June 24, 1930. T. A. MEALIA 1,766,183

AUTOMOBILE DOOR GUIDE

Filed Oct. 21, 1929

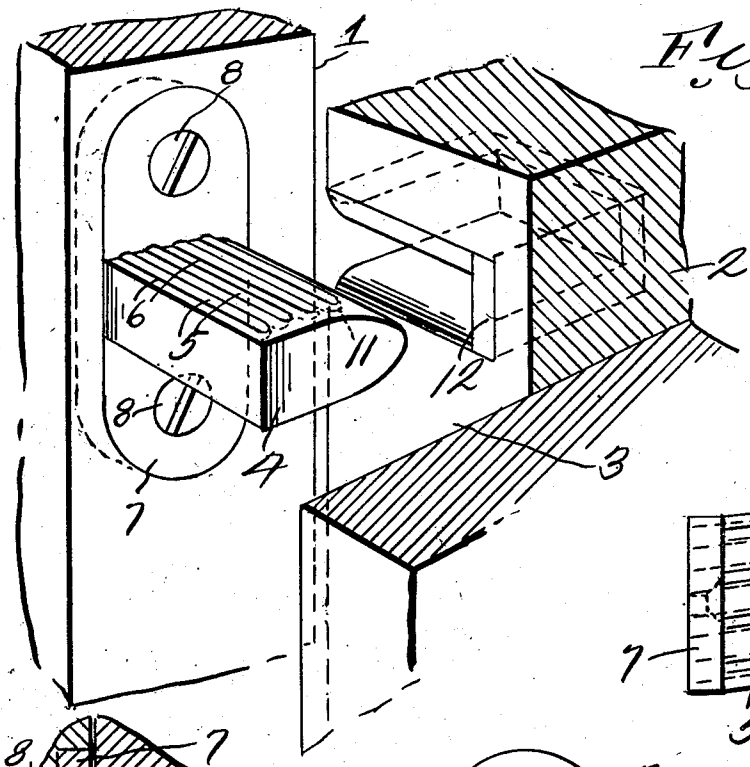


Fig. 1.

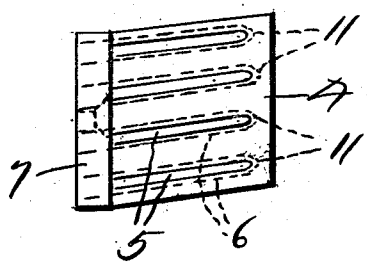


Fig. 2.

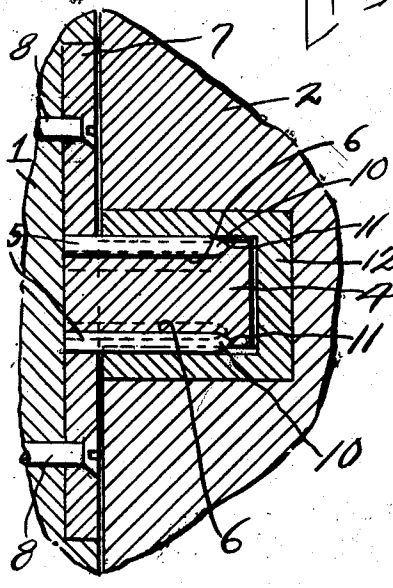


Fig. 3.

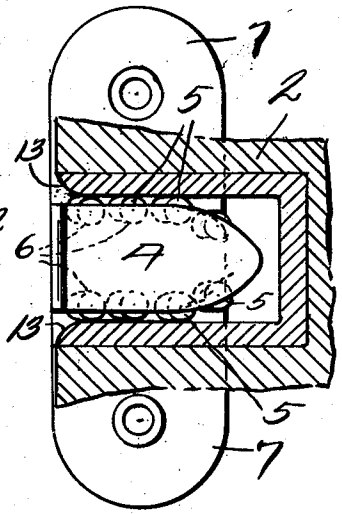


Fig. 4.

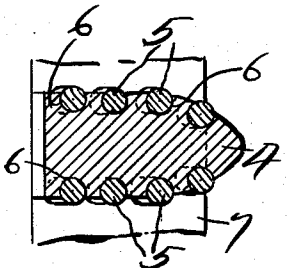


Fig. 5.

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UNITED STATES PATENT OFFICE

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AUTOMOBILE DOOR GUIDE

Application filed October 21, 1929. Serial No. 401,284.

The invention relates to door guides particularly adapted for use in connection with automobile doors, and has for its object to provide a device of this character having anti frictional bearing members carried by a projecting member mounted on the free end of the door in a horizontal position, and cooperating with a U-shaped receiving member carried by the door frame for properly centering the door when closed.

A further object is to provide the door guide having anti frictional bearing members and cooperating with the door and door frame, whereby upon closing the door the free end thereof will be lifted and the door properly centered in the door opening for obviating sticking of the door and frictional noises.

A further object is to provide anti frictional members on the guide for preventing sticking of the guide when in closed position in the keeper.

A further object is to form the door carried lug integral with a plate and to provide roller bearings in apertures of the plate and the upper and lower surfaces of the lug in positions where their outer sides will project beyond the upper and lower surfaces of the lug.

A further object is to maintain the rollers against axial movement in their bearings by engagement of the rollers with the door end, and to provide the outer ends of the rollers with points engaging in recesses in the outer ends of the roller grooves.

With the above and other objects in view the invention resides in the combination and arrangement of parts as hereinafter set forth, shown in the drawing, described and claimed, it being understood that changes in the precise embodiment of the invention may be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawing:—

Figure 1 is a perspective view of the free end of the door and a portion of the door frame, showing the guide members in position for interengagement.

Figure 2 is a top plan view of the guide lug.

Figure 3 is a vertical longitudinal sectional view through the guide and portions of the door and door frame.

Figure 4 is a vertical transverse sectional view through a portion of the door frame and U-shaped keeper member showing the lug in end elevation.

Figure 5 is a vertical transverse sectional view through the guide lugs.

Referring to the drawing, the numeral 1 designates the free end of a conventional form of automobile door and 2 the door frame having the usual channel 3 for the reception of the door end 1, all of which structural is of conventional form.

It has been found in automobile doors, that the doors sag, consequently bind and cause objectionable noises incident to vibrations of the machine, and with guides as at present constructed for lifting the door for properly centering the same in the door opening, the guides stick, and to obviate this difficulty the door guide lug 4 which is horizontally disposed has its upper and lower sides provided with elongated rollers 5, rotatably mounted in bearings 6 in the lug faces. The bearings 6 are of greater depth than the diameter of the rollers disposed therein, and cooperate with the peripheries of the rollers for maintaining the rollers in position. Bearings 6 extending entirely through the plate 7, which is formed integral with the lug 4 as clearly shown in Figure 3, and when the plate is secured to the door end 1 by means of the screws 8, the door end engages the rollers and maintains the same against axial movement in their bearings 6. The outer ends 10 of the rollers are pointed and are rotatably mounted in the recesses 11 in the outer ends of the bearings 6, therefore it will be seen that the rollers are positively held against axial movement, but at the same time may freely rotate in the bearings 6. The lug 4 is preferably at a slight angle in the horizontal plane to the plate 7 to conform to the side contour of the body of the vehicle, however this may vary according to the par-

ticular design of door, and applicant does not limit himself to this particular.

The door frame 2 has disposed in the bottom of the groove 3 thereof a keeper member 12, preferably U-shaped as shown in transverse cross section in Figure 4, however the keeper may be of any construction, and is adapted to receive the projection 4 carried by the free end of the door with its anti frictional rollers 5 in engagement with the surfaces of the keeper, therefore it will be seen that the rollers will easily ride over the curved ends 13 of the keeper members for properly centering the door and by providing anti frictional rollers the guide will not become stuck, consequently the door may be easily and quickly opened, thereby obviating the difficulty now experienced with guides as at present constructed.

From the above it will be seen that an automobile door guide is provided which may be easily and quickly applied to an automobile door, and one wherein anti frictional means is provided for preventing sticking of the guiding members when in interengagement. It will also be seen that axial movement of the rollers in one direction is prevented by engagement therewith of the door end when the device is in position. If so desired ball bearings could be used in the grooves 6 as the anti frictional means.

The invention having been set forth what is claimed as new and useful is:

1. The combination with a door guide lug and a stationary receiving member adapted to receive the lug, of anti frictional rollers carried by the upper and lower sides of said lug and adapted to cooperate with the receiving member when the lug is forced into and out of the receiving member.

2. The combination with a door guide lug, a plate carried by said lug, said plate being secured on a door edge, and a stationary receiving member adapted to receive the lug, of rollers rotatably mounted in bearings extending through the plate on the upper and lower sides of the lug, said rollers having their outer sides projecting beyond the faces of the lug, said door edge cooperating with the inner ends of the rollers and maintaining said rollers in position.

In testimony whereof he hereunto affixes his signature.

TONY ALBERT MEALIA.