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FLUSH TYPE DOOR HANDLE

2,334,580

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2 Sheets-Sheet 2

Fig. 3.

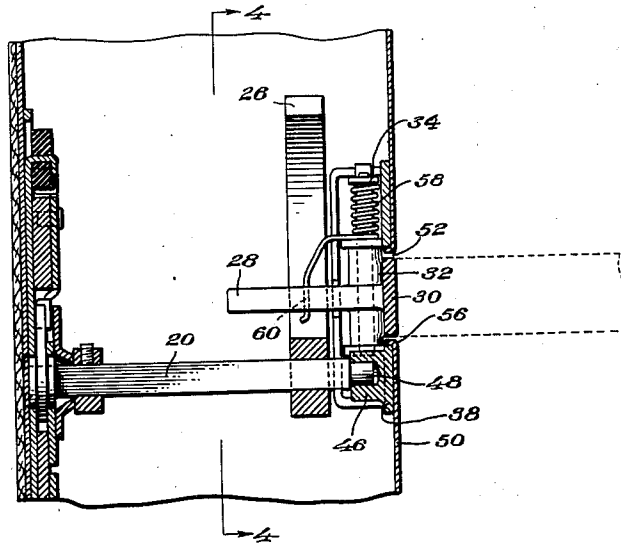
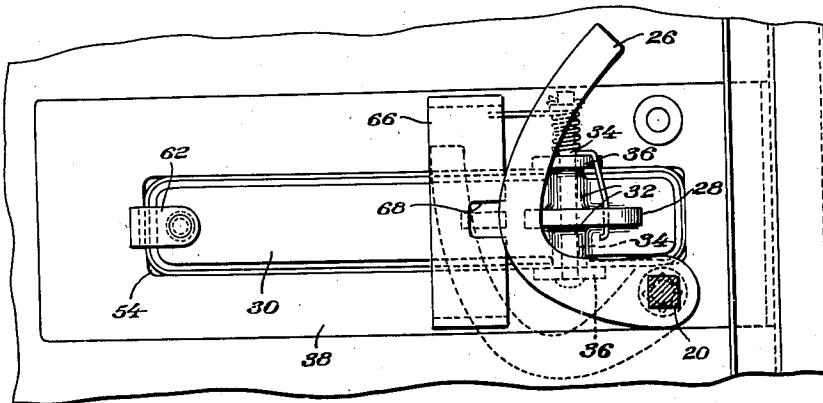


Fig. 4.



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FLUSH TYPE DOOR HANDLE

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4 Claims. (Cl. 292-165)

My invention relates to door handles, and has among its objects and advantages the provision of an improved door handle of the flush type particularly adapted to automotive vehicle doors and the like.

In the accompanying drawings:

Figure 1 is a horizontal sectional view of a portion of an automobile door illustrating my invention applied thereto;

Figure 2 is a view taken from the position indicated by line 2-2 of Figure 1;

Figure 3 is a sectional view taken along the line 3-3 of Figure 2; and

Figure 4 is a view taken from the position indicated by line 4-4 of Figure 3.

In the embodiment selected for illustration, Figure 1 illustrates a portion 10 of a conventional automobile door. This door is provided with the usual latch bolt 12 and inside door handle 14 operatively connected with the latch bolt 12 through the medium of a linkage 16. A spring 18 yieldingly urges the latch bolt 12 to its projected position.

Retraction of the latch bolt is accomplished through rotation of the handle 14 from a position inside the vehicle, or from an outside position through rotation of a square lock shaft 20, this shaft being provided with a finger 22 engaging the shoulder 24 on the latch bolt.

To the shaft 20 is secured a curved pawl 26 arranged in the path of a cam 28 fixedly attached to an outside door handle 30 normally lying flush with the outer face of the door 10. A bearing 32 is formed on the handle 30 for the reception of a pin 34 carried by ears 36 struck from a base plate 38. A right angle end 40 is formed on the base plate 38 for fixed connection with the door wall 42 by screws 44. The base plate 38 is also provided with a socket 46 for the cylindrical end 48 of the shaft 20.

The outer wall 50 of the door 10 is provided with a slot 52 for exposing the handle 30, the base plate 38 also having a slot 54 slightly larger than the slot 52. The outer wall 50 is bent inwardly about the slot 52 to provide a flange 56, which strengthens the wall about the slot and lends a more finished appearance to the slot formation.

Means for biasing the handle 30 to its normal position comprises a coiled spring 58 mounted on the pin 34, with one end of the spring engaging the base plate 38 and the other end passed through an opening 60 in the cam 28. An ear 62 is struck from the base plate 38 to provide a mount for a rubber stop 64 against which the

handle 30 strikes as it reaches its normal position.

A bracket 66 is secured to the base plate 38 and includes a notch 68 into which the cam 28 enters when the handle 30 is moved to a full open position, the bracket constituting a stop for the handle. The cam 28 is located intermediate the ends of the handle 30. In operation, thumb pressure on the end 70 of the handle 30, see Figure 1, pivots the handle sufficiently far to bring its longer end 72 beyond the outer wall 50 sufficiently far to provide an easy hand rest thereon to complete the opening movement of the handle. The spring 58 returns the handle to its normal position and the rubber stop 64 eliminates rattling under conditions which might vibrate the handle.

A flush handle of the type illustrated fits neatly inside the flange 56 and lies completely flush with the outer wall 50. Because of the position of the pivot for the handle, thumb pressure on the end 70 brings the handle 30 into a grasping position so as to eliminate the necessity of forming large recesses and the like in the outer wall 50. The handle 30 is neat in appearance and may be painted the same color as the vehicle. The single base plate 38 serves as a mount for the handle. This base plate may be incorporated in all doors.

Without further elaboration, the foregoing will so fully illustrate my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

1. In an automotive vehicle door having an edge wall and an outer wall, the combination of a base plate lying against the inner face of said outer wall and having a flange lying against the inner face of said edge wall, a latch bolt, a shaft means for retracting the latch bolt through rotation of the shaft means, said outer wall and said base plate each having an opening aligning with the other opening, a pawl fixed to said shaft means, a handle pivotally mounted intermediate its ends on said base plate and having a cam engaging said pawl to rotate said shaft means through pivotal movement of said handle, said handle normally lying in the opening in the outer wall flush with the outer face thereof, means biasing said handle to a normally closed position, and an extension on said handle comprising a continuation thereof lying to one side of the pivotal axis of the handle to pivot the handle to a gripping position when said extension is pressed inwardly.

2. The invention described in claim 1 wherein said base plate is provided with ears, said cam lying between said ears and having an opening, a pin attached to said ears and extending loosely through said opening in the cam to pivotally support the handle, and a spring mounted on said pin and connected with said cam to yieldingly support the handle in its normal position.

3. The invention described in claim 1 wherein said base plate is provided with an ear extending partly across the opening in the outer wall, and a cushioning element mounted on said ear.

4. The invention described in claim 1 wherein said outer wall is bent inwardly of the opening in said base plate.

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