

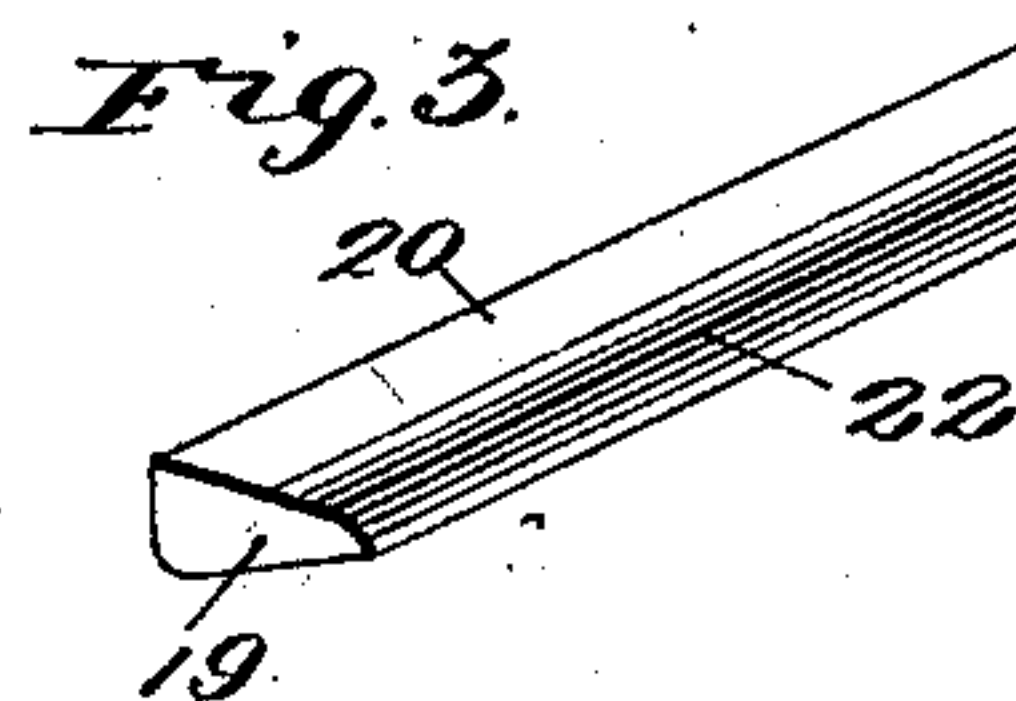
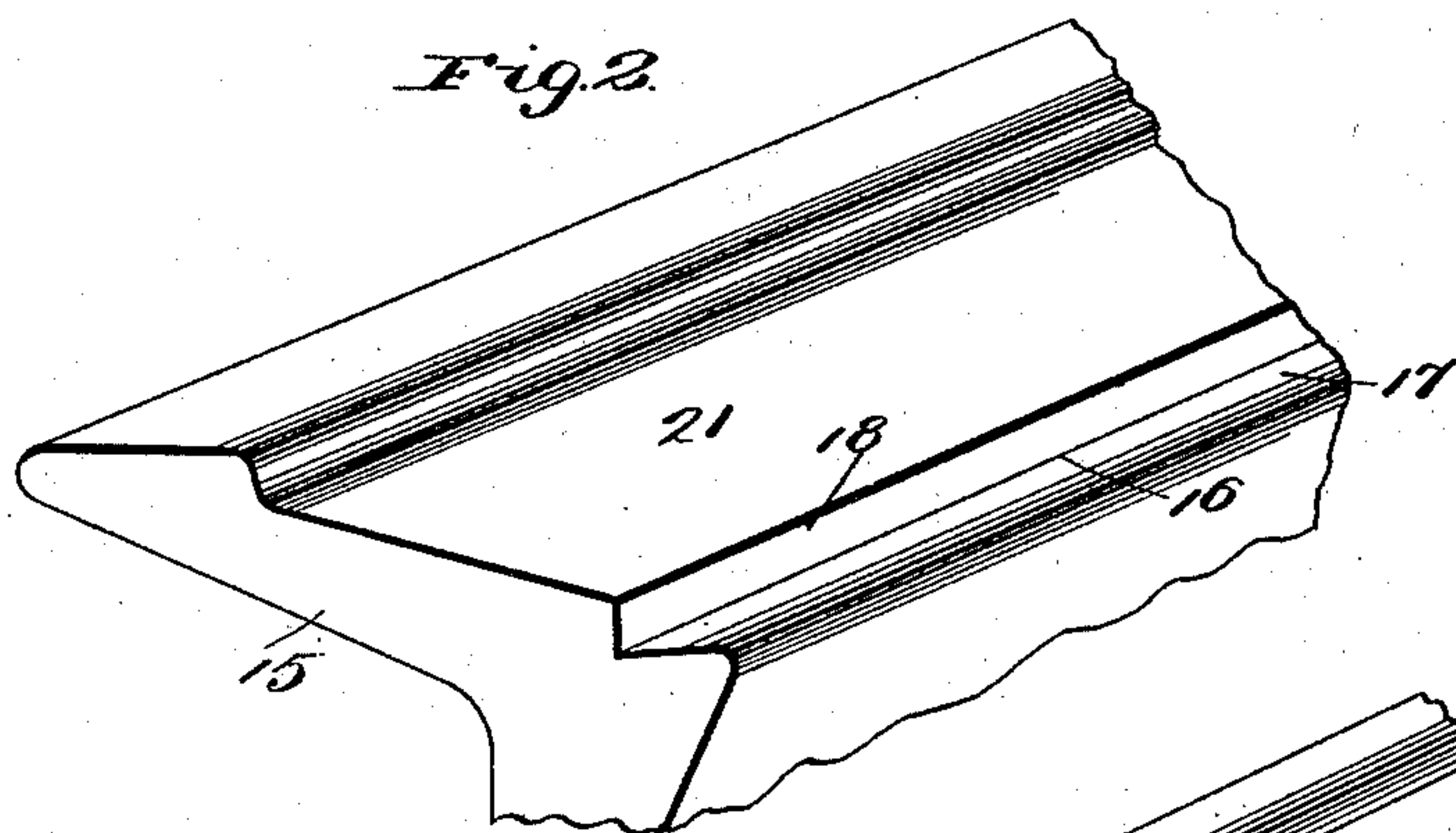
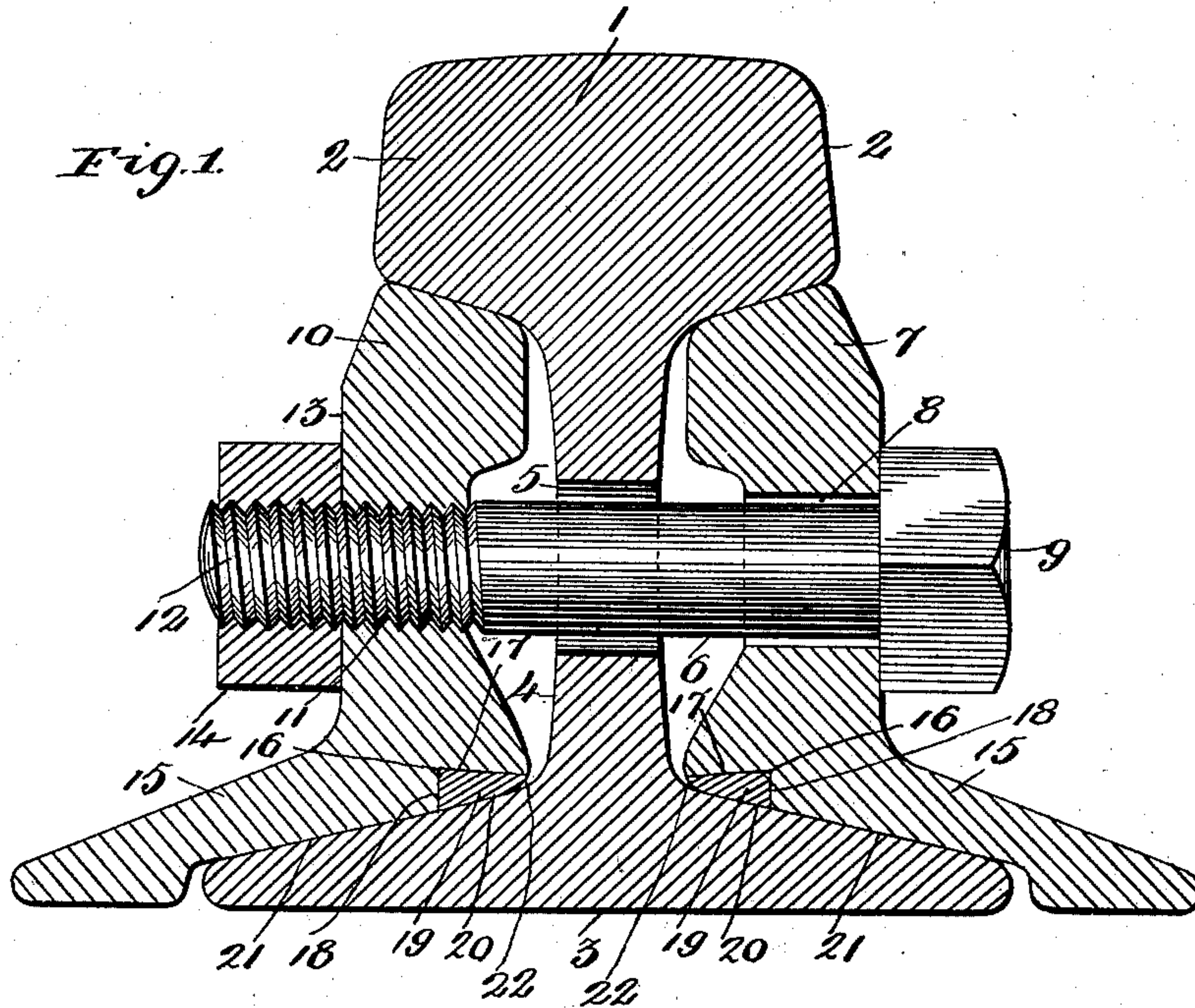
No. 610,004.

Patented Aug. 30, 1898.

W. H. TALLEY.
RAIL BOND.

(Application filed Nov. 26, 1897.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM H. TALLEY, OF WACO, TEXAS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF NINE-TENTHS TO GEORGE H. WILLIAMS, CHARLES B. EAMES, AND C. R. SHERRILL, OF SAME PLACE.

RAIL-BOND.

SPECIFICATION forming part of Letters Patent No. 610,004, dated August 30, 1898.

Application filed November 26, 1897. Serial No. 659,869. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. TALLEY, a citizen of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented certain new and useful Improvements in Electric Track-Circuit Rail-Joints, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in electric track-circuit rail-joints; and it consists in the novel combination and arrangement of parts more fully set forth and described in the specification and pointed out in the claims.

In the drawings, Figure 1 is a vertical cross-section of a rail-joint constructed according to my invention, taken through that portion adjacent to one of the securing-bolts. Fig. 2 is a perspective view of the base of one of the angular fish-plates, broken away; and Fig. 3 is a perspective view of one of the conducting-bars, also broken away.

The object of my invention is to construct a perfect rail-joint—that is, one that will not only stand the rough usage to which the same is necessarily subjected, but at the same time convey the electric current from one rail to the other without any leakage or loss of the current—the parts being so constructed that no moisture or water can possibly come in contact with those parts of the rails and fish-plates and angle-bars that are in direct contact with the electric conducting-bars, which form a rigid and compact part of the rail-joint. Further than this, the electric conducting-bars are entirely hidden from view and cannot be cut, destroyed, or removed, as is generally done where they are exposed.

Briefly stated, the invention consists of the employment of the ordinary rails without alteration of any kind, angular bars, and fish-plates, one of which is provided with smooth openings for the free passage of the bolts, the other provided with screw-threaded openings for receiving the screw-threaded ends of the bolts, the said bolts being of sufficient length to pass a suitable distance beyond

said last-named fish-plate when the parts are in a compact position, nuts screwed on said projecting ends of the bolts and against said fish-plate forming a perfect nut-lock for holding the parts in their compact position, grooves formed on the lower surface of the base of each fish-plate, and electric conducting-bars snugly and compactly located in said grooves and bearing against and in direct contact with the upper surface of the base of the rail.

Referring to the drawings, 1 represents a rail of ordinary construction and composed of a ball or tread portion 2, base 3, web 4, connecting the tread portion with the base, and openings 5, formed in said web for the free passage of the bolts 6.

The angle-bar or fish-plate 7, which is located on one side of the meeting ends of the rails, is provided with an opening 8, of smooth bore, through which the bolts 6 are freely passed, the head 9 of said bolts being normally in direct contact with the outer vertical surface of said angle-bar. The opposite angle-bar 10 is provided with screw-threaded openings 11 on a line with the openings 5 of the web of the rail and the openings 8 of the angle-bar 7 for receiving the screw-threaded ends 12 of the bolts 6, and when the said bolts are screwed home by turning the bolts from the heads 9 thereof the parts will be thoroughly drawn together. The bolts are of sufficient length to project a suitable distance beyond the outer vertical surface 13 of the angle-bar 10 when the parts are properly assembled, and upon said projecting ends are screwed nuts 14, the latter being tightly turned against the vertical outer surface 13 of the angle-bar 10. By this means it is impossible for the parts to become loosened and thereby destroy the electrical bonding now to be described.

Formed on the lower surface of the base-flange 15 of each of the angle-bars and at the inner corner of the same, or that part of the angle-bars that is adjacent to the juncture of the web and base of the rail is a longitudinal triangular-shaped groove 16, the upper wall 17 of which is slightly arranged at an angle

to the vertical wall 18 of said groove. Located within each of said grooves 16 is a conducting triangular - shaped bar 19, made, preferably, of copper, the same conforming
 5 approximately to the form or shape of the groove which receives the same. When the parts are properly assembled together, the flat surfaces 20 of the conducting-bars 19 will be in direct contact with the upper flat sur-
 10 face 21 of the base 3 of the rail. The lower flat surfaces 20 of the conducting-bars are slightly curved or rounded at their reduced edges, as shown at 22, whereby they may easily ride over the upper flat surface of the
 15 base of the rail when the parts are drawn together and further to conform to that surface of the rail should the inner surfaces of the angle-bars at any time be brought in contact with the web of the rail through necessity.

20 I do not limit myself to the exact shape of the conducting-bars herein shown and described or their exact location, as the same may be located at a position anywhere between the junction of the base and web of
 25 the rail; but the location herein shown is preferable from the fact that the angle-bars are not weakened by the grooves for receiving said conducting-bars.

Having fully described my invention, what
 30 I claim is—

1. A rail-joint, comprising a suitable rail having a base angle-bar located on either side of said rail and having basal flanges, nor-
 35 mally in contact with the base of the rail, angular-shaped grooves formed in the basal flanges of the angle-bars, and triangular conducting-bars located in said grooves and in direct contact with upper surfaces of the base of the rail, substantially as described.

40 2. A rail-joint comprising a suitable rail having a base and web, angle-bars located on either side of said rail, and having basal flanges, angular-shaped grooves formed on the lower surface of the basal flanges of the
 45 angle-bars, angular conducting-bars having

rounded edges, said conducting-bars being in direct contact with the upper surface of the base of the rail, and located with their rounded edges adjacent to the web of the rail, substantially as described. 50

3. An electric track-circuit rail-joint, comprising a suitable rail having a base and web portion, angle-bars located on either side of said rails, and having basal flanges, angular-shaped grooves formed on the lower surface 55 of the basal flanges of the angle-bars, each of which is composed of a vertical flat wall, triangular-shaped conducting-bars adapted to be snugly received by said grooves, the lower inclined sides thereof being in direct 60 contact with the upper surface of the base of the rail, whereby said bars are rigidly and compactly held between the several parts, in such a position as to thoroughly convey the electrical current, substantially as described. 65

4. An electric track-circuit rail-joint, comprising a suitable rail having a base and web portion, angle-bars located on either side of said rail and having basal flanges, angular-shaped grooves formed on the lower surface 70 of the basal flanges of the angle-bars, each groove of which is composed of a vertical flat wall, and an upper flat wall, triangular-shaped conducting-bars snugly located within said grooves, each of said bars having a lower flat 75 and rounded surface, the flat surface thereof being in direct contact with the upper surface of the base of the rail, and the rounded surface out of contact, whereby the conduct- 80 ing-bars are permitted to ride over the upper surface of the base of the rail when the parts are drawn together, substantially as described.

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

WILLIAM H. TALLEY.

Witnesses:

A. E. PACE,

F. M. MAXWELL.