

No. 712,768.

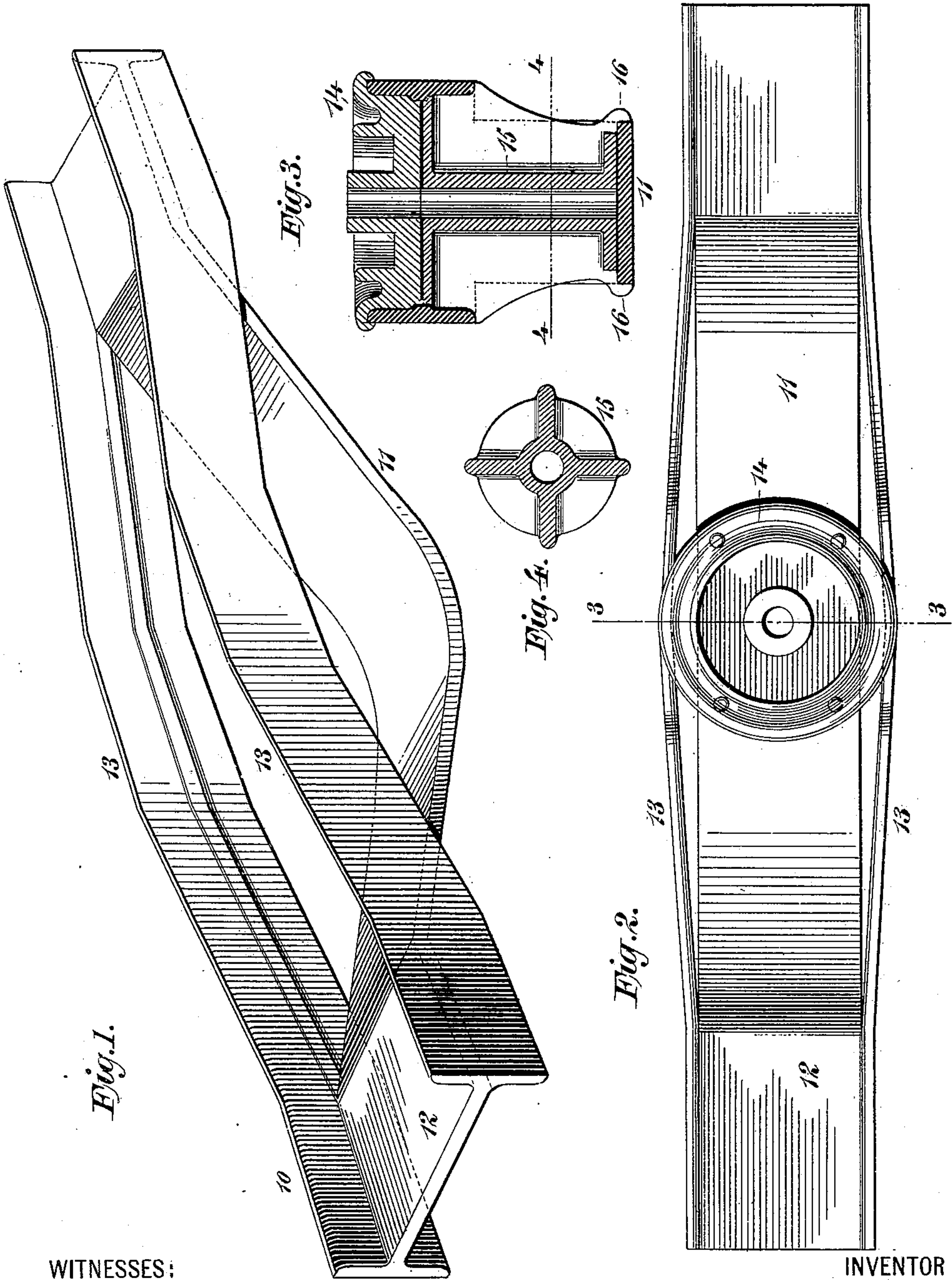
Patented Nov. 4, 1902.

S. A. CRONE.
BEAM FOR CAR TRUCKS AND CARS.

(Application filed May 16, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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Fig. 5.

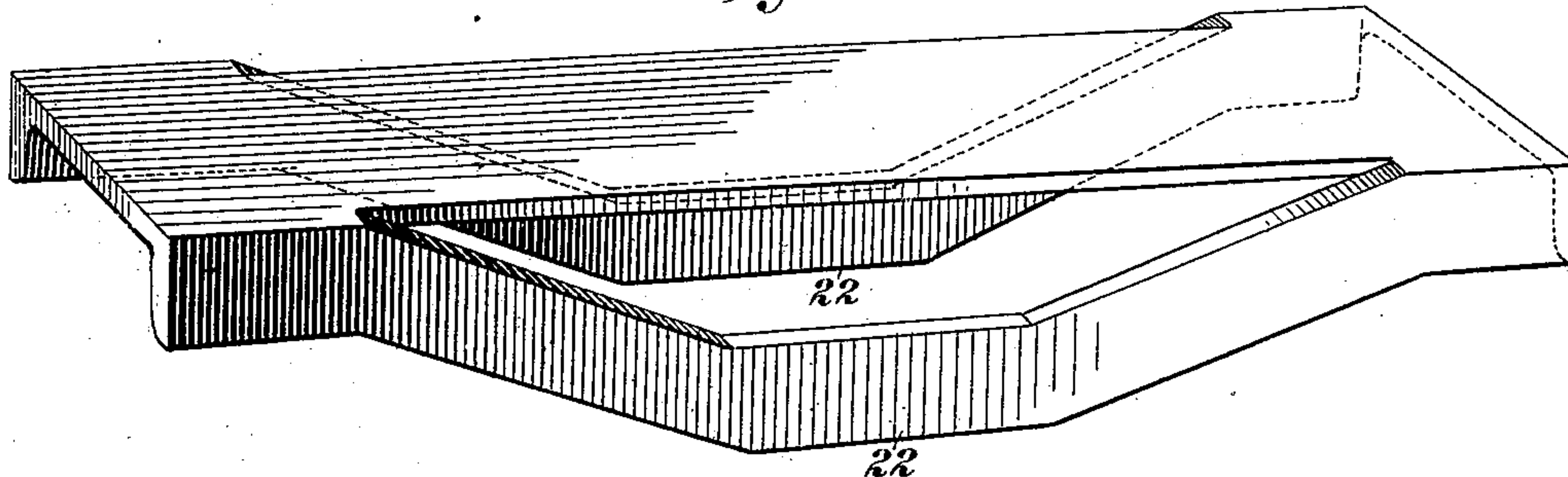


Fig. 6.

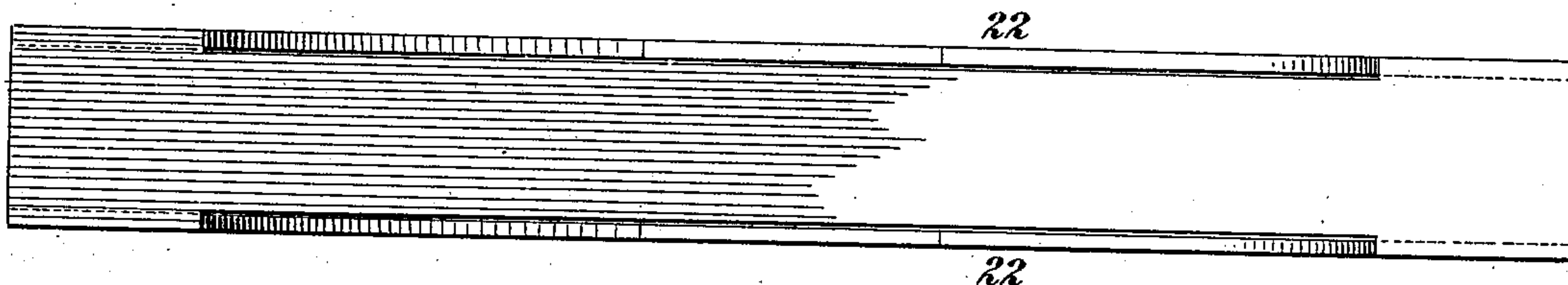
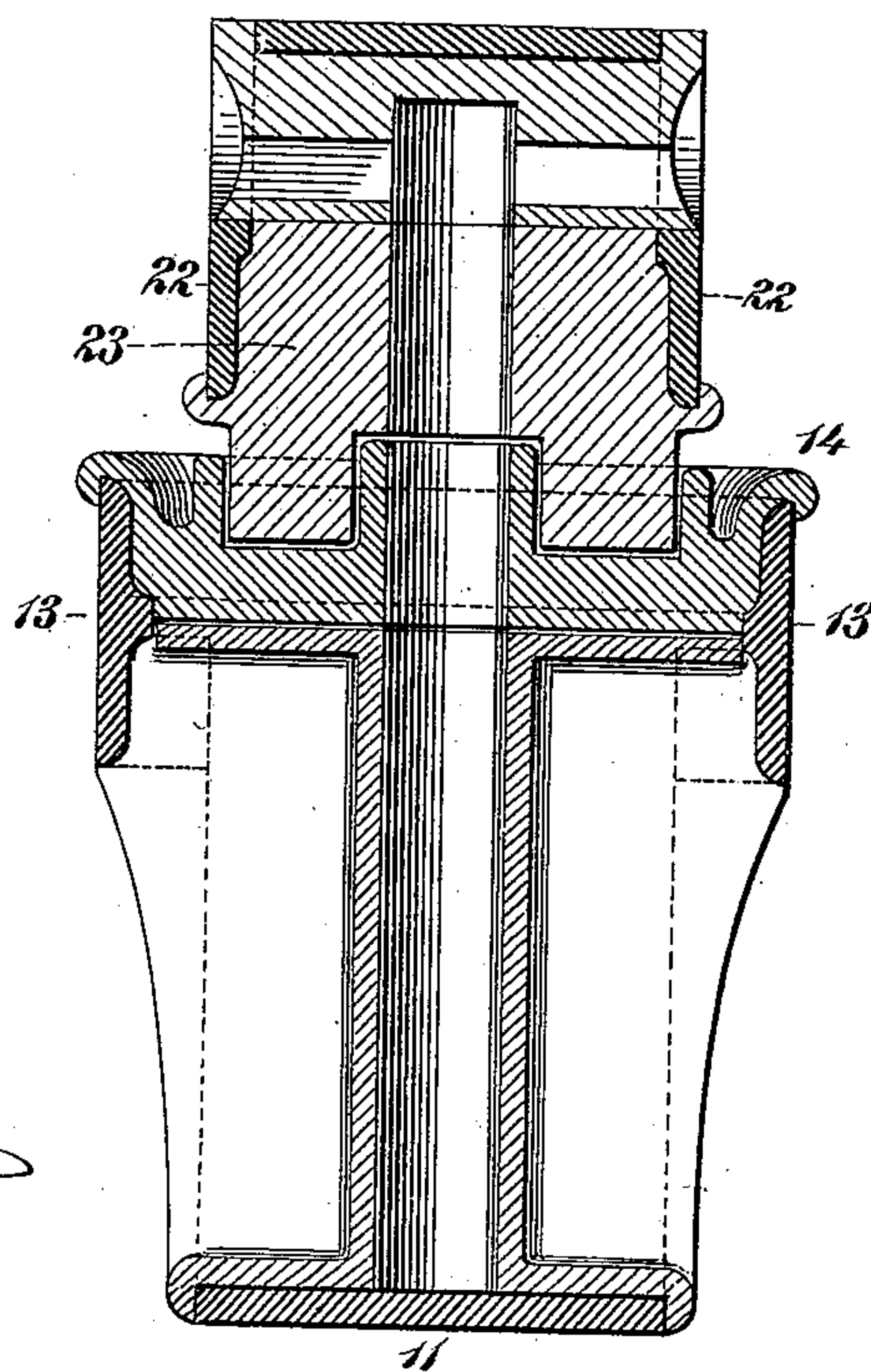


Fig. 7.



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UNITED STATES PATENT OFFICE.

SETH A. CRONE, OF NEW YORK, N. Y.

BEAM FOR CAR-TRUCKS AND CARS.

SPECIFICATION forming part of Letters Patent No. 712,768, dated November 4, 1902.

Application filed May 16, 1902. Serial No. 107,557. (No model.)

To all whom it may concern:

Be it known that I, SETH A. CRONE, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Beams for Car-Trucks and Cars, of which the following is a specification.

The invention relates to improvements in beams for car-trucks and cars; and it consists in the novel features hereinafter described and claimed.

My invention pertains more especially to truck and body bolsters; and the object of the invention is to provide means for increasing the efficiency and durability and reducing the cost of manufacturing these features of truck and car structures and at the same time avoid complication of parts, unnecessary weight, and the usual riveting together of the parts customarily comprised in the features referred to.

In accordance with my invention the bolsters and other parts are each in one integral rolled beam, and the compression or tension members, or both, as the case may be, are formed by cutting through the web of the beam without cutting the flanges or the end portions of the beam and bending sections of the beam along the line of the cut in the appropriate direction to form the member or members desired, the article being thus completed from a section of a rolled beam and being in one integral piece.

The nature of the invention and its application to the several features of truck and car structures will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a truck-bolster constructed in accordance with and embodying the invention. Fig. 2 is a top view of same. Fig. 3 is a vertical transverse section of same on the dotted line 3 3 of Fig. 2. Fig. 4 is a horizontal section on the dotted line 4 4 of Fig. 3. Fig. 5 is a perspective view of a body-bolster constructed in accordance with my invention considered in its broader scope. Fig. 6 is a top view of same. Fig. 7 is a central vertical section of same

shown in its relation to the truck-bolster and center bearing.

In Figs. 1 and 2 I present the preferred form of the invention when the same is embodied in a truck-bolster, the latter being illustrated as made from a rolled I-beam 10 of suitable length and width, a section 11 of the web 12 of the beam being cut or slit from the flanges 13 13 and bent downward, while the flanges 13 13 along the lines on which the web 12 was cut or slit are bent upward, as shown in Fig. 1, and preferably laterally outward from each other, as indicated in Fig. 2. The bending downward of the section 11 of the web 12 and the bending upward of the flanges 13 13 result in the end portions of the beam being drawn toward each other, and thereby avoiding any stretching or weakening of the metal in said web or flanges.

The truck-bolster, composed of the beam having its web and flanges cut and bent into the form described and shown, is in one integral piece, and hence there is an absence of complexity of parts and the use of bolts or rivets for securing said parts together. When the bolster is in use, the flanges 13 will be disposed vertically, as shown, and the web 12 will extend horizontally, and the space above the central portion of the section 11 of the web will be found to be well adapted for holding a suitable support to receive the center bearing 14 and king-bolt. (Not shown.) The bearing 14 will rest upon and fit between the sides of the central portions of the flanges 13, and directly below and connecting with the same will be provided a suitable tubular casting 15, resting upon the central portion of the section 11 and having lugs 16 extending down upon opposite edges of said section, whereby said casting may be conveniently centered and held upon the said section. The upper portion of the casting 15 will fit between the flanges 13 and be sustained thereby, and said casting will contain a vertical opening in line with the opening in the bearing 14 for the king-bolt. The invention is not confined to any special character of bearing 14 and casting 15, the bearing and casting shown being presented merely for the purpose of illustrating the invention.

The essential feature of the invention as

applied to truck-bolsters consists in forming the bolster of a flanged rolled beam, preferably of I form, having its middle web-section 11 bent downward and the flanges along said section bent upward, while the end portions of the beams remain intact. The bending outward from each other of the flanges 13 is not entirely essential, but is desirable, for the reason that thereby the web-section 11 may be bent downward to a greater extent without unduly bending upward the flanges 13 than if said flanges were not bent outward from each other. The bending of the web-section 11 and flanges 13 operate to draw the end portions of the beams toward each other, and hence in the construction of the bolster a beam initially longer than the bolster must be employed.

In forming the bolster in the manner described compression and tension members are provided, and they are integral with the body of the bolster, and thereby a desirable bolster having great strength and no undue weight is produced at comparatively small expense.

It is obvious that in lieu of an I-beam a channel-beam may be used in the construction of the truck-bolster, although I prefer to use an I-beam for this purpose.

A body-bolster embodying a portion of the invention is shown in Figs. 5, 6, and 7 as made from a channel-beam having the flange-sections 22 pressed downward, the ends of the beam being left intact and the web remaining in its normal beam condition. In the construction of the body-bolster the flange-sections 22 are subjected while heated to a stretching action, so that they may be moved into the position shown, this stretching of the flanges becoming necessary owing to the fact that the web is permitted to remain in its normal condition. The flange-sections 22 constitute the compression members, and they prevent the drooping of the ends of the bolster and the bulging upward of the center of the bolster, and hence it will be obvious that said sections 22 are of great importance. Between the sides of the flange-sections 22 will be applied any suitable center-bearing filling 23 to receive a part of the usual king-bolt and engage the center-bearing plate carried by the truck-bolster, as sufficiently indicated in Fig. 7, whose lower portion shows the truck-bolster of Fig. 1.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The flanged rolled beam having a substantial section thereof, intermediate its ends, slit along the line of the flanges, and both of said flanges along the line of said slits being bent in the same direction from the horizontal line of said beam and forming integral members of said beam; substantially as and for the purposes set forth.

2. The flanged rolled beam having a substantial section of the web thereof, intermediate the ends of the beam, slit and bent therefrom and forming integrally with the beam a compression member; substantially as and for the purposes set forth.

3. The flanged rolled beam having a substantial section thereof, intermediate its ends, slit on the lines parallel with the flanges of the beam, the web being bent in one direction and both flanges of the beam being bent in an opposite direction and forming compression and tension members; substantially as and for the purposes set forth.

4. The flanged rolled beam having a substantial section thereof, intermediate its ends, slit on lines parallel with the flanges, the web of said slitted portion being bent in one direction and both flanges along said portion being bent in an opposite direction and laterally from each other; substantially as and for the purposes set forth.

5. The truck-bolster comprising an I-beam having a substantial section thereof, intermediate its ends, slit on lines parallel with the flanges, the web comprised in this slitted portion being bent downward and forming a compression member, and both flanges along said portion being bent upward and forming tension members; substantially as and for the purposes set forth.

6. The truck-bolster comprising an I-beam having a substantial section thereof, intermediate its ends, slit on lines parallel with the flanges, the web comprised in this slitted portion being bent downward and forming a compression member, and both flanges along said portion being bent upward and laterally from each other; substantially as and for the purposes set forth.

Signed at New York, in the county of New York and State of New York, this 15th day of May, A. D. 1902.

SETH A. CRONE.

Witnesses:

CHAS. C. GILL,
ARTHUR MARION.