May 6, 1930. A. C. EARHART 1,757,075

DOOR CHECK OR STOP

Filed Aug. 6, 1929

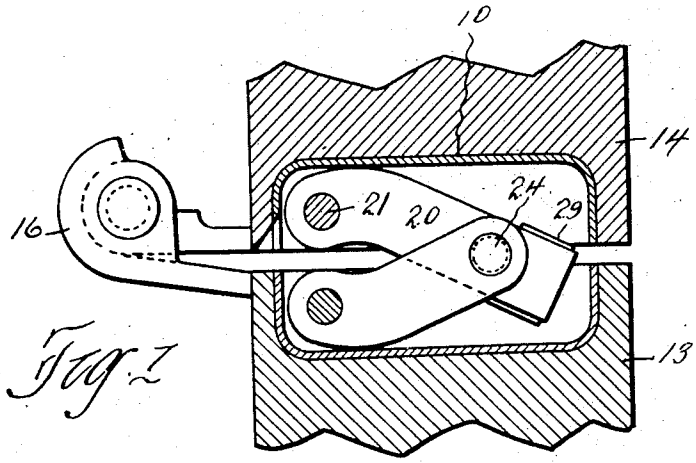


Fig. 1

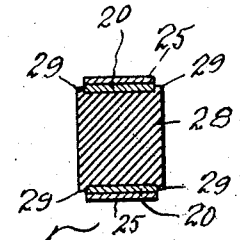


Fig. 5

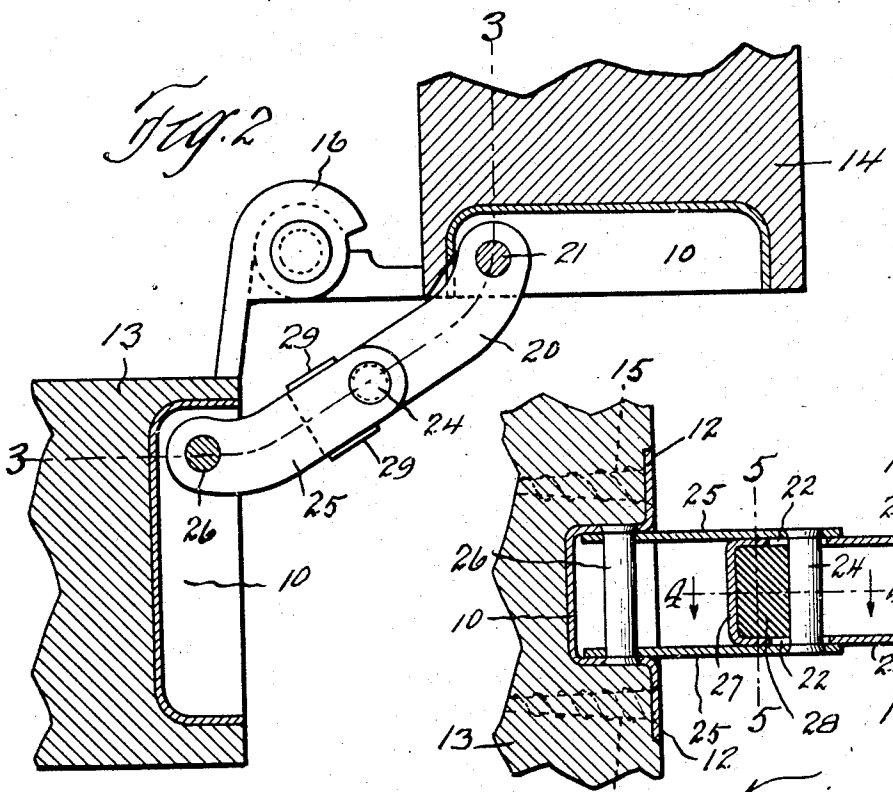


Fig. 2

Fig. 3

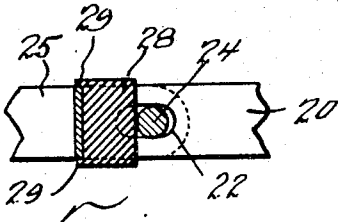


Fig. 4

Inventor

Albert C. Earhart

By Hull, Brock & West

Attorney

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UNITED STATES PATENT OFFICE

ALBERT C. EARHART, OF CLEVELAND HEIGHTS, OHIO

DOOR CHECK OR STOP

Application filed August 6, 1929. Serial No. 383,805.

This invention relates generally to door checks or stops, and particularly to a door stop for automobile doors which is adapted to limit and cushion the outward swinging movement of such door.

The object of the invention is to provide a door check or stop which may be embedded in the opposing faces of the door post and pillar of the automobile body of either metal or wood construction.

A further object is to provide a door check which is neat in appearance, easy to install, and in which the cushioning member may be readily replaced when it becomes worn or dead, and which is constructed so that there will be no rattling of the parts under the vibrations of the automobile on which they may be used.

In the drawings I have illustrated one form of my invention wherein Fig. 1 is a horizontal sectional view through the door check mounted in the door and body of an automobile; Fig. 2 is a horizontal sectional view showing the relative position of the parts when the door is open; Fig. 3 is a vertical sectional view through the check taken on the line 3—3 of Fig. 2; Figs. 4 and 5 are sectional detail views taken on lines 4—4 and 5—5 respectively of Fig. 3.

The door stop of my invention comprises a pair of brackets or anchor members 10 in the form of narrow receptacles provided with outwardly extending flanges 12 by which they are attached to the door stile and post 13 and 14 of the car body with screws 15 or bolts when desired or when the automobile body is of all metal construction. In the latter case, the opposing edges of the door and door frame are provided with openings of a size to receive the receptacle portions 10 so that the flanges 12 may be secured to the outer or inner faces of the door. The door is hinged in its frame by the usual type of car hinge illustrated at 16.

Pivoted in one end of one anchor member 10 is a U-shaped link 20 made from sheet metal, the free ends of which are provided with aligned apertures for the reception of the pivot pin 21 which passes through and is secured in the side walls of the receptacle or anchor member. At its opposite end the U-shaped link is provided with aligned slots 22 in which a pivot pin 24 is slidably received, and to the outer ends of which are secured flat metallic links 25, the opposite ends of which have aligned apertures for the reception of a pin 26 by which they are pivoted in the end of the other receptacle or anchor member 10.

Interposed between the closed end 27 of the U-shaped link 20 and the center pivot pin 24 is a rubber cushioning block 28 against which the pin 24 strikes when the links 20 and 25 are extended suddenly so that the sudden stop of a rapidly opened door is cushioned. The block 28, it will be noted, is provided at its opposite edges with lips or flanges 29 which engage over the edges of the U-shaped bracket so that it will be held securely in place, as illustrated in Figs. 4 and 5.

The operation of the device is clear. The receptacles or anchor members 10 are securely fastened in the edges of the door and stile so that when the door is closed they are in opposed relation forming a housing for the links 20 and 25. When the door is opened the links straighten out, and as they are moved to their limit, the pin 24 moves against the rubber block 28 cushioning the jolt which would otherwise result with a rigid pivot connection.

In the form illustrated, the links 20 and 24 have their outer ends disposed at an angle to the body of links so that when the links are extended, the pivot 24 is not in alignment with the pivot pins 21 and 26. By this arrangement the links will never come to a dead center so that the door will not close, and they will always fold together in the right direction as the door is closed.

While I have described my invention as being particularly applicable for doors of the present day motor vehicles, it is obvious that they may be used on any type of door, the size of course being varied to suit the conditions.

The door stop described is neat in appearance and is readily installed. Since the anchor members 10 and links 20 and 25 are made from sheet metal, they are readily

stamped or drawn so that the cost of manufacturing is kept at a minimum.

While I have illustrated only one form of device it will be obvious that various changes may be made in its construction without departing from the spirit of the invention or the scope of the appended claims.

Having thus described my invention, what I claim is:

1. A door check comprising a pair of attaching members, a pair of links, one pivoted to each member, a pivot pin secured in one of said links, the other link having a slot through which said pivot pin passes, and a resilient member held in said slotted link against which the pin strikes as it moves in its slot when the links are extended to their limit.

2. A door check comprising a pair of brackets, a U-shaped sheet metal link pivoted at the open end to one of said brackets, there being aligned slots in said link near its closed end, a second link pivoted to the other of said brackets, a pin passing through said slots and secured in said second link connecting the links together for limited longitudinal movement relative each other when in extended position, and a resilient member interposed between the closed end of the U-shaped link and the said pin against which the pin strikes.

In testimony whereof, I hereunto affix my signature.

ALBERT C. EARHART.