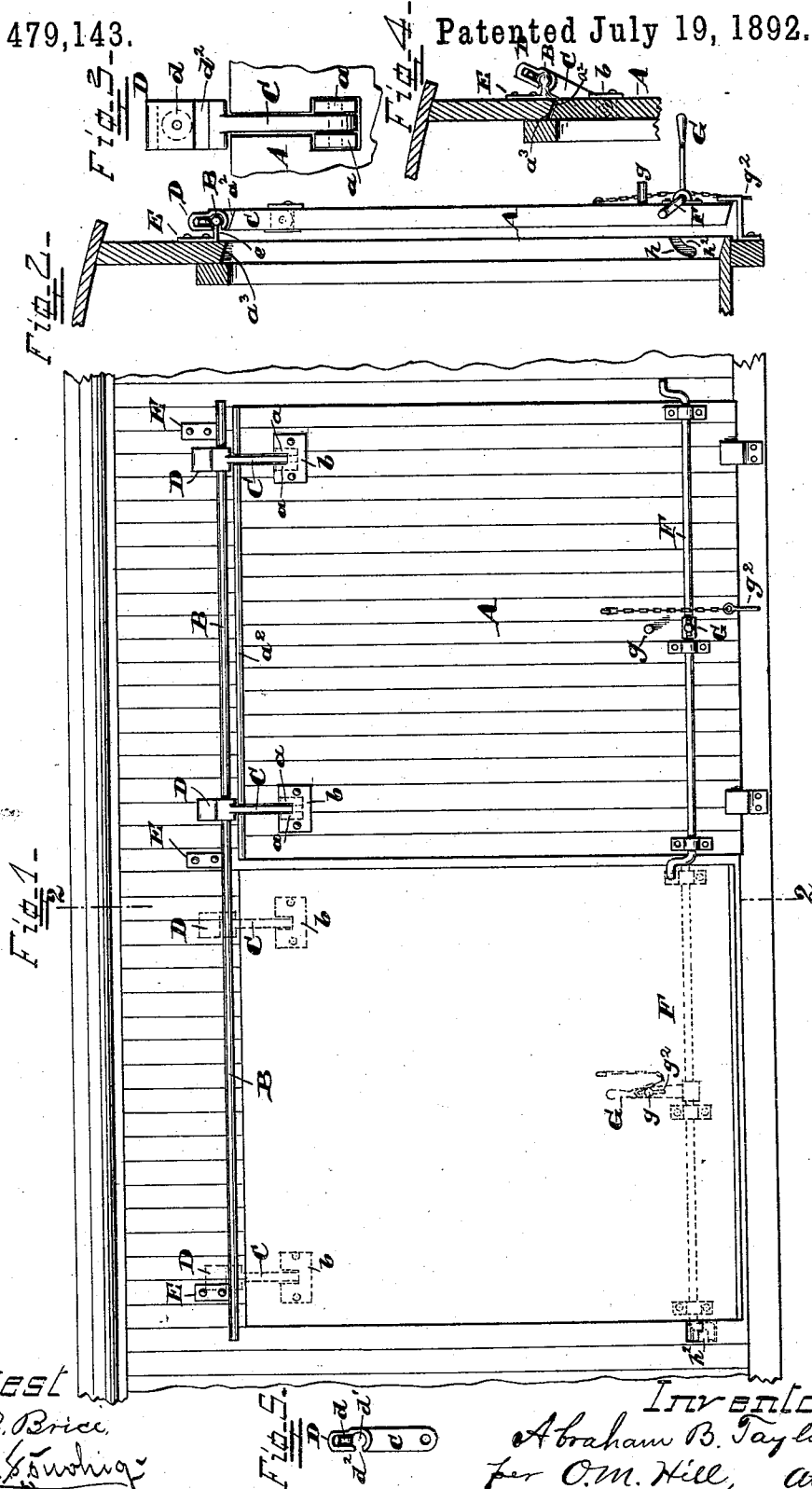


(No Model.)

A. B. TAYLOR.
CAR DOOR.

No. 479,143.

Patented July 19, 1892.



Attest

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UNITED STATES PATENT OFFICE.

ABRAHAM B. TAYLOR, OF MOUNT AIRY, OHIO.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 479,143, dated July 19, 1892.

Application filed July 6, 1891. Serial No. 398,554. (No model.)

To all whom it may concern:

Be it known that I, ABRAHAM B. TAYLOR, a citizen of the United States, residing at Mount Airy, Hamilton county, State of Ohio, have invented certain new and useful Improvements in Car-Doors, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to provide a hanging device for car-doors, said device being connected thereto in such a manner as that said door is free to swing outward and downward away from its frame-opening, in position to be pushed to one side and away from said opening on a suitable tram-rail, the door resting flush with the outer face of the car when swung to place within its opening, as will more fully hereinafter appear.

In the accompanying drawings, Figure 1 is a front elevation of a portion of a car with its door provided with my improved hangers, said door being suspended from its tram-rail away from the door-opening, the dotted lines oversaid opening indicating the relative position of the hangers and locking device when said door is to place therein. Fig. 2 is a vertical section taken on the dotted line 2 2 of Fig. 1, looking toward the right hand in said figure, showing the door swung outward suspended on its tram-rail. Fig. 3 is a view of one of the hangers shown in Fig. 1, on an enlarged scale, with the retaining-plate removed, showing the preferred mode of pivoting said hanger centrally within the top portion of the door. Fig. 4 is a vertical section through the top portion of the car and door with the latter to place within the frame of the opening. Fig. 5 is a side elevation of one of the hangers detached from the door and tram-rail.

The car-door A is suspended from a tram-rail B by means of a hanger C, the latter at its lower end portion being pivotally connected within a recessed portion near the top of said door, as shown. This hanger may be thus pivotally connected within the door in any desired operative manner, the means shown being preferred, which latter consists of two bearing-plates *a*, placed within the recessed portion of the door, a suitable bolt passing through said plates and hanger, thus affording a pivotal connection for the latter, as

shown. The bearing-plates *a* are retained within said recessed portion of the door in any preferred manner, the plate *b* being shown for that purpose.

The upper end portion of hanger C is provided with or formed into a housing D, within which is journaled the pulley *d*, which latter rests and travels upon the tram-rail B, the latter being preferably round in cross-section, as shown. At the lower extremity of housing D is formed a circular recess *d'*, the housing at that point encircling the tram-rail, and thus affording a pivotal point for said housing and its hanger C to oscillate on said tram-rail.

Between the housing D and its hanger C, at one side thereof, is formed a recess *d''*, leading from the circular recess *d'*, the object of said recess *d''* being to permit the hanger, when traveling on the tram-rail, to pass the outwardly-extending portion *e* of supports E, which latter are connected to the car, as shown. The brackets E and outward extensions *e* afford a support for said tram-rail, the latter being connected to said extensions *e*.

The top of door A is beveled downward from its inner to its outer face, as shown at *a''*, which beveled portion of the door engages with a reversed beveled portion *a'''* along the top of the door-frame when said door is secured to place, said engaging beveled portions affording a secure lock for the top portion of said door.

By reason of the hangers C being pivotally connected within the recessed portions of the door the latter will hang vertically on the tram-rail, as shown more clearly in Fig. 2, and the circular portion *d'*, which latter encircles the tram-rail, in connection with the lower pivotal connection within the door, affords a triple pivotal joint, which will permit of the door being swung to place within the opening in the car with an upward swinging movement, which movement will permit of the beveled portion *a''* entering and engaging with the beveled portion *a'''* at the top of the frame, as shown. Any pressure on the door from without will cause it to describe this upward circular movement within its opening in the car, thus permitting said door to come flush with the outer face of said car.

Any suitable device may be employed for

applying pressure to the door and for locking the latter at its lower portion, one form of device being shown, which is constructed as follows: To the lower portion of the door is rotatably connected the rod F, the latter being bent in the form of a crank-lever at its end portions, as shown. To this rod F is centrally connected a lever G, as shown.

At each side of the door-casing, near the lower portion thereof, is formed a recess, the outer portion *h* of said recess being circular, in which the bent portions of rod F engage, the lug *h*² affording a lock for the end portions thereof, as shown in Figs. 1 and 2.

To swing the door to place within its opening, put pressure against said door on its outer face and at the same time raise the lever G, as shown by dotted lines at left hand in Fig. 1, which operation will cause the outer bent portions of rod F to engage in the openings *h* at the rear of lugs *h*², thus locking the lower portion of the door. The lever G has an opening therein, through which the pin *g* on the door enters, a suitable pin *g*² affording a means for retaining said lever to place on the pin or lug *g*.

To remove the door from its opening, all that is required is to remove the pin *g*² and then pull the lever G outward, at which time the door will swing outward on its hangers C, as shown in Fig. 2, free to be moved to one side on the tram-rail, as shown in Fig. 1.

The advantages arising from my invention are obvious. The pivoting of the hangers at their lower extremity within the door enables the latter to hang free and vertically on the tramway. The circular portion *d'* in said hangers affords a pivotal connection for the

latter on the round tram-rail, and by this means my pivotal connection is dispensed with. The beveled portions on the door and casing afford a secure lock for the top portion of said door. The device is simple of construction and reliable in operation.

What I claim as new, and desire to secure by Letters Patent, is—

1. A car-door suspended from a tram-rail by means of hangers C, the latter having a pulley in their top portions, said pulleys resting and adapted to travel on said rail, the lower end portions of said hangers being pivoted centrally within recesses in the top edge of said door, and suitable means for locking the latter, substantially as set forth.

2. The round tram-rail B, connected to the car-door A, hangers C, having a pulley *d* therein and resting on said tram-rail, circular recesses *d'* in said hangers, through which said rail passes, the lower end portion of said hangers being pivotally connected within recesses in the top edge of said door, and suitable means for manipulating and locking the latter, substantially as specified.

3. The combination of tram-rail B, hangers C, having pulleys in the housing thereof, said pulleys resting upon said tram-rail, door A, having recesses in the top portion thereof, plates *a*, secured within said recesses, the lower end portions of said hangers being pivotally connected to said plates centrally within the door, and suitable means for locking the latter, substantially as set forth.

ABRAHAM B. TAYLOR.

Witnesses:

O. M. HILL,

WILSON B. BRICE.