

May 11, 1954

J. R. BARRY

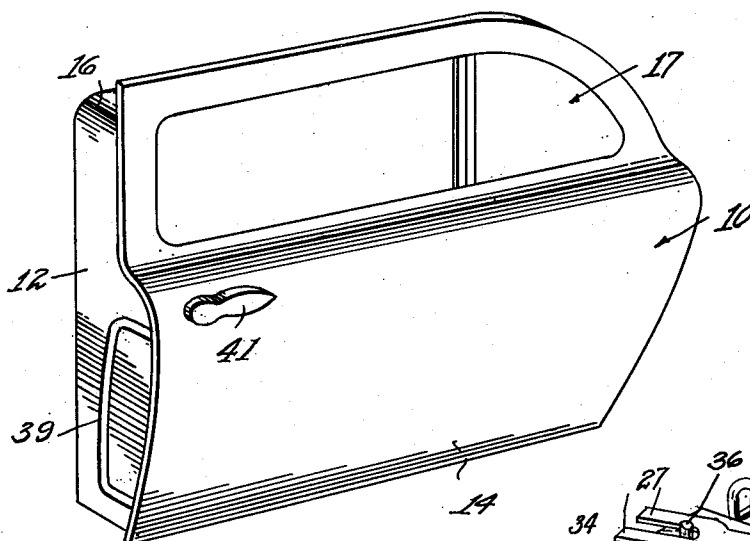
2,678,232

RETRACTABLE DOOR GUARD FOR AUTOMOBILES

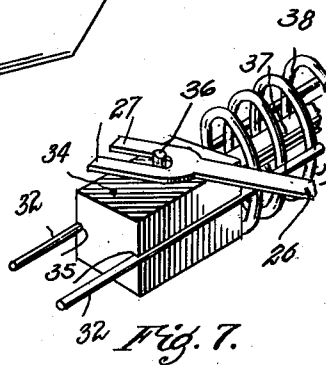
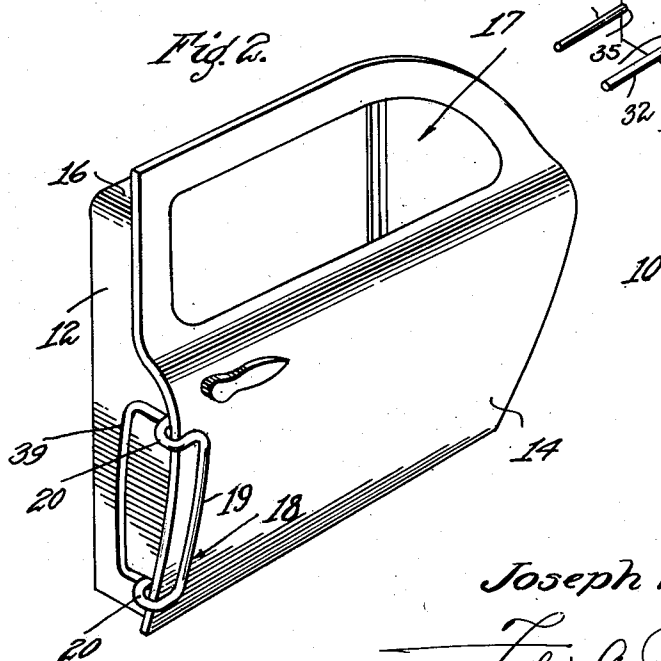
Filed Oct. 7, 1952

2 Sheets-Sheet 1

*Fig. 1.*



*Fig. 2.*



INVENTOR

*Joseph R. Barry.*

BY

*Felix A. Russell*

ATTORNEY

May 11, 1954

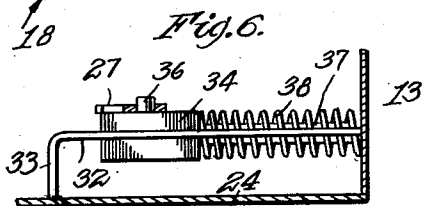
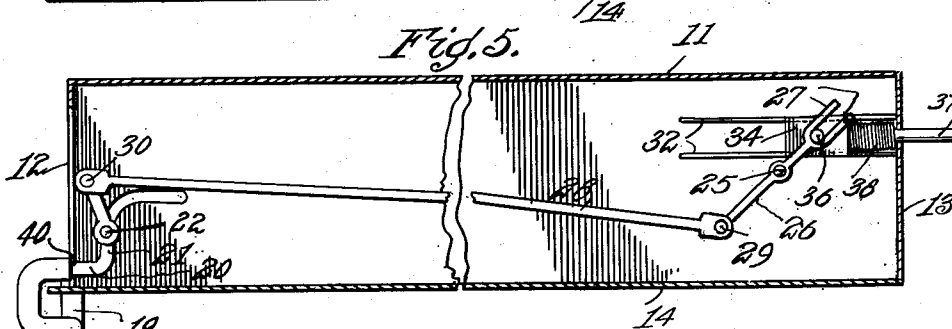
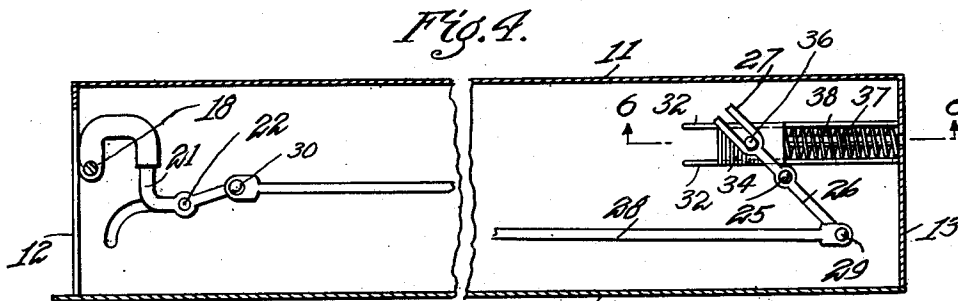
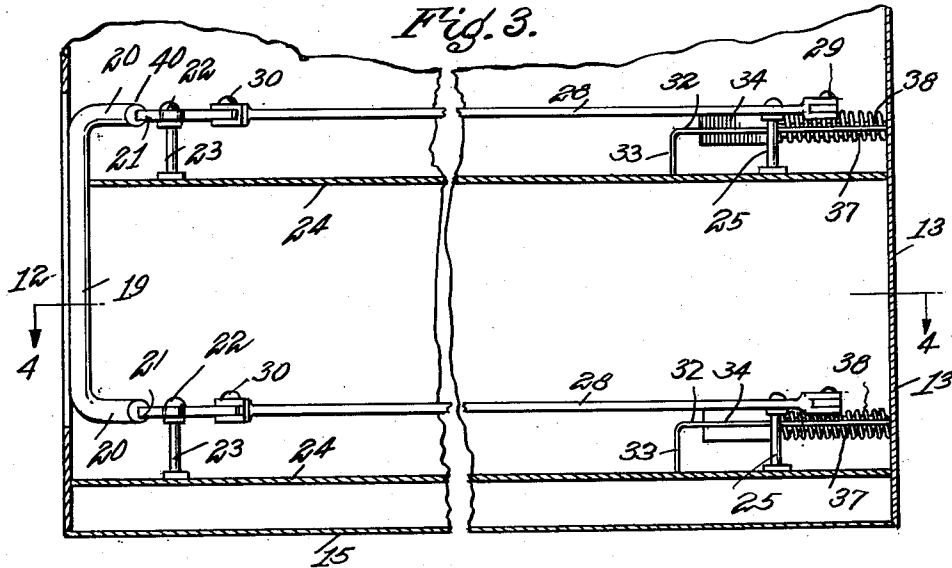
J. R. BARRY

2,678,232

RETRACTABLE DOOR GUARD FOR AUTOMOBILES

Filed Oct. 7, 1952

2 Sheets-Sheet 2



INVENTOR

Joseph R. Barry

BY Felix A. Russell

ATTORNEY

## UNITED STATES PATENT OFFICE

2,678,232

RETRACTABLE DOOR GUARD FOR  
AUTOMOBILES

Joseph R. Barry, Takoma Park, Md.

Application October 7, 1952, Serial No. 313,560

5 Claims. (Cl. 296—44)

1

The present invention relates to a door guard for automobiles and it consists in the combinations, constructions and arrangements of parts herein described and claimed.

Generally there is provided a door guard for automobiles which is normally held within the door structure but which, upon opening of the door immediately assumes a position upon the outer side of the door whereby to protect the finish of the door, the handles and other hardware which may be associated with the door and in general prevents the door from damage due to accidental collision with other objects. A novel feature of the invention is the provision of means whereby the guard immediately assumes its operative position upon the opening of the door for a short distance of its outward swing, the mechanism not being dependent upon the full outward swing of such door.

It is accordingly an object of the invention to provide a device of the character set forth which is simple in construction, inexpensive to manufacture and yet effective and efficient in use.

Another object of the invention is to provide, in a device of the character set forth, novel means for operating the same through the action of the door with which it is associated.

Another object of the invention is to provide a device of the character set forth which is wholly self-contained within the door of an automobile with which it is associated.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

Figure 1 is a perspective view of an embodiment of the invention shown in retracted position,

Figure 2 is a view similar to Figure 1 but showing the device in extended or operative position,

Figure 3 is a vertical sectional view, partly broken away, of a door having the present invention incorporated therein,

Figure 4 is a sectional view taken substantially along line 4—4 of Figure 3 and showing the device in retracted position,

Figure 5 is a view similar to Figure 4 but showing the device in extended or operative position,

Figure 6 is an enlarged fragmentary sectional view taken substantially along line 6—6 of Figure 4, and

Figure 7 is a fragmentary perspective view illustrating certain details of the operative mechanism of the invention.

Referring more particularly to the drawings,

2

there is shown therein an automobile door generally designated at 10 and having an inner wall 11, a free end wall 12, a hinged end wall 13 and an outwardly curved outer wall or panel 14. There is also provided a bottom wall 15 and a top wall 16 and a conventional window generally designated at 17.

A guide member is generally designated at 18 and consists of a generally vertically extending bar 19 which, in extended position as shown, for example, in Figures 2 and 5, extends in curvular spaced parallel relation to the curvature of the door 14 with which it is associated. U-shaped brackets 20 are integrally connected with the upper and lower ends of the bar 19 and each has one leg thereof integrally connected with a bell crank lever 21, such levers being pivoted, as indicated at 22, in each case to the upper end of pins 23 which pins are mounted upon and extend vertically from cross bars 24 which are suitably affixed within the door 10 and which extend longitudinally and horizontally therein.

Adjacent the wall 13 each of the bars 24 is provided with a vertically extending pin 25 atop which is pivotally mounted a bell crank lever 26 one of the arms of which is forked, as indicated at 27 and to the other end of which is pivotally connected one end of an elongated link 28, as indicated at 29. The other ends of the links 28 are pivotally connected, as indicated at 30 to the bell crank lever 21.

A pair of horizontally extending spaced parallel rails 32 extend inwardly of the door from the wall 13 and have integrally formed at their inner ends downwardly extending legs 33 which are anchored in each case in the members 24.

A pair of blocks 34 is provided and each has a centrally disposed longitudinally extending groove 35 formed in each side thereof for the slidable reception therein of the rails 32, the block 34 being mounted between a pair of rails 32 in each case. Extending centrally and upwardly from each of the blocks 34 is a pin 36 which is encompassed by an adjacent yoke 27. Affixed to the rearward side of each of the blocks 34 is an elongated horizontally extending pin 37 which extends through a suitable opening in the wall 13 of the door 10 and is adapted to bear against the door frame (not shown). A tension spring 38 surrounds the pin 37 and is attached at one end to the inner side of the wall 13 and at its other end to the block 34. The wall 12 is provided with an elongated slot 39 which is of suitable contour to receive therethrough the guard 18 when the same is moved from extended to retracted

positions or the reverse. The guard member may be covered by a suitable material such as a rubber tubing 40 as illustrated, for example, in Figures 3, 4 and 5.

In operation, it will be apparent that when the door 10 is in closed condition that the pins 37 will be forced inwardly against the action of the springs 38 thus forcing the blocks 34 likewise toward the wall 12 and thus moving the bell crank levers 26 in a counterclockwise direction as viewed in Figures 4 and 5. This action causes a movement to the right, likewise as viewed in Figures 4 and 5, of the links 28 thus causing a clockwise movement of the bell crank levers 21. This action will act to move the guard member in a clockwise direction, also as viewed in Figures 4 and 5, thus retracting the same through the slot 39 to the interior of the door as shown, for example, in Figure 4 of the drawings. When, however, the door 10 is opened for a short distance, that is to say a distance sufficient to free the pins 37 from contact with the door frame, the springs 38 will be free to move the blocks 34 toward the wall 13 thus causing a reversal of the action just described and causing a counterclockwise movement of the bell crank levers 21 thus forcing the guard member 18 to assume the position shown, for example, in Figures 2 and 5 of the drawings. When in this position the door may be further opened without changing the position of the guard member which will now act to protect the door against collision as well as saving the finish of the door and injury to the handle 41, the window 17 and other hardware which may be associated with such door. It will be apparent that, instead of the spring actuated device shown in the presently illustrated invention, that hydraulic means, pneumatic means, an electric motor or a solenoid-operated motor may also be utilized for effecting the movement of the guard 18 as above set forth.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claims.

What is claimed is:

1. The combination of a door guard with a vehicle door having hinged connection at one side thereof to a vehicle and comprising a guard member for the outer side of said door, said guard member being revolubly mounted in the free end portion of said door for oscillatory movement to and from a retracted position within said door to an operative position without said door in spaced relation to said free end portion, and means operable by the opening and closing movements of said door for moving said guard member to operative and retracted positions.

2. The combination of a door guard with a vehicle door having hinged connection at one side thereof with a vehicle and comprising a guard member for the outer side of said door, said guard member being revolubly mounted in the free end portion of said door for oscillatory movement to and from a retracted position within said door to an operative position without said

door in spaced relation to said free end portion, and means operable by the opening and closing movements of said door for moving said guard member to operative positions and retracted positions, said door having a free end wall provided with a slot for the passage therethrough of said guard member in its movements from one of its positions to the other of said positions.

3. The combination of a guard with a vehicle door having hinged connection at one side thereof with a vehicle and comprising a guard member for the outer side of said door, said guard member being revolubly mounted in the free end portion of said door for oscillatory movement to and from a retracted position within said door to an operative position without said door in spaced relation to said free end portion, and means operable by the opening and closing movements of said door for moving said guard member to operative and retracted positions said guard including a generally vertically extending bar adapted to conform in parallel spaced relation to the contour of the outer side of said door.

4. The combination of a guard with a vehicle door having hinged connection at one side thereof with a vehicle and comprising a guard member for the outer side of said door, said guard member being revolubly mounted in the free end portion of said door for oscillatory movement to and from a retracted position within said door to an operative position without said door in spaced relation to said free end portion, and means operable by the opening and closing movements of said door for moving said guard member to operative and retracted positions, said guard being formed of tubular material and having a covering of resilient material thereon.

5. The combination of a door guard with a vehicle door having hinged connection at one side thereof with a vehicle and comprising a guard member for the outer side of said door, said guard member being revolubly mounted in the free end portion of said door for oscillatory movement to and from a retracted position within said door to an operative position without said door in spaced relation to said free end portion, and means operable by the opening and closing movements of said door for moving said guard member to operative and retracted positions, said means for moving said guard member including brackets affixed to each end of said guard member, a pair of blocks horizontally slidably mounted in said door, a pin affixed to each of said blocks and extending slidably through the hinged end of said door and adapted to impinge against the adjacent frame of said door, a spring for urging each of said blocks inwardly, and linkage and levers interconnecting each of said brackets with one of said blocks.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

Number	Name	Date
2,146,090	O'Rourke	Feb. 7, 1939
2,226,615	Killen	Dec. 31, 1940
2,456,157	Tadd	Dec. 14, 1948