

No. 689,833.

Patented Dec. 24, 1901.

R. V. SAGE.
END SILL FOR CARS.

(Application filed Oct. 31, 1901.)

(No Model.)

Fig. 1.

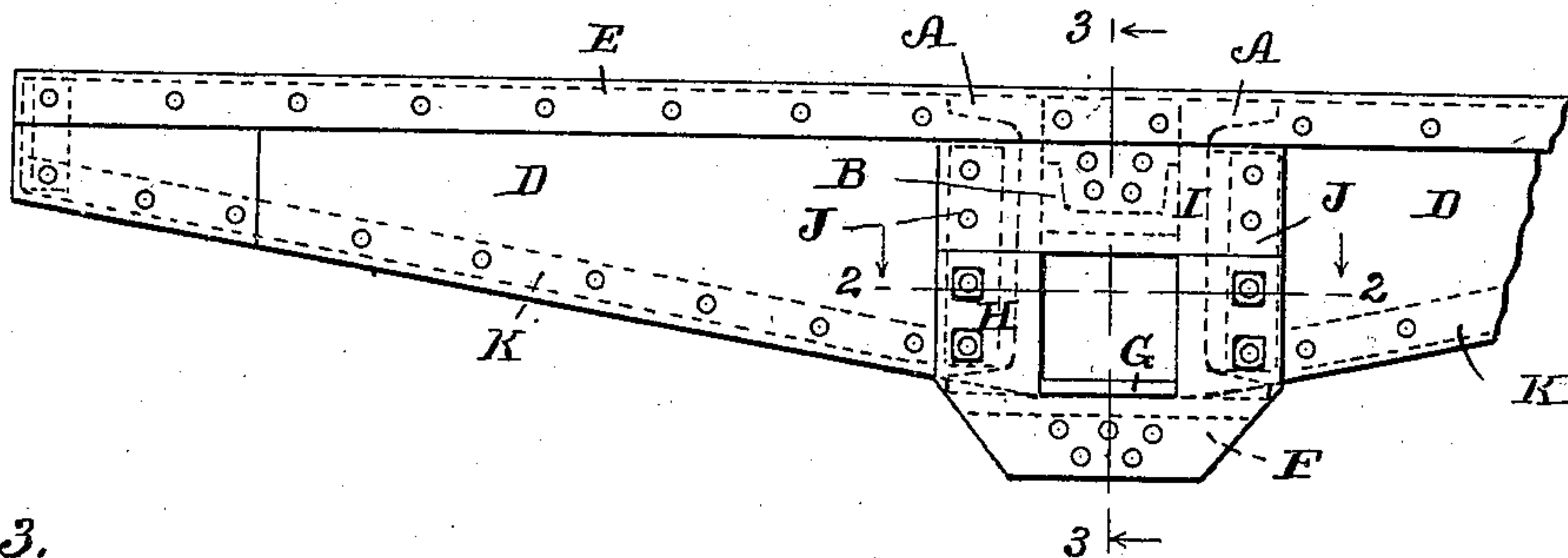


Fig. 3.

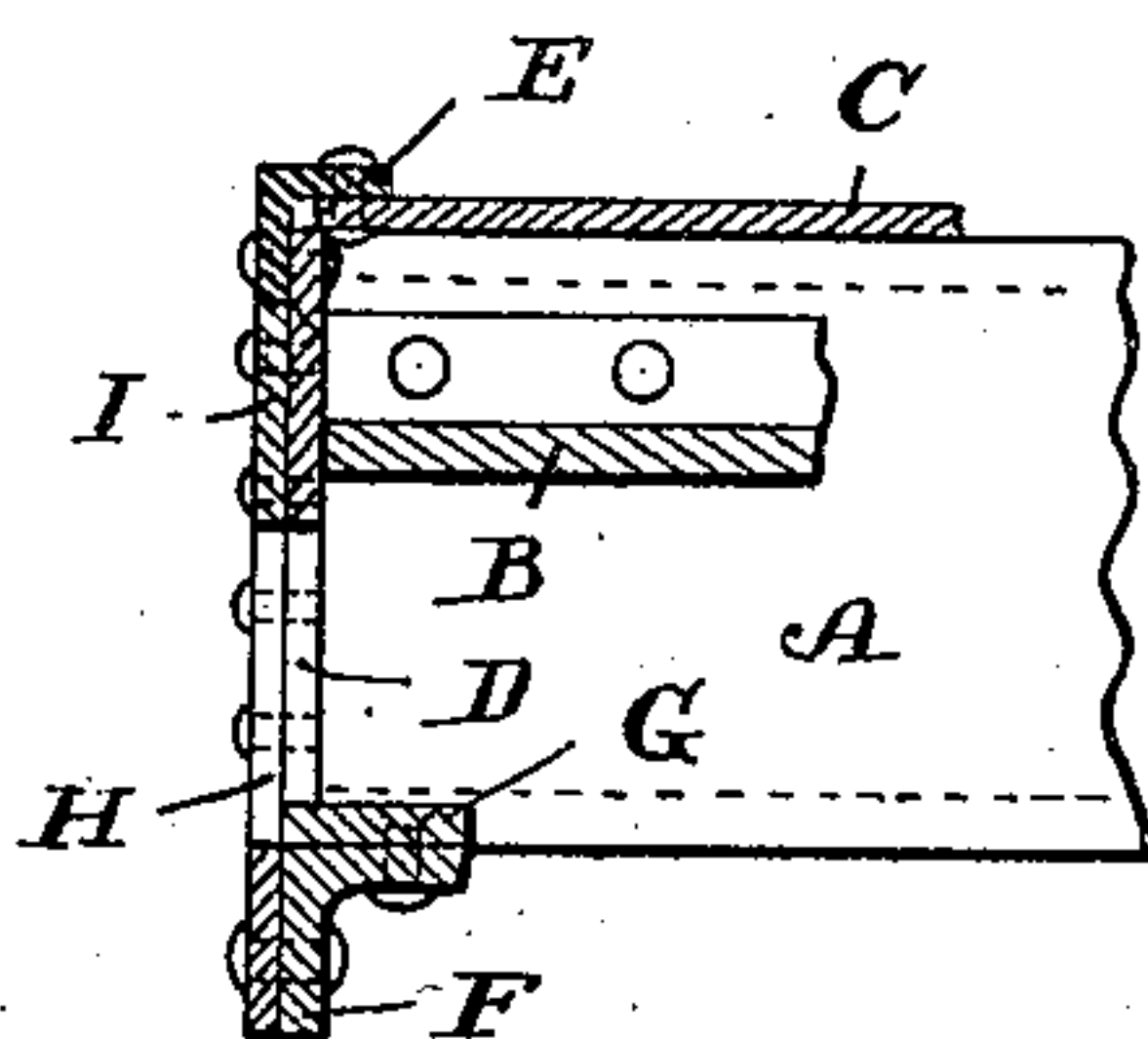


Fig. 2.

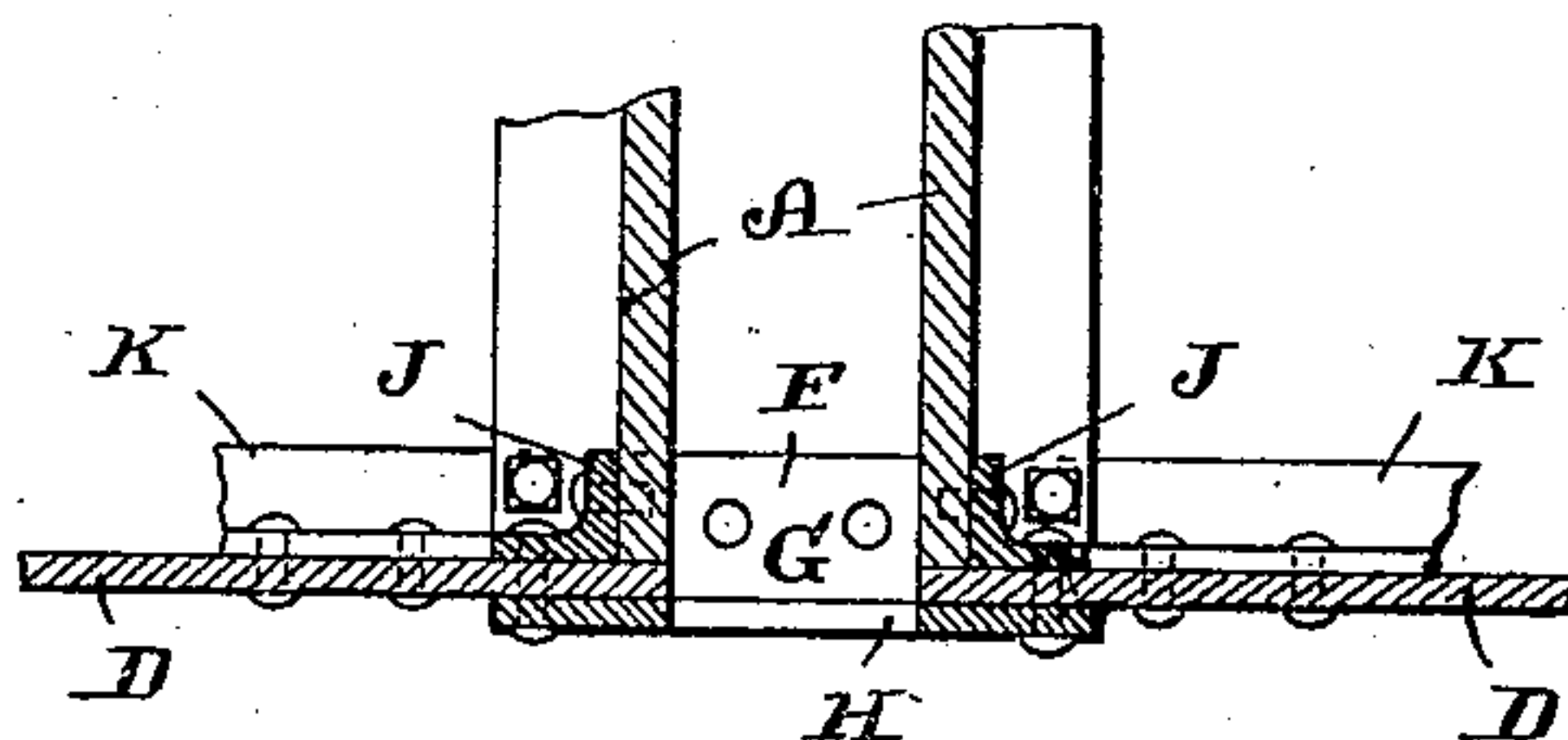


Fig. 4.

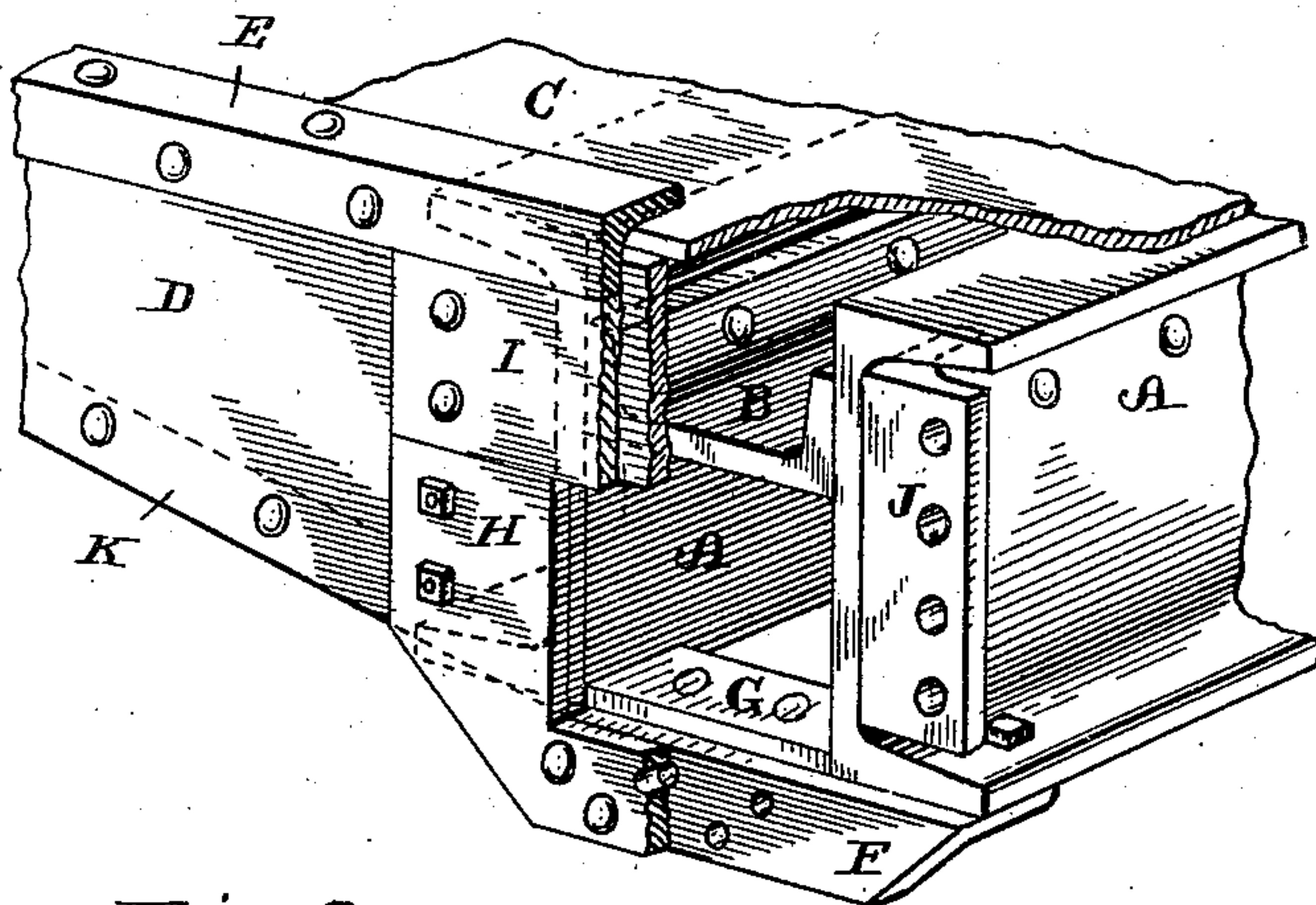
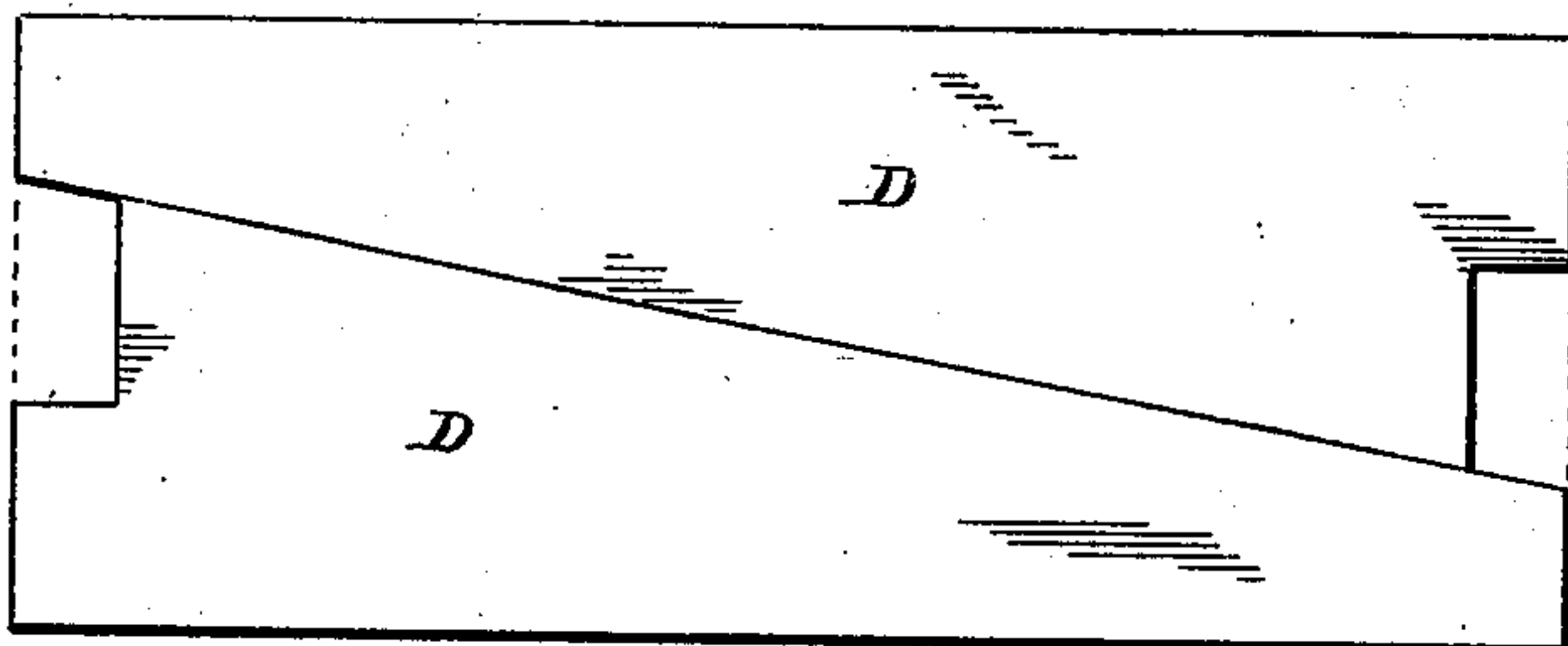


Fig. 5.



WITNESSES,

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RALPH V. SAGE, OF WESTMONT, PENNSYLVANIA.

END SILL FOR CARS.

SPECIFICATION forming part of Letters Patent No. 689,833, dated December 24, 1901.

Application filed October 31, 1901. Serial No. 80,627. (No model.)

To all whom it may concern:

Be it known that I, RALPH V. SAGE, a citizen of the United States, residing in the borough of Westmont, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in End Sills for Cars; and I do hereby 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.

My invention consists of an improved construction of end sills for cars and connections thereof, with particular reference to steel freight-cars, certain of the objects of my invention being to produce an end sill which is strong, simple, economical, efficient for the purposes intended, easy to make, repair, and at the same time constructed of ordinary commercial shapes and sections of steel.

Referring now to the annexed sheet of drawings, which form part of this specification, and in which like letters refer to like parts, Figure 1 is an elevation of my improved end sill, showing the right-hand portion removed for convenience of illustration. Fig. 2 is a horizontal cross-section on line 2 2 of Fig. 1. Fig. 3 is a central vertical section on the line 3 3 of Fig. 1. Fig. 4 is a perspective view of a portion of my improved end sill and its connections, showing the relations of the various parts grouped about the center of the construction. Fig. 5 is a plan view of a rectangular plate, showing the economical manner in which I cut the web-plates therefrom.

Referring to the letters of reference upon the drawings, A A are the draft-sills. B is a spacing-channel secured between the webs of said draft-sills.

C is a top plate or floor-plate which may be secured to the draft-sill channels A and to the top flange-angle E of the end sill, as shown, and D D are the web-plates of the end sill.

F is a bottom angle which is connected by bolts and rivets to the lower flanges of the draft-sill channels A and to the U-plate H, as shown, this angle F thus forming a strong and secure connection between the right-hand and left-hand portions of the end sill and serving as the central portion of the bottom chord of the end-sill structure, and this is one of the particular features of my invention. On top

of the angle F, I secure a wearing-plate G, which may be of any thickness desired or necessary to serve as a support for the draw-bar, which is inserted in the opening above it.

I is a splice-plate which joins the two portions of the web together above the draw-bar opening at the center. J J are connection-angles which secure the draft-sills A A to the webs D, U-plate H, and splice-plate I of the end sill, as shown, while K is the bottom flange-angle of the end sill.

I prefer to cut the trapezoidal web-plates D D of my end sill from a rectangular plate without any appreciable waste, as indicated on Fig. 5, thus conducing to simplicity and economy of manufacture.

By means of the construction and arrangement of the parts of my improved end sill this structure is made strong, stiff, and well adapted to withstand the stresses to which it is subjected, and the reinforcement accomplished by the use of the angle F, which serves both as the lower chord of the structure and as a support for the draw-bar, is one of the novel and special features of my invention.

The end-sill structure herein described may be used in the construction of any form of car and may be connected thereto by any usual or ordinary means, as may be readily understood by one skilled in the art.

It will be observed that the angle F, with its attached U-plate H and wearing-plate G, are removably secured to the rest of the structure by bolts, thus permitting these parts to be taken off to allow a draw-bar to be introduced into the opening between the draft-sills A, after which these removable parts may be again secured firmly to the structure by the bolts aforesaid.

I do not limit myself to the exact details of construction, arrangement, and sections shown and described, but may use such substitutions and modifications thereof as are embraced within the scope of my invention as pointed out in the claims.

Having thus given a description of my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an end sill, a pair of web-plates of trapezoidal outline, the deeper ends of which are provided with notches forming a draw-bar opening, and are secured together by splices.

2. In an end sill, a pair of web-plates of trapezoidal outline secured together at their deeper ends, and provided with top and bottom flange members, the central portion of
5 said bottom flange member being made separate and removably secured to the adjoining parts.
3. In an end sill, a pair of web-plates of trapezoidal outline secured together at their
10 deeper ends and provided with a top flange member and a bottom flange member, the central portion of said bottom flange member being removably secured to the adjoining portions, and a wearing-plate attached to said
15 central portion of the bottom flange member.
4. In an end sill, a pair of web-plates substantially trapezoidal in outline, each provided with a notch and secured together at their deeper ends; said plates being also pro-
20 vided with top and bottom flange members.
5. In an end sill, a pair of web-plates substantially trapezoidal in outline secured together by their deeper ends and provided with notches forming an opening for the draw-bar; said web-plates also having top and bottom
25 flange members, and reinforcing-plates secured about said opening.
6. In an end sill, a pair of web-plates trapezoidal in general outline provided with top
30 and bottom flange members, said web-plates being connected at their deeper central portions by splice-plates forming the boundaries of a draw-bar opening.
7. In an end sill, a pair of web-plates of trapezoidal outline, the deeper ends of which
35 are connected together and provided with notches forming a draw-bar opening, top and bottom flange members attached to said web-plates, said sill structure being secured near its center to the draft-sills. 40
8. In an end sill, a pair of web-plates of trapezoidal outline, the deeper ends of which are secured together at the center by two splices, the lower splice being removably fastened thereto, in order to permit the intro- 45 duction and removal of the draw-bar.
9. An end sill, composed of two web-plates of trapezoidal outline secured together at their deeper ends, top and bottom flange members secured to said web-plates, the central 50 portion of said bottom flange member being removably secured to the adjoining parts, said sill being connected near its center to the draft-sills.
10. An end sill, composed of a pair of web- 55 plates trapezoidal in outline secured together at their deeper ends and to the draft-sills, a top flange member attached to said web-plate, said plate being also provided with a bottom flange member the central portion of which is 60 removably attached to the adjoining parts.
- In testimony whereof I hereto affix my signature in the presence of two witnesses.

RALPH V. SAGE.

Witnesses:

HERBERT LUEBBERT,
CYRUS C. HUBBARD.