

No. 863,531.

PATENTED AUG. 13, 1907.

M. HAWKINS.
RAIL BOND.

APPLICATION FILED NOV. 7, 1906.

Fig. 1.

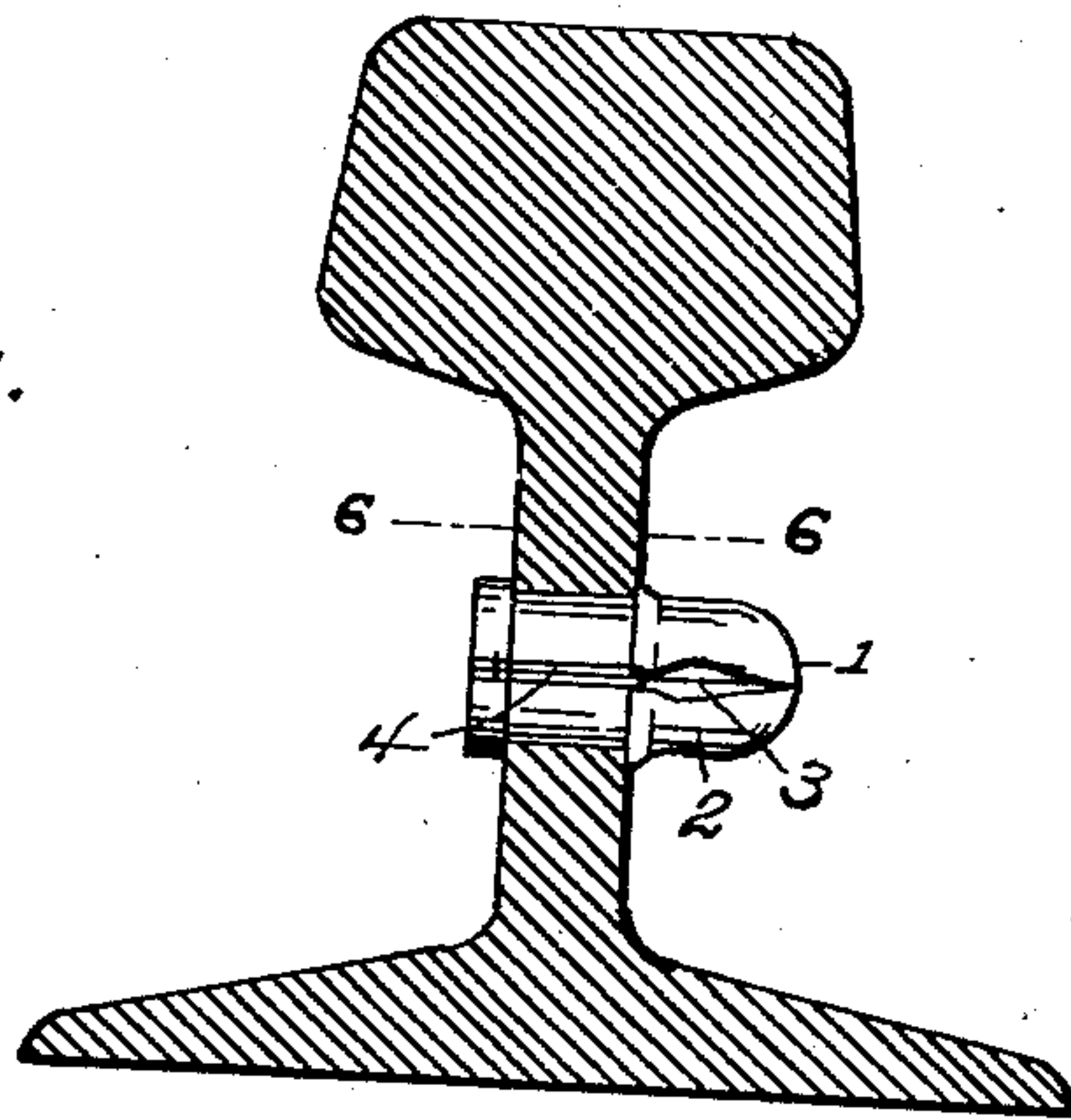


Fig. 2.

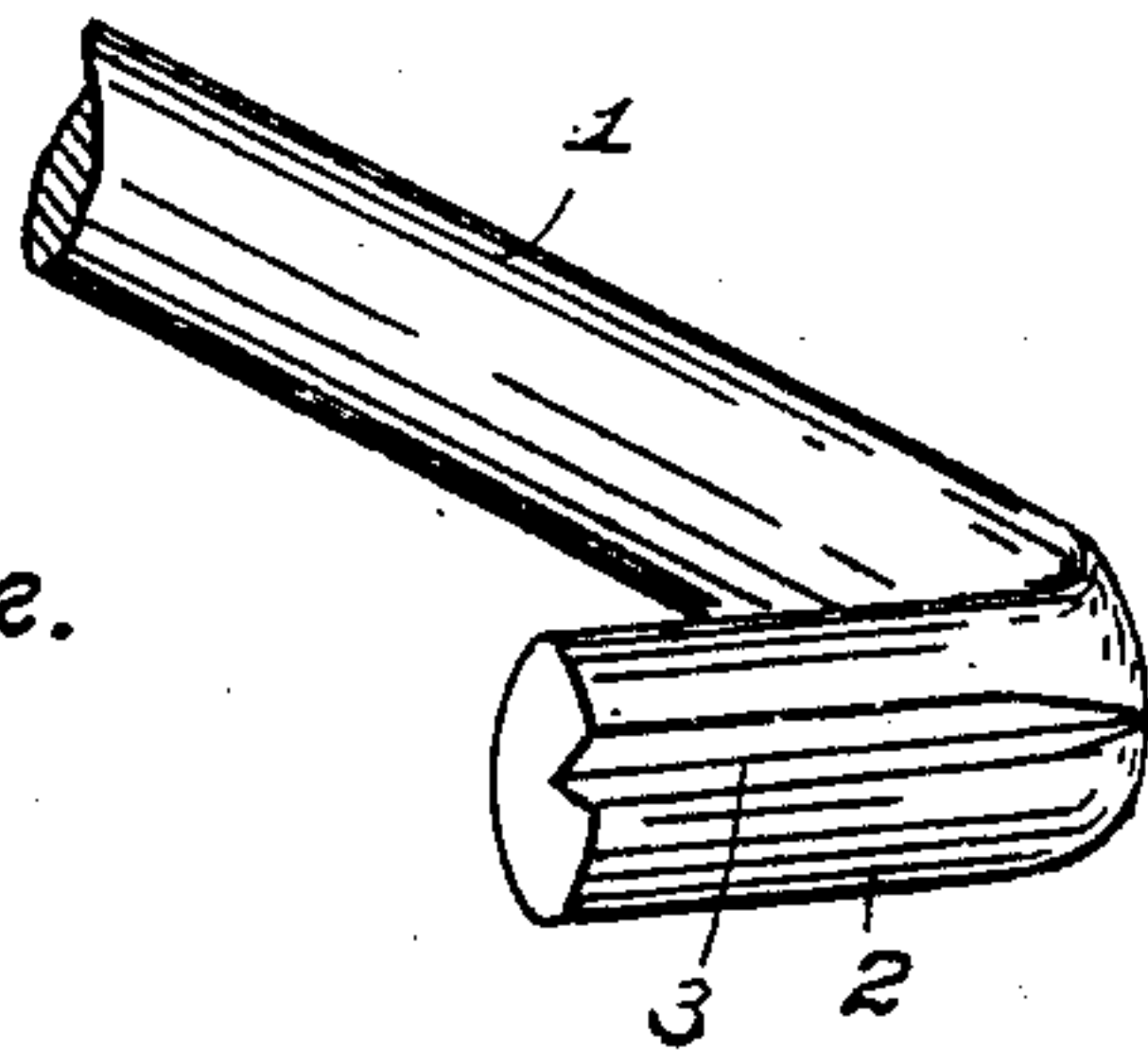


Fig. 3.

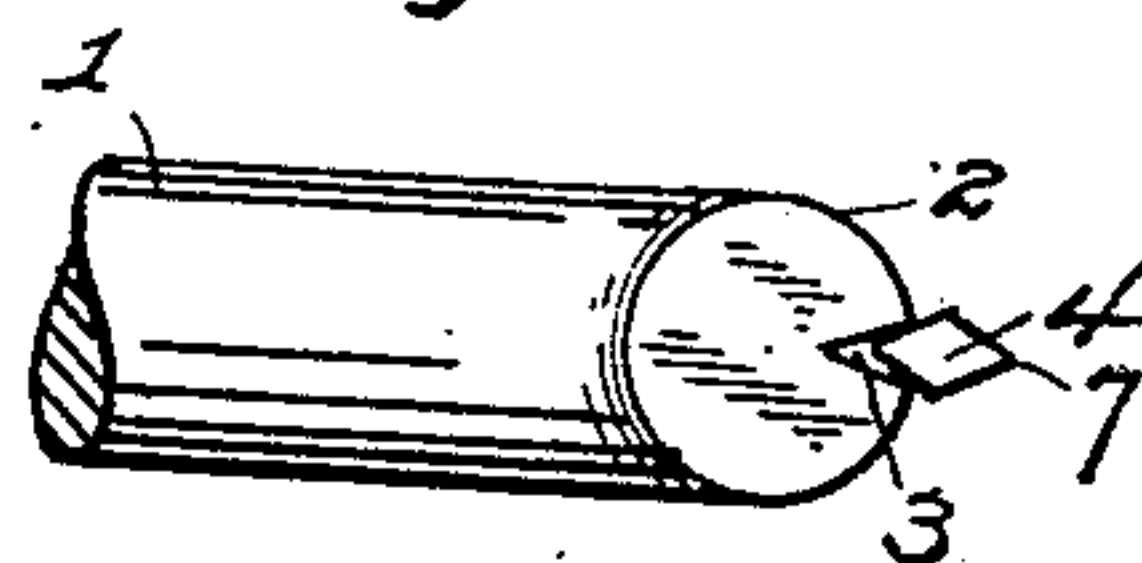


Fig. 4.

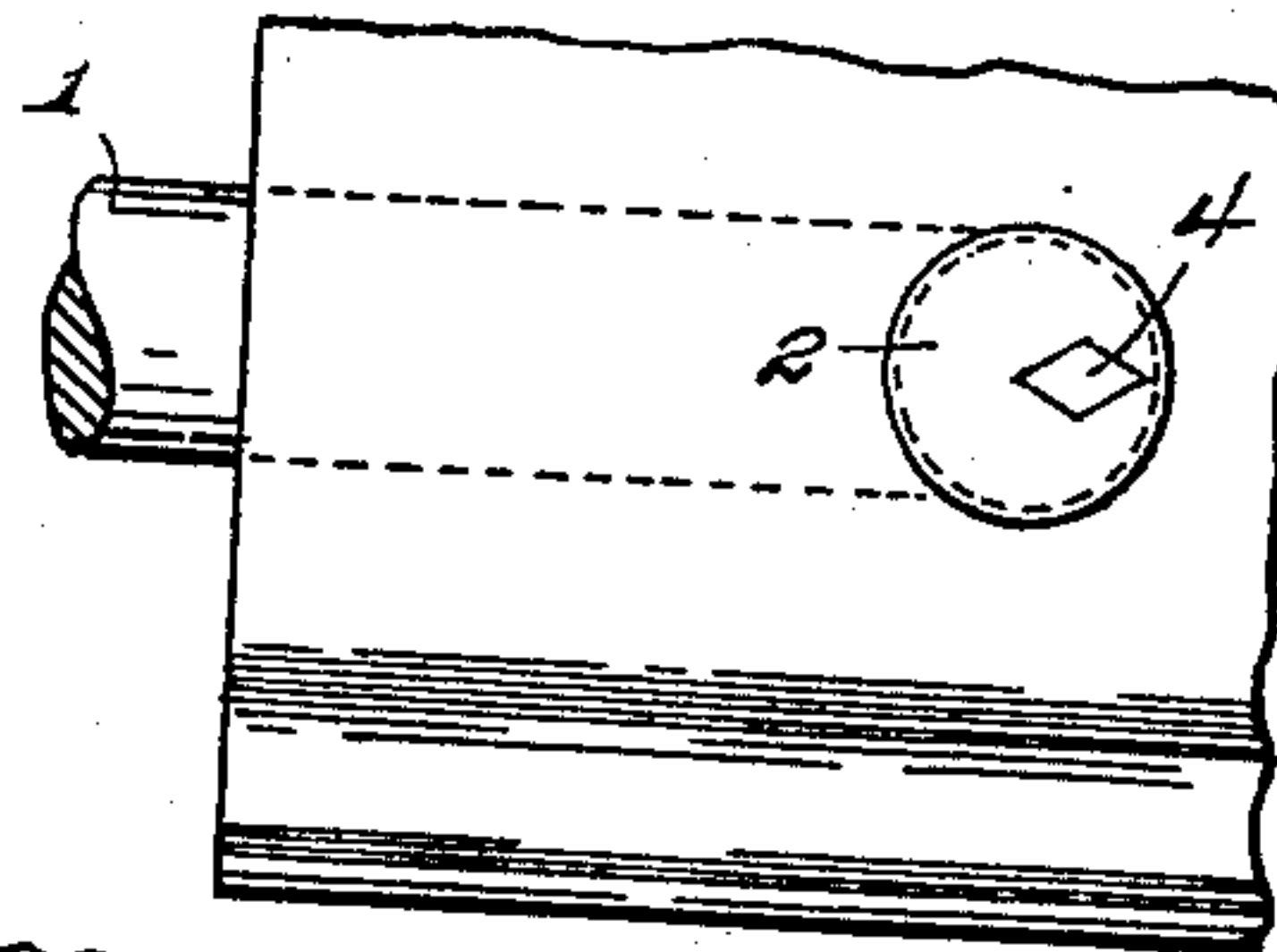
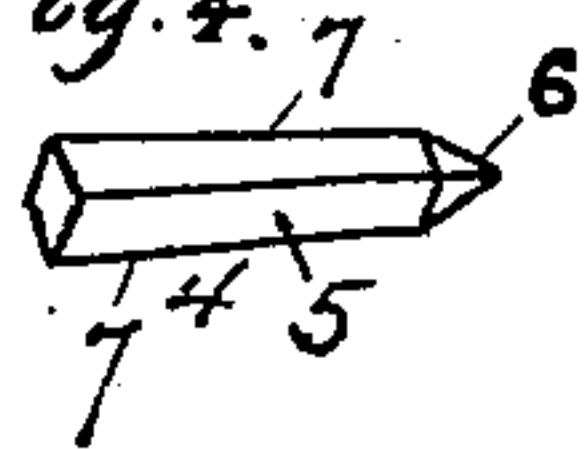
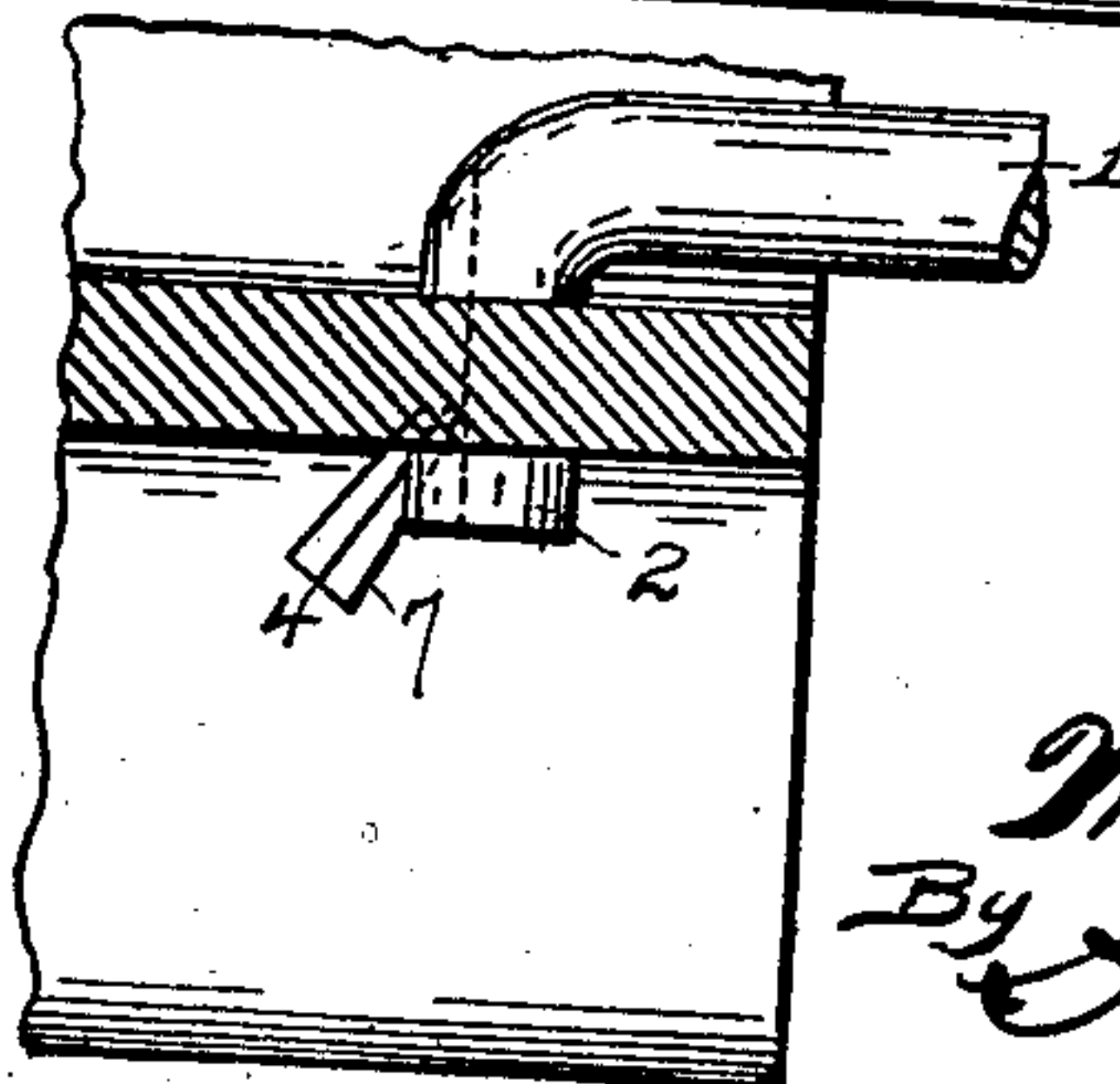


Fig. 5

Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

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RAIL-BOND.

No. 863,531.

Specification of Letters Patent.

Patented Aug. 13, 1907.

Application filed November 7, 1906. Serial No. 342,361.

To all whom it may concern:

Be it known that I, MARSHALL HAWKINS, a citizen of the United States of America, and a resident of Gypsy, county of Harrison, and State of West Virginia, have invented certain new and useful Improvements in Rail-Bonds, of which the following is a specification.

My invention relates to new and useful improvements in rail bonds, and it has for its object to provide a simple, cheap and efficient means for bonding electric railway rails; to provide means whereby the bond is practically welded to the rails; and, further, to provide a rail bond which will not work loose from the rail nor fail to make proper contact therewith.

The invention consists in the particular construction, arrangement and combination of parts which will hereinafter be fully described, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a cross-section of a rail, showing my invention applied thereto; Fig. 2 is a perspective view of one end of the conductor; Fig. 3 is an end elevation of a terminal and of a key, showing approximately the relative sizes of the groove in the terminal and the key; Fig. 4 is a perspective view of the key; Fig. 5 is a side elevation of a broken portion of a rail, showing the invention applied thereto; and Fig. 6 is a cross section of a rail on the line 6—6, Fig. 1, illustrating the initial position of the key.

Referring to said drawings, in which like reference-numerals designate like parts throughout the several views—

1 indicates the body of the conductor which is cylindrical in form and is made of a suitable soft metal, preferably copper. Said conductor is preferably of equal gage throughout its length and has its opposite ends bent, forming terminals 2, which stand parallel at right angles to the body 1 in position for insertion through suitable apertures provided therefor in the adjacent, or meeting, ends of two railway rails. In the side of each terminal 2, and extending from the extremity thereof to the bend is a substantially V-shaped groove 3.

For securing the conductor in position, I provide a key 4, of a relatively harder metal than said conductor, which is adapted to coöperate with the terminal 2 to cause the latter to spread and to take up the entire

aperture in the rail, producing a perfect joint. Said key 4 comprises a gradually tapered body 5, substantially diamond-shaped in cross-section, and an integral sharply-tapered point 6, and is adapted to be inserted in the groove 3 of the terminal 2 and driven into place in such manner as to cause said terminal to swell to such a size as to bind closely in the aperture, as will hereinafter be explained. The body 5 of the key is of a relatively larger size than the groove 3, as is clearly shown in Fig. 3.

In applying my device, the terminals 2 are inserted in the apertures in the adjacent ends of the rails with their ends projecting beyond the sides of the rails, as is shown in Fig. 6; then, the point 6 of the key 4 is inserted in the groove 3, in substantially the position indicated in said figure, with one of the sharper edges 7 of the key adjacent to the groove. The key is then forcibly driven inward its entire length, and in its passage it cuts into said terminal, crowding and spreading the soft copper of the latter and causing it to wholly fill up the aperture in the rail, and to bulge outward on both sides thereof, as shown in Fig. 1, practically welding the terminal to the rail. In entering from the initial position shown in Fig. 6, the key gradually assumes a position in line with the groove 3, the sharp edge 7 adjacent to said groove cutting into the soft copper, and becoming firmly embedded in the terminal, as shown in Figs. 1 and 5.

As is apparent, by my device a joint is formed in which there is at all times absolute freedom from imperfect electrical contact.

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

1. A drift pin comprising a longitudinal body, diamond shaped in cross section, having a tapered point.
2. A drift pin comprising a tapered body having two diametrically opposite cutting edges.
3. A drift pin comprising a longitudinal body tapered to a point at one end and having two diametrically opposed cutting edges.

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

MARSHALL HAWKINS.

Witnesses:

A. W. RAPP,
J. C. GLASSCOCK.