

No. 693,754.

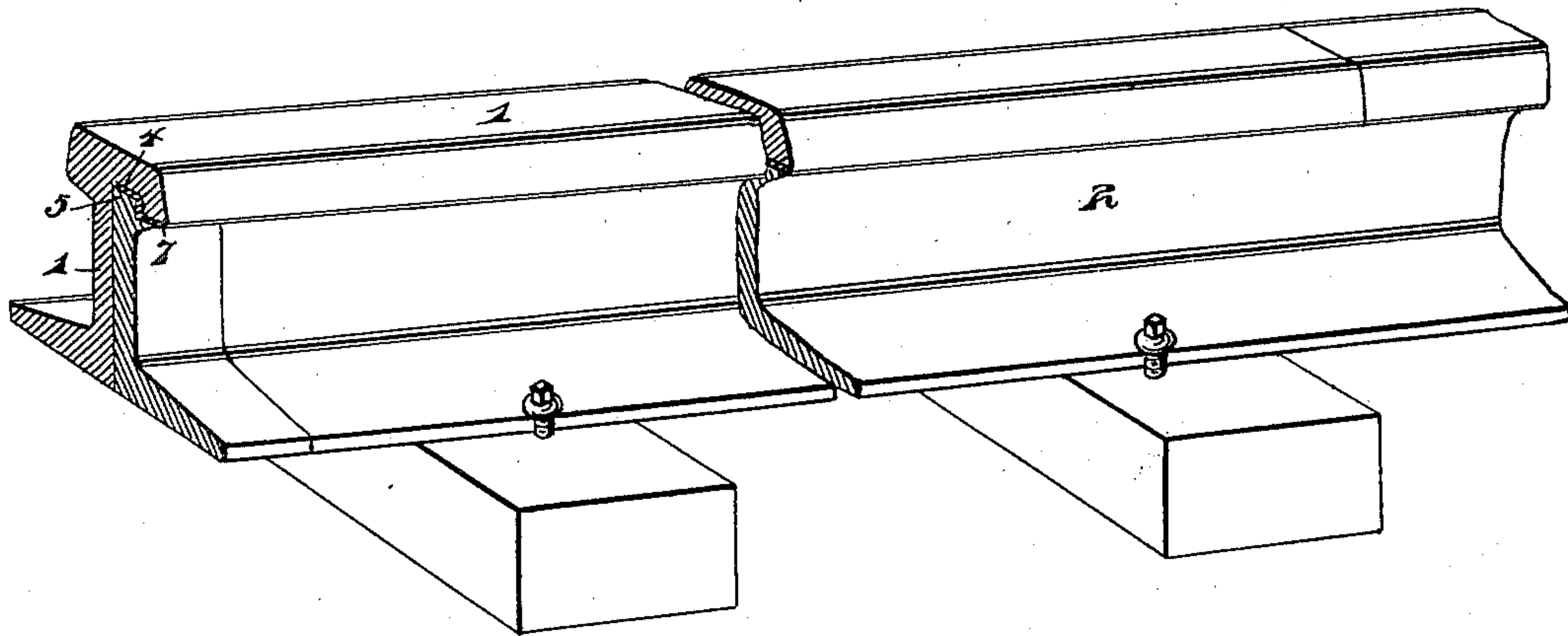
Patented Feb. 18, 1902.

E. G. STEIN.  
COMPOUND RAIL.

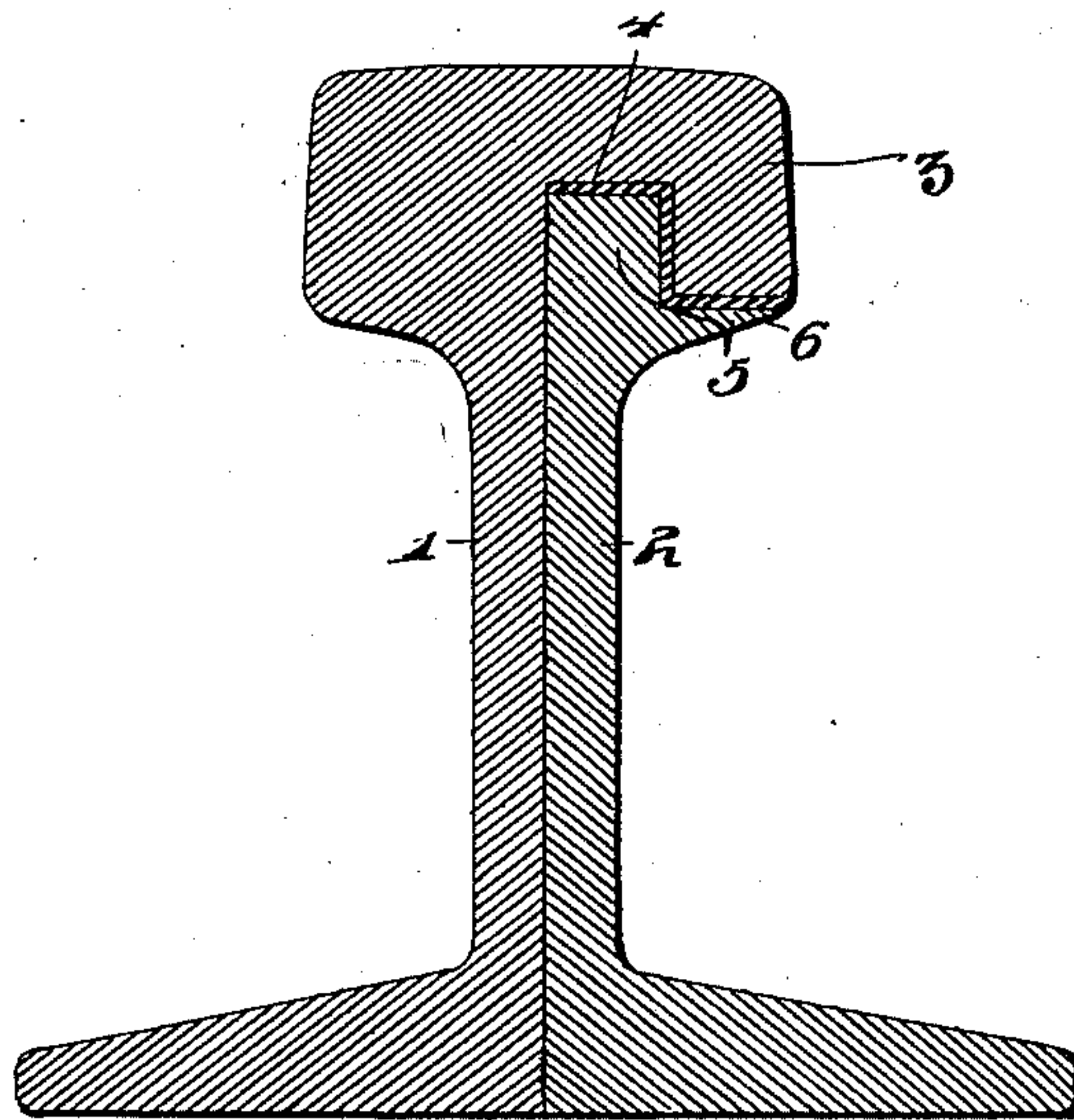
(Application filed Oct. 28, 1901.)

(No Model.)

*Fig. 1.*



*Fig. 2.*



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# UNITED STATES PATENT OFFICE.

EMIL G. STEIN, OF PITTSBURG, PENNSYLVANIA.

## COMPOUND RAIL.

SPECIFICATION forming part of Letters Patent No. 693,754, dated February 18, 1902.

Application filed October 28, 1901. Serial No. 80,235. (No model.)

*To all whom it may concern:*

Be it known that I, EMIL G. STEIN, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Compound Rails, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in compound rails, and has for its object to construct a rail, such as is used in the construction of railroads, in two sections, which match together to form the complete rail, these sections being so matched together that there will be no joint in the rails at any point that extends from top to bottom of the rail, and thus obviating low or battered joints in the track.

Briefly described, my invention consists in constructing the rail in two sections, the base of the rail being divided equally on each section, but the tread being carried largely by one section and overlapping over the other section. In the joint between the two sections, where the tread of one section overlaps onto the other section, I preferably place a lining, of lead or like material, forming a cushion and effecting a close joint between the two sections. All of this construction will be hereinafter more specifically described and then particularly pointed out in the claims, and in describing the invention in detail reference will be had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a detail perspective view of a portion of my improved rail in position on the cross-ties. Fig. 2 is a transverse vertical sectional view of the rail.

I construct my improved rail of two sections or parts 1 and 2. The web and base of the rail are divided equally, so that half the web and half the base is integral with each section. The section 1 of the rail, however, carries the tread 3, and this tread 3 is provided in its underneath face with a groove 4, having right-angular walls, which receives the flange 5 of a like form on the upper edge of the web of the section 2. This web of the section 2 also carries an outwardly-projecting

flange 6, having a flat upper face, upon which the lower face of part of the tread rests. The joint between the section 2 and the tread carried by the section 1 is somewhat Z-shaped, and placed in this joint is a cushioning lining of lead, as at 7, which insures a perfectly neat fit and perfect joint between the two sections. In practice the sections are overlapped or stepped, so as to form a continuous rail, there being no joint extending from the top of the tread to the base of the rail.

I preferably fasten the rails to the ties 8 by screw-bolts 9, the heads of which have flanges of sufficient width to impinge upon the upper face of the rail-base, as shown in Fig. 1.

With this construction it will be observed that all fish-plates and nuts and bolts are dispensed with, and in practice I preferably employ screw-bolts of a length greater than the ordinary spikes employed, so as to give more hold with the ties. The rails by reason of there being no holes through the same are materially strengthened, and in matching the sections together sufficient space may be left between the ends to allow for expansion and contraction.

It will be noted also that in construction various changes may be made in the details of construction without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A compound rail comprising two sections having equal web and base sections with the web and base sections having flat plain inner engaging faces, the entire tread being carried by one of said sections and having a groove with right-angular walls formed on its under face, the other of said sections carrying a web having right-angular walls for engagement in said groove, an outwardly-projecting flange carried by the said last-named section below said flange, and a filling of lead between the walls of both said flanges and the tread of the rail, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

EMIL G. STEIN.

Witnesses:

A. M. WILSON,  
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