No. 876,448.

PATENTED JAN. 14, 1908.

G. G. FLOYD.

CAST METAL CAR BOLSTER.

APPLICATION FILED MAR. 25, 1907.

Fig. 1.

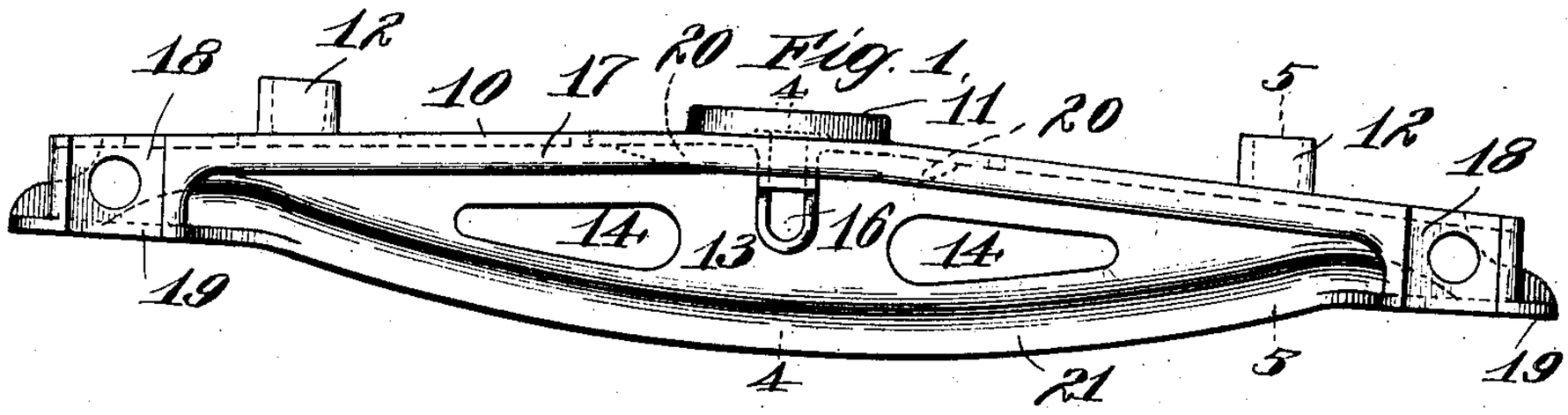


Fig. 2.

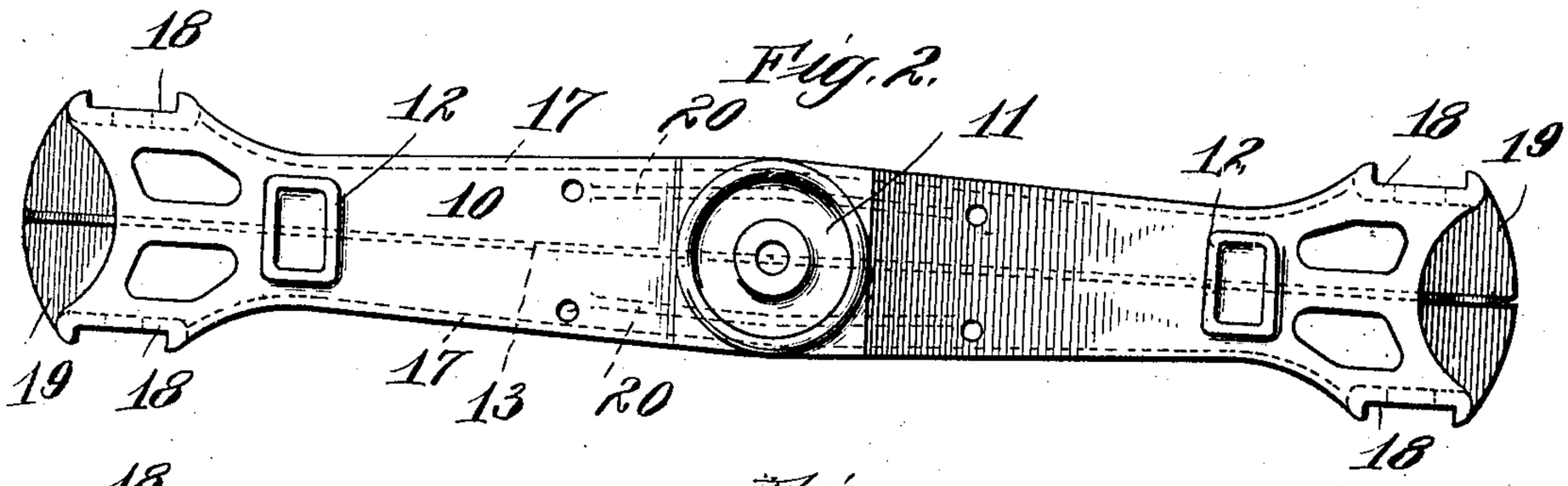


Fig. 3.

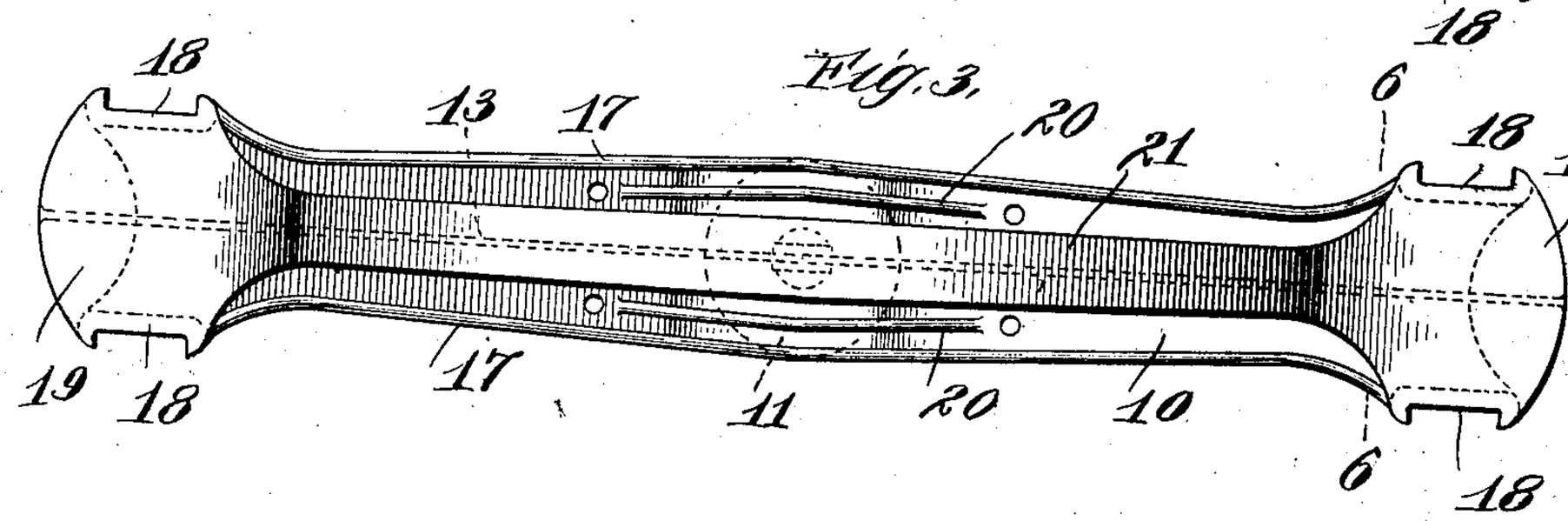


Fig. 4.

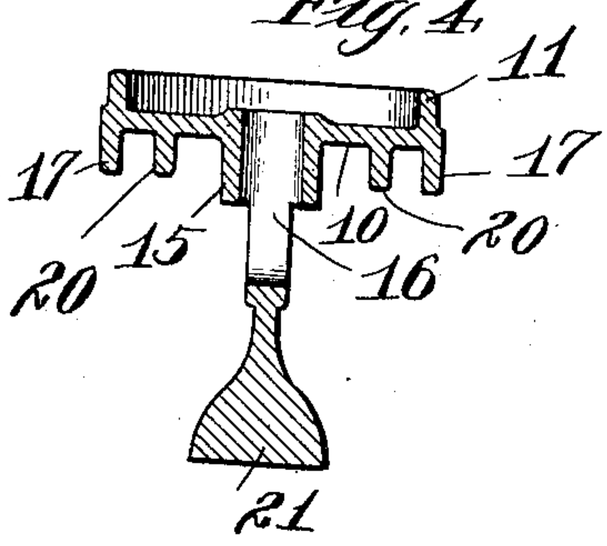


Fig. 5.

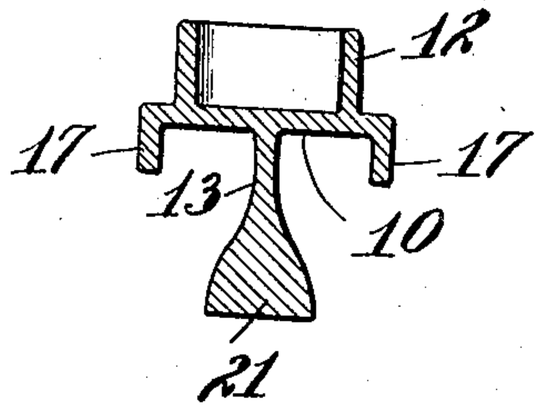
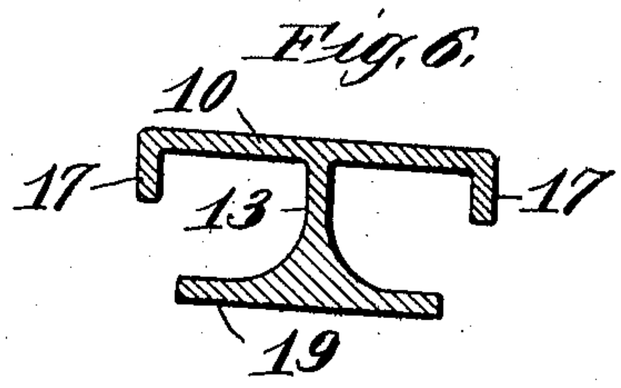


Fig. 6.



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UNITED STATES PATENT OFFICE.

GEORGE G. FLOYD, OF GRANITE, ILLINOIS, ASSIGNOR TO AMERICAN STEEL FOUNDRIES, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

CAST-METAL CAR-BOLSTER.

No. 876,448. Specification of Letters Patent. Patented Jan. 14, 1908.

Application filed March 25, 1907. Serial No. 364,304.

To all whom it may concern:

Be it known that I, GEORGE G. FLOYD, a citizen of the United States, residing at Granite, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Cast-Metal Car-Bolsters, of which the following is a specification.

Cast metal car bolsters, especially truck bolsters, are the subject of improvement by my present invention which aims to strengthen such structures by a novel design of distribution of the metal whereby a maximum of strength is secured with a minimum amount and weight of metal. Beneath the center bearing member of the bolster, which is preferably integral with the bolster, and disposed on the under surface of the compression member or portion of the bolster substantially midway between the longitudinal center of the bolster and its longitudinal edges, I provide a pair of strengthening ribs integral or unitary with the bolster, these ribs preferably being tapered with their greatest depth at the center of the bolster and gradually decreasing toward each end. These ribs in my preferred construction are comparatively short, but their dimensions may of course be varied according to the design and strength of the bolster.

In order to provide a strong tension member or portion for the bolster, which in its preferred form is of substantially T-shape in cross-section, I supply the lower edge of the vertical leg or strip of the bolster with an enlargement or bulb gradually increasing in thickness with its depth, and whose sides are curved, desirably reversely curved. Oppositely extended flat flanges at the foot of the vertical member of a T bolster have heretofore been used but they are difficult to cast because of the large quantity of overhanging sand in the mold which is likely to become dislodged and ruin the casting.

My preferred form of bolster is illustrated on the accompanying sheet of drawings forming a part of this specification and throughout the various views like reference characters refer to the same parts.

Figure 1 is a side elevation of a truck bolster embodying my invention; Fig. 2 is a top plan view of the structure shown in Fig. 1; Fig. 3 is a bottom plan view of the same; Fig. 4 is a vertical cross-section on line 4—4 of Fig. 1; Fig. 5 is a vertical cross-section on line 5—5 of Fig. 1; and Fig. 6 is a vertical cross-section on line 6—6 of Fig. 3.

The bolster shown on the drawings is preferably cast in one piece and is of substantially T-shape in cross-section. The top plate compression member 10 is slightly cambered or concaved and has integral therewith at the center of its top surface a center bearing portion 11. Also unitary with this compression member and rising from its top surface are a pair of side bearing members 12, 12. Depending from the central portion and under side of compression member 10 is a vertical plate or web 13 which extends the full length of the bolster and which may be apertured at 14, 14 for a reduction of weight.

Beneath the center bearing 11 the vertical member 13 has a cylindrical boss 15, the boss and web 13 being apertured or recessed at 16 to accommodate the king bolt. Depending from the longitudinal marginal edges of compression member 10 are a pair of flanges 17, 17 which extend substantially the full length of the bolster and at their outer ends are widened sufficiently to form vertical webs 18 which join the ends of compression member 10 and flat horizontal plate portions 19 at the ends of the lower margin of member 13.

Projecting downwardly from the under surface of compression member 10 and integral therewith I provide a pair of strengthening ribs or flanges 20 which are disposed beneath the center bearing 11 and between the vertical member 13 and flanges 17. The object of these ribs is to aid in sustaining and supporting the center bearing which carries substantially all of the load thrust upon the bolster. Flanges 20 vary in depth, being deepest immediately below the center bearing and gradually tapering toward the bottom surface of compression member 10 until merged into the same. These ribs or flanges 20 are comparatively short as shown on the drawing, being about one-fourth the length of the bolster, but as will readily be understood by those skilled in this art their dimensions may be varied to meet the demands of the bolster.

The foot or lower portion of the upright member 13 is provided with an enlargement or bulb 21 which varies in thickness as is clearly shown in Figs. 4 and 5, being thickest at the extreme lower edge of member 13. The sides of enlargement 21 are preferably

curved and I prefer to have them slightly reversely curved as is clearly illustrated. Near the ends of the bolster this enlargement or bulb is flattened out so as to form the horizontal portions 19 to coöperate with the springs of the side frames. It has been customary to provide bolsters of this type with outwardly extended substantially flat flanges in place of the enlargement or boss 21 which I show and describe but I have found by experience that my form of tension member, that is the enlargement 21, is much more satisfactory to cast than the flanges of the older types of bolsters. Where flat flanges are employed it is necessary to make them of considerable width in order to be strong enough to satisfactorily withstand the strains to which they are subjected, and, consequently, in casting bolsters of this type there is a considerable portion of overhanging sand to form the flanges which is likely to become displaced or dislodged causing a defective casting. With my improved form of bolster I obtain the desired result since I use a substantial quantity of metal in the enlargement 21 and this metal is spaced away sufficiently from the neutral axis of the bolster so that the device has adequate strength for the purpose intended. Owing to the shape of this enlargement or boss only a comparatively small amount of sand overhangs the mold and the tendency for the sand to break away is greatly reduced.

Minor mechanical changes in the structure shown and described may be made by these skilled in this art without departure from my invention and without sacrificing its benefits and advantages.

I claim:

1. A cast metal truck bolster of substantially T-shape in cross-section having an enlargement or bulb at the foot of the vertical portion or leg of the bolster, said enlargement or bulb gradually increasing in thickness to the lower edge of said vertical portion, substantially as described.

2. A cast metal truck bolster of substantially T-shape in cross-section having an enlargement or bulb at the foot of the vertical portion or leg of the bolster, said enlargement or bulb having curved or rounded sides and gradually increasing in thickness to the lower edge of said vertical portion, substantially as described.

3. A cast metal truck bolster of substantially T-shape in cross-section having an enlargement or bulb at the foot of the vertical portion or leg of the bolster, said enlargement or bulb having sides each reversely curved, said enlargement gradually increasing in thickness to the lower edge of said vertical portion, substantially as described.

GEORGE G. FLOYD.

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