T. W. HEINTZELMAN.

FREIGHT CAR DOOR.

APPLICATION FILED AUG. 26, 1909.

964,020.

Patented July 12, 1910.

FIG. 1

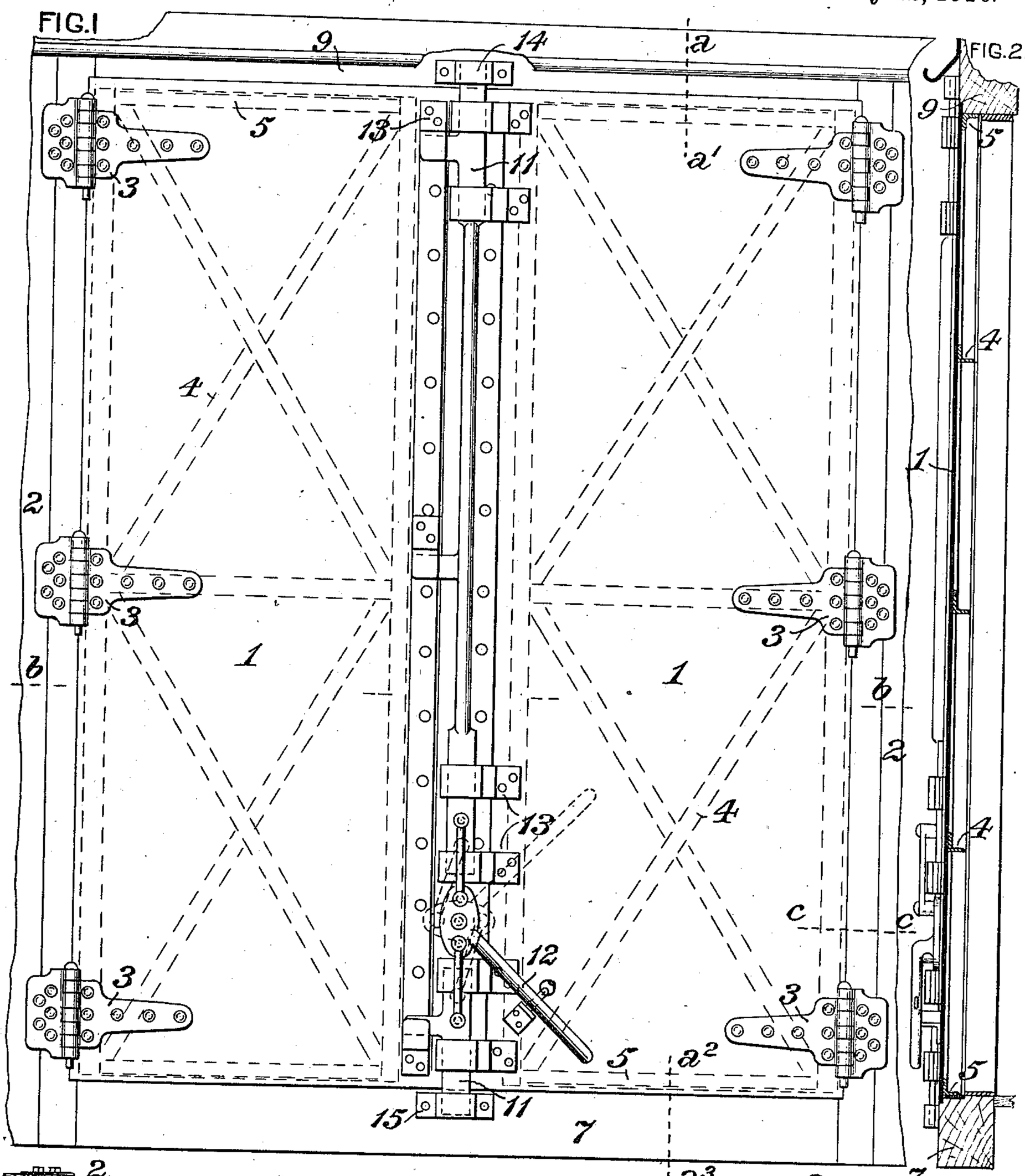


FIG. 2.

FIG. 3.

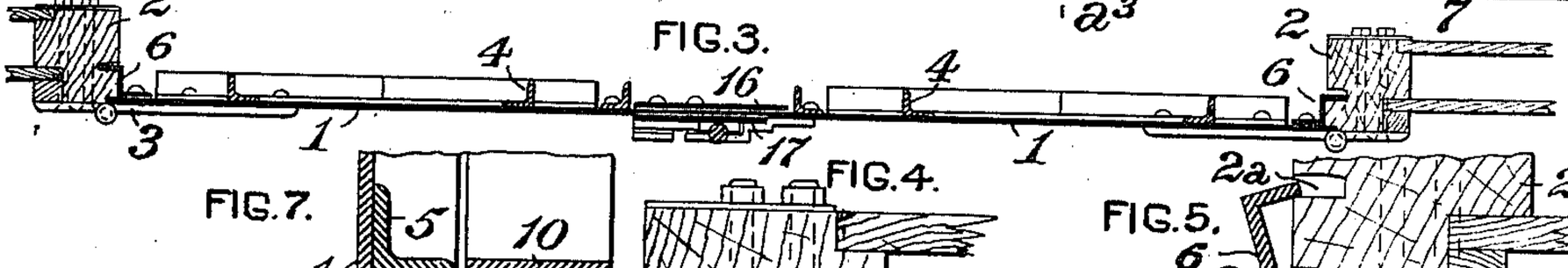


FIG. 7.

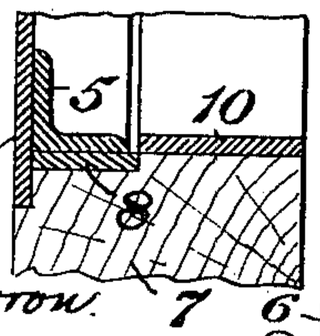
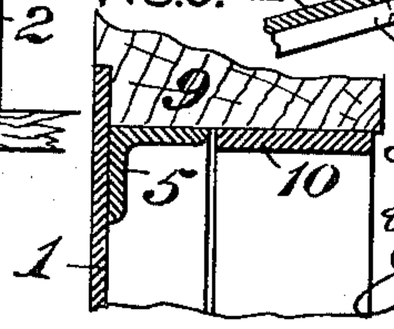


FIG. 4.

FIG. 5.

FIG. 6.



WITNESSES

James C. Herron.

S. R. Bell.

INVENTOR

T. W. Heintzelman

by Thompson Dale

Att'y.

UNITED STATES PATENT OFFICE.

TAYLOR W. HEINTZELMAN, OF SACRAMENTO, CALIFORNIA.

FREIGHT-CAR DOOR.

964,020. Specification of Letters Patent. Patented July 12, 1910.

Application filed August 26, 1909. Serial No. 514,708.

To all whom it may concern:

Be it known that I, TAYLOR W. HEINTZELMAN, of Sacramento, in the county of Sacramento and State of California, have invented a certain new and useful Improvement in Freight-Car Doors, of which improvement the following is a specification.

My present invention relates to metal doors for freight cars, and its object is to provide a door, applicable either to wooden or steel cars, which shall be of simple, durable, and inexpensive construction, readily operable, and effectually preventive of pilfering from cars and damage to lading by access of water or dust.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings: Figure 1 is an outside view, in elevation, of a freight car door embodying my invention; Fig. 2, a vertical section through the same, on the line $a\ a^3$ of Fig. 1; Fig. 3, a horizontal section on the line $b\ b$ of Fig. 1; Fig. 4, a horizontal section, on an enlarged scale, on the line $c\ c$ of Fig. 1, showing the door closed; Fig. 5, a similar section, showing the door partly open; Fig. 6, a vertical section, on the line $a\ a'$ of Fig. 1; and, Fig. 7, a similar section, on the line $a^2\ a^3$ of Fig. 1.

In the practice of my invention, I provide a door comprising two leaves, 1, 1, of plate metal, as, say $\frac{1}{4}$ inch steel, which are connected to the door posts, 2, 2, of the car, by hinges, 3, 3, of the ordinary type, and fit closely together on their opposite sides. The leaves are stiffened by diagonal braces, 4, 4, of angle iron, riveted to their inner sides, and by angle plates, 5, 5, riveted to their inner sides at their tops and bottoms. In order to guard against burglarizing cars, which is done to a considerable extent when the usual sliding doors are used, as well as to form a practically water tight and dust proof joint, a Z bar, 6, is riveted to the inside of each of the leaves, 1, 1, adjacent to the hinged side thereof, said Z bars fitting closely against the door posts, with their outer flanges fitting in vertical grooves, 2^a, therein, when the door is closed, as shown in Fig. 4.

The leaves of the door when closed, fit into recesses, of depth corresponding to their thickness, in the side sills, 7, of the car frame, and their lower angle plates, 5, fit closely over metal plates, 8, secured to the tops of the sills, as most clearly shown in Fig. 7, this construction making a water tight and substantial joint. The tops of the leaves fit similarly into recesses in the roof side plates, 9, and their angle plates, 5, fit against the bottoms of the roof plates, as shown in Fig. 6. To prevent wear of the door posts, side sills, and roof plates, they are preferably, as shown, protected by metal facing plates, 10, the facing plates of the side sills being substantially in the same horizontal plane as the bottom angle plates of the door leaves.

The door is latched and held closed by a vertically sliding latch, 11, made in two sections, which are coupled to and operated by a hand lever, 12, and which slide in clips, 13, secured to the door leaves, and clips, 14 and 15, on the roof side plate and side sill, respectively. Lap plates, 16, 17, are riveted to the inner side of one leaf and the outer side of the other, said plates covering and making tight the joint of the leaves when closed.

I claim as my invention, and desire to secure by Letters Patent:

1. The combination of a door post having a vertical groove, a side sill having a front recess near its top, a plate secured to the side sill adjacent to the recess thereof, a plate metal door hinged to the door post, a Z bar secured to the inner side of the door and adapted to enter said vertical groove, and an angle plate secured to the bottom of the door and fitting over the plate of the side sill.

2. The combination of a door post having a vertical groove, a side sill having a front recess near its top, a plate secured to the side sill adjacent to the recess thereof, a plate metal door hinged to the door post, a Z bar secured to the inner side of the door and adapted to enter said vertical groove, an angle plate secured to the bottom of the door and fitting over the plate of the side sill, and a facing plate secured to the top of the side sill in substantially the same horizontal plane as the angle plate of the door.

3. The combination of door posts each having a vertical groove, a side sill, a roof side plate, two metal door leaves hinged to the door posts and substantially abutting on their opposite sides, a Z bar secured to the inner side of each door and adapted to enter a vertical groove, clips secured to the roof side plate and side sill, latches sliding in

said clips, and lap plates secured to the inner and outer sides of the door leaves and covering the joint thereof.

4. A plate metal car door having angle plates secured to its inner side at the top and bottom thereof, angle iron diagonal braces intermediate said angle plates, hinge plates secured to its outer side, and a Z bar secured to its inner side and projecting outwardly therefrom opposite the hinge plates.

5. The combination of a door post having a vertical groove, a metal door hinged to said door post, and a Z bar secured to the inner side of the door and adapted to enter the groove of the door post.

TAYLOR W. HEINTZELMAN.

Witnesses:
F. H. SMITHSON,
KATHERINE CLANCY.