

J. PEARSON.

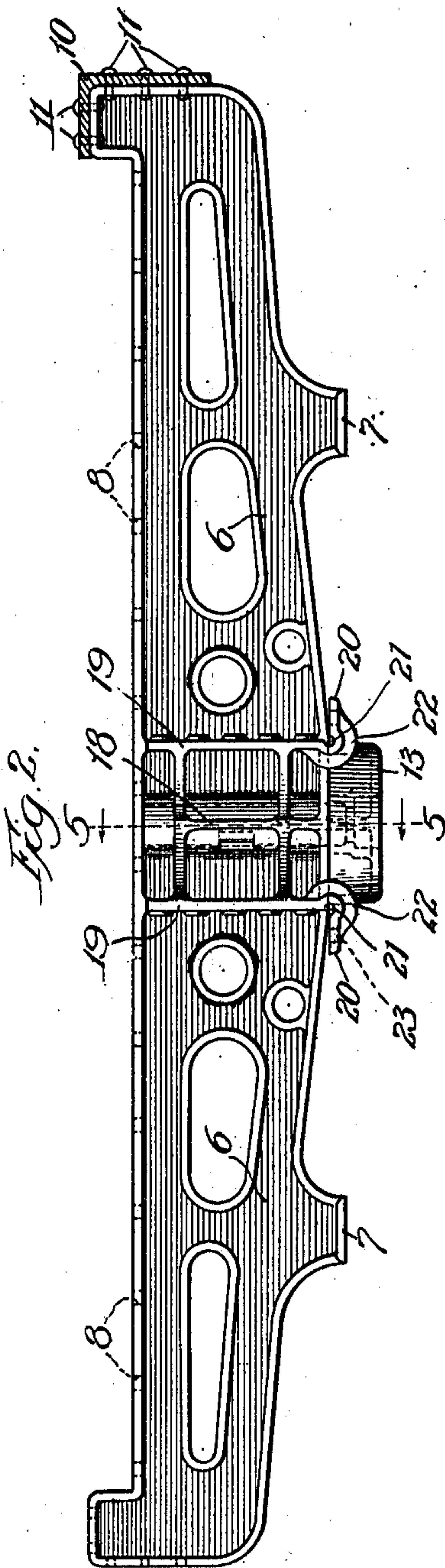
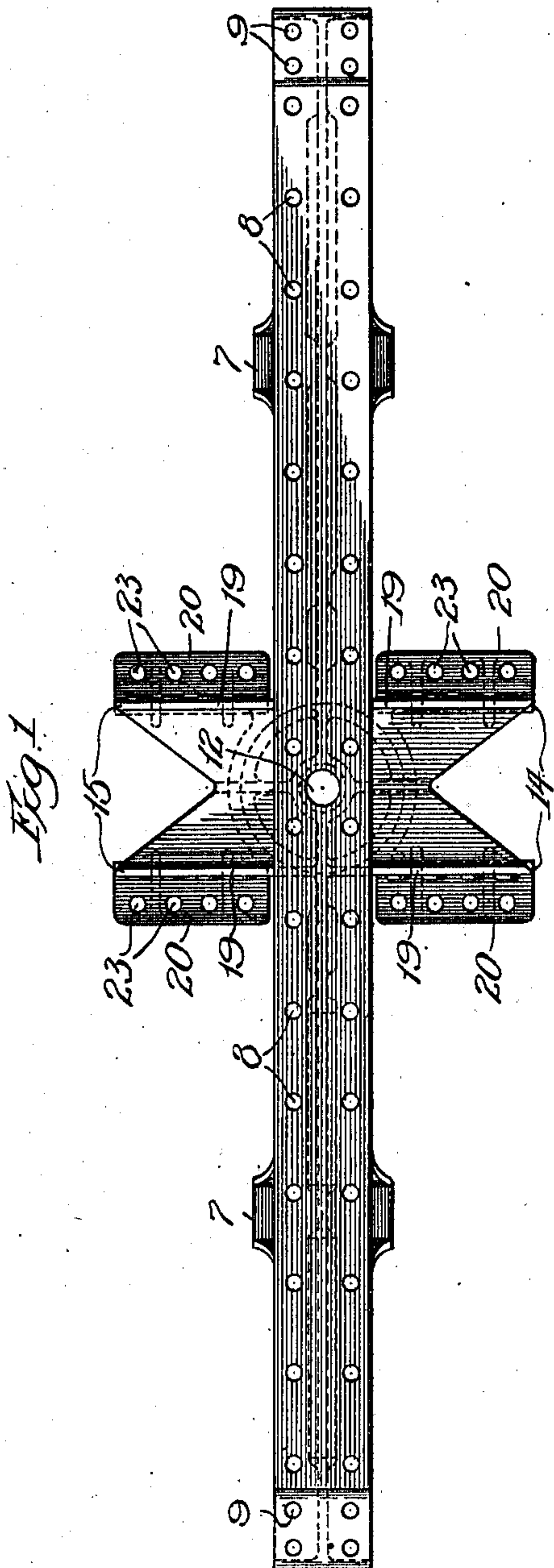
CAR BOLSTER.

APPLICATION FILED JUNE 20, 1910

989,998.

Patented Apr. 18, 1911.

2 SHEETS-SHEET 1.



Witnesses:
Ed. C. Davis
J. Wilson

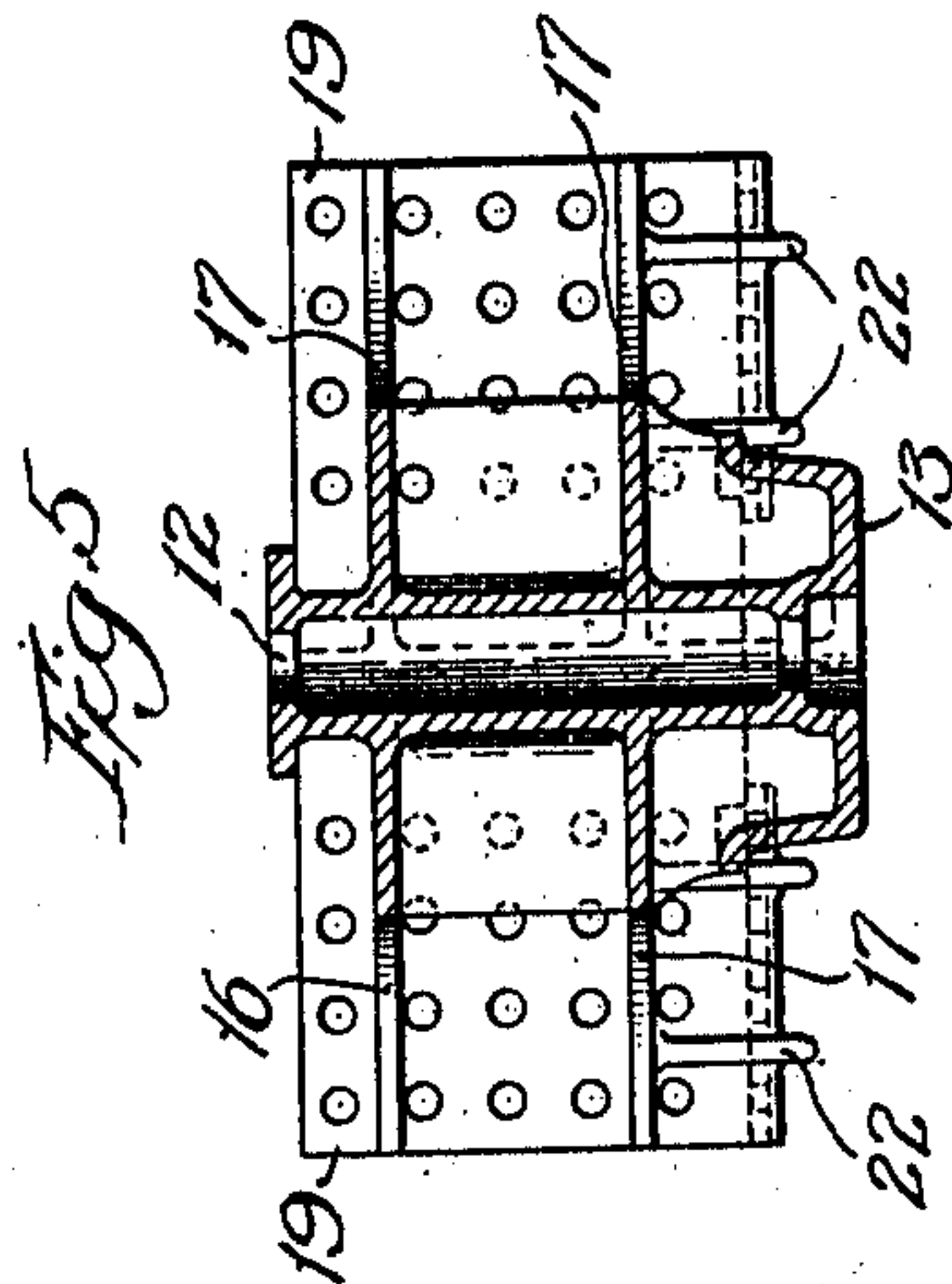
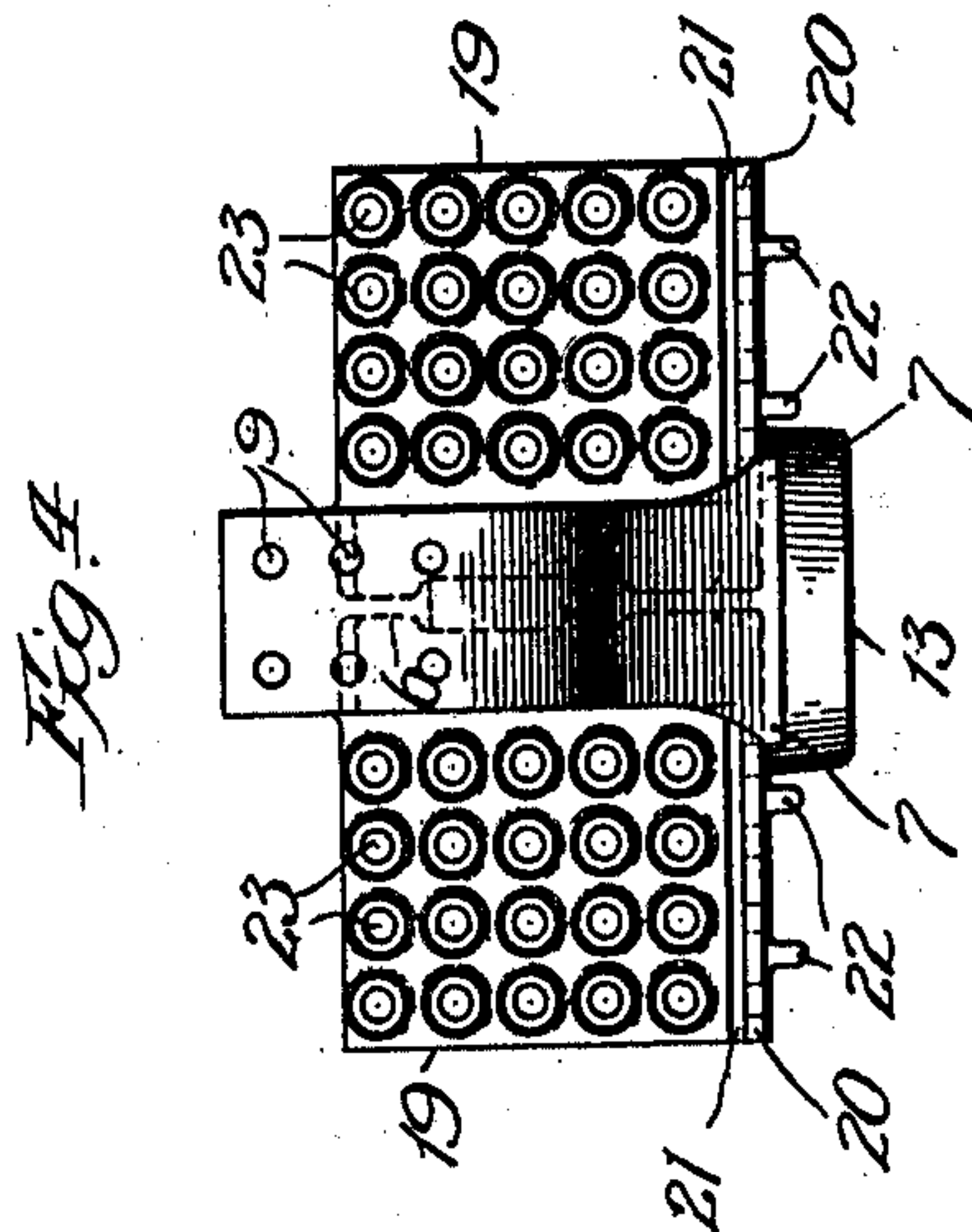
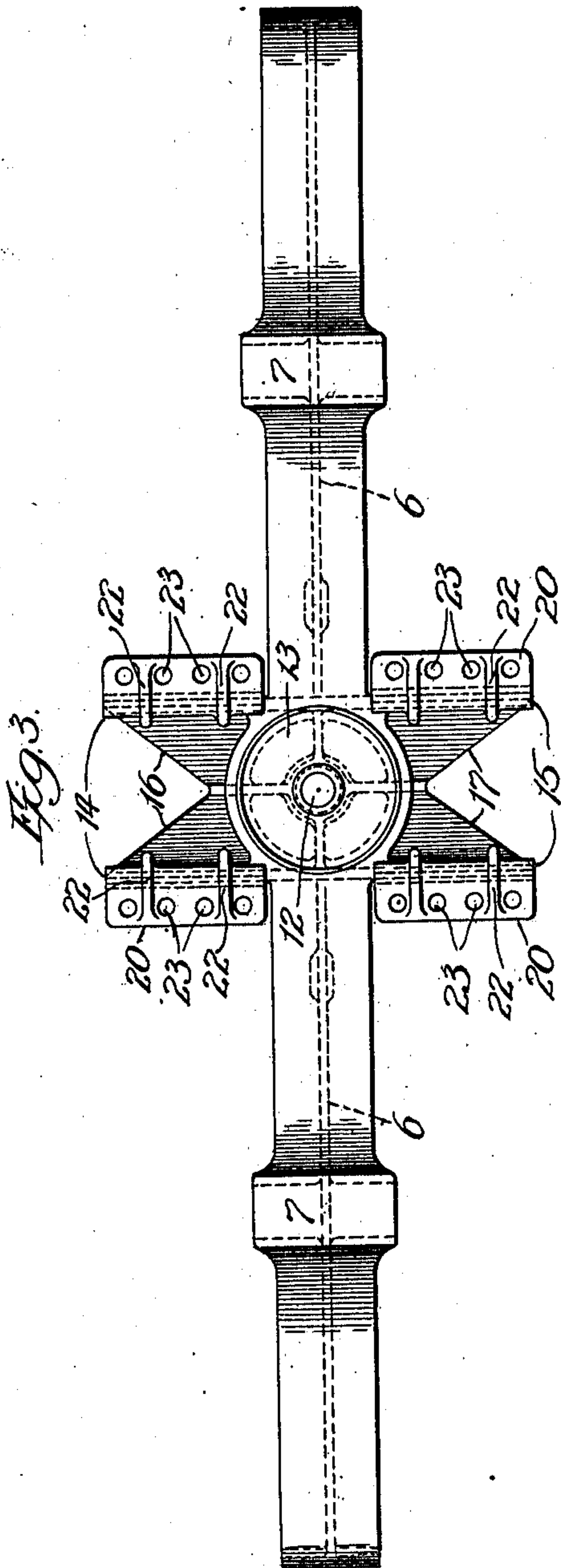
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John Pearson,
By Linthicum, Belt & Fuller
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UNITED STATES PATENT OFFICE.

JOHN PEARSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PULLMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CAR-BOLSTER.

989,998.

Specification of Letters Patent.

Patented Apr. 18, 1911.

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To all whom it may concern:

Be it known that I, JOHN PEARSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Bolsters, of which the following is a specification.

This invention relates to car bolsters, particularly to those structures known as body bolsters, and aims to produce a bolster of this type having the center sill extensions or ledges and the side sill supporting portions all cast integral with the main body portion.

As is well known to those familiar with car constructions, it is essential in order to insure rigidity of the car underframe, that the draft and center sill extensions, with which the bolsters are provided, be constructed to furnish a vertical and a horizontal surface to which each sill may be securely and rigidly fastened.

The advantages due to economy in manufacture and the ultimate strength of cast bolsters, over pressed or built up bolsters, are well understood, but owing to the fact that the metal would accumulate during the casting operation at the angle of the juncture between the vertical and horizontal plates, thereby producing a curved corner, which prevented the sills from entering into the corner and fitting closely against the bearing surfaces to which they are attached, cast bolsters could not at first be successfully made. Subsequently, however, a cored angle was produced which permitted the sills to fit closely against the faces of the extension but the coring of the angle materially weakened the structure.

It is an object of this invention to overcome these objectionable features, heretofore existent in cast bolsters, and produce a bolster which can be cast with sill extensions, free from imperfections, cored to permit the center sills to be fitted closely into the corner of the bearing surfaces and possessing greater strength than cast bolsters heretofore produced.

In casting my improved bolster, the mold is provided with a core, extending longitudinally of the corner of an extension and around which the metal flows, producing a groove along the inner edge of the corner,

which permits the angle of the sill to fit closely into the corner and flat against the bearing surfaces. The weakening of the extension by the core is overcome and the structure is strengthened at the angle by one or more reinforcing ribs cast on its exterior, where they do not interfere with the sills, but serve to strengthen the corner and produce a strong and rigid construction.

Another object of this invention is the provision of a bolster having seats at each end of the body portion adapted to support the angle side sills of the car. The seats are preferably elevated above the main body portion of the bolster an amount substantially equal to the thickness of the intermediate floor-supporting sills, whereby the floor planks may readily project over the side sill.

Other objects and advantages of the invention will be apparent as it is better understood by referring to the following description when taken in connection with the accompanying drawings illustrating a preferred embodiment thereof.

Referring to the drawings, Figure 1 is a top plan view of a bolster embodying my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a bottom view. Fig. 4 is an end elevation; and, Fig. 5 is a sectional view on the line 5—5 of Fig. 2.

On the drawings, 6 designates the main body portion of the bolster provided with the usual openings therethrough for the passage of the air and steam pipes and the reduction in weight. On either side of the center the body portion is provided with the side bearings 7. The periphery of the main body portion of the bolster is flanged, as best shown in Figs. 1 and 2, thereby providing a bolster which is substantially of I-beam shape in cross section. The flange at the upper side of the bolster is provided with suitable holes or openings 8 for the attachment of the body portion of a car, particularly the intermediate wooden sills or stringers. Each end of the body portion is elevated above the remaining or center section of the bolster to provide seats 9, adapted to receive and support the angle side sills 10, which are fixedly secured thereto by rivets 11.

By making the upper and end faces of

the bolster flat, a seat is produced against which the inner face of a side sill will closely fit, and when the sill is securely riveted to the top and outer faces of the seat, the bolster is rigidly held at its ends and the car underframe made of adequate strength to withstand all ordinary strains. As is well known, the floor of the car is usually attached to the side sills and the transverse members of the frame, and by elevating the supporting seats for the sills above the remainder of the body portion of the bolster, the floor may be attached to the upper faces of wooden intermediate sills supported on the depressed central part of the bolster.

The bolster is provided at its center during the casting operation with the usual king pin opening 12, the walls of the opening being made of any desired thickness to produce a structure having sufficient strength, and the bottom of the bolster is extended to provide the center plate or male member 13.

Integral with the main body portion of the bolster and extending laterally therefrom near its center, are the center sill extensions 14, and the draft sill extensions 15. Strengthening webs 16 and 17 are provided between each pair of extensions, said webs extending outwardly from the main body portion of the bolster and being disposed substantially in a horizontal plane. Although it will be understood that any desired number of strengthening ribs may be employed, superposed one above the other, as shown in Fig. 2, I have shown for purposes of illustration merely, two webs for each pair of extensions. The webs are strengthened by vertical ribs or webs 18 extending between the horizontal webs and projecting transversely of the bolster from the walls of the king pin opening. Each sill extension comprises a vertical plate 19, and a horizontal plate 20 disposed at the bottom of the vertical plate. In order that a corner between the two plates may be provided into which the corner of a center sill will closely fit to bring the outer faces of the sill close against the bearing surfaces of the plates, I form the extension during the casting operation with a groove 21 disposed at the inner angle of the juncture between the two plates. This grooved corner between the surfaces of the plates obviates the accumulation of metal in this corner, which has heretofore been one of the objectionable features in cast bolsters and permits the center sills to fit flush against the faces of the extensions.

In order to strengthen the sill extensions at the angle between the vertical and horizontal plates, I have provided a plurality of strengthening or reinforcing ribs 22 upon the exterior of the corner. These ribs are

cast integral with the plates and project a short distance along both the vertical and horizontal plates, thereby reinforcing the cored corner and materially strengthening the structure at the juncture of the plates. While I have shown each extension as provided with two of these strengthening ribs, it will be understood that any desired number may be employed, depending upon the length of the extensions and the size of the sills employed. Suitable openings 23 are provided in the vertical and horizontal plates for the attachment of the center and draft sills.

The entire structure, including the center and draft sill extensions and the side sill supports at the end of the bolster, is cast integral at a single operation. The flanged shape of the side sill bearing supports provides sufficient surface for attachment of the angle side sills and the elevated construction of the supports permits the car floor to be attached to the side sills and to the stringers resting on the main body portion of the bolster. The groove, which is provided in the angle between the vertical and horizontal bearing plates of the center and draft sill extensions, permits the sills to fit closely against the bearing plates while the angle at the juncture of the plates is reinforced and strengthened by the strengthening ribs cast integral therewith.

Although I have shown and described a preferred embodiment of my invention, it will be obvious that various minor mechanical changes in the size and proportion of the parts may be resorted to without departing from the spirit of the invention or sacrificing any of the material advantages thereof.

What I claim is:

1. An integral cast car bolster, comprising a main body portion, and laterally projecting sill extensions of angle shaped formation, providing vertical and horizontal bearing surfaces, the angle formed at the juncture of the said horizontal and vertical surfaces having strengthening ribs disposed on its exterior, substantially as described.

2. A cast car bolster, comprising a main body portion adapted to extend transversely of a car, and angle shaped sill extensions integral with the body portion, projecting laterally outward therefrom, formed to permit a center sill to fit closely against the inner surfaces of the angle extensions and provided with strengthening ribs at the lower outer edge of the angle, substantially as described.

3. A car bolster, comprising a main body portion having a flat top provided with perforations throughout its length for the attachment of floor sills thereto at any desired distance apart, and an elevated seat at the end thereof adapted to receive and

support an angle side sill, substantially as described.

4. An integral cast car bolster, comprising a main body portion having laterally
5 projecting angle sill extensions grooved at the angle and provided with transversely extending strengthening ribs, and a flanged seat at each end of the bolster elevated above

the main body portion thereof and adapted to receive and support an angle side sill, 10 substantially as described.

JOHN PEARSON.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
