R. A. CROSBY & S. McGOODEN.

DOOR GUIDE.

APPLICATION FILED OCT. 12, 1909.

955,502. **Patented Apr. 19, 1910.**

2 SHEETS—SHEET 1.

Fig. 1.

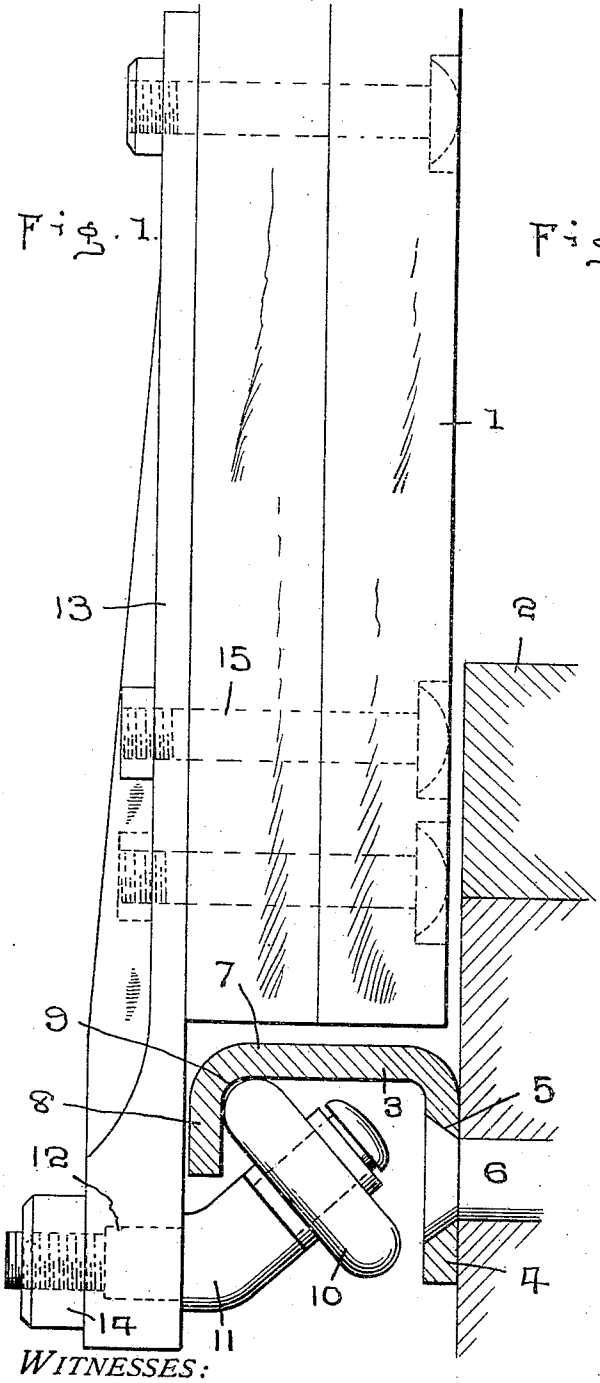
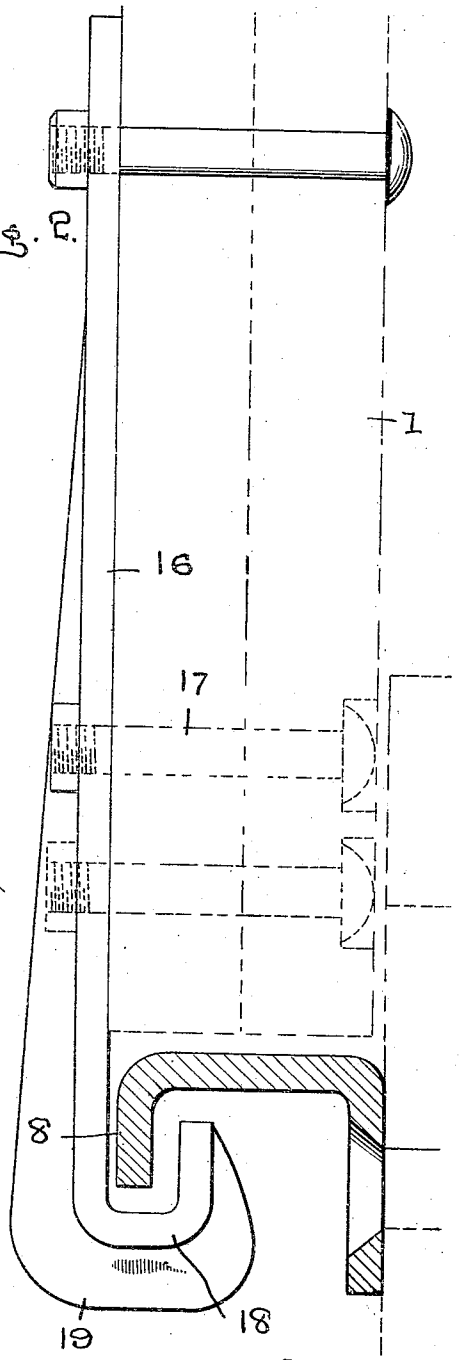


Fig. 2.



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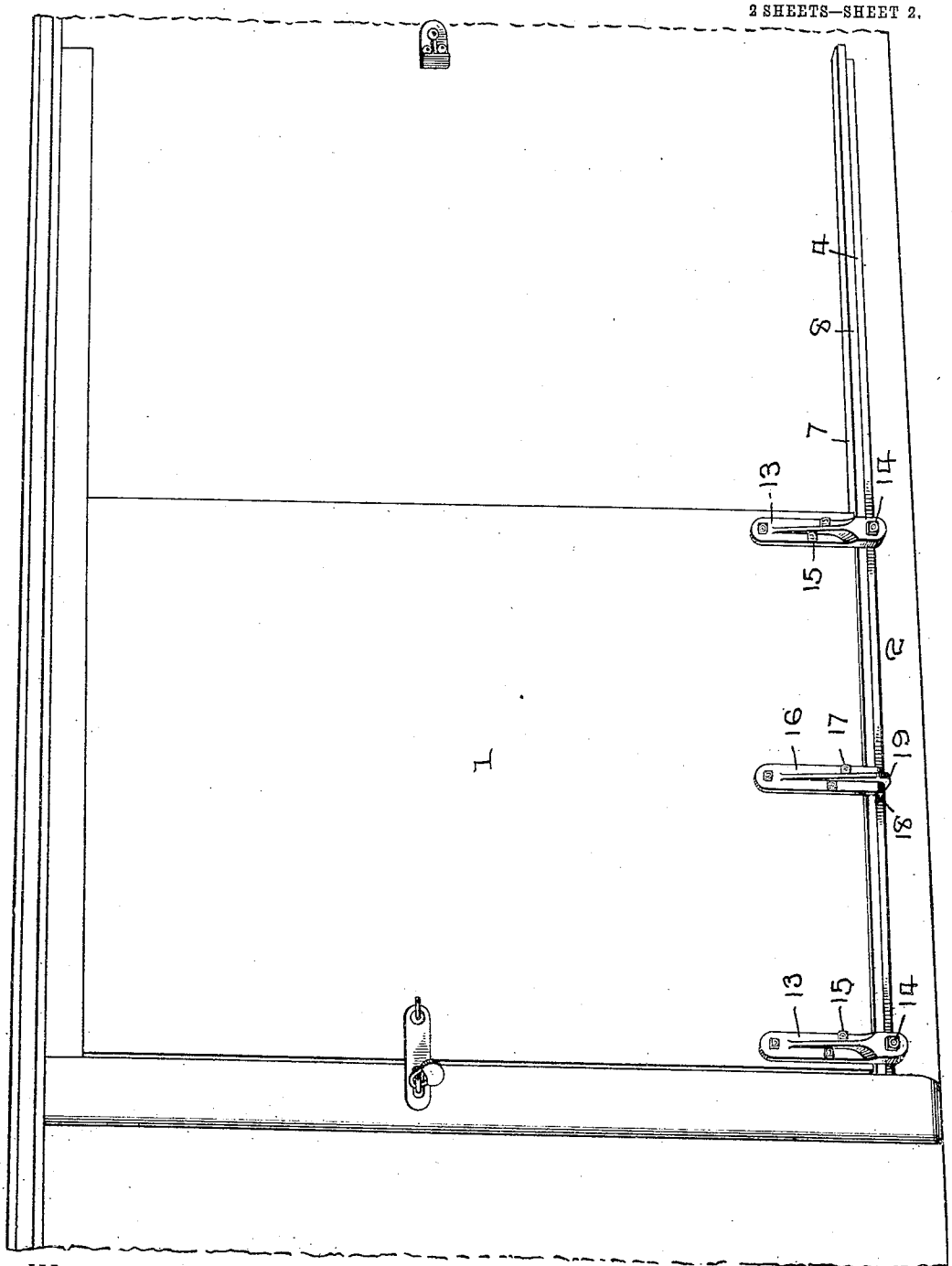

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UNITED STATES PATENT OFFICE.

RAYMOND A. CROSBY AND SAMUEL McGOODEN, OF WAUNETA, NEBRASKA.

DOOR-GUIDE.

955,502. Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed October 12, 1909. Serial No. 522,278.

To all whom it may concern:

Be it known that we, RAYMOND A. CROSBY and SAMUEL McGOODEN, citizens of the United States, residing at Wauneta, in the county of Chase and State of Nebraska, have invented certain new and useful Improvements in Door-Guides; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to new and useful improvements in door guides and more particularly to that class adapted to be used in connection with freight car doors or sliding doors upon buildings and our object is to provide means for guiding the lower ends of the doors and so arranging said guides as to securely hold the doors against casually leaving the tracks upon which they are suspended and a further object is to provide means in connection with the guides for preventing bulging of the door incident to heavy outward pressure thereon.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings forming part of this application, Figure 1 is an elevation partly in section of parts of a car and door therefor, showing our improved guiding mechanism therefor, and, Fig. 2 is a similar view of a device adapted to hold the door against bulging laterally. Fig. 3 is a perspective view of a section of a car showing the straps with guiding means for the lower end of the door and the means to prevent the bulging of the door, as applied.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates a door, which may be constructed in the usual or any preferred manner and of that class adapted to be moved edgewise and suspended from a track-way (not shown) and 2 indicates the sill or side of a car along which the lower edge of the door travels and in order to prevent outward swinging movement of the lower edge of the door and at the same time hold said door against upward movement, an inverted L-shaped bracket 3 is attached to said sill, the vertical stem portion 4 of the bracket having an opening 5 therethrough to receive a bolt 6, said bolt having a flared head, while the opening 5 is likewise flared to form a counter sink for the head of the bolt, thus extending the outer face of the head flush with the face of the stem 4.

At the juncture between the horizontal portion 7 and the depending flange 8, the bracket is given more or less of a curvature to form a channel 9, in which is adapted to travel the periphery of an anti friction roller 10, said roller being rotatably mounted upon the free end of a stub shaft 11, the opposite end of said shaft being provided with a square shoulder 12, which shoulder is adapted to enter a similarly constructed opening in the lower end of a strap 13, the outer end of the shaft 11 being threaded to receive a nut 14 and by means of which the shaft is attached to the strap. The end of the shaft 11 forming the bearing for the roller 10, is preferably disposed upwardly at an angle of substantially 45° to the horizontal portion of the shaft, thereby disposing the roller 10 at a similar angle to the vertical plane of the door, thereby positioning the peripheral surface of the roller to receive the full strain incident to the outward swinging tendency of the lower edge of the door, while the roller will also prevent the door from moving bodily upwardly.

The straps 13 are placed at the lower edge of the door and one adjacent each end thereof, said straps being attached to the door in any suitable manner, as by means of bolts 15, while intermediate said straps 13 are guard plates 16, which are also secured to the door by means of bolts 17, the lower ends of said guard plates terminating in substantially U-shaped hooks 18, which are adapted to receive the flange 8 of the track 3, so that should an unusual pressure be brought to bear against the inner face of the door, the hooks will be moved into engagement with the flange and prevent further outward movement of the lower edge of the door, the guard plates and hooks thereon being strengthened through the medium of ribs 19, which ribs extend longitudinally of said plates. The hooks 18 are so constructed, however, that under normal conditions, they will not engage the flange 8 as the rollers 10 will so guide the lower edge of the door as to prevent any swinging movement thereof, thus leaving the parts free and preventing friction of said parts when the door is being

opened or closed and although we have shown and described the guide mechanism as used in connection with a car door, it will be readily understood that the same may be used in connection with any class of sliding doors or gate construction.

What we claim is:

1. The herein described means for guiding the lower edges of doors, comprising the combination with a sliding door, and an object with which said door coöperates; of a bracket secured to said object and having a depending flange along one edge thereof, that portion of the bracket at the point of connection between the bracket and flange being curved, a strap attached to said door and extending below the lower edge thereof, a shaft fixed to the lower end of said strap, the free end of said shaft being extended upwardly at an angle and a roller rotatably mounted upon the upwardly extending end of the shaft and adapted to engage the curved portion of said bracket, said roller disposed at an angle to the vertical plane of the door.

2. A device of the character described, comprising the combination with a door and object with which it coöperates; of a bracket curved and secured to said object below said door, a strap secured to said door and a shaft secured to the lower end of said strap, said shaft being bent upwardly and carrying a roller thereon, said roller engaging the inner curved portion of said bracket.

3. A device of the character described, comprising the combination with a door and object with which it coöperates; of a means for guiding said door comprising a bracket curved and secured to said object below said door, a strap secured to the lower portion of said door and a shaft secured to said strap, said shaft being bent upwardly and carrying a roller thereon engaging the inner curved portion of said bracket and additional means to prevent the bulging of said door.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

RAYMOND A. CROSBY.
SAMUEL McGOODEN.

Witnesses:
ORVILLE HIGLEY,
ANDREW AMBROSEK.