(No Model.) 2 Sheets—Sheet 1.

C. T. SCHOEN.

CENTER BEARING PLATE FOR RAILWAY CARS.

No. 428,527. Patented May 20, 1890.

Fig. 1.

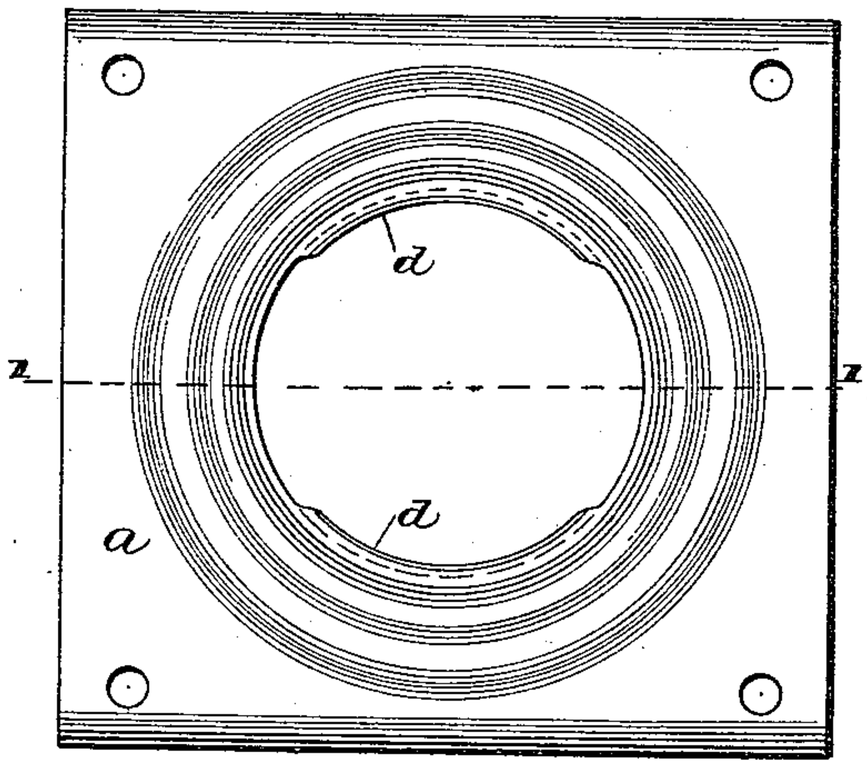


Fig. 3.

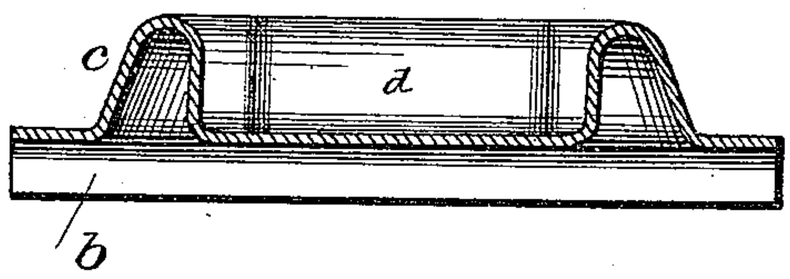


Fig. 5.

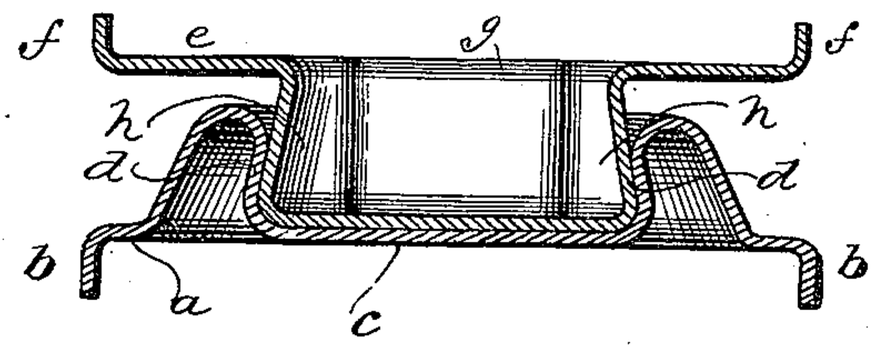


Fig. 2.

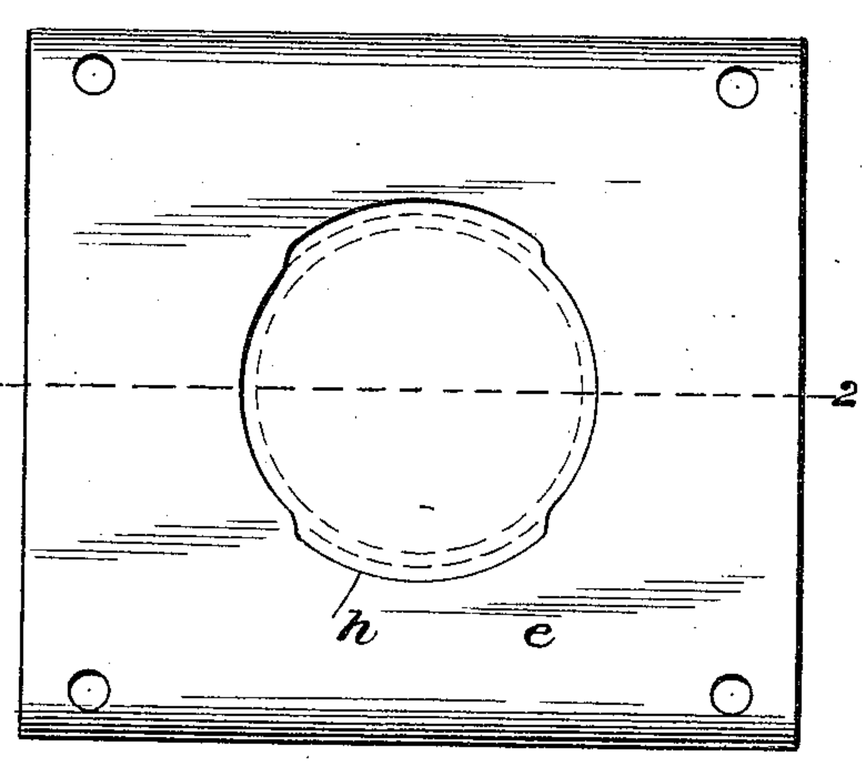
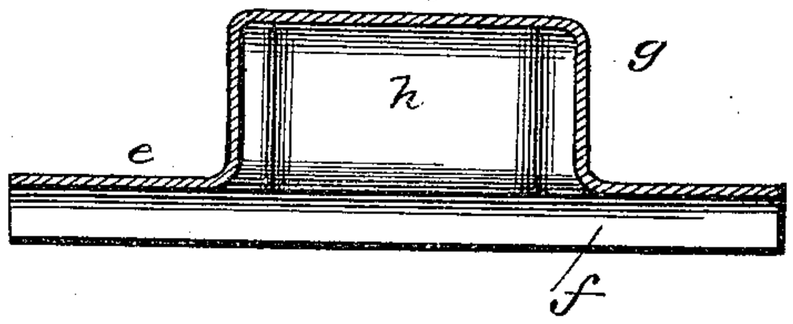


Fig. 4.



WITNESSES

F. L. Ourand.

H. Y. Davis.

INVENTOR

Charles T. Schoen

by Wm. A. Simonds.

Attorney

(No Model.) 2 Sheets—Sheet 2.

C. T. SCHOEN.

CENTER BEARING PLATE FOR RAILWAY CARS.

No. 428,527. Patented May 20, 1890.

Fig. 6.

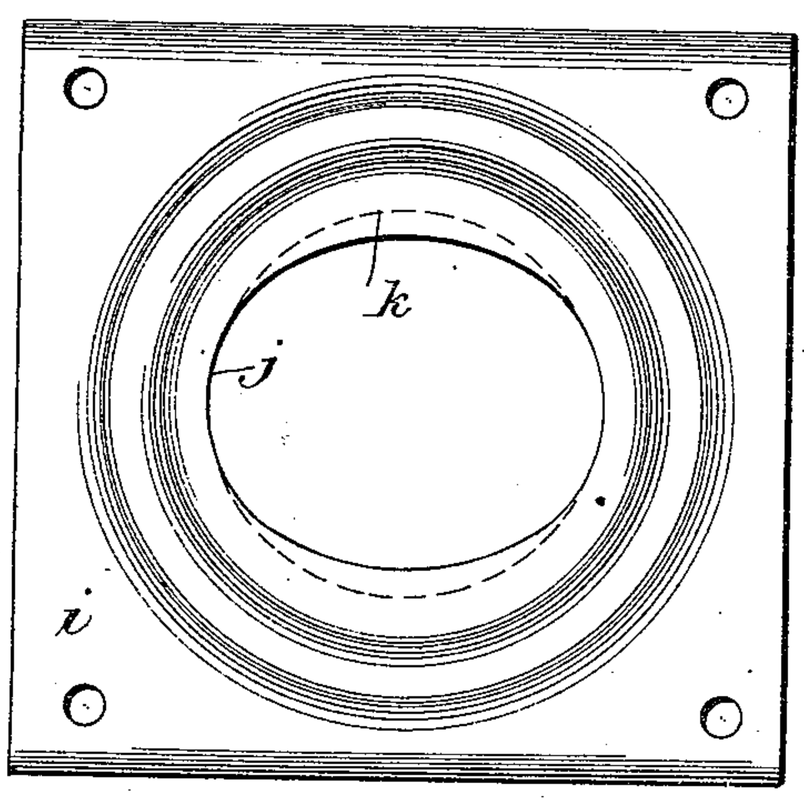
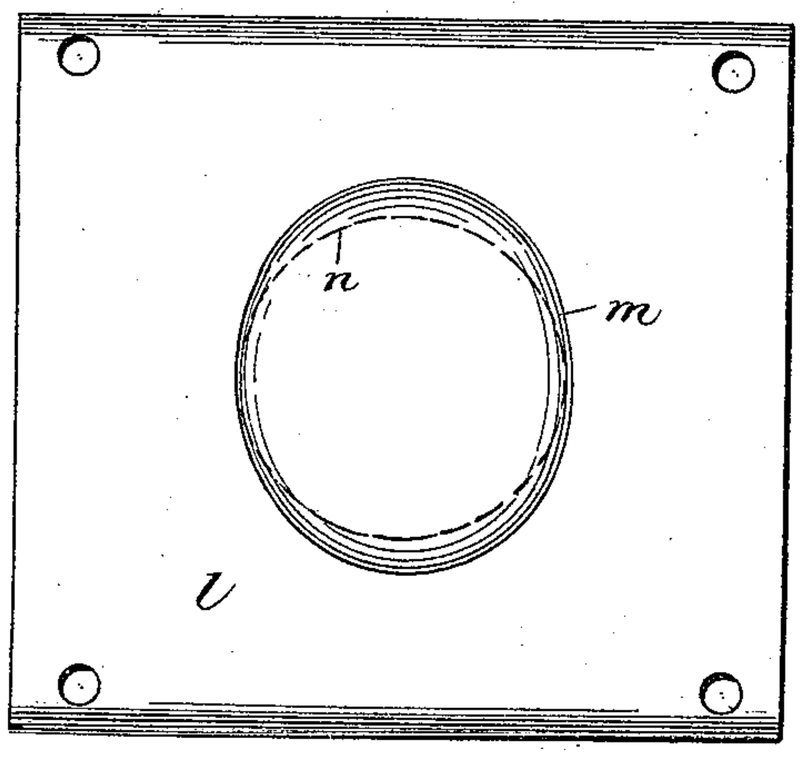


Fig. 7.



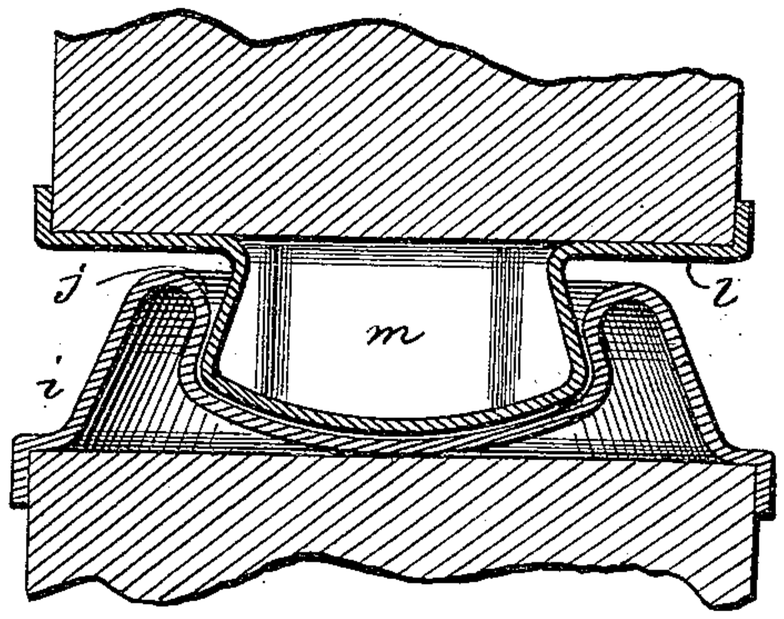


Fig. 8.

WITNESSES
F. L. Ourand.
H. Y. Davis.

INVENTOR
Charles T. Schoen
by Wm. N. Finckel.
Attorney

UNITED STATES PATENT OFFICE.

CHARLES T. SCHOEN, OF PHILADELPHIA, PENNSYLVANIA.

CENTER BEARING-PLATE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 428,527, dated May 20, 1890.

Application filed March 27, 1890. Serial No. 345,551. (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 Center Bearing-Plates for Railway-Cars, of which the following is a full, clear, and exact description.

In the use of center bearing-plates for railway-cars considerable difficulty has been experienced, more especially in freight-car service, in the breaking and bending of the king-bolts. In the pressed-steel center bearing-plates, in which the engaging-surfaces of the two plates are concave and convex, respectively, the concussions to which the plates are subjected frequently result in the deflection or bending of these surfaces, inasmuch as the king-bolt is the stronger. Now, in order to avoid these objections and to dispense with the use of king-bolts altogether, if desired, I make the plates to interlock.

The invention therefore consists of center bearing-plates, each constructed as an integer and of pressed steel and having interlocking portions, whereby the said plates and the parts to which they are attached may be connected for use, substantially as I will proceed now to describe, and then particularly claim.

In the accompanying drawings, illustrating my invention, in the several features of which like parts are similarly designated, Figure 1 is a plan view of the lower plate, and Fig. 2 is an inverted view of the upper plate. Fig. 3 is a longitudinal section taken in the plane of line 1 1, Fig. 1; and Fig. 4 is a longitudinal section taken in the plane of line 2 2, Fig. 2. Fig. 5 is a cross-section of the interlocked plates. Fig. 6 is a plan view of the lower plate. Fig. 7 is an inverted plan view of the upper plate; and Fig. 8, a cross-section of the interlocked plates, showing a modification.

The principle of the invention is embodied in a structure of pressed steel, in which one plate has a cavity or its equivalent, and the other a projection complemental to said cavity, the cavity and projection being constructed with offsets to adapt them to interlock in a given position and so secure the plates together. In Figs. 1, 3, and 5 the lower plate *a* has usual flanges *b* on the edges of its base and a saucer-like cavity *c*, this cavity being formed by elevating a portion of the stock of the plate, substantially as shown. At two or more points in this cavity the walls are deflected inwardly at the mouth to form lips *d*. The upper plate *e* is also provided with usual flanges *f* on the edges of its base and a cup or projection *g*. This cup or projection has tongues *h* complemental to the lips of the other plate and adapted to interlock with them when the plates are assembled and the projection dropped into the said cavity. As thus interlocked the two plates have all the freedom of motion necessary for service, and, moreover, the said plates are securely united, and so, also, are the parts securely connected to which the said plates are applied—namely, the body and trucks of the car. By this construction the king-bolt is dispensed with, although I do not limit my invention to interlocking or self-locking center plates which do not include a king-bolt as a connecting medium for the truck and car-body.

As shown in Figs. 1 to 5, the center bearing-plates have a flat surface contact; but, as shown in Figs. 6 to 8, the said contact-surface may be curvilinear, so as to provide for a rocking motion. In the last-named construction I may modify the form of interlocking devices—that is to say, the lower bearing-plate *i* may have the mouth *j* of its cavity made oval, with its greatest diameter in the direction of the length of the plate, while the bottom of this cavity may be made truly circular, as shown by the dotted lines *k*, and this circular portion will have a diameter equal to the greatest diameter of the oval-shaped mouth. The upper plate *l* has an oval-shaped projection *m*, whose greatest diameter extends transversely of the plate and is at the bottom of the projection, the said projection tapering thence upwardly to the body of the plate and being circular at its juncture with the plate, as shown by the dotted lines *n*. Obviously these two plates may be connected by arranging the projection on the upper plate and the cavity on the lower plate, with the greatest diameters of

their ovals parallel, and then dropping the upper plate into the lower plate, and then by a quarter-turn the two will be brought into position for use and will be securely interlocked.

I construct these interlocking center bearing-plates by striking the same up in dies or otherwise from wrought metal, and preferably plate-steel, and I use the term "pressed steel" herein as thus defined.

In constructing center bearing-plates in accordance with this invention I design that they shall be interchangeable with M. C. B. or other standards in use.

The term "offsets" is herein employed generically to designate the immediate interlocking portions of my center bearing-plates.

What I claim is—

1. As an improved article of manufacture, center bearing-plates for railway-cars, one of which has a cavity and the other a projection complemental to said cavity, the cavity and projection being constructed with offsets to adapt the plates to interlock, and each plate being an integer of pressed steel, substantially as described.

2. As an improved article of manufacture, center bearing-plates for railway-cars, constructed with bases having edge flanges, whereby they are adapted for application to the body and truck bolsters, and provided with interlocking devices of substantially the construction and arrangement set forth for uniting the said plates and the parts to which they are attached, the bases, flanges, and interlocking devices being constructed integral and in wrought metal (preferably pressed steel) by means of dies, substantially as described.

In testimony whereof I have hereunto set my hand this 26th day of March, A. D. 1890.

CHARLES T. SCHOEN.

Witnesses:
E. A. SCHOEN,
EDWARD P. HIPPLE.