J. C. EGGLESTON.
Switch-Chair.

No. 207,408. Patented Aug. 27, 1878.

Fig. 1.

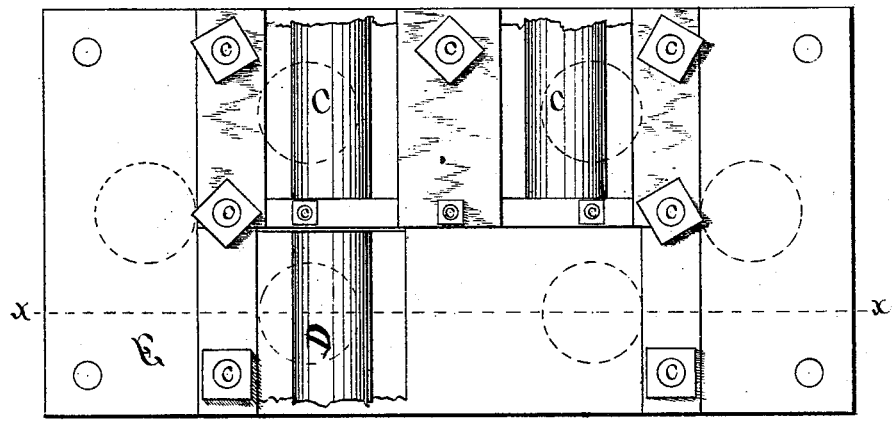
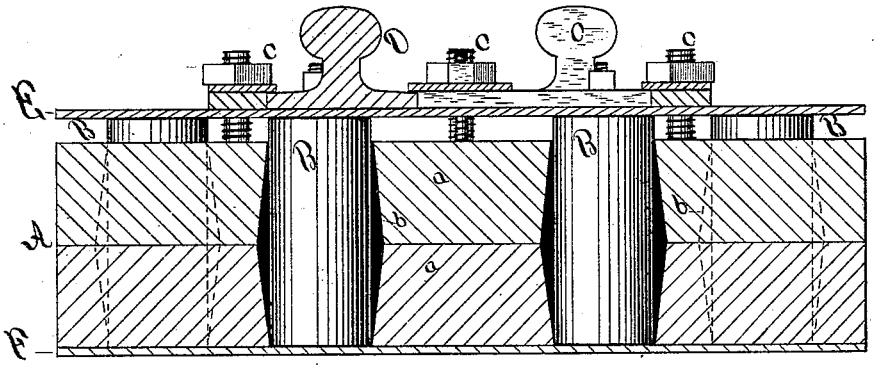


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN C. EGGLESTON, OF WATERBURY, CONNECTICUT.

IMPROVEMENT IN SWITCH-CHAIRS.

Specification forming part of Letters Patent No. **207,408**, dated August 27, 1878; application filed April 15, 1878.

To all whom it may concern:

Be it known that I, JOHN C. EGGLESTON, of Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Railway-Switch Chairs, of which the following is a specification:

The object of my invention is to relieve the switch-chair and ends of the rails resting thereon from violent concussions, thereby saving the rails from soon becoming battered and broken.

Prior to my invention, and having the same object in view, rubber cushions of sheet-rubber, of the full size of the chair-plate above the cushion, have been used in switch-chairs and in rail-chairs generally; but most of these chairs are believed to have been impracticable, or not sufficiently elastic to be of any substantial value.

Spiral springs under a rail-chair are shown in English Patent No. 2,384 of 1866.

My invention consists in the combination, in a switch or rail chair, of the following elements, viz: first, the head-block, having cushion-chambers formed therein, larger in their interior than at their top and bottom; second, rubber piers or cushions of the same form in horizontal section as said chambers in the head-block, and supported laterally by the walls of said chamber, within which they rest and above which they project; and, third, the switch-chair resting upon the ends of said rubber piers, all as hereinafter described; also, in the divided block, having tapering holes in each half, which form enlarged chambers, in combination with the cushions filling only the ends of said chambers when relieved from pressure, as hereinafter described.

In the accompanying drawing, Figure 1 is a top view of a switch-chair which embodies my invention, and Fig. 2 is a vertical section of the same on line *x x* of Fig. 1.

A designates the head-block, made in two halves, *a a*, with round tapering holes in them, and put together with the small ends of the holes on the outside, so as to form enlarged chambers *b* within the head-block. Cylindrical cushions or blocks B of rubber are placed in said chambers, the same being of a size to fill the small ends of the holes in each half *a* of the head-block, and of a length to project upward slightly above the top of said head-block, as shown in Fig. 2, the broken lines in said figure indicating the enlarged chambers and cylindrical cushions back of the plane of section.

The broken circles in Fig. 1 indicate the position of the several cushions, two of which are under the fixed rails C C, and two under the alternate seats of the switch-rail D, and one on each side, outside of either rail-seat.

E designates the switch-chair, resting upon the ends of the cushions, slightly above the block, as shown, and to which the several rails may be connected in any ordinary manner. Upon the under side of the block A is a plate, F. Bolts *c* secure the whole together.

The head-block A will, of course, be mounted upon and fixed to another block or bed, in any ordinary manner.

When the weight of the train is thrown upon the chair E the rubber cushions are depressed, and, if the weight is sufficient, the chair may yield until it rests upon the top of the block, thereby lessening the concussion, and at the same time not compressing the rubber to such an extent as to destroy its elasticity. This is caused by placing the rubber in piers extending through the head-block, instead of in a sheet under the whole chair, thereby increasing the depth of rubber without giving it too much bulk.

By making the enlarged chamber in the head-block and placing a straight-sided cushion therein, which fits the ends only of said chamber, there is room for the rubber to expand and draw down into the chamber, instead of spreading out at the top and being unduly compressed between the top of the block and chair. It also relieves the block from the severe strain that would be caused by the compression of the cushions within a straight-sided hole. The enlarged portion of the chambers also support the rubber after it has been compressed to a certain degree, and prevents it from bursting or cracking.

My improvement is also applicable to rail-chairs generally, as well as to switch-chairs.

The spiral metallic spring hereinbefore referred to is not the equivalent, in my combination, of my rubber spring, because my invention

is designed not merely to furnish an elastic cushion, but to provide means whereby the employment of rubber or equivalent gum may be rendered practical and efficient.

I claim as my invention—

1. In a switch or rail chair, the combination of the following elements, viz: first, the head-block having cushion-chambers formed therein larger in their interior than at their top and bottom; second, rubber piers or cushions of the same form in horizontal section as said chambers in the head-block, and supported laterally by the walls of said chamber, within which they rest and above which they project; and, third, the switch-chair resting upon the ends of said rubber piers, all substantially as described, and for the purpose specified.

2. In a switch or rail chair, the divided head-block, having tapering holes in each half, with their largest ends facing each other and forming enlarged chambers, in combination with the elastic cushion filling only the ends of said chambers when relieved from pressure, substantially as described, and for the purpose specified.

JOHN C. EGGLESTON.

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