The main objects of this invention are:

First, to provide a novel and simplified removable center post for a pair of laterally spaced vertically acting articulated doors.

Second, to provide a post of the type described which may be removed in its entirety from the doorway, thus making the entire door opening space available if desired.

Third, to provide a post of the type described which is light in weight and capable of being readily removed and transported by a person to an out-of-the-way storage place and which has a provision for positively maintaining the same against displacement either laterally or in a front-to-rear direction when in operative position.

Fourth, to provide a removable post of the type described carrying tracks adapted to coact with fixed horizontal and curved track portions adjacent the door and having provision for insuring that the post tracks and fixed track portions will be at all times in proper register with one another when the post is in operative position.

Objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary view in front elevation illustrating the post of my invention in erected position in a doorway with a pair of vertically acting articulated doors associated therewith, one being in closed and the other in partially closed position.

Fig. 2 is a fragmentary view in side elevation and partially in vertical section on line 2—2 of Fig. 3, illustrating the construction of the post and its operative relation to the coacting securing provisions affixed to the doorway as well as to the fixed track structure with which it coacts.

Fig. 3 is an enlarged fragmentary view in section on line 3—3 of Fig. 2, further illustrating the construction and relation of the parts.

Fig. 4 is an enlarged fragmentary view in vertical longitudinal section illustrating certain track obstructing provisions for the fixed or door header tracks and the manner in which the removable post is associated with the latter in order to render said provisions inoperative when the post is in operative position.

Fig. 5 is a fragmentary view in section on line 5—5 of Fig. 4.

Fig. 6 is a detail view in plan illustrating the fixed doorway bracket or post holder constituting an element of my invention.

The present invention relates to a removable or carry-away post for vertically acting articulated doors such as are commonly employed in garages, fire stations, and the like, being generally similar to the construction shown and described in my coending application, Serial No. 377,122, filed June 3, 1939. The post is made of light weight material and has simple provisions for assembling the same in the door frame thus enabling all the manipulations of erecting or removing the door and transporting the same to a storage place to be performed by a single person. It is likewise necessary in such an assembly that, in addition to being readily and quickly erected to operative position, the tracks thereon be always in proper register with the fixed tracks with which they communicate and the present invention relates in particular to novel and improved means for securing this result. Furthermore, by reason of the relatively few parts and the simple design thereof, the post may be manufactured and marketed at an extremely attractive figure.

In the drawing, the reference numeral 1 indicates a doorway of a garage or like structure provided with a pair of laterally spaced vertically acting articulated doors 2, 3 of well known construction and with which the removable post or member of my invention, generally indicated 4, coacts to provide a vertical guiding and securing means for the doors disposed between the same.

Referring to Figs. 2 and 6, the doorway has the header 9 thereof provided with a holding bracket 8 bolted thereto and depending therefrom, which bracket serves as a support for the post of my invention. The details thereof are clearly illustrated in Fig. 6 and it is sufficient to point out that the bracket has a depending web 7 integral with which is an elongated wall or keeper pocket 8 constituted by the web 7, the integral side walls 9 and the rearwardly extending flange-like part of lip 10. This pocket or keeper is adapted to receive a flanged or angled support member or connector tongue 11 integral with a bracket or plate 12 which is adapted to be adjustably secured on the post 4. Tongue 11 latches behind the flange 10 of the keeper pocket to restrain the top of the post in the front-to-rear direction.

The adjustment of the plate on the post 4 is in the vertical direction, being made possible by elongated holes 13 in the plate through which the
attaching bolts coacting with the post extend. This enables any discrepancies between the length of the post and the vertical dimension of the door opening to be taken up when the post is first set up. Bracket 6 may be adjusted in a direction from front to rear by similar provisions.

The width of the forwardly disposed angled suspending latch tongue 11 is approximately equal to the width of the post pocket or well 8, so that proper engagement of the tongue in the keeper pocket and correct lateral positioning of the post in the plane of the doorway are facilitated.

On the inner side of header 5 is provided an angle iron 14 having a relatively large rearwardly extending plate-like flange 15 which serves as a support for the countering mechanism 16 for the vertically acting doors and also has been thereto the elongated rearwardly directed bar or rod 17 which serves in part to support the horizontal track sections 18 onto which the doors 2, 3 are withdrawable in inoperative position. The doors have guide rollers 181 receivable in the track sections. These horizontal track sections have connected thereto the curved sections 19 which open at the top of the doorway and are adapted to communicate with opposed vertical track sections 23 secured on the post in the manner to be described.

Post 4 is preferably made up of a pair of elongated vertically directed angle irons 21 (see Fig. 3) spaced at the rearwardly directed flanges 22 thereof and adjacent the top of the post by a plate 23, the function of which will be hereinafter referred to. For the remainder of its length, the post flanges 22 are correspondingly spaced by a suitable filler plate 23* and the vertical track sections 20 are riveted or bolted on opposite sides of the flanges.

Referring to Figs. 2 and 4, it will be seen that the curved track sections 19 project downwardly a substantial distance on either side of the fixed header flange 15, while the upper end of the vertical post track sections 20 is spaced a corresponding distance downwardly from the post flanges. In assembling the post, the detent tongue 11 thereof is hooked over the keeper lip 10 of the supporting or holding bracket 8, the tongue 11 of the suspending plate being inserted in well 8. The post is thus maintained in proper position, the lip and tongue serving to prevent rearward movement at the top of the post but being readily disengageable for removal of the post in its entirety. The flanges 15 of the header angle irons 14 are cut away at 24 (see Fig. 2) to provide clearance for this removing operation. With the post properly engaged at its top, it is swung rearwardly in a direction normal to the plane of the door opening to bring the portion of the post flanges exposed above the upper end of tracks 20 into the space or recess between the lowermost ends of the curved tracks 19. They are snugly received in this recess and serve to laterally stabilize the door and assure accurate register of the tracks 20 with the coacting curved tracks 18. The bottom of the post is then latched or pinned in place as will be described. To remove the post, the operation is reversed, swinging the post outwardly from the solid line to the dotted line position of Fig. 2, then lifting the post and disengaging the keeper and latching brackets 8, 12.

In order to prevent downward movement of the retracted doors 2, 3 from the horizontal tracks 21 when the post is removed, I provide an automatically acting track obstructing dog 25 which is pivoted to depending lugs 26 secured on either side of the header angle iron 14. The lugs also support the bottom extremities of curved track sections 19 in properly spaced relation. The dog 25 has a single tappet arm 27 extending into the space between the lowermost ends of track sections 19. Bifurcated track obstructing lugs 28 adapted to engage through openings 29 cut in the rear wall of the curved track sections are secured to the tappet and pivot therewith. The dog, including arms and tappet, is pivoted at 33 so that the bifurcated arms 28 embrace the lugs 26 and is preferably counterweighted for counterclockwise gravitational movement, or spring urged in a counterclockwise direction by a leaf spring, torsion spring, or other well known expedient.

By the foregoing construction, when the upper end of the post 4 is swung to operative position relative to the header in the direction indicated by the arrow in Fig. 4, it strikes the tappet arm 27 of dog 25 and retracts arms 28 from their respective track openings, thus freeing the curved tracks for communication with the post tracks.

The flanges of the door angle irons are cut away at 31 to accommodate the tappet arm when the door is in its actuated position, indicated by dotted lines in Fig. 4. When the post is removed, the dog pivots either by gravity or by spring tension exerted thereon into the track obstructing position illustrated in solid lines in Fig. 4.

In order to lock the post in operative erected position, provision is made in the engageable relation, and preventing lateral or rearward displacement thereof in said position, I provide a vertically slidable locking or latch pin 32 which coacts with a suitable floor plate or bracket 33 in the doorway at the bottom thereof. This plate has a recess therein receiving pin 32 for registering and preventing displacement of the post. Pin 32 is manually retractable by a suitable actuating and releasing device, generally indicated 34, of a well known type.

In order to facilitate removal and erection of the door therefrom, from the top of the foregoing disclosure, I preferably form the same in its entirety of a suitable light, strong metal. It may take the form of drawn aluminum castings; however, I find that Monel metal has all the characteristics of lightness, strength, and capability of being readily formed to the desired shapes, which characteristics a manually removable post such as I have described requires.

I have illustrated and described my improvements in an embodiment which I have found very practical. I have not attempted to illustrate or describe other embodiments or adaptations as it is believed that this disclosure will enable those skilled in the art to embody or adapt my improvements as may be desired.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a vertically sliding door structure including a pair of laterally spaced articulated vertically sliding doors, a removable post adapted to be disposed in the door opening between said doors for securing, engaging the top of the door opening in a direction normal to the plane thereof, said post having opposed vertically extending tracks on the sides thereof, a fixed header above said door opening having a keeper, means on the post adjacent the top thereof for releasable retaining engagement with said keeper
to hold the post adjacent its top in operative position in the plane of its removal, said last named means being fully and completely disengageable from said keeper by lifting of the post so as to remove the latter bodily from operative position in the plane of removal thereof, said last named means being fully and completely disengageable from said keeper by lifting of the post so as to remove the latter bodily from operative position in the plane of opening, a pair of laterally spaced tracks in fixed relation to said header adapted to register vertically and communicate with said post tracks, said post including means engaging with said fixed tracks for laterally registering and supporting the post, and securing means at the base of said post engageable with further means at the bottom of said door opening to prevent movement of the post at that point.

2. In a vertically sliding door construction including a pair of laterally spaced vertically acting doors adapted to be actuated to and from closing position relative to a door opening, a removable post adapted to be positioned in said door opening between said doors and having a pair of opposed tracks for guiding receiving rollers on the doors, a pair of horizontal tracks in fixed relation to said door opening having curved portions extending downwardly and opening to the top of the door opening, said portions being adapted to communicate with said post tracks, means on said post engageable with said curved portions for laterally spacing and stabilizing the post, post restraining means in fixed relation to said door opening, and means on the post adjacent the top thereof for releasable engagement with said fixed means to maintain said post adjacent its top in operative front-to-rear position, said means on the post being fully disengageable from said fixed means by lifting of the post so as to remove the latter bodily from operative position in said door opening.

3. In a vertically sliding door construction including a pair of laterally spaced vertically acting doors, a removable post adapted to be disposed in the door opening between said doors for swinging removal in a direction normal to the plane of the opening, a fixed header above said door opening having a keeper associated therewith, manually actuable latch means on said post for releasably retaining engagement of the post with the keeper to hold the post adjacent its top in operative position in the plane of removal thereof, said last named means being fully and completely disengageable from said keeper by lifting of the post so as to remove the latter bodily from operative position in the door opening, and a pair of laterally spaced tracks in fixed relation to said header, said post having means thereon engageable with said fixed tracks for laterally supporting the post, positioning means disposed at the bottom of said door opening between the doors, and means on the base of said post engageable with said last named positioning means to prevent displacement of the post at that point.

4. In a vertically sliding door structure including a pair of laterally spaced vertically sliding doors, a removable post adapted to be disposed in the door opening between said doors for swinging removal in a direction normal to the plane of the opening, a fixed header above said door opening having a keeper associated therewith, manually actuable latch means on said post for releasably retaining engagement of the post with the keeper to hold the post adjacent its top in operative position in the plane of removal thereof, said last named means being fully and completely disengageable from said keeper by lifting of the post so as to remove the latter bodily from operative position in the door opening, and means for maintaining said post in lateral
position in the plane of said door opening, and means coacting with said post and the bottom of said door opening to restrain the post in the front-to-rear direction at that point.

8. In a removable post construction for vertically sliding doors, a keeper in fixed relation at the top of a door opening receiving said construction, a post having a latch member adjacent the top thereof releasably engageable with said keeper, means for maintaining said post in vertical position in the plane of the door opening, said latch member being fully disengageable from said keeper by lifting of the post to remove the latter bodily from operative position in the door opening, and means coacting with said post and the bottom of said door opening to restrain the post in the front-to-rear direction at that point.

HERBERT CADY BLODGETT.