

No. 631,246.

Patented Aug. 15, 1899.

A. B. BELLOWS.
METAL BOLSTER.

(Application filed Aug. 31, 1898.)

(No Model.)

Fig. 1.

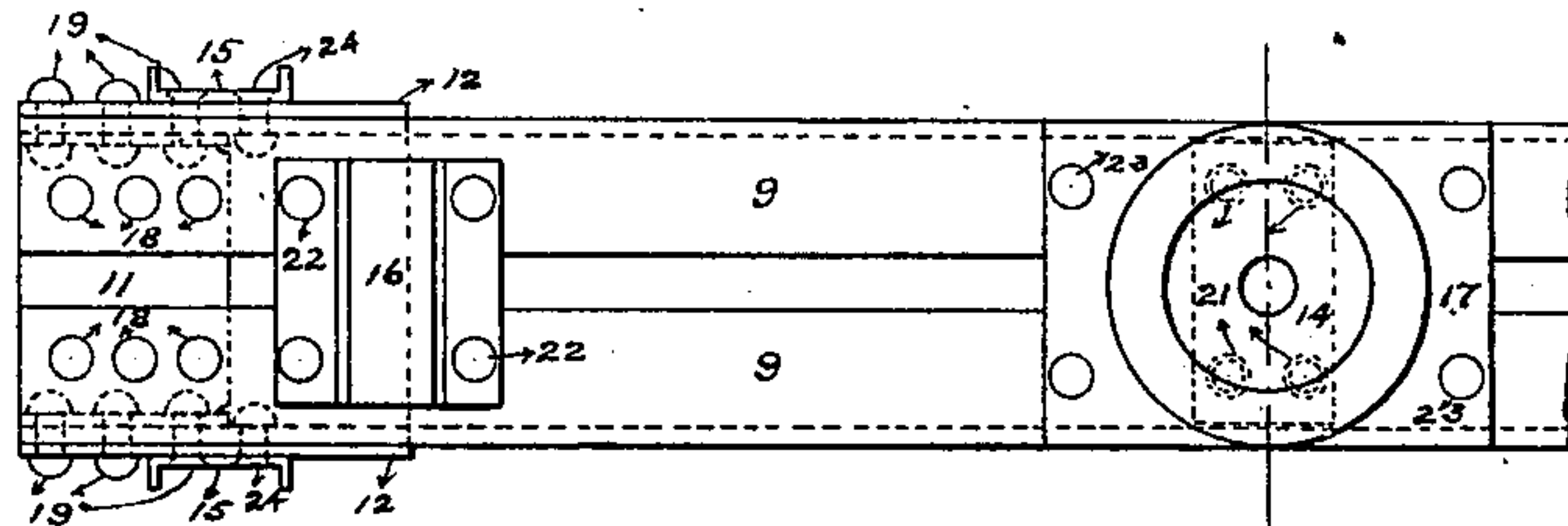


Fig. 3.

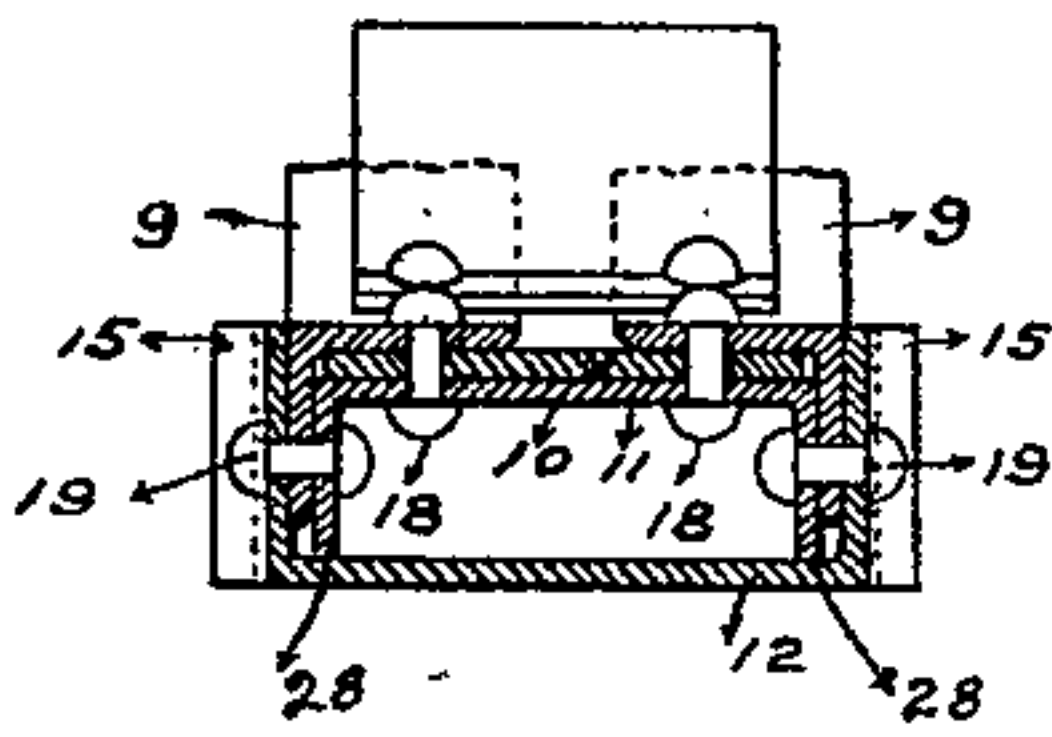


Fig. 2.

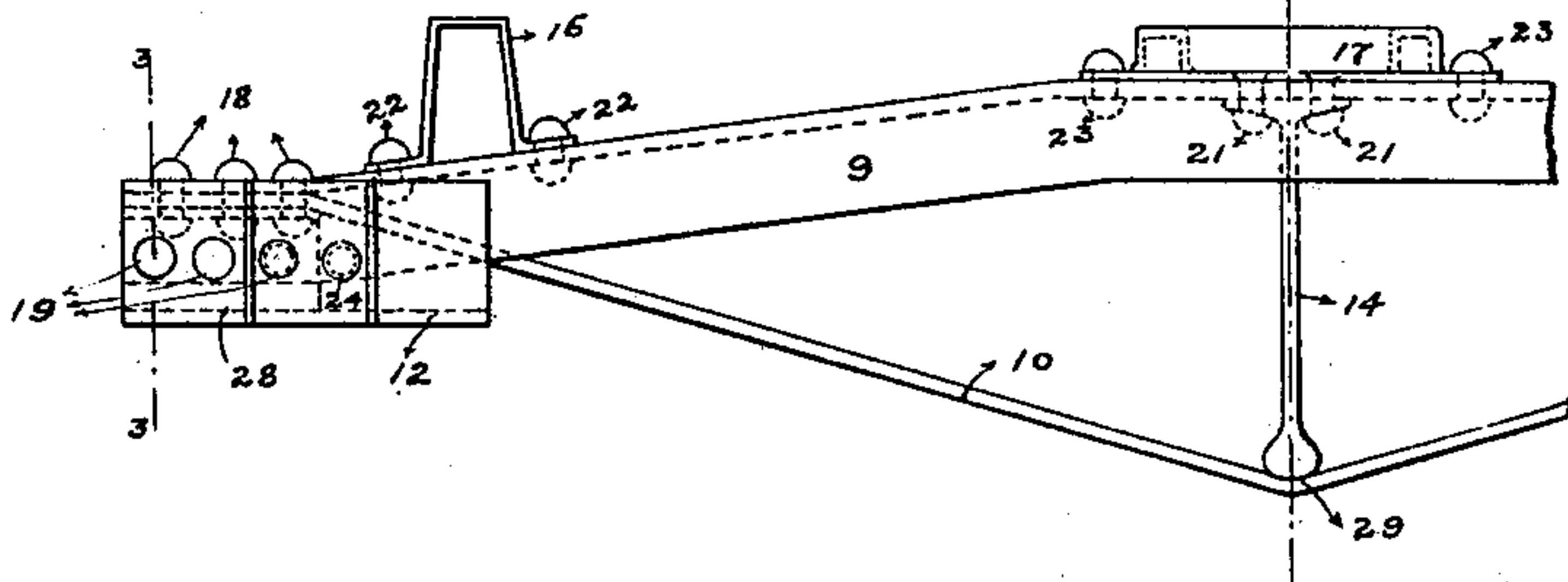


Fig. 4.

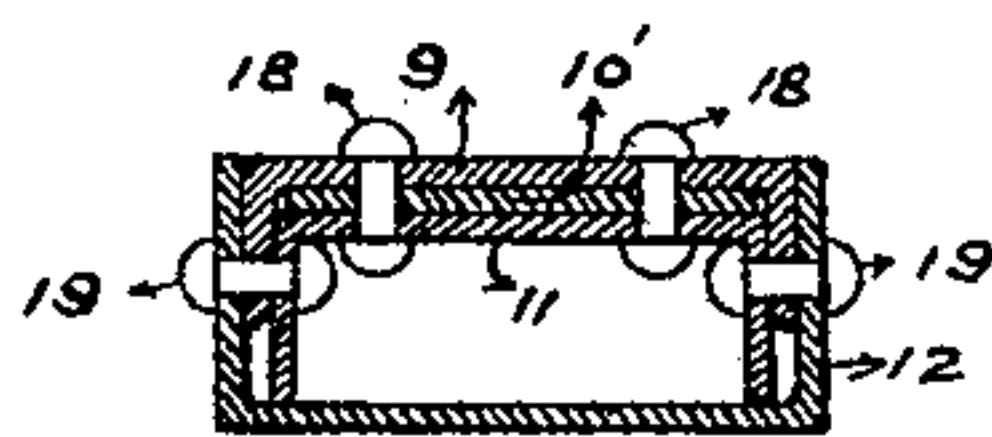


Fig. 5.

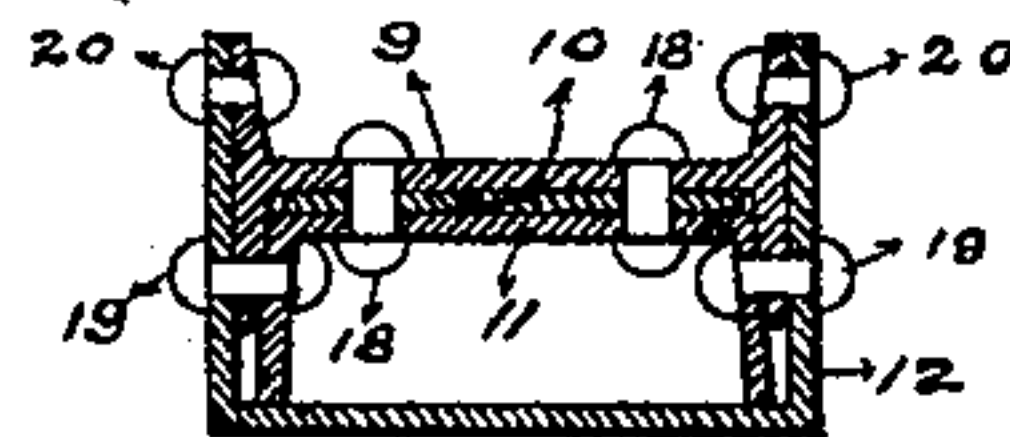


Fig. 6.

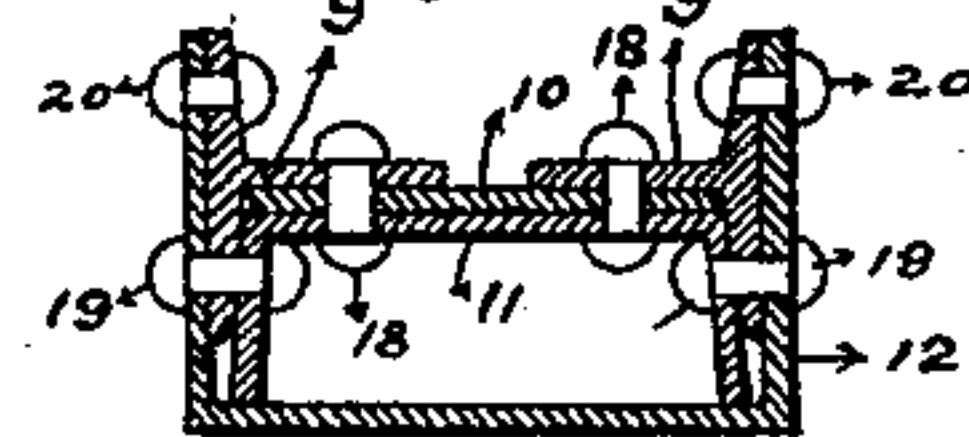


Fig. 7.

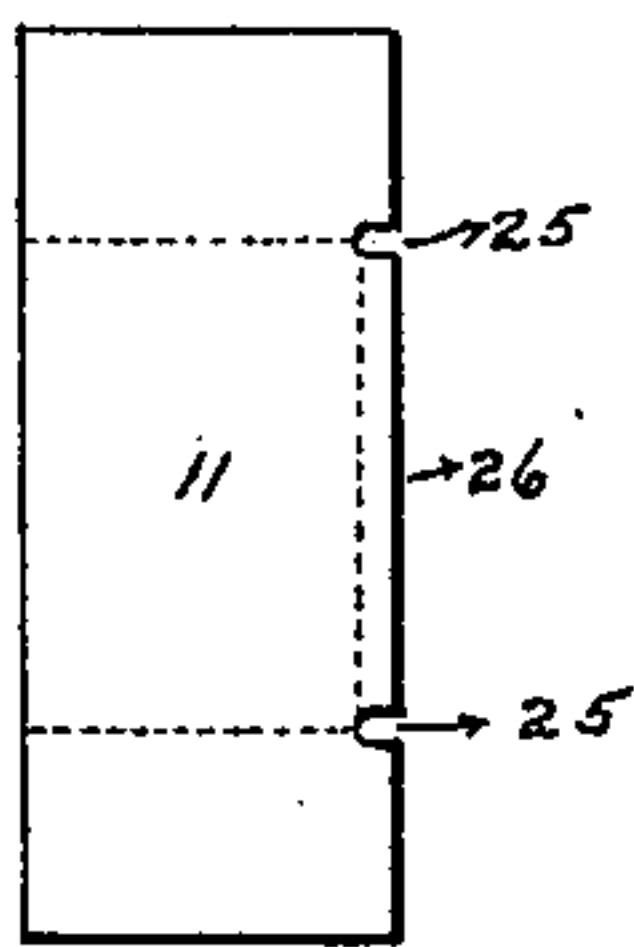
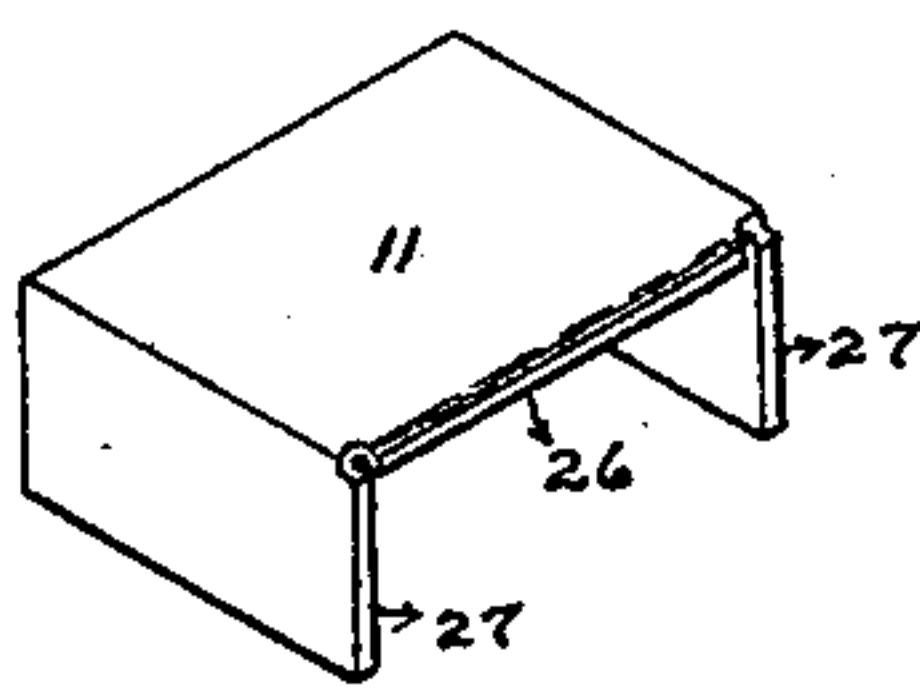


Fig. 8.



WITNESSES

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UNITED STATES PATENT OFFICE.

ARTHUR B. BELLOWS, OF PITTSBURG, PENNSYLVANIA.

METAL BOLSTER.

SPECIFICATION forming part of Letters Patent No. 631,246, dated August 15, 1899.

Application filed August 31, 1898. Serial No. 689,935. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR B. BELLOWS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Metal Bolsters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a partial top plan view of one form of my improved bolster. Fig. 2 is a partial side elevation of the same. Fig. 3 is a cross-section on the line 3 3 of Fig. 2. Figs. 4, 5, and 6 are cross-sections similar to Fig. 3, showing modified forms of construction. Fig. 7 shows the blank I employ for forming the end box, and Fig. 8 is a perspective view of this box or shape.

My invention relates to that class of metal bolsters which are made in truss form; and its purpose is to strengthen the joints or connections between the compression and tension members, to so arrange the connecting-rivets of these joints that they are placed in double shear, and to provide an improved middle or distance piece between the two members.

In the drawings, referring to the form of Figs. 1, 2, and 3, I show the compression member as formed of two angles 9 9. The ends of this compression member and the tension member 10, which latter may consist of an ordinary plate or strip, are bent into parallelism with each other and are secured together by the two series of rivets 18, which extend through these parts and through the flanged shape 11, which fits against the lower face of the tension member at the joint. This shape 11 is preferably bent up from the blank shown in Fig. 7, this blank having slots 25 extending in from one side edge. The blank is bent along the dotted lines, and the lip 26 between the slots is preferably slightly bent or curved, so that when the parts are assembled this lip will fit the angle of the tension member at the point of bend, as best shown in Fig. 2. With this construction the sides 27 project beyond the lip 26 and give additional room for riveting. The sides and bottom of the joint are inclosed by a pressed or rolled shape 12, upon the bottom of which the flanges 27 of the shape 11 rest. The side flanges of this shape 12 inclose the joint and are secured by rivets 19,

which extend through the angles 9 and the flanges 27. It will be noted that by this arrangement all the joint-rivets are placed in double shear and an exceedingly strong box-like joint obtained. As the flanges of shape 11 bear upon the web of shape 12 at 28, much of the strain on the rivets 19 is thereby relieved.

Instead of using a pair of angles for the compression member, which form I prefer on account of being easily able to vary the thickness, width, and height of the juncture box, to meet all requirements a channel may be used in place thereof, as shown at 10' in Fig. 4. In Fig. 5 I show an I-beam shape in place of the two angles, and in Fig. 6 a compression member formed of two T-irons, and it is evident that many other changes may be made in the form and arrangement of this member without departing from my invention.

For a central or distance piece between the two members I employ a section of a rolled-bulb beam 14, the base-flanges of which are secured to the compression members by rivets 21, while the bulb 29 forms a natural and efficient bearing for the tension member.

16 is a side rest, and 17 a center plate, these being secured to the compression member by the rivets 22 and 23, respectively.

The advantages of my invention will be apparent to those skilled in the art, since a strong and durable joint is obtained between the truss members, and the joint-rivets are placed in double shear, while an improved distance-piece is provided between the members.

The bulb-beam may be replaced by two bulb-angles, and many variations may be made in the form and arrangement of the other truss members and the joint without departing from my invention, since

I claim—

1. In a truss-bolster, the combination with a compression member and tension member fitted together at their ends, of a flanged shape secured to one side of this end joint by rivets passing through its base and through the members, one of these members being between the flanged shape and the other member; substantially as described.

2. In a metal bolster, the combination with

a compression member having depending side flanges, of a tension member having its ends lying within the flanges, a flanged shape having its base resting against the under side of the tension member at the joint, said parts being secured together by rivets extending through the base of the compression member and the flanged shape, and the tension member, and rivets passing through the flanges of the compression member and the shape; substantially as described.

3. A truss-bolster having tension members held at the end between two plates or shapes by through-rivets placed in double shear; substantially as described.

4. A truss-bolster having a compression member provided with side flanges, a tension member having its ends fitted against the base of the compression member between the flanges, a flanged shape having its base fitting against the lower face of the tension member at the joint, another flanged shape having its upwardly-projecting flanges inclosing the flanges of the compression member at the joint, and rivets extending through the flanges of the two shapes and the compression member at the joint; substantially as described.

5. A truss-bolster having its compression member formed of two angles with depending flanges, a tension member having its ends fitting between the flanges, a shape with depending flanges secured to the under side of the tension member at the joint by rivets extending through its base and through the tension member and the angles, another shape having upwardly-projecting flanges inclosing the depending flanges of the compression member and horizontal rivets passing through the interfitting flanges of the compression member and the two shapes; substantially as described.

6. A truss-bolster having its compression member and tension member fitted together

at their ends, and a separate flanged shape secured below the tension member at the joint, said shape having a bent lip at the bend of the truss member; substantially as described.

7. A truss-bolster having one of its members provided with flanges, and two flanged shapes interfitting with said flanges at the end joint, the several flanges being secured by through-rivets placed in double shear; substantially as described.

8. A truss-bolster having one of its members provided with side flanges at the joint between the two members, and a box formed of two shapes secured by rivets which pass through the base of the box, the tension member and the compression member, and by rivets which extend through the flanges of the two shapes and compression member, all the rivets being in double shear; substantially as described.

9. A truss-bolster having its compression member and tension member fitted together at their ends, and two shapes having interfitting flanges forming a box secured to the joint, the upper shape having a lip at the bend of the members; substantially as described.

10. A truss-bolster having an upper compression member and a lower tension member separated therefrom at the center, and a section of a rolled-bulb beam secured between their central portions as a distance-piece, such beam having a thin web with a bulb-shaped head abutting against the tension member, and being provided with upper flanges secured to the compression member; substantially as described.

In testimony whereof I have hereunto set my hand.

ARTHUR B. BELLOWS.

Witnesses:

CHAS. H. HAYS,
C. B. MCVAY.