

No. 702,468.

Patented June 17, 1902.

W. A. PAINE.

RAIL JOINT.

(Application filed Dec. 31, 1901.)

(No Model.)

Fig. 1.

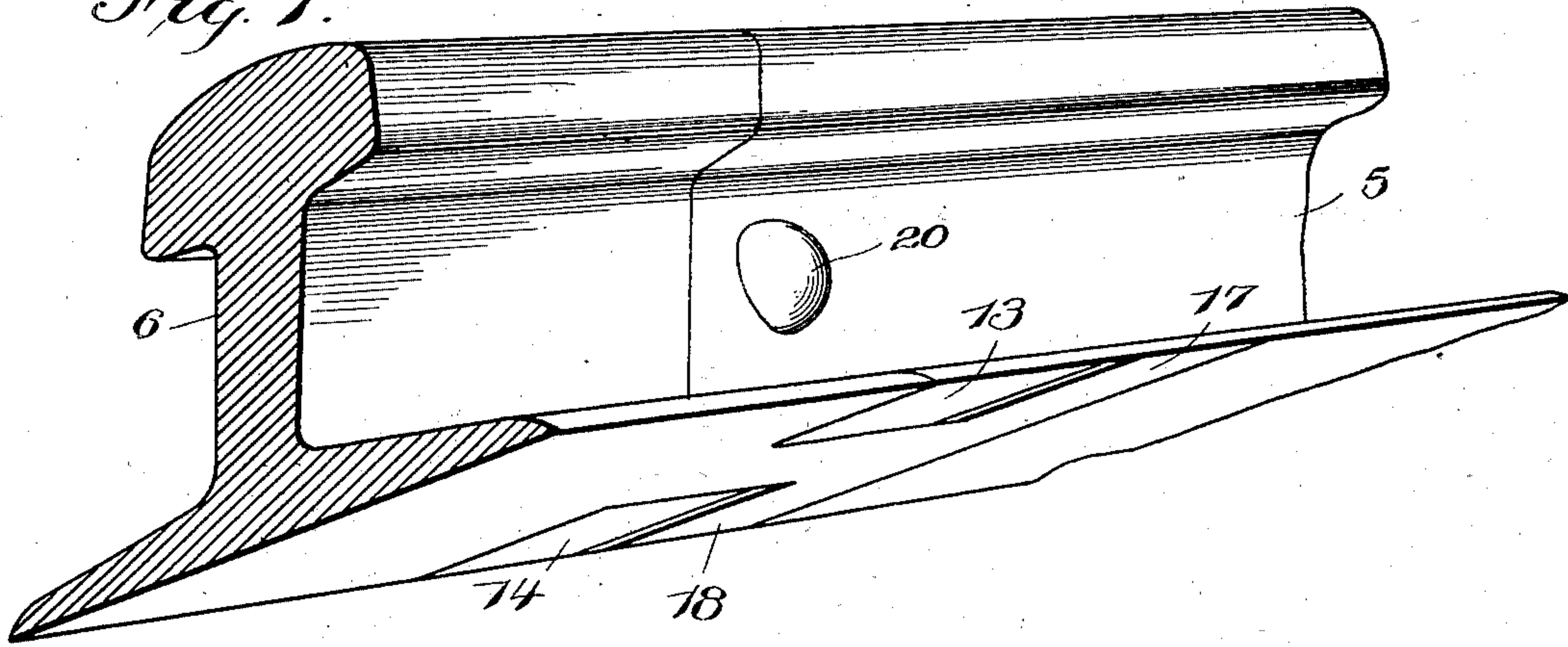


Fig. 2.

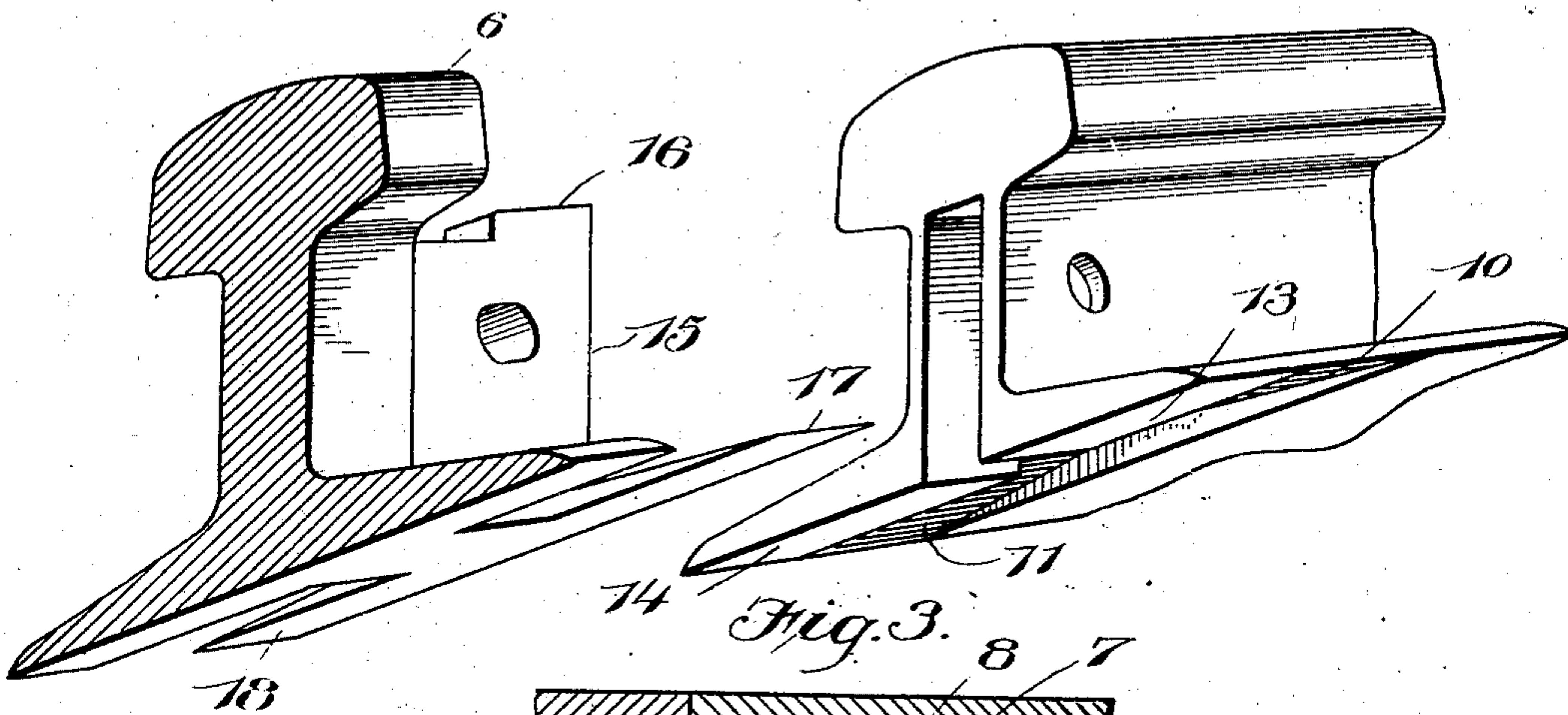
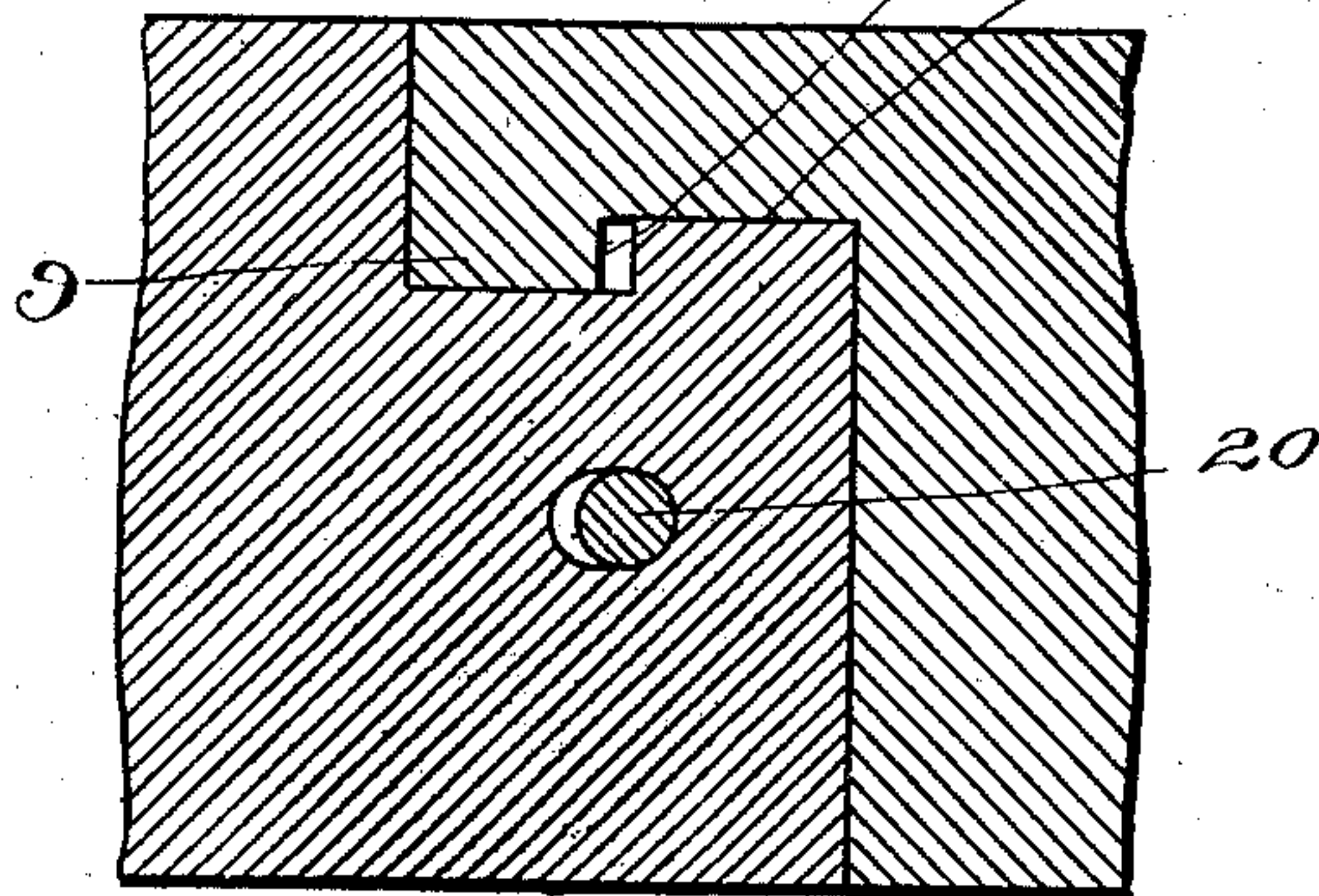


Fig. 3.



Witnesses

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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 702,468, dated June 17, 1902.

Application filed December 31, 1901. Serial No. 87,962. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. PAINE, a citizen of the United States, residing at Donlan, in the county of Gilmer, State of West Virginia, have invented certain new and useful Improvements in Rail-Joints; 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.

This invention relates to joints for railway-rails; and it has for its object to provide a construction which will dispense with the use of the usual fish-plates and which while holding the rails firmly against lateral and vertical displacement and preventing withdrawal one from the other will permit of automatic adjustment of the ends of the rails to compensate for the effects of atmospheric temperature changes.

A further object of the invention is to provide a construction comprising few parts and which will permit of ready assembling and disassembling of the rails, other objects and advantages of the invention being understood from the following description and including the provision of a construction which will permit of joints of the rails between ties instead of necessarily upon the ties.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a bottom perspective view showing the end portions of two rails connected. Fig. 2 is a bottom perspective view showing the end portions of two rails disconnected. Fig. 3 is a longitudinal section through the end portions of two connected rails.

Referring now to the drawings, there are shown portions of two rails 5 and 6, in the end of which rail 5 is cut or otherwise formed a recess extending upwardly through the bottom of the rail, this recess being higher at a point inwardly from the end of the rail to form the seat 7, of rectangular form, which is bounded at its outer side by the web 8, which connects the side walls of the recess and results in the lower outer portion 9. In the bottom of the rail and leading to the rear portion of the recess thereof are the cut-away portions 10 and 11, which have the effect of

flaring a portion of the bottom of the recess, the portions 13 and 14 between the cut-away portions and the end of the tie forming stops for a purpose that will be presently described.

The end of the rail 6 is provided with a tongue 15, which extends longitudinally therefrom and reaches from the lower side or bottom of the rail to a point about one-third of the way down from the top, the length of this tongue being substantially equal to the depth of the recess in the rail 5. The tongue 15 is adapted for engagement with the recess of the rail 5 to permit the ends of the rails proper to abut, and upon the upper face of the tongue and at the outer end thereof is an upwardly-directed lug 16, which engages in the seat 7, the relative proportions of the lug and seat being such as to permit of longitudinal movement of the rails with respect to each other to a limited extent, while preventing correlative lateral movement. At the bottom of the tongue 15 and projecting laterally from the side faces thereof and directly in line with the lug 16 are the lugs 17 and 18, which engage the cut-away portions 13 and 14, respectively, the lateral dimensions of the lugs and cut-away portions being substantially equal to prevent lateral correlating movements of the parts, while the dimensions of the cut-away portions longitudinally of the rail 5 are greater than the corresponding dimensions of the lugs, so that the rails may have a slight correlative longitudinal movement, this longitudinal movement of the rails in practice being due to contraction and expansion under the influence of changes in atmospheric temperature. The tongue is engaged with the recess by upward movement of the rail 6 with respect to the rail 5, and to prevent disengagement a bolt 20 is passed through alining perforations in the tongue and sides of the recess, the perforation of the tongue being distended longitudinally thereof, so that the bolt may have a slight play therein to permit of the slight longitudinal movement of the rails above referred to. With this construction it will be seen that the ends of the rails are so connected that while permitting of slight longitudinal movements will permit of no lateral or vertical correlative movement, so that it is not necessary that the ends of the rails rest di-

rectly upon a tie. At the same time the rails are easily connected and disconnected.

In practice modifications of the specific construction shown may be made without departing from the spirit of the invention.

What is claimed is—

1. In a rail-joint, the combination with a rail having a recess in its end and extending through the bottom thereof, said recess having a seat at the upper end thereof and inwardly from the end of the rail, and the bottom of the rail having cut-away portions leading to the recess and disposed in line with the seat, of a second rail having a tongue for engagement with the recess, said tongue having a top lug disposed to engage the seat and having laterally-directed lugs disposed to engage the cut-away portions.

2. In a rail-joint, the combination with a

rail having a recess in its end extending 20 through the bottom thereof, said recess having a seat at its upper end disposed inwardly from the end of the rail, and the bottom of the rail having cut-away portions disposed inwardly from the end of the rail and leading 25 to the recess, of a second rail having a terminal tongue engaged with the recess, said tongue having an upwardly-directed lug engaged with the seat and having laterally-directed lugs engaged with the cut-away portions, said walls having alining perforations, 30 and a bolt engaged with the perforations.

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

WILLIAM A. PAINE.

Witnesses:

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L. E. SLEETH.