

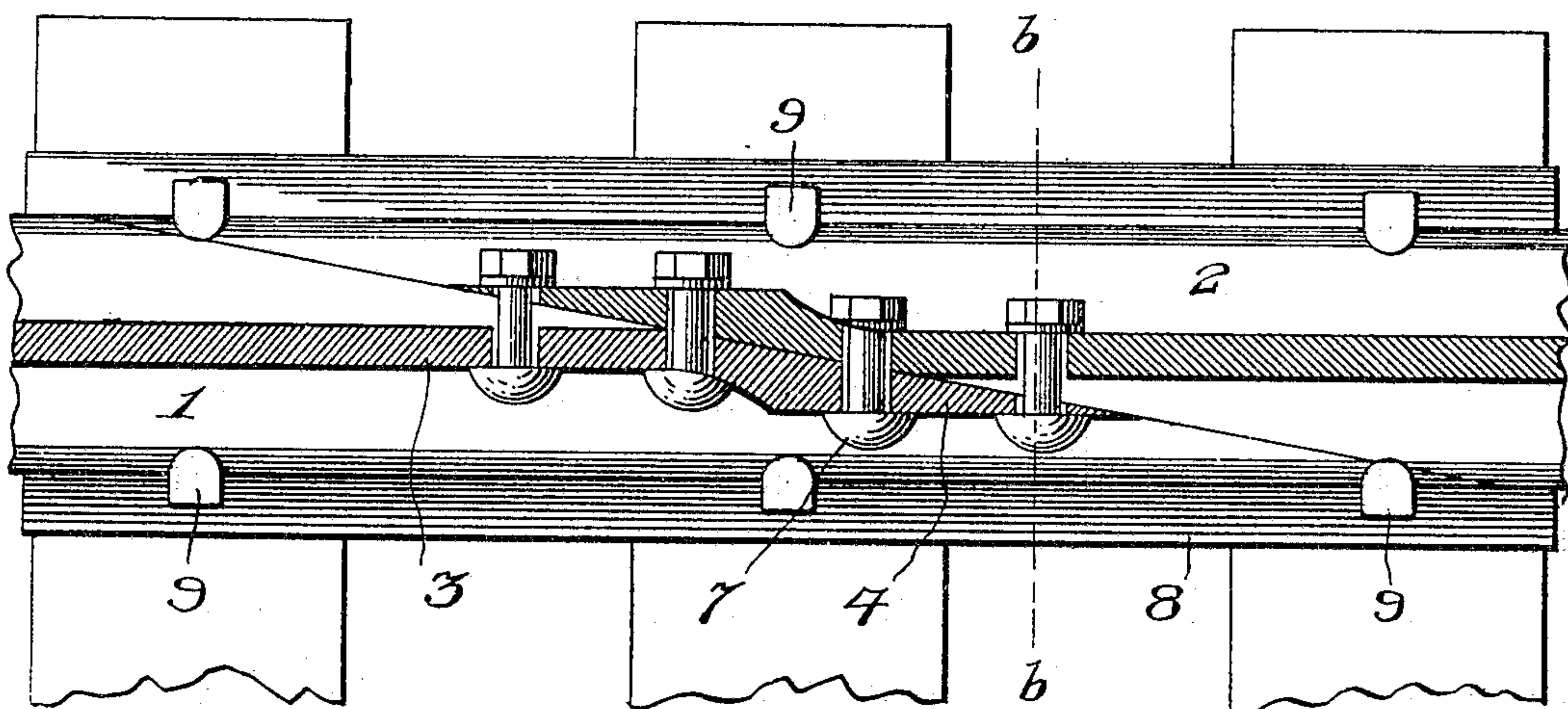
No. 801,570.

PATENTED OCT. 10, 1905.

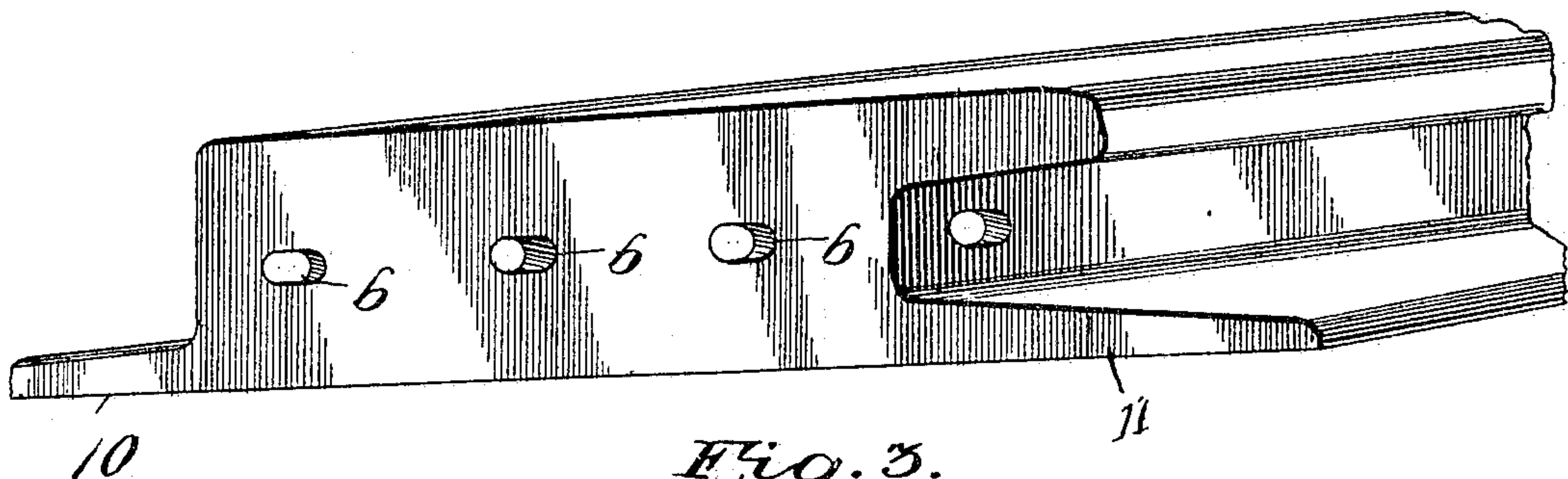
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RAIL JOINT.

APPLICATION FILED MAY 24, 1904.

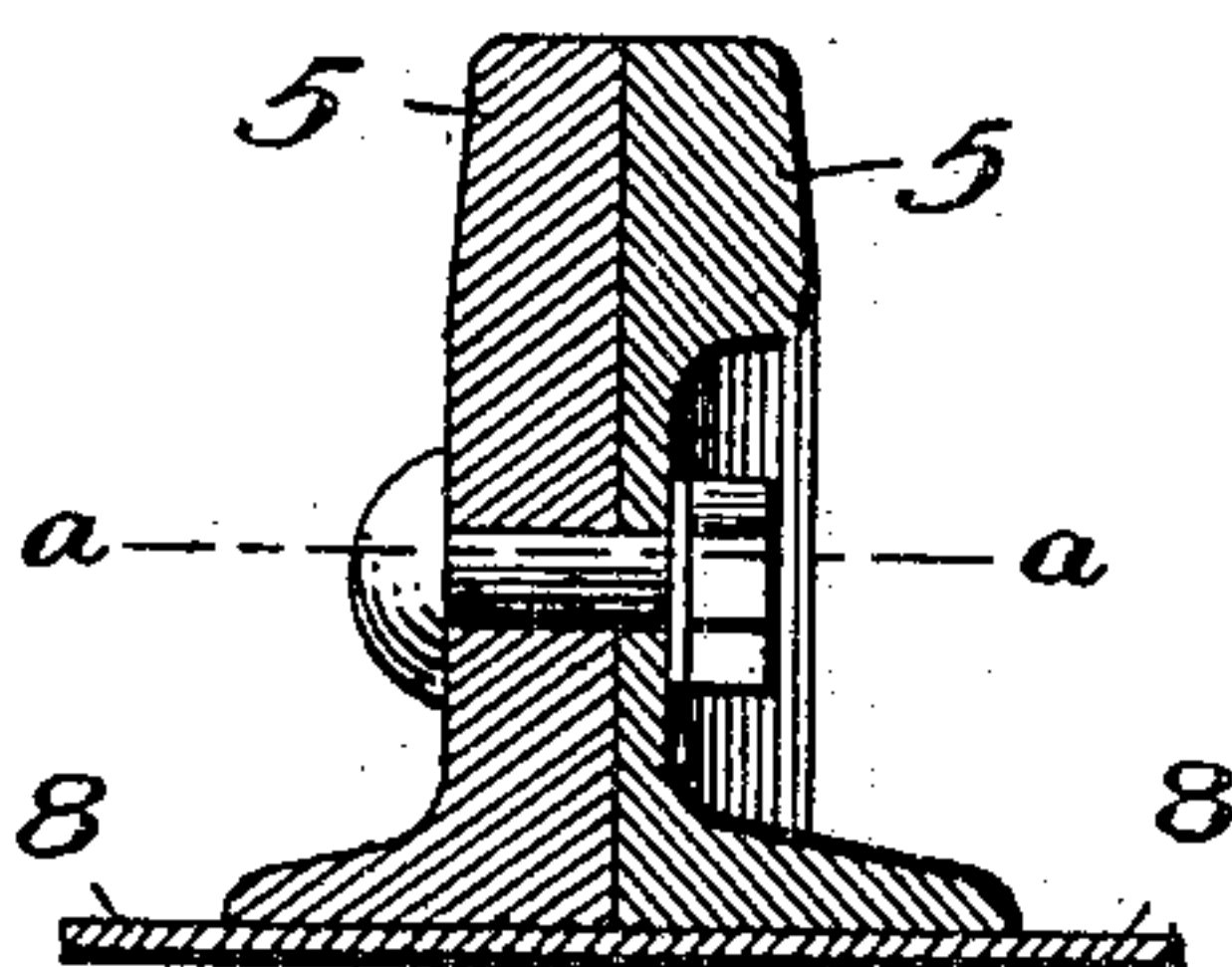
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

JAMES A. CRAWFORD AND IDA J. CRAWFORD, OF NEVADA, MISSOURI.

## RAIL-JOINT.

No. 801,570.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed May 24, 1904. Serial No. 209,483.

*To all whom it may concern:*

Be it known that we, JAMES A. CRAWFORD and IDA J. CRAWFORD, citizens of the United States, residing at Nevada, in the county of Vernon and State of Missouri, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to a rail-joint in which the abutting ends of connected rails meet at an angle, whereby the wheels of cars, &c., running thereon will smoothly and imperceptibly pass from one rail to the other without shock or jar to the passing car.

Figure 1 represents a horizontal section through the webs of two connected rails on the line *a a* of Fig. 3. Fig. 2 is a perspective view of the end of one rail. Fig. 3 is a cross-section of our improved rail-joint on the line *b b* of Fig. 1.

Similar numerals refer to the same parts on all the figures.

The numerals 1 and 2 indicate two rails to be joined. Their abutting ends are cut at an angle and lapped, as shown, the contacting faces of said abutting ends being on a vertical plane and at an angle of about ten degrees with respect to the side of the rail. As the beveled formation of the rail ends will naturally weaken the webs 3, to compensate for this weakness the ends of each web are reinforced by increasing their thickness, as at 4, to about that of the head 5 of the rail, thus giving said head increased support. Through these thickened portions 5 of the webs and of the webs proper behind such thickened portions elongated bolt-holes 6 are made for the usual fastening-bolts 7. The reinforcement of the webs in connection with the long angular contacting faces of the rails enable the ends of the rails to be fastened together without the use of fish-plates or other similar devices.

The base-flanges at each end of the rails are provided with extensions 10, which project forwardly beyond the webs and have their inner faces beveled in line or flush with the bevels of the webs. Said flanges are further provided with beveled parts 11 on their

outer opposite faces, which extend rearwardly from the bevels of the webs of the rail ends and serve to contact with the beveled extensions 10, which project in front of the webs.

Below the rails and resting on the ties is a metal plate 8 for supporting the joint. This plate, which is to be made long enough to extend over at least three ties, gives an unyielding support to the superposed rail-joint, so that no sagging or depressing is possible. The plate 8 is suitably perforated for spikes 9, which fasten the rails to the ties. The elongation of the bolt-holes 6 permits the rails to expand and contract, and as the rails vary in length under changes of temperature their abutting faces will continually remain in contact and slide upon each other, thus preserving at all times a smooth unbroken tread for wheels running thereon, variations in the transverse thickness of the joint from expansion and contraction being compensated for by ordinary spring-washers, which in practice will be employed.

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

A rail-joint comprising each of the meeting ends of the rails having beveled treads, webs and base-flanges, the webs being provided with a series of openings therein, the base-flanges at each end of the rails having extensions which project beyond the webs and having their inner faces beveled in line or flush with the bevels of the webs, said flanges being also provided with beveled parts on opposite outer faces which extend rearwardly from the bevels of the webs and serving to contact with the projecting beveled extensions in front of the webs, and means passing through the openings of the webs to secure said meeting ends together, substantially as specified.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES A. CRAWFORD.

IDA J. CRAWFORD.

Witnesses:

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