Jan. 26, 1926. 1,570,958

P. FRANTZ

DOOR HANGER AND TRACK CONSTRUCTION

Filed Sept. 10, 1924 2 Sheets-Sheet 1

Fig. 1

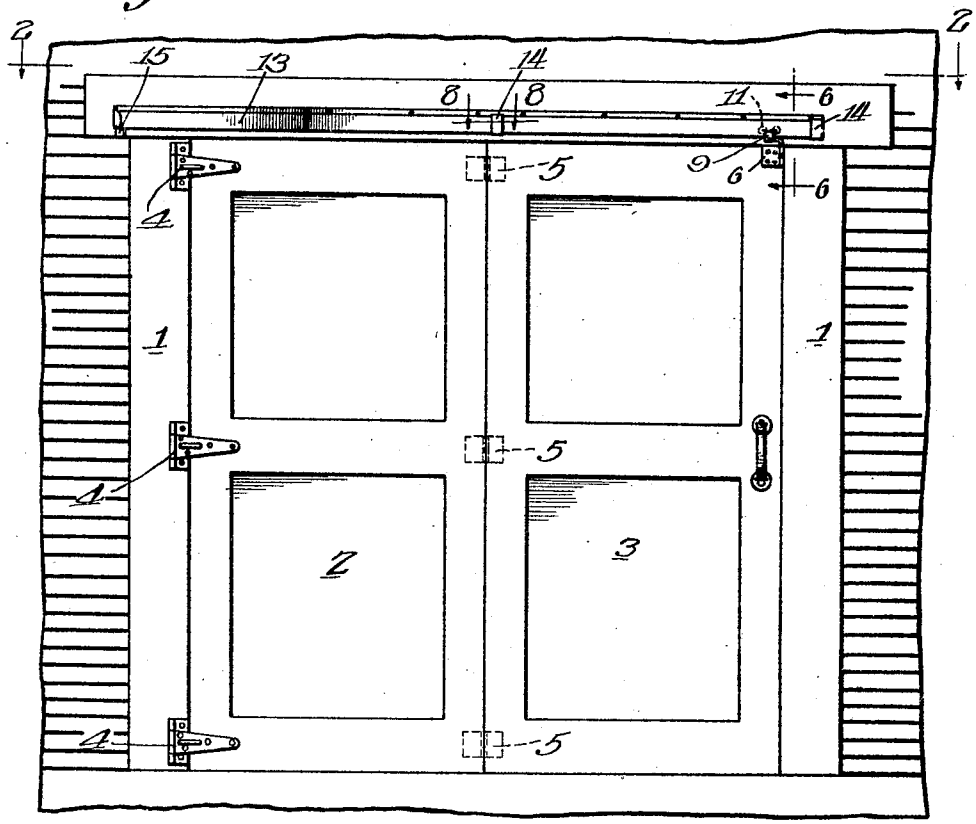
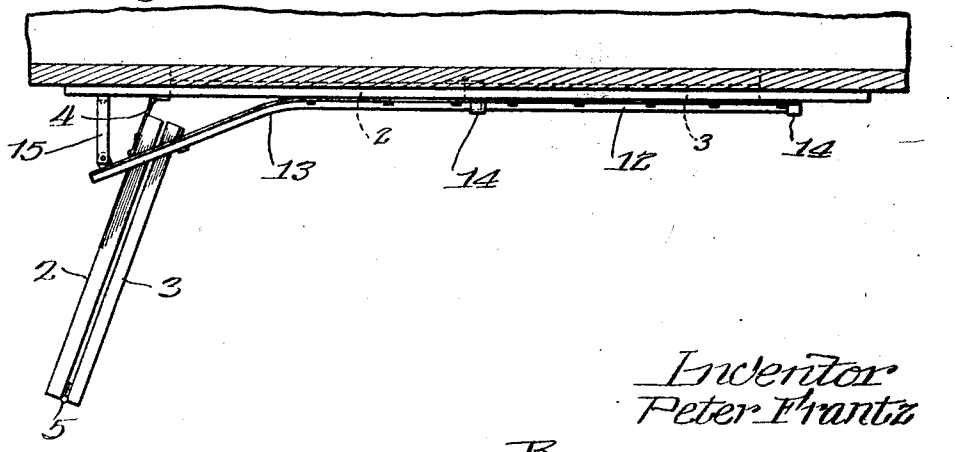


Fig. 2



Inventor
Peter Frantz
By Arthur F. Durand Atty

Jan. 26, 1926. 1,570,958

P. FRANTZ

DOOR HANGER AND TRACK CONSTRUCTION

Filed Sept. 10, 1924 2 Sheets-Sheet 2

Fig. 3

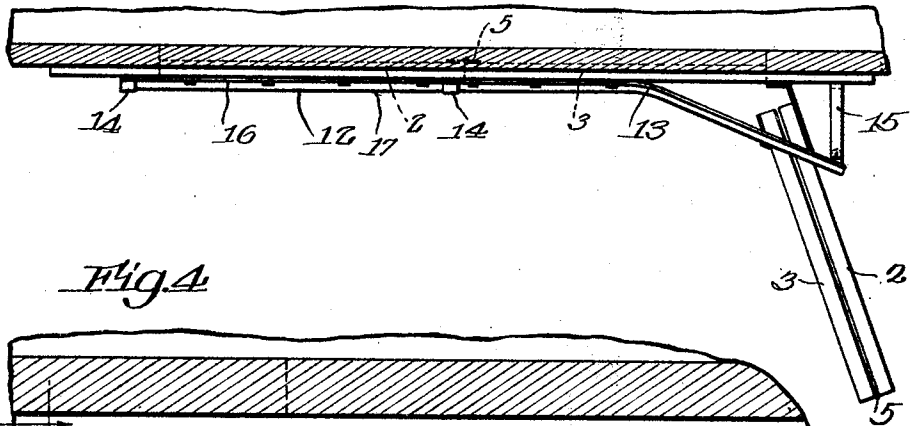


Fig. 4

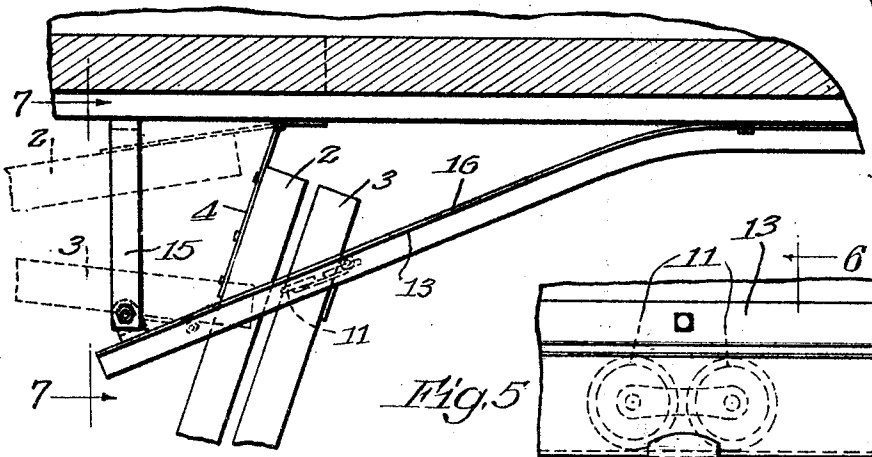


Fig. 5

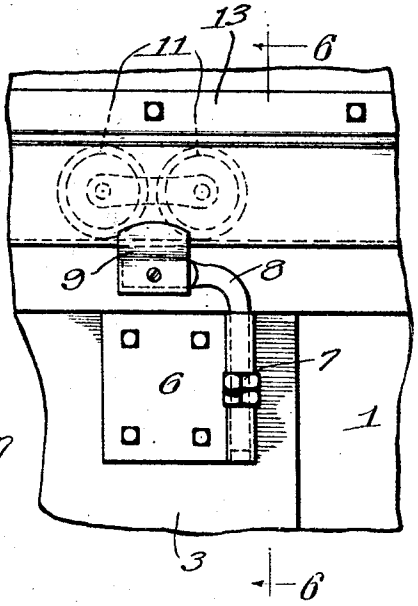


Fig. 6

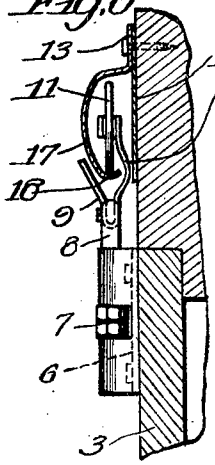


Fig. 7

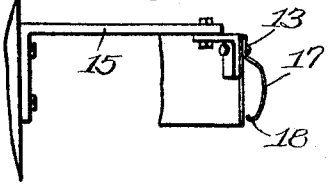


Fig. 8

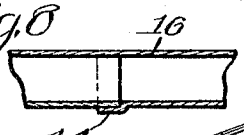


Fig. 9



Inventor
Peter Frantz
By Arthur H. Durand Atty

Patented Jan. 26, 1926. 1,570,958

UNITED STATES PATENT OFFICE.

PETER FRANTZ, OF STERLING, ILLINOIS, ASSIGNOR TO FRANTZ MANUFACTURING CO., OF STERLING, ILLINOIS, A CORPORATION OF ILLINOIS.

DOOR HANGER AND TRACK CONSTRUCTION.

Application filed September 10, 1924. Serial No. 736,936.

To all whom it may concern:

Be it known that I, PETER FRANTZ, a citizen of the United States, and resident of Sterling, Whiteside County, Illinois, have invented a certain new and useful Improvement in Door Hanger and Track Constructions, of which the following is a specification.

This invention relates to garage doors, or other similar doors, involving a plurality of door sections hinged together, with one section thereof hinged to one side of the doorway, and comprising a hanger for another section, together with a track for said hanger, the construction being such that the door sections may swing open and fold back parallel with the plane of the doorway.

Generally stated, therefore, the object of the invention is to provide novel and improved means whereby the door sections may open and swing around and fold back parallel with the plane of the doorway, or substantially so, in a construction requiring only one swivel for the hanger of the door section which is supported on the track, as will hereinafter more fully appear.

Another object is to provide a novel and improved swinging and folding door construction, and a track construction to support the hanger of the folding doors, one section of said track being adapted for use at either the right or left end of the track, whereby this track may be used for either a right or left door construction.

It is also an object to provide certain details and features of construction and combinations, tending to increase the general efficiency and desirability of a swinging and folding door construction of this particular character.

To the foregoing and other useful ends, the invention consists in matters hereinafter set forth and claimed and shown in the accompanying drawings, in which—

Figure 1 is a front elevation of a swinging and folding door construction, and track and hanger construction therefor, involving the principles of the invention.

Figure 2 is a horizontal section on line 2—2 in Figure 1, showing the door sections in open position.

Figure 3 is similar to Figure 2, but showing the track reversed to accommodate a door which opens to the right, instead of to the left, as shown in Figure 1.

Figure 4 is an enlargement of a portion of the construction shown in Figure 2.

Figure 5 is an enlargement of a portion of the construction shown in Figure 1.

Figure 6 is a vertical section on line 6—6 in Figure 5, or on line 6—6 in Figure 1.

Figure 7 is a detail view.

Figure 8 is a detail sectional view of a joint employed in the track construction.

Figure 9 is a detail perspective view of the reversible angle section of the track.

As thus illustrated, and referring to Figures 1, 2, and 4 to 9 inclusive, the invention comprises the doorway 1 of a garage or other structure, having two door sections 2 and 3 hinged at the left hand side thereof, by means of hinges 4 of any suitable character. The two door sections are hinged together by hinges 5 of any suitable or desired character, so that the doors may swing open and fold together. The section 3 is provided with a hanger comprising a plate 6, secured to the door section, and provided with a vertical swivel bearing 7 for the rod 8, which is bent over at its upper end to rest in the stirrup 9 of the hanger body 10, which latter is provided with wheels 11 of any suitable character. The door section 3 can turn about the vertical axis provided by the swivel 7, in an obvious manner, when the doors are opened and closed. The track upon which the hanger wheels 11 travel may be of any suitable character, but is preferably formed by the straight section 12 secured in a suitable manner over the doorway, and by a reversible angle section 13, the two sections being united by a telescopic joint 14, so that a smooth track is provided for the wheels of the hanger. The outwardly displaced end of the section 13 is supported by bracket 15, or by any suitable means, whereby the track as a whole extends parallel with the plane of the doorway for a distance and then extends at an angle thereto. This permits the doors to swing open and fold back parallel with the plane of the doorway, or substantially so, as indicated in dotted lines in Figure 4, it being necessary for the door hanger to move rapidly out of line with the straight portion of the track, of course, in order to permit the doors to fold back against the front wall of the garage or other building.

Preferably, as shown, each section of the track comprises a flat inner wall 16, and a

curved or bent outer wall 17, having a trough-like portion 18 at the lower edge thereof, this trough-like portion forming the track upon which the wheels of the hanger rest and travel. The ends of the track housing may be closed in any suitable manner, so that the entire housing is only opened at the lower edge thereof, and has only a comparatively narrow slot along the bottom of the housing structure for the body of the hanger, so that access to the housing is practically precluded.

For a door which opens to the right, instead of to the left, as shown in Figure 1, the construction shown in Figure 3 will be employed. For this purpose, the angle section 13 of the track which is bent at an obtuse angle, is simply reversed or shifted into engagement with the other end of the section 12, inasmuch as both straight portions of this section 13 are of the same length, so that either portion may be used as the outwardly displaced or oblique end portion of the track, for either a right or left door. As shown in Figures 1 and 2, the right hand end of section 13 is in telescopic engagement with the left hand end of section 12, but as shown in Figure 3, the left hand end of section 13 is in engagement with the right hand end of the section 12, both ends of the section 12 being slightly enlarged for this purpose, as shown, or being adapted in any suitable manner to receive the end of the other section. Either end of the section 13 is adapted to be supported by the bracket 15, or by any suitable means, and thus the track construction is adapted to be used for either a right or left door, and so the door may swing open to either the right or the left.

The bend in section 13 is permanent, and is such a short or abrupt bend that two straight portions of equal length are formed at either side of the bend, in the manner shown and described. Thus either straight portion of the section 13 may be secured flatwise to the building, in alinement with the section 12, depending upon whether the track is to be used with a right or left door.

With this invention, therefore, only the one swivel 7 is necessary for the hanger, and the doors can swing open and fold together or toward each other, into the position shown in Figs. 2, 3 and 4, or they can swing back substantially parallel with the plane of the doorway, if desired, without straining or breaking anything.

Now, as shown in Figs. 2 and 3, the enlargements 14 can both be on the section 12, if such is desired. However, if several straight sections 12 be desired, then each straight section may have an enlargement 14 at one end thereof, so that any number of straight sections may be used, and the bent section 13 may have one enlargement 14 at one end thereof. An illustration of this, of course, is seen by simply assuming that in Fig. 2 one enlargement 14 is on the end of section 12, while the other enlargement 14 is on the end of section 13, whereby one enlargement is on the right hand end of section 12, while the other enlargement is on the right hand end of section 13, so that the left hand end of section 12 telescopes inside of the right hand end of section 13, in the position shown in Fig. 2, so that when reversed the left hand end of the section 13 would telescope within the right hand end of section 12 for a door mounted as shown in Fig. 3 of the drawings. In this way, therefore, by having an enlargement 14 on one end only of each section, the section 13 can be made by simply taking a straight section and bending it at the middle. In other words, the track can be formed in straight sections, of uniform length, with an enlargement at one end of each section; and then, to form the section 13, for any particular installation, one of the straight sections can be bent at its middle.

Without disclaiming anything, and without projudice to any and all novelty disclosed herein, what I claim as my invention is:

1. In swinging and folding door construction, the combination of a plurality of door sections hinged together, means for hinging one section at the side of the doorway, a hanger for another section, a track for said hanger adapted for use with either a right or left door, said track having a section thereof formed out of alinement with the main portion of the track, permitting lateral movement of said hanger relatively to the plane of the doorway, when the hanger travels from said main portion of the track onto said other section thereof, whereby to permit said door sections to swing open and fold back, more or less, parallel with the plane of the doorway.

2. A structure as specified in claim 1, said track section having two straight end portions united by a short curved middle portion, forming an obtuse angle, whereby either straight portion may be secured in alinement with the main portion of the track, for either a right or left door.

3. A structure as specified in claim 1, said track section having two straight end portions forming an obtuse angle, one end portion being in alinement with the main portion of the track, and the other end portion extending obliquely to the plane of the doorway.

4. A structure as specified in claim 1, said track comprising a housing closed at the front and rear thereof, and having its bottom formed with a slot for the door hanger.

5. A structure as specified in claim 1, the main portion of the track comprising a straight section, the left hand end of which is engageable with the right hand end of

said first mentioned track section, for a door which opens to the left, and the right hand end of which is engageable with the left hand end of said first mentioned track section, for a door which opens to the right.

6. A structure as specified in claim 1, said hanger having only a single vertical swivel which co-operates with the formation of said track section to permit the door sections to swing open and fold back toward the wall at one side of the doorway.

7. In door construction, the combination of a track having a bent detachable end section which can be shifted to either end of the main track section, for either a right or left door, and door sections hinged at one side of the dooway and provided with a hanger to travel on both of said sections of said track, said bent portion permitting either the right or the left door to swing open and around toward the wall at one side of the doorway.

8. A structure as specified in claim 7, said bent track section having two straight end portions, disposed at an angle to each other.

9. A structure as specified in claim 7, said main track comprising a straight section either end of which is adapted to engage said bent section, thereby to form a track with the bent section at either the right or left end thereof.

10. In door construction, the combination of a track having a straight section parallel with the plane of the doorway, and having a detachable straight end portion extending at an angle to said plane, which end portion is adapted to be attached to either end of said straight section, for either a right or left door, a plurality of door sections hinged at one side of the doorway, and having a door hanger adapted to travel on both of said portions of said track, the angular portion of the track permitting the door to swing open and around toward the wall at one side of the doorway.

PETER FRANTZ.