

No. 656,589.

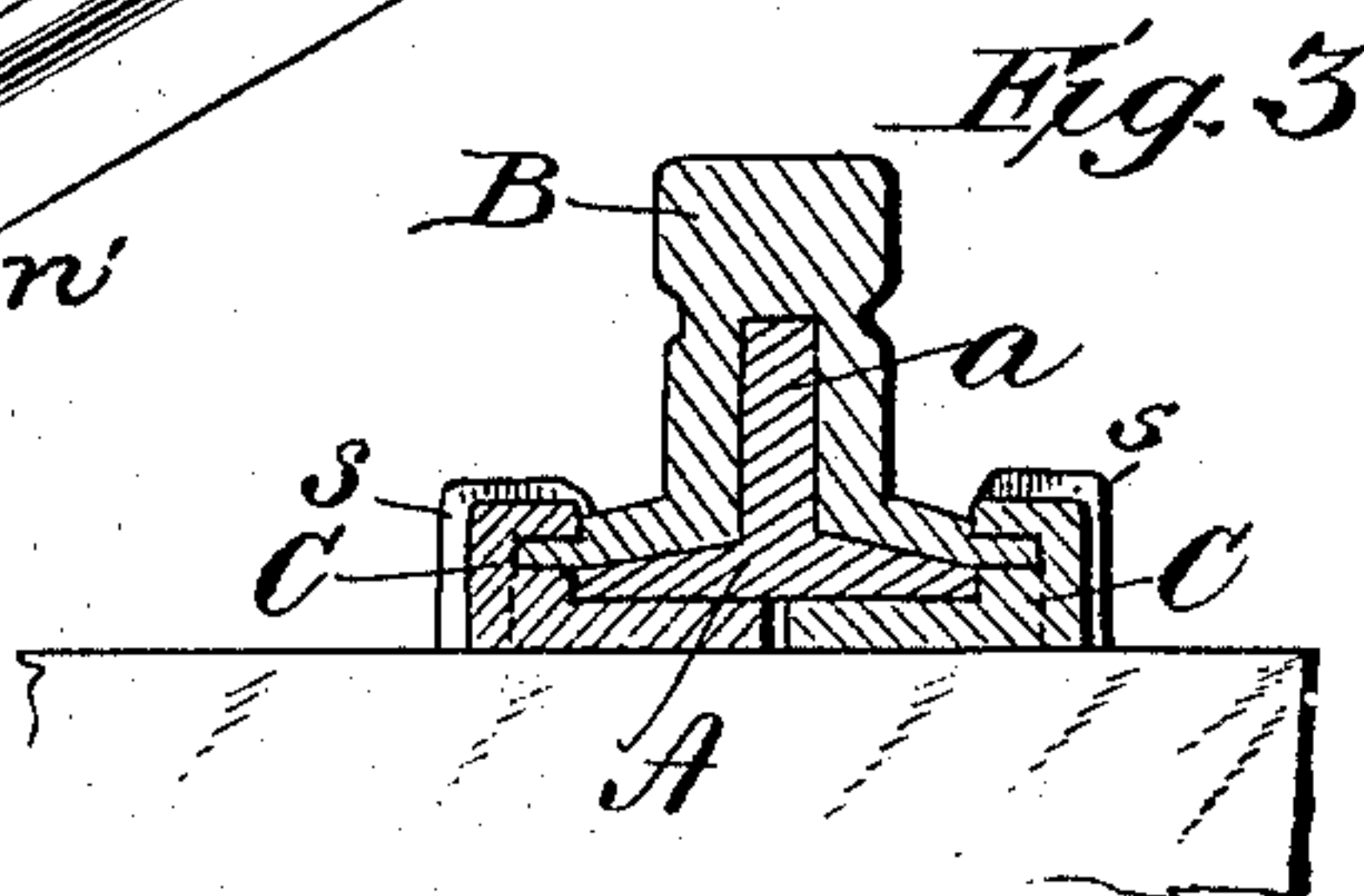
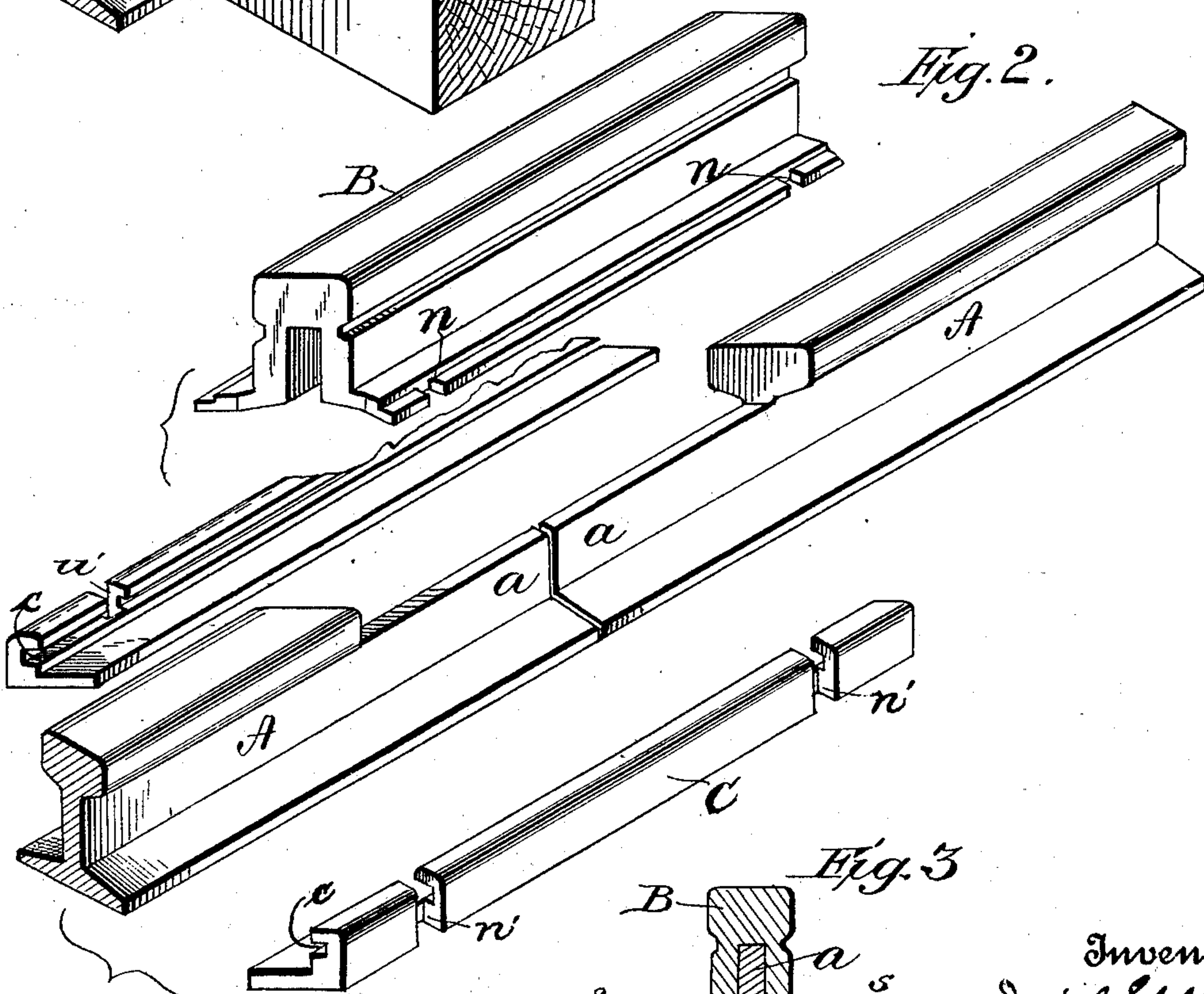
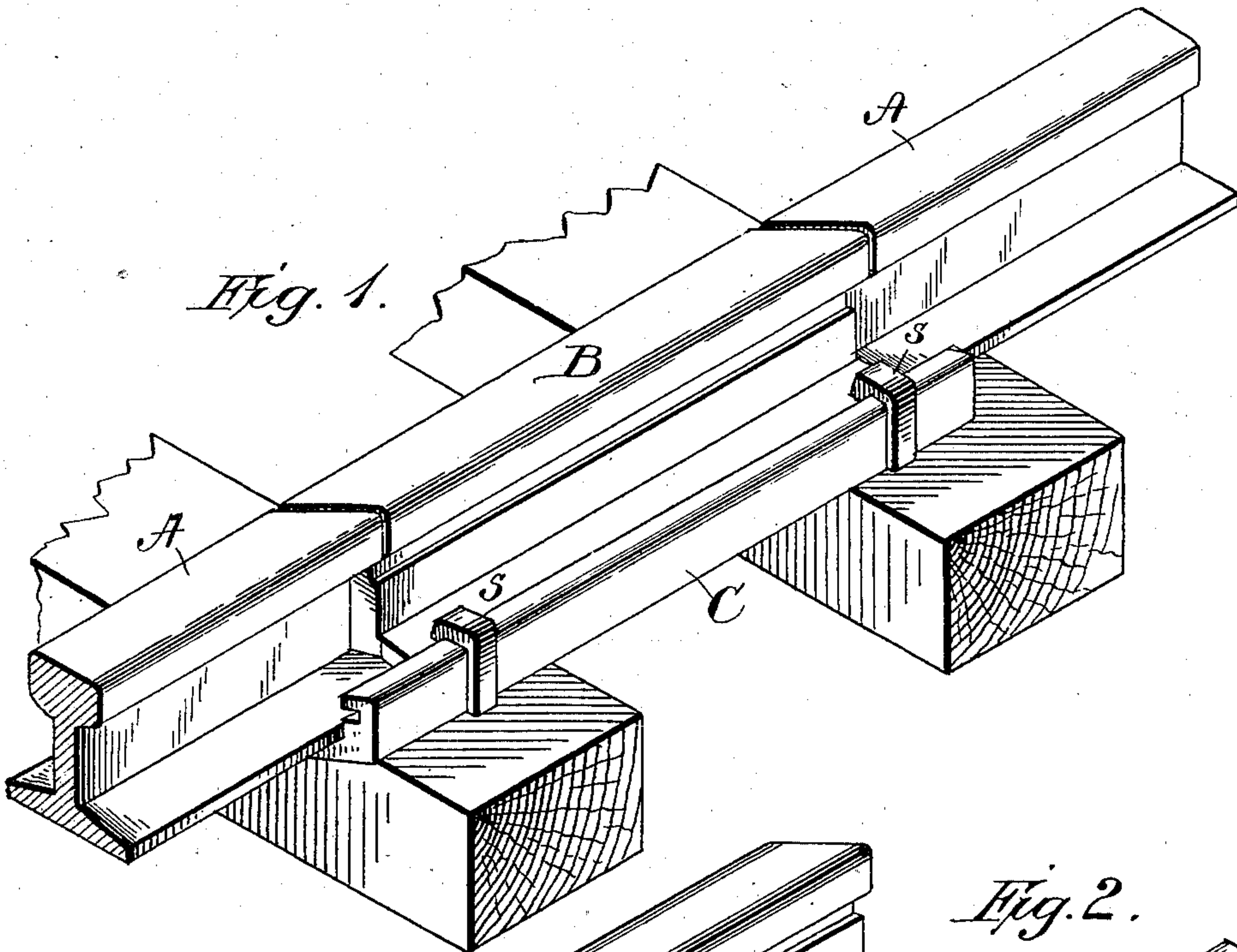
Patented Aug. 21, 1900.

D. STEPHENS.

RAIL JOINT.

(Application filed June 2, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

DANIEL STEPHENS, OF POTTSVILLE, PENNSYLVANIA, ASSIGNOR OF THREE-FOURTHS TO RICHARD J. HOLAHAN, EDWARD A. MOYER, AND CLINTON D. RISHEL, OF SAME PLACE.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 656,589, dated August 21, 1900.

Application filed June 2, 1900. Serial No. 18,877. (No model.)

To all whom it may concern:

Be it known that I, DANIEL STEPHENS, a citizen of the United States, residing at Pottsville, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My said invention consists in an improved construction of joints for railway-rails whereby the use of bolts, nuts, nut-locks, fish-plates, and numerous parts commonly employed in connecting the ends of rails are obviated and a joint provided which will be of equal or greater strength and stiffness than the remainder of the track and also furnish a continuous tread, in effect providing a continuous rail, thus overcoming the usual pounding and jarring consequent upon the space between the ends of the rails allowed for expansion in the common construction, all as will be hereinafter more fully described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view showing a rail-joint of my improved construction; Fig. 2, a perspective view of the several parts separated, and Fig. 3 a cross-section through said parts.

In said drawings the portions marked A represent the rails, B a connecting tread portion, and C side clamping-supports.

The rails A are of the ordinary or any suitable construction. For a short distance back from each end the tread is cut away, leaving the web *a* projecting to the end. The cut through the tread is preferably diagonal for the purpose to be presently described.

The tread portion B is of a form similar to the rail and has a longitudinal groove in its under side adapted to fit upon the ends *a* of the web of the rails. It is of the size required for strength and to bring its top level with the top of the rails. Its ends are also cut diagonally to correspond with the cuts through the tread of the rails. A continuous tread is thus afforded, notwithstanding the spaces allowed for expansion, as will be readily understood. The sides of the tread

portion extend down to the flanges of the rails and have flanges extending out over said rail-flanges to beyond the edge thereof. Notches *n* are formed in the edges of the flanges of part B to receive the spikes.

The clamping-braces or supporting-plates C are formed to extend under the joint against the under side of the rail practically to the center thereof and are formed with upwardly-projecting sides having grooves *c*, which are of a size adapted to closely embrace the rail-flanges and the flanges of the part B and clamp them together. Notches *n'* are cut through the edges of said plates adapted to register with the notches *n* in the flanges of the part B, so that the spikes will engage both parts and hold them together. Said plates C thus not only hold the tread portion B and rails firmly clamped together, while allowing the free longitudinal movement of said rails due to contraction and expansion, but add the additional support or brace necessary to make the joint rigid and of the required strength and stiffness.

By this arrangement and construction of parts the use of all bolts, fish-plates, &c., is entirely obviated, and a practically-continuous rail is provided in which all necessary expansion may be provided for without breaking its continuity, and the strain of such expansion and contraction on the bolts commonly used, with the consequent breaking thereof and frequent injury to the track, requiring constant watching and repair, is practically overcome. A joint is also provided while possessing all these advantages that may readily be taken apart when it is desired to remove a rail or to repair the track, it being only necessary to withdraw the spikes *s*, when the clamping-bars C may be removed and the part B lifted off, when the ends of the rails are entirely disconnected and free. It will also be noticed that the several parts composing this joint are interchangeable. The tread portion B or the clamping-plates can be reversed and are adapted for use on any joint and on either side, thus adding to the convenience and practicability of the device.

Having thus fully described my said inven-

tion, what I claim as new, and desire to secure by Letters Patent, is—

1. A rail-joint embodying the tread portion B adapted to embrace the ends of the webs of the rails, and the side clamps C adapted to embrace the edges and clamp together the flanges of both rails and the part B, and spikes as the securing devices, substantially as set forth.
2. The combination of the rails having the tread cut away at the ends, the portion B formed with a groove to fit over the ends of the web of said rails and with a top of a form to supply the cut-out portion of the tread and having flanges extending out over the rail-flanges to their edges, and the side clamps embracing the edges of said rail and tread-portion flanges, and spikes for securing them together, substantially as set forth.
3. In a rail-joint, the combination, of the

rails with the ends of the tread cut away, the portion B formed to fit onto the projecting webs and supply the cut-away portion of the tread, and having flanges extending out over the rail-flanges, the side clamping-plates engaging with and clamping together both of said flanges to bind them together and extending under the rail, notches being formed in the edges of said several parts which register, and spikes engaging with said notches in said parts, and the ties, all substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Washington, District of Columbia, this 1st day of June, A. D. 1900.

DANIEL STEPHENS. [L. S.]

Witnesses:

RICHARD J. HOLAHAN,
E. A. MOYER.