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PATENTED DEC. 31, 1907.

J. L. FENN, JR.

RAIL JOINT.

APPLICATION FILED JULY 3, 1907.

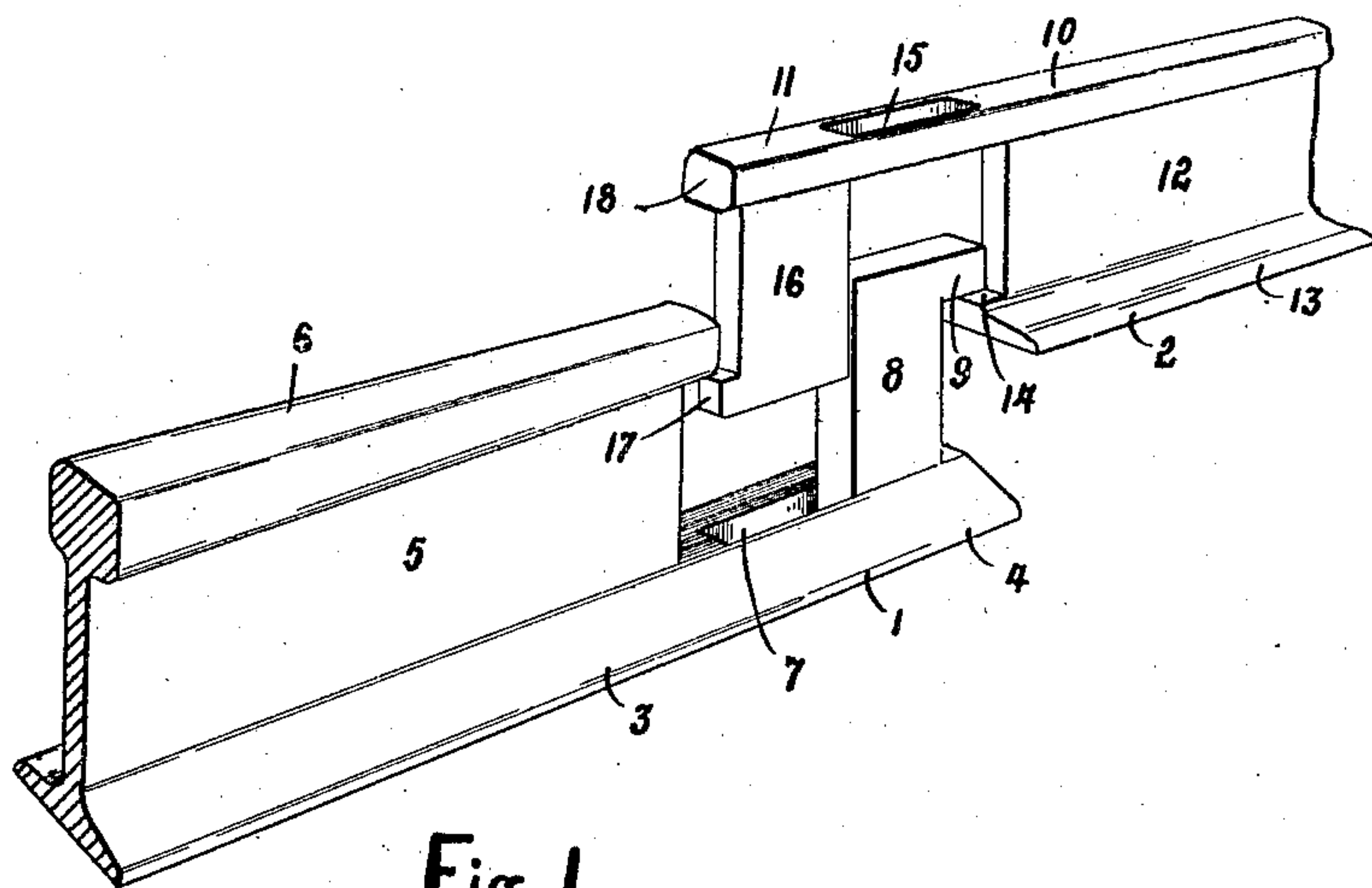


Fig. 1.

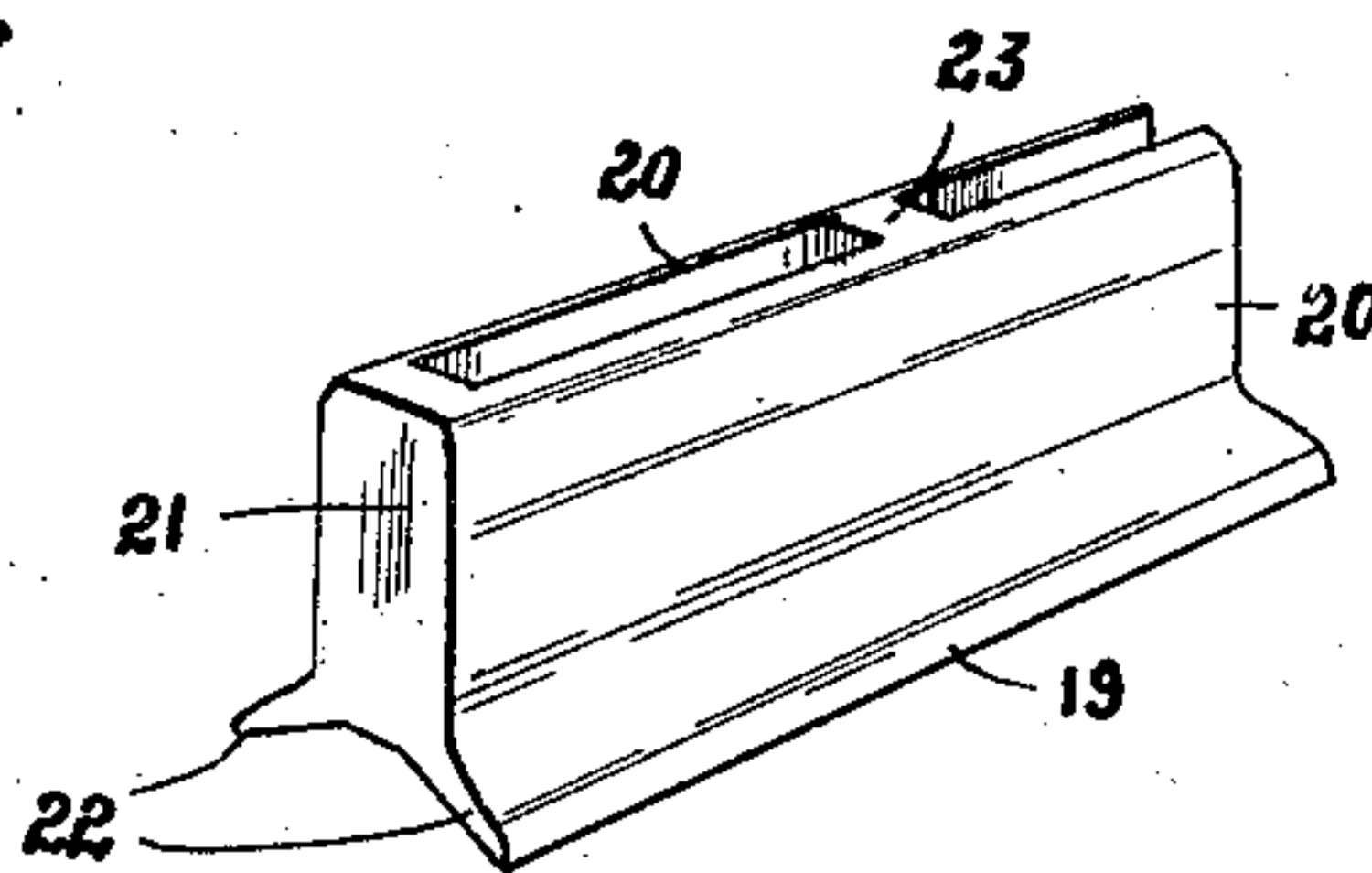


Fig. 2.

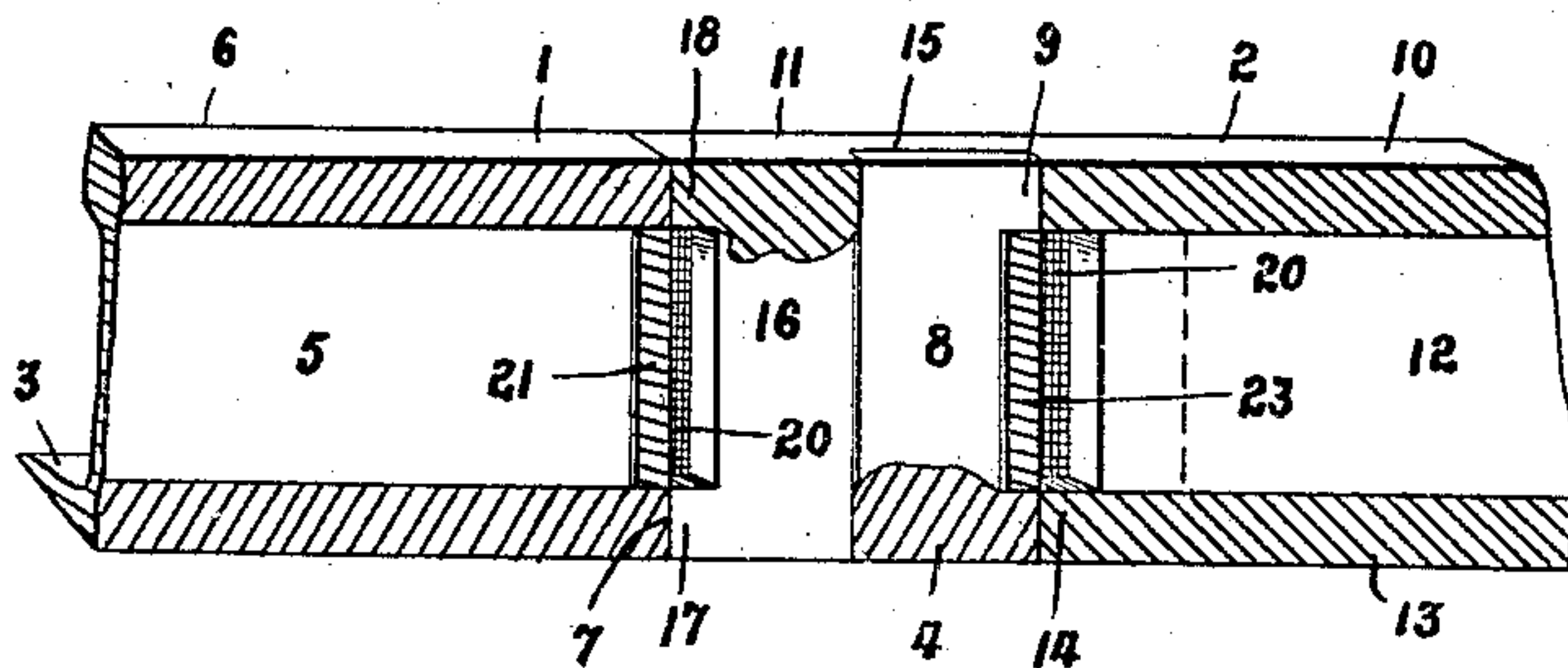


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

No. 874,948.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES LUCAS FENN, Jr., a subject of the King of Great Britain, residing at the town of Bracebridge, in the District of Muskoka, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

10 The invention relates to improvements in rail joints, as described in the present specification and shown in the accompanying drawings that form part of the same.

15 The invention consists essentially in extending the base of one rail beyond the head and web thereof and the head of the adjoining rail beyond the web and base thereof, and slotting said base and said head in said extending portions and a lug extending downwardly from said extending head and a lug extending upwardly from said extending base, said lugs fitting into said slots and forming mortise-joints and means for locking said lugs in said slots.

25 The objects of the invention are to devise a rail joint, in which the forming of the members to the joint at the ends of the rails does not add materially to the cost of the manufacture of said rails, to provide a simple and durable joint and to eliminate the use of bolts and nuts entirely for the joining of the rails.

35 In the drawings, Figure 1 is a perspective view of the rail ends having the joint members extending therefrom and showing one of the rail ends in a raised position. Fig. 2 is a perspective detail of a form of locking bar. Fig. 3 is a longitudinal sectional view of the joint in its locked position.

40 Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 and 2 are the ends of two adjoining rails. The base 3 of the rail 1 extends at 4 beyond its web 5 and head 6 and the head 6 of said rail 1 projects slightly forward of the web 5.

7 is a slot longitudinally arranged in the extension 4 of the base 3 slightly forward of the web 5.

50 8 is a lug extending upwardly from the extension 4 at the forward end, the base 3 extending slightly beyond the vertical front end wall of said lug and the said lug having extending forwardly from the upper end thereof the ear 9.

10 is the head of the rail 2 having an ex-

tension 11 beyond the web 12 and base thereof. The base 13 projects slightly 14 beyond the web 12.

15 is a slot longitudinally arranged in the head 10 through the extension 11 and slightly forward of the web 12 and adapted to receive the upper end of the lug 8 including the ear 9.

16 is a lug projecting downwardly from the extension 11 of the head 10 at the forward end thereof and of substantially similar formation to the lug 8 having a corresponding ear 17 projecting therefrom, though at its lower end. The extension 11 of the head 10 projects slightly beyond the lug 16 at 18 to, approximately, an equal distance of the length of the ear 17. The lug 16 including the ear 17 is adapted to fit into the slot 7 in the base of the rail 1 and in fitting these parts together the rail 2 is raised and placed over the end of the rail 1 so that the lugs 8 and 16 are in vertical alinement with the slots 7 and 15. In the lowering of the rail 2, the lugs enter said slots and the joint is then formed, as far as the rails themselves are concerned, but previous to lowering the rail 2 a locking bar 19 is fitted thereon.

The locking bar 19 is preferably formed with two sides 20 joined at one end by a blind wall 21 while the sides at the lower ends 22 flare outwardly corresponding to the shape of the bases 3 and 13. 23 is a division wall intermediate of the length of said locking bar 19 and joining the sides 20 thereof.

The lug 16 of the rail 2 fits into the space between the wall 21 and the wall 23 immediately adjacent to the latter wall, thus when the said locking bar is slid along on said rail after fitting the said lug into the said space the wall 23 will be moved away from the lug 16 and be brought up to the end wall of the web 12 over the projection 14 of the base. Similarly the wall 21 will be brought up to the end wall of the lug 16 immediately over the ear 17. In this manner a clear passage, between the inner wall of the lug 16 the inner surface of the wall 23 and end walls of the base 13 and slot 15, is formed for the passage of the lug 8 therethrough and in order to lock the said rails together so that the rail 2 cannot be raised from the rail 1, the locking bar 19 is moved along until the wall 21 slides over the base 3, where it projects beyond the web to the edge of the slot 7, and under the slight projection of the head 6 beyond said web.

It will be thus seen that the complete joint

is locked and free from all complicated parts, the spikes may be driven over the flaring sides of the lower ends 22 of the locking bar 19 into the ties and if necessary these flaring lower ends 22 may be recessed or grooved so as to receive the head of said spike and thus absolutely prevent any longitudinal movement along said rails.

The joint itself without the locking bar may be used in some instances and in this event the end walls of the web and lugs would meet, but in nearly all instances the locking bar is a very essential feature to the invention.

What I claim as my invention is:—

1. A rail joint comprising a rail having its base extending beyond its head and web and a slot in said base forward of said web and a lug forward of said slot projecting upwardly to the level of said head, and a rail having its head extending beyond its web and base and a slot in said forward extensions and a lug forward of said slot projecting downwardly into the slot in said base, said slot in said head receiving the said lug from said base, substantially as described.

2. In a rail joint, the combination of two rails joined longitudinally and having the head and base shortened and slotted correspondingly and downward and upward projections registering with and entering the aforesaid slots and extending to the lower surface level of the said base and the upper

surface level of said head, substantially as described.

3. A rail joint, comprising a rail having its base extending beyond its head and web and said head projecting slightly beyond the web and a slot through said base having its inner end wall in alinement with the end face of said head and a lug extending vertically from said base at the other end of said slot and rigid with said base and having an ear projecting outwardly therefrom at its upper end, a rail having its head extending beyond its base and web, said base projecting slightly beyond said web and a slot through said head having its inner end wall in alinement with the end face of said base and a lug extending downwardly from said head at the forward end of said slot, said lug being rigid with said head and partially extending over the distance between said slot and the end of said rail and having at its lower end an ear extending outwardly therefrom, and a locking bar having side walls joined by an end wall and an intermediate wall towards the open end, said side walls having a flaring lower end spreading over the base of said rail, substantially as described.

Signed at Bracebridge, this 13th day of June, 1907.

JAMES LUCAS FENN, JR.

In the presence of—

W. KILLEN,
JAS. KILLEN.