July 26, 1932. F. F. PHILLIPS 1,869,274

AUTOMOBILE DOOR LOCK AND POST

Filed July 21, 1931 3 Sheets-Sheet 1

Fig. 1.

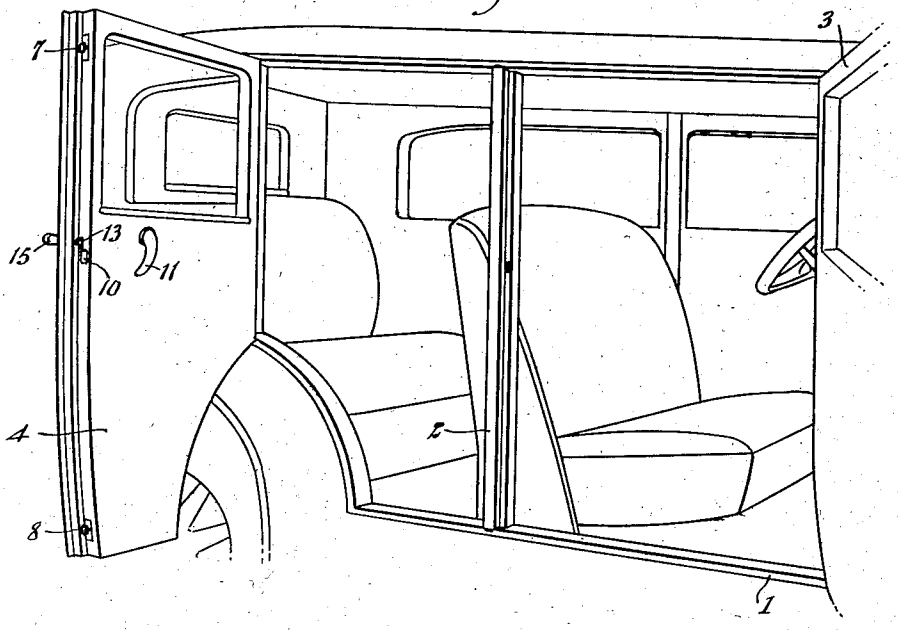
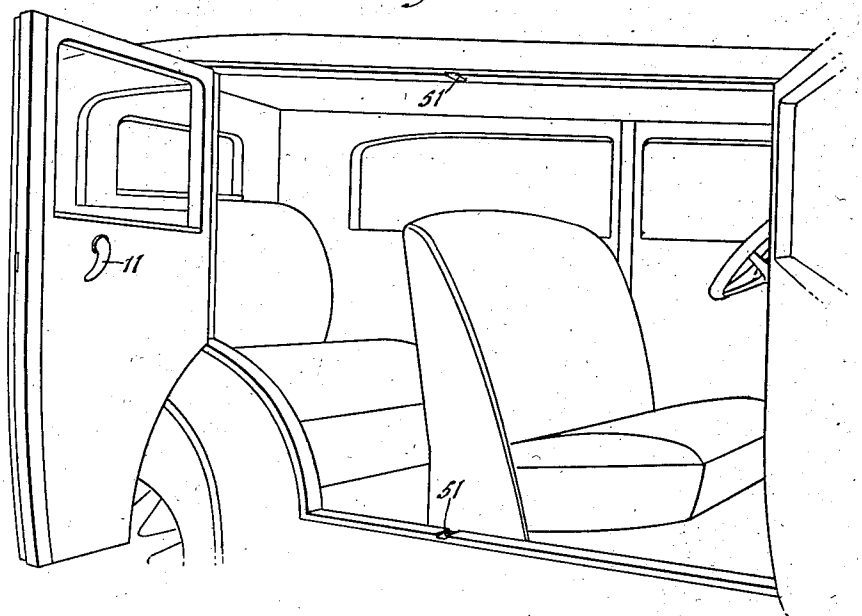


Fig. 2.



WITNESSES

Edw. Thorpe

A. L. Hitchin

INVENTOR

Frank F. Phillips

BY Munn & Co

ATTORNEY

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Filed July 21, 1931 3 Sheets-Sheet 2

Fig. 3.

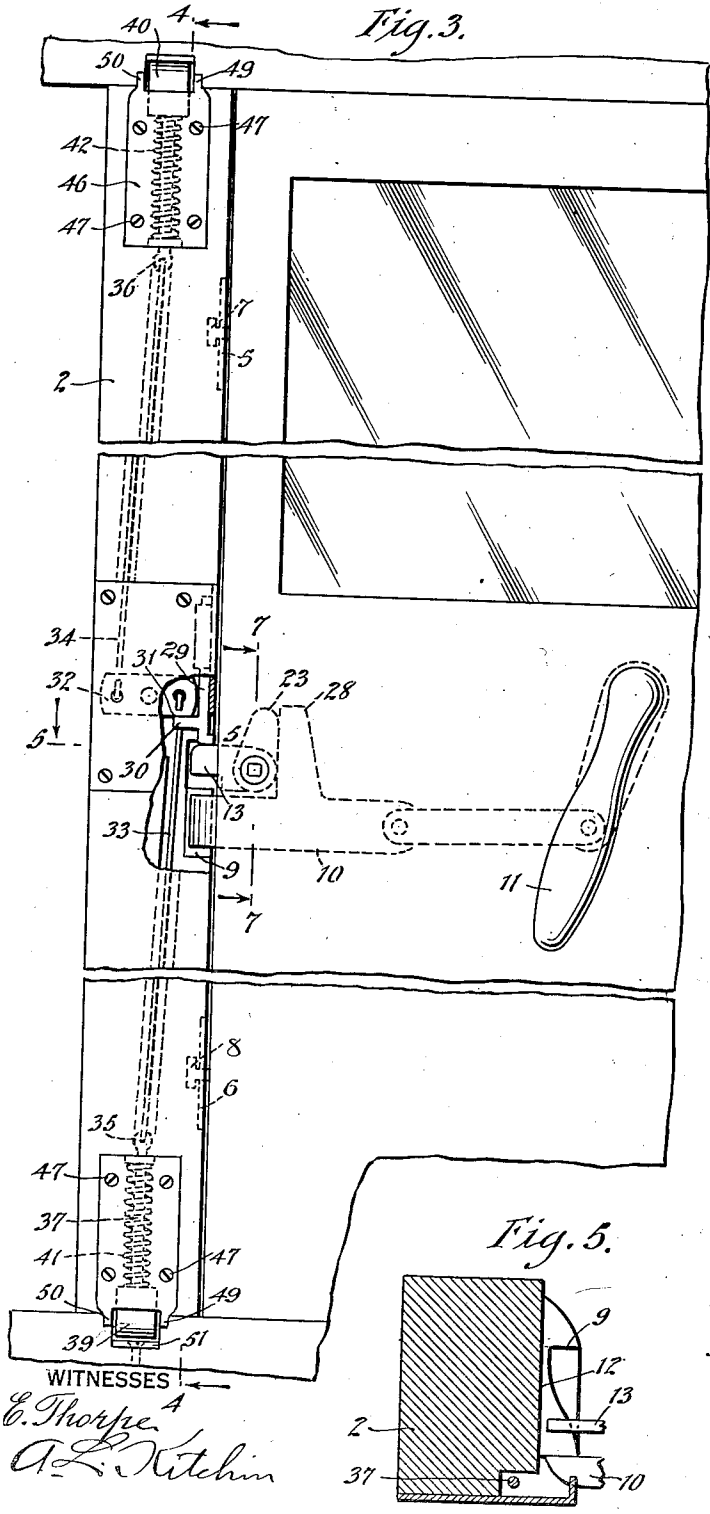


Fig. 4.

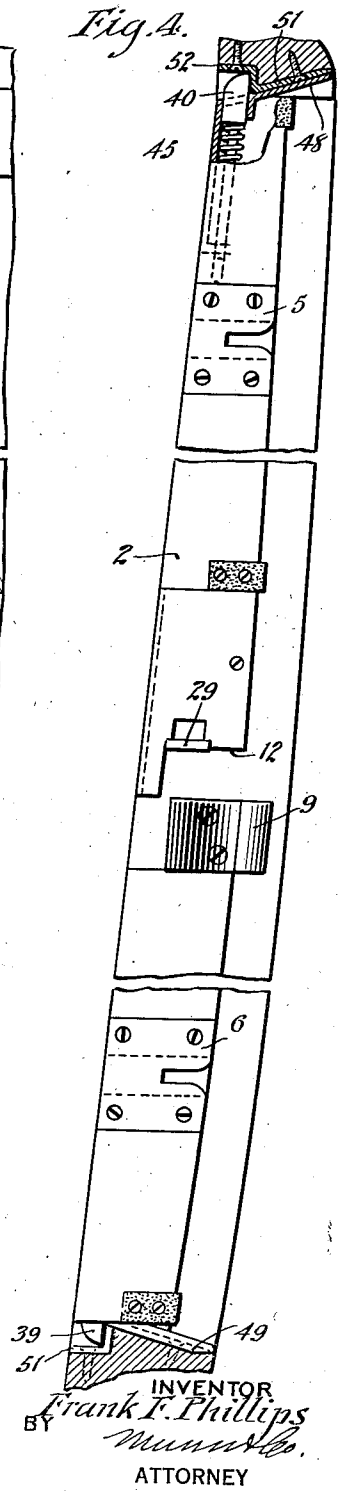


Fig. 5.

July 26, 1932. F. F. PHILLIPS 1,869,274

AUTOMOBILE DOOR LOCK AND POST

Filed July 21, 1931 3 Sheets-Sheet 3

Fig. 6.

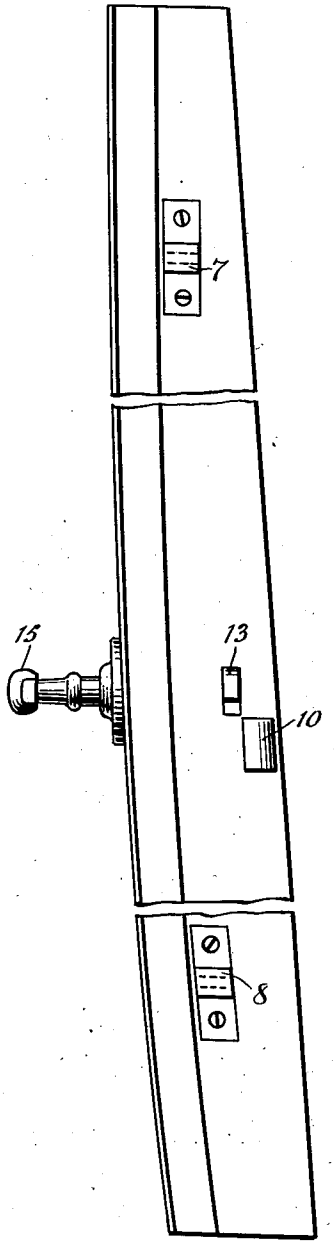


Fig. 7.

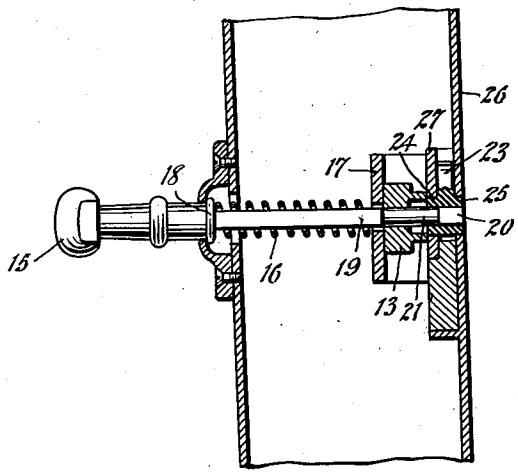


Fig. 8.

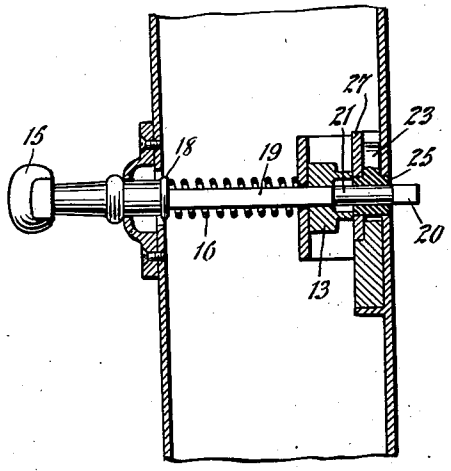
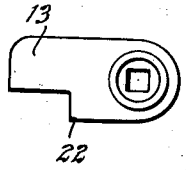


Fig. 9.



WITNESSES

Edw. Thorpe

A. L. Hutchins

INVENTOR

Frank F. Phillips

BY Munn & Co.

ATTORNEY

Patented July 26, 1932 1,869,274

UNITED STATES PATENT OFFICE

FRANK F. PHILLIPS, OF IRONTON, OHIO

AUTOMOBILE DOOR LOCK AND POST

Application filed July 21, 1931. Serial No. 552,216.

This invention relates to automobiles and particularly to an improved construction of door lock and post wherein the post in a sedan or similar car may remain in place or may be interlocked with the door and swing away from the car body with the door.

Another object of the invention is to provide a combined automobile door lock and post wherein the parts are so formed that the door may be opened or closed from the inside and likewise opened and closed from the outside as well as connected with the post so as to remove the post when actuated from the outside, the actuation of the door being accomplished with the original door handle.

An additional object, more specifically, is to provide in an automobile of the sedan type a removable post and locking mechanism carried by the post and by either the rear or front door, so constructed that the post may remain in place continually or may be interlocked with the door and swing open and closed with the door.

In the accompanying drawings—

Figure 1 is a perspective view of part of an automobile with an embodiment of the invention applied thereto.

Figure 2 is a view similar to Figure 1 but showing the posts interlocked with the door and the door in a fully opened position.

Figure 3 is an inside elevation of the door and post shown in Figure 1, certain parts being broken away for illustrating the construction.

Figure 4 is a sectional view through Figure 3 approximately on line 4—4.

Figure 5 is an enlarged fragmentary sectional view through Figure 3 on line 5—5.

Figure 6 is an edge view of the door shown in Figure 1.

Figure 7 is an enlarged fragmentary sectional view through Figure 3 on line 7—7.

Figure 8 is a view similar to Figure 7 but showing the parts in a different position and ready to connect the post with the door.

Figure 9 is a side view of a trip embodying certain features of the invention.

Referring to the accompanying drawings by numerals, 1 indicates an automobile of any desired kind but of the sedan type wherein there is provided front and rear doors with the door post 2 arranged therebetween. The post 2 on the front part is of the usual construction coacting with the front door 3 while at the rear face it is specially constructed as illustrated in Figure 4, whereby the same is adapted to cooperate with the rear door 4 and especially with certain attachments carried by the door 4 whereby the post 2 may be connected to the door 4 and swing outwardly as shown in Figure 2 whenever desired. This leaves almost the entire side of the sedan open whereby it is easy to enter or leave the sedan. Whenever desired, the post 2 may be left in place as shown in Figure 1 and both front and rear doors opened and closed in the usual manner. As illustrated in Figures 3 and 4, the rear face of the post 2 is provided with lock plates 5 and 6 adapted to interlock and coact with the locks 7 and 8, the structure being in the nature of a male and female coacting and interlocking device. In the usual place, slightly below the center of the post, there is provided the usual catch plate 9 adapted to coact with the usual bolt 10 which bolt is connected by links or otherwise to an inside handle 11. Immediately above the catch 9 a notch 12 is formed whereby the end of trip 13 may freely swing inwardly and outwardly under normal circumstances while the bolt 10 functions in the usual way with the catch 9. The trip 13 is slidably mounted on the door shaft 14 which shaft at the outer end is provided with a handle 15 and which shaft is also normally held in its outer position as shown in Figure 7 by the spring 16. This spring presses against the U-shaped bracket 17 and against an enlargement 18 forming part of the handle 15. Shaft 14 is

provided with squared sections 19 and 20 and a rounded section 21. The trip 13 is normally loosely mounted on the rounded section 21 as shown in Figure 7, with the edge 22 extending horizontally. The finger or cam 23 is provided with hub extensions 24 and 25 fitting in suitable apertures in the face plate 26 of door 4 and in bracket 27, as shown in Figure 7. Both the trip 13 and the finger or cam 23 are provided with square portions extending therethrough. By reason of this construction whenever the parts are in the position shown in Figure 7 the square section 20 will be in a position to engage and lock the finger or cam 23 so that it may press against the spur 28 for retracting the bolt 10. This retraction may take place as often as desired without in any way affecting the trip 13, as the round section 12 is extended through the bore of the trip. However, when it is desired to swing the trip 13 upwardly handle 15 is pushed inwardly, as shown in Figure 8, and by this movement part of the squared section 19 will move into the bore of the trip 13. At the same time the squared section 20 will move out of the bore of the finger or cam 23. When this has been done handle 15 may be rotated partially for swinging the trip 13 upwardly, said swinging movement taking place without retracting bolt 10. As shown in Fig. 3 when the trip 13 swings upwardly it will force the power transmitting slide 29 upwardly and lug or abutment 30 thereof will strike the bottom edge 31 of the lower plate 32 whereupon the lever plate may be swung on its pivotal support so that the rod 33 will be pulled upwardly and rod 34 will be pulled downwardly. These rods are really links as they are pivotally connected at one end of the plate 32 and at their opposite ends with the eyes 35 and 36, respectively, of the bolts 37 and 38 carrying the catches 39 and 40. The springs 41 and 42 act to normally hold the catches in the outer position, as shown in Figure 3, but when the trip 13 swings upwardly the catches 39 and 40 will be retracted against the action of these springs whereupon the post 2 is free to be moved and consequently when the door swings open the post will be swung therewith, as illustrated in Figure 2. The locks 7 and 8 coacting with plates 5 and 6 will assist in holding the post in connection with the door and, in fact, will support the post on the door after handle 15 has been released.

After the post and other parts have been moved to the position shown in Figure 2 and it is desired to place the post 2 back in position, as shown in Figure 3, it is only necessary to close the door 4, and as soon as the post 2 has moved to its correct position the catches 39 and 40 will snap into their locked position, as shown in Figure 4, whereupon the post is back to its proper position. Though the parts are rather snugly formed the door closes easily as the post moves inwardly sufficiently to permit catches 39 and 40 to function.

As shown in Figure 4, at the top and bottom of the post are housing plates 43. As both the plates and associated parts are identical, the description of one will apply to both. These plates are provided with a facing section 46 through which the screws 47 extend for holding the plate in position. The facing section 46 merges into an inclined rearwardly extending section 48 provided with a pair of upstanding flanges 49 and 50. These flanges straddle the outer section 51 of the abutment plate 52. By reason of this fact and the fact that the parts are inclined from the horizontal as shown in Figure 4, the post is firmly held against loose movement in either direction. It cannot move upwardly and rearwardly by reason of the flanges 49 and 50 and cannot move inwardly by reason of the inclined section 48, while the catches 39 and 40 will prevent any outward movement. It will thus be seen that the post is really rigidly locked in place until the trip 13 functions as above described. By reason of the structure set forth, the door 4 may be opened from the inside through the actuation of handle 11 and associated parts and may be opened from the outside by the action of handle 15 and associated parts. This opening and closing of the door may be readily accomplished in the usual way by actuating these two members but when it is desired to remove the post, a special action must take place, namely, handle 15 must be pushed inwardly to the position shown in Figure 8 and then actuated. It will thus be seen that the parts will function normally as an ordinary structure now commonly found on sedans but whenever desired, it may be caused to function specially as described.

In the drawings, the mechanism for moving the post has been shown in connection with the rear door of the sedan, but it will be evident that the parts could be used with the front door on either side, or the rear door, as may be preferred. Also, it will be observed that the usual handle of the automobile is utilized in connection with the special attachments including the trigger or slide 29 in association with the lever 32 arranged substantially centrally of the door post. The respective members 5, 6, 7 and 8 assist the other parts in properly supporting the post when connected with the door, while the top and bottom plates coacting with the catches 39 and 40 present a strong construction but do not mar the appearance of the car.

I claim:

1. The combination of an automobile of the sedan type provided with a substantially centrally positioned door post and doors coacting therewith, means for removably con-

necting said post to the other parts of the automobile, means carried by the door for releasing the first mentioned means and means carried by the door for holding the post on the door so that it will swing outwardly with the door and back inwardly to its original position.

2. In a device of the character described, an automobile lock post including spring catches for holding the post in a given position, a lock carried by the door of the automobile acting to hold the door closed, manually actuated means carried by the door of the automobile for releasing said catches and coacting means carried respectively by the post and the door acting to hold the post in contact with the door as the door swings open.

3. The combination with an automobile of the sedan type provided with top and bottom bars and a post connected with said bars, of plates carried by said top and bottom bars, each plate having an inclined outer surface merging into a shoulder, said post having a face plate at the top and bottom provided with an inclined section adapted to fit against the inclined part of said top and bottom plates when the post is in operative position between said bars, a spring pressed catch at each end of said post, each of said catches being slidably mounted in said face plates and adapted to fit against said shoulders for preventing outward movement of the post while the inclined sections of the face plates prevent inward movement, manually actuated means carried by one of the doors of the automobile for releasing said catches, and interlocking means carried by the last mentioned door of the automobile and the post for supporting the post on the door as the door opens.

4. In an automobile of the sedan type provided with the usual top and bottom bars on each side, of a post removably connected with said bars, said top and bottom bars being provided with face plates, each plate being formed with an inclined outer section and inner portion presenting a shoulder, said post being provided with face plates at the top and bottom, each of said face plates having an inclined section adapted to fit against said inclined section of the first mentioned plates, said face plates having apertures therethrough, a spring pressed catch slidably mounted in each of said apertures and adapted to fit against said shoulders, catch retracting means extending to substantially the center of the post for retracting said catches whereby said post may be bodily removed, coacting means for removably securing the post to the door and means operated by the usual door handle and shaft carried by the last mentioned door for actuating said catch releasing means.

5. The combination of an automobile of the sedan type provided with a post between the front and rear doors, of means for removably securing said post in place, said means including coacting face plates carried respectively by the posts and by the top and bottom portions of the sedan and manually actuated latches interlocking carried by the post and interlocking with certain of said plates and means actuated by the handle of one of said doors functioning to release said catches without releasing the door from the post.

6. The combination of an automobile of the sedan type provided with a post, means for removably securing said post in place, means carried by one of the doors of the automobile for disengaging the securing means of said posts, interlocking means carried by the post and said door for supporting the post on the door after the securing means which holds the post in place has been disengaged, a lock for normally holding said door in engagement with said post, manually actuated means for moving said lock to a disengaged position, said manually actuated means being provided with a shaft having a rounded portion and a squared portion, said manually actuated means being movable longitudinally so as to bring said rounded portion to different positions and said squared portions to different positions, a spring for normally holding said manually actuated means in a position for causing the same to release said lock, said squared portion acting to release the securing means of said post when moved to a given position.

7. The combination of an automobile of the sedan type provided with a post and a swinging door coacting therewith, said door having a lock normally engaging said post for holding the door closed, securing means for holding said post normally positioned, means carried by the door for releasing said securing means, said means including the usual door handle of the automobile, a reciprocating shaft, said shaft having a rounded portion and a squared portion, said shaft acting when in one position to retract said lock and when in a second position acting to disengage the securing means which holds the post normally in position.

8. A body construction for automobiles of the sedan type including a pair of doors opening in opposite directions, a center post against which said doors close, said post being detachably connected with said body whereby the same may be swung as a unit along with one of said doors, means for normally connecting said post to one of said doors when the doors are closed and means actuated by the door handle of one of said doors for disengaging said post from said body without disengaging the post from the last mentioned door.

9. A body construction for automobiles of

the sedan type including a pair of doors, a center post against which said doors close, means for detachably securing said center post to the body construction, means for removably securing said center post to one of said doors so that the post may be swung with the door, said means including a plurality of pins and coacting sockets, and the usual lock mechanism of the door and means actuated by the handle and handle shaft used in operating said lock for disengaging said post from said body structure without disengaging it from the door.

FRANK F. PHILLIPS.