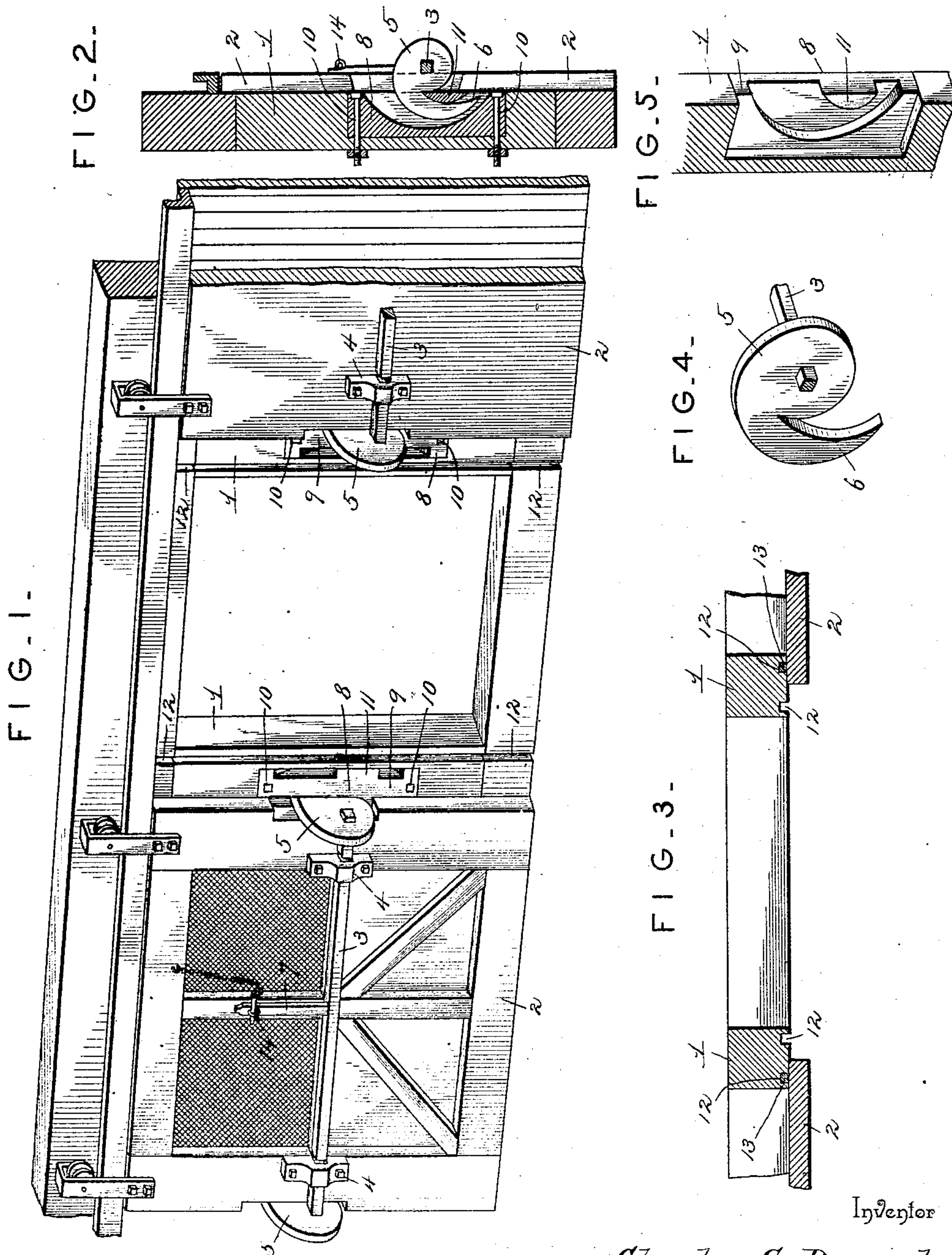


(No Model.)

C. S. BENNET.  
CAR DOOR.

No. 563,008.

Patented June 30, 1896.



Witnesses  
Harry L. Amer.  
R. M. Smith

By his Attorneys,

Charles S. Bennet.  
C. S. Bennet & Co.

Inventor



# UNITED STATES PATENT OFFICE.

CHARLES S. BENNET, OF NEWPORT NEWS, VIRGINIA.

## CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 563,008, dated June 30, 1896.

Application filed July 13, 1895. Serial No. 555,900. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES S. BENNET, a citizen of the United States, residing at Newport News, in the county of Warwick and State of Virginia, have invented a new and useful Car-Door, of which the following is a specification.

This invention relates to an improvement in devices for securing freight-car doors, and has for its object to provide a door-fastener of simple and efficient construction which shall be reliable in action, easy to manipulate, and by means of which a car-door may be firmly clamped and held in place in such manner as to prevent water from entering between the edges of the door and the door-posts.

A further object of the invention is to construct and arrange the several parts of the fastening device in such manner that they cannot be tampered with, thus preventing access to the interior of the car, except by breaking the seal.

Other objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists in a car-door-fastening device comprising certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally embodied in the claims.

In the accompanying drawings, Figure 1 is a perspective view of a car-door and a sufficient portion of a car-body to illustrate the application of the improved fastener thereto. Fig. 2 is a vertical section through one end of the doorway, showing the method of operation. Fig. 3 is a horizontal section through the door and door-posts. Fig. 4 is an enlarged detail perspective view of one of the cam-fingers. Fig. 5 is a similar view of one of the keepers, the same being shown applied to a door-post.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the drawings, 1 designates two vertical posts, which comprise the side jambs of a car-door opening, and 2 a car-door which overlaps, at its side edges, the posts 1. The door 2 is suspended by its upper edge from an overhead support, arranged at the top of

the car, and consisting of the usual pulleys and track in common use, being well understood by those familiar with the art to which this invention appertains.

3 indicates a horizontal rock-shaft arranged upon the outside of the car-door, and mounted at or near the opposite side edges of the door in suitable bearings 4. The ends of the rock-shaft 3 are extended slightly beyond the opposite side edges of the door, where they are squared to receive two cam-fingers 5, each cam-finger comprising a hub portion having a square perforation fitting the end of the horizontal rock-shaft, so as to turn therewith, and a curved finger 6, the inner operative edge of which is disposed eccentrically to the rock-shaft by which the finger is operated, the rock-shaft itself being vibrated or turned by means of an arm or lever 7.

8 indicates a pair of keepers, one for each cam-finger, the same being arranged in mortises in the outer faces of the door-posts 1. Each of said keepers is formed from a single casting, comprising a pair of oppositely-disposed side walls, which are rectangular in shape and connected by a curved web 9, having its concave face disposed outwardly, as shown, to receive the swinging end of its respective cam-finger. The curved web 9 is extended vertically at the front edge of the keeper and at both top and bottom, and said vertical extensions provided with counter-sunk perforations, adapted to receive the correspondingly-formed heads of transverse horizontal bolts 10, which extend through the door-posts and receive retaining-nuts upon their inner ends, as shown. The outer ends or heads of these bolts being flush with the outer faces of the keepers, it will be impossible for any one to tamper with or remove said bolts from the outside when the door is closed and locked. Each keeper is further provided with a connecting-web 11, formed integrally with and disposed between the rectangular side plates thereof, the inner surface of said web being rounded in the manner indicated in the drawings, thereby facilitating the sliding of the inner edge of the curved eccentric finger 6 thereon, and adapting the cam-fingers, when the rock-shaft is operated, to draw the door inward with considerable force and bind the same against the door-posts.



Each of the door-posts is provided with a vertically-extending groove 12 upon its outer face, and the door is provided, adjacent to each side edge, with a rib or tongue 13, extending the entire vertical height thereof, said ribs or tongues being disposed in such relation to the grooves in the door-posts that when the door is in closed position the said ribs or tongues will enter and rest within the grooves 12, thus effectually excluding water and protecting the contents of the car from the elements. The tongues 13 are disengaged from the grooves 12 by swinging the door outward at its lower end and upon its overhead support, after which the door may be moved laterally to one side or the other.

By the construction just described a close fit is obtained between the door and the car-body which is just as effective as a flush-seating door which lies wholly within a recess in the door-opening, and the present construction is advantageous over a flush-seating door in that it is not necessary to provide the car-body at one side of the door-opening with a separate and independent recess into which the door may be moved when not in use. The door herein described lies flat against the side of the car-body and does not enter a recess. Therefore, by simply disengaging the ribs or tongues 13 from their grooves, the door may be moved laterally to one side or the other.

In order to prevent the device from being manipulated by strangers, the outer end of the operating-lever 7 is provided with a slot, which is adapted to pass over the outwardly-projecting end of a staple 14, secured to the car-door at a suitable point above the rock-shaft 3. A car-seal of any ordinary description may be passed through the staple 14, outside of the arm or lever 7, after which said arm cannot be vibrated for opening the door without it being discovered that the door has been tampered with. The bearings 4 for the shaft 3 are secured in place by means of bolts, which correspond in description to the bolts 10, which retain the keepers 8 in place. Thus it will be seen that there is nothing upon the outside of the car or car-door which can be tampered with for the purpose of opening the door without breaking the seal. By reason of the peculiar shape of the cam-fingers, and the keepers in connection with which the same operate, the car-door may be forced with any desired pressure against the door posts

or frame, in this manner and with the aid of the tongue-and-grooved joint between the door and its frame, forming a weather-tight joint.

In Fig. 1 of the drawings I have illustrated two doors, a solid one at the right of the door-opening and a ventilated door at the left. This arrangement is desirable in certain kinds of cars, as in refrigerator-cars, where it may be desirable, at times, to ventilate the contents of the car, and at other times to exclude the air therefrom. When the double doors are employed, it is necessary to utilize two sets of keepers, as shown in the said figure, in order that either door may be brought into use, as may be desired. When but a single door is employed, it is of course necessary only to employ a pair of single keepers, arranged as described, in the door-posts.

It will be apparent that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In combination with a car-body, a sliding car-door, relatively engaging tongues on one and grooves on the other at the edges of the door and door-opening, the car-body having another set of similar tongues or grooves to one side of the door-opening, and means for forcing the door with its tongues or grooves laterally into engagement with either set of tongues or grooves on the car-body, substantially as described.

2. In combination with a car-body, a pair of sliding car-doors, relatively engaging tongues on one and grooves on the other at the edges of the doors and door-opening, the car-body having other sets of similar tongues or grooves to each side of the door-opening, and means for forcing the doors with their tongues or grooves into engagement with either set of tongues or grooves on the car-body, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES S. BENNET.

Witnesses:

JOHN H. SIGGERS,

REXFORD M. SMITH.