

No. 768,087.

PATENTED AUG. 23, 1904.

J. J. SULKEY.

RAIL JOINT.

APPLICATION FILED NOV. 18, 1903.

NO MODEL.

Fig. 1.

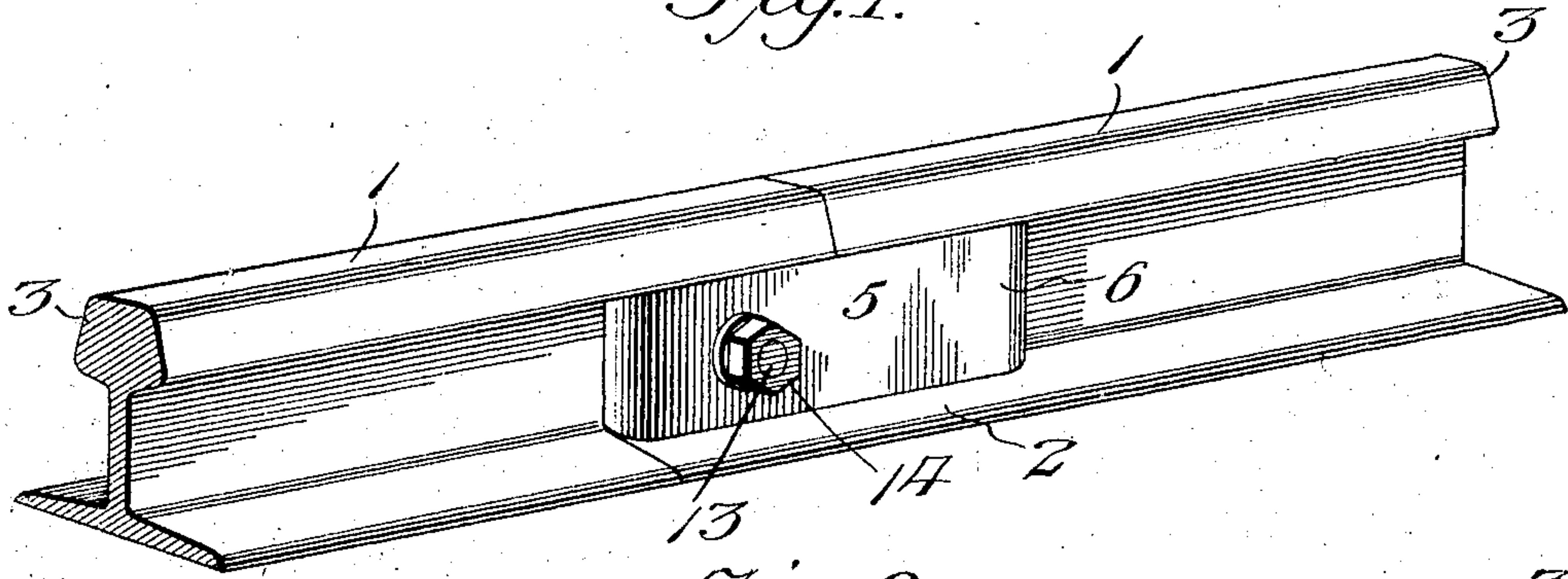


Fig. 2.

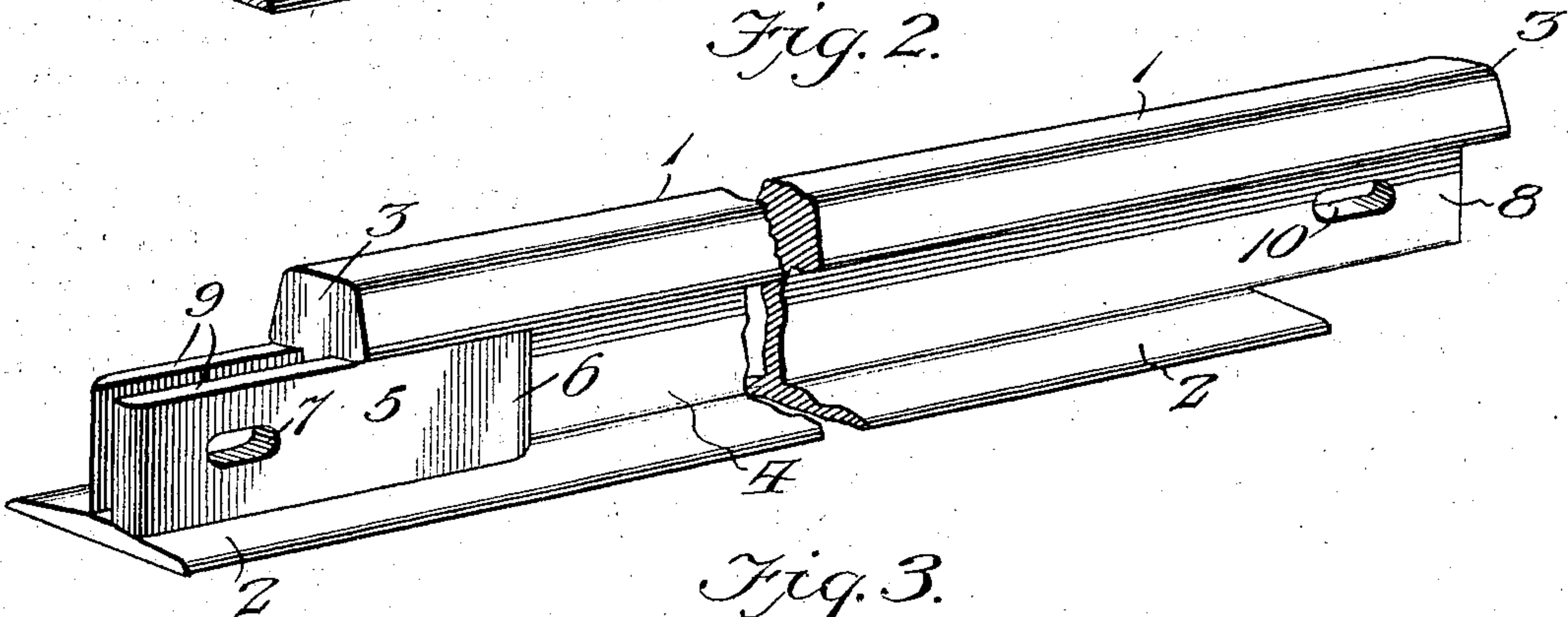


Fig. 3.

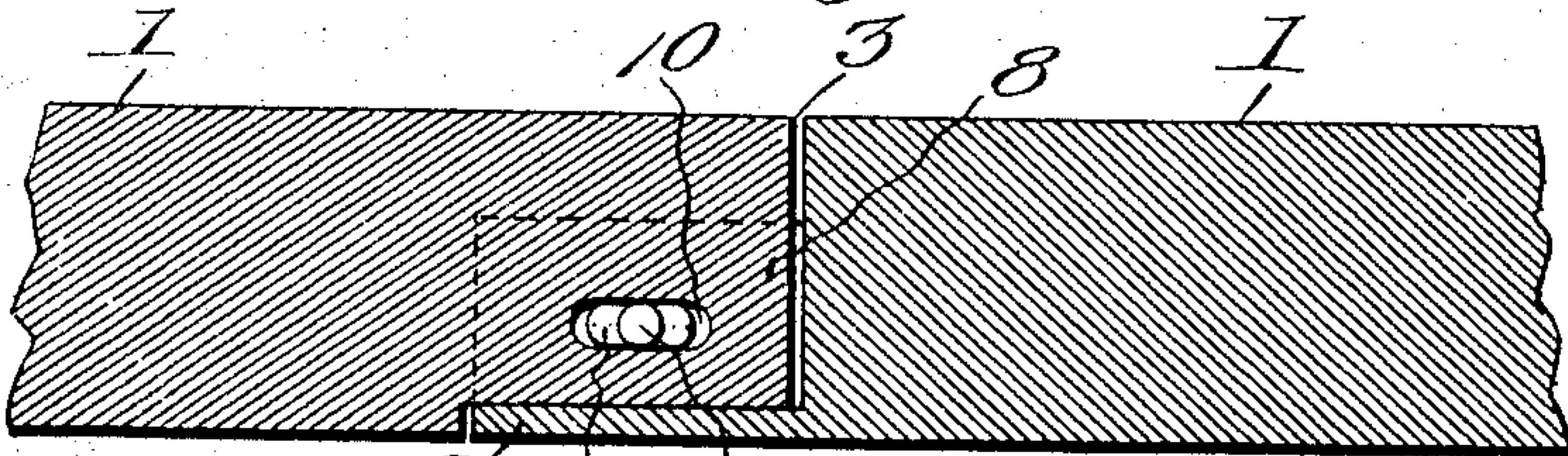


Fig. 4.

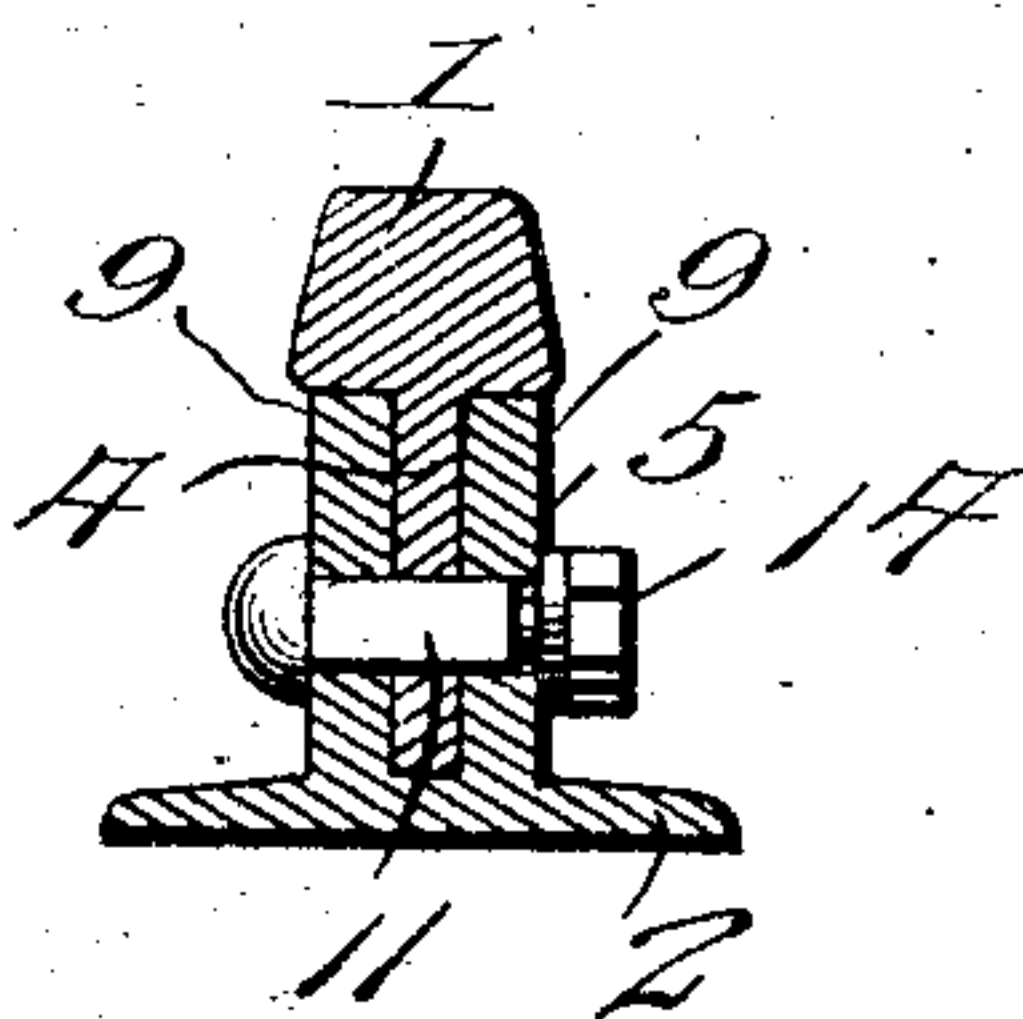
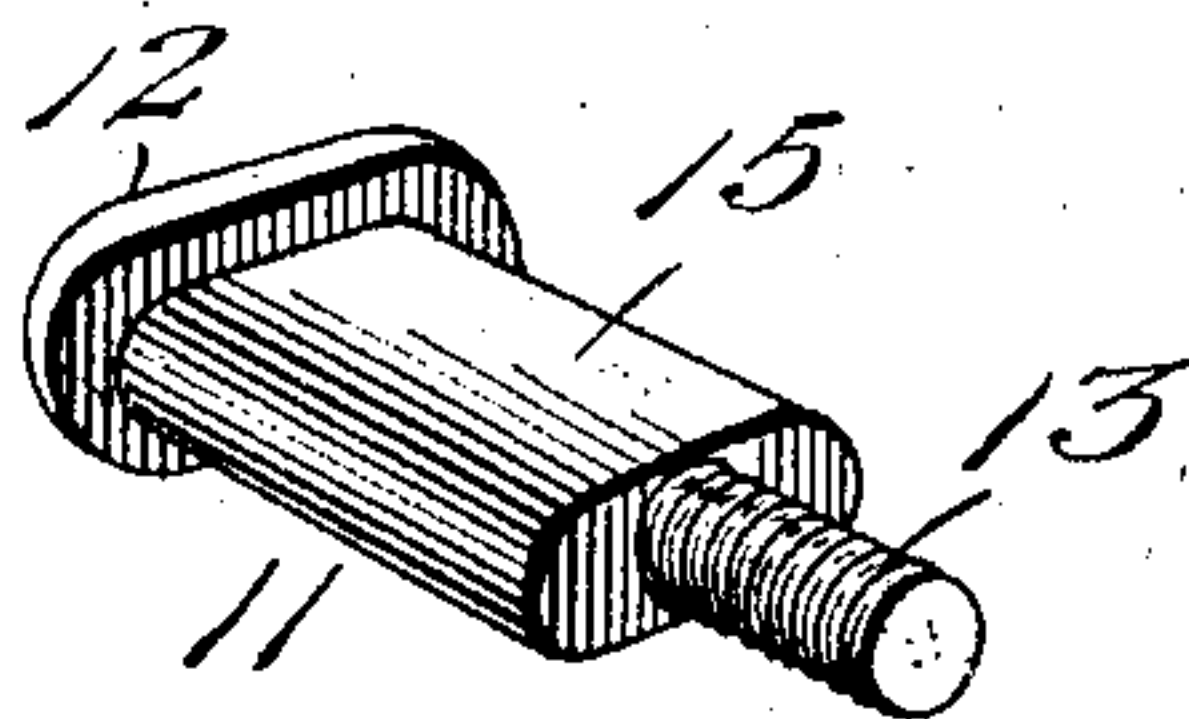


Fig. 5.



Witnesses

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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 768,087, dated August 23, 1904.

Application filed November 18, 1903. Serial No. 181,693. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. SULKEY, a citizen of the United States, residing at Rosendale, in the county of Ulster and State of New York, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail-joints, the object in view being to provide a rail-joint in which the use of splice-bars or fish-plates is done away with and in which the number of fastenings is materially reduced, thus greatly simplifying the joint as a whole and reducing the liability of the same getting out of order.

By means of the construction hereinafter described the extremities of the rails are interlocked and so relatively associated and combined that with the addition of a single bolt or fastening device the said extremities of the rails serve to mutually support each other both laterally or horizontally and vertically. In this way the joint is prevented from breaking down under the weight of a train passing thereover and both of the rail extremities are maintained in perfect alinement with each other, thus obviating the usual jolt and jar frequently present with the form of joint now in common use, which permits the extremity of one rail to project slightly above the abutting extremity of the adjacent rail.

With the above and other objects in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a rail-joint embodying the present invention. Fig. 2 is a similar view of one rail, showing the formation of the opposite ends thereof. Fig. 3 is a vertical longitudinal section through the joint, showing the key-bolt in elevation. Fig. 4 is a vertical cross-section through the same, taken in line with the key-bolt. Fig. 5 is an enlarged detail perspective view of the key-bolt.

Like reference-numerals designate corresponding parts in all figures of the drawings.

Referring to the drawings, 1 designates a pair of railroad-rails, each of which is pro-

vided at one end with a base 2, which extends beyond the terminal point 3 of the rail-head, while at the opposite end the base 2 terminates short of the extremity of the rail-head a distance equal to the distance which the base-flange projects beyond the head at the other end, as clearly shown in Fig. 2. At that end where the base projects beyond the extremity of the head and also beyond the rail-web 4 integral flanges 5 are provided, the said flanges being spaced apart a distance equal to or slightly greater than the thickness of the web 4. The flanges 5 extend from the base 2 of the rail upward, the upper edges of said flanges being in the same plane with the lower side of the head of the rail, as clearly shown in Fig. 2, and said flanges extend from the terminal point of the rail-head outward to the extremity of the projecting portion of the base 2. The web of the rail is swelled or thickened at the point 6 on opposite sides of said web in order to give the requisite strength and rigidity at the point where the extremities of the rail-head and web meet. The flanges 5 are further provided at opposite points with horizontally-elongated keyholes 7, the purpose of which will hereinafter appear.

At its opposite end each rail has the web portion thereof extended to form a tang 8, which is adapted to slip into the space between the projecting portions of the flanges 5 of the adjoining rail, while the head 3, located above the tang 8, is adapted to rest squarely on the shoulders 9, formed by the upper edges of the flanges 5. The tang is provided with a horizontally-elongated slot 10 of greater length than the keyholes 7, the said slot being adapted to register with the holes 7 when the extremities of the rail are brought into proper relation to each other.

After the rail ends have been properly associated they are fastened together and prevented from pulling apart by means of a key-bolt 11, the latter comprising an enlarged head 12, a screw-threaded shank 13, adapted to receive a nut 14, and a body portion 15, located between the head and shank. The body portion 15 is oblong or somewhat elliptical in cross-section, as shown in Fig. 5, or, in other words, said body portion has a width

considerably in excess of its thickness, so that when said body portion is inserted through the holes 7 and slot 10 it will be impossible for said key-bolt to turn in its seat.

5 After the rail ends have been slid into proper relation to each other the key-bolts are inserted and fastened by means of nuts, one key-bolt being used for each rail-joint, thus doing away with the necessity of using
10 from four to six bolts, as in the rail-joints in use to-day.

15 The particular shape of the key-bolt and its relation to the flanges 5 and tang 8 prevents the breaking down of the rail-joint and keeps the upper surfaces of the rail-heads exactly on a level with each other. This avoids all jolting, jarring, and pounding under the weight of rapidly-moving trains.

20 The additional length given to the slot 10 provides for the necessary expansion and contraction of the rails.

The joint is simple in construction, and much time and labor is saved in the construction of a road by reason of the reduced number of bolts rendered necessary. The joint in reality constitutes the strongest portion of the rail, the rail heads and flanges being additionally supported by means of the swelled portions 6 and the flanges 5.

30 Having thus described the invention, what I claim as new is—

In a rail-joint, rail-sections, one of which is provided with a base-flange extending beyond the terminal point of the head and web and the other of which has the head and web ex- 35 tended beyond the extremity of the base to form a tang, said tang being provided with a longitudinally-elongated slot, oppositely-arranged flanges running lengthwise of the extended portions of the rail-piece and projecting upwardly therefrom to form rest-shoulders located in a line with the bottom of the rail-head, said flanges being provided with oppositely-located longitudinally-elongated slots to aline with the slot in the tang, the 45 slots in the flanges and tang having concave terminals, and a key-bolt inserted through the slots in the tang and flanges, said key-bolt comprising a body portion having a width greater than its thickness and formed with opposite curved side edges, the width of the said body portion of the bolt being less than the length of the slots, said bolt having a flanged head at one end and a reduced screw-shank at the opposite end to receive a nut. 55

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

JOHN J. SULKEY.

Witnesses:

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