

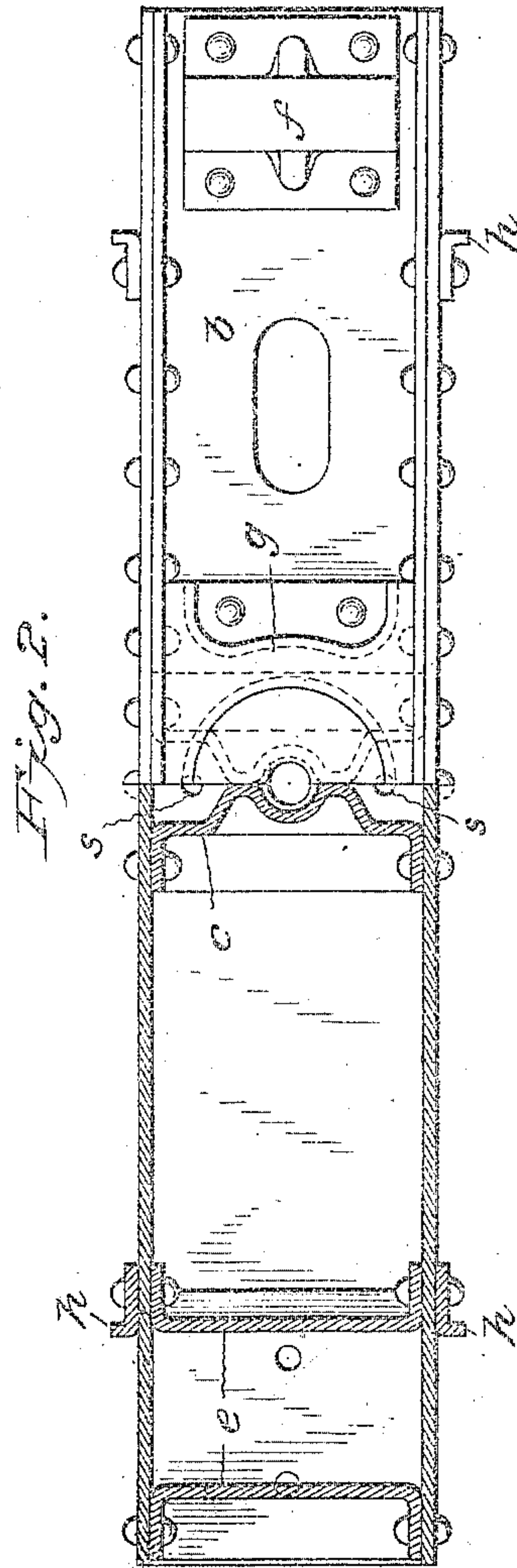
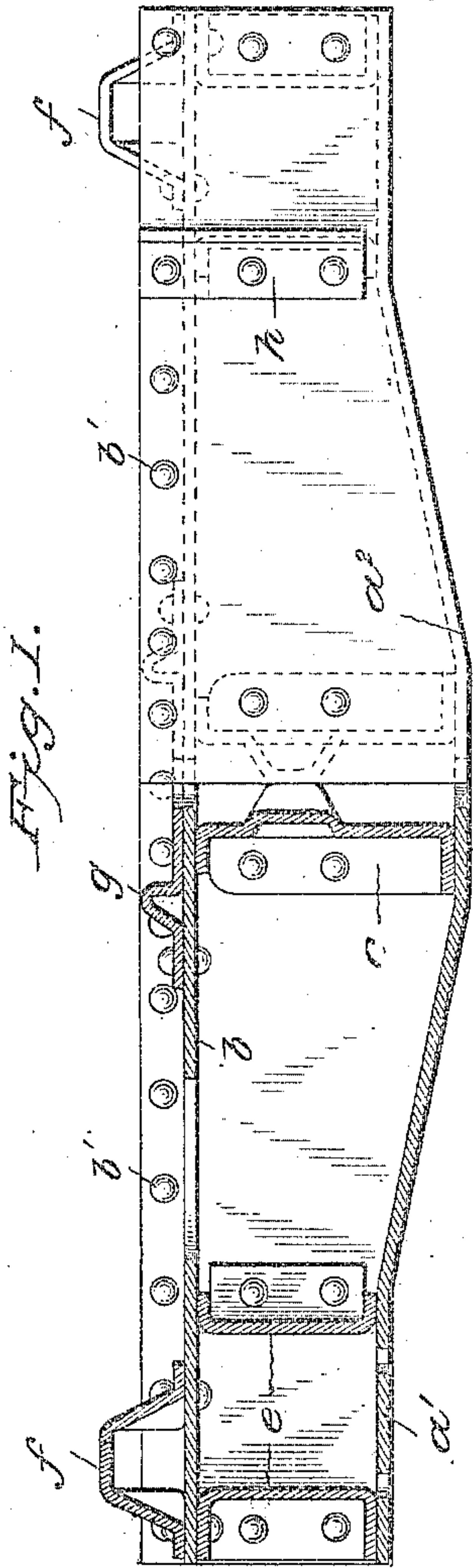
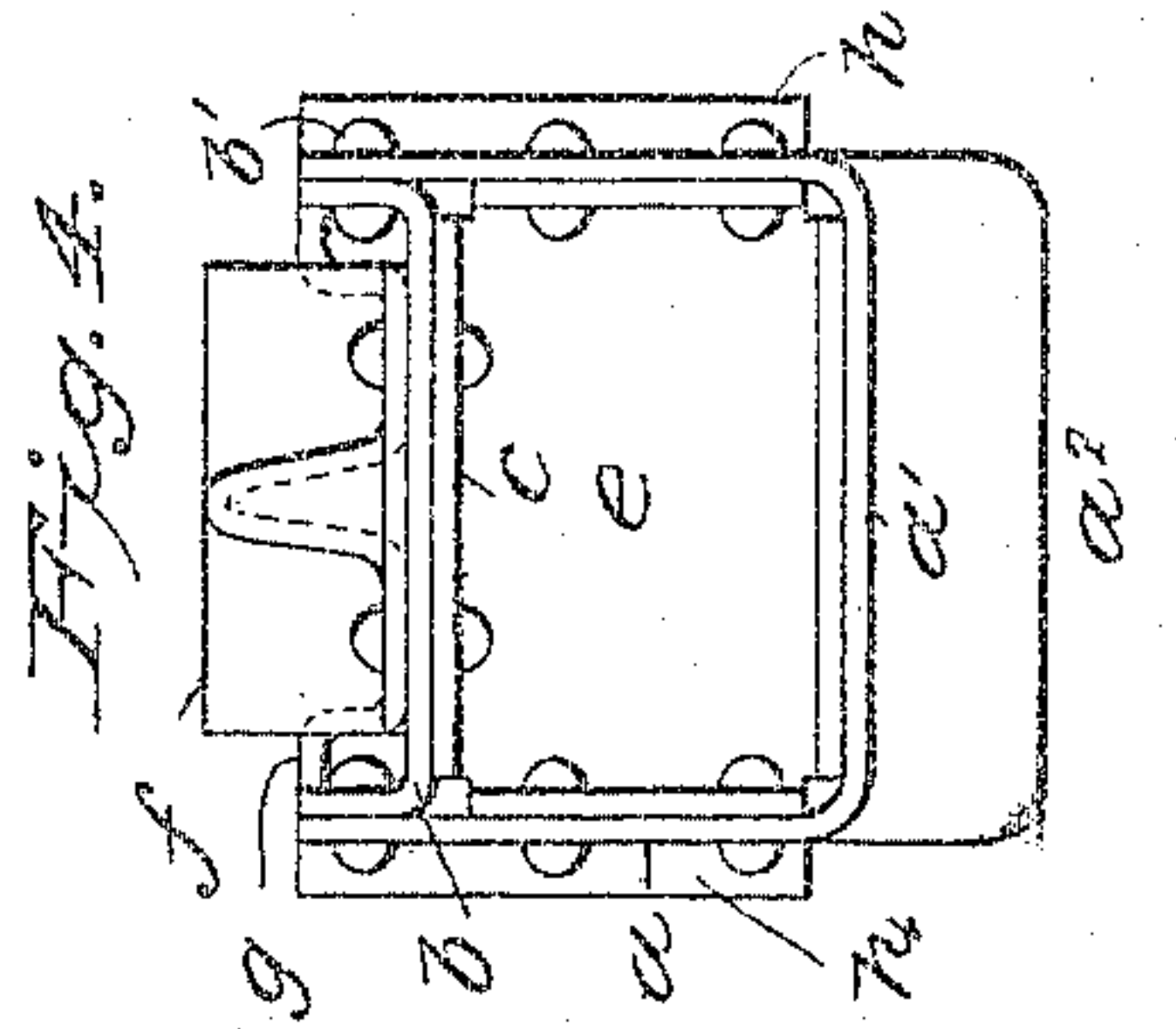
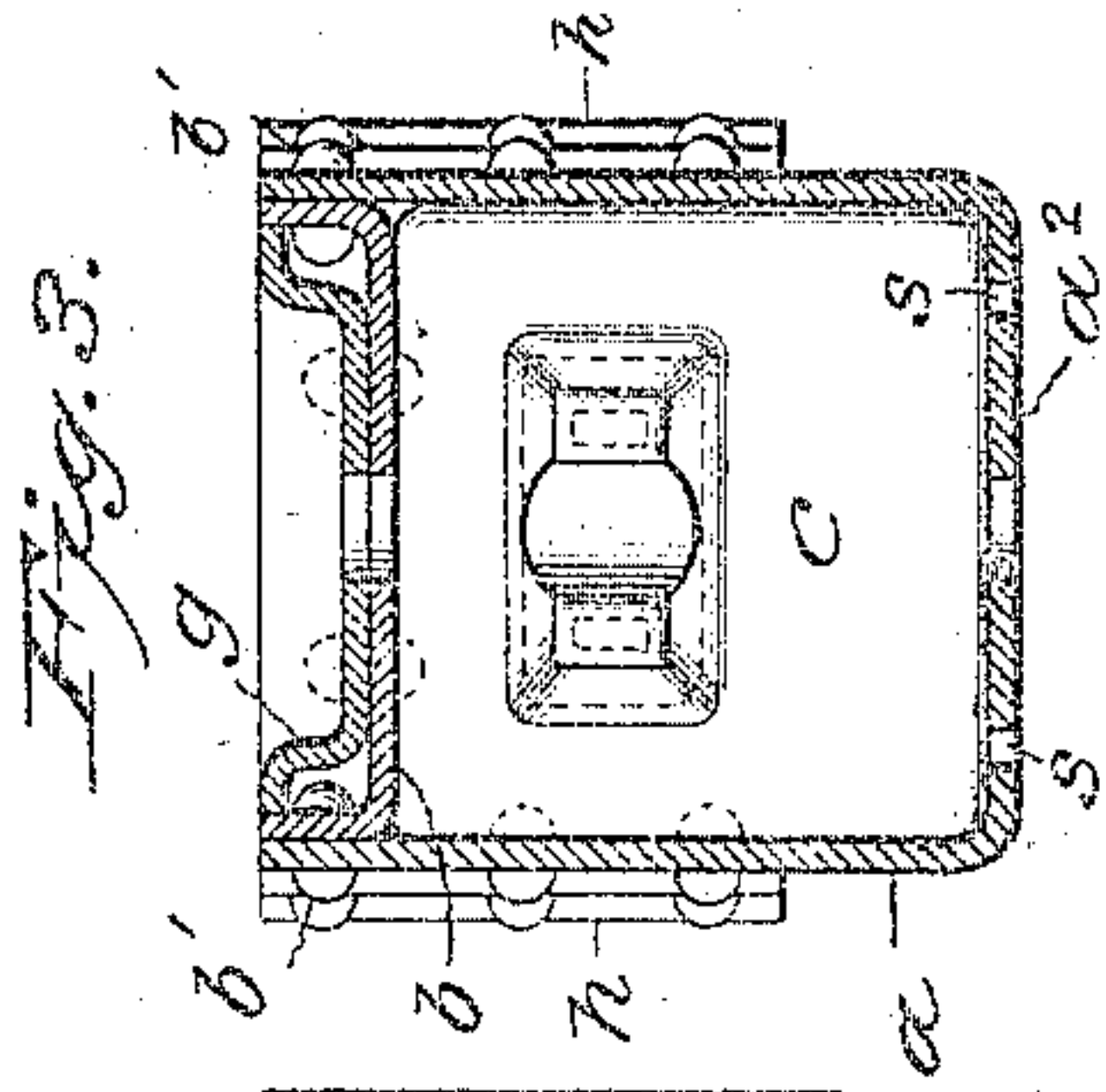
(No Model.)

2 Sheets—Sheet 1.

C. T. SCHOEN.
BOLSTER FOR RAILWAY CARS.

No. 604,794.

Patented May 31, 1898.



Witnesses
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W. H. Miles

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(No Model.)

2 Sheets—Sheet 2.

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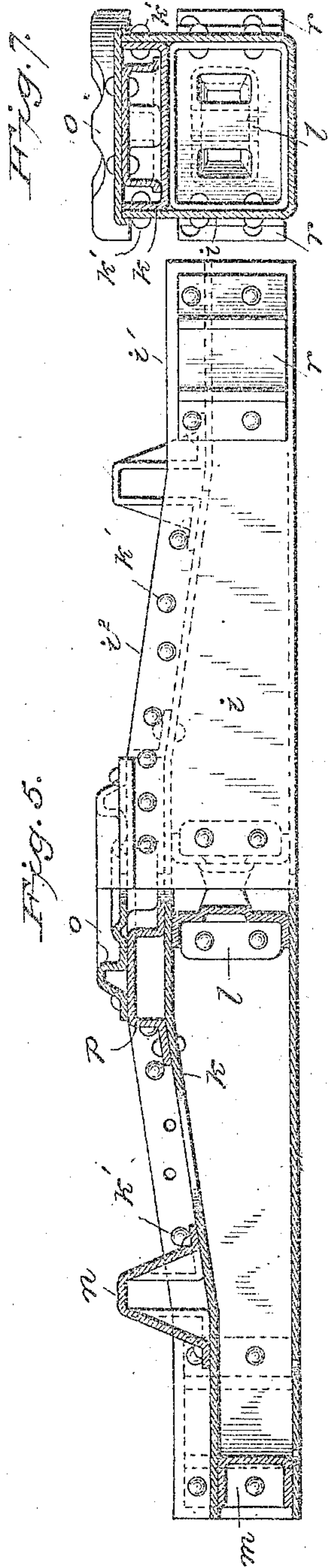


Fig. 5.

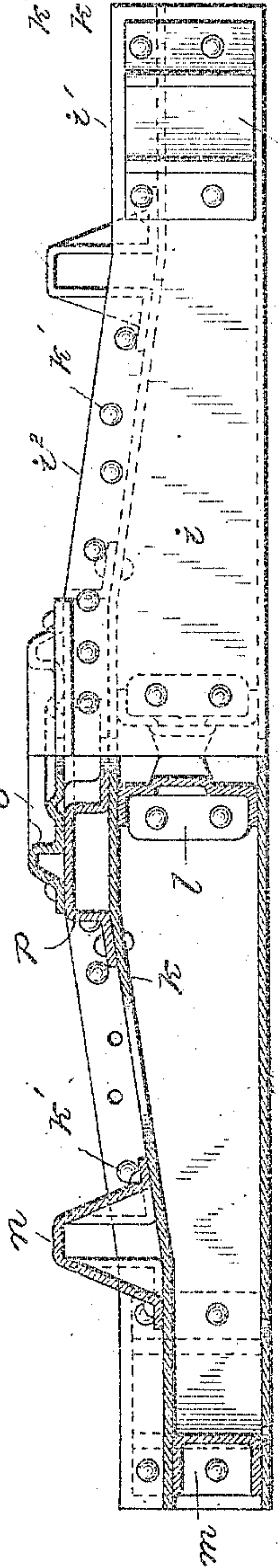


Fig. 6.

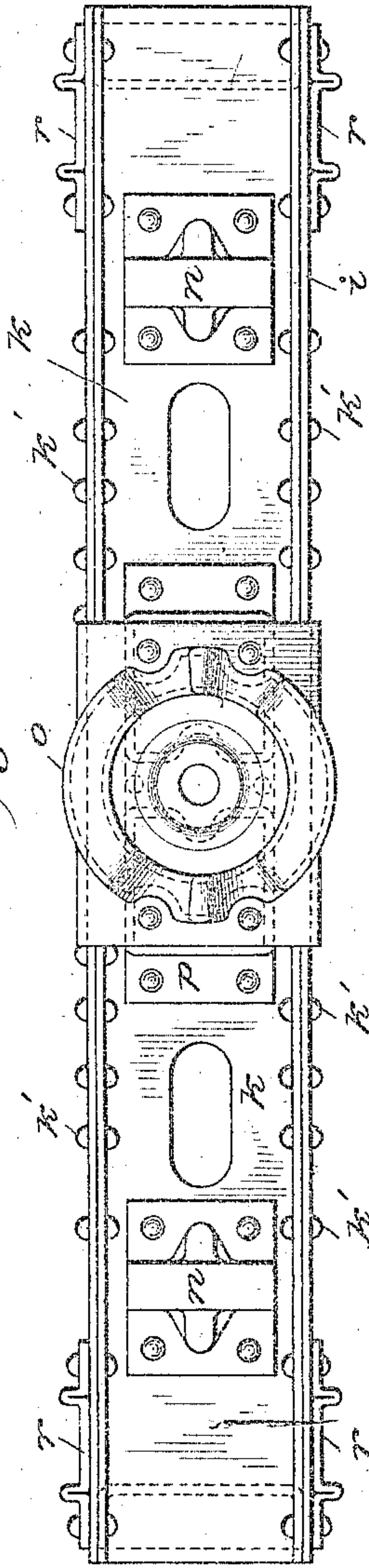
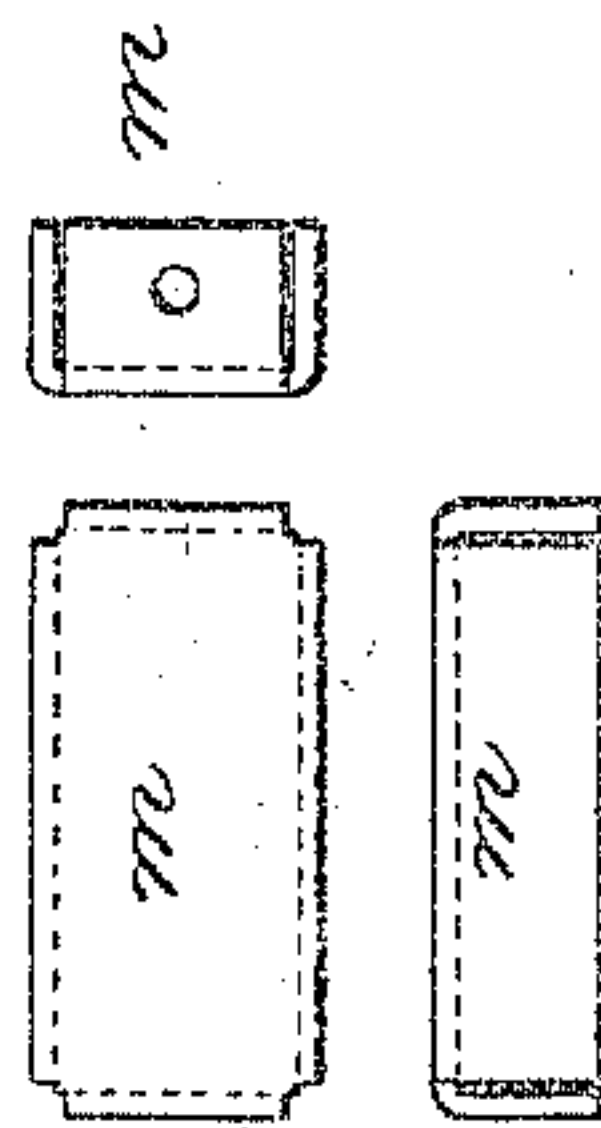


Fig. 8.



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UNITED STATES PATENT OFFICE.

CHARLES T. SCHOEN, OF PHILADELPHIA, PENNSYLVANIA.

BOLSTER FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 604,794, dated May 31, 1898.

Application filed February 25, 1898. Serial No. 671,560. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. SCHOEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Bolsters for Railway-Cars, of which the following is a full, clear, and exact description.

This invention relates to a bolster preferably built up of pressed-steel shapes and designed for use in truck-frames of the diamond variety, such as illustrated in special form in Patent No. 587,886, dated August 10, 1897, and also in ordinary arch-bar frame, as is in common use.

The invention consists in a bolster of box form comprising a girder substantially U shape in cross-section, having its top closed by a cover channel-plate, also substantially U shape in cross-section, and fitted within and riveted to the sides of the girder, the girder being braced at its ends and centrally, as I will proceed more particularly to set forth and finally claim.

The bolster is provided with a center-bearing plate, side bearings, and chafing-plates of appropriate form and construction.

In one form of my invention the bolster is substantially level on its top surface and its bottom is bellied, and in another form the bottom is substantially level and its top is bellied.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is a half-section and side elevation, and Fig. 2 a half-section and top plan view, of my bolster adapted for a special form of truck-frame. Fig. 3 is a central cross-section, and Fig. 4 an end view, of the form of bolster shown in Figs. 1 and 2. Fig. 5 is a half-section and elevation of another form of my bolster, and Fig. 6 is a top plan view thereof. Fig. 7 is a central vertical cross-section of the bolster of Figs. 5 and 6. Fig. 8 shows in detail in three views the construction of the end brace employed in the bolster of Figs. 5 to 7.

Referring now more especially to the bolster of Figs. 1 to 4, *a* is a girder of substantially U shape in cross-section, as shown in Fig. 3, having substantially horizontal ends *a'* and a bellied center *a''*, as usual. *b* is a

channel-plate, also substantially U-shaped in cross-section and inserted in the top of the girder and united therewith laterally, as by rivets *b'*. *c* are center braces constructed and arranged to operate substantially as in my Patent No. 553,431, dated January 21, 1896. *e* are end braces, *f* side bearings erected on the channel-plate, and *g* a center-bearing plate, also erected on the channel-plate, and *h* are chafing-plates secured to the sides of the girder.

Referring now to the bolster illustrated in Figs. 5 to 8, *i* is the girder, made, as before, in substantially the shape in cross-section of the letter U, but differing from the girder illustrated in Figs. 1 to 4 in that its bottom is level, while its upper surface has, respectively, the substantially horizontal ends *i'* and the bellied center *i''*. This upper or top portion is provided with a channel cover-plate *k*, bent to conform to the outline of the top of the girder, also substantially U shape in cross-section and secured within and to the girder by rivets *k'* or other fastenings. *l* are the center braces, of substantially the construction before described. *m* are the end braces, which, as shown in the details, Fig. 8, may be composed of flat plates appropriately slitted and the ends and sides bent up to form a box-like structure. *n* are the side bearings, erected on the cover-plate. *o* is the center-bearing plate, which is erected on a filler-plate *p*, which latter is secured rigidly to the cover-plate and gives the proper elevation to the center-bearing plate. *r* are the chafing-plates, secured to the sides of the bolster at its ends.

As already indicated, my improved bolsters and their attached parts are preferably made up of pressed-steel shapes and are assembled by riveting or otherwise, as desired.

Drain-holes, as *s*, may be provided at suitable intervals or places in both forms of bolster.

It will be observed that both forms of my invention are practically boxed girders.

There is a heavy strain on the truck-bolster of a freight-car, due to horizontal concussions, in addition to the vertical load to be sustained thereby. The built-up type of bolster heretofore made is not nearly so strong in a transverse direction as in a vertical direction,

and I have demonstrated that this desired increase of strength in the transverse direction may be obtained by making the bolster practically in the form of a boxed girder, substantially as herein shown. By making the main girder or body member or body *a* of one piece, the lower part of it, which is in tension, is entirely free from all riveting, and its sides and bottom are one solid piece. The upper portion, containing the cover-plate *b* and where the riveting is done, is in compression, and for this reason there is very slight liability of rupture or fracture to the riveted portions. Another point of superiority in the present construction of bolster is that all of the riveting can be accomplished by machines, a thing which could not readily be done in the built-up bolsters commonly made, and by this capability very superior work may be done and at a cost of less than half as compared with hand-riveting. Furthermore, this form of bolster may be applied to trucks having two cross-transoms uniting the two side frames of the truck, and it is also applicable for interchange in all styles of common diamond trucks.

What I claim is—

1. A bolster, comprising a body member made *U* shape in cross-section and having its top covered in by a substantially *U*-shaped channel cover-plate, inserted within the body and secured to its sides substantially as described.

2. A bolster, comprising a member *U* shape in cross-section, with one surface substan-

tially level and the opposite surface bellied, and a channeled cover-plate riveted within and to the sides of the *U*-shaped member, substantially as described.

3. A bolster, comprising a body *U* shape in cross-section, and a channel cover-plate arranged within the sides of the body and united therewith, the whole constituting a boxed girder, substantially as described.

4. A bolster, of box form, comprising a girder *U* shape in cross-section, having its top closed by a cover channel-plate inserted between and riveted to the sides of the girder, and end and center braces, substantially as described.

5. A bolster, comprising a body member made *U* shape in cross-section, and having solid sides and bottom, and a top member arranged within and riveted to the sides of the body member, and the whole constructed of pressed steel, substantially as described.

6. A built-up bolster, comprising a body member made *U* shape in cross-section, and having its top covered in by a channel cover-plate arranged between and riveted to its sides, and adapted for interchange in ordinary diamond trucks, substantially as described.

In testimony whereof I have hereunto set my hand this 18th day of February, A. D. 1898.

CHARLES T. SCHOEN.

Witnesses:

ALICE G. FRANCES,
E. A. SCHOEN.