

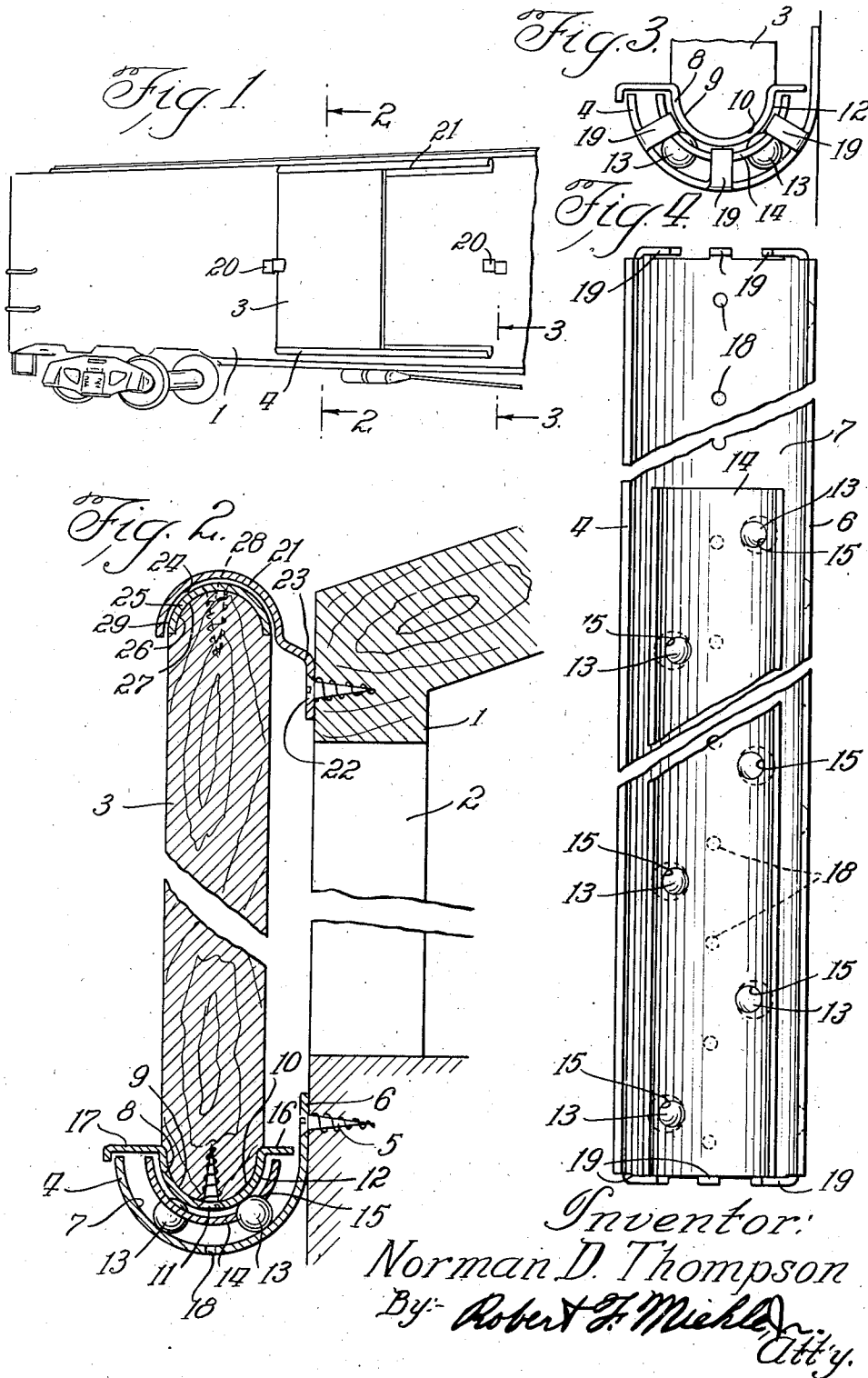
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BEARING FOR SLIDING DOORS OR THE LIKE

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BEARING FOR SLIDING DOORS OR
THE LIKE

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1 Claim. (Cl. 16—96)

My invention relates particularly to a bearing for the sliding doors of freight cars and has for its general objects the provision of a simple, practical and rugged bearing for sliding doors or the like, which involves in anti-friction bearing for ease of door movement, which provides the anti-friction bearing at the bottom of the door in supporting relation therewith, thus minimizing the tendency to cock the door where the door is pushed or pulled at the bottom thereof as is usually the case in the handling of freight car doors, and which is susceptible of being mainly constructed of formed sheet metal.

Referring to the drawing—

Figure 1 is a partial side elevational view of a freight car, the sliding door bearing of which embodies my invention;

Figure 2 is a partial and vertically condensed sectional view substantially on the line 2—2 of Figure 1;

Figure 3 is a partial end elevational view of the anti-friction bearing of my invention substantially on the line 3—3 of Figure 1; and

Figure 4 is a longitudinally condensed top plane view of a portion of the anti-friction bearing of my invention.

Referring to the drawing, 1 designates the vertical side wall of a freight car which is provided with a usual door opening 2, and 3 designates a sliding door for closing the door opening. See Figures 1 and 2.

A lower wall bearing track 4 of generally semi-circular cross section is fixed on the wall 1, as by screws 5 extending through a vertically extending side edge flange 6 of the track, and extends along the lower edge portion of the door opening 2, as best shown in Figure 2, and this track provides an upwardly facing lineally extending concave bearing channel 7.

A lower door bearing track 8 of generally semi-circular cross section is fixed on and extends along the lower edge portion of the door 3, as by the concave surface 9 thereof being seated on the correspondingly convex surface 10 of the lower edge of the door and secured to the door by screws 11 extending through this track. The downwardly facing surface 12 of this track 8 provides a transversely convex bearing surface which is of lesser radius than the bearing channel 7 of the track 4 and which projects thereinto.

A plurality of bearing balls 13 are interposed between the tracks 4 and 8 within the channel 7, and a transversely arcuate spacing and retaining member 14 extends lineally between these tracks in correspondingly arcuate relation there-

with and is provided with lineally and transversely spaced apertures 15 through which these balls project for maintaining the same in spaced relation lineally and transversely of the spacing and retaining member. These apertures 15 are of lesser diameter than that of the balls 13 and engage the same in opposition to the track 4 for retaining the balls.

The track 8 is provided with two lineally extending angularly spaced radial flanges 16 and 17 at the opposite edge portions thereof which are slidably engaged respectively by the opposite lineal edges of the spacing and retaining member 14 to correspondingly position the spacing and retaining member and with it the balls 13. The track 4 is provided with drain apertures 18 spaced longitudinally thereof, and stops 19 are formed on this track at the opposite ends thereof and are oppositely engageable by the ends of the spacing and retaining member 14 to limit movement thereof.

Usual door stops 20 are provided on the car wall 1 to limit movement of the door. The track 4 is, of course, of sufficient length to accommodate the movement of the door and the spacing and retaining member is of lesser length so that it is movable with the door at one-half the velocity thereof.

An upper wall bearing track 21 of generally semi-circular cross section is fixed on the wall 1, as by screws 22 extending through a vertically extending side edge flange 23 of this track, see Figures 1 and 2, and extends along the upper edge portion of the door opening 2 in parallelism with the track 4 and provides a downwardly facing lineally extending concave bearing channel 24.

An upper door bearing track 25 of generally semi-circular cross section is fixed on and extends along the upper edge portion of the door 3 in parallelism with the track 8, as by the concave surface 26 thereof being seated on the corresponding convex surface 27 of the upper edge of the door and secured to the door by screws 28 extending through this track. The upwardly facing surface 29 of this track 25 provides a transversely convex bearing surface which is of lesser radius than the bearing channel 24 and projects into this channel for sliding engagement therewith for guiding the upper edge of the door, the track 21 being of sufficient length to accommodate the movement of the door.

While I have thus described my invention, I do not wish to be limited to the precise details

described, as changes may be readily made without departing from the spirit of my invention, but having thus described my invention, I claim as new and desire to secure by Letters Patent the following:

In a sliding door bearing, the combination of a first bearing track of transversely arcuate cross section providing a concave bearing channel and provided at one side thereof with an extension flange adapted to be secured to a wall structure, a second bearing track of transversely arcuate cross section providing a convex bearing track having a lesser radius than that of said channel and projecting into the same and adapted to be secured on a door with the concave surface thereof seated on the correspondingly convex surface of an edge of the door, a plurality of bearing balls interposed between said tracks within said channel, a transversely arcuate spacing member extending

5 lineally of and between said tracks in corresponding arcuate relation therewith and provided with lineally and transversely spaced apertures through which said balls respectively project for maintaining the same in spaced relation lineally and transversely of said spacing member, said apertures being of lesser diameter than that of said balls and engaging the same in opposition to said first track for retaining 10 said balls, said second track being provided with two lineally extending angularly spaced radial flanges at the opposite edge portions thereof and slidably engaging respectively the opposite lineal edges of said spacing member to correspondingly position said spacing member and 15 with it said balls, and stop formations at opposite ends of said first track and oppositely engageable by said spacing member to limit movement thereof lineally of said first track.

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