D D MILLER.

TRACK FOR SLIDING DOORS.

APPLICATION FILED DEC. 27, 1915.

1,216,591. Patented Feb. 20, 1917.

Fig. 1.

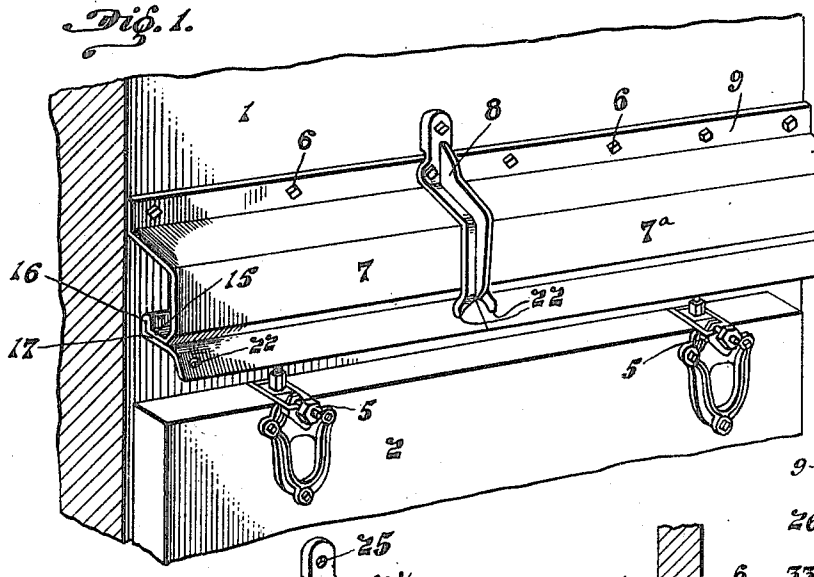
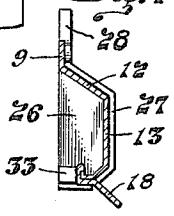


Fig. 7.



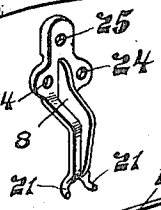


Fig. 3.

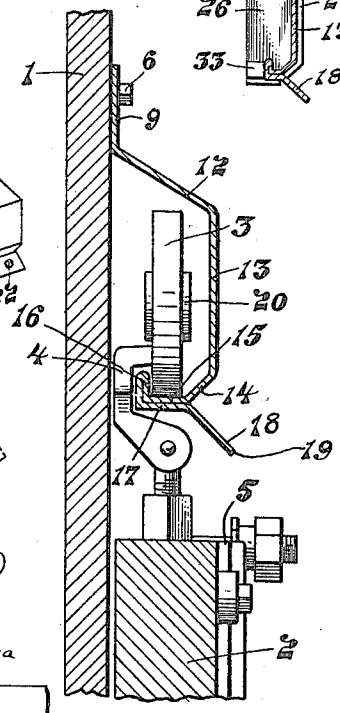


Fig. 2.

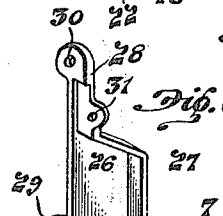
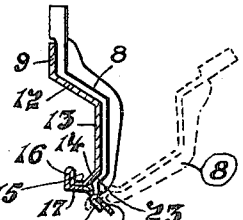


Fig. 6.

Fig. 5.



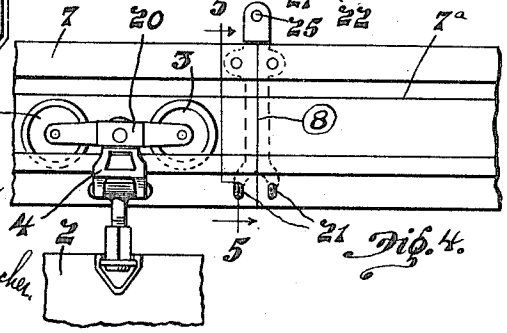


Fig. 4.

Witness

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TRACK FOR SLIDING DOORS.

1,216,591. Specification of Letters Patent. Patented Feb. 20, 1917.

Application filed December 27, 1915. Serial No. 68,631.

To all whom it may concern:

Be it known that I, D D MILLER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Track for Sliding Doors, of which the following is a specification.

My invention relates to improvements in tracks, and while particularly designed for use as a track for sliding doors, it may be also embodied in the construction of tracks for other purposes.

The objects of the invention are to generally improve the construction of tracks of the character described; to form the track sections from single metallic sheets or plates; to provide a construction in which there will be a suitable distribution and disposition of material to properly withstand the strains and stresses to which the construction is subjected while in use; to provide a rain-proof track, which will not only shelter the door hanger or other device running upon the same, but will also shelter and protect the top edge of the door or other structure located immediately beneath the track; and to provide a track of the character described which will be easy to erect and in which the track sections will be substantially connected together and braced so as to produce firm and well united joints.

These objects, together with other objects which will be apparent to those skilled in the art may be attained by the construction illustrated in the accompanying drawings, although the invention may be embodied in other forms, the construction illustrated being chosen by way of example.

In the drawings, Figure 1 is a perspective view of two track sections embodying my invention properly erected and supporting a sliding door by means of hangers. Fig. 2 is a vertical transverse section through the track, supporting wall and door. Fig. 3 is a perspective view of two of the track sections disconnected from each other, showing the joint bracket separated therefrom, and also showing the left-hand end cap in place. Fig. 4 is a rear elevation of the track, showing the inside thereof with one of the door hangers in place on the track. Fig. 5 is a vertical transverse section of the track taken on the line 5—5 of Fig. 4. Fig. 6 is a perspective view of the inner side of a right-hand end cap. Fig. 7 is a vertical transverse sectional view of one of the track sections, showing a right-hand end cap in place thereon.

Throughout the several views similar reference numerals indicate similar parts.

More specifically describing the construction disclosed in the said drawings, the numeral 1 indicates the side wall of a building and the numeral 2 a sliding door which is provided with door hangers having the wheels 3, offset hanger arms 4 and door attaching portions 5.

Attached to the wall 1, by means of lag screws 6 or their equivalents, are the track sections 7 and 7ª and joint bracket 8, embodying the invention herein claimed, and supporting the door hangers and door.

Each track section is formed from a single sheet of metal of a sufficiently heavy gage to resist the deflecting stresses to which it is subjected when in use. In forming each section the vertically disposed attaching flange 9 is formed at the upper margin and is provided with apertures 10 at the ends of the sections and the apertures 11 intermediate the apertures 10. From the lower edge of the attaching flange 9, the sheet metal extends outwardly and downwardly, forming the declined shelter portion 12, from the outer limit of which the sheet metal extends downwardly, forming the vertical front portion 13, which at its lower limit is continuous with the inwardly and downwardly extending, relatively narrow return portion 14, from the inner edge of which extends inwardly the upper horizontal track portion 15, which extends for a portion of the distance to the side wall 1, the sheet metal being bent into vertical position at the inner edge of said portion 15, and thence over and downward producing the double or folded vertical retaining flange 16, which is formed integrally with the lower track portion 17 lying directly under the portion 15 so as to give a double thickness of metal to that portion of the track upon which the wheels 3 run. From the outer edge of the lower track portion 17, the sheet metal extends outwardly and downwardly, forming the declined drip flange 18 having its outer free edge 19 extended a sufficient distance from the side wall 1 to fully protect the top edge of the door 2 from the rain, sleet, snow, etc.

It will be noted, that the comparatively wide attaching flange 9 and front portion 13 act to bridge the track against vertical

deflection, while the shelter portion 12, return portion 14 and track portions 15 and 17 are adapted to brace the flange 9 and front portion 13 in such manner as to maintain then in true vertical position, thus insuring their full bridging efficiency. Although, the retaining flange 16 is necessarily not high, it will be noted that the same is double and is thus reinforced so as to securely brace the inner edges of the track portions 15 and 17 against deflection and even the strengthening effect of the wide drip flange 18 as it supports and braces the outer edge of the lower track portion 17 should not be overlooked.

Door hangers of various patterns may, of course, be employed in connection with the construction of track herein disclosed, but I have illustrated in the drawings, one of the best forms of such hanger, which it will be noted is provided with an equalizing wheel arm 20 carrying two wheels 3 so as to distribute the weight. From the wheel arm 20 the hanger arm 4 extends downwardly, backwardly, thence downwardly and forwardly, producing an offset construction to bring the center of the door in vertical alinement with the center of the wheels 3 and at the same time freely accommodate the retaining flange 16. This construction also produces a true downward pull upon the track portions 15 and 17 which they are well adapted to endure, as above set forth.

In erecting the track, the sections composing it are arranged end to end in proper alinement and lag screws 6 or their equivalents are extended through the apertures 11 into the wall 1. At the joints between the sections, where the ends thereof abut, the joint brackets 8 are provided. Each of these brackets is preferably formed as particularly illustrated in Figs. 3 and 5, where it will be noted that the lower end thereof is bifurcated, each of the integral projections 21 being extended through an aperture 22 in the drip flange 18, while said bracket is in the position illustrated in dotted lines in Fig. 5. As the bracket is then moved into the position shown in full lines in said Fig. 5, the projections 21, being curved, will underlie the flange 18 below the apertures 22, as illustrated in Fig. 5, while the remainder of the bracket conforms to the exterior lines of the track sections, a shoulder 23 preferably fitting against and supporting the return portion 14 and the upper end of the bracket being provided with apertures 24 adapted to accommodate lag screws or their equivalents which also pass through the apertures 10 in the flanges 9 so as to firmly unite and support both track sections and bracket. If preferred, the bracket may also be extended upwardly beyond the upper edge of the attaching flange 9, as illustrated in the drawings, and a further aperture 25 provided to accommodate a lag screw or the like to more thoroughly brace the bracket against displacement with relation to the wall 1. When the bracket is in place it will be readily understood that it will thoroughly support, brace and unite the abutting ends of the track sections in such way as to produce a joint without offset or uneveness, thus forming a smooth, uninterrupted track for the wheels 3.

At this point it should be particularly noted that it is preferable to form the bracket 8 of malleable material, such as malleable iron, to permit some bending of the projections 21 when desired. The practical importance of this will be apparent, as the abutting ends of the track sections may not always be brought into alinement throughout until one or both of said projections 21 have been bent to accommodate the exact situation in hand. Any mechanic or person skilled in the art will readily understand how this may be accomplished, so that when the bracket 8 is in place the track sections will perfectly aline throughout their end edges.

For the purpose of closing the ends of the track, forming a stop for the wheels 3 and rigidly supporting the outer ends of the end track sections right-hand and left-hand end caps are provided, said caps being the same in construction, except for right and left differentiation. Each end cap is provided with the end-plate portion 26 adapted to close the open end of the track section, while the integral flange 27 is adapted to over-lie and retain the ends of the portions 9, 12, 13 and 14 at the end of the track section. Also formed integrally with the plate portion 26 are the upper and lower attaching flanges 28 and 29, adapted to bear against the side wall 1 and provided with the apertures 30, 31 and 32 to receive lag screws or their equivalents for fastening the end cap to the wall 1. The lag screw passing through the aperture 31 also passes through one of the apertures 10 of the track section, thus serving to unite the end cap with the track section in a substantial manner and the lug 33 formed integrally with the plate portion 26 of the end caps bears against the side wall 1 and the retaining flange 16 so as to space said flange 16 properly with reference to said wall 1 and hold the track section in engagement with the flange 27 at the same time.

In use, it will be found that my invented track will thoroughly shelter and protect the hangers and top of the door and entirely do away with ice-bound wheels, leakage and excessive rusting, which are such common objectionable features with many devices of the class described.

Although the drawings and above specification discloses the best mode in which I

have contemplated embodying my invention, I desire to be not limited to the details of such disclosure, for many changes in form and construction may be made, as circumstances require or experience suggests, without departing from the essential invention, within the scope of the appended claims.

I claim:—

1. A track formed of end-abutting sheet metal sections provided at their lower portions with outwardly projecting declined drip flanges having apertures adjacent their abutting ends and a bracket adapted to be attached at its upper end to a fixed support for the track and to extend downwardly therefrom over the outside of said sections and provided at its lower end with fingers extended through said apertures and underlying and supporting said drip flanges.

2. A track formed from a single sheet of metal and comprising an upper, vertical, attaching portion, an outwardly extending, declined shelter portion at the lower edge of said attaching portion, a vertical front portion depending from the lower edge of said shelter portion, an inwardly and downwardly extending return portion at the lower edge of said front portion, an inwardly extending, upper, horizontal track portion at the inner edge of said return portion, a double, folded, vertical retaining flange at the inner edge of said upper track portion, a lower, horizontal track portion immediately underlying said upper track portion, and a declined drip flange extending outwardly and downwardly from the outer edge of said lower track portion.

3. In a sheet metal track of the character described, a track portion adapted for the reception of door hanger heels and formed of upper and lower contiguous, integral members arranged in horizontal planes, and a retaining flange at the edge thereof formed of the folded edge of said two members bent into vertical position.

4. A track for sliding doors made of end-abutting sheet metal sections and a joint bracket for the same adapted to over-lie the joint between two of said sections and having integral, spaced, bendable members separately engaging the respective ends of said two sections, whereby the said sections may be brought into alinement by the bending of said members, substantially as described.

5. For a sectional track of the character described, a joint bracket adapted to overlie the joint at the abutting ends of two sections and provided with a malleable, bifurcated end, each member thereof being adapted for engagement with one of said sections, whereby said sections may be alined by the bending of said members.

In testimony that I claim the above, I have hereunto subscribed my name.

D D MILLER.

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