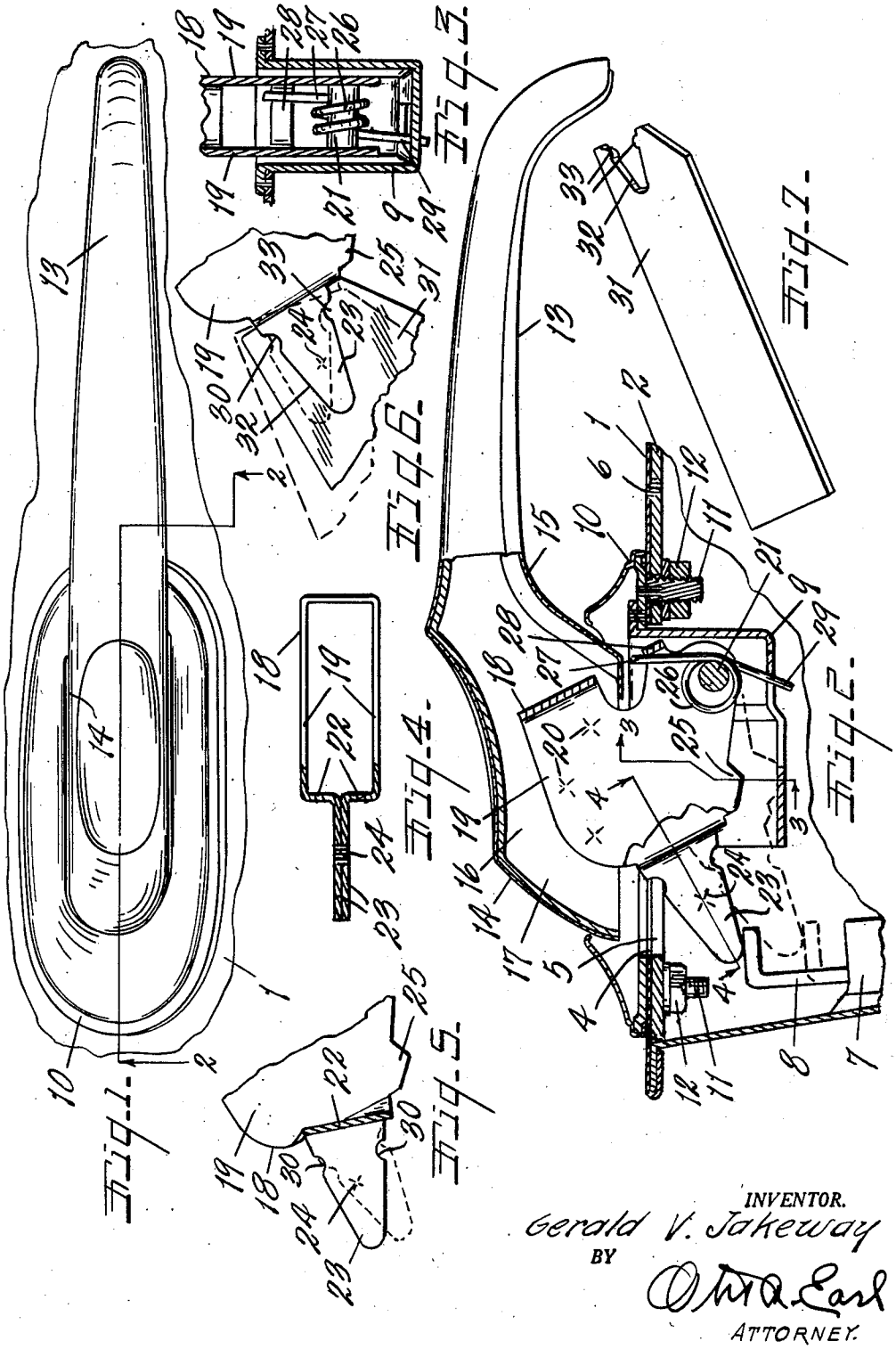
April 2, 1957 G. V. JAKEWAY 2,787,489

LATCH ACTUATING DOOR HANDLE ASSEMBLY

Filed Aug. 29, 1955



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United States Patent Office

2,787,489

Patented Apr. 2, 1957

2,787,489

LATCH ACTUATING DOOR HANDLE ASSEMBLY

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Application August 29, 1955, Serial No. 531,053

8 Claims. (Cl. 292—336.3)

This invention relates to latch actuating door handle assemblies well adapted for use on motor vehicle doors, refrigerator doors and the like.

The main objects of this invention are:

First, to provide a latch actuating door handle assembly which may be mounted on a door as an assembled unit and adjusted to compensate for variations in door thickness, latch mounting and the like.

Second, to provide a latch actuating door handle assembly having these advantages in which the adjustment may be easily made after the assembly has been installed on a door.

Third, to provide a latch actuating door handle assembly having the above stated advantages which is relatively simple and economical in structure and in which the adjustments may be effected without likelihood of breaking any of the parts of the handle.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a front elevational view of a handle embodying my invention installed upon a door, a fragment of which is conventionally illustrated.

Fig. 2 is a view partially in side elevation and partially in longitudinal section on a line corresponding to line 2—2 of Fig. 1. This figure also illustrates by dotted lines one manner of adjusting the latch actuating nosepiece.

Fig. 3 is a fragmentary view in section on a line corresponding to line 3—3 of Fig. 2.

Fig. 4 is a top view of the combined pivot and latch engaging member partially in section on a line corresponding to line 4—4 of Fig. 3.

Fig. 5 is a fragmentary view illustrating structural details of the combined pivot and latch engaging member and the adjustment of the latch engaging nosepiece thereof which is shown in dotted lines in its original position and in full lines in its adjusted position.

Fig. 6 is a fragmentary side elevational view illustrating the adjustment of the latch engaging nosepiece and a tool for effecting such adjustment.

Fig. 7 is a perspective view of one form of adjusting tool suitable for the purpose.

In the accompanying drawing **1** represents the outer wall of a door, on the inner side of which a reinforcing plate **2** is secured. The outer wall and reinforcing plate have registering openings **4** and **5** therein adapted to receive portions of the handle assembly. The reinforcing plate **2** is fixedly secured to the wall of the door as by means of spot welds indicated at **6**. The numeral **7** represents a latch lock assembly having a latch actuating member **8**.

The stirrup-like supporting bracket **9** in the embodiment illustrated has an escutcheon **10** assembled therewith as a unit and is provided with threaded mounting

studs **11** disposed through holes provided therefor in the wall **1** and the reinforcing plate **2** to receive the nuts **12**.

The handle designated generally by the numeral **13** is in the embodiment illustrated formed as a sheet metal stamping and is provided with a cover **14**, the grip portion of the handle being provided with an inner wall **15**. The handle has an inwardly facing chamber **16** partially defined by the substantially parallel side walls **17**.

The combined handle pivot and latch engaging member designated generally by the numeral **18** is formed integrally of bendable sheet metal and comprises side pieces **19** which are disposed on the inner sides of the side walls of the handle chamber and fixedly secured thereto as by the spot welds indicated at **20**. This member **18** projects into the bracket which is generally of stirrup shape and is provided with a pivot **21** for the member **18**. The side pieces **19** of the member **18** have inturned flanges **22** at their forward edges, and the flanges have tongue-like extensions **23** disposed in side by side relation and fixedly secured together as by the welds **24** to constitute a latch engaging nosepiece coacting with the actuating element **8** of the latch. The member **18** is provided with a stop **25** which engages the bottom of the bracket to limit the opening movement of the handle.

The coil spring **26** is arranged about the pivot **21** and has an arm **27** at one end thereof engaging the portion **28** of the member **18**, the arm **29** at the other end of the spring engaging the bracket as is shown in Fig. 2 and the spring acting to return the handle to normal position.

The flanges **22** are bendable so that the nosepiece can be adjusted to compensate for manufacturing variations quite commonly incident to manufacture, sometimes in the thickness of the door and other times due to the variations in the latch mounting. The nosepiece, through the bendable connecting flanges to the member **18**, may be adjusted to compensate for these varying door thicknesses and provide proper stroke so that the latch will be effectively operated. To facilitate such adjustment in the embodiment illustrated, the nosepiece is provided with oppositely facing tool receiving notches **30** adjacent its juncture with the adjustable flanges. The tool **31** is recessed at **32** to receive the nosepiece and has lugs **33** engageable with the notches as is illustrated in Fig. 6.

After the handle has been installed the installer may test the operation of the handle in association with the latch and adjust the nosepiece as may be required. Where the manufacturer has found that there is a run of doors of substantially the same thickness but varying from what might be called standard the nosepiece can be adjusted for such doors before the latch is installed. Another method of adjusting the nosepiece, after the latch is installed, is for the operator with the latch in unlocked position to subject the handle to extra force or more force than would ordinarily be used to operate the lock and thereby adjust or bend the nosepiece as far as it will go or until the stop **25** engages the bracket.

The member **18** is formed of bendable sheet metal which will take a set, that is, which does not spring back when the nosepiece is adjusted to proper position on the member **18**.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate other adaptations or embodiments as it is believed this disclosure will enable those skilled in the art to embody or adapt my invention as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A latch actuating door handle assembly comprising a supporting bracket adapted to be mounted on a door, a handle having an inwardly opening chamber at its inner end defined in part by spaced side walls, and a combined

pivot and latch engaging member formed integrally of bendable sheet stock and comprising side pieces disposed within the said side walls of the handle chamber and fixedly secured thereto to project inwardly therefrom, said member being pivotally mounted on said bracket, said side pieces of said member having inwardly projecting bendable flanges on their front edges, said flanges having tongue-like projections extending from their inner edges disposed and fixedly connected in side by side relation and constituting a latch engaging nosepiece, said nosepiece having notches adjacent the juncture thereof with said flanges with which a tool may be engaged for bending said flanges and thereby positioning the nosepiece relative to the handle.

2. A latch actuating door handle assembly comprising a supporting bracket adapted to be mounted on a door, a handle having an inwardly opening chamber at its inner end defined in part by spaced side walls, and a combined pivot and latch engaging member formed integrally of bendable sheet stock and comprising side pieces disposed within the said side walls of the handle chamber and fixedly secured thereto to project inwardly therefrom, said member being pivotally mounted on said bracket, said side pieces of said member having inwardly projecting bendable flanges on their front edges, said flanges having tongue-like projections extending from their inner edges disposed and fixedly connected in side by side relation and constituting a latch engaging nosepiece.

3. A latch actuating door handle assembly comprising a supporting bracket adapted to be mounted on a door, a handle having an inwardly opening chamber at its inner end defined in part by spaced side walls, a combined pivot and latch engaging member formed integrally of bendable sheet stock and comprising side pieces disposed within the said side walls of the handle chamber and fixedly secured thereto to project inwardly therefrom, said member being pivotally mounted on said bracket, said side pieces of said member having inwardly projecting bendable flanges on their front edges, said flanges having tongue-like projections extending from their inner edges disposed and fixedly connected in side by side relation and constituting a latch engaging nosepiece, said member and bracket having coacting stops limiting the latch actuating stroke of the handle, and a return spring for said handle.

4. A latch actuating door handle assembly comprising a supporting bracket adapted to be mounted on a door, and a handle pivotally mounted on said bracket and provided with a latch engaging member fixedly mounted on the handle and comprising side pieces, said side pieces having inwardly projecting bendable flanges, said flanges having tongue-like projections extending from their inner edges disposed and fixedly connected in side by side relation and constituting a latch engaging nosepiece.

5. A latch actuating door handle assembly comprising a supporting bracket adapted to be mounted on a door, a handle pivotally mounted on said bracket and provided with a latch engaging member fixedly mounted on the handle and comprising side pieces, said side pieces having inwardly projecting bendable flanges, said flanges having tongue-like projections extending from their inner edges disposed and fixedly connected in side by side relation and constituting a latch engaging nosepiece, and coacting stops on said bracket and handle limiting the latch actuating stroke of the handle.

6. A latch actuating door handle assembly comprising a supporting bracket adapted to be mounted on a door, and a handle pivotally mounted on said bracket and provided with a latch engaging member fixedly mounted on the handle and comprising side pieces, said side pieces having inwardly projecting bendable flanges, said flanges having tongue-like projections extending from their inner edges disposed and fixedly connected in side by side relation and constituting a latch engaging nosepiece.

7. A latch actuating door handle assembly comprising a supporting bracket adapted to be mounted on a door, a handle, and a combined pivot and latch engaging member formed integrally of bendable sheet stock and fixedly secured to said handle to project inwardly therefrom, said member being pivotally mounted on said bracket, said member having a transversely disposed bendable flange, said flange having a tongue-like projection extending from its inner edge constituting a latch engaging nosepiece, said nosepiece supporting flange being bendable for positioning the nosepiece relative to the latch to be engaged thereby, said member and bracket having coacting stops limiting the latch actuating stroke of the handle.

8. A latch actuating door handle assembly comprising a supporting bracket adapted to be mounted on a door, a handle, and a combined pivot and latch engaging member formed integrally of bendable sheet stock and fixedly secured to said handle to project inwardly therefrom, said member being pivotally mounted on said bracket, said member having a transversely disposed bendable flange, said flange having a tongue-like projection extending from its inner edge constituting a latch engaging nosepiece, said nosepiece supporting flange being bendable for positioning the nosepiece relative to the latch to be engaged thereby.

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