Dec. 31, 1935. H. L. BLOOD 2,026,016

COMBINED ARMREST, INSIDE DOOR HANDLE, AND PULL-TO

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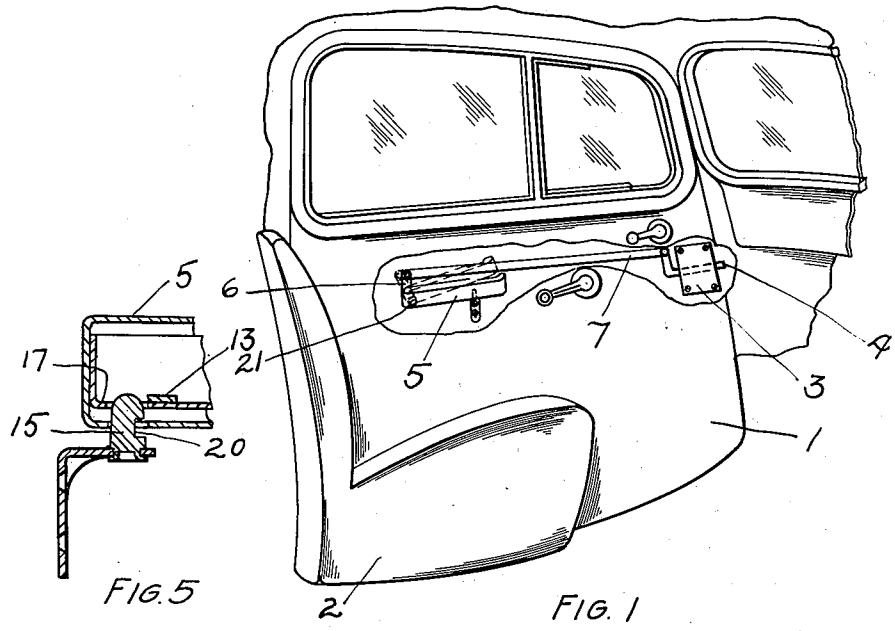


FIG. 5

FIG. 1

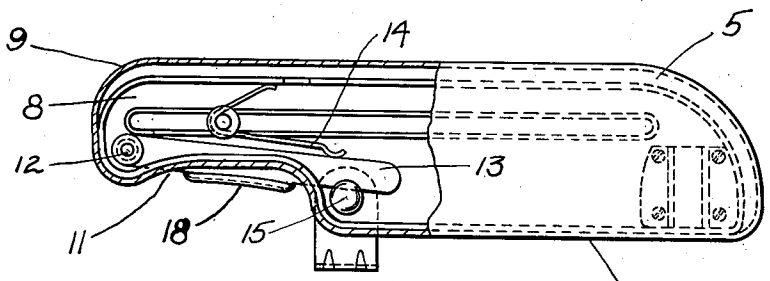


FIG. 2

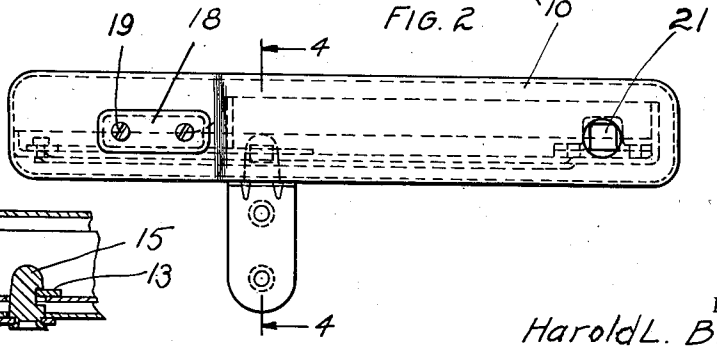


FIG. 3

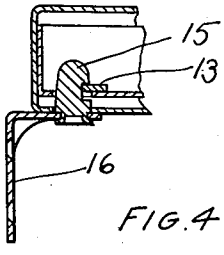


FIG. 4

INVENTOR.
Harold L. Blood

BY
Barnes, Kisselle, Laughlin & Raisch
ATTORNEYS

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COMBINED ARMREST, INSIDE DOOR HANDLE, AND PULL-TO

Harold L. Blood, Birmingham, Mich., assignor to Ternstedt Manufacturing Company, Detroit, Mich., a corporation of Michigan

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13 Claims. (Cl. 296—44)

This invention relates to a combined arm rest, inside door handle and pull-to. More particularly this invention contemplates an improvement upon the combined arm rest, inside door handle and pull-to described and claimed in the copending application of John B. Flynn, Serial No. 732,880.

It is an object of this invention to mount this combined arm rest, pull-to and inside door handle on the inner face of the door so that it may be conveniently and easily operated. This object is accomplished by pivoting the arm rest member at its rear end.

The presently used inside remote door latch handle not only attracts children but may be actuated by children. Children have fallen out of moving vehicles upon operating the inside door handle which retracted the latch bolt and permitted the door to swing open. In some vehicles the inside door handles have been arranged and positioned so that upon being struck by the knee or other part of the passenger's body the latch bolt would be retracted and the door swung open. It is an object of this invention to prevent to a large extent the first type of accident and to eliminate entirely the second mentioned type of accident. This has been achieved by providing the inside door-latch handle with a latch which must be first retracted before the handle can be operated.

In the drawing:

Fig. 1 is a fragmentary inside perspective view showing the combined arm rest, pull-to and inside remote latch handle pivoted at its rear end.

Fig. 2 is a plan view, partly broken away, of the combination member showing the latch with its member in latching engagement with the keeper.

Fig. 3 is a side elevation of the combination member showing the inside face of the member which is positioned adjacent the inner face of the door.

Fig. 4 is a section along the line 4—4 of Fig. 3.

Fig. 5 is a section similar to Fig. 4 but showing the combined arm rest, pull-to and inside latch handle member with its latch released and the member raised slightly.

Referring more particularly to the drawing there is shown a front door 1 of a vehicle body having a front seat 2. The door is hinged along its rear vertical edge and therefore is provided along its forward edge with a door latch 3 having a retractable spring-projected latch bolt 4. A combined arm rest, pull-to and inside latch handle 5 is pivotally mounted at its rear end on the inner face of the door 1. The pivotal mounting for the member 5 is the same as that shown and described in the above-mentioned copending application.

The member 5 is connected to the latch bolt 4 by means of the lever 6 and the link 7 which also are described in the said copending application. The arm rest 5 may be made from any suitable material and for descriptive purposes is shown comprising an inner metal frame member 8 which may be molded or otherwise secured in a sponge rubber pad suitably covered by trim material 9.

The inside face 10 of the member 5, which is positioned next to the inside face of the door 1, is provided preferably at its rear end with a recessed portion 11 which serves as a hand grip when the member 5 is used as a pull-to for closing the door.

Inasmuch as the combination arm rest member 5 is pivoted at its rear end as at 21 and may be gripped by a passenger at its front end to brace the passenger during a sudden acceleration of the vehicle, there is a possibility that, unless prevented, the member 5 under such conditions would swing upwardly, retract the latch bolt 4 and permit the door 1 to swing open. To prevent such contingency, as well as for reasons above pointed out, the combination arm rest member 5 is provided with a suitable latching mechanism. To this end the frame member 8 has pivotally mounted thereon, as at 12, a latch 13. The frame 8 also carries the latch spring 14 which yieldably holds the latch 13 in interengagement with a keeper 15 riveted to, and supported by, the bracket 16 which is secured by screws to the inner face of the door 1. The keeper 15 is in the form of a dowel and serves as a locator for the member 5.

It is desirable to prevent torsional strain on pivot 21 when member 5 is used as a pull-to to close the door to prevent twisting off of the member 5 at its pivot. To this end an opening 17 is provided in the upholstery and frame member 8 of the arm rest and serves as a keeper for reception of the locating dowel 15. The locating dowel 15 bears the thrust when the member 5 is used as a pull-to handle and thus prevents torsional strain upon the pivot for the member 5.

The member 5 is provided with a suitable opening in the face of the hand grip portion 11 through which the latch 13 projects. The latch 13 is provided with an upstanding flange to which is secured a finger piece 18 by the screws 19. The dowel 15 is provided with a notch 20 in which the latch 13 interengages the keeper 15.

The finger piece 18, by means of which the latch

13 is operated, is concealed and shielded by the combination arm rest member 5 and is so positioned in the recessed portion 11 of the arm rest that it is virtually impossible for a passenger to accidentally strike the finger piece 18 with his knee or any other portion of the body to retract the latch 13 which necessarily must be retracted before the member 5 can be actuated to retract the latch bolt 4. Consequently, the accidental opening of the door due to retraction of the latch bolt 4 when the inside remote latch handle is struck by the knee or other portion of the passenger's body, is practically obviated. The latch member 13 controls the retraction of the latch bolt 4 and the arm rest member 5 in turn serves as a shield to prevent accidental disengagement of the latch 13 with its keeper 15.

To retract the latch bolt 4 it is essential that the operator grasp the member 5 at its unpivoted end with his fingers gripping the member 5 in the hand-grip portion 11. Upon gripping the member 5 in the hand-grip portion 11, the fingers of the operator engage the finger piece 18 of the latch 13 and retract the same against the pressure of the spring 14 from engagement with the keeper 15. This now permits the member 15 to be swung upwardly about its rear end, as shown in the dotted lines of Fig. 1, which through the lever 6 and link 7 retracts the bolt 4. It will be noted that the finger piece 18, which in conjunction with the latch 13 controls the operation of the member 5 and therefore the retraction of the latch bolt 4, is hidden from view and that the retraction of the latch bolt 4 requires the hand of the operator to be passed about the unpivoted end of the member 5. Since in actual practice the top face of the member 5 at the hand-grip portion is about an inch and three-quarters wide and the height of the inner face 10 of the member 5 is about an inch and a half, these dimensions make it rather difficult for the average small child, owing to the small size of his hand, to both retract the latch 13 and swing the member 5 upwardly to retract the latch bolt 4. The older child with the larger size hand presumably possesses sufficient discretion so as to know better than to operate the inside door latch handle while the car is in motion. It is believed that this feature of the invention will eliminate to a large extent this type of accident happening to small children.

I claim:

1. In an automobile body having a hinged door, a door latch having a retractable bolt, an arm rest on the door, means including a lever and a draft link connected to the bolt operatable from the inner face of the door for retracting the latch bolt, and means concealed by said arm rest actuatable to control the retraction of the draft link and latch bolt from the inner face of the door.

2. In an automobile having a hinged door, a door latch having a retractable bolt positioned along the free edge of the door, an arm rest on the inner face of the door between the hinged edge and free edge of the door, means including a lever and draft link for retracting the latch bolt, the said link being connected to said bolt and extending along the door inwardly from the latch bolt to a point adjacent the arm rest and operatable by the lever from the inner face of the door, and a second means concealed by the arm rest and manually actuatable to control the retraction of the bolt by the first mentioned means.

3. In an automobile body having a hinged door, a door latch having a retractable spring projected bolt, a combined arm rest and latch handle member swingably mounted adjacent one end on the inside face of the door for retracting said bolt, latching means spaced from the said end for latching the said member against swinging, and operative connections between the said member and the latch bolt for retracting the bolt.

4. In an automotive vehicle body, mechanism operable from the inside of the body, and a combined handle and arm rest member movably mounted on the inside of the body and operatively connected with said mechanism for operating the same, the upper face of the said handle and arm rest member being positioned approximately horizontal when the said member is latched, and latching means for latching said movable member against movement.

5. In an automobile body having a hinged door, a door latch having a retractable spring projected bolt, a combined arm rest and inside latch handle member pivotally mounted on a horizontal axis at its rear end on the inner face of the door, a latch and keeper therefor one of which is mounted upon the door and the other of which is mounted upon the said member adjacent the non-pivoted end of the member for holding the member against pivotal movement about its rear end, and operative connections between the said member and the latch bolt to permit the latch bolt to be retracted by the swinging of the said member when the latch is disengaged.

6. In an automobile body having a hinged door, a door latch having a retractable spring projected bolt, a combined arm rest and inside latch handle pivotally mounted about a horizontal axis at one end upon the inner face of the door, the other end of the said member being recessed to provide a hand grip when the said member is used as a pull-to, operative connections between the said member and the latch bolt whereby pivoting of the said member retracts the latch bolt, and latching means controllable from the hand grip recess of the said member for latching the said member against pivoting.

7. In an automobile body having a hinged door, a door latch having a retractable bolt, a combined arm rest and latch handle member pivotally mounted at its rear end on the inner face of the said door, operative connections between the said member and the latch bolt whereby the upward swinging of the forward end of the said member retracts the latch bolt, a latch and keeper therefor one of which is mounted at the forward end of the said member and the other of which is mounted on the inner face of the door, the said combination arm rest and latch handle member having a recessed grip portion adjacent its forward end, and a finger piece in the said recess operatively connected with the latch member for controlling the latch member to permit operation of the arm rest and handle member to retract the latch bolt.

8. In an automobile body having a hinged door, a door latch having a retractable spring projected bolt, a combined latch handle and pull-to member swingably mounted at one end upon the inner face of the door, operative connections between the said member and the latch bolt to permit retraction of the latch bolt by swinging of the said member, and a combined stop and locating member arranged to interengage with the said pull-to and latch handle member to take up torsional strain when the combined latch handle and pull-to member is used to close the door.

9. In an automobile body having a hinged door, a door latch having a retractable spring projected bolt, a combined pull-to and latch handle member pivotally mounted to swing on a horizontal axis at one end upon the inner face of the door, operative connections between the said member and the latch bolt, a locating dowel and a keeper therefor one of which is on the door and the other of which is on the said member spaced from the pivoted end of the said member whereby when the said member is used as a pull-to for closing the door the locating dowel relieves the pivot for the said member from torsional strain.

10. In an automobile body having a hinged door, a door latch having a retractable spring projected bolt, a combined arm rest and latch handle member pivotally mounted to swing about a horizontal axis at its rear end on the inner face of the said door, operative connections between the said member and the latch bolt whereby the upward swinging of the forward end of the said member retracts the latch bolt, a latch and keeper for the member one of which is mounted at the forward end of the member and the other of which is mounted on the inner face of the door for latching the said member against swinging movement, the upper face of the said member when in latched position extending lengthwise of the body and positioned approximately horizontally to serve as an arm rest.

11. In an automobile body having a hinged door, a door latch having a retractable spring projected bolt, a combined arm rest and latch handle member pivotally mounted to swing about a horizontal axis at its rear end on the inner face of the said door, operative connections between the said member and the latch bolt whereby the upward swinging of the forward end of the said member retracts the latch bolt, a latch and keeper for the member one of which is mounted at the forward end of the member and the other of which is mounted on the inner face of the door for latching the said member against swinging movement, the upper face of the said member when in latched position extending lengthwise of the body and positioned approximately horizontally to serve as an arm rest, the said combination arm rest and latch handle member having a recessed grip portion adjacent its forward end, and a finger piece in the said recess operatively connected with the latch member for controlling the latch member to permit operation of the arm rest and handle member to retract the latch bolt.

12. In an automotive vehicle body mechanism operatable from the inside of the body, and a combined handle and arm rest member swingably mounted on a horizontal axis on the inside of the body and operatively connected with the said mechanism for operating the same, and latching means for latching the said movable member against movement when positioned for use as an arm rest, the upper face of the said member when in latched position extending lengthwise of the body and positioned approximately horizontal whereby the said member swings from an approximately horizontal position towards a vertical position to operate the said mechanism.

13. In an automobile body having a hinged door, a door latch having a retractable spring projected bolt, a combined arm rest and inside door latch handle member pivotally mounted on a horizontal axis adjacent its rear end on the inner face of the door, operative connections between the said member and the latch bolt, a latch and keeper for the said member one of which is mounted upon the door and the other of which is mounted upon the said member adjacent the non-pivoted end of the member for holding the same against pivotal movement about its rear end, the upper face of the said handle and arm rest member extending lengthwise of the car and positioned approximately horizontal when the said member is latched whereby retraction of the door latch bolt is prevented until the latch for the combined door handle and arm rest is first released.

HAROLD L. BLOOD.