

(No Model.)

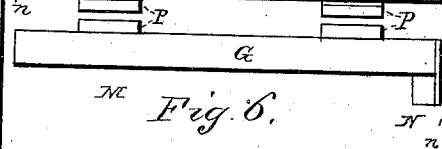
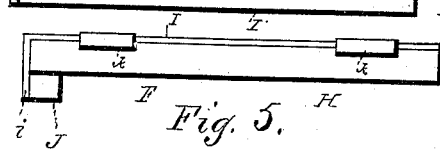
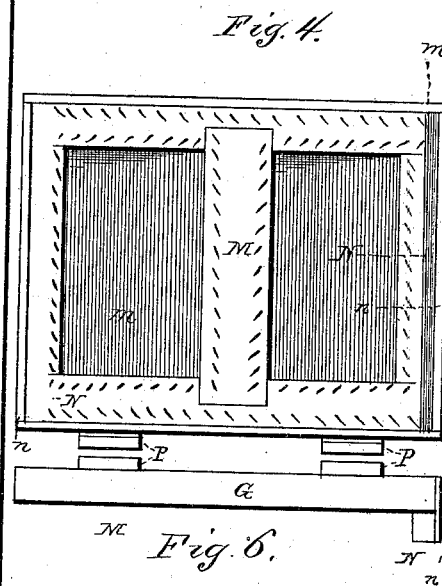
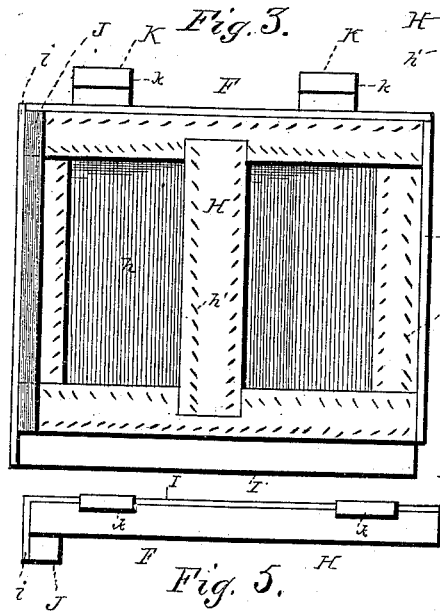
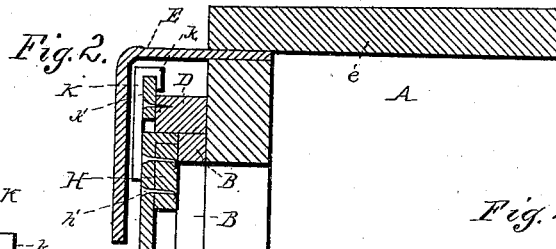
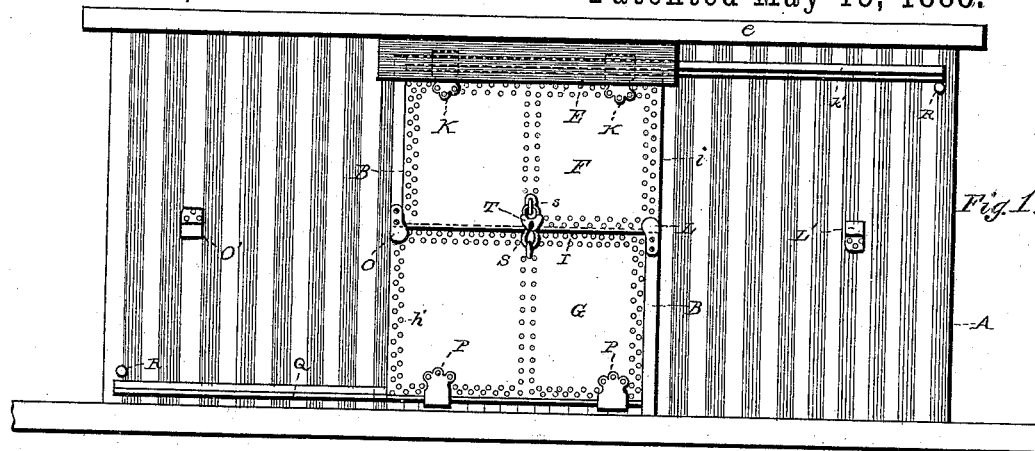
2 Sheets—Sheet 1.

J. C. WANDS.

CAR DOOR.

No. 382,917.

Patented May 15, 1888.



WITNESSES,
McB. Harris.
CR. Ferguson.

INVENTOR,
John C. Wands,
by E. W. Anderson,
Attorney.

(No Model.)

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2 Sheets—Sheet 2.

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Fig. 7.

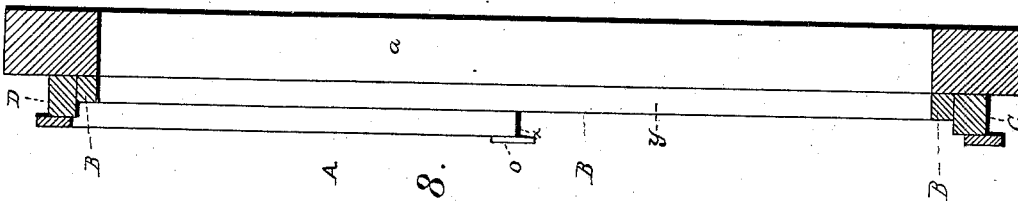
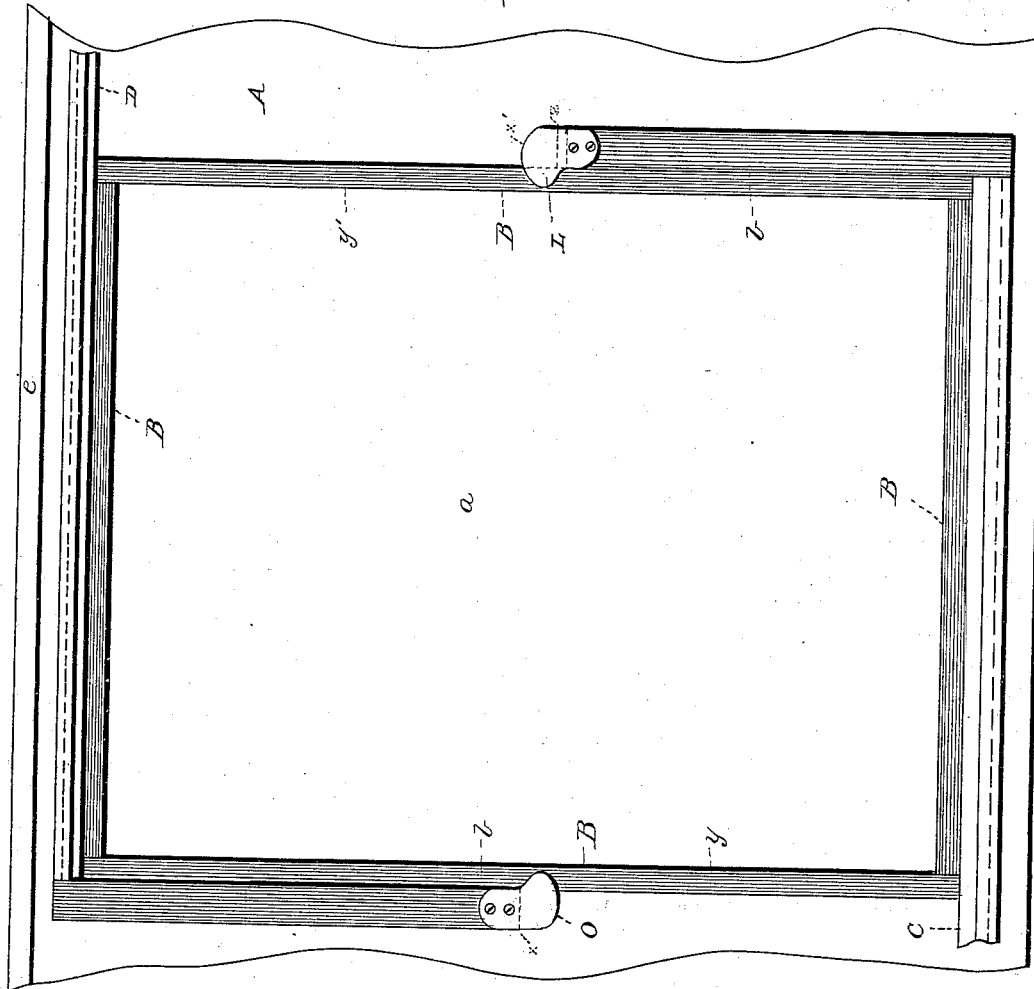


Fig. 8.

WITNESSES
Mc. B. Harris
C. P. Ingman

INVENTOR
John C. Wands
E. W. Anderson,
Attorney

UNITED STATES PATENT OFFICE.

JOHN CLARK WANDS, OF ST. LOUIS, MISSOURI.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 382,917, dated May 15, 1888.

Application filed November 26, 1887. Serial No. 256,231. (No model.)

To all whom it may concern:

Be it known that I, JOHN CLARK WANDS, a citizen of the United States, and a resident of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Car-Doors; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a front elevation of my improved iron door. Fig. 2 is a vertical transverse section of same. Fig. 3 is an inside view of section F. Fig. 4 is an inside view of section G. Fig. 5 is a top view of section F. Fig. 6 is a bottom view of section G. Fig. 7 is a front elevation with sections F and G removed, showing battens B B. Fig. 8 is a vertical transverse section of same.

The invention relates to improvements in car-doors, and is particularly applicable to freight-cars, its object being to provide a door of simple and cheap construction that can be easily operated and shall be provided around its edges with close joints that are practically storm and spark proof.

The invention consists in the construction and novel combination of parts hereinafter described, and pointed out in the claims hereto appended.

Referring to the drawings by letter, A designates a car, to the side of which the rectangular door is attached. The rectangular door-opening *a* in the said side is surrounded by the outstanding clips or battens B, the vertical ones of which are rabbeted at *b b* on their sides adjacent to said opening. The upper and lower battens are of the same width and thickness as the rabbeted parts of the vertical side battens.

The vertical clip B on one side of the door is reduced in thickness both inwardly and laterally—that is, toward the door-opening in both directions; from the lower end of said opening to the central part of the same, where the reduced and unreduced portions form at their junction the downwardly-facing shoulder *x*, below which the rabbet does not ex-

tend, the reduced portion *y* consisting of the part of the clip inward from the rabbet, as shown. The opposite vertical clip has its upper half similarly reduced to form, with the unreduced portion thereof, the upwardly-facing shoulder *x'*, the upper reduced portion, *y'*, being in all respects similar to the lower part of the opposite vertical clip.

C is a longitudinal guide-beam running on the side of the car outward from and below the clip B at the lower end of the doorway or opening *a*, and extending thence to one end of the car, so that the lower edge of the lower section of the car-door, hereinafter described, can be slid longitudinally outward thereon. D is a similar guide-beam running longitudinally in the opposite direction outward from and above the top clip, B, of the doorway, and serving as a guide for the upper section of the door.

E is a plate, preferably metallic, secured to and depending from the outwardly-projecting edge of the car-roof *e*, and extending down over the top of the doorway *a* for a distance a little more than its entire breadth, as shown.

The upper and lower sections, F and G, respectively, of the door, are preferably of equal size, though not necessarily so. The upper section, F, is composed of the interior rectangular frame, H, and the exterior rectangular covering plate or piece, *h*, preferably of iron, connected to the outer surface of said frame preferably by making registering openings through plate and frame, driving spikes *h'* through the said registering openings, and bending the inwardly-projecting ends of said spikes down on the inner surface of the frame H. I do not, however, desire to limit my invention to this mode of construction, as, while desirable, it is not the main feature of the invention.

The lower edge of the plate *h* projects downward below the frame H, forming a flange, I, that serves a purpose hereinafter explained. The top and end edges of the plate *h* are bent inward at right angles on the edges of the frame H, the edge *i*, on the side toward which the section opens, extending farther inward than the similarly-bent edges, so as to cover the outer side of a vertical clip, J, secured to the inner surface of the adjacent vertical rail of the frame H and flush with the outer edge

of said rail. The said bent edge *i* extends downward to the corresponding end of the edge of the extension *I* of the plate *h*.

K K are similar engaging-plates, with their own ends secured to the outer surface of the plate *h* near the upper edge thereof, extending thence upward, and having their upper ends bent over to form the hooks *k k*, that engage over and slide on the upper edge of the longitudinal metallic guide-strip *k'*, secured to the guide-beam D, and with its upper edge projecting above the said beam. When the said section is slid inward and entirely covers the upper corresponding part of the doorway *a*, its upper edge runs under the metallic plate E, and the clip J rests against the side of the reduced portion of the corresponding vertical clip B, forming a close joint therewith. The lower edge of the frame H then rests upon the shoulder *x'*, and is retained in place by the guide-bracket L, which is secured to and extends upward from the lower rabbeted and unreduced part of the corresponding vertical clip B, and the bracket L' is secured to the side of the car a suitable distance outward from the former. The lower edge of the upper section moves over said brackets, and is held thereby vertically, and prevented from swinging outward from the car-side when the door is open.

The lower section, G, is composed of a frame, M, similar to the frame H, and a plate, *m*, similar to the plate *h*, except that it has no depending lower edge similar to the edge *I* of the plate *h*, all its edges being bent inward at right angles, so as to lie against the edges of the frame M. The side edge, *n*, that extends inward farther than its other edges, rests against the outer surface of the vertical clip N, similar to the clip J, but secured to the inner surface of the section on the side opposite the latter clip, and resting, when the lower section is closed, against the lower non-rabbeted and reduced portion of the corresponding clip B. The upper edge of the lower section slides under the brackets O O', the former of which is secured to the upper unreduced portion of the corresponding clip and depends over the shoulder *x*, the latter being secured to the side of the car a suitable distance outward from the former.

P P are engaging-plates similar to the engaging-plates K K, depending from the lower edges of the plate *m* of the lower door-section, and having their ends formed into hooks *p p*, which engage under the lower edge of the metal strip Q, secured longitudinally to the guide-beam C, upon which the lower edge of the lower section, G, rests and slides. The engaging-plates P and brackets O O' prevent the edges of the lower door-section from swinging outward from the side of the car.

When the doors are slid inward and closed over the doorway *a*, the plate E extends downward over the upper edge of the upper door-section, the extension *I* of the plate *h* of the upper section of the door extends downward

over the upper edge of the lower section, and lies at one end between the bracket L and the plate *m* of the lower section, (the shoulder *x'* being cut away or kerfed at *z* to form a seat for said end.) One side edge of the upper section rests against the inner side of the unreduced portion of the adjacent vertical clip B, while the clip secured to the opposite edge above the bracket L extends far enough inward to engage against the outer side of the reduced upper portion of the corresponding vertical clip; also, one end of the lower section rests against the lower unreduced portion of the adjacent clip B below the bracket L, and the opposite end has its clip N engaging against the lower reduced portion of the corresponding clip B below the shoulder *x*.

If desired, stops R R may be secured to the side of the car at proper points to prevent the sections from being drawn too far outward by engaging against the edges of said sections.

The car-door thus formed is simple and strong in construction, the whole exterior being metallic, and all the joints that would be easily penetrable are covered with overlapping metal, so that rain or sparks cannot enter the car therethrough. When the two sections are slid inward and closed over the doorway *a*, the upper link of the chain S, secured to the lower section, is turned up over the staple *s*, secured to the upper section, and a padlock, T, is locked on said staple, so as to hold the sections together. The sections then cannot be slid so as to uncover the door-opening, as each can slide in one direction only, and when connected each forms a stop to the other.

Having described my invention, I claim—

1. In a car-door, the combination of the guideways secured to the outer surface of the side of the car, and the door formed of an upper and lower section moving upon said guideways, and having their meeting joints covered by a downwardly-depending flange, and each section having its vertical joint on the side on which it opens protected by an inwardly-standing flange, substantially as specified.

2. A car-door composed of the rectangular upper and lower sections, each consisting of an interior frame and exterior metallic plate properly secured to said frame, the said doors sliding outward in opposite directions and the guideways secured to the adjacent side of the car, substantially as specified.

3. The combination of the car-door composed of an upper and lower rectangular section, each consisting of an inner frame and an outer metallic plate secured to said frame and bent inward at its edges to overlap the exposed joints between the sections and the door-opening, and extending downward to overlap the joint between the meeting edges of the sections, of the longitudinal guide beams and strips, the hooked engaging-plates secured to the sections and sliding on said strips, and the guiding and retaining brackets, substantially as specified.

4. The combination, with the car, the horizontal guide-beams secured longitudinally to the outside of the car, the rabbeted vertical side clips, B, adjoining the doorway or opening of the car, and provided, respectively, with the shoulder *x* and lower reduced portion, *y*, and the shoulder *x'* and upper reduced portion, *y'*, of the door-section F and G, the flange or extension I of the upper section extending over the upper edge of the lower section, the clips J and N, attached, respectively, to the upper and lower sections, and the inwardly-bent portions *i m* of the upper and lower sections, respectively covering said clips J and N, substantially as specified.

5. In a car, the combination, with the side provided with a proper doorway and the guide-beams extending longitudinally in opposite directions from the top and bottom, respectively, of said doorway, of the two rectangular door-sections sliding in opposite directions on the guide-beams, and the fastening devices, substantially as described, to connect said sections together, as specified.

6. In a car, a door composed of oppositely-sliding upper and lower sections, each section consisting of a rectangular inner frame and an outer covering secured to the frame by spikes, having their ends bent up or upset on the inner surface of the frame, substantially as specified.

7. In a car, the combination, with the vertical, partly-rabbeted, and shouldered side clips, B, the upper and lower guide-beams, and the guide-strips secured to said beams, of the sectioned door, each section of which is composed of an inner rectangular frame and an outer covering secured to said frame, the vertical clips J N, secured to said sections, the hooked engaging-plates, and the guide-brackets, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN CLARK WANDS.

Witnesses:

J. A. MARTIN,
J. H. COGSWELL.