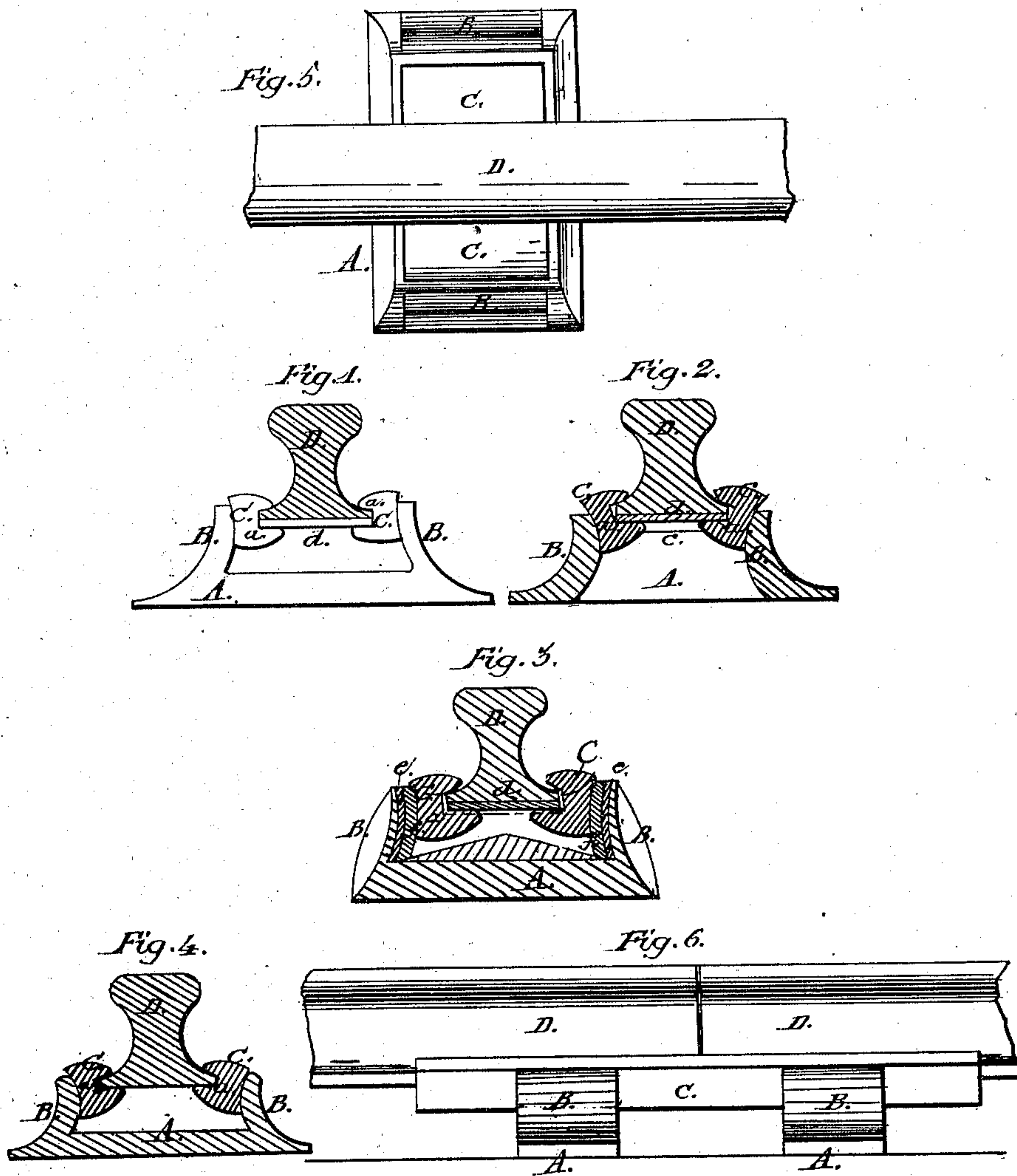


D. C. PIERCE.
RAILWAY RAIL CHAIR.

No. 95,041.

Patented Sept. 21, 1869.



Witnesses:
Geo. H. Meadley
L. A. Baker

Inventor:
D. C. Pierce.

United States Patent Office.

D. C. PIERCE, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 95,041, dated September 21, 1869; antedated September 8, 1869.

IMPROVED RAILWAY-RAIL CHAIR.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, D. C. PIERCE, of Washington, in the county of Washington, and District of Columbia, have invented new and useful Improvements in Railroad-Chairs and Fish-Joint; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention appertains, to make and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of my improved chair, applied to a rail;

Figures 2 and 3 are longitudinal sections of modifications of the same;

Figure 4 is a similar view to fig. 1, showing the flanges of the rail, resting in the jaws of the chocks, without the supporting-plate;

Figure 5 is a plan view of fig. 3; and

Figure 6 is a side elevation of my improved chair, as constituting a fish-joint.

Similar letters of reference indicate like parts in the several parts.

The object of my invention is to prevent the joints of railroad-rails from unequal deflection under the weight of passing trains, and, at the same time, to compensate for the wear and decay of the metallic surfaces brought in contact with each other, and also the contraction and expansion of the metal, under the influence of heat and cold.

It has further for its object, to produce a chair, which shall be tightened upon the flanges of the rails, under the weight of the passing trains, and, at the same time, produce a yielding and elastic joint, to prevent concussion and sudden jars.

Its object is further to form a self-locking chair or joint, which can be applied to the rail in the most simple manner, without the use of bolts and nuts, and locked in position by the weight of the first train passing over it.

The invention consists in applying the rail-supports to the chair in the arc of a circle, with convex inner surfaces on the chair, and corresponding forms of chocks.

The accompanying drawings show several different forms of reducing my invention to practice, but others might be supplied, without departing from the principles therein contained.

In fig. 1—

A is a metallic chair, either wrought or cast, with upward projecting jaws B formed in the arc of a circle.

C are the chocks or jaws, which are cut out longitudinally at *a*, to clasp the flanges of the rail D. The outer sides of these chocks are curved transversely, to

correspond with the curvature of the inner faces of the jaws B of the chair.

The chocks C are applied to the chair in such a manner as to hold the flanges of the rail above the centre of the circle described by the jaws B, and the lower sides of the chocks should be raised above the base of the chair a corresponding distance, whereby, as the rails are depressed by the weight of a passing train, the chocks will move toward each other until the flanges of the rail are in line with the centre of the circle, at which point the chocks, following the curvature of the chair, will have their lower edges directed outward or away from each other, and their upper ribs or jaws C toward each other, and resting upon the upper side of the flanges of the rail, which is thus clamped firmly in position.

It will be observed that the chocks move at both ends equally, and that consequently, when the weight of the train is upon one rail only, or between the ties, such weight is communicated to all parts of the chocks alike, causing them to deflect the ends of the rail equally, and to prevent the blows of the car-wheels breaking and destroying them.

When the chocks are first applied, they are slipped over the flanges of the rail and dropped into the chair, the first train passing over them will lock them firmly in position, and as they move in a circular direction, they can be displaced only by wedging them from underneath, the wearing of the metallic surfaces, instead of loosening the chocks, and rendering the chair worthless, will produce more perfect contact, and as the chocks and chair move together, the injury usually resulting from expansion and contraction, under different temperatures, is avoided.

In some instances the flanges of old rails are somewhat broken, or otherwise weakened, and to furnish a firm and strong bearing-surface upon the lower jaws of the chocks, it may be found desirable to insert a metal plate, *d*, beneath the rail fitting within the chocks, as shown in figs. 1, 2, and 3, or the chocks may be extended over each side of the chair, thereby increasing the bearing-surfaces of the rail-flanges. This, however, is not absolutely necessary.

Fig. 2 shows a modification of the chair, strengthened by raised sides *e*, and with its centre removed.

Fig. 3 is another modification, formed with a solid base, and with raised sides.

In this modification, strips of wood, *e*, or other elastic material are inserted between the curved inner faces of the jaws B and loose curved plates *f*, for the purpose of imparting greater elasticity to the chair.

Fig. 6 shows my invention applied to fish-joints. In this case the chocks are made of sufficient length

to extend from one tie to the other, upon which the chairs are placed, in order to connect the ends of the rails between the ties.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. A railway chair, having inner convex surfaces, and chocks with corresponding concavities, all constructed and operating together substantially as described, and for the purposes set forth.

2. In combination with such chair, a bearing-plate, applied and operating substantially as described, and for the purposes set forth.

3. In like combination, elastic packing, applied and operating substantially as described, and for the purposes set forth.

D. C. PIERCE.

Witnesses:

L. J. FARWELL,
GEO. A. MATILE.