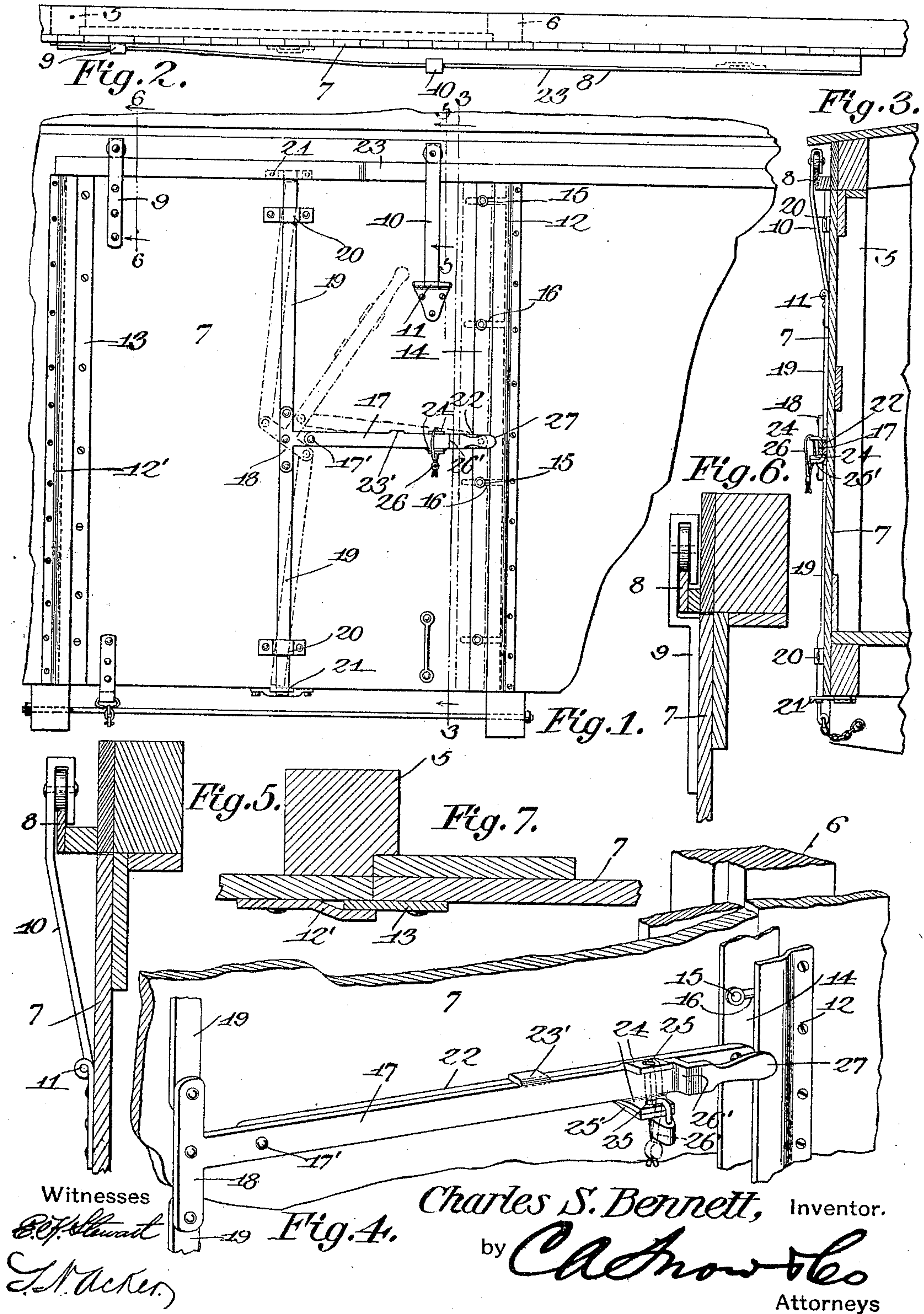


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C. S. BENNETT.
CAR DOOR AND FASTENER.
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UNITED STATES PATENT OFFICE.

CHARLES S. BENNETT, OF NEWPORT NEWS, VIRGINIA.

CAR-DOOR AND FASTENER.

No. 799,438.

Specification of Letters Patent.

Patented Sept. 12, 1905.

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To all whom it may concern:

Be it known that I, CHARLES S. BENNETT, 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 and Fastener, of which the following is a specification.

This invention relates to certain improvements in car-doors, and more particularly to a novel fastening device for locking the car-door against lateral and longitudinal movement.

The object of the invention is to provide a simple, inexpensive, and efficient door-fastener capable of being readily attached to the car-door and by means of which an unauthorized person is effectually prevented from obtaining access to the interior of the car without mutilating or otherwise destroying the seal.

A further object of the invention is to provide a plurality of sliding bolts movable to operative and inoperative positions by the movement of a single actuating-lever, said lever being also connected, through the medium of a link, to a locking-plate slidably mounted on one edge of the car-door and adapted to engage a keeper secured to the door-casing, whereby the longitudinal edges of the car-door are firmly clamped in position, so as to prevent the access of water, cinders, sparks, and other foreign matter.

A still further object is to form the connecting-link and operating-lever with laterally-extending perforated lugs adapted to register with each other when the door is locked, to thereby permit the insertion of the lock and seal.

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, shown in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportions, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a portion of a car and car-door, showing my improved fastening device applied thereto. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical sectional view taken on the line 3 3 of Fig. 1. Fig. 4 is an enlarged detail perspective view of a portion of the car-door, showing the operating-lever

in locked position. Fig. 5 is an enlarged sectional view of the track and hanger, taken on the line 5 5 of Fig. 1. Fig. 6 is a similar view taken on the line 6 6 of Fig. 1. Fig. 7 is an enlarged transverse sectional view of the stationary clamping-plate and keeper.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

Referring to the drawings, 5 and 6 indicate two vertical posts which comprise the side jambs of a car-door opening, and 7 the car-door suspended by its upper edge from an overhead track 8, which is arranged at the top of the car and spaced laterally therefrom, as shown. The door is mounted for longitudinal movement on the track 8 and is supported by brackets or hangers 9 and 10, the hanger 10 being hinged, as indicated at 11, to permit a slight lateral movement of the adjacent end of the door for the purpose hereinafter explained.

Secured to the side of the car on each side of the door-opening are stationary plates 12 and 12', which extend approximately the entire height of the door and have their free edges spaced laterally from the side of the car to form pockets or keepers adapted to receive locking-plates 13 and 14, secured to the longitudinal edges of the car-door, as shown. The plate 13 is rigidly secured to the edge of the door 7, while the plate 14 is movable, being adjustably secured thereto by means of bolts or similar fastening devices 15, which pass through transversely-disposed slots 16. Pivotaly mounted on the outer face of the car-door is a lever 17, provided with a T-shaped head 18, to which are pivoted oppositely-disposed locking-bolts 19, the latter being mounted for sliding movement in suitable guides 20 and adapted to engage keepers 21, secured to the car at the top and bottom of the door-opening, as shown. Pivoted to the lever 17 at 17' is one end of a link 22, the opposite end of which is pivoted to the movable locking-plate 14, so that when the lever 19 is moved to the position shown by dotted lines in Fig. 1 of the drawings the bolts 19 will be released from the keepers 21 and the locking-plate 14 simultaneously withdrawn from the pocket formed by the plate 12, thereby permitting the adjacent end of the car-door to be tilted laterally and said door moved longitudinally on the track 8 to open position, the track being curved or bowed outwardly, as indicated at 23, to permit said door to clear the plate 12. The link 22 is normally ar-

ranged parallel with and disposed directly beneath the lever 17, the latter being provided with a laterally-extending lug 23', adapted to engage the upper edge of the link 22 and limit the downward movement of said lever when the same is moved to locked position, as best shown in Fig. 4 of the drawings. The locking-lever is also provided with a pair of laterally-extending spaced ears 24, having aligned openings 25 formed therein for the reception of a suitable seal 26, which latter passes through said openings and through a similar opening formed in a corresponding ear 25', secured to or formed integral with the link 22.

The ears 24 and 25' are so disposed with relation to each other and to the lug 23' that said lug will engage the link 22 before the ears actually engage each other, thereby preventing said ears from being accidentally bent or broken by the downward thrust of the lever when locking the car-door. The free end of the lever 17 is preferably bent laterally, as indicated at 26', to form a terminal handle 27, by means of which said lever may be conveniently manipulated.

Attention is here called to the fact that the lever, with its T-shaped head, locking-lug, perforated ears, and terminal handle, is stamped from a single piece of metal, thereby materially reducing the cost of manufacture and rendering the device extremely easy of attachment to a car-door.

In operation when it is desired to lock the door the latter is moved longitudinally of the car until the stationary locking-plate engages the pocket formed by the plate 12', this being rendered possible by the inclination of the track, which directs said plate into the pocket, while the pivotal connection of the hanger permits the opposite edge of the door to be tilted inwardly until the movable locking-plate is opposite the stationary plate 12 and the door fitted between the side jambs. The lever is then moved downwardly to the position shown in full lines in Fig. 1, which movement causes the sliding bolts to engage their respective keepers and the movable locking-plate to enter the pocket of the adjacent stationary plate, thereby clamping the door firmly to its seat and effectually preventing both lateral and longitudinal movement of the same. When this has been accomplished, the connecting-link and lever are securely fastened together by inserting the lock and seal through the openings in the laterally-extending ears, as will be readily understood.

To open the door, it is simply necessary to move the lever to the position indicated by dotted lines in Fig. 1, when the edge of the door having the hinged hanger secured thereto may be tilted laterally and said door moved longitudinally of the car to open position. It will thus be seen that with one movement of the lever all four sides of the car-door are simultaneously locked, and that any attempt

by an unauthorized person to enter the car will be impossible without mutilating or otherwise destroying the seal. It will also be observed that the stationary plates secured to the sides of the car on each side of the door-opening effectually prevent the access of cinders, sparks, dirt, and other foreign matter to the interior of the car, which is highly essential in transporting certain kinds of goods.

Having thus described the invention, what is claimed is—

1. The combination with a car-body having a door-opening and having a track disposed above said opening, of a sliding door, hangers secured to the door and engaging the track, one of said hangers being hinged to the door, stationary plates secured to the car-body at opposite sides of the door-opening, a plate rigidly secured to one edge of the door and adapted to engage one of the stationary plates, a movable plate secured to the opposite edge of the door for engagement with the second stationary plate, bolts slidably mounted on the door and adapted to engage the car-body for locking the door in closed position, an operating-lever pivoted to the car-door and pivotally connected to said bolts, and a link forming a pivotal connection between the movable plate and the operating-lever.

2. The combination with a car-body having a door-opening, of a sliding door, stationary plates secured to the car-body at opposite sides of the door-opening, a plate rigidly secured to one edge of the door and adapted to engage one of the stationary plates, a movable plate secured to the opposite edge of the door for engagement with the second stationary plate, bolts slidably mounted on the door for locking the latter in closed position, an operating-lever pivotally connected with the bolts and provided with a laterally-extending perforated ear, and a link pivoted to the lever and movable plate, respectively, said link being provided with a similar perforated ear adapted to register with the ear on the lever when the latter is moved to operative position.

3. The combination with a car-body having a door-opening, of a sliding door, a stationary plate secured to the car-body at one side of the door-opening, a movable plate carried by the door and adapted to engage the stationary plate, bolts slidably mounted on the door for locking the latter in closed position, an operating-lever pivoted to the door and pivotally connected to said bolts, a link one end of which is pivoted to the movable plate and the opposite end thereof to the operating-lever, said link being disposed back of the lever and in horizontal alinement therewith when said lever is in locked position, and a stop carried by the lever and adapted to engage the link for limiting the downward movement of said lever.

4. The combination with a car-body having a door-opening, of a sliding door, stationary

plates secured to the car-body at opposite sides of the door-opening, a plate rigidly secured to one edge of the door and adapted to engage one of the stationary plates, a movable plate secured to the opposite edge of the door for engagement with the second stationary plate, bolts slidably mounted on the door for locking the latter in closed position, an operating-lever pivoted to the car-door and pivotally connected to said bolts, a link forming a pivotal connection between the movable plate and the lever, and a laterally-extending lug carried by the lever and adapted to engage the connecting-link for limiting the downward movement of said operating-lever.

5. The combination with a car-body having a door-opening, of a sliding door, stationary plates secured to the car-body at opposite sides of the door-opening, a plate rigidly secured to one edge of the door and adapted to engage one of the stationary plates, a slotted plate adjustably mounted on the opposite edge

of the door for engagement with the second stationary plate, bolts slidably mounted on the door for locking the latter in closed position, an operating-lever pivoted to the door and provided with a T-shaped head the opposite ends of which are pivotally connected to the bolts, a link disposed back of the operating-lever and pivoted to the latter and to the slotted plate, respectively, said link and lever being provided with laterally-extending ears having aligned perforations formed therein for the reception of a sealing device, and a lug carried by the operating-lever and adapted to engage the link for limiting the downward movement of said lever.

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

CHARLES S. BENNETT.

Witnesses:

R. C. WINNE,
C. C. BEAL.