

No. 725,304.

PATENTED APR. 14, 1903.

D. M. WATSON.  
RAIL BRACE.

APPLICATION FILED SEPT. 11, 1902.

NO MODEL.

Fig. 1.

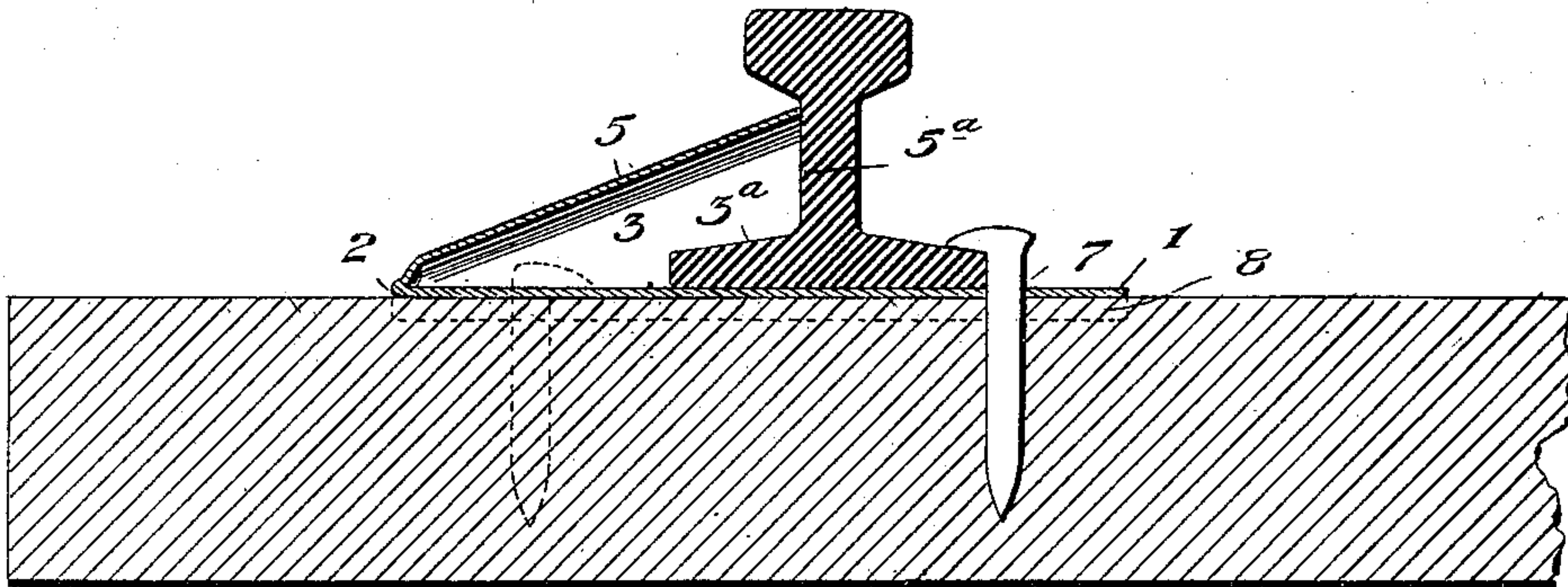


Fig. 2.

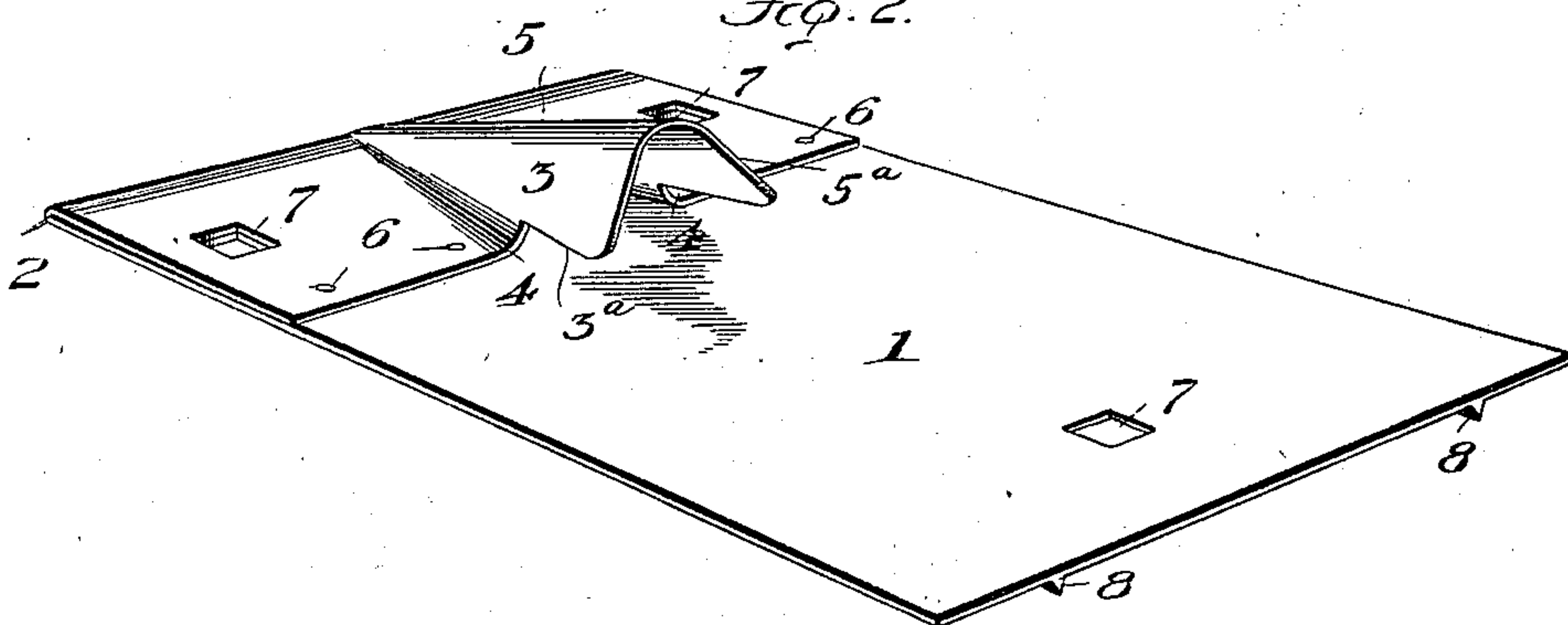
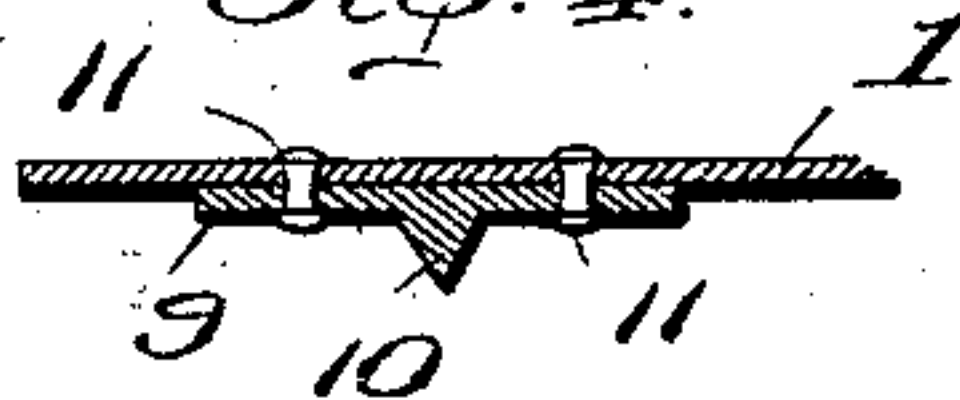


Fig. 3.



Fig. 4.



Witnesses -

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By *J. K. Mock.*  
Att'y.



# UNITED STATES PATENT OFFICE.

DANIEL M. WATSON, OF PORTLAND, OREGON.

## RAIL-BRACE.

SPECIFICATION forming part of Letters Patent No. 725,304, dated April 14, 1903.

Application filed September 11, 1902. Serial No. 122,952. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL M. WATSON, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Rail-Braces; 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.

My invention relates to improvements in rail-braces, and has for its object to provide a brace and tie-plate composed of a single member. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 shows my improvement applied. Fig. 2 shows my improved brace in perspective. Fig. 3 is a sectional view showing a strengthening-bead. Fig. 4 is a modification of Fig. 3.

In the drawings, 1 represents the plate of my device doubled back upon itself at 2 to form the brace, with the central portion raised, beginning at the end of the plate and continuing to rise to its extremity, where it reaches the head of the rail, the sides of the brace thus formed resting firmly upon the plate where it is secured. The elevated portion 3 of the brace expands laterally as it approaches its extremity, and it projects beyond the base of the brace, with its depending sides 3<sup>a</sup> fitting over the base of the rail and its end 5<sup>a</sup> bearing against the web thereof. The base of the brace, together with the projecting portion, form a shoulder 4, against which the base of the rail bears.

With the brace formed as above described pressure will be exerted along the line 5 toward the end thereof, as well as toward either side, whereby the strain will be distributed equally throughout the brace, thereby giving it the greatest possible strength.

If preferred, the brace might be struck up, beginning at the sides thereof and contracted toward its extremity, which would otherwise be formed as above described, though I prefer the form shown in Fig. 2.

The base of the brace at its free end may be secured to the tie-plate by rivets 6, and the entire brace is held in place by the ordinary spikes driven through the openings 7.

My brace may be formed by casting or worked from wrought-iron or otherwise, as may be desired. When formed of thin material, the necessary strength may be obtained in the plate by providing the bead 8 (shown integrally in Figs. 2 and 3) or by adding the plate 9, held in place by the rivets 11, on which plate is formed the bead 10.

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

1. In a rail-brace, a plate adapted to receive a rail thereon, said plate being doubled upon itself to form a brace integral therewith, the sides of said brace being secured to said plate and the central portion thereof being raised gradually from the end of the plate and extended beyond the base of the brace, the depending sides of said extended portion being adapted to rest upon the base of the rail, with its end adapted to rest against the web thereof, substantially as specified.

2. In a rail-brace, a plate adapted to receive a rail thereon, said plate having strengthening-pieces on its lower side, and being doubled upon itself to form a brace integral therewith, the sides of said brace being secured to said plate and the central portion thereof being raised gradually from the end of the plate and extended beyond the base of the brace the depending sides of said extended portion being adapted to rest upon the base of the rail, with its end adapted to rest against the web thereof, substantially as specified.

3. A rail-brace comprising a plate adapted to receive a rail thereon, said plate being doubled upon itself to form a brace integral therewith, the sides of the brace being secured to the plate and its central portion being raised obliquely from the end of the plate and expanding laterally to the end of said brace, the end of the base thereof forming a shoulder against which the base of the rail is adapted to rest and the raised portion of said brace being extended, with its sides adapted to embrace the base of the rail and its end being adapted to engage the web of the rail from the base to the tread thereof, substantially as specified.

4. A rail-brace and tie-plate combined, comprising the plate 1, having strengthen-

ing-pieces 8 and the brace 3 formed integral therewith, the sides thereof being secured to the plate and forming the shoulder 4, the central portion of the brace being raised and projected beyond its base, whereby its sides 3<sup>a</sup> are adapted to engage the base of the rail and its upper portion 5 the tread thereof, and the end of said projected portion having a bearing

against the web of the rail, substantially as specified.

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

DANIEL M. WATSON.

Witnesses:

H. B. ADAMS,

D. M. DONAUGH.