. In a device of the character described, a door having a recess opening to the inner surface thereof, a fastening device comprising a bolt operating shaft in the door, an operating arm comprising a handle portion and a rearwardly extending offset portion, connected to the shaft of said fastening device whereby the handle portion is spaced from said shaft and within said recess, a dished plate fitting said recess having a portion extending between the handle portion and said fastening device, said operating arm adapted to engage said dished plate whereby the movement of said operating arm is limited.

4. In a device of the character described, a door having a recess opening to the inner surface thereof, a fastening device comprising a bolt operating shaft at the surface of

the door, an operating arm comprising a handle portion and a rearwardly extending offset portion, connected to the shaft of said fastening device whereby the handle portion is spaced from said shaft, a dished plate located in said recess forming a space for the handle portion of said operating arm and having a portion extending between the handle portion and the shaft of said fastening device with an extended portion concealing the latter.

5. In a device of the character described, a door having a recess opening to the inner surface thereof, a fastener comprising a vertical, bolt-operating shaft spaced from the recess in said door, an operating arm secured to said shaft comprising a rearwardly extending portion, a curved portion having a radius equal to the length of said rearwardly extending portion and a handle portion extending radially therefrom into the recess in said door and flush with the outer surface thereof.

In testimony whereof I affix my signature.

WILLIAM N. DAVIS.