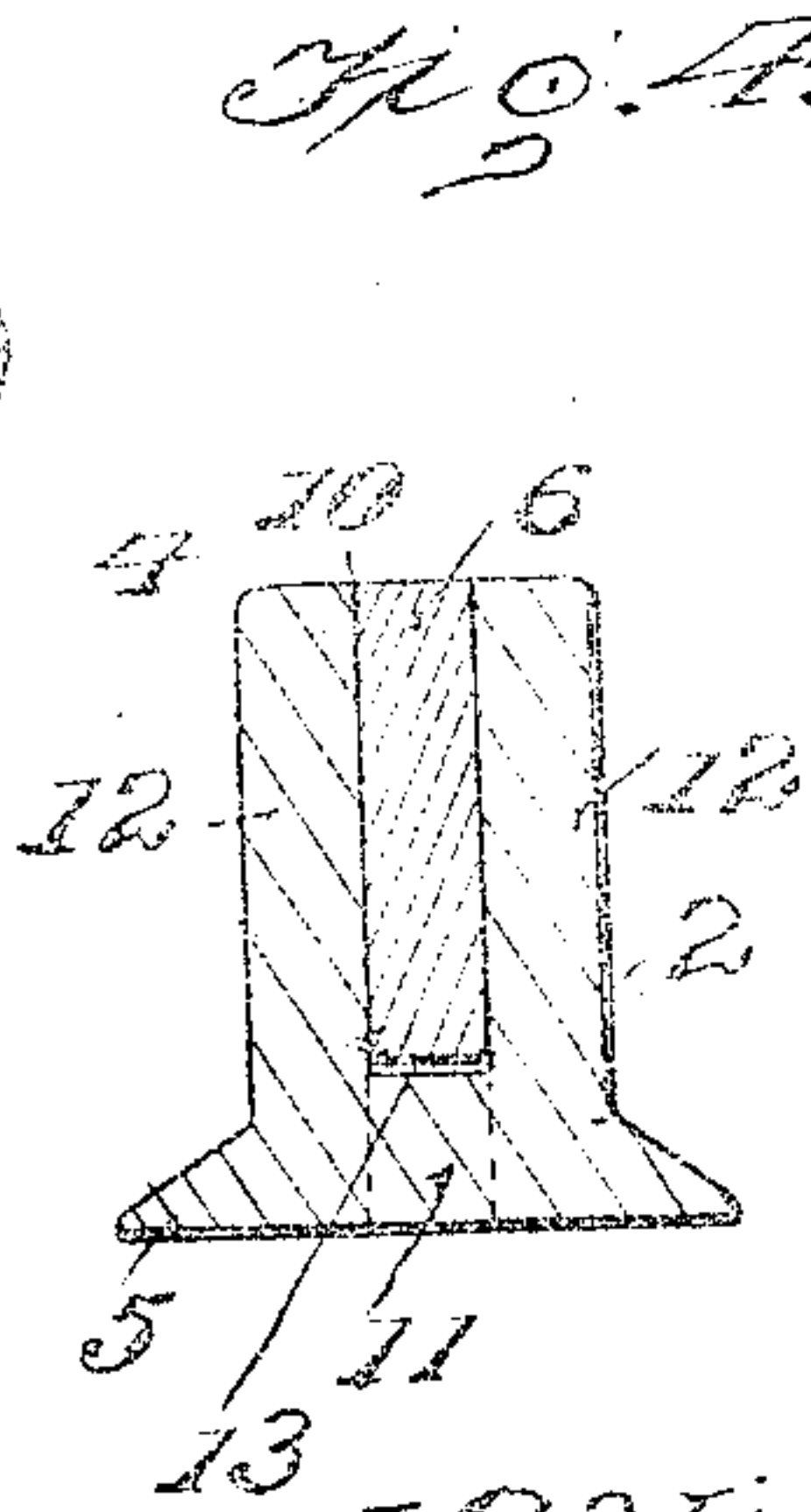
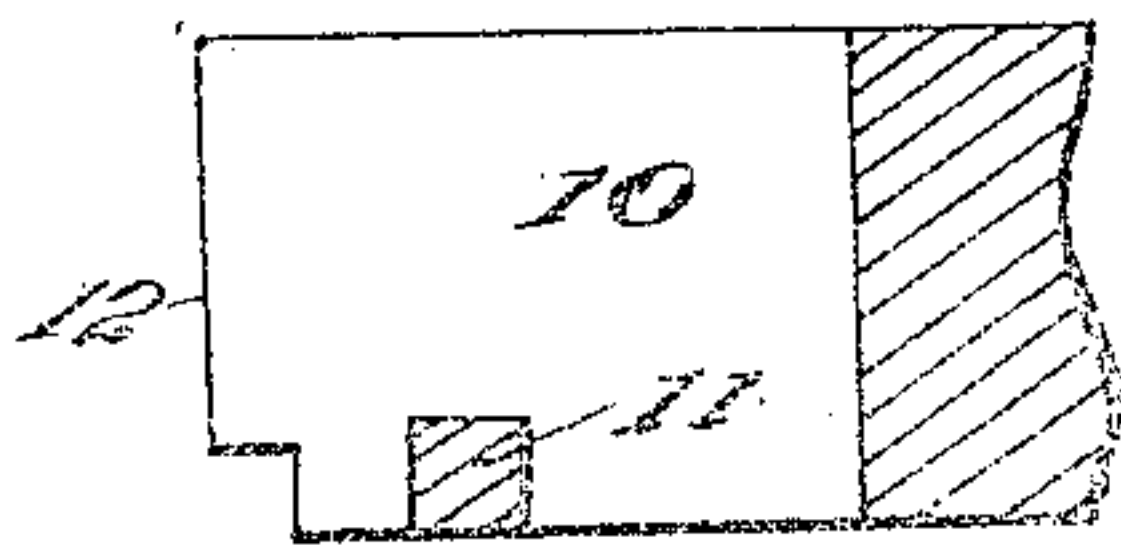
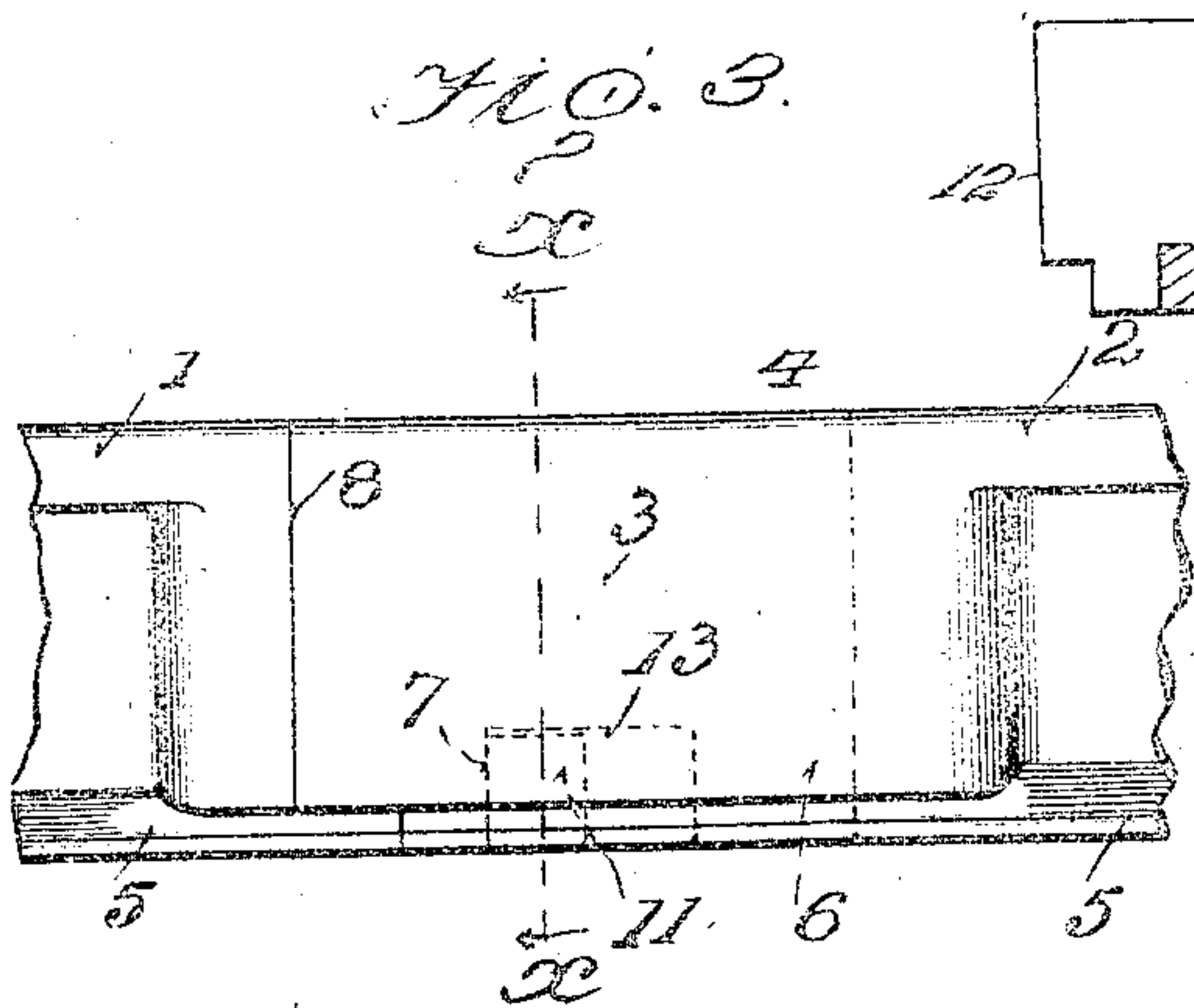
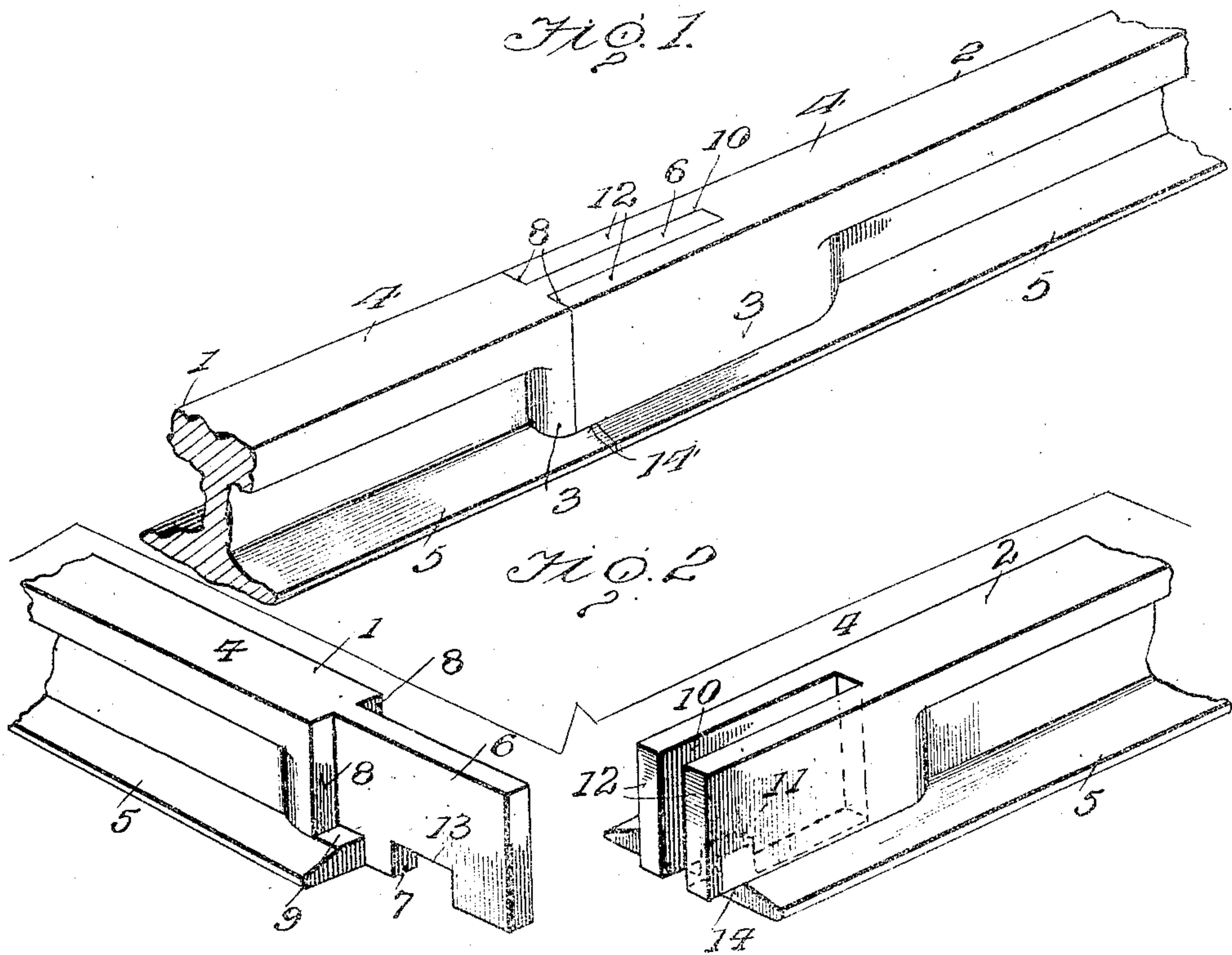


J. S. HICKSON.
RAIL JOINT.
APPLICATION FILED AUG. 31, 1908.

Patented Aug. 17, 1909.

931,117.



Witnesses

W. J. Munn
W. P. Woodman

By

John Macey Attorney

Inventor

J. S. Hickson

UNITED STATES PATENT OFFICE.

JOHN S. HICKSON, OF NATHALIE, VIRGINIA.

RAIL-JOINT.

No. 931,117.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed August 31, 1908. Serial No. 451,018.

To all whom it may concern:

Be it known that I, JOHN S. HICKSON, citizen of the United States, residing at Nathalie, in the county of Halifax and State of Virginia, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

The object of my invention is to provide a rail joint wherein the use of bolts, nuts and fish plates commonly used at the abutting ends of each rail section will be eliminated, and the rails constructed in such manner as to be held rigidly against displacement either when bridging the intervening space between or located directly upon the ties.

The invention further consists in the construction and arrangement of the rail ends to form a smooth unyielding surface at the point of jointure, and whereby the top edges of the rail ends will be protected from the wearing or pounding action of car wheels due primarily to the method employed to offset the effect of atmospheric action upon the rails.

For a full description of the invention, and the merits thereof and also to acquire a knowledge of the details of construction and of the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:—

Figure 1 is a perspective view of two rails joined together; Fig. 2 illustrations showing in detail the formation of the rail ends; Fig. 3 is a side elevation; and, Fig. 4 is a central longitudinal section of recessed rail end, and, Fig. 5 a transverse sectional view taken on the line $x-x$ of Fig. 3.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

Referring to the drawings, the numeral 1 designates the body portion of an ordinary railroad rail, and 2 a second rail constructed and arranged at its end to cooperate with the abutting end of the first mentioned rail to form a boltless joint.

The rails 1 and 2 throughout the body portion are of ordinary construction with gradually enlarging and broadening ball or web portions 3 at the ends and extending transversely the thickness of the tread portion 4 to the base flange 5. One end of the

rail is provided with a vertical reduced portion designed to form a tongue 6 which extends longitudinally of the rail between the tread 4 and base flange 5, the upper and lower sides of the tongue being flush with the corresponding sides of the rail 1, and provided at its lower edge with a rectangular recess 7. The ends of the rail 1 on both sides of the tongue 6 are formed with squared shoulders 8 and a seat 9 adapted to cooperate with the reversely constructed end of the rail 2. One end of said rail 2, as shown, is provided with a vertical longitudinal slot or recess 10 extending the entire distance between the top and bottom of the rail and intersected by a rectangular web section 11 connecting the two side extensions or walls 12 and forming an interrupted groove for the reception of the tongue 6. The said web section is adapted to reinforce and hold the walls 12 from lateral movement, and the tongue 6 by means of the recess 7 formed therein, is designed to extend over said web into the larger portion of the slot as shown at 13. The ends of the walls 12 are arranged to overhang the base flange 5, as shown at 14, to rest upon the seat 9 and abut against the shoulders 8 at both sides of the tongue 6. Relative vertical and lateral movement of the rails is retarded by the formation of the abutting end portions of the joint, in that all are squared shoulders and in which ample provision is made for expansion and contraction without producing a gap between the rails.

With the arrangement shown, the tongue 6 of the rail 1 is designed to extend over the web section 11 and fit within the slot 10 of the rail 2. When placed in position, the ends of the walls 12 will rest upon the seats 9 in close proximity to the shoulders 8 and form an interlocking connection between the ends of the rails without the use of bolts or fish plates, and which for obvious reasons will not weaken or spread, but on the other hand will offer a smooth unyielding surface for the travel of car wheels.

Having thus described the invention, what is claimed as new is:—

A rail joint comprising a rail provided with a vertical slot intersected by a rectangular web section to form an angular interruption, overhanging side walls or projections, and a second rail provided with an enlarged web or ball section having a reduced extension

sion to form a tongue extending between the top and bottom of the rail and provided with a recess adapted to cooperate with the angular interruption of said slot, squared
5 shoulders at both sides of said tongue, and seats designed to receive the ends of said overhanging side walls.

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

JOHN S. HICKSON. [L. S.]

Witnesses:

FRED M. HICKSON,
W. L. SEYMOUR.