2 Sheets—Sheet 1.

S. H. HAVENS.

Chair for Switch-Rails.

No. 199,155. **Patented Jan. 15, 1878.**

Fig. 1.

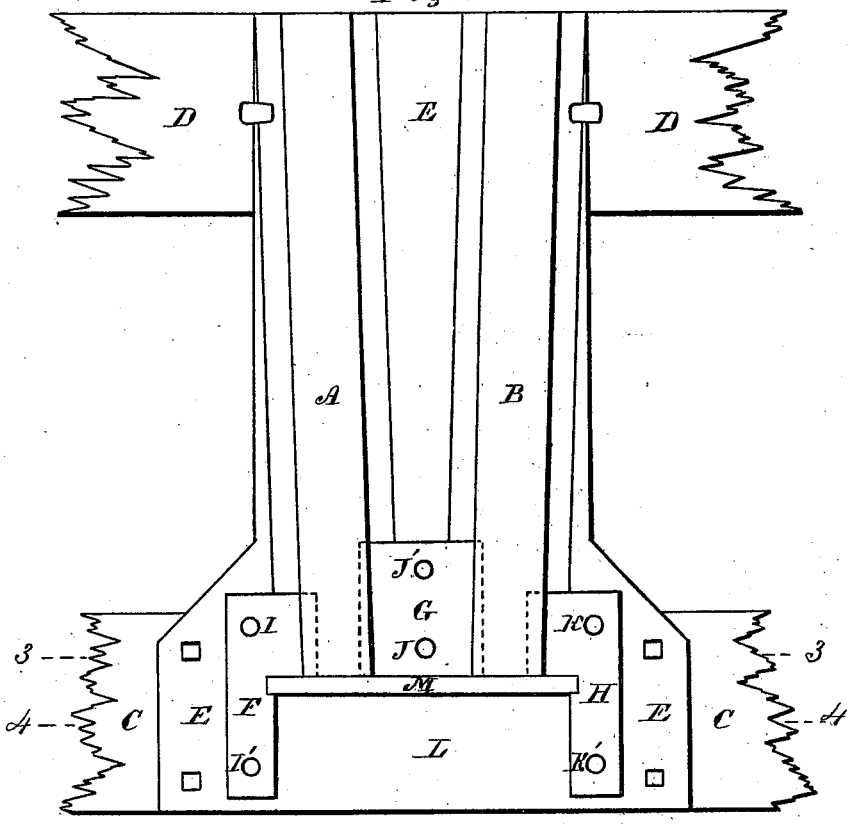
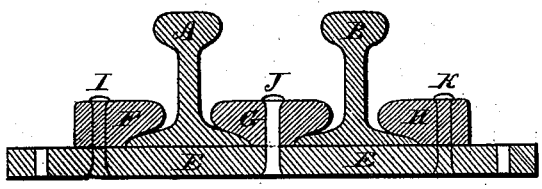


Fig. 3.



Witnesses.

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Inventor.

Samuel H. Havens

by Theo. G. Ellis, Attorney

2 Sheets—Sheet 2.

S. H. HAVENS.

Chair for Switch-Rails.

No. 199,155. **Patented Jan. 15, 1878.**

Fig. 2.

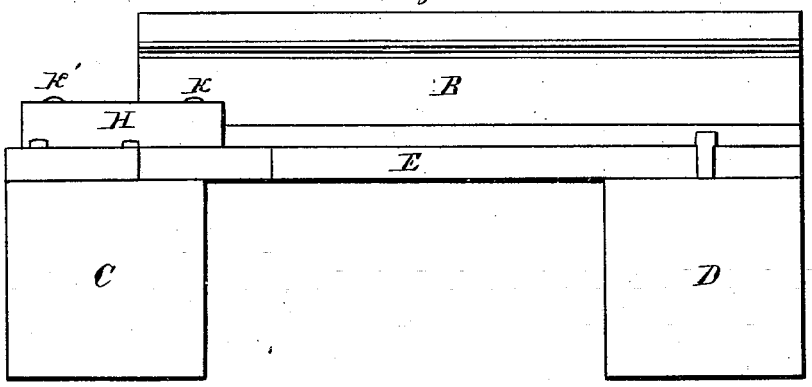


Fig. 4.

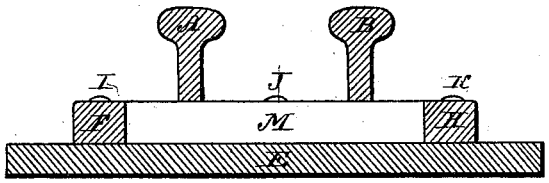
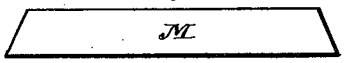


Fig. 5.



Witnesses.

John L. Peters

Willard Eddy.

Inventor.

Samuel H. Havens

by Theo. G. Ellis, Attorney

UNITED STATES PATENT OFFICE.

SAMUEL H. HAVENS, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN CHAIRS FOR SWITCH-RAILS.

Specification forming part of Letters Patent No. **199,155**, dated January 15, 1878; application filed November 20, 1877.

To all whom it may concern:

Be it known that I, SAMUEL H. HAVENS, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Head-Blocks for Railway-Switches; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My improvement relates to head-blocks that are used at the movable end of switches upon railways for the purpose of holding and securing in place the ends of the rails of the main and branch lines, and which also serve as a rest and slide for the free end of the switch-rail.

The head-blocks now commonly used upon railways are made of cast metal, and are placed upon and secured to the head-block timber by means of spikes. The ends of the rails enter upon one side, passing under lugs, to hold them in place, while on the opposite side, including about one-half of the width of the head-block, is the open slide, upon which the end of the switch-rail moves back and forth.

With head-blocks of this construction there is always a considerable rocking motion as trains pass over the switch, which causes the wheel of the car to strike forcibly against the end of the rail as it passes over, and thus occasion a jarring motion to the car, as well as rapidly battering and wearing the ends of the rails.

The object of my invention is to remedy the defects in the head-blocks now in ordinary use; and my invention consists in the construction and arrangement that will be hereinafter described.

In the accompanying drawings, on two sheets, Figure 1 shows a top view of my improved head-block. Fig. 2 shows a side view of the same. Fig. 3 is a cross-section upon the line 3 3 of Fig. 1. Fig. 4 is a cross-section upon the line 4 4 of Fig. 1, showing the ends of the rails and partition beyond. Fig. 5 is a detached view of the partition between the ends of the rails and the switch-seat.

A and B are the end rails of the main and branch tracks. C is the usual head-block timber. D is the first tie or sleeper for supporting the rails back from the head-block timber. E is the base-plate of my improved head-block. This base-plate rests upon the head-block timber, and extends across the space between the two timbers C and D, and rests upon the tie D, so as to be spiked down together with the rails which bear upon it. The bottom flanges of the rails A and B lie flat upon this base-plate, and are supported by it over the whole length between the timbers C and D.

F, G, and H are lugs, for the purpose of holding the rails A and B in position. F and H also serve the purpose of forming the ends of the seat L, upon which the free end of the switch-bar moves, so as to be opposite either A or B. These lugs are secured to the base-plate E by means of the rivets I I′ J J′ K K′, as shown in the drawings.

M is a partition, forming part of the head-block, and lying between the ends of the rails A and B and the movable end of the switch-bar. It is firmly secured in the head-block by having its ends, which are made of a dovetail form, as shown in Fig. 5, clipped down by the lugs F and H. The ends of the rails abut against this partition, and are prevented by it from moving forward and interfering with the action of the switch-bar.

The parts of my improved head-block are intended to be made of wrought-iron or steel, although my improvements are, to a certain degree, applicable to head-blocks made from cast metal.

By means of my invention a head-block is provided which will not rock nor become displaced, and in which the ends of the rails do not work loose, as is the case with those now in use. The ends of the rails being held firmly opposite the switch-bar while trains are moving over them, the cars move much more smoothly, and the rails are preserved from injury by battering, which takes place when the ends are out of line.

What I claim as my invention is—

1. A head-block in which the base-plate ex-

tends from the usual head-block timber back to the next tie which supports the rails, to prevent the head-block from rocking, and to give a firm seat for the rails, substantially as herein set forth.

2. The combination of the base-plate E and the lugs F G H, riveted to it to form a head-block for a railway-switch, substantially as herein described.

SAMUEL H. HAVENS.

Witnesses:
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THEO. G. ELLIS.