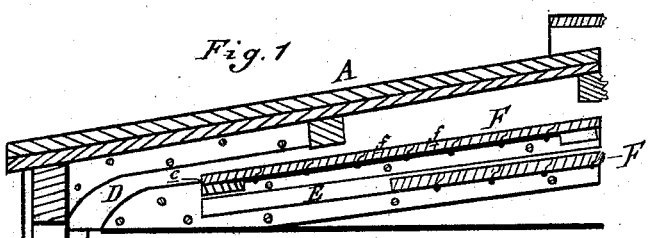
G. M. COOPER.
Freight-Car Doors.

No. 209,462. Patented Oct. 29, 1878.

Fig. 1



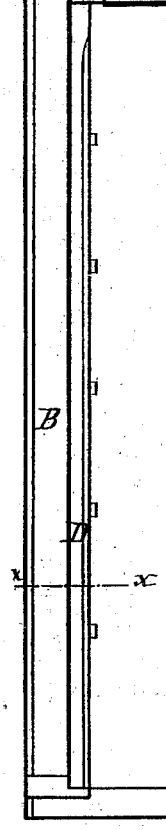


Fig. 2

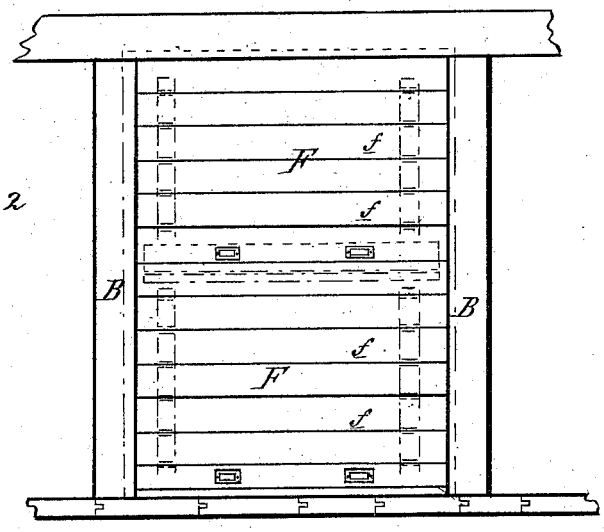


Fig. 3

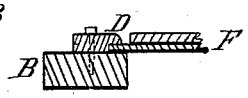
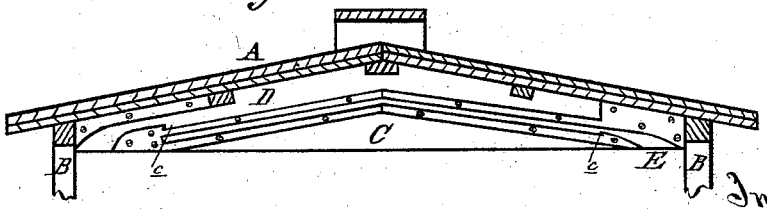


Fig. 4



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UNITED STATES PATENT OFFICE.

GAGE M. COOPER, OF PORT HURON, MICHIGAN.

IMPROVEMENT IN FREIGHT-CAR DOORS.

Specification forming part of Letters Patent No. **209,462**, dated October 29, 1878; application filed June 19, 1878.

To all whom it may concern:

Be it known that I, GAGE M. COOPER, of Port Huron, in the county of St. Clair and State of Michigan, have invented an Improvement in Freight-Cars, of which the following is a specification:

The nature of this invention relates to an improvement in the construction of sectional doors for freight-cars; and the invention consists in the peculiar combination with said doors of means for storing them in the top of the car when not in use, all as more fully hereinafter set forth.

Figure 1 is an enlarged view, partially in cross-section, of a car provided with my doors. Fig. 2 is an elevation of the door-section of a car with the doors lowered to place. Fig. 3 is a cross-section at *x x*, Fig. 1. Fig. 4 is a cross-section through the roof of a car, showing channels for the reception of the doors.

In the accompanying drawings, which form a part of this specification, A represents the roof of a car, and B the door-posts. C are rafters or girders in the top of the car, which help support the roof and which carry the doors when they are elevated. D and E are channels cut in the door-posts and rafters, or otherwise formed therein, said channels being continued across the rafters in opposite directions, overlapping each other, and at such distances apart that when the doors are elevated they will not interfere with each other. In each channel in the rafters are formed shoulders *c*, which keep the doors in their position when they are elevated.

F F are sliding doors, composed of slats *f*, which are secured together by strap-hinges upon the inside. These doors are constructed in sections, so that two of them will form a whole door.

When one section of the door is lowered keys may be inserted through the door-posts, so as to prevent the door from working up. When both are closed a suitable lock may be provided to lock them in such position.

Each door is divided into two independent sections, so that when the car is used as a grain-car one of the sections can be pulled down and keyed in place to act as a grain-door, leaving the upper part of the doorway open to admit the air. The other section of each door will be held securely in the roof by the shoulders *c* in the channels.

When the car is used as a closed box-car the two sections of the door close the whole doorway.

The flexible sectional doors are especially adapted for cars designed to be employed in either or both of these capacities, since when one section of a door alone is in use the other section is removed entirely out of the way, and both sections can be locked securely together and to the door-posts when it is desired to close the whole doorway.

I am aware that a flexible car-door made of cross-slats pivoted together and adapted to be elevated into the roof of the car has been patented, and I do not pretend to be the inventor of the same.

What I claim as my invention is—

In a car having divided flexible doors, the channels in the roof of the car provided with shoulders *c* near their ends, constructed and arranged substantially as described and shown.

G. M. COOPER.

Witnesses:
H. S. SPRAGUE,
THEO. S. DAY.