No. 612,420. Patented Oct. 18, 1898.

C. J. JEPPESEN.

GRAIN DOOR FOR CARS.

(Application filed Apr. 15, 1898.)

(No Model.) 2 Sheets—Sheet 1.

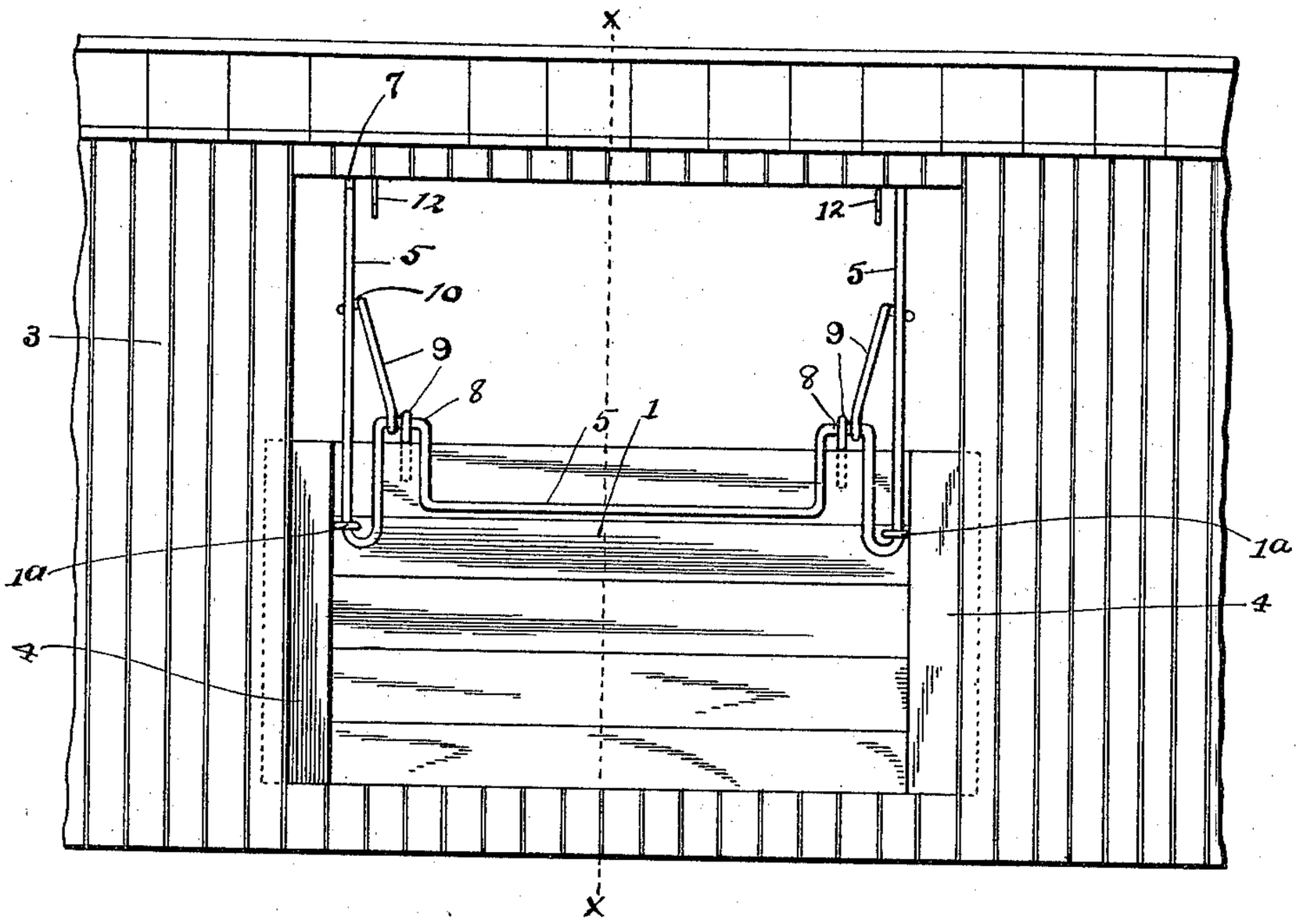

Fig. 1

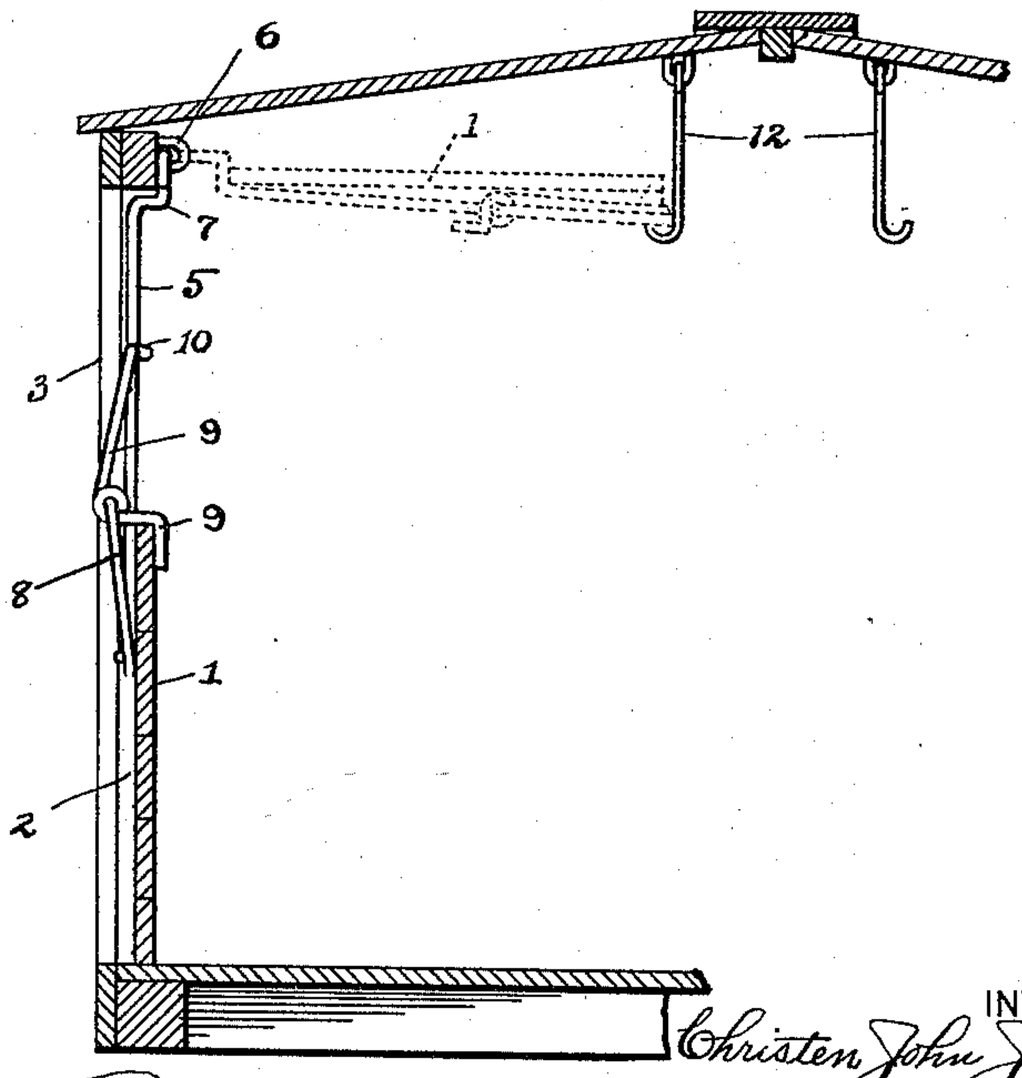

Fig. 2.

WITNESSES:

H. B. Bradshaw

A. L. Phelps

INVENTOR

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BY

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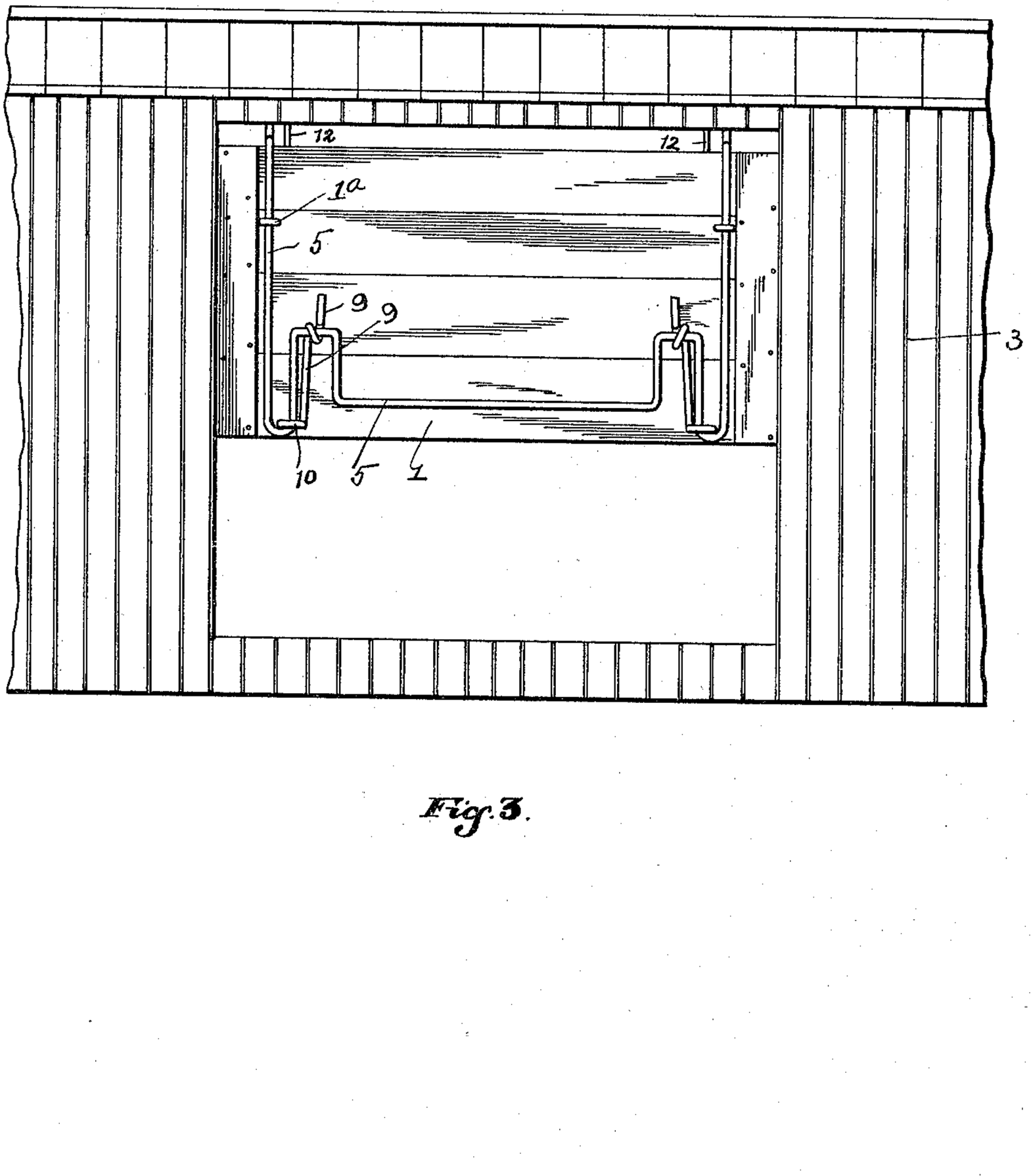

Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHRISTEN JOHN JEPPESEN, OF CENTREBURG, OHIO.

GRAIN-DOOR FOR CARS.

SPECIFICATION forming part of Letters Patent No. 612,420, dated October 18, 1898.

Application filed April 15, 1898. Serial No. 677,655. (No model.)

To all whom it may concern:

Be it known that I, CHRISTEN JOHN JEPPESEN, a citizen of the United States, residing at Centreburg, in the county of Knox and State of Ohio, have invented a certain new and useful Improvement in Grain-Doors for Cars, of which the following is a specification.

My invention relates to the improvement of doors for grain-cars; and the objects of my invention are to provide a door of this class of superior construction and arrangement of parts, to provide improved means for supporting and retaining the same in a closed and raised position, and to produce other improvements in details of construction, which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation of a portion of a car, showing my improved door locked in a closed position in the doorway thereof. Fig. 2 is a sectional view on line *x x* of Fig. 1; and Fig. 3 is a view in elevation of a portion of a car and its doorway, showing my improved door elevated in said doorway and in position for being swung upward beneath the car-ceiling.

Similar numerals refer to similar parts throughout the several views.

1 represents the grain-door, which is designed, as indicated in the drawings, to fit and bear against the inner sides of the door-frame 2 of a car 3, said door being provided on its outer face and near each end thereof with a vertical cleat 4, said cleats being adapted to fit within the said door-frame. As indicated in the drawings, the door 1 is of such height as when resting upon the car-floor, adjacent to the doorway of said car, to close the lower portion of the doorway.

5 represents a metallic yoke which in the manner hereinafter described is designed to retain the door 1 in its vertical closed or horizontal open position. The parallel arms of the yoke 5 have their ends looped into engagement with eyepieces or staples 6, which project from the inner side of the car-frame, above the doorway, and adjacent to opposite sides of the latter. Said parallel yoke-arms, which depend from said eyepieces 6, are in their upper portions, as indicated more clearly in Fig. 2, provided with slight outward bends, as indicated at 7. Said parallel arms of the yoke are adapted to depend, as shown, on the outer side of the door 1 to points below the upper side thereof, and the transverse lower portion of said yoke is provided adjacent to each of its side arms with an upwardly-extending crank-bend 8, said portions 8 being, as indicated more clearly in Fig. 2 of the drawings, slightly inclined outward. The lower portions of the parallel arms of the yoke pass loosely through keepers or eyepieces 1^a, which project from the outer side of the door 1 adjacent to the cleats 4 thereof. Fulcrumed in the head of each of the bends 8 is a locking-dog 9, the angular or hook-shaped lower and shorter arm of which is adapted, as indicated more clearly in Figs. 1 and 2 of the drawings, to be engaged with the rear side and upper portion of the door 1, while the upper and longer arm of said dog is provided with a lateral hook-shaped termination, (indicated at 10,) said arm being adapted to be forced inward to admit of the engagement of said hook-shaped termination 10 with the adjacent vertical arm of the yoke 5. Owing to the fact that the crank-bends 8 are sprung outward and that in engaging the upper arms of the dogs with the yoke said crank-bends must be forced inward and slightly out of their normal positions said crank-bend portions of the yoke will operate to exert a spring-pressure on the upper dog-arms and retain the latter in a locking engagement with the vertical portions of the yoke.

It is obvious that the dogs, being locked in the position above described, must exert such outward pressure on the vertical parallel arms of the yoke and upon the door as to force and retain the latter into close connection with the inner side of the door-frame.

In order to remove the door from the doorway, the longer arms of the dogs 9 are disengaged from the yoke-arms, said dogs being dropped down to the inverted position indicated in Fig. 3 and with their hook portions 10 engaging with the loops formed in the yoke by the junction of the crank-bend portions 8 with the parallel arms of said yoke. The door 1 is now elevated to the position indicated in said Fig. 3, after which said door,

together with its yoke, is swung inward and upward to the position indicated in dotted lines in Fig. 2 of the drawings. Said door and yoke are retained suspended in this position by causing an engagement with the end portions of the yoke of the lower upturned ends of hooks 12, which, as shown in said Fig. 2, depend from the ceiling or under side of the car-roof.

By disengaging the hooks 12 from the yoke it is obvious that the latter may be allowed to swing to its vertical position and the door again secured in its closed position against the door-frame.

From the construction and operation which I have herein shown and described it will readily be seen that simple, reliable, and effective means are provided for retaining a grain-door firmly against the door-frame of a car without the aid of latches, bolts, or other connections, and that the means so provided are such as to admit of their being readily and conveniently operated. It will also be observed that by the construction herein shown and described my improved door supporting and retaining device may be employed in connection with cars having the ordinary construction and without mutilating the same.

Having now fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a grain-door for cars, the combination with a yoke adapted to depend from and having a hinge connection with a car-door frame and a door having a sliding connection with the parallel arms of said yoke, of angular locking-dogs 9 fulcrumed to the transverse portion of said yoke, one arm of each of said dogs adapted to engage with the inner side and upper portion of said door and the remaining arm thereof adapted to be sprung into engagement with one of the parallel arms of said yoke, substantially as and for the purpose specified.

2. In a grain-door for cars, the combination with a yoke depending from and having a hinge connection with a car-door frame, a door having a sliding connection with the parallel arms of said yoke and crank-bends formed in the transverse portion of the yoke, of locking-dogs 9 fulcrumed to said crank-bend portions, each of said dogs having one of its arms adapted to engage the inner side and upper portion of said door and having its remaining arm adapted to engage the adjacent one of the parallel arms of said yoke and means for detachably suspending said door and yoke in a horizontal position beneath the car-roof substantially as and for the purpose specified.

CHRISTEN JOHN JEPPESEN.

In presence of—
C. H. BISHOP,
OLIVE LANDACRE.