

No. 706,647.

Patented Aug. 12, 1902.

G. G. FLOYD.

CAR BODY BOLSTER.

(Application filed June 11, 1902.)

(No Model.)

Fig. 1.

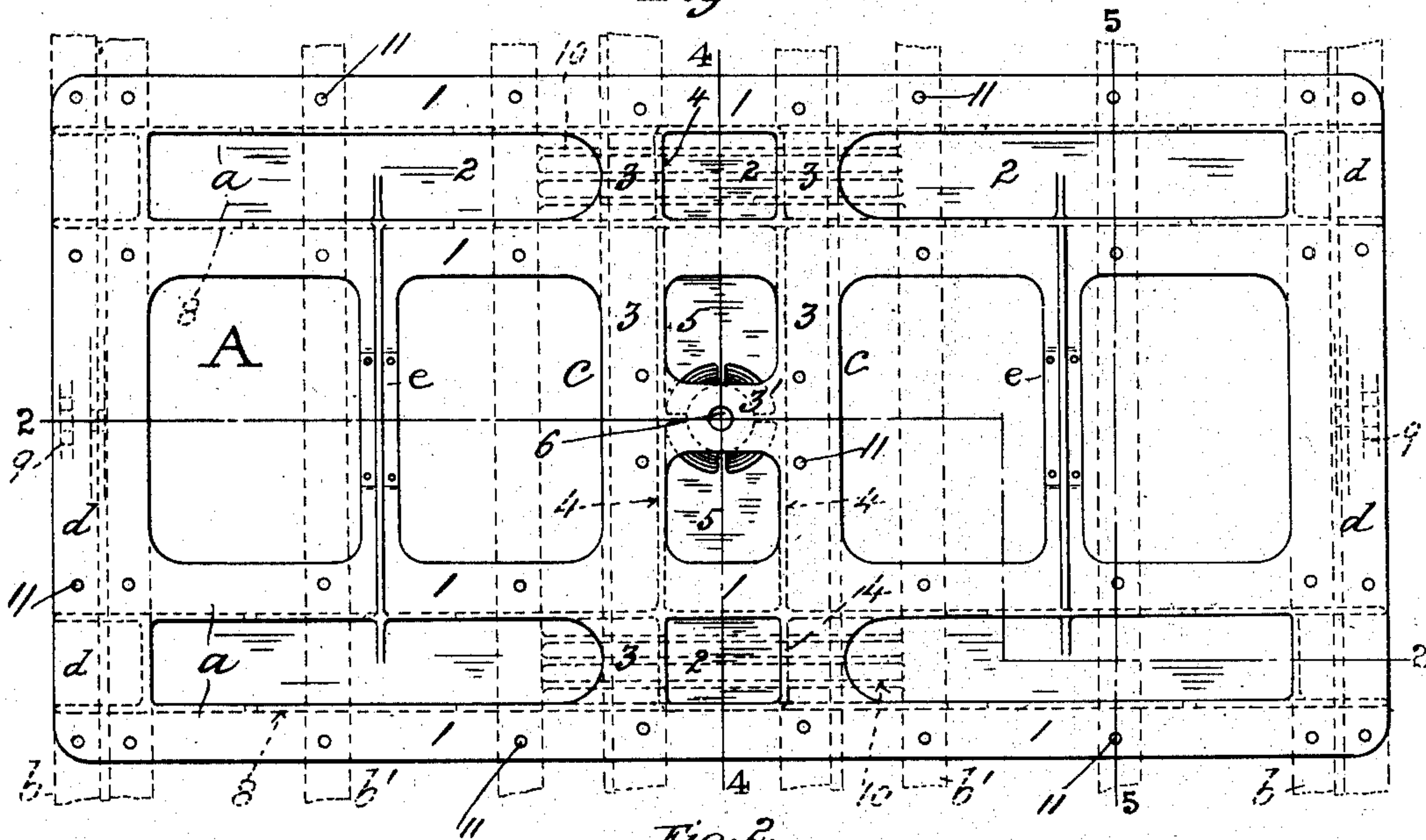


Fig. 2.

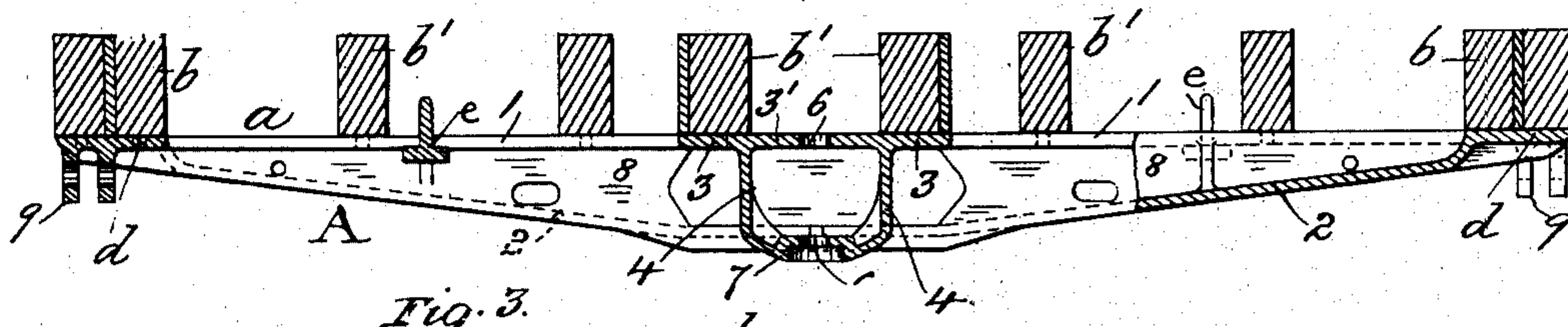


Fig. 3.

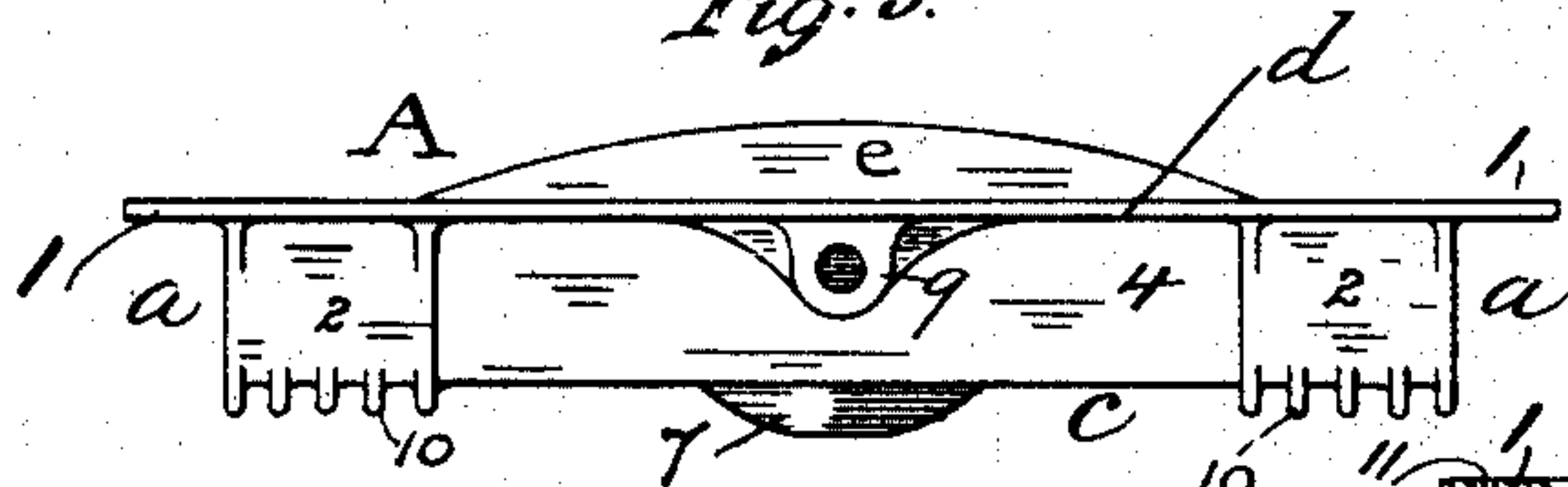


Fig. 5.

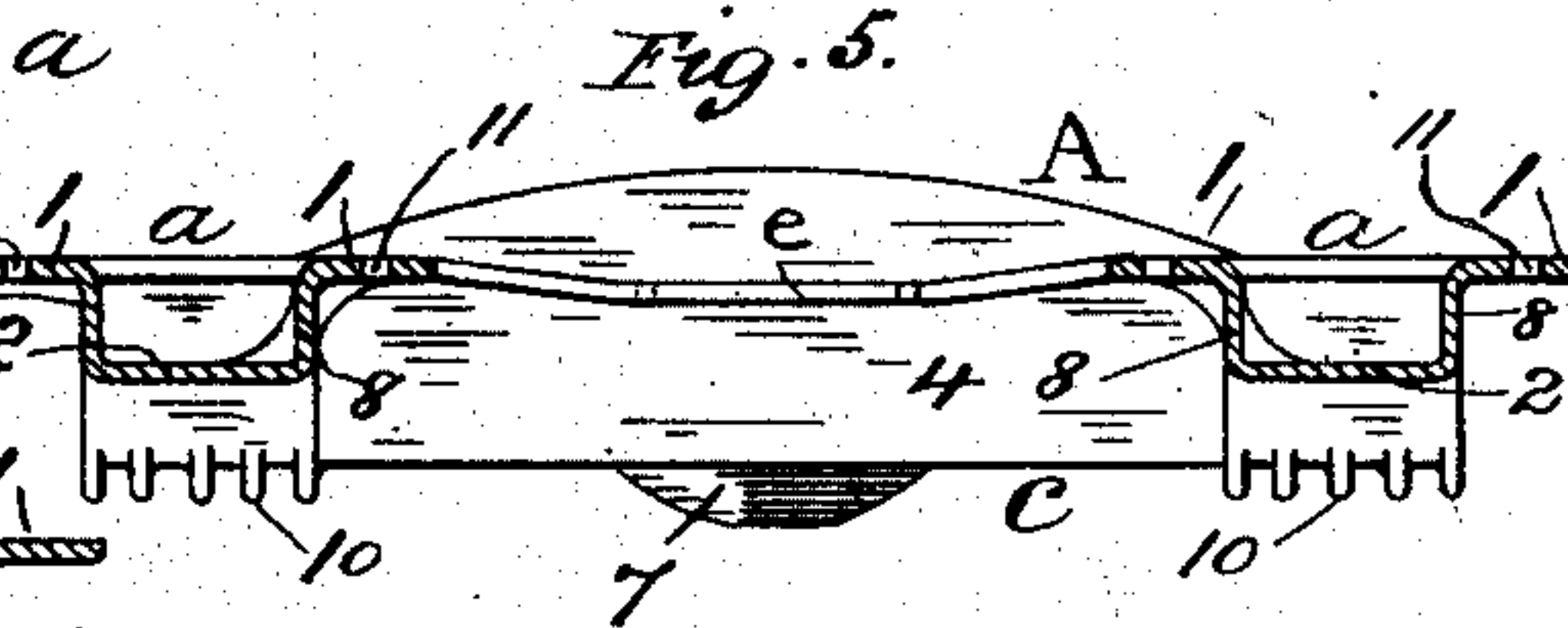
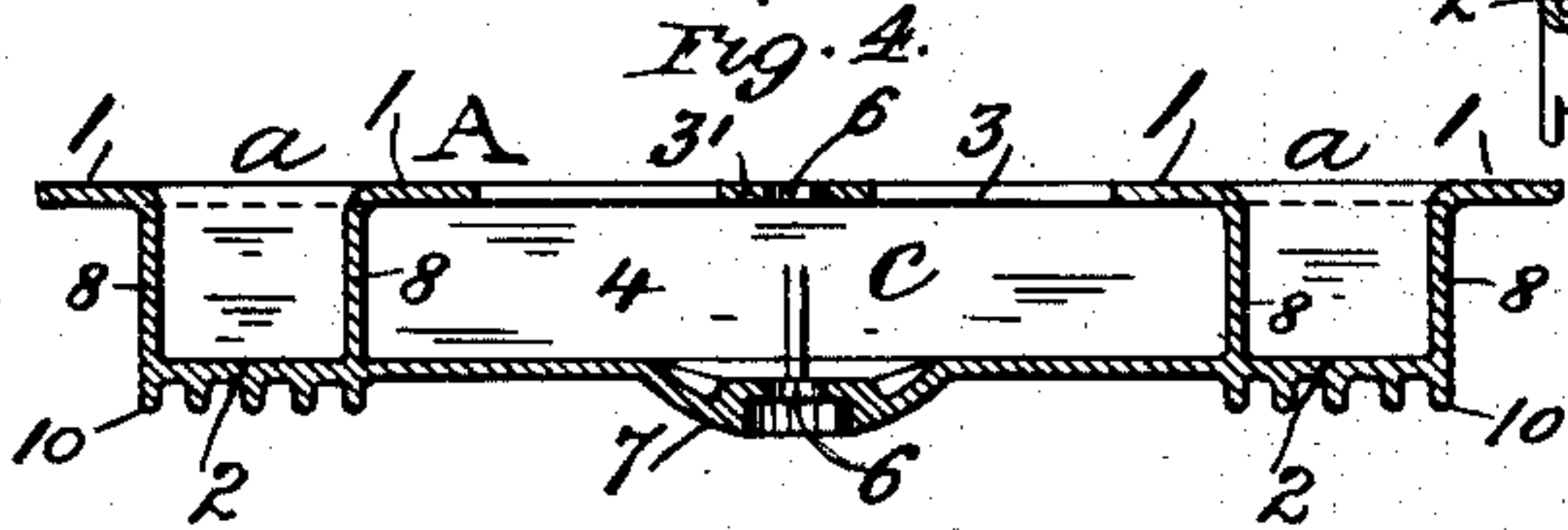


Fig. 4.



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GEORGE G. FLOYD, OF ST. LOUIS, MISSOURI, ASSIGNOR TO AMERICAN STEEL-BODY DOUBLE-BOLSTER CO., OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

CAR BODY-BOLSTER.

SPECIFICATION forming part of Letters Patent No. 706,647, dated August 12, 1902.

Application filed June 11, 1902. Serial No. 111,163. (No model.)

To all whom it may concern:

Be it known that I, GEORGE G. FLOYD, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented
5 a new and useful Improvement in Car Body-Bolsters, of which the following is a specification.

My invention relates to a double body-bolster for railroad-cars.

10 An ordinary double body-bolster usually comprises two single body-bolsters having top and bottom plates or arch-bars, respectively, with their timbles and connecting-bolts, a longitudinal truss connecting the
15 two body-bolsters together and having the body center-bearing and center-plate castings secured thereto, all of said parts being separate pieces built up and connected together by bolts or other fastenings, thereby rendering the structure as a whole complicated and
20 cumbersome. Moreover, by the continual jar to which the parts are subjected the fastenings are liable to work loose, which destroys the rigidity of the bolster and necessitates constant inspection and frequent repairs.
25

My invention has for its object to combine these separate parts in a single piece, preferably of cast-steel, having its component members so arranged and the metal distributed
30 therethrough as to produce a compact, rigid, and durable double body-bolster specially adapted to withstand the varying strains to which it is subjected and at the same time
35 insure the maximum of strength with a minimum weight of material.

The invention consists in features of novelty, as hereinafter described and claimed, reference being had to the accompanying
40 drawings, forming part of this specification, whereon—

Figure 1 is a top plan of my improved double body-bolster for railroad-cars; Fig. 2, a longitudinal vertical section through the bolster on line 2 2 in Fig. 1, showing the sills of the car in transverse section; Fig. 3, an end
45 view of the bolster; and Figs. 4 and 5 transverse sections thereof on lines 4 4 and 5 5, respectively, in Fig. 1.

50 Like letters and numerals of reference denote like parts in all the figures.

A represents my improved double body-bolster, which consists of two side beams *a* of a double-reversed-Z shape, respectively, in cross-section and arranged opposite and
55 parallel to each other at a suitable distance apart. The top flanges 1 of each beam *a* are straight and adapted to bear against the under sides of the car-sills *b b'* transversely thereto, while its base 2 (corresponding to the
60 integrally-united flanges of two ordinary Z-beams) is preferably straight at the middle portion and thence inclined toward the top flanges 1. The side beams *a* are united at
65 their middle portions to an intermediate cross-beam *c*, which is also of a double-reversed-Z shape in cross-section, having its top flanges 3 flush with the top flanges 1 of the side beams *a* and adapted to bear against the under
70 sides of the car-sills *b'*, longitudinally thereto. The end portions of the cross-beam *c* intersect the side beams *a*, their top flanges 3 spanning the spaces between the top flanges 1 thereat.

Across the space between the top flanges, 75 3 at the middle portion of the beam *c*, is a bridge-piece 3', which unites at its ends with the vertical webs 4, and through the bridge-piece 3' and base 5 is formed the central hole 6 for receiving the king-bolt. (Not shown.)
80 Around the hole 6 at its lower end is formed the body center-bearing 7, which projects below the base 5 of the beam *c*, as shown.

The side beams *a* are united at their end portions respectively to a cross-plate *d*, which
85 intersects the top flanges 1 and vertical webs 8 of the side beams *a*, the top of the plates *d* being flush with the top flanges 1 and 3 of the beams *a* and *c*, respectively, and adapted to bear against the under sides of the car-
90 sills *b* longitudinally thereto. On the under sides of the plates *d* are formed the lugs 9, to which the ends of the truss-rods (not shown) are coupled.

On the under sides of the side beams *a*, at
95 their middle portion, are formed a series of ribs 10, which extend along the beams *a* to a suitable distance on each side of the longitudinal center line of the cross-beam *c*, and thereby stiffen the bolster A at the junctions
100 of the beams *a* and *c*.

All the parts above described—to wit., the

side beams *a*, with their ribs 10, the cross-beam *c*, with the center-bearing 7, and the end plates *d*, with the lugs 9 for the truss-
 5 rods—are integral throughout and preferably of cast-steel, the dimensions, shape, and distribution of the metal through the various parts being such as are found to be the most suitable for producing a rigid, durable, and reliable body-bolster.

10 Through the top flanges 1 and 3 of the beams *a* and *c* and through the end plates *d* are holes 11 for receiving the bolts (not shown) by which the body-bolster A is secured to the car-sills *b b'*.

15 *e e* are the side bearings, which are shown integral with the side beams *a*; but they may be separate and attached thereto, as found preferable.

By the above construction of intersecting
 20 double-reversed-**Z**-shaped beams *a* and *c*, combined with the intersecting end plates *d*, the bearing of the bolster A against the car-sills *b b'* is subdivided and more advantageously distributed with less distance between the bearing-points than with single
 25 beams of ordinary section and the stability of the car-body thereby proportionately increased.

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

1. A car body-bolster, consisting of two opposite side beams, and a cross-beam intermediate to the side beams and united thereto, the said beams, respectively, being a double-

reversed-**Z** shape in cross-section, and adapted to bear against the car-sills, substantially as described. 35

2. A car body-bolster, consisting of two opposite side beams, and a cross-beam intermediate to the side beams, the said beams, respectively, being a double-reversed-**Z** shape
 40 in cross-section, and adapted to bear against the car-sills, and the said cross-beam being integral with, and intersecting the side beams, substantially as described. 45

3. A car body-bolster, consisting of two opposite side beams, a cross-beam intermediate to the side beams, and united thereto at their middle portions, or thereabout, the said beams being, respectively, a double-reversed-**Z** shape
 50 in cross-section and intersecting each other, a cross-plate intermediate to and intersecting the side beams, and united thereto at their end portions, the said beams and plates being adapted to bear against the car-sills, 55 and the said cross-beam and plates having, respectively, the body center-bearing, and the lugs for the truss-rods, all the said parts being integral throughout, substantially as described. 60

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE G. FLOYD.

Witnesses:

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