Oct. 6, 1931. H. C. BLODGETT 1,826,647

OVERHEAD DOOR STRUCTURE

Filed Sept. 13, 1930 2 Sheets-Sheet 1

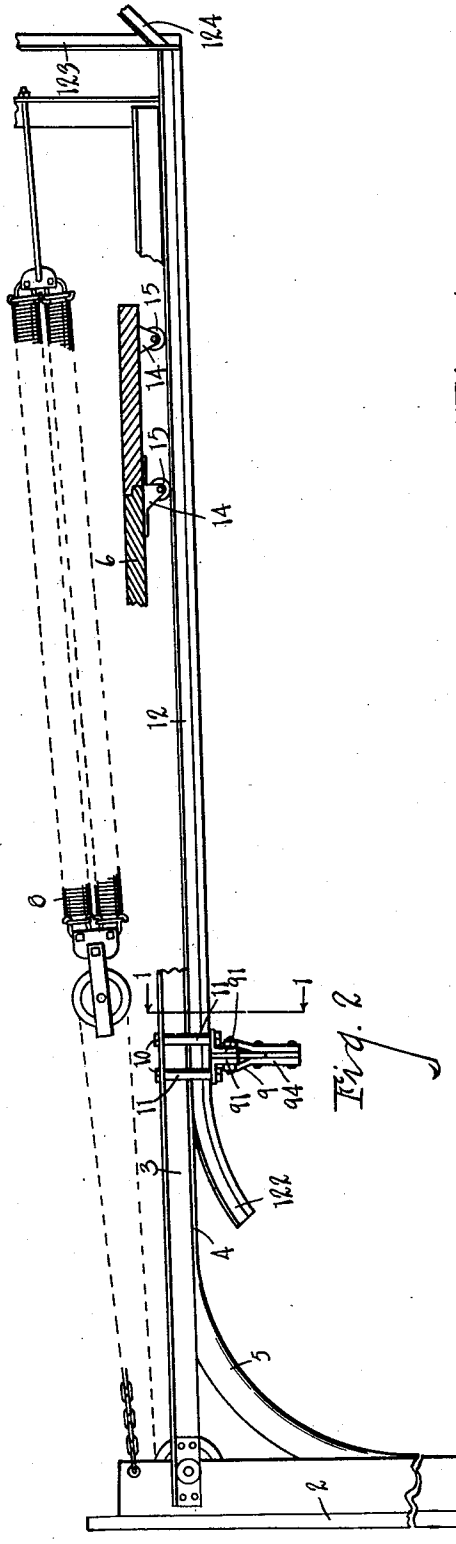


Fig. 2

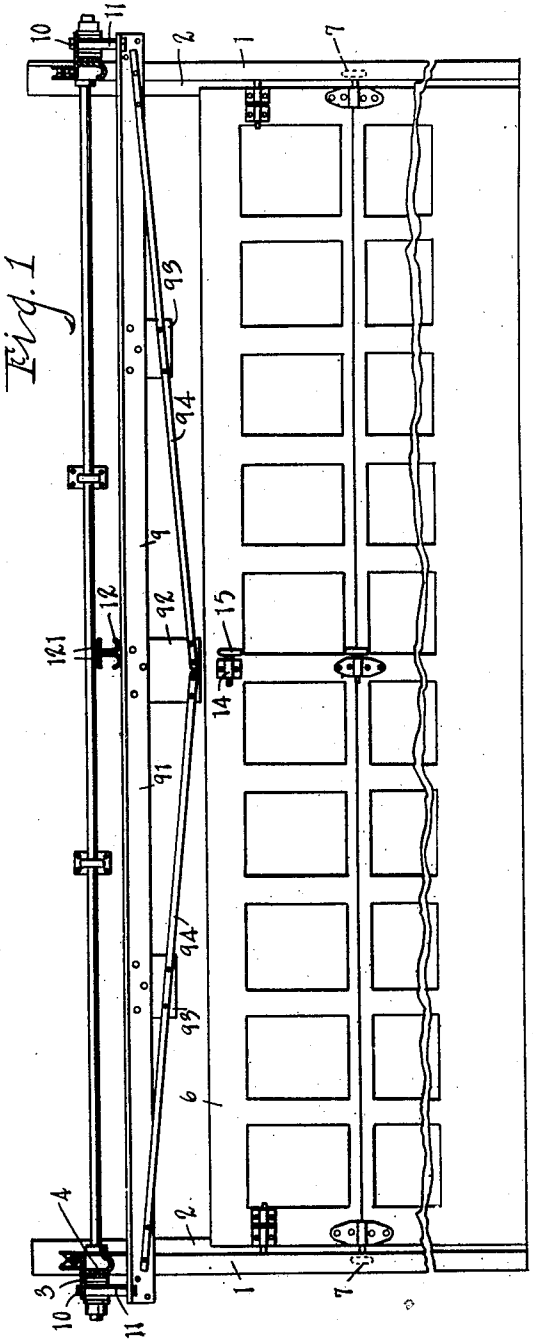


Fig. 1

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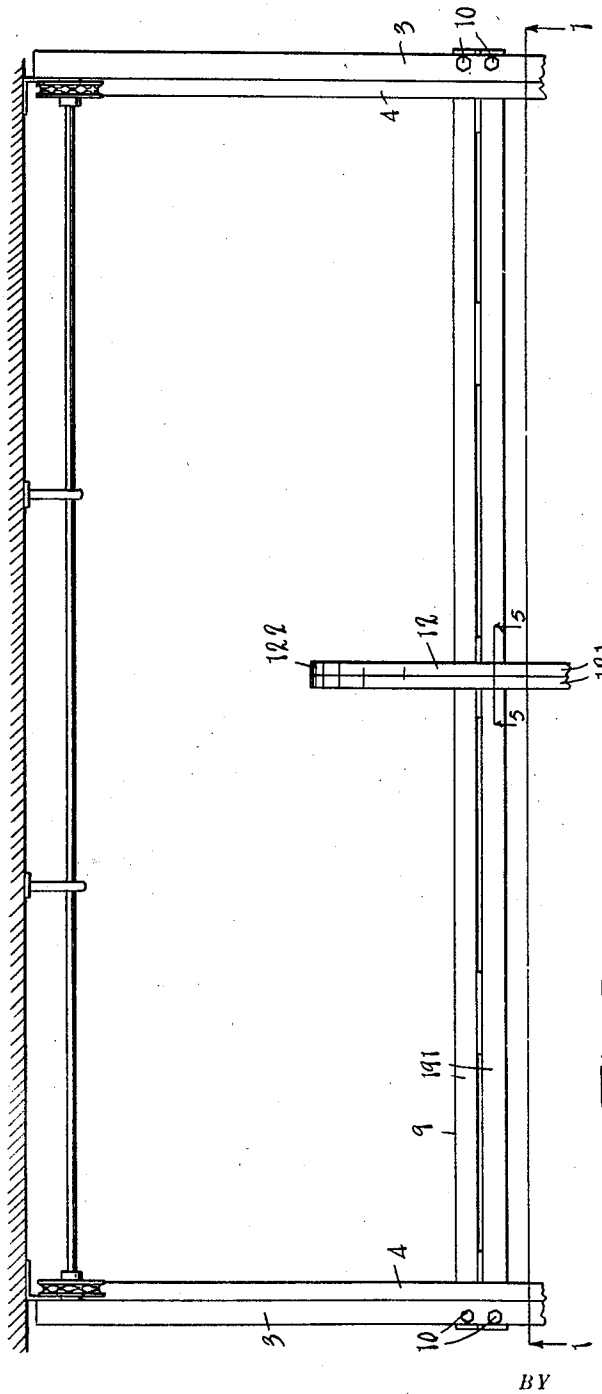


Fig. 3

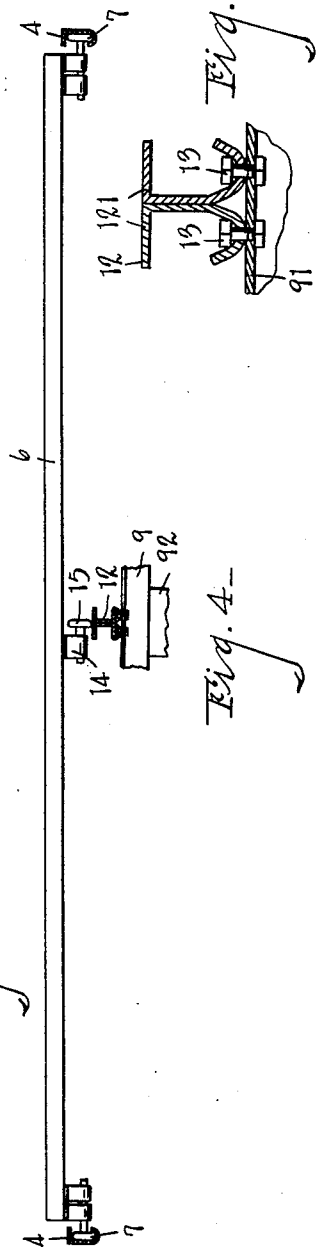


Fig. 4

Fig. 5

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UNITED STATES PATENT OFFICE

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OVERHEAD DOOR STRUCTURE

Application filed September 13, 1930. Serial No. 481,714.

This invention relates to improvements in the tracks and support means for an overhead door structure.

The objects of the invention are:

First, to provide an effective auxiliary support for very wide or very heavy doors.

Second, to provide such a structure having auxiliary intermediate track means for supporting the door in its elevated horizontal position.

Third, to provide a girder and track structure for the purpose of supporting a door.

Objects pertaining to details and economies of construction and operation will appear from the description to follow.

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

Fig. 1 is an interior sectional elevation view of a door and trackway in broken section, taken on section line 1—1 of Figs. 2 and 3.

Fig. 2 is an enlarged detail side elevation view of a door structure in broken section with parts broken away, taken from the left hand side of Figs. 1 and 3.

Fig. 3 is a diagrammatic plan view of the front portion of a track structure with a counterbalancing and actuating cross shaft shown in diagram.

Fig. 4 is a detailed sectional view on the same section line 1—1, with the door in full lines, elevated to horizontal position, to show the relation of the door side rollers and the central auxiliary track and supporting roller.

Fig. 5 is an enlarged detail transverse sectional view on line 5—5 of Fig. 3 showing the method of attaching the auxiliary track to the intermediate portion of the supporting girder.

The parts will be identified by their numerals of reference which are the same in all the views.

1, 1 are the vertical supports for the vertical track 2, 2. 3, 3 are the horizontal outwardly projecting flanged angle bar supports for the horizontal tracks 4, 4 which are of channel form, the track being secured to the vertical flange of the supporting angle bars 3.

5, 5 are the intermediate curved portions of the track, secured at its ends to the same supports. 6 is a flexible door made of horizontal panels hinged together provided with rollers 7, 7 at each end, and traveling in the channel tracks provided therefor. 8 is the usual counterbalance spring means for the door which is in the usual form or any required form to properly counterbalance the door, not necessary to describe or show in detail.

9 is a girder made up of opposed right angle bars 91, 91 which are provided with a central strut 92 riveted between the same and auxiliary strut supports 93, 93 at each side of the center also riveted between the two bars 91, 91, to which are riveted bar shaped truss rods 94, 94. The girder is suspended from the horizontal flange of support bars 3 at each side by bolts 10 which extend through spacer sleeves 11. (See Figs. 1 and 2.)

Intermediate between the side tracks and parallel therewith is the auxiliary track 12 made up of opposed channel bars 121 which are the same shape in cross section as the side rails. These are secured on top of the girder by a pair of bolts 13, 13, see Fig. 5. These are disposed through the lower flange of the track member. These are of the same form, so far as the track is concerned, and parallel with the side track, extending forwardly and downwardly at the front end as seen at 122 in Fig. 2.

The track surface is on top. The track 12 at its inner ends extends beyond ribs of the height of the door and is supported by hangers 123 on braces 124 to hold the same securely in place, these hangers and braces extending from the ceiling or side walls as required.

Central brackets 14 on the door carrying rollers 15 to travel on the mid portion of the said track are provided. These are provided in alignment with the side rollers. The same hinged means and supports are made use of as appears except that the brackets are of lesser height to accommodate themselves to the higher elevation of the central auxiliary track surface 7.

From what has been described, it will be

readily seen that the door is manipulated like the usual overhead door. However, when the central portion swings up, its central roller engages the top portion of the track 12 at 122 and is elevated into alignment and the entire door passes along level with the central support. As many intermediate tracks are provided as are needed to properly carry the door. On an eighteen foot door a single track is usually found to be sufficient. On a twenty-two foot door two tracks are provided. On the other hand, for very heavy doors, tracks are provided for comparatively short doors, as they assist in carrying the door perfectly level and even and facilitate its operation.

I have shown my invention in preferred form. In the form shown it is very light and very strong. It can be greatly varied. I desire to claim the specific form because of its special virtue, and I also desire to claim the invention broadly as pointed out in the appended claims.

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

1. In an overhead door structure, vertical front tracks with supports therefor, horizontal upper side tracks having supporting angle bars therefor, intermediate curved tracks between said vertical and horizontal tracks at each side, a flexible door having rollers to travel in the said side tracks, a girder disposed transversely between the said horizontal side tracks and beneath the same and extending beyond the supporting angle bars at each side, hanger bolts through the horizontal limbs of the angle bar for supporting the opposite ends of the said girder, spacer sleeves on the said bolts to locate the same effectively as to elevation beneath the tracks, an intermediate track made up of opposed channel bars parallel with the horizontal side track and having a down-turned forward end the top surface of which constitutes a trackway, bolts through the lower limbs of the said channels and the top flange of the said girder, and braces for supporting the inner end of said intermediate track.

2. In an overhead door, tracks for said door having horizontal side tracks above, a girder disposed transversely between the said horizontal side tracks and beneath the same, hanger means supporting said girder, an intermediate track made up of opposed channel bars parallel with the horizontal side tracks and having down-turned forward end, the top surface of which constitutes a trackway, bolts through the lower limbs of the said channels and the top flange of the said girder, and braces for supporting the inner end of said intermediate track.

3. In an overhead door, tracks for said door having horizontal side tracks above, a girder disposed transversely between the said horizontal side tracks and beneath the same, hanger means supporting said girder, and an intermediate track supported on said girder.

4. In an overhead door structure, the combination of side rails, a girder made up of opposed angle bars and intermediate strut plates, and having flat truss rods secured thereto suspended from the said side tracks, an intermediate track having a top surface parallel with the track surfaces at each side, and having the inner end down-curved, rollers intermediate the sides of the said door to travel on the said track, and hangers and braces for the inner end of said track.

5. In an overhead door structure, the combination with side tracks, of an intermediate track having a free upper surface parallel with the track surface of said side tracks, and a girder disposed beneath the said intermediate track and suspended at its ends by the side tracks.

6. In an overhead door structure, the combination with side tracks, of an intermediate track having a free upper surface parallel with the track surface of said side tracks, and a girder disposed beneath the said intermediate track.

In witness whereof I have hereunto set my hand.

HERBERT CADY BLODGETT.