Aug. 11, 1964 R. W. ROWE 3,144,268

PIVOTALLY MOUNTED AUXILIARY DOOR OPENING DEVICE

Filed April 24, 1961

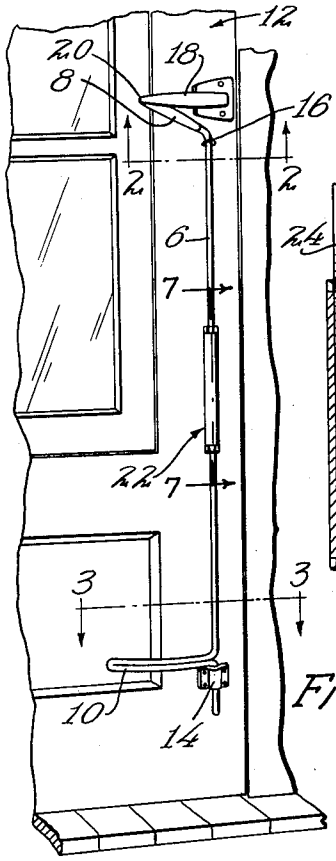


FIG. 1

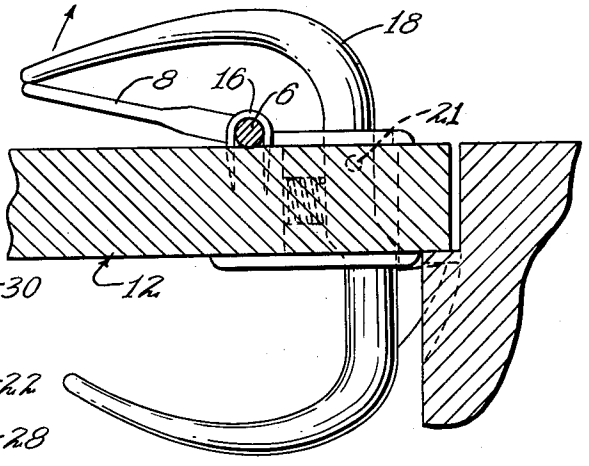


FIG. 2

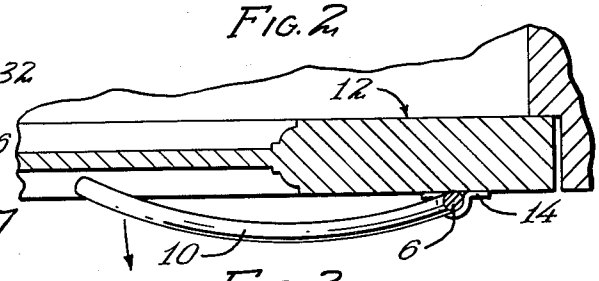


FIG. 3

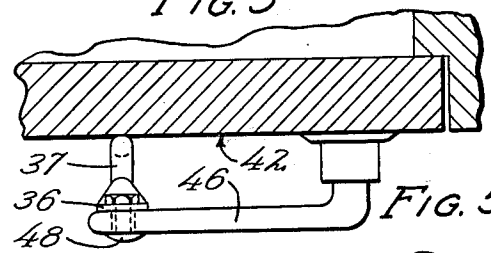


FIG. 5

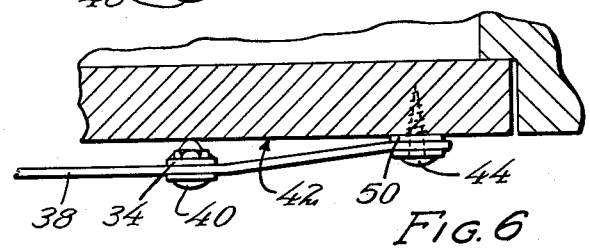


FIG. 6

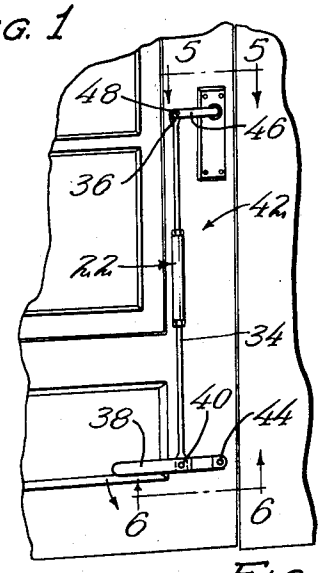


FIG. 4

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PIVOTALLY MOUNTED AUXILIARY DOOR OPENING DEVICE

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This invention relates to an improvement in pivotally mounted auxiliary door opening devices and is concerned primarily with a device for use by small children, crippled persons, and/or various animals.

The principal object is to provide an auxiliary device to open doors with a handle positioned low enough on a door as to be readily accessible and operable by small children, crippled persons, and various domestic animals which when operated causes other parts of the device to suitably engage and operate conventional door handles or latches enabling the door to be opened.

Most conventional door knobs or latches are difficult to operate for small children, and may be impossible to operate for some crippled persons, or animals primarily because of the height of the door handle from the floor. My invention provides a means to make conventional door latches operable for those classes of users enumerated above.

My invention makes possible the operation of the conventional door knob or latch by the classes of users enumerated above and does not interfere with the normal operation or use of the door knob or latch, and in addition, my invention can be easily removed from the door when not required, can be reinstalled if removed, requires little attention or maintenance, and is simple and inexpensive to manufacture.

One feature of the preferred form of the present invention lies in the provision of an elongated rod pivotally fastened to a door having at one end of said rod a door handle operating means for engaging and operating conventional door handles, and at the other end of said rod, a rod handle. When the rod handle is pulled rotatably outwardly from the door, the rod is similarly rotated causing the door handle operating means to rotate and engage the door handle. Further rotation of the rod handle causes the door handle operating means to operate the door handle releasing the door catch or bolt so that the door may be pulled or pushed open.

A further feature of a modified form of the present invention lies in the provision of an elongated rod pivotally fastened to a door, said rod being modifiably adjustable in length and having a door handle operating means for engaging and operating conventional door handles and a rod handle to rotate the rod. The modifiably adjustable rod is preferably comprised of two segments having threaded adjacent ends screwed into an internally threaded sleeve. The rod segments are prevented from turning in the sleeve by compression nuts at each end of the sleeve. The compression nuts may be loosened (backed off) from the sleeve enabling the rod segments to be tightened or loosened within the sleeve, and when the rod segments are properly adjusted, the compression nuts are retightened against the ends of the sleeve enabling the entire rod to be rotated as though it were composed of one piece. This segmental construction also has the advantage of making it possible to package and store the device in a smaller container.

A further feature of the present invention lies in the provision of a rod handle atached to a vertical elongated rod pivotally fastened on a door. It is the purpose of this feature to provide a handle of suitable length so as to be readily grasped, said handle being fastened to the said rod by fastening means enabling the handle to turn the rod when the handle is rotated outwardly from the door.

Still another feature of a modified form of the present invention lies in the provision of a door opening means on an elongated rod having a rod handle in the form of a lever pivotally connected to the door and pivotally connected to the rod. By this construction and assemblage, the handle can induce a vertical motion of the elongated rod. The handle is offset outwardly from the door enabling the handle to be grasped easily for operation of the door opening device.

A further feature of the present invention lies in the provision of a door handle operating means as a lever angularly extending from the elongated rod and pivotally supported at the point where the door handle operating means joins the rod. The handle of the door is engaged and operated by the door handle operating means as the rod is turned by the rod handle. Many doors utilize a U-shaped door handle pivotally supported at its center on a vertical pivot, with one arm of the handle being on each side of the door. The U-shaped door handle as usually installed engages a door bolt or catch at the pivotal supporting point and pushing or pulling the U-shaped handle causes the device to operate withdrawing the bolt or catch from the keeper. Because the auxiliary door handle operating means engages the U-shaped or pivotal door handle, rotation of the entire auxiliary door opening device which occurs when the rod handle and rod are rotated causes the door handle operating means to engage the handle of the door thereby producing a push-pull effect which unlocks the door catch from its keeper enabling the door to be pulled or pushed open.

A further feature of a modified form of the present invention lies in the provision of a door handle operating means, at the end of an elongated rod fastened to a door, consisting of a bearing surface and pivotal fastening means to pivotally connect the door operating means to the door handle at a point spaced from the axis thereof. By movement of the rod handle pivotally connected to the door and to the rod, a vertical movement of the rod and door handle operating means is produced resulting in a rotary movement of the door handle, unlatching the door bolt, and enabling the door to be pulled or pushed open.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specifications and claims.

In the drawings forming a part of the specification:

FIGURE 1 is an elevational view showing the device assembled on the door.

FIGURE 2 is a horizontal sectional view through a portion of a door showing the latch operating device attached thereto, the position of the section being indicated by the line 2—2 of FIGURE 1.

FIGURE 3 is a horizontal sectional view on the line 3—3 of FIGURE 1.

FIGURE 4 is an elevational view showing a modified form of construction.

FIGURE 5 is a horizontal sectional view of the modified form of construction, the position of the section being taken on the line 5—5 of FIGURE 4.

FIGURE 6 is a horizontal sectional view through the device of FIGURE 4, the position of the section being indicated by the line 6—6 of FIGURE 4.

FIGURE 7 is a longitudinal sectional view of the adjustable rod segments and sleeve, the position of the section being taken on the line 7—7 of FIGURE 1.

With reference first to the structures shown in FIGURES 1, 2 and 3, these figures illustrate an auxiliary door opener assembly including an elongated rod 6 having at one end of the said rod 6 a door handle operating means indicated in general by the number 8 and at the other end of said rod 6, a rod handle 10, pivotally supported on a door generally indicated by the number 12 by a pivotal supporting means 14 and 16. As will be noted from FIGURE 1, the rod 6 positions the door handle operating

means 8 in such manner as to contact the door handle 18 with the bearing end 20 of the door handle operating means upon being rotated outwardly from the door 12 by a rotation outwardly of the rod handle 10. As can be seen from FIGURE 2, the outward rotation of the door handle operating means 8 results in the end of the door handle operating means 20 contacting the door handle 18 and rotating the door handle 18 outwardly from the door 12 which in turn pivots the door handle at the pivotal point 21 of its mounting in the door withdrawing the door catch or bolt from its keeper. As can be seen in FIGURE 3, the pivotal fastening means 14 fastens the rod 6 to the door 12 and serves as a pivot for the handle 10.

An adjustable modification of the elongated rod 6, generally indicated by the number 22 as illustrated in FIGURES 1 and 4 is shown in a sectional view in FIGURE 7. The adjacent threaded rod segments 24 and 26 of the rod 6 are screwed into an internally threaded sleeve 28 and prevented from turning freely within the sleeve by compression nuts 30 and 32 at each end of the sleeve 28.

A modified form of the auxiliary door opener assembly is illustrated in FIGURES 4, 5 and 6 in which particular features of the assembly when used with a door handle connected to a spindle passing through the door lock mechanism which rotatably withdraws the door latch or bolt from the keeper may be most clearly seen. As is most clearly indicated in FIGURE 4, the auxiliary door opener assembly consists of an elongated rod 34 having a bearing end 36 and a rod handle 38 pivotally fastened to the end of the rod 34 by a pivotal fastening means 40 and pivotally fastened to the door 42 by a pivotal fastening means 44.

Referring now to FIGURE 5 of the drawings, the contact bearing end 36 of the door handle operating means 37, is pivotally connected to the door handle 46 by pivotal fastening means 48.

As illustrated in FIGURE 6 of the drawings, the rod handle 38 is pivotally fastened to the elongated rod 34 by pivotal fastening means 40. The rod handle 38 is offset outwardly toward the door 42 from its pivotal fastening point 40 with the rod and is pivotally fastened to the door 42 by pivotal fastening means 44. As is indicated in FIGURE 6 a bearing means 50 is inserted on the pivotal fastening means 44 between the door 42 and the rod handle 38. The purpose of the offsetting of the rod handle 38 from the door 42 is to provide clearance between the portion of the handle to be grasped and the door. The pivotal fastening means 40 and 44 enable the rod handle 38 to be raised or lowered about the axis of the fixed pivot 44 causing the rod 34 to be raised and lowered and thereby operating the door handle 46 from a point remote from the door latch.

From the foregoing description of the assembly it will be apparent that lifting or depressing the rod handle will cause the rod to lift or depress the door handle operating means thereby operating the door handle 46 enabling the door to be pulled or pushed open. The handle 46 is normally held in position to have the latch engaged by the springs incorporated in the latch.

In accordance with the patent statutes, I have described

the principles of construction and operation of my improvement in pivotally mounted auxiliary door opening devices, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. An auxiliary door latch operating mechanism for use in conjunction with a door latch pivotally connected to a door for rotative movement about a vertical axis, the door latch having a handle extending laterally from its axis of rotation, the mechanism including an elongated rod, means mounting said rod to said door for rotation about a second vertical axis parallel to said first axis, a handle integral with said rod and extending laterally from the lower end of the said rod, and door handle operating means on the other end of the said rod extending angularly from the said elongated rod abuttingly engageable and operable with said door latch handle.

2. An auxiliary door latch operating mechanism for use in conjunction with a door latch pivotally connected to a door on a substantially vertical axis, the door latch having a handle extending laterally from its axis of rotation and terminating in a handle and in spaced relation to a surface of the door, whereby movement of said handle end away from said door surface disengages the latch, the mechanism including an elongated rod, means pivotally supporting said rod to said door on a generally vertical axis laterally spaced from said handle end, a handle on one end of said rod, and a handle engaging means on the other end thereof extending angularly from said rod and terminating between said door latch handle, adjacent said handle end, and said door surface, and operable upon pivotal movement of said rod in one direction to swing said door handle end away from said door surface.

3. An auxiliary door latch operating mechanism for use in conjunction with a door latch pivotally connected to said door for pivotal movement about a generally vertical axis, the door latch having a handle extending laterally from its axis of rotation, the mechanism including an elongated rod, a door handle operating means on one end of said rod extending angularly from said rod and engageable with said door handle to pivot the same, a handle on said rod adjacent to the other end of said rod, and means pivotally connecting said rod to said door for pivotal movement about a generally vertical axis and serving as a support therefor.

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