

(No Model.)

4 Sheets—Sheet 1.

G. D. BURTON.
CAR DOOR.

No. 422,006.

Patented Feb. 25, 1890.

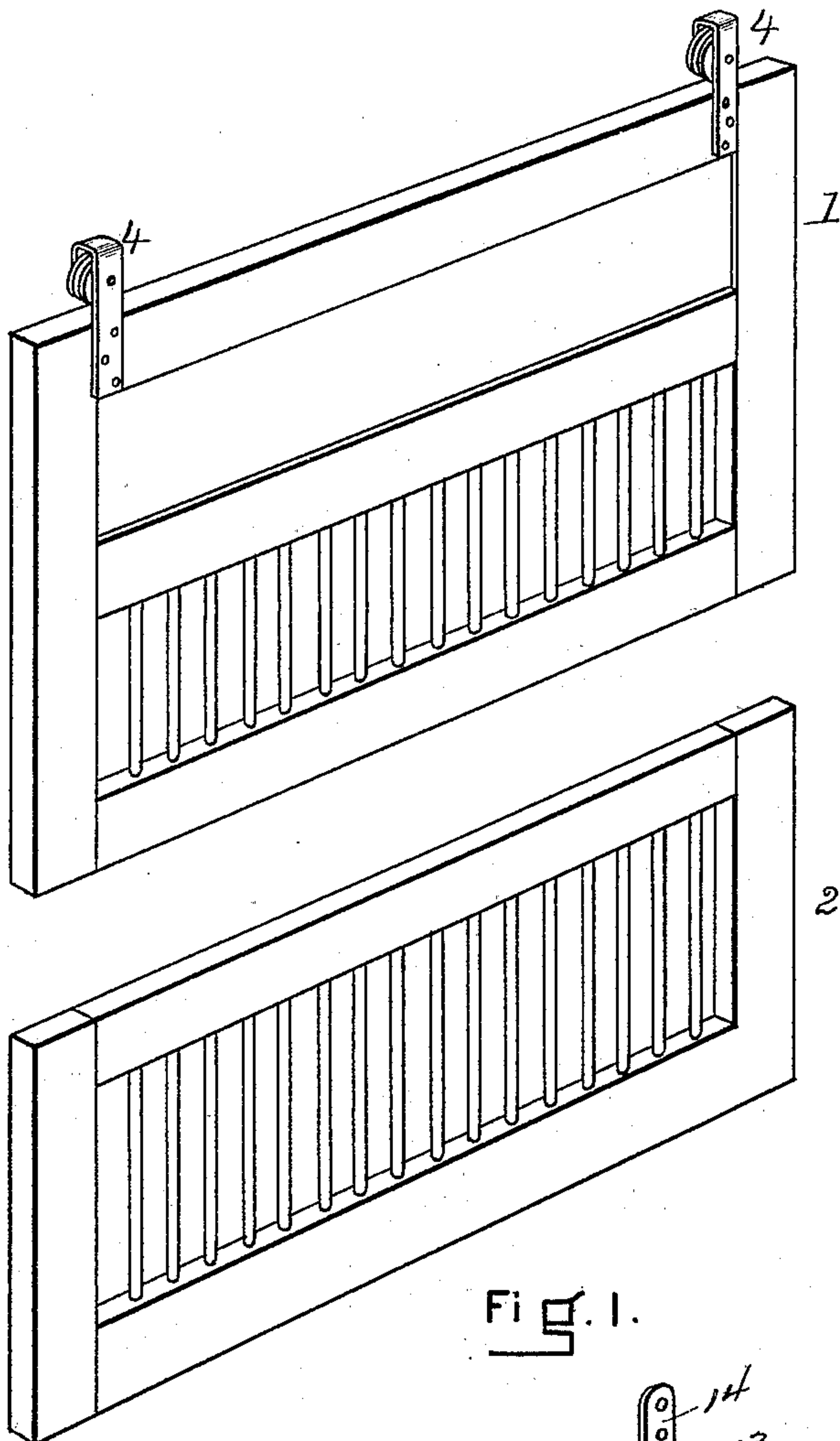


Fig. 1.

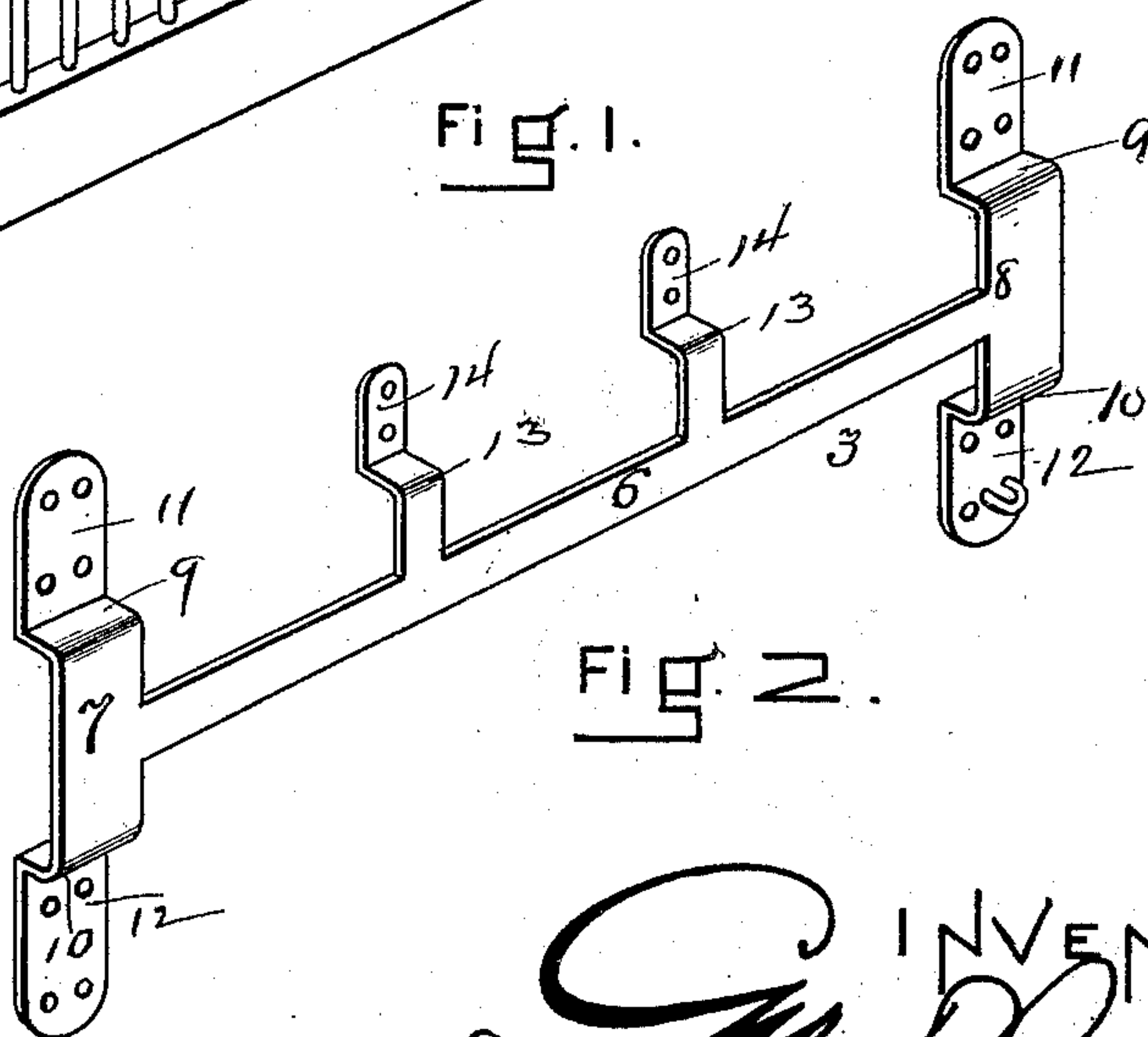


Fig. 2.

WITNESSES

Edw. A. Turner
Chester W. Harr

INVENTOR

G. D. Burton

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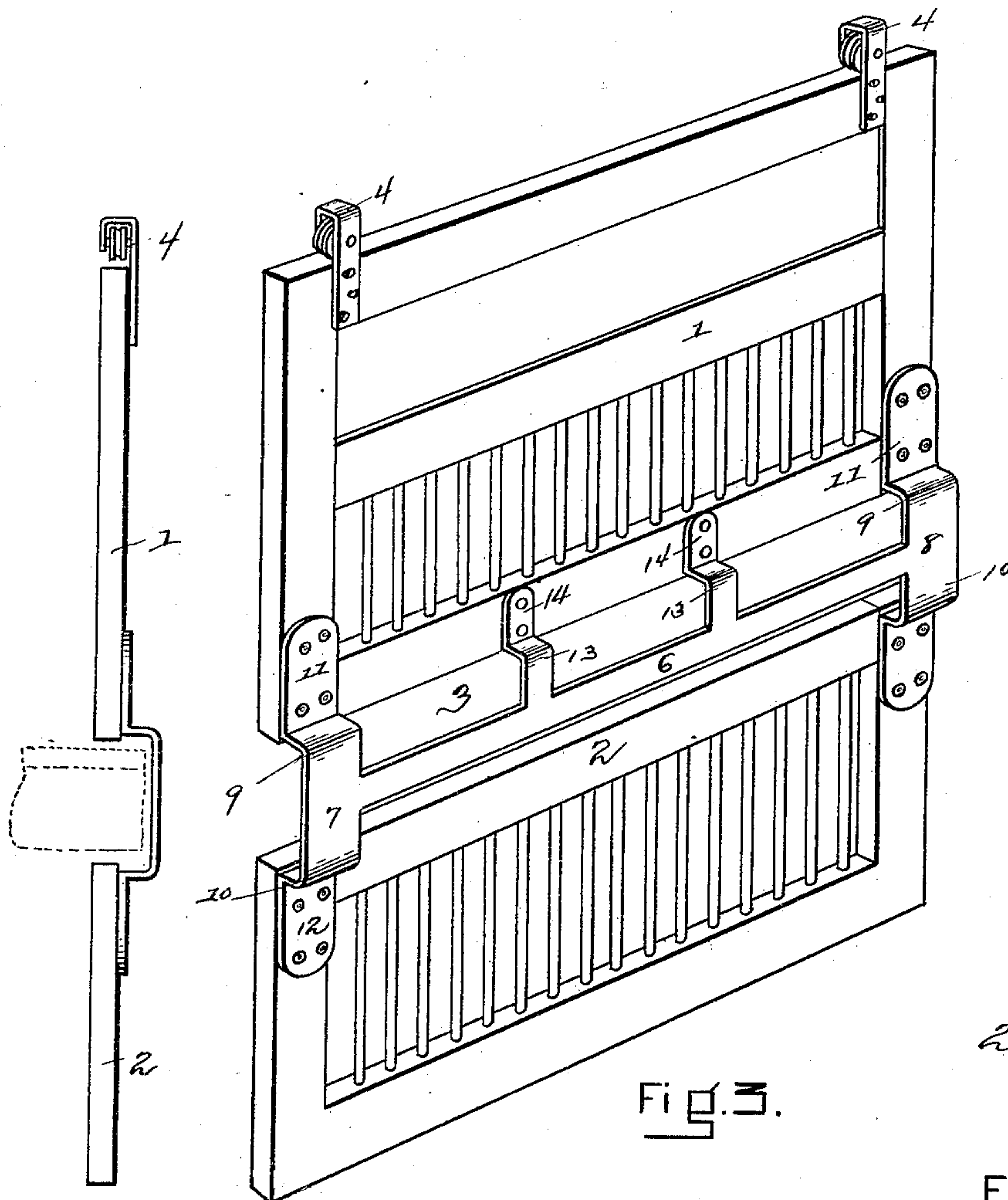


Fig. 3.

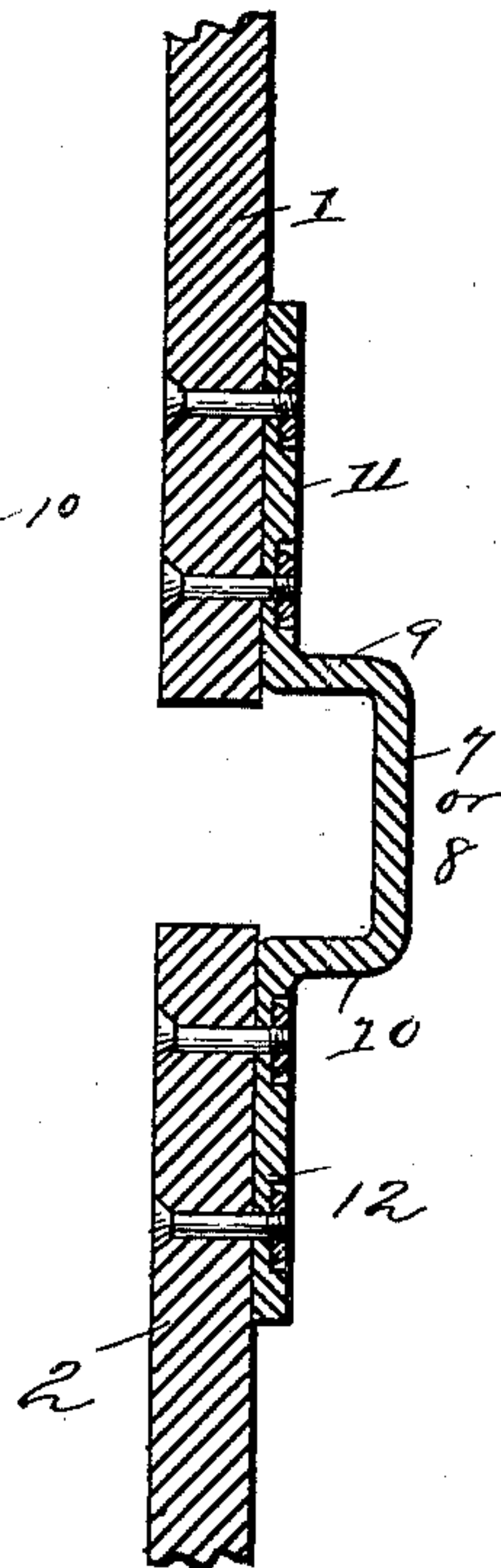


Fig. 5

Fig. 4

WITNESSES

Edw. Turner
Chester Harr

INVENTOR

G. D. Burton

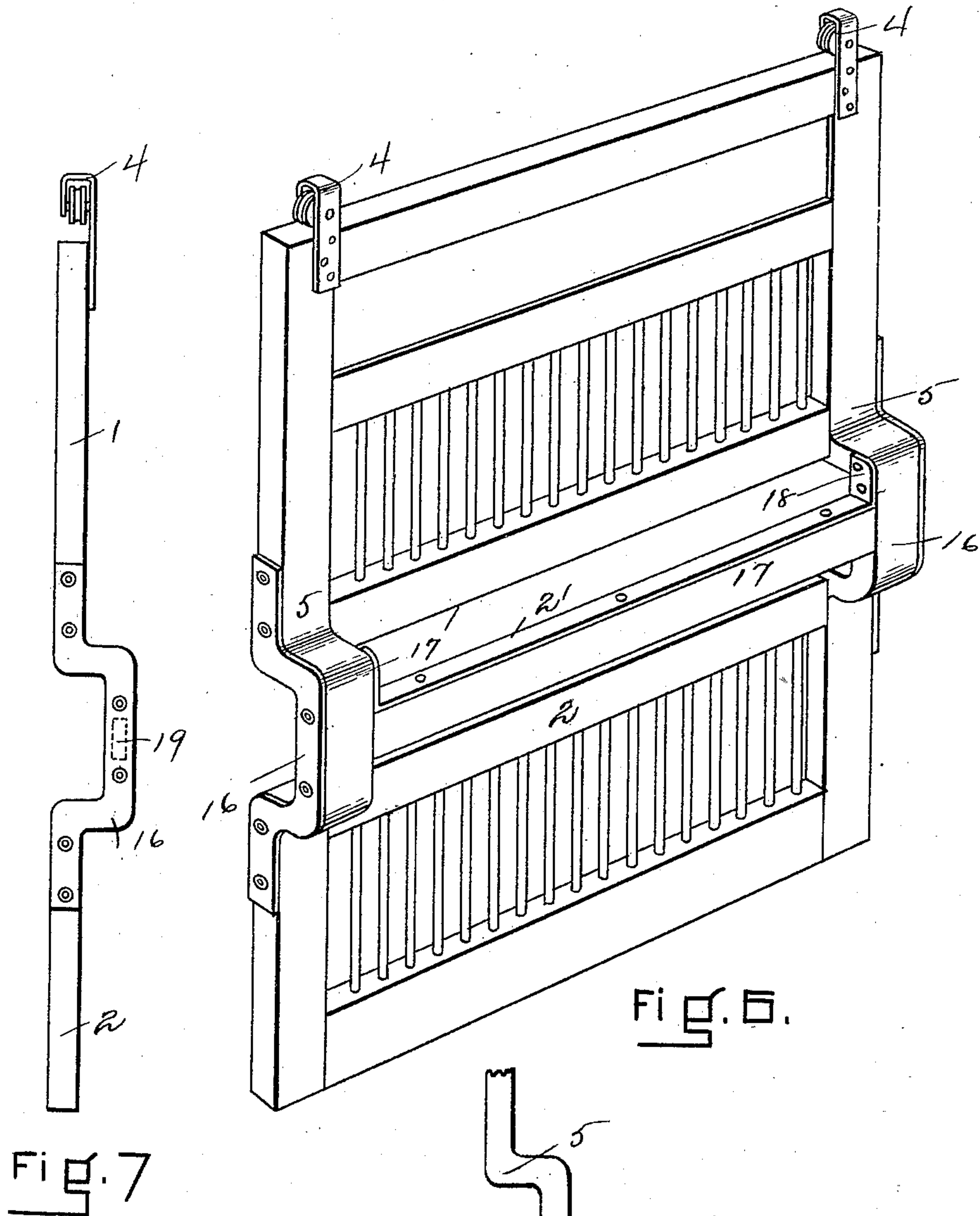
(No Model.)

G. D. BURTON.
CAR DOOR.

4 Sheets—Sheet 3.

No. 422,006.

Patented Feb. 25, 1890.



WITNESSES.
Chester Marr
E. F. Philipson

INVENTOR.
G. D. Burton

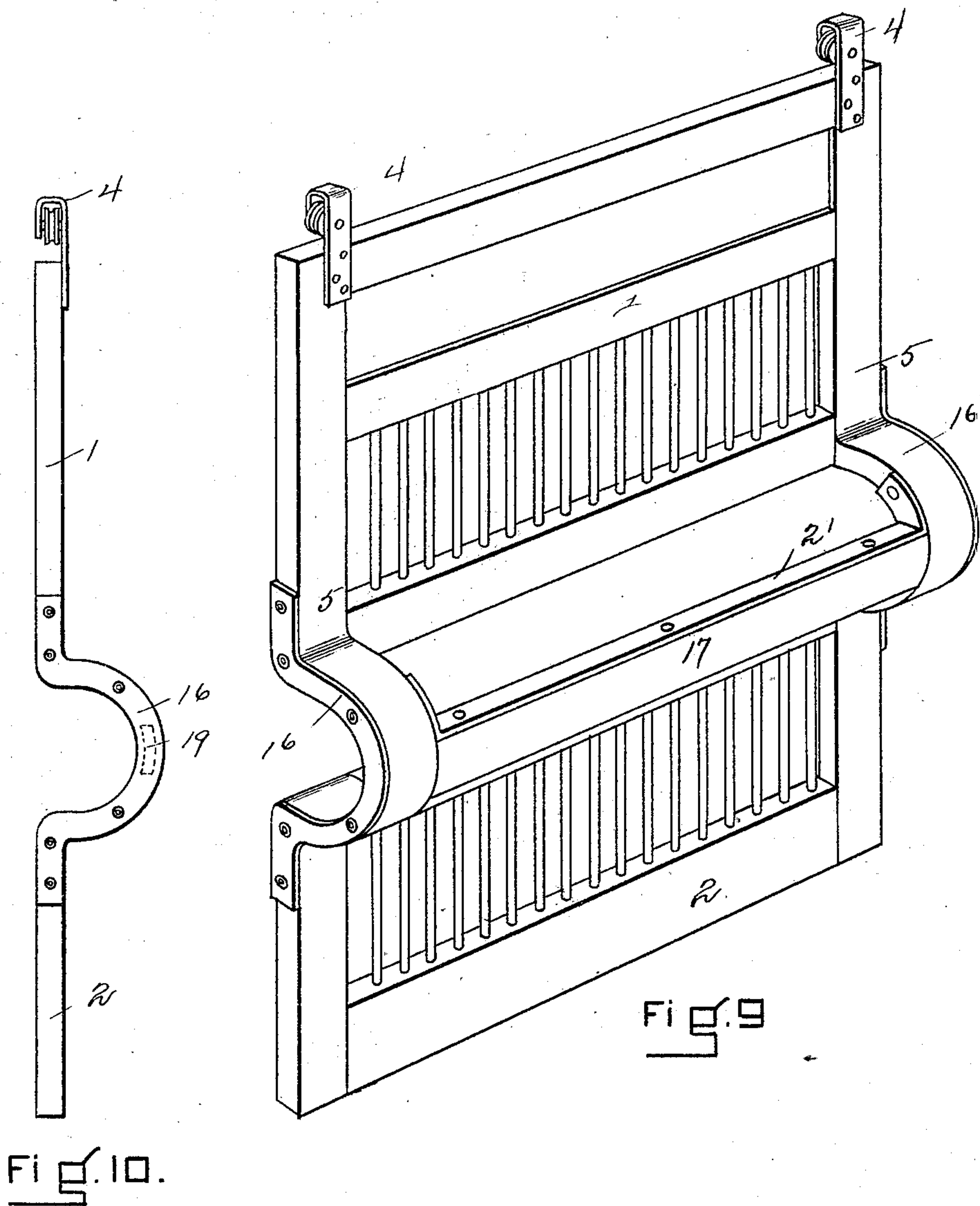
(No Model.)

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G. D. BURTON.
CAR DOOR.

No. 422,006.

Patented Feb. 25, 1890.



WITNESSES.

Chester Mann
E. F. Phillips

INVENTOR.

G. D. Burton

UNITED STATES PATENT OFFICE.

GEORGE D. BURTON, OF BOSTON, MASSACHUSETTS.

CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 422,006, dated February 25, 1890.

Application filed December 11, 1888. Serial No. 293,244. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. BURTON, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, 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 the figures of reference marked thereon, which form a part of this specification.

My invention has relation to car-doors, and more especially to doors for stock-cars in which feed-troughs are used; and it has for its objects, first, to furnish a car-door of this class provided with an offset near its center, whereby greater room is provided for the trough; second, to furnish a car-door of this class made of two parts secured together near the center of the door by means of a third part offset from the two first-mentioned parts, thereby furnishing greater trough-room, and, third, to provide an improved construction of spider, whereby to connect the two parts before named.

With these objects in view my invention consists of the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the subjoined claims.

In the accompanying drawings, Figure 1 is a perspective view of the two parts of a stock-car door disconnected, but in the position they assume when secured together. Fig. 2 is a perspective view of the central connecting or third part, which I denominate a "spider." Fig. 3 is a perspective view of a complete door made in accordance with my invention. Fig. 4 is a view of the same in side elevation, the end of a feed-trough being shown in dotted lines to illustrate the relative positions of the door and trough when in position. Fig. 5 is an enlarged fragmentary view, in vertical section, showing the attachment of parts together, the top and bottom portions being broken away. Figs. 6 to 10 are illustrative of modified forms in which my invention may be carried out, in which

Fig. 6 shows a perspective view of a door having its stiles formed in single pieces bent outward angularly near the center. Fig. 7 is a view in elevation thereof. Fig. 8 is a view in end elevation of the inside of one of the stiles removed therefrom, the upper and lower ends being broken away. Fig. 9 is a perspective view of a door having the central part of its stiles curved outward, and Fig. 10 is a view thereof in end elevation.

Like numerals of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by said numerals of reference, 1 is the upper and 2 the lower parts of a car-door, while 3 is the middle or central connecting part or spider by means of which and the proper screws, nails, rivets, or other fastening devices the two parts 1 and 2 are secured together to form the whole door. The upper and lower parts may be made in any desirable or preferred manner, being in this instance formed as slatted frames for use as doors for stock-cars. This, however, is a mere matter of choice, as they may be made of more or less open work, or solid, as desired. Secured to the upper edge of the upper part 1 are suitable hangers 4 4, for the purpose of swinging the door, when completed, upon the side bars usually placed along the top of the car.

In order to carry out the primary object of my invention—viz., to provide the door with an outward offset near the center, so that it may permit the use of longer feed-troughs and freely slide past such extended troughs—the two parts 1 and 2 must be secured together at a slight distance apart and the securing device must set outside of the line of the door itself. This may be accomplished in various ways—such, for instance, as is shown in Figs. 6 to 10, in which the stiles 5 5 are formed rigid, extending the whole height of the door, either made each in a single piece, bent to form the offsets similar to the parts 7 and 8 of the spider, or made of separate pieces rigidly secured together. In the form shown in Figs. 6, 7, and 8 these stiles are offset in angular lines, while in Figs. 9 and 10 the offset is formed in curved lines. Many other means might be suggested, any or all of

which would come fully within the scope of my invention; but the preferred way is by means of the spider 3, which I show in Figs. 2, 3, 4, and 5. This spider is made of metal, 5 in one or more pieces, as desired, and may be cast of malleable iron, stamped up out of plate, or built up by welding the various parts together, or by fastening them by rivets, it being desirable in the latter method to have 10 the rivet or bolt heads flush, so as not to interfere with the movement of the door. In either method of construction it is essential that the space made between the upper and lower parts 1 2 of the door be free from end 15 to end and the ends entirely open, so that the door may slide freely and pass entirely by the trough in either direction.

The spider shown consists of a horizontal main body 6, end partitions 7 8, each having 20 bends 9 10 to give a proper amount of offset, and lips 11 12, having perforations through which to pass nails, rivets, screws, or bolts to secure them to the parts 1 and 2. At desired intervals similar projections may be made 25 from the horizontal portions, each having bends, as at 13, and lips, as at 14, for the same purpose as the corresponding parts in the end pieces.

The manner of securing the parts 1, 2, and 30 3 together and their proper positions are clearly shown in the drawings, and their relation to the trough is shown by the dotted lines at 15 in Fig. 4, and inasmuch as the manner of opening and closing the car-door 35 by sliding freely either to the right or left is well known no further description of the operation is deemed necessary.

In the modification shown in Figs. 6 to 10, the spider is built up of wood, properly bound 40 and braced by metal, the end braces 16 serving to strengthen the stiles at the bend and prevent them breaking under strain. 17 is

the center piece, extending from one bend 17' to the other 18, and having proper tenons 19 (see dotted lines in Figs. 7 and 10) to enter 45 mortises 20 (see Fig. 8) in the inner sides of the bends. These joints are strengthened and secured by metallic braces 21, as shown in Figs. 6 and 9.

Spiders made according to my invention 50 may be made at the foundry or machine-shop and furnished as articles of manufacture to the car-builder, all ready to be secured to the other portions of the door.

Having thus fully described my invention, 55 what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An iron for connecting the two parts of a car-door, consisting of the bent end portions adapted to be secured to the stiles, the hori- 60 zontal portion connecting the bent end portions, and the intermediate bent portions for connecting the horizontal portion of the iron with the door, as set forth.

2. A stock-car door consisting of an upper 65 and a lower portion connected together so as to leave a horizontal space between them by bent portions which connect the stiles of the upper and lower portions, said bent portions being joined together by a horizontal portion 70 lying outside of the vertical plane of the upper and lower portions of the door, as set forth.

3. A stock-car door consisting of upper and lower portions 1 and 2, joined together by the spider 3, said spider being provided with a 75 horizontal portion 6, bent end portions 7 8 9 10 11 12, and bent intermediate portions, as and for the purposes set forth.

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

GEO. D. BURTON.

Witnesses:

CHESTER MARR,
E. F. PHILIPSON.