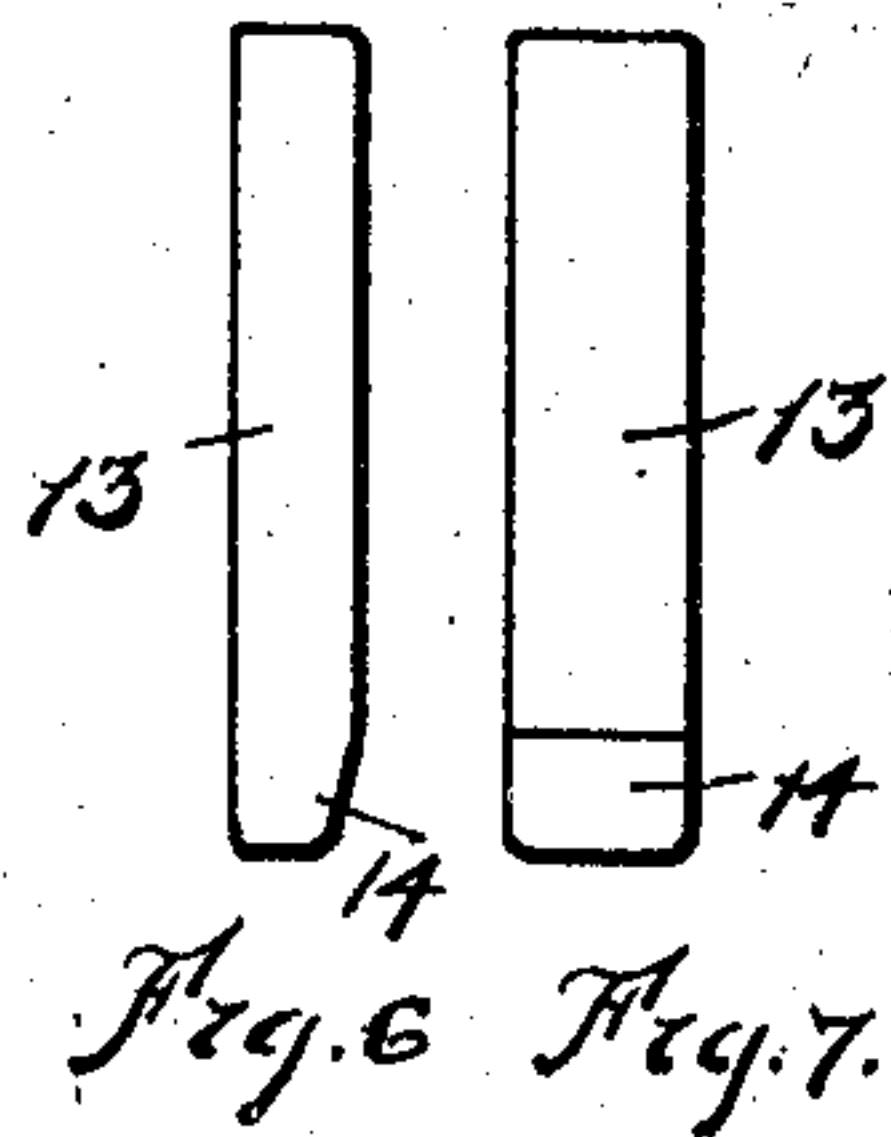
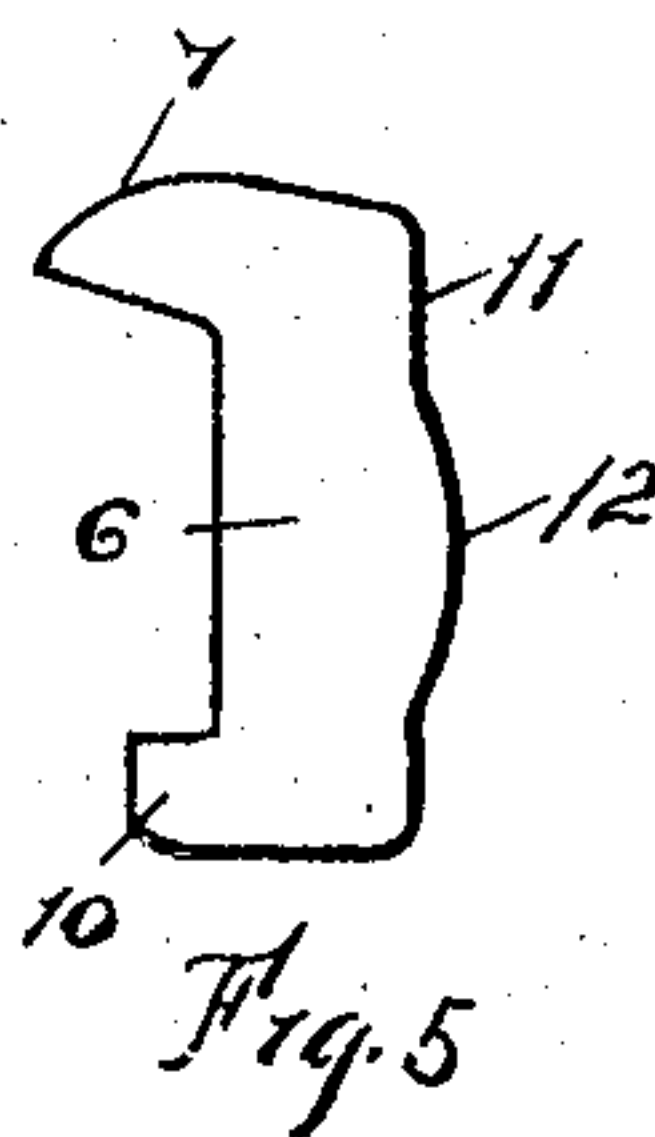
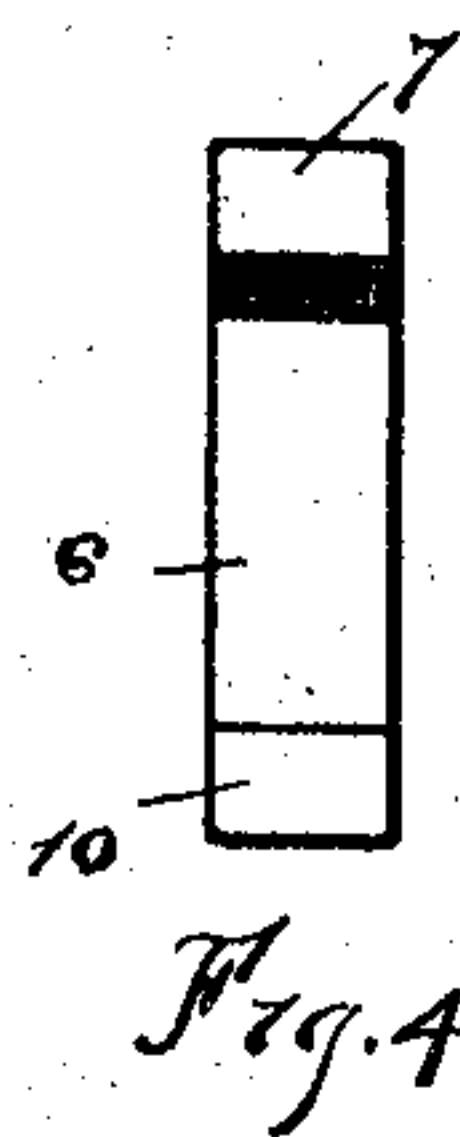
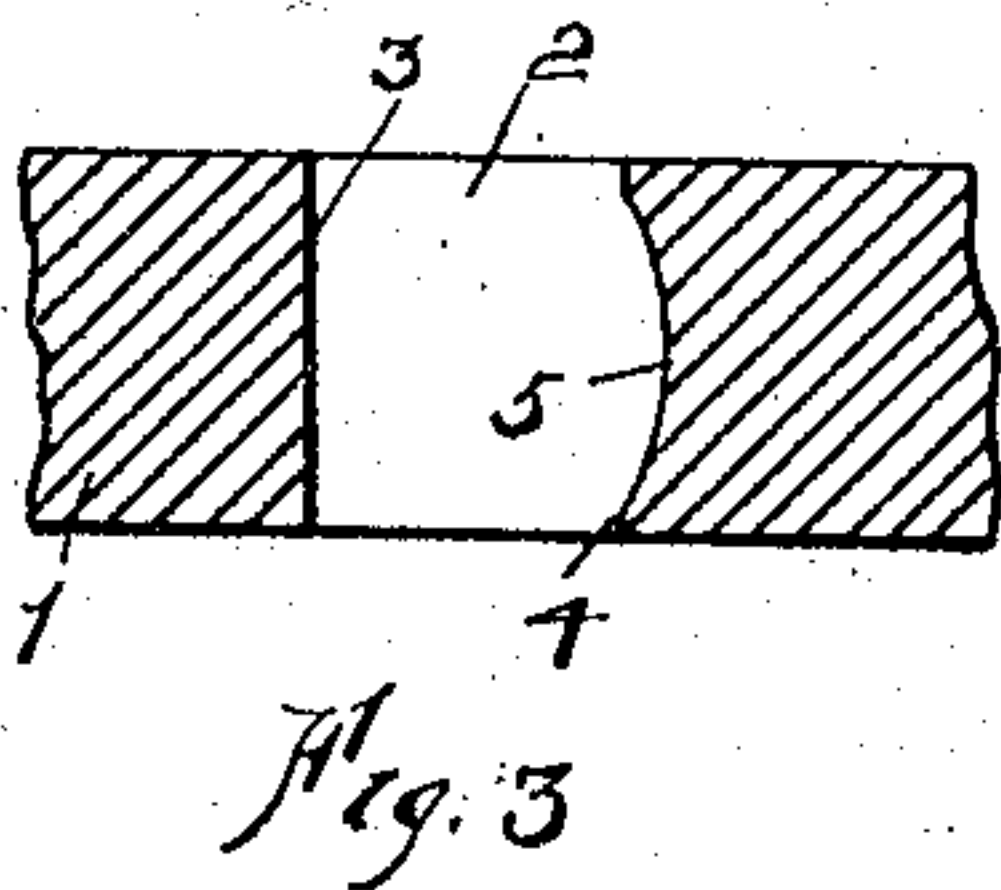
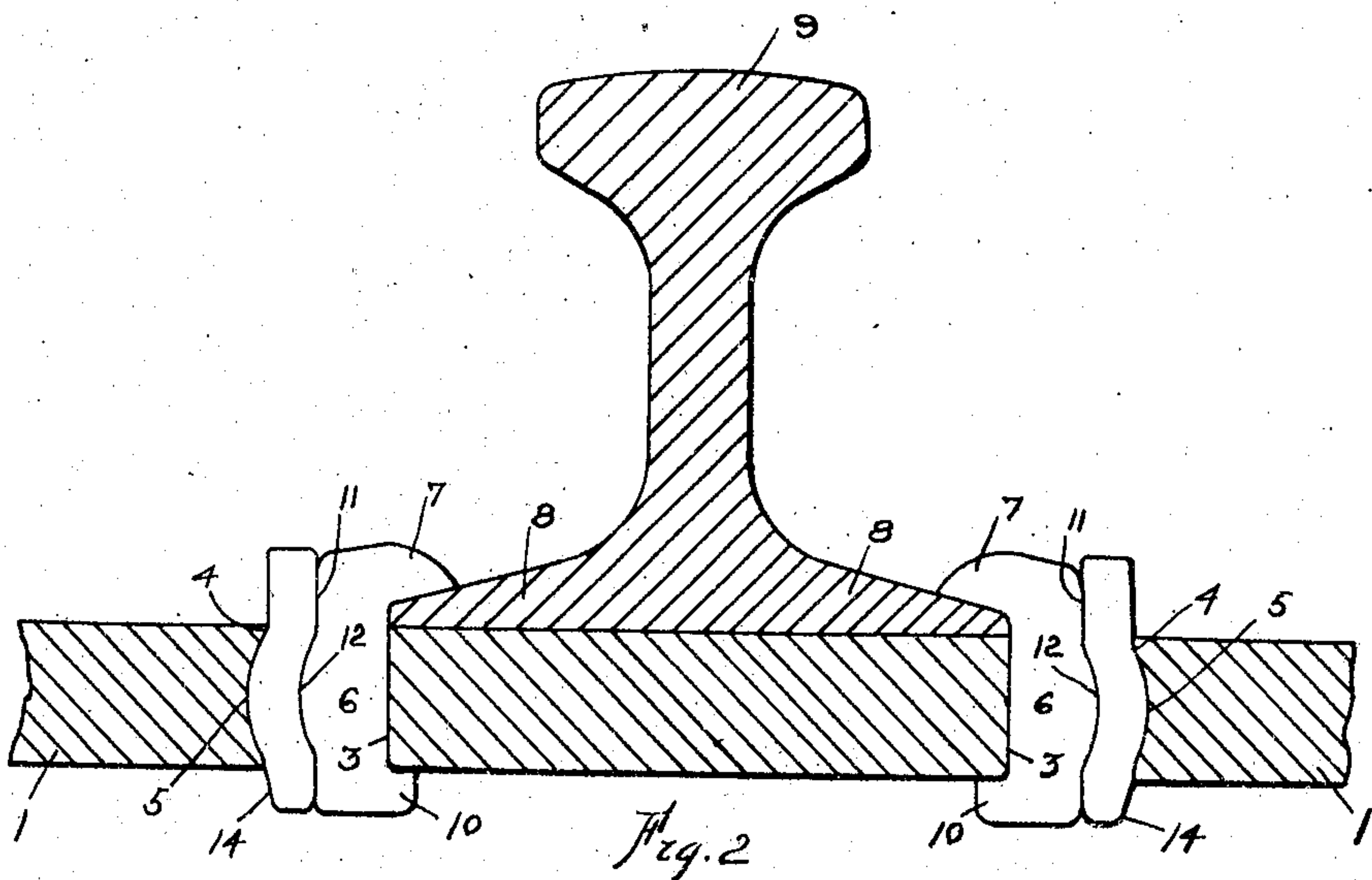
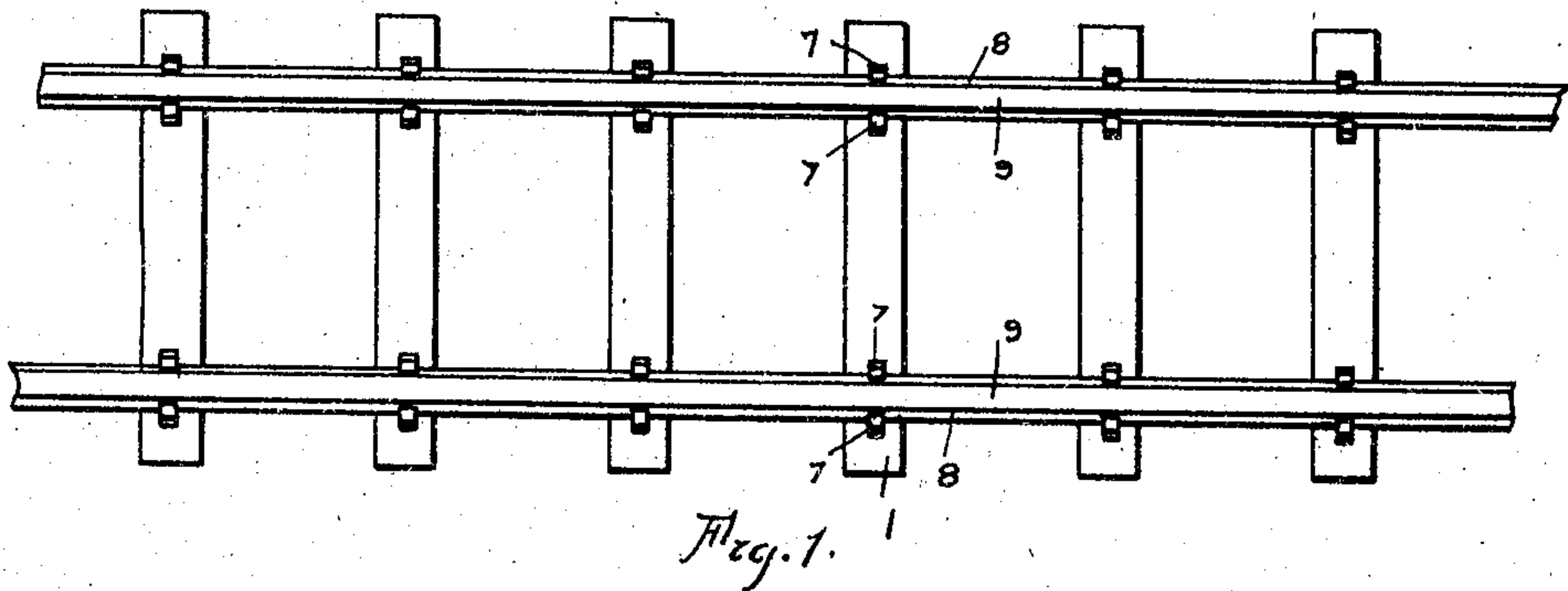


No. 768,243.

PATENTED AUG. 23, 1904.

G. W. SMITH.
RAILWAY RAIL FASTENER.
APPLICATION FILED MAR. 14, 1904.

NO MODEL.



WITNESSES
H. M. Dawley.
A. J. Reid

INVENTOR
GEORGE W. SMITH
BY W. T. Miller
ATTORNEY

UNITED STATES PATENT OFFICE.

GEORGE W. SMITH, OF BUFFALO, NEW YORK.

RAILWAY-RAIL FASTENER.

SPECIFICATION forming part of Letters Patent No. 768,243, dated August 23, 1904.

Application filed March 14, 1904. Serial No. 197,944. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SMITH, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Railway-Rail Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in that class of devices which are employed to secure the railway-rails to the cross-ties, and particularly to that class of construction which involves the use of metal cross-ties.

The object of my invention is to provide improved means by which the rails may be quickly and readily secured to the metal cross-ties and held firmly and securely in such position against the jarring effect produced by heavy loads in transit.

To that end my invention consists of certain details of construction and arrangement, all of which will be fully hereinafter described and claimed.

In the drawings, Figure 1 is a top plan view of a section of track, showing the application of my improved device. Fig. 2 is an enlarged vertical cross-section of the rail, illustrating its attachment to the metal cross-tie. Fig. 3 is a partial vertical longitudinal section of the metal cross-tie, showing the aperture for the reception of the fastening device. Figs. 4 and 5 are end and side elevations of the clamp, and Figs. 6 and 7 similar views of the locking-wedge.

Referring to the drawings, 1 is the metal cross-tie, preferably of rectangular configuration. Each tie is provided with twin apertures at each end for the reception of the fastening device, which is applied to the opposite flanges on each of the rails. This aperture is shown in detail in Figs. 2 and 3 and consists of two side walls 2 and one end wall 3, which are vertical, the fourth wall 4 being more or less concave, as at 5.

The clamp consists of the shank 6, having the upper lip 7, adapted for engagement with the flange 8 of the rail 9, and the lower lip 10, somewhat shorter than the upper lip 7 and adapted for engagement with the under surface of the metal cross-tie 1. The outer face 11 of the shank 6 is more or less convexed, as at 12, such convexity being made to correspond in configuration and position with the concavity 5 of the wall 4 of the aperture in the metal cross-tie.

The remaining part of my improved device is the locking-wedge 13 of the same thickness as the clamp and preferably rectangular in configuration. Its lower end is beveled, as at 14. It is preferable to make this locking-wedge 13 of malleable iron.

In assembling the different parts to lock the rail upon the tie the lower end of the clamp, with its lip 10, is passed down through the aperture in the tie, which aperture must be of sufficient length to permit of the easy downward passage of the lip 10. The straight inner side of the shank 6 lies snugly against the inner vertical wall 3 of the aperture, and the convexed face 12 of shank 6 lies opposite the concaved wall 4 5 of the aperture, thus producing a curved passage for the locking reception of the wedge 13. The beveled end 14 of this wedge 13 is inserted in the passage and driven down through, thereby causing it to assume the curve of the passage, thus rigidly locking the clamp 6 in engaging position with the rail and tie, as shown.

As will be seen, my improved fastening device is so arranged and applied as to preclude all possibility of the dislodgment of the clamp through the vibration of parts caused by heavy loads in transit. It is impossible to remove the locking-wedge in an upward direction. In order to release the rail from the tie, it is necessary to drive the wedge down through its passage until it is entirely free.

I claim—

The combination with the metal cross-tie provided with the aperture having three vertical and one concaved wall, of a clamp having upper and lower lips for respective engagement with the rail-flange and the under surface of the metal cross-tie and having its outer

face convexed to conform in configuration and
position with the concaved wall of the aper-
ture in the metal cross-tie and a locking-wedge
adapted for insertion between the convexed
5 face of the clamp and the concaved face of the
aperture substantially as and for the purpose
stated.

In testimony whereof I have signed my name
to this specification in the presence of two sub-
scribing witnesses.

GEORGE W. SMITH.

Witnesses:

W. F. PFAFF,

W. T. MILLER.