

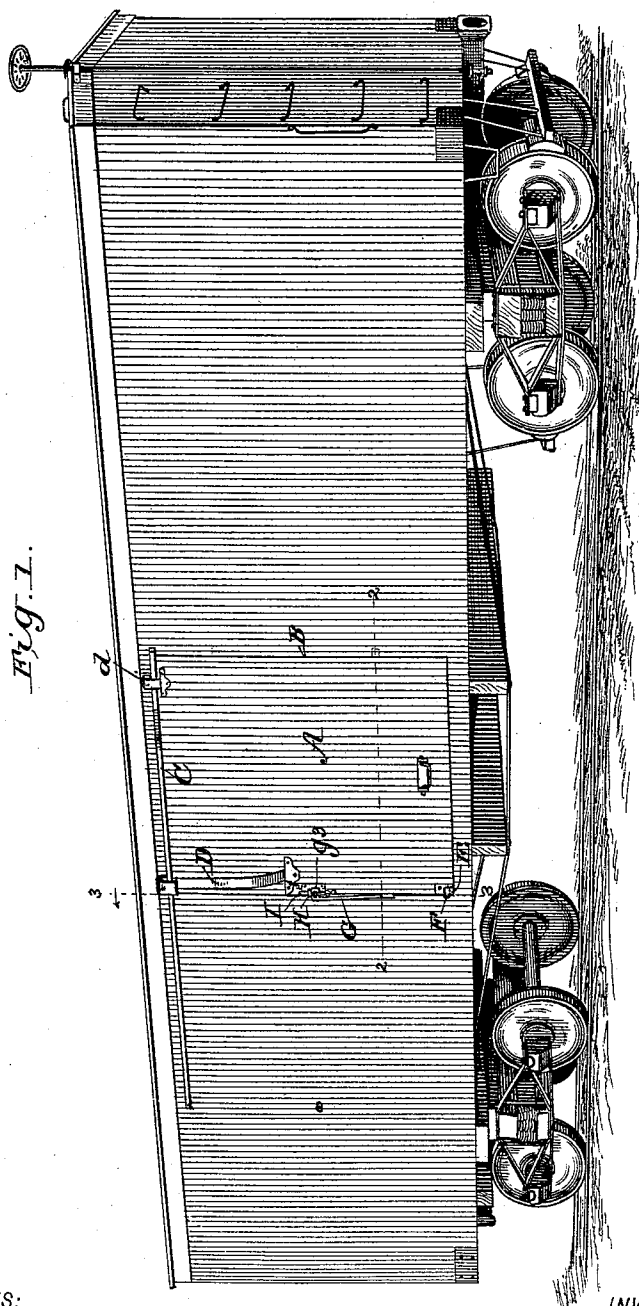
(No Model.)

2 Sheets—Sheet 1.

W. E. HOYT.
CAR DOOR.

No. 538,165.

Patented Apr. 23, 1895.



WITNESSES:
Fred G. Dieterich
P. B. Surpin.

INVENTOR
William E. Hoyt.
BY *Wm. L.*
ATTORNEYS.

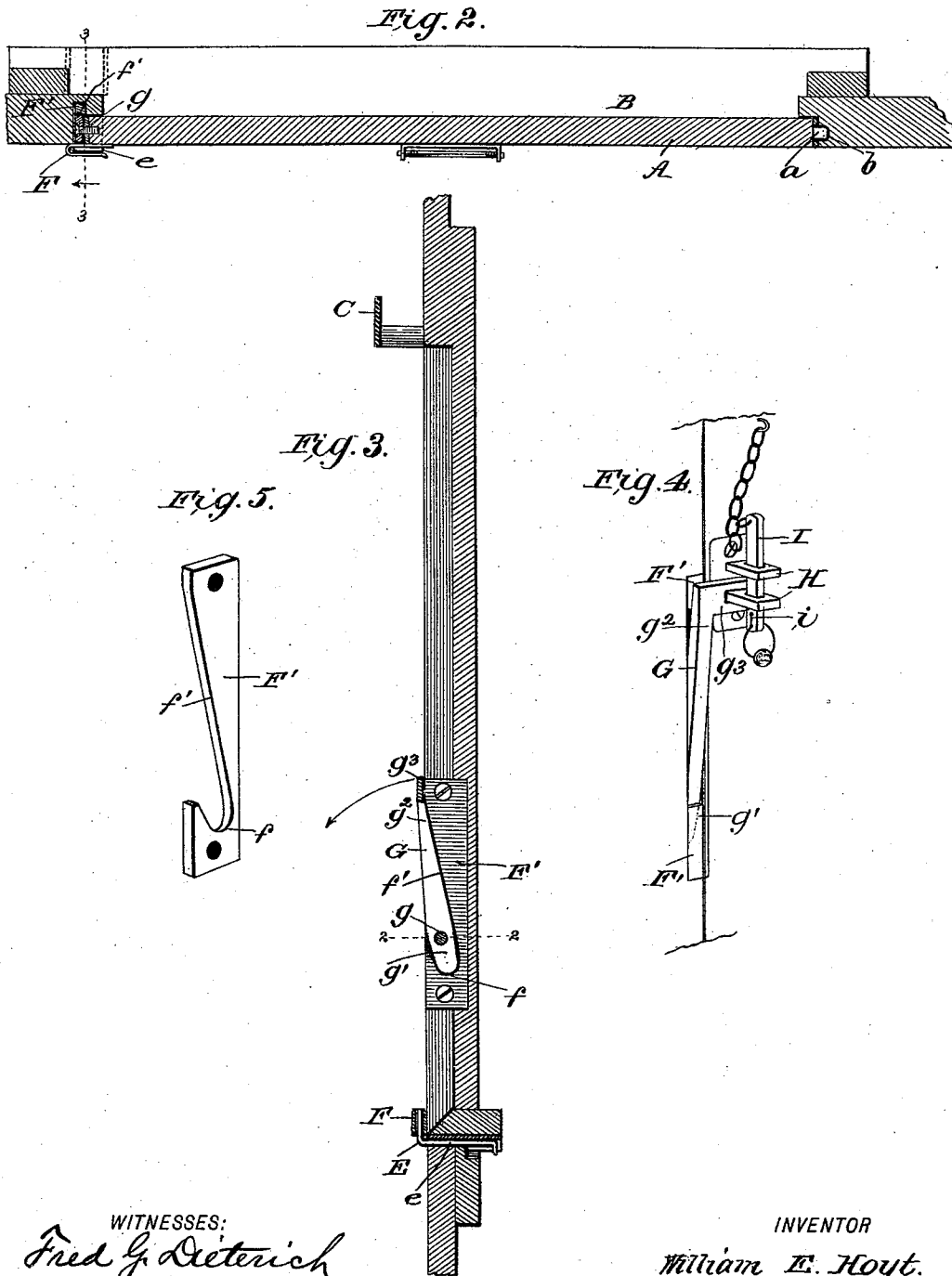
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UNITED STATES PATENT OFFICE.

WILLIAM E. HOYT, OF RAVENSWOOD, WEST VIRGINIA.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 538,165, dated April 23, 1895.

Application filed December 14, 1894. Serial No. 531,786. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. HOYT, of Ravenswood, in the county of Jackson and State of West Virginia, have invented a new and useful Improvement in Car-Doors, of which the following is a specification.

My invention is an improvement in car doors and particularly in that class of such doors known as flush doors and the invention seeks among other improvements to provide novel features in the devices for supporting and manipulating the door and the invention consists in certain novel constructions and combinations of parts as will be hereinafter described and pointed out in the claims.

In the drawings—Figure 1 is a perspective view of a car provided with my improvements. Fig. 2 is a horizontal section on about line 2—2 of Fig. 1. Fig. 3 is a vertical section on about line 3—3 of Fig. 1. Figs. 4 and 5 are detail perspective views.

The door A fits when closed in the doorway B and has at its rear edge projections or dowels *a* which enter sockets *b* in the wall of said doorway and prevent such edge of the door from being opened by shifting of the load or from other causes. Above the doorway and extended to one side thereof is the rail C on which the door A is suspended by means of the hangers D and *d*, the latter being short and arranged at or near the rear edge of the door and the former D near the front edge of the door and made longer than the hanger *d* and of sufficient resilience to form a spring which will permit the front end of the door to move laterally into and out of the doorway. These hangers D *d* may or may not have rollers and are so formed that they can only be applied to and removed from the ends of the rail.

The car is provided preferably at or near the front side of its doorway with a keeper E for the lower edge of the door. This keeper E is movable laterally in and out so it may move out to form a guide for the lower edge of the door as the latter is being slid from open to closed position. To this end the said keeper E has its horizontal plate or shank *e* movable in guides in the car so the said keeper can move freely in and out and the said keeper is engaged by a projection or portion of the door so that the said door when forced

inward will slide the keeper in out of the way so it will not be in danger of being broken off by side wiping or otherwise.

In the construction shown and as preferred the door has at its front edge a hook like catch F which, when the door is in register with its doorway, catches over the keeper E and serves to force the latter in as the door is pressed into the doorway.

The car and door are provided one with a vertically undercut seat and the other with a vertically swinging operating lever one of whose arms engages said seat.

In the construction shown the seat is formed in a plate F' fixed to the front wall of the doorway and having the seat *f* in its lower end and the inclined abutting edge or surface *f'* leading upward therefrom. The lever G, which may be termed the hasp lever, is pivoted at *g* to the front edge of the door and has its arm *g'* formed to engage in the seat *f* and its arm *g*² arranged in the closed position of the door to abut the inclined edge or surface *f'*. The arm *g*² is formed to serve as a hasp having at its free end a right angular arm *g*³ fitting over staples H and secured by a key I, which may be perforated at *i* to receive a seal. Such construction locks the lever to the door in a position with its short arm firmly locked in engagement with the seat of the car.

The vertical swinging of the actuating lever is an important feature as it permits a trainman to exert his weight upon the lever in opening the door and to lift directly under said lever in closing it thus putting the lever in position to enable the convenient exertion of all the operator's power. By supporting the lever upon and moving it with the door, I avoid any danger of such lever getting misplaced and in the path of the door to prevent the movements of the latter.

It will be noticed that the door being a flush one and the lever lying practically throughout its length in the plane of the door when the latter is closed, not only places the operating device where it cannot be well tampered with by unauthorized persons but avoids any projecting obstruction on the side of the car, the only projecting portion of the lever being the hasp which may not strictly be regarded as a part of the lever but rather as a part attached thereto.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with a car having at the front edge wall of its doorway a vertically undercut seat for the hasp lever, the flush door closing to a position with its front edge opposite or abutting the front edge wall of the doorway and the hasp lever pivoted to and swinging vertically upon the front edge of said door and movable at its lower end into and out of locking engagement with the vertically undercut seat of the car such lever lying when the door is closed practically throughout its length in the plane of the door, all substantially as and for the purposes set forth.

2. The combination of the car provided at the front edge of its doorway with a fixed plate having a vertically undercut seat at one end having inner and outer walls and an inclined bearing or abutting surface extending upward from the inner wall of said seat, the door movable laterally into and out of the doorway, and a vertically swinging lever pivoted to the door and engaging at one end with the seat of the doorway plate and lying practically throughout its length in the plane of the door when the latter is closed, substantially as set forth.

3. The combination with the car and the laterally movable door of the keeper embracing the lower edge of the door and movable

outward therewith the door being slidable edgewise in said keeper and a catch on the door arranged to overlap the keeper when the door is adjusted edgewise to closed position and sliding with the movement of the door into and out of engagement with the keeper all substantially as and for the purposes set forth.

4. An improved sliding car door having a hanger connected therewith such hanger being rigid with the door in the direction of sliding movement thereof and elastic and springy laterally whereby the door may be swung laterally in and out and will be aided in its outward movement by the resilience of its hanger and yet be rigid with its hanger as to the direction of sliding movement of the door substantially as set forth.

5. In combination with the car and sliding door a keeper or guide at the bottom of the doorway for the purpose of retaining the door when sliding, said keeper or guide being movable in a recess under the car floor, and a catch on front of door which moves into and out of engagement with and grasps and carries such keeper back against the side of the car as the door is being swung back to a flush or closed position substantially as set forth.

WILLIAM E. HOYT.

Witnesses:

D. M. JOHNSTON,

R. B. WILLIAMSON.