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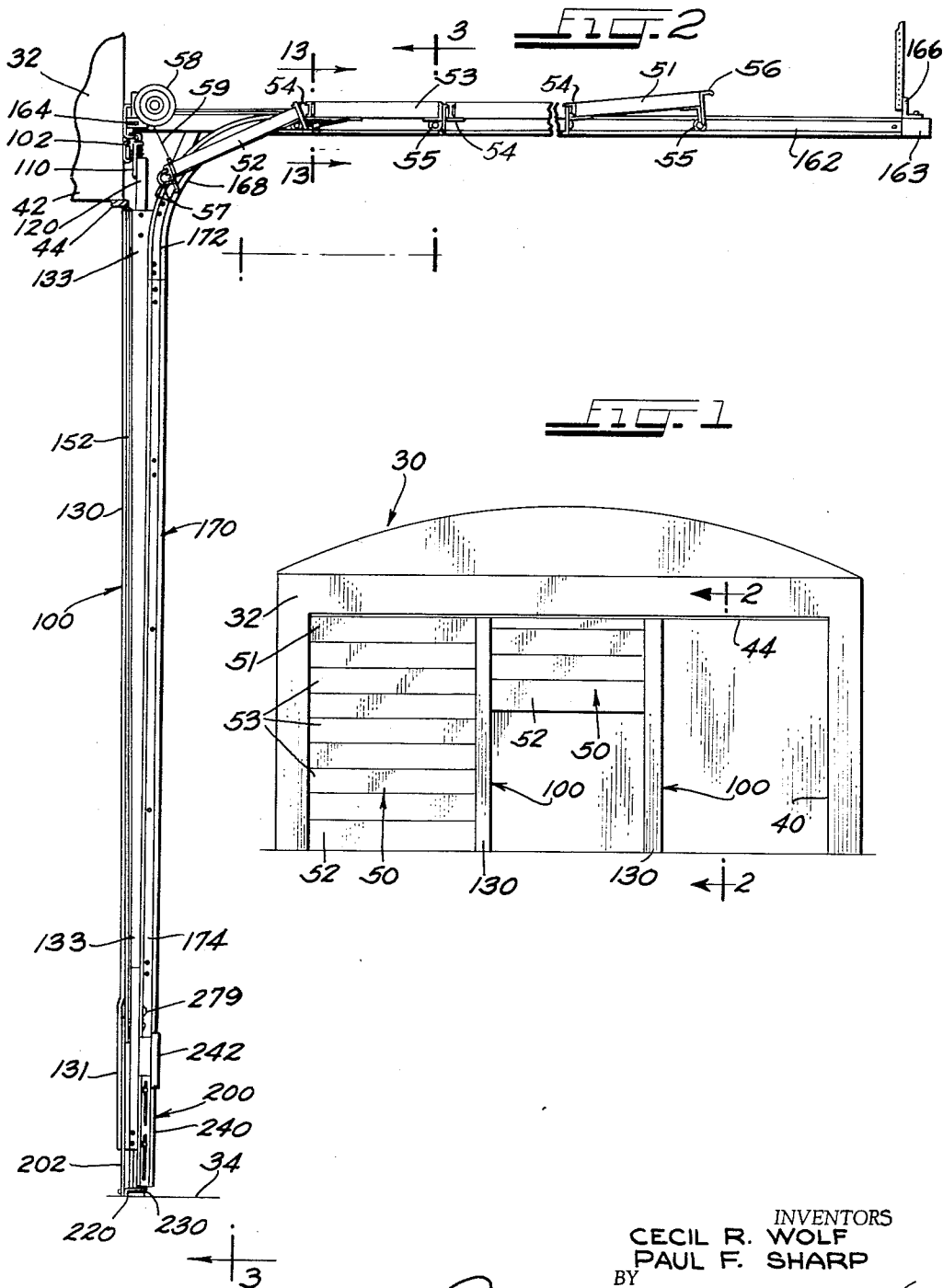
C. R. WOLF ET AL

3,217,784

OVERHEAD DOOR CONSTRUCTION AND REMOVABLE CENTER POST THEREFOR

Filed Feb. 25, 1963

8 Sheets-Sheet 1



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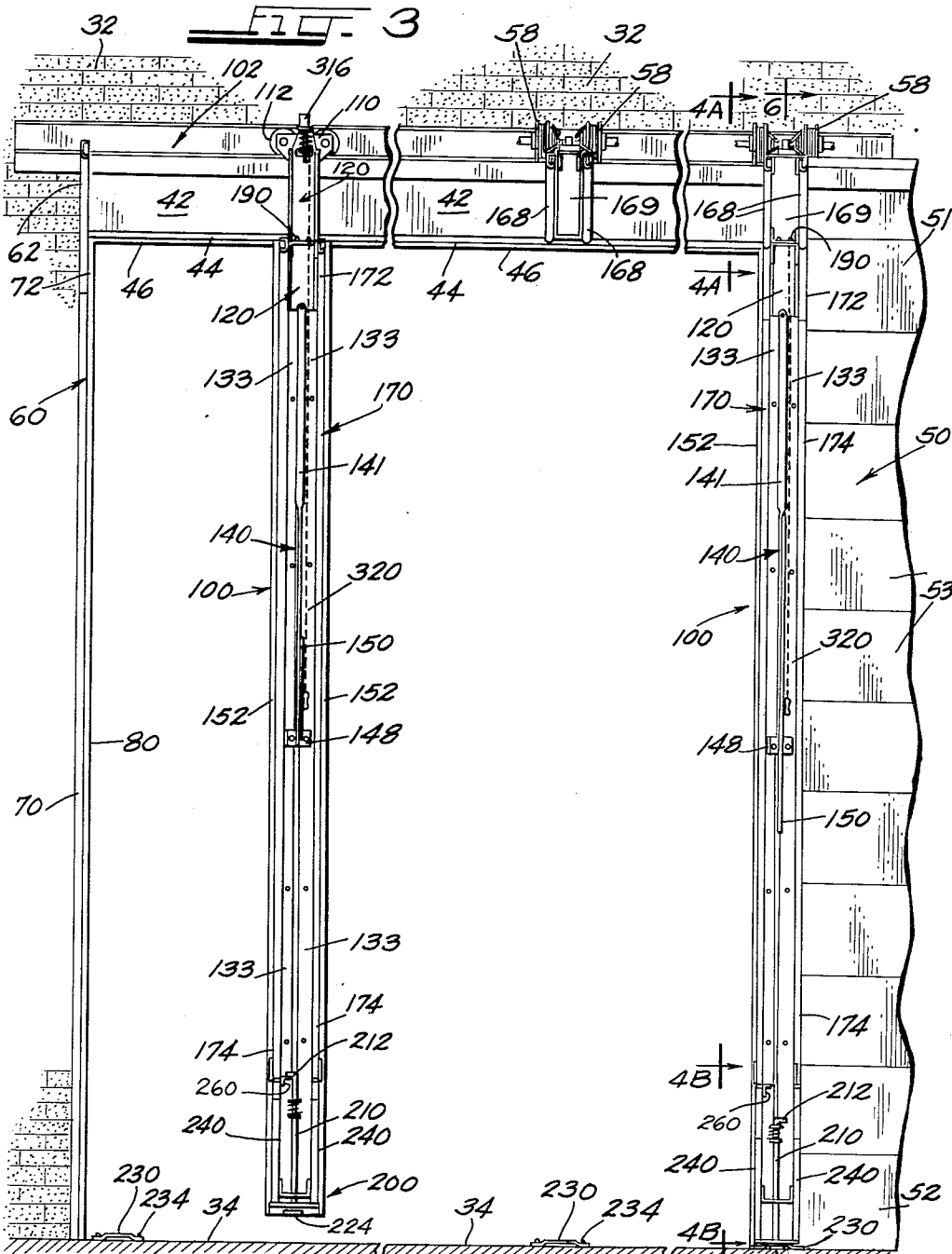
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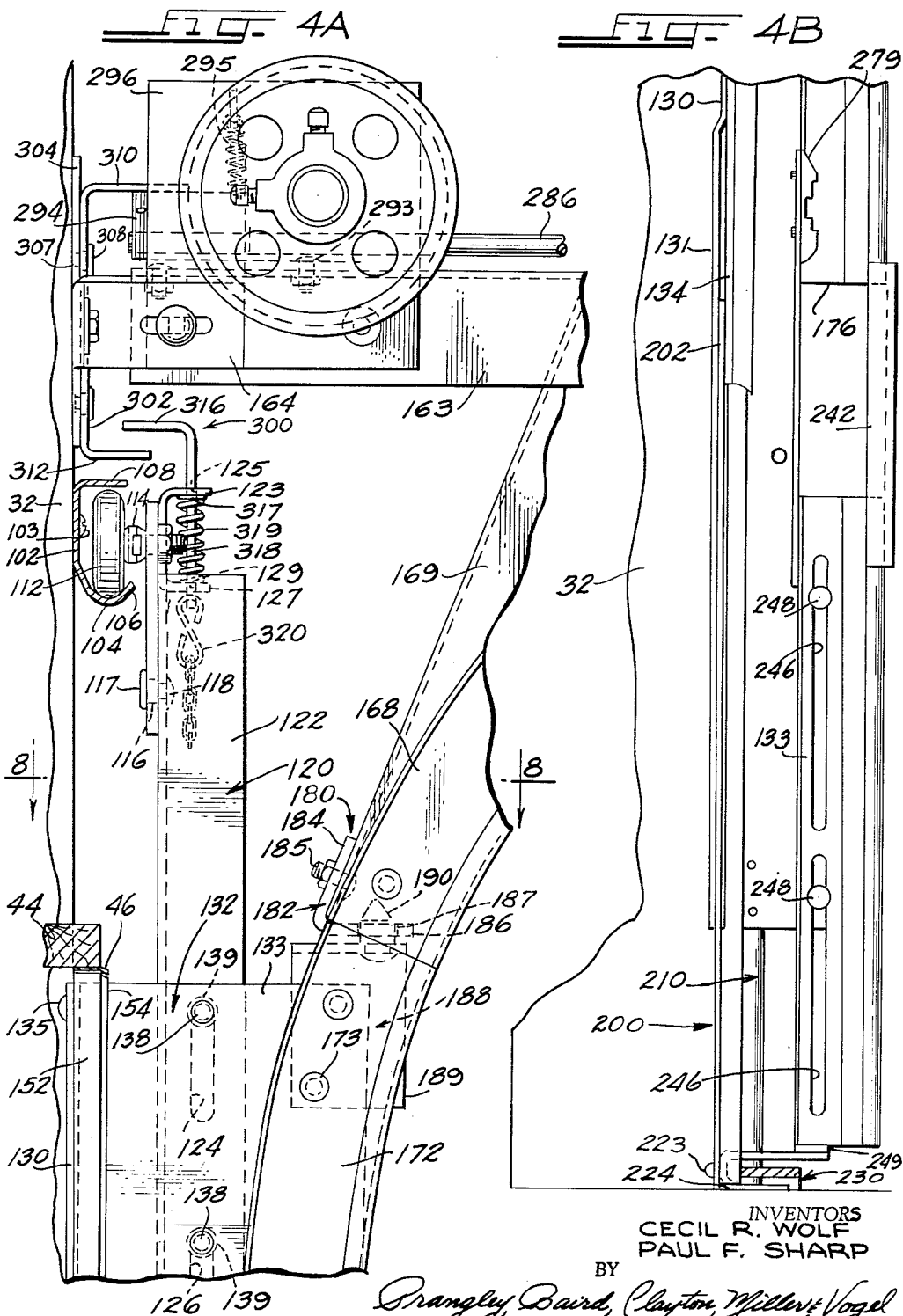
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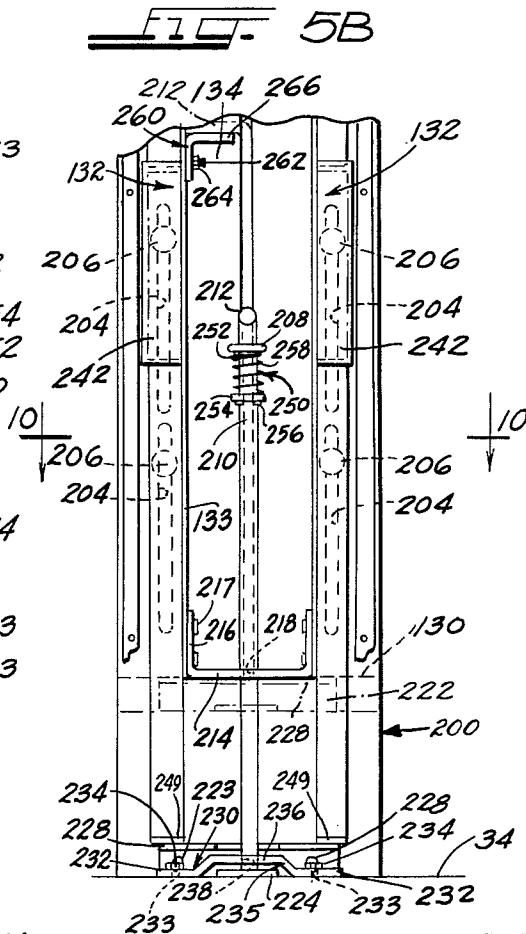
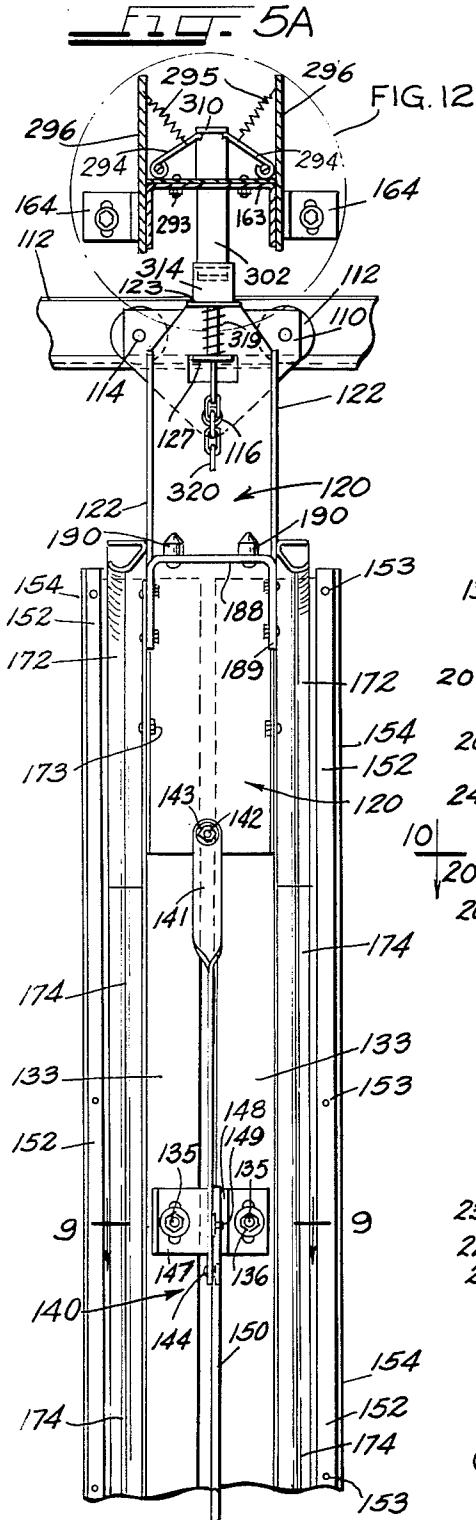
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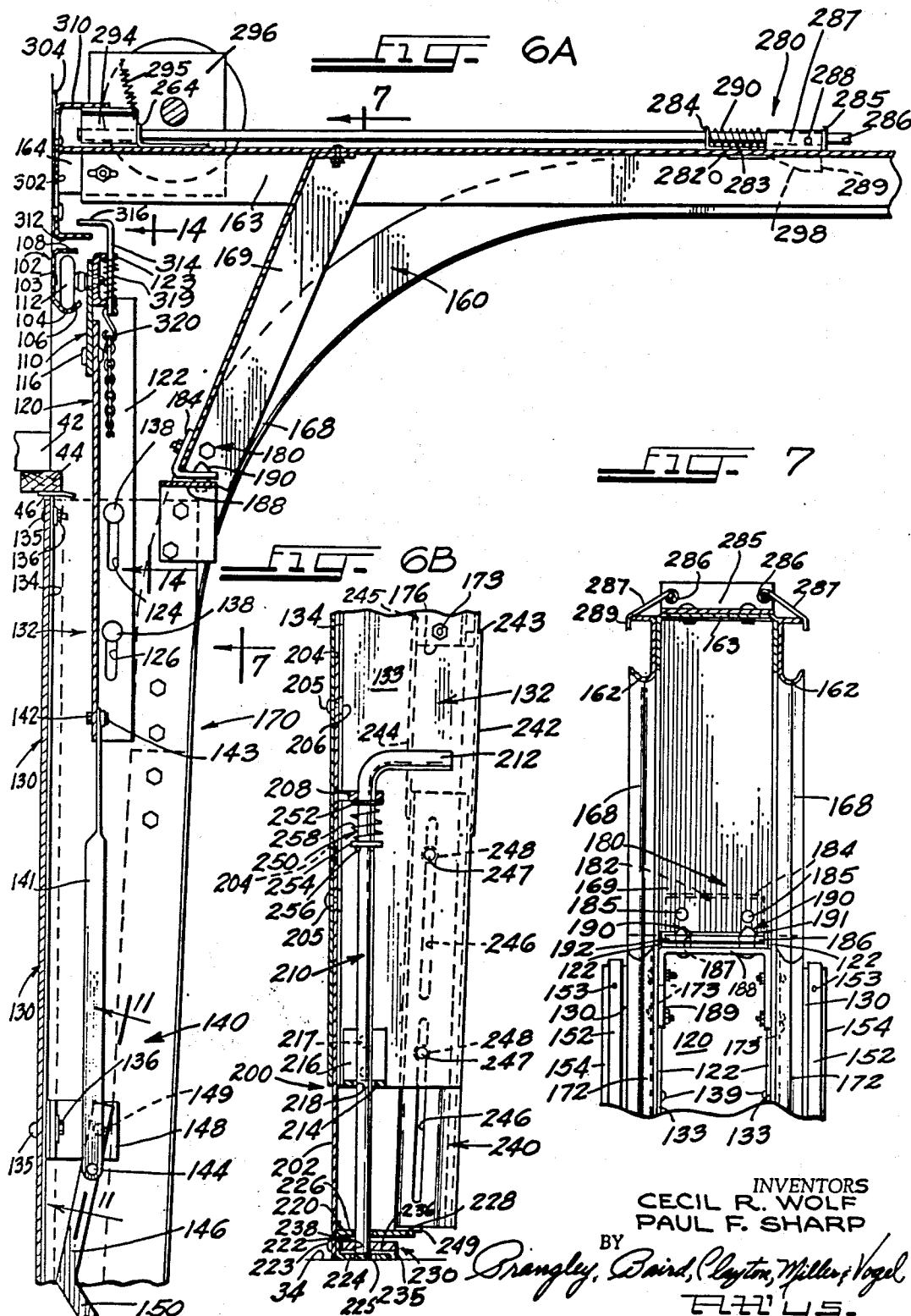
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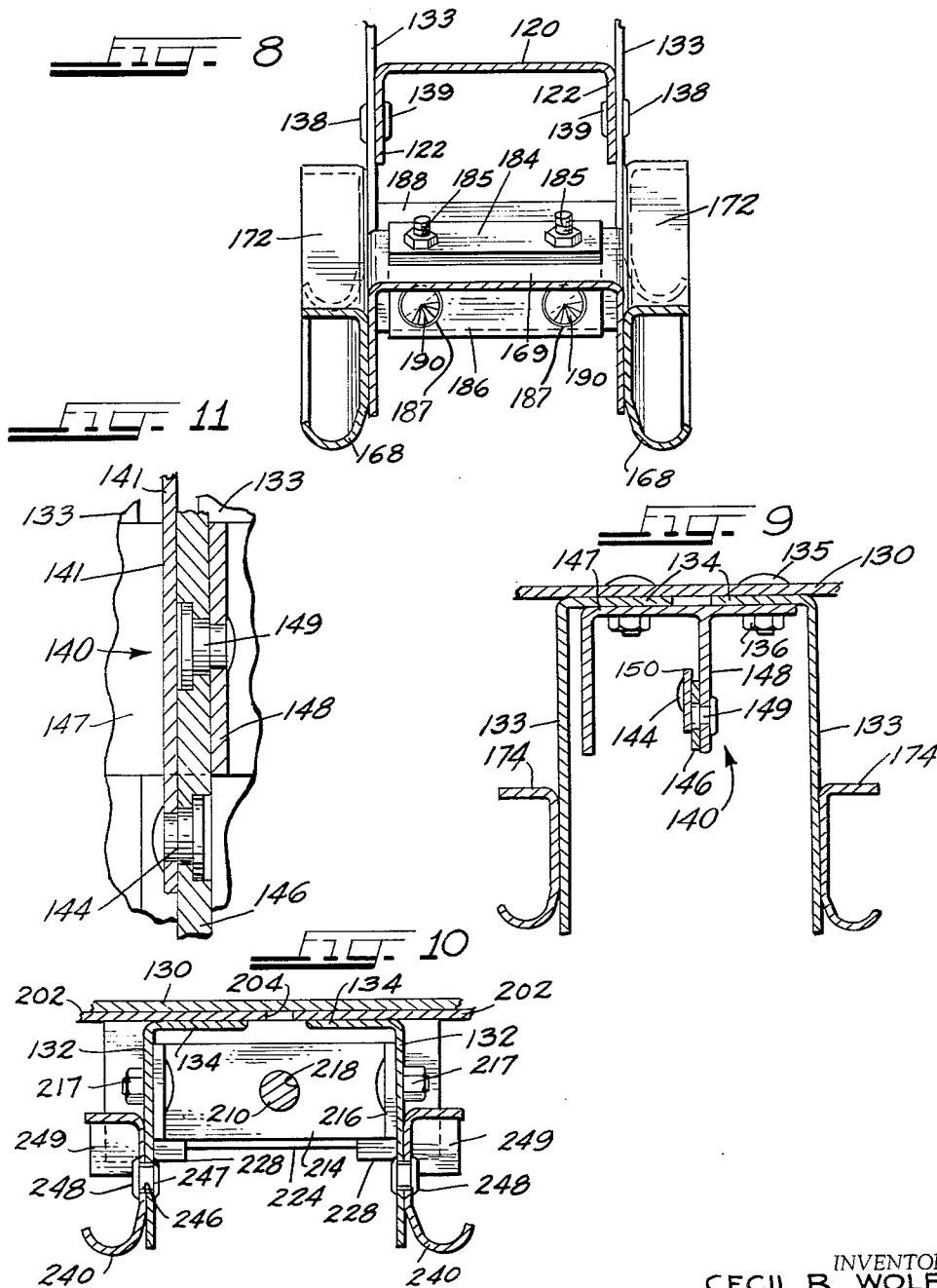
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FIG. 12

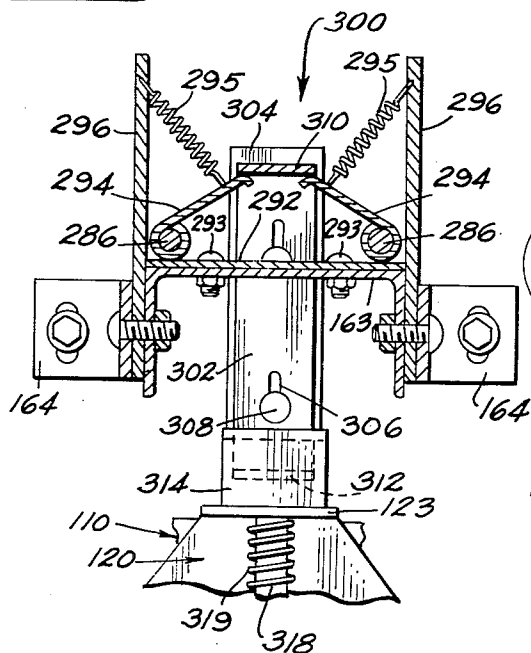


FIG. 14

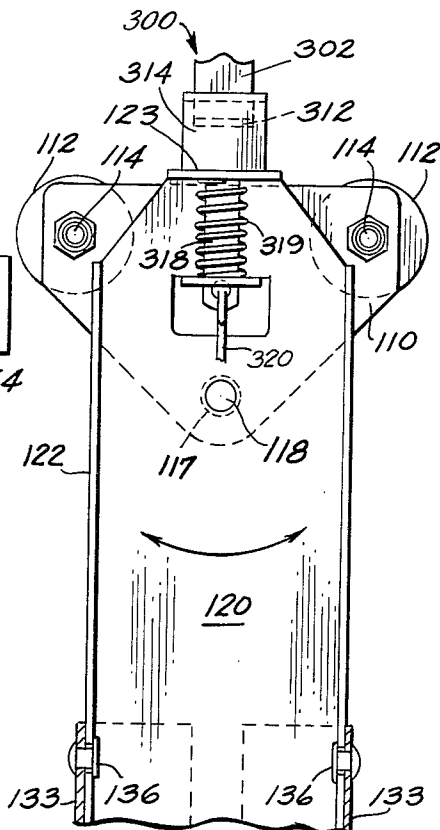
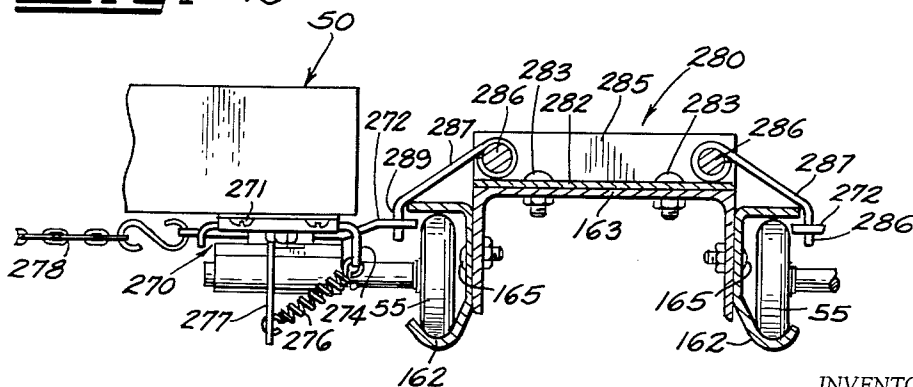


FIG. 13



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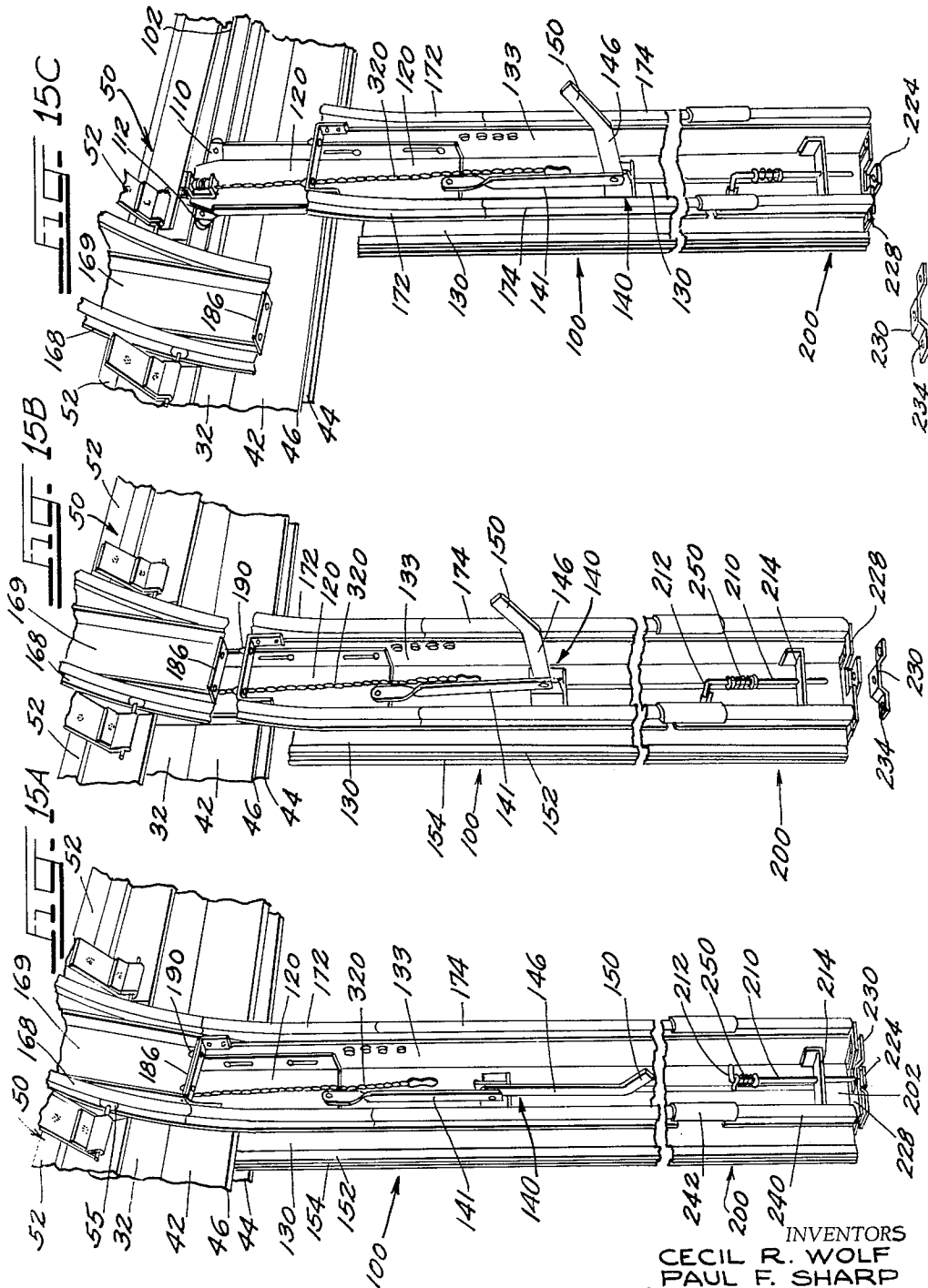
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3,217,784

OVERHEAD DOOR CONSTRUCTION AND REMOVABLE CENTER POST THEREFOR

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12 Claims. (Cl. 160—113)

This invention relates to improvements in overhead door constructions in which a series of doors are provided to close a single large door opening, the adjacent edges of the doors cooperating with removable center posts, and particularly to improved constructions of removable center posts and mountings therefor.

Although the present invention including the removable center post thereof has general utility whenever a large door opening is to be closed by two or more overhead doors movable between a substantially vertical closed position and a substantially horizontal open position along a supporting track, certain of the important advantages thereof are more fully realized when the invention and the improved removable center post are utilized in a garage, and specifically an aeroplane hangar or the like, and the invention, accordingly, will be described as applied thereto.

It is desirable to use overhead doors and particularly sectional overhead doors to close the large openings in aeroplane hangars because such overhead doors require a minimum space for the installation and operation thereof. However, there is a maximum practicable width for a single sectional door and many of the continuous door openings requiring such closures have widths substantially greater than the maximum practicable space or width of a single overhead door. It has therefore been the custom to use a plurality of overhead doors to close the opening, the doors being arranged in side by side relation extending across the door opening and having removable center posts between the adjacent edges of adjacent overhead doors.

The removable center posts may be of the "carry away type" which is disconnected and bodily removed by hand to open the door opening; or it may be of the "hinged type" which is hinged and can be swung upwardly and rearwardly in an arc to a position above the door opening; or it may be of the "roll-away type" which rolls upon a track to one side of the door opening; the present invention relates to the latter type of removable center posts. The cost of the "roll-away type" removable center posts has heretofore been higher than the other types, one of the principal reasons being that heretofore the transverse track for supporting the center post for rolling movement to the edge of the door opening has been suspended under the horizontal portions of the overhead door track and close to the curved track sections thereof interconnecting the horizontal and vertical track sections. The structure for supporting the transverse center post track has also had to be reinforced to span the door width, thus limiting the maximum practicable door width. There has further been no provision in the structures of these prior removable center posts to accommodate deflection of the associated header or heaving of the floor as a result of frost or a settling of the floor or of the fill therebeneath, whereby the removable center post does not adequately support the overhead door in a manner such as to close the door opening.

Accordingly, it is an important object of the present invention to provide an improved removable center post of the "roll-away type" and an improved structure for mounting such a removable center post.

More specifically, it is another object of the invention

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to provide an improved removable center post of the type set forth including vertically shiftable structure at the upper portion thereof operable to raise and lower the upper end of the center post with respect to an associated fixed overhead door track mounted on the building, thus to provide ample clearance at the upper portion of the center post so that it can move freely between the storage position at the side of the door opening and the operative position.

In connection with the foregoing object, it is another object of the invention to provide centering mechanism between the vertical track section carried on the center post and the associated horizontally fixed overhead track section to insure proper connection therebetween when the center post is moved to the operative position, and also to provide safety latch mechanism to insure that the associated door in its storage position on the fixed overhead track cannot be moved toward the lower position thereof when the center post is not in position to receive the door.

Yet another object of the invention is to provide an improved removable center post of the type set forth which includes a truck plate mounted for rolling movement upon the associated center post track, the remaining portion of the center post structure being pivotally mounted and dependent from the truck plate to facilitate movement of the bottom of the center post out of engagement with retaining structure interconnecting the same with an associated floor.

Still another object of the invention is to provide an improved removable center post of the type set forth including telescoping structure at the bottom so that the bottom portion of the center post can be raised and lowered independently of the movement of the upper portions of the center post so as to accommodate header deflection or heaving of the associated floor or settling of the floor as the filler soil therebeneath settles, thus to insure that the center post adequately holds the associated doors in the closed position and to provide clearance at the bottom of the center post so that it can move freely between the storage position at the side of the door opening and the operative position thereof.

In connection with the foregoing object, it is another object of the invention to provide a latch structure for holding the telescoping bottom portion of the center post in the upper position thereof and to provide telescoping track sections in association with the lower end of the center post and the telescoping bottom portion thereof.

A further object of the invention is to provide an improved mounting of the center post track with respect to the other tracks, the center post track being mounted on the building wall containing the door opening for continuous support along the entire length thereof.

Further features of the invention pertain to the particular arrangement and construction of the removable center post and the parts thereof and the overhead door construction in which it is incorporated, whereby the above-outlined and additional features thereof are attained.

The invention, both as to its organization and method of operation, together with further objects and advantages thereof, will best be understood by reference to the following specification taken in connection with the accompanying drawings, in which:

FIGURE 1 is a diagrammatic view of the front of an aeroplane hangar having an overall door opening therein with a width such that three overhead sectional doors are required to close the door opening, two of the removable center posts of the present invention being illustrated in position between the adjacent edges of the overhead doors, one of the overhead doors being shown in the full closed position, another of the overhead doors

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being shown in the partly open position, and the other overhead door being shown in the full open position;

FIG. 2 is an enlarged view in cross section through the overhead door structure of FIG. 1 substantially as seen in the direction of the arrows along the line 2—2 thereof;

FIG. 3 is a plan view partly in section of the rear of the door structure of FIG. 2 as seen in the direction of the arrows along the line 3—3 thereof, one of the removable center posts being shown to the right in the operative position and the other removable center post being shown to the left intermediate the operative and the storage positions thereof;

FIGS. 4A and 4B are side elevational views partly in section of the center post of FIG. 3 substantially as seen in the direction of the arrows along the lines 4A—4A and 4B—4B, respectively, therein;

FIGS. 5A and 5B taken together are an enlarged view partly in section and partly broken away of the rear of the removable center post, the parts being shown in the operative positions thereof;

FIGS. 6A and 6B taken together are an enlarged view in vertical section through the removable center post substantially as seen in the direction of the arrows along the line 6—6 of FIG. 3;

FIG. 7 is an enlarged fragmentary view, partly in section, as seen along the line 7—7 of FIG. 6A illustrating the structure interconnecting the movable door track section on the removable center post and the fixed door track section on the building;

FIG. 8 is an enlarged view in horizontal section along the line 8—8 of FIG. 4A;

FIG. 9 is an enlarged view in horizontal section along the line 9—9 of FIG. 5A and illustrating a part of the structure for lowering and raising the upper portion of the movable door track section with respect to the fixed door track section;

FIG. 10 is an enlarged view in horizontal section along the line 10—10 of FIG. 5B and illustrating a part of the structure for raising and lowering the bottom end of the removable center post;

FIG. 11 is an enlarged fragmentary view in section along the line 11—11 of FIG. 6A;

FIG. 12 is a fragmentary view on an enlarged scale of that portion of FIG. 5A enclosed within the dashed circle and illustrating a portion of the mechanism for releasing the overhead door;

FIG. 13 is an enlarged fragmentary view in vertical section along the line 13—13 of FIG. 2 and illustrating the structure for latching the door in the upper position thereof;

FIG. 14 is a fragmentary view in vertical section on an enlarged scale along the line 14—14 of FIG. 6A and showing the pivotal connection between the truck plate and the drop strap that pivotally mounts the upper end of the removable center post; and

FIGS. 15A, 15B and 15C are fragmentary perspective views showing respectively the removable center post in the operative position, in the disconnected position and in an intermediate position between the storage and operative positions thereof.

It is to be understood that the overhead door construction of the present invention has general utility and may be used to close any door opening having an unusually long span; however, certain of the advantages of the invention are more fully realized when the door construction is incorporated in an aeroplane hangar; accordingly, the invention will be described as applied thereto.

Referring to FIG. 1 of the drawings, there is shown an aeroplane hangar generally designated by the numeral 30 and including a front wall 32 having a large substantially rectangular door opening 40 therein; more specifically, the door opening 40 has a width such that a plurality of sectional overhead doors 50 must be used

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to close the area thereof, the outer edges of the outermost doors 50 being supported by tracks mounted on the front wall 32 and the adjacent edges of the doors 50 being supported by tracks mounted on the removable mullions or center posts 100, two of the center posts 100 being illustrated in FIG. 1 of the drawings. Substantially the entire span of the door opening 40 is free and clear of obstructions if desired by raising all three of the doors 50 to the upper or open positions thereof and by moving the center posts 100 to the nearest vertical edge of the opening 40.

Additional details of construction of the overhead doors 50 and the mounting thereof are illustrated in FIGS. 2 and 3 of the drawings wherein it will be seen that the door opening 40 is provided with the usual header 42 having associated therewith a stop 44, the stop 44 preferably carrying weather stripping 46 to provide for a weather-tight joint between the building wall 32 and the door 50 when the door 50 is in the lower or closed position thereof.

All three of the doors 50 are of identical construction and therefore only one will be described in detail, like reference numerals being applied to like parts on all three of the doors 50. Each door 50 as illustrated is of the so-called sectional type including a top door section 51, a bottom door section 52, and a plurality of intermediate door sections 53, the adjacent edges of adjacent door sections being hingedly interconnected as at 54. In order to facilitate the movement of the door 50 between the vertical or closed position thereof illustrated to the left in FIG. 1 and to the right in FIG. 3 and the overhead horizontal or open position thereof illustrated in FIG. 2, a plurality of rollers 55 are provided along the edges of the door 50, the rollers 55 being mounted in suitable tracks that guide the sectional door 50 between the open and closed positions thereof, as will be explained more fully hereinafter. The top door section 51 carries a sealing member 56 which cooperates with the weather stripping 46 to provide a seal therebetween and the bottom door section 52 is likewise provided with a seal 57, which may be in the form of a resilient plastic or rubber, that extends the width of the door 50 and forms a sealing contact with the floor 34 of the hangar 30. In order to facilitate the movement of the door 50 between the open and closed positions thereof, a counterbalancing mechanism has been provided including a cable drum 58 that includes spring tensioning mechanism and which supports a cable 59 that connects with the bottom door section 52. The lowering of the door 60 to the closed position imparts to and stores energy in the spring mechanism of the drum 58 which is then used to assist in moving the door 50 to the open position thereof.

The outermost edges of the two outer doors 50 are supported by fixed side tracks generally designated by the numeral 60 mounted upon the front wall 30 and including a generally horizontally arranged track section 62 and a generally vertically arranged track section 70 interconnected by an intermediate curved track section 72, see FIG. 3 of the drawings.

The inner adjacent edges of the overhead doors 50, i.e., the edges of the doors 50 disposed away from the vertical sides of the door opening 40 and the side tracks 60, are supported in the closed position thereof by the movable center posts 100, see FIGS. 2 and 3 particularly, the center posts 100 being identical in construction; therefore only one of the movable center posts 100 will be described in detail and like reference numerals will be applied to like parts of both the center posts 100 illustrated in the drawings. Each center post 100 in use may occupy an operative position as illustrated in FIG. 1 and to the right in FIG. 3 of the drawings wherein the center post 100 is in position to support the door 50 in the vertical position thereof; more particularly, the rollers 55 are disposed in a vertical track section 170 on the

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center post 100 when the door 50 is in the closed position as well be described more fully hereinafter. Alternatively, and in order to clear the door opening 40, the center post 100, after movement of the door 50 to the raised or open position thereof illustrated in FIG. 2, may be moved toward the adjacent vertical edge of the door opening 40 which constitutes a storage position therefor, the center post 100 to the left in FIG. 3 being shown in a position intermediate the operative and storage positions thereof.

The center post 100 is supported upon a post track 102 at all times and particularly while moving between the operative and the storage positions thereof, the post track 102 being mounted flush against the inner surface of the front wall 32 and supported thereon at any desired number of points therealong by the mounting screws or bolts 103. Referring to FIGS. 4A and 6A, it will be seen that the post track 102 includes a support flange 104 adapted to support rollers to be described hereinafter, the support flange 104 having an upturned retaining flange 106 thereon; the upper portion of the post track 102 is provided with a generally horizontally extending horizontal flange 108 to assist in holding the associated rollers in the operative position thereof upon the support flange 104.

Referring to FIGS. 4A, 4B, 6A and 6B, it will be seen that the center post includes a truck plate 110 rollingly supported upon the post track 102, a drop strap 120 hingedly and pivotally mounted upon the truck plate 110, a main or jamb plate 130 slidably mounted upon the drop strap 120 and a bottom adjustable center post section 200 slidably mounted upon the main plate 130. The details of construction of the truck plate 110 are best illustrated in FIGS. 4A, 5A and 14 of the drawings wherein it will be seen that the truck plate 110 is generally triangular in shape with the apex directed downwardly. The upper corners of the truck plate 110 each carry a roller 112 mounted upon a shaft 114 and engaged within the post track 102 for supporting the truck plate 110 and the associated parts thereon to accommodate rolling movement thereof along the post track 102 and across the entire width of the door opening 40. The lower portion of the truck plate 110 is pivotally connected to the upper end of the drop strap 120, the truck plate 110 and the drop strap 120 being pivotally interconnected by a bolt 116 (see FIG. 6A also). The single attachment point provided by the bolt 116 between the truck plate 110 and the drop strap 120 permits pivoting of the drop strap 120 and the attached parts in a plane generally parallel to the door opening without binding the rollers 112 in the post track 102 and allows free rolling action of even an unusually tall center post 100 along the post track 102.

The drop strap 120 is provided with a pair of side flanges 122 that extend substantially the length thereof along the vertical sides and are disposed substantially perpendicular thereto and extend inwardly away from the associated door opening 40. Each of the side flanges 122 has therein an upper elongated slot 124 and a lower elongated slot 126, the two slots 124 being in general horizontal alignment, the two slots 126 being in general horizontal alignment, and each of the pairs of slots in one of the side flanges 122 having the axes thereof in general vertical alignment (see FIG. 6A also).

The space between the inner vertical edges of adjacent doors 50 in the closed position thereof is covered primarily by the main or jamb plate 130 which in the operative position extends from essentially the weather stripping 46 downwardly to the adjustable center post section 200 and extends horizontally a distance slightly greater than the space between the adjacent vertical edges of the associated overhead doors in the closed positions thereof. The vertical edges of the plate 130 carry respectively vertically extending jambs 152 mounted on the inwardly directed surface thereof and extending slightly above the upper edge

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of the plate 130 and substantially to the lower side of the stop 44 (see FIG. 4A) and downwardly to the lower edge of the center post, the jambs 152 being held in position by fasteners generally designated by the numeral 153 (see FIG. 5A). Mounted on the jambs 152 and extending downwardly therefrom is weather stripping 154 which cooperates with the weather stripping 46 to seal the top and sides of the associated overhead door when the removable center post 100 and the associated doors 50 are in the operative and closed positions thereof respectively.

The plate 130 further has a pair of jamb angles 132 mounted thereon and each including a plate 133 extending rearwardly with respect to the plate 130, the two plates 133 being disposed substantially parallel to each other and disposed on opposite sides of the drop strap 120. The front edge of each of the plates 133 has a front flange 134 thereon extending outwardly therefrom in a direction toward the adjacent plate 133, each of the flanges 134 being firmly secured to the plate 130 by bolts 135 passing through aligned apertures therein and cooperating nuts 136.

A sliding connection is made between the drop strap 120 and the main plate 130 so as to accommodate vertical movement of the main plate 130 and the associated parts with respect to the door opening and particularly the stop 44. To this end each of the plates 132 has fixedly secured thereto a pair of studs 138 extending respectively through the slots 124 and 126 in the adjacent side flange 122 of the drop strap 120, the outer ends of each of the studs 138 being provided with a head 139 to hold the parts in the assembled position. By means of this structure, the main plate 130 can move upwardly and downwardly with respect to the drop strap 120 a distance equal to slightly less than the length of the slots 124 and 126.

A toggle linkage is provided to control the position of the main plate 130 with respect to the drop strap 120, the construction and operation of this toggle linkage 140 being best illustrated in FIGS. 3, 5A, 6A, 9, 11, 15A, 15B and 15C of the drawings. Referring specifically to FIG. 6A, a toggle bar 141 is provided having the upper end thereof pivotally connected to the lower end of the drop strap 120 by a bolt 142 and a cooperating nut 143. The lower end of the toggle bar 141 is pivotally connected by means of a rivet 144 to a toggle lever 146 at a point intermediate the ends thereof. In order to make a connection with the main plate 130, a mounting bracket 147 is mounted thereon by a pair of the bolts 135 and nuts 136 which also serve to mount the jamb angles 132 thereon; extending rearwardly from the mounting bracket 147 is a flange 148 to which is pivotally connected the end of the toggle lever 146 nearest the rivet 144, the connection between the flange 148 and the toggle lever 146 being by means of a rivet 149. Extending inwardly and at a slight angle to the lever 146 is an operating handle 150 therefor which can be moved in a counterclockwise direction as viewed in FIG. 6A to lower the main plate 130 with respect to the stop 44. More specifically, movement of the handle 150 to the right in a counterclockwise direction as viewed in FIG. 6A serves to move the rivet 144 rearwardly or to the right and in a counterclockwise direction with respect to the rivet 149 and to the right of the vertical line passing through the rivet 144, whereby eventually to lower the rivet 149 and the associated parts with respect to the rivet 144. This movement of the handle 150 therefore serves to drop the main plate 130 downwardly with respect to the stop 44 and the drop strap 120 a distance equal substantially to the length of the slots 124-126 in the drop strap flanges 122, the parts in the lowered position being illustrated in FIG. 15B, the parts in the raised position being illustrated in FIG. 15A. In other words, the toggle linkage 140 when actuated by means of the handle 150 is effective to move the main plate 130 between the positions illustrated in FIGS. 15A and 15B. It further will be noted from FIG. 6A that when the main

plate 130 is in the upper engaged position thereof, a vertical line passing through the center of the rivet 144 is disposed to the left or forwardly with respect to a vertical center line passing through the rivet 149 so that any tendency of the parts to move downwardly simply urges the pivot 149 about the rivet 144 in a clockwise direction; in other words, the toggle linkage 140 is of the over-center type which automatically locks the main plate 130 and the attached parts in the position in which they are placed by the movement of the handle 150.

The edges of the overhead doors 50 disposed in general alignment with the removable center posts 100 are supported upon tracks generally designated by the numeral 160 and including stationary horizontal track sections 162 and removable vertical track sections 170. Referring particularly to FIGS. 2, 3, 4A and 6A, it will be seen that the fixed track section 162 is mounted upon the inner surface of the wall 32 and more particularly there is provided a generally horizontally extending beam 163 generally channel-shaped in cross section (see FIGS. 7 and 12) having the forward end thereof fixedly secured to the wall 32 by means of a bracket 164 and the rear end thereof secured to the building by a bracket 166, the longitudinal axis of the beam 163 being disposed substantially perpendicular to the plane of the door opening but positioned vertically thereabove and extending rearwardly a distance to accommodate the track section 162. The track section 162 is fixedly secured to the beam 163 by bolts 165 and extends rearwardly a distance to support the associated overhead door 50 and extends forwardly and terminates in a downturned curved section 168 that is braced and held in the proper operative position by a support channel 169 that extends downwardly and forwardly from the beam 163. Accordingly, it will be understood that the horizontal track section 162 is fixedly mounted with respect to the hanger 30 and extends generally rearwardly from the door opening 40 for supporting the overhead door 50 in the open or generally horizontal position thereof as illustrated in FIG. 2.

When one of the removable center posts 100 is in the operative position thereof, two vertical track sections 170 mounted thereon are disposed in general alignment with two of the stationary horizontal track sections 162, the resultant track 160 receiving the rollers on the adjacent edges of the associated overhead doors 50 for accommodating movement of the doors 50 between the open and closed positions thereof. Referring to FIGS. 2, 3, 4A, 5A, and 7 there will be seen that each of the vertical track sections 170 includes an upper curved section 172 which is fixedly mounted upon the associated jamb angle 132, and particularly the plate 133 thereof, by a plurality of bolts 173, and the curved section 172 opening toward the adjacent overhead door to receive the rollers 55 thereof therein. Disposed below the curved section 172 and abutting against the lower end thereof is a straight section 174 which extends downwardly substantially to the adjustable bottom section 200 to be described more fully hereinafter, a plurality of the bolts 173 serving to mount the straight section 174 upon the associated plate 133, the positioning of the track section 174 and particularly the downward and outward inclination thereof with respect to the vertical cooperating with the rollers 55 on the associated door 50 so that in the closed position of the door 50, the vertical edges thereof are pressed against the weather stripping 154 on the jambs 152 carried by the main plate 130.

In order to insure that the lower ends of the curved fixed track sections 168 are in proper alignment and form a continuous track with the upper ends of the movable curved track sections 172, a track alignment structure generally designated by the numeral 180 has been provided, see particularly FIGS. 4A, 5A, 6A, 7 and 8 of the drawings. The lower end of the support channel 169 has mounted thereon a pilot pin receiving bracket 182 having a first flange 184 lying against the front side

of the channel 169 and secured thereto by means of bolts 185. A second flange 186 on the bracket 182 is integral with the lower end of the flange 184 and extends rearwardly therefrom and is disposed substantially horizontally and is provided with a pair of laterally spaced apart pilot pin holes 187 therein. Fixedly mounted upon the associated pair of plates 133 and extending therebetween is a pilot pin mounting bracket 188 having a pair of downwardly extended mounting flanges 189 secured respectively to the associated plate 133 by the bolts 173 that also secure the movable curved track section 172 thereto. Mounted upon the bracket 188 and extending upwardly therefrom and in general alignment with the holes 187 are two pilot pins 190, each pilot pin 190 including a generally conical locating portion 191 and a generally cylindrical positioning portion 192. It will be understood that when the toggle lever handle 150 described above is operated to lower the main plate 130, the pilot pins 190 will be lowered therewith and will disengage the respective holes in the bracket 182, this action also separating the adjacent ends of the track sections 168 and 172. On the other hand, when the handle 150 is operated to raise the main plate 130, the locating portions 191 of the pilot pins 190 move into the associated holes 187 and guide the parts to the true centered position thereof until the final upward movement of the main plate 130 places the positioning portions 192 in the holes 187, the diameter of the positioning portions 192 being only slightly less than the diameters of the associated holes 187, whereby the pilot pins 190 effectively and positively position the upper end of the track section 172 with respect to the lower end of the track section 168 to assure the necessary alignment therebetween in all directions.

The lower end of the removable center post 100 is provided with an adjustable bottom section generally designated by the numeral 200 and best illustrated in FIGS. 2, 3, 4B, 5B, 6B, and 10 of the drawing. Referring particularly to FIG. 6B of the drawings, it will be seen that the lower end of the main plate 130 terminates a substantial distance above the floor 34, in an actual construction, the distance between the lower end of the main plate 130 and the floor 34 being, for example, five inches. The lower end of the main plate 130 is offset outwardly or to the left as viewed in FIG. 2 as at 131 so that the front flanges 134 of the jamb angles 132 are spaced from the associated main plate portion 131 to receive therebetween a bottom adjustable mounting plate 202 which in the operative position of the center post 100 extends substantially from the floor 34 upwardly to a point which is positioned below the lower end 176 of the movable straight track section 174. More specifically, the mounting plate 202 is mounted for vertical sliding movement between the main plate portion 131 and the flange 134 and to this end is provided with a pair of elongated slots 204 which receive therein studs 205 fixedly mounted on the main plate portion 131 and having enlarged heads 206 which slidably engage the rear surface of the mounting plate 202. Also fixedly mounted upon the plate 202 is an eye 208 which extends inwardly and receives there-through a cane bolt 210 which is constructed and arranged so that it can be used to raise the mounting plate 202 from the operative position thereof to the inoperative or storage position thereof. More specifically, the cane bolt 210 is arranged generally vertically and extends through the eye 208 and at the upper end thereof is provided with a generally horizontally arranged handle 212. Intermediate the vertical ends of the mounting plate 202 there is provided a stabilizing bracket 214 extending between the associated plates 133 and having flanges 216 at either end thereof which are mounted upon and connected to the associated plates 133 by means of rivets 217, the center of the stabilizing bracket 214 being provided with an opening 218 which receives an intermediate portion of the cane bolt 210 therethrough.

The lower end of the mounting plate 202 carries a bottom hook bracket generally designated by the numeral 220 and including a mounting portion 222 disposed flat against the mounting plate 202 adjacent to the lower end thereof and fixedly secured thereto by a pair of rivets 223. Extending outwardly and rearwardly and disposed substantially horizontally is a hook 224 which is adapted to engage beneath a floor plate generally designated by the numeral 230 as will be described more fully hereinafter, the hook 224 having an opening 225 therein for receiving the lower end of the cane bolt 210 when the cane bolt 210 is in the lower or operative position thereof. Also mounted upon the portion 222 and extending rearwardly therefrom and disposed substantially horizontally is a flange 226 including two lifting members 228 which are adapted to engage beneath and to raise telescoping track sections 240 as will be described more fully hereinafter.

Referring to FIG. 3, it will be seen that the lower end of each of the removable center posts 100 cooperates with a floor plate 230 in the operative position thereof and further cooperates with a floor plate 230 in the storage position thereof. The details of construction of the floor plate 230 and the cooperation thereof with the lower end of the removable center posts 100 are best illustrated in FIGS. 5B and 6B of the drawings. The floor plate 230 includes a pair of mounting flanges 232 arranged at the outer ends thereof and having openings 233 therethrough to receive cap screws 234 that serve fixedly to anchor the floor plate 230 with respect to the floor 34; each of the mounting flanges 232 is formed integrally with upturned portions 235 that are connected by a retaining member 236 having an opening 238 therein to receive the lower end of the cane bolts 210 therethrough. The hook 244 on the lower end of the movable plate 202 in the operative position thereof is positioned below the retaining member 236, whereby the positioning of the cane bolt 210 in the aligned openings 225 and 238 serves fixedly to interlock the bottom hook bracket 220 and the associated floor plate 230, thereby fixedly to position the lower end of the removable center post 100 with respect to the floor 34. It will be noted that after the installation of the floor plate 230, there is no hole or opening in the floor 34 that will trap dirt, rocks, water, or other debris, and in fact the structure will be essentially self-cleaning. In addition, the floor plate 230 has a low profile so that when the center post 100 is in a storage position, it is easy to walk over the floor plate 230 and the rubber tires on aeroplanes and the like can readily roll thereover without injury either to the tire or to the floor plate.

As has been pointed out above, the lower end 176 of the vertical track section 170 terminates a substantial distance above the floor 34 and more particularly at a point in general horizontal alignment with the upper edge of the movable plate 202 in the operative position thereof. In order to guide the door rollers 55 on the lower door sections 52 and 53 thereof while the door is moving to the closed position, additional track is needed and, accordingly, the telescoping track sections 240 have been provided. The telescoping track sections 240 in the operative position of the center posts 100 extend from the associated lifting members 228 upwardly to approximately the upper surface of the eye 208, the upper ends of the telescoping track sections 240 therefore being disposed about 5" below the lower end 176 of the associated track sections 174. The space between the lower end 176 of a track section 174 and the upper end of the associated telescoping track section 240 as seen in FIG. 5B is closed by a rear track plate 242 secured to the track section 174 such as by welding at 243 and a front track plate 244 secured to the lower end of the track section 174 as by welding at 245. The track plates 242 and 244 in cooperation with the plate 133 form a connecting track section which, although slightly larger in cross section than the track section 174, is satisfactory in guiding the

door rollers 55 between the track sections 174 and 240. In order to permit the raising of the telescoping track sections 240, each is provided with a pair of aligned elongated slots 246 which receive therethrough studs 247 mounted on the plate 133. The ends of the studs 247 disposed within the telescoping track sections 240 are provided with heads 248 which serve slidably to mount the track sections 240 upon the plate 133. This structure permits the telescoping track sections 240 to move from the position illustrated in FIG. 6B upwardly to a position such that the upper ends thereof are immediately below and adjacent to the lower end 176 of the associated track section 174. In actual operation, the track section 240 is returned to the lower or operative position thereof by the lowering of the associated overhead door; more specifically, the bottom-most roller 55 engages a plate 249 partially closing the lower end of the telescoping track section 240 and suitably secured thereto as by welding.

In order to hold the cane bolt 210 in the lower or operative position illustrated in FIG. 6B, a biasing structure, generally designated by the numeral 250, has been provided which operates in conjunction with the eye 208. The biasing structure 250 includes a first washer 252 disposed beneath the eye 208 and a second washer 254 held in operative position with respect to the cane bolt 210 by a cotter pin 256; disposed between the washers 252 and 254 is a coiled spring 258 normally under compression and acting to urge the washer 254 against the cotter pin 256 downwardly and thus to urge the cane bolt 210 downwardly with respect to the eye 208. The biasing structure 250 insures that the cane bolt 210 is not inadvertently removed from its operative engagement with the floor bracket 230 by lateral pressures such as those resulting from wind pressure or from accidental jars and bumps.

The cane bolt 210 and the associated structure is also useful in raising the mounting plate 202 and the associated telescoping track sections 240 from the operative lower position thereof to the upper or storage position thereof. More specifically, the cane bolt 210 is first disengaged from the floor plate 230 by lifting upwardly on the handle 212, the first increment of movement serving further to compress the spring 258 and to raise the lower end of the cane bolt 210 above the retaining member 236 of the floor plate 230. The entire lower end of the center post 100 is then swung outwardly or to the left as viewed in FIG. 6B so that the hook 224 clears or is removed from beneath the floor plate 230 and particularly the retaining member 236 thereof. Thereafter, continued upward movement of the handle 212 on the cane bolt 210 serves fully to compress the spring 258 until eventually it acts as a solid rod and proceeds to push the eye 208 upwardly with respect to the main plate portion 131, thereby to raise the adjustable mounting plate 202 upwardly. The engagement between the lifting members 228 and the plates 249 at the bottom of the telescoping track sections 240 serves to move the telescoping track sections 240 upwardly and into the area defined by the track plates 242 and 244. When all of the parts are in the fully raised or retracted position, the handle 212 on the cane bolt 210 is pivoted so that it overlies a rest bracket generally designated by the numeral 260. The bracket 260 is mounted upon one of the plates 132 by means of a bolt 262 and a cooperating nut 264. The upper end of the bracket 260 has an inwardly extending holding flange 266 thereon which receives the cane bolt handle 212 and serves to hold the cane bolt 210 and all of the associated structures in the raised position thereof. It is pointed out that in an actual operative structure, the lower end of the center post 100 may be several inches above the associated floor 34.

Each of the overhead doors 50 is further provided with latch structure which is best illustrated in FIG. 13 of the drawings, the latch structure being generally designated by the numeral 270 and being secured to the door 50 by a plurality of screws 271. The latch structure 270

includes a latch bolt 272 which is adapted to extend laterally outwardly beyond the adjacent edge of the door, and a spring latch case 274 operatively connected to the latch bolt 272 and effective to hold the latch bolt 272 in the outer or latching position under the urging of a spring 276 connected between the latch case 274 and a spring bracket 277. When the door 50 is in the closed position, the bolt 272 cooperates with a latch strike 279 (see FIG. 2) to hold the door 50 in the closed position thereof. A chain 278 is provided for the purpose of retracting or withdrawing the latch bolt 272 to the left as viewed in FIG. 13 for the purpose of disengaging a latch strike.

The latch structure 270 is also used to hold the associated overhead door 50 in the horizontal or open position thereof, this structure being illustrated in FIGS. 12 and 13 of the drawings. It is important that the door 50 be held in the upper position particularly when the associated removable center post 100 is not in the operative position thereof, since a lowering of the door 50 while the center post is removed would result in the door falling with the possibility of injury to the door as well as personnel and equipment in the path of fall of the door.

In accordance with the present invention the same latch structure 270 on the door 50 useful in holding the door in the closed position is also employed to hold the overhead door 50 in the open position thereof. To this end a safety latch structure generally designated by the numeral 280 is provided which is mounted upon the beam 163. More specifically, a rear safety catch rod mounting bracket 282 is provided (see FIG. 6A also) which is fixedly secured to the beam 163 by a pair of bolts 283, the bracket 282 having a front upstanding flange 284 and a rear upstanding flange 285 having horizontally aligned apertures therein for the reception and journalling of a safety catch rod 286 therein. Fixedly mounted upon the catch rod 286 is a plate 287 held in the operative position by means of a pin 288, the outer rear edge of the plate 287 providing a safety catch strike 289 which is adapted automatically to engage the door latch bolt 272 when the overhead door 50 arrives in the open position thereof. There further is provided between the bracket flange 284 and the plate 287 a spring 290 under compression, the spring permitting limited and cushioned movement of the rod 286 longitudinally thereof and in a direction generally perpendicular to the front wall 32 of the hanger 30. The spring 290 serves to cushion the rebound of the associated overhead door 50 after the door has arrived in the overhead position and the latch bolt 270 thereof is engaged behind the safety catch strike 289.

The forward end of the safety catch rod 286 is received in and journaled by a front safety catch rod mounting bracket 292 (see FIG. 12) secured to the beam 163 by bolts 293. The forward end of the catch rod 286 extends forwardly beyond the mounting bracket 292 and has fixedly connected thereto a safety catch release lever which is connected to a spring 295 having the other end thereof connected to a bearing plate 296 also mounted upon the beam 163. The spring 295 acting through the lever 294 continually urges the catch rod 286 and the safety catch strike 289 to a position such that the door latch bolt 272 will automatically engage the safety strike 289. More specifically, the plate 287 is provided with a cam surface 298 which first engages the door latch bolt 272 to depress it thus permitting the latch bolt 272 to arrive at a position behind or to the rear of the safety catch strike 289 to cause engagement therebetween and thus to hold the door 50 in the horizontal or open position thereof.

In order to again lower the overhead door 50, it is necessary to move the safety catch strike 289 out of engagement with and out of the path of the latch bolt 272. To this end, a release mechanism generally designated by the numeral 300 has been provided, see particularly FIGS. 4A and 12 to 14. The release mechanism 300 includes a safety catch slide lever 302 mounted adjacent to the front building wall 32 and upon a bracket 304 fixedly

mounted upon the building wall 32. More specifically, the lever 302 is slidably mounted upon the bracket 304 and to this end is provided with a pair of vertically aligned elongated slots 306 which receive therethrough studs 307 fixedly mounted upon the bracket 304. The outer ends of the studs 307 are provided with enlarged heads 308 that hold the lever 302 in operative position upon the bracket 304. The upper end of the lever 302 is provided with a top flange 310 which extends rearwardly and overlies the upper end of the associated release levers 294, a single slide lever 302 being provided for the pair of release levers 294 mounted on each center post 100. The lower end of the slide lever 302 is provided with a bottom flange 312 which extends rearwardly and to a position generally overlying the associated truck plate 110 (see FIG. 6A also). The bottom flange 312 is adapted to cooperate with a safety catch chain bolt 314 which is mounted upon the drop strap 120.

As is best seen in FIG. 4A, the drop strap 120 is provided with an upper integral and rearwardly extending flange 123 having a rectangular opening 125 therein of a substantial width and a lower rearwardly extending flange 128 struck therefrom and having an opening 129 therein of a narrow width. The upper end of the chain bolt 314 has a forwardly extending top flange 316 which overlies the bottom flange 312 on the slide lever 302 for operative engagement therewith when the center post 100 is in the operative position thereof. The main body of the chain bolt 314 is slidably received within the rectangular opening 125 and further is provided with a narrow shank 318 extending downwardly therein and disposed in the opening 129. Disposed around the shank 318 is a spring 319 acting against a shoulder 317 provided at the junction between the chain bolt 314 and the shank 318, the spring 319 being under compression and normally urging the chain bolt 314 upwardly. Upward movement of the chain bolt 314 is limited by a safety catch release chain connected to the shank 318 below the flange 127 and useful also to pull the chain bolt 314 downwardly. Such downward movement of the chain bolt 314 when the associated center post 100 is in the operative position thereof causes engagement between the flanges 312 and 316 thus to move the slide lever 302 downwardly.

The downward movement of the slide lever 302 causes engagement of the top flange 310 with the associated release levers 294 which causes rotation of the associated catch rods 286 to a position such as to remove the safety catch strikes 289 from engagement with the associated door latch bolts 272. The doors 50 can now be moved from the open position thereof toward the closed position thereof. It will be noted that when the center post 100 is moved away from the operative position thereof, the flanges 312 and 316 are moved out of alignment with one another, and accordingly, downward movement of the release chain 320 will not release the safety catch strikes 289 from the associated door latch bolts 272 and consequently the associated overhead doors 50 cannot be lowered when the removable center post 100 is not in the operative position thereof.

A description of the operation of the overhead door system will now be given. When both of the removable center post 100 are in the operative positions thereof, the overhead doors 50 can be moved between the open and closed positions thereof, the outermost edges of the outermost doors being supported by the tracks 60, and more particularly by engagement of the rollers 55 in the tracks 60; the inner edges of the outermost doors 50 are supported upon the tracks 160, the rollers 155 engaging within the tracks. When the outermost doors 50 are in the open position thereof, the outermost edges thereof are supported upon the horizontal track sections 62 and the inner edges thereof are supported upon the stationary horizontal track sections 162. When the center door 50 is in the closed position thereof, the outermost edges are supported by the movable vertical track sections 170 and the tele-

scoping track sections 240 upon the center posts 100. When the center door 50 is in the open position thereof, the edges thereof are supported by the fixed horizontal tracked sections 162. The upper front edges of all the doors 50 are pressed against the weather stripping 46 and the stop 44; the outermost side edges of the outermost doors 50 bear against the weather stripping 82 and the side jambs 80 mounted upon the building; and the inner edges of the outermost doors 50 and the edges of the center door 50 bear against the weather stripping 154 on the jambs 152 carried by the center posts 100.

If it is desired to remove the doors 50 and the center posts 100 from the operative positions to the storage positions thereof, the overhead doors 50 are first raised to the open or overhead position where they are supported upon the horizontal track sections 62 and 162. As each overhead door 50 approaches the fully opened position thereof, the associated latch bolt 272 bears against the cam surface 298 (see FIG. 6A) to cam the latch bolt 272 to a position such that the latch bolt 272 can move past the plate 287 and ultimately engage the safety catch strike 289. As the door 50 rebounds, the latch bolt 272 contacts the strike 289 and pushes the plate 287 against the spring 290 thus to cushion the rebound of the door 50.

The sequence of operations to move the center post 100 from the operative to the storage position thereof is diagrammatically illustrated in FIGS. 15A, 15B and 15C. As illustrated in FIG. 15A, the center post 100 is in the operative position thereof with the pilot pins 190 engaging in the holes of the flange 186, the parts being in this position due to the fact that the handle 150 is in the lowermost position thereof so that the main plate 130 and the attached parts are positioned upwardly with respect to the drop strap 120. The hook 224 is engaged beneath the floor plate 230 and the cane bolt 210 is in the lower position thereof passing through the aligned openings in the floor plate 230 and the hook 224. The telescoping track sections 240 are also in the lower position thereof.

To release the center post 100 for movement to the side of the door opening 40, the toggle lever handle 150 is grasped and moved upwardly from the position illustrated in FIG. 15A to that illustrated in FIG. 15B. This lowers the main plate 130 with respect to the drop strap 120 and disengages the pilot pins 190 from their respective holes in the flange 186, the bottom adjustable section 200 accommodating this movement as will be explained more fully hereinafter.

The handle 212 of the cane bolt 210 is then grasped and the cane bolt 210 lifted upwardly against the action of the biasing structure 250 to remove the lower end of the cane bolt 210 from engagement with the hook 224 and the floor plate 230; the lower end of the center post 100 can now be swung outwardly to remove the hook 224 from beneath the floor plate 230, after which a continued lifting of the cane bolt 210 upwardly will cause the mounting plate 202 to slide upwardly relative to the main plate portion 131 and will cause the telescoping track sections 240 to move upwardly toward the lower end 176 of the main vertical tracks 174. When the track sections 240 hit the lower end 176, the handle 212 of the cane bolt 210 can be engaged upon the cane bolt rest bracket 260 to hold the parts in the upper position to provide approximately 5" of clearance between the floor 34 and the lower end of the adjustable bottom section 200. It will be understood that it is the sliding and telescoping action of the mounting plate 202 and the track sections 240 which permit the initial lowering of the main plate 130 and the attached parts with respect to the drop strap 120.

The upper end of the main plate 130 having been lowered with respect to the stationary track sections 168 and the adjustable bottom section 200 having been raised to the elevated position thereof and disengaged from the floor plate 230, the entire center post 100 can be moved laterally in either direction, the rollers 112 riding upon the post track 102. Because of the rolling mounting of the

center post 100, it can be readily moved in a direction parallel to the door opening 40 along the track 102 and is preferably moved to the nearest edge (see FIG. 3) where there is provided another floor plate 230. When the center post is in the storage position thereof, the adjustable section 200 is lowered by disengaging the cane bolt handle 212 from the bracket 260 and thus permitting the mounting plate 202 to slide downwardly with respect to the main plate 130, the lower end of the center post 100 having been swung outwardly so that the hook 224 can be swung beneath the floor plate 230 in the usual manner. A final lowering of the cane bolt 210 and insertion of the lower end thereof through the aligned holes of the floor plate 230 and the hook 224 will firmly position the lower end of the center post 100 to hold the lower end thereof against movement caused by the wind, prop-wash and the like.

This construction of the center post 100, and particularly the adjustable bottom section 200 and the placement of the cane bolt 210 in engagement with the rest bracket 260, holds the parts in a position such that the lower end of the center post 100 is elevated well above the floor 34 so that it will not interfere with the free rolling movement of the center post 100 between its operative position and its storage position. The floor plate 230 further has a structure such that it provides effective locking for the lower end of the center post 100 in the operative position thereof, yet the floor plate 230 has a minimum height so that it does not interfere with walking thereover and with tires or the like rolling thereover. Furthermore, the floor plate 230 requires no holes or pockets in the floor for proper operation thereof and therefore presents no pockets that collect dirt, stones, water, ice or the like, the floor plate 230 being essentially self-cleaning in character.

It will be noted that the movement of the center post 100 from the operative to the storage position thereof has rendered the release mechanism 300 inoperative inasmuch as the top flange 316 on the bolt 314 has been moved out of vertical alignment with the bottom flange 310 on the slide lever 300. Consequently, the safety catch release chain 320 can be pulled with impunity and the safety latch structure 280 will still hold the overhead doors 50 in the open position thereof. In short, the overhead doors 50 will be automatically held in the upper or storage position thereof by the safety latch structure 280 and cannot be inadvertently released while the center posts 100 are in the storage position thereof.

When it is desired to return the center post 100 to the operative position thereof, the cane bolt 210 is operated to release the hook 224 from the floor plate 230, after which the lower end of the center post 100 is swung outwardly and then pivoted to one side by means of the pivotal connection between the truck plate 110 and the drop strap 120, the cane bolt preferably being raised for engagement of the handle 212 upon the rest bracket 260 so that the lower end of the center post 100 will be in the raised or upper position thereof during the return movement. It will be noted that the upper end of the main plate 130 is still in the lowered position with respect to the drop strap 120 thus to provide adequate clearance at the upper portion of the center post to insure that it rolls freely to the operative position. Upon arrival of the center post 100 at its operative position, the lower end of the center post 100 is preferably swung laterally to one side by the pivoting of the drop strap 120 with respect to the truck plate 110 and then the lower end of the center post 100 is moved outwardly and then to the vertical position and then inwardly to re-engage the hook 224 beneath the floor plate 230, the cane bolt 210 being partially retracted to permit full re-engagement therebetween; thereafter, the cane bolt 210 is released so that the biasing structure 250 will move the lower end of the cane bolt 210 into the aligned holes in the floor plate 230 and the hook 224, thus positively to lock the lower end of the center post 100 in the operative position thereof.

The handle 150 is then moved to the lower position which moves the main plate 130 upwardly with respect to the drop strap 120 and thus moves the pilot pins 190 into the associated holes 187 in the flange 186, the pilot pins 190 positively positioning and aligning the adjacent ends of the track sections 168 and 172 with respect to each other.

The center post 100 is now in the operative position. Since the adjustable bottom section 200 can accommodate a variation of several inches in the effective height of the center post 100, it will be seen that the center post can accommodate substantial changes or irregularities in the building structure with which it is associated; more particularly, the center post can accommodate a substantial header deflection, a substantial heaving of the floor 34 by frost or settling of the floor 34 as the soil therebeneath settles. Yet the center post 100 can adjust to and accommodate all such variations within a rather substantial range so as adequately to hold the associated overhead doors 50 in the closed position. The biasing structure 250 in association with the cane bolt 210 positively locks the lower end of the center post 100 with the associated floor plate 230 so that minor movements of the associated overhead doors 50 and the center post 100 caused by wind or the like will not inadvertently unlock or disconnect the lower end of the center post 100 from the floor plate 230.

Having placed the center post 100 in the operative position thereof, the safety latch release mechanism 300 can once again be operated. More specifically, a downward pull on the chain 320 will move the chain bolt 314 downwardly to cause the top flange 316 thereof to engage the bottom flange 312 on the slide lever 302 to cause downward movement thereof. The downward movement of the slide lever 302 will cause the top flange thereof to engage the release levers 294 to pivot it downwardly against the action of the springs 296 (see FIGS. 5A and 12). This movement of the release levers 294 will rotate the associated catch rod 286 in a direction to move the plates 287 upwardly (see FIGS. 6A and 13) thus to move the safety catch strikes 289 out of the path of the associated latch bolts 272. The associated overhead doors 50 are now free and can be lowered from the overhead storage position thereof to the closed position thereof.

As the overhead door 50 approaches the lowermost position thereof, the lower rollers 55 enter the telescoping track sections 240 and eventually come to rest against the plates 249 extending into the lower ends thereof. The door 50 thereafter forces the telescoping track sections 240 downwardly until the plate 249 contacts the associated lifting member 228 (see FIG. 6B) at which time the overhead door 50 is in the closed position thereof.

As the overhead door 50 reaches the lowermost position thereof, the same latch bolt 272 used in the safety latch structure engages a latch strike 279 (see FIG. 2) mounted on the track section 174, whereby the latch structure 270 in cooperation with the latch strike 279 serves also to hold the overhead door 50 in the closed position thereof.

It will be noted that in the form of the invention illustrated in the drawings, the effective width of the door opening 40 is actually reduced by the width of the center posts 100 which are associated therewith, inasmuch as the storage position of the center posts 100 has been shown to be within, although at the edge of the door opening 40. If it is desired to use the full width of the door opening 40, the structure can be modified by substituting for one or both of the side tracks 60 a movable side post having a construction generally like one-half of one of the center posts 100, i.e., the side post would be provided with only one vertical track 170 thereon rather than two as in the case of the center posts 100; the structure would further be modified by extending the post track 102 to either side of the door opening 40 so that all of the posts including the side posts and the center

posts could be stored upon the post track 102 at a point to the side of the door opening 40, thus to render available the full width of the door opening 40.

It will be seen that there has been provided an overhead door structure which fulfills all of the objects and advantages set forth above. While there has been described what is at present considered to be the preferred embodiment of the invention, it will be understood that various modifications and changes may be made therein, and it is intended to cover in the appended claims all such modifications and changes as fall within the true spirit and scope of the invention.

What is claimed is:

1. A movable center post for use in an overhead door structure including an upper header over a door opening and a center post track mounted over the door opening and extending the length thereof, said center post comprising a drop strap adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, main plate structure mounted on said drop strap for sliding movement vertically with respect thereto between an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, said main plate structure extending in the engaged operative position thereof from a point adjacent to the top of the associated door opening downwardly to a point spaced above the associated floor, and a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof.

2. The movable center post set forth in claim 1, wherein said linkage is of the over-center toggle joint type and is operative to lock said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof.

3. A movable center post for use in an overhead door structure including a center post track mounted over a door opening and extending the length thereof, said center post comprising a truck plate adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, main plate structure, pivot structure interconnecting said truck plate and said main plate structure and pivotally mounting said main plate structure on said truck plate for free pivotal movement with respect thereto in a direction generally parallel to the associated door opening to facilitate movement of said center post between the operative and storage positions thereof, said main plate structure extending in the operative position thereof from a point adjacent to the top of the associated door opening downwardly to a point spaced above the associated floor, and a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof.

4. A movable center post for use in an overhead door structure including an upper header over a door opening and a center post track mounted over the door opening and extending the length thereof, said center post comprising a truck plate adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, a drop strap pivotally mounted on said truck plate for pivotal movement with respect thereto in a direction generally parallel to the associated door opening, main plate structure mounted on said drop strap for sliding movement vertically with respect thereto between

an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, said main plate structure extending in the engaged operative position thereof from a point adjacent to the top of the associated door opening downwardly to a point spaced above the associated floor, and a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof.

5. A movable center post for use in an overhead door structure including an upper header over a door opening and a center post track mounted over the door opening and extending the length thereof, said center post comprising a drop strap adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, main plate structure mounted on said drop strap for sliding movement vertically with respect thereto between an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, a bottom section slidably mounted upon the lower end of said main plate structure and movable vertically with respect thereto between an extended position and a retracted position, said main plate structure and said bottom section in the operative engaged and the extended positions thereof extending from a point adjacent to the top of the associated door opening downwardly to a point spaced adjacent to the associated floor, and a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof.

6. A movable center post for use in an overhead door structure including an upper header over a door opening and a center post track mounted over the door opening and extending the length thereof, said center post comprising a drop strap adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, main plate structure mounted on said drop strap for sliding movement vertically with respect thereto between an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, a bottom section slidably mounted upon the lower end of said main plate structure and movable vertically with respect thereto between an extended position and a retracted position, said main plate structure and said bottom section in the operative engaged and the extended positions thereof extending from a point adjacent to the top of the associated door opening downwardly to a point spaced adjacent to the associated floor, latch structure mounted on said main plate structure for holding said bottom section in the retracted position thereof during movement of said center post between the operative and storage positions thereof, and a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof.

7. A movable center post for use in an overhead door structure including an upper header over a door opening and a center post track mounted over the door opening and extending the length thereof, said center post com-

prising a drop strap adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, main plate structure mounted on said drop strap for sliding movement vertically with respect thereto between an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, a bottom section slidably mounted upon the lower end of said main plate structure and movable vertically with respect thereto between an extended position and a retracted position, said main plate structure and said bottom section in the operative engaged and the extended positions thereof extending from a point adjacent to the top of the associated door opening downwardly to a point spaced adjacent to the associated floor, a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof, and a telescopic track section mounted upon said main plate structure for sliding movement in a generally vertical direction and in alignment with the lower end of said main track section and being movable between a retracted position spaced away from the associated floor and an extended position adjacent to the associated floor.

8. A movable center post for use in an overhead door structure including an upper header over a door opening and a center post track mounted over the door opening and extending the length thereof, said center post comprising a drop strap adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, main plate structure mounted on said drop strap for sliding movement vertically with respect thereto between an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, a bottom section slidably mounted upon the lower end of said main plate structure and movable vertically with respect thereto between an extended position and a retracted position, said main plate structure and said bottom section in the operative engaged and the extended positions thereof extending from a point adjacent to the top of the associated door opening downwardly to a point spaced adjacent to the associated floor, latch structure mounted on said main plate structure for holding said bottom section in the retracted position thereof during movement of said center post between the operative and storage positions thereof, a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof, and a telescopic track section mounted upon said main plate structure for sliding movement in a generally vertical direction and in alignment with the lower end of said main track section and being movable between a retracted position spaced away from the associated floor and an extended position adjacent to the associated floor.

9. A movable center post for use in an overhead door structure including an upper header over a door opening and a center post track mounted over the door opening and extending the length thereof, said center post comprising a truck plate adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, a drop strap pivotally mounted on said

truck plate for pivotal movement with respect thereto in a direction generally parallel to the associated door opening, main plate structure mounted on said drop strap for sliding movement vertically with respect thereto between an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, a bottom section slidably mounted upon the lower end of said main plate structure and movable vertically with respect thereto between an extended position and a retracted position, said main plate structure and said bottom section in the operative engaged and the extended positions thereof extending from a point adjacent to the top of the associated door opening downwardly to a point spaced adjacent to the associated floor, and a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof.

10. In an overhead door structure including a building wall having an upper header over a door opening therein and a center post track mounted over the door opening and extending the length thereof, the combination comprising a fixed track section mounted intermediate the sides of the associated door opening and disposed substantially horizontally and extending rearwardly from the door opening for supporting the adjacent inner edge of an associated door in the overhead position thereof, a movable center post including a drop strap supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, main plate structure mounted on said drop strap for sliding movement vertically with respect thereto between an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof, and cooperating alignment structure on the adjacent ends of said fixed track section and said main track section operable positively to align the adjacent ends thereof upon vertical movement of said main plate structure upwardly into the engaged position thereof to form a continuous track for an associated overhead door.

11. In an overhead door structure including a building wall having an upper header over a door opening therein and a center post track mounted over the door opening and extending the length thereof, the combination comprising a fixed track section mounted intermediate the sides of the associated door opening and disposed substantially horizontally and extending rearwardly from the door opening for supporting the adjacent inner edge of an associated door in the overhead position thereof, a movable center post including a drop strap adapted to be supported upon the associated center post track for lateral shifting movement therealong in a direction generally parallel to the associated door opening between an operative position and a storage position, main plate structure mounted on said drop strap for sliding movement

vertically with respect thereto between an upper engaged position adjacent to the header and a lower disengaged position, manual quickly operable linkage connected between said drop strap and said main plate structure for operatively placing said main plate structure in the upper engaged position thereof and in the lower disengaged position thereof, a main track section mounted on said main plate structure and disposed substantially vertically for supporting the adjacent edge of an associated door in the closed position thereof, latch structure mounted adjacent to said fixed track section engaging an associated overhead door to hold the door thereon in the overhead position thereof when said center post is in the operative and storage positions thereof, and actuating mechanism mounted upon said center post and operative to actuate said latch structure to release an associated door only when said center post is in the operative position thereof with said main track section in alignment with said fixed track section to receive an associated door therefrom.

12. In an overhead door structure including a building wall having a large door opening therein, fixed side tracks adjacent to the sides of the door opening and including generally vertical and generally horizontal track sections for supporting the adjacent outer edge of an associated door in both the closed and overhead positions thereof, and a fixed track section mounted intermediate the sides of the door opening and disposed substantially horizontally and extending rearwardly from the door opening for supporting the adjacent inner edge of an associated door in the overhead position thereof; the combination comprising a center post track mounted on the inner side of the building wall and extending therealong above the door opening substantially the length thereof, said center post track being disposed between the inner side of the building wall and the fixed track section and in front of the fixed side tracks and the fixed track section and toward and adjacent to the door opening, a center post mounted upon said post track in general vertical alignment therewith therebelow and movable therealong between an operative position disposed between the adjacent edges of associated overhead doors and a storage position disposed adjacent to the side of the door opening, a main track section mounted on said center post and disposed substantially vertically and extending in the operative position from a point in abutment with the adjacent end of the fixed track section downwardly to a point adjacent to the bottom of the door opening, and means for releasably holding the lower end of said center post fixed with respect to said door opening when said center post is in the operative position thereof.

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