

No. 847,400.

PATENTED MAR. 19, 1907.

S. H. CAMPBELL.

RAIL JOINT.

APPLICATION FILED NOV. 8, 1905.

Fig. 1.

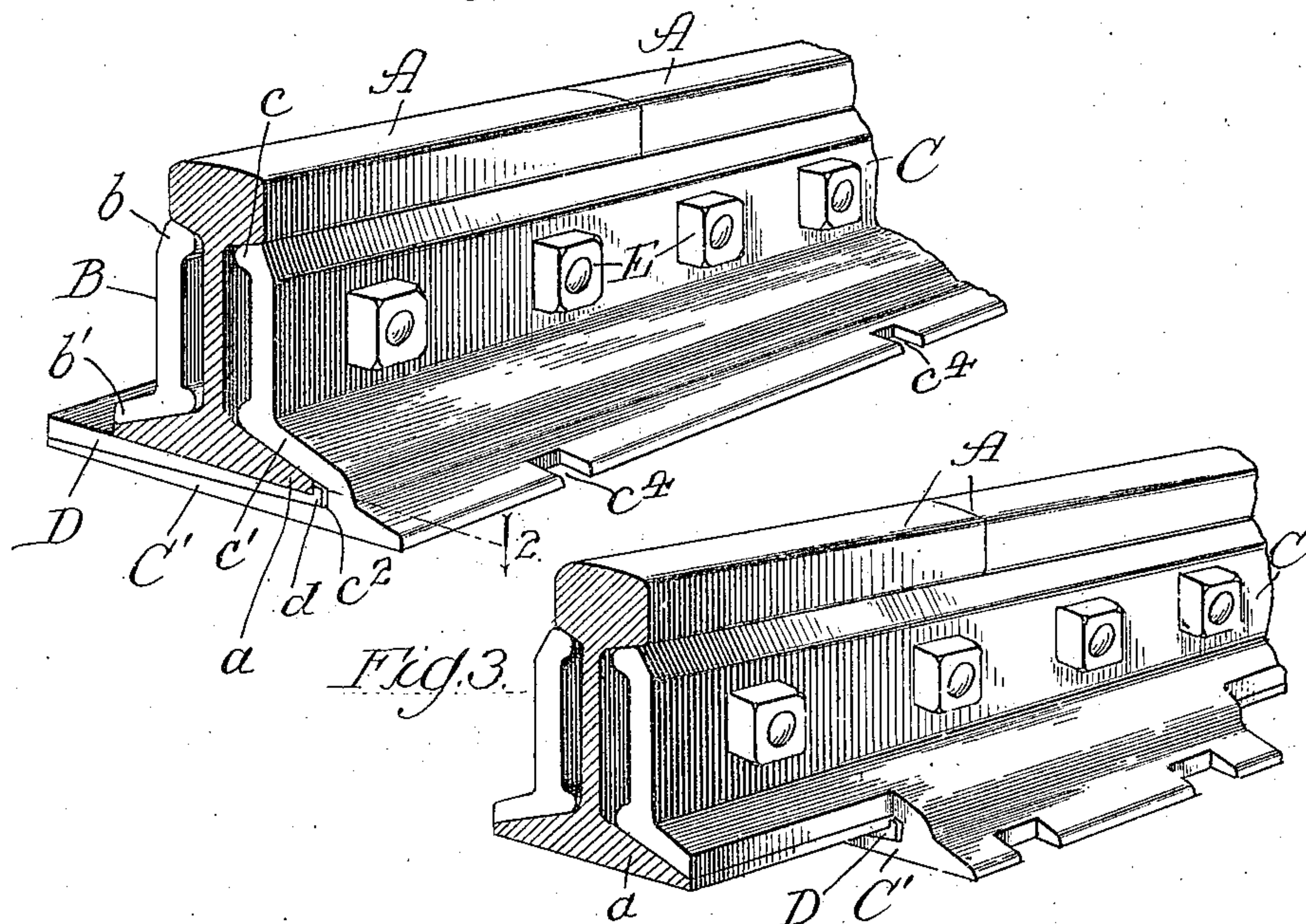


Fig. 3.

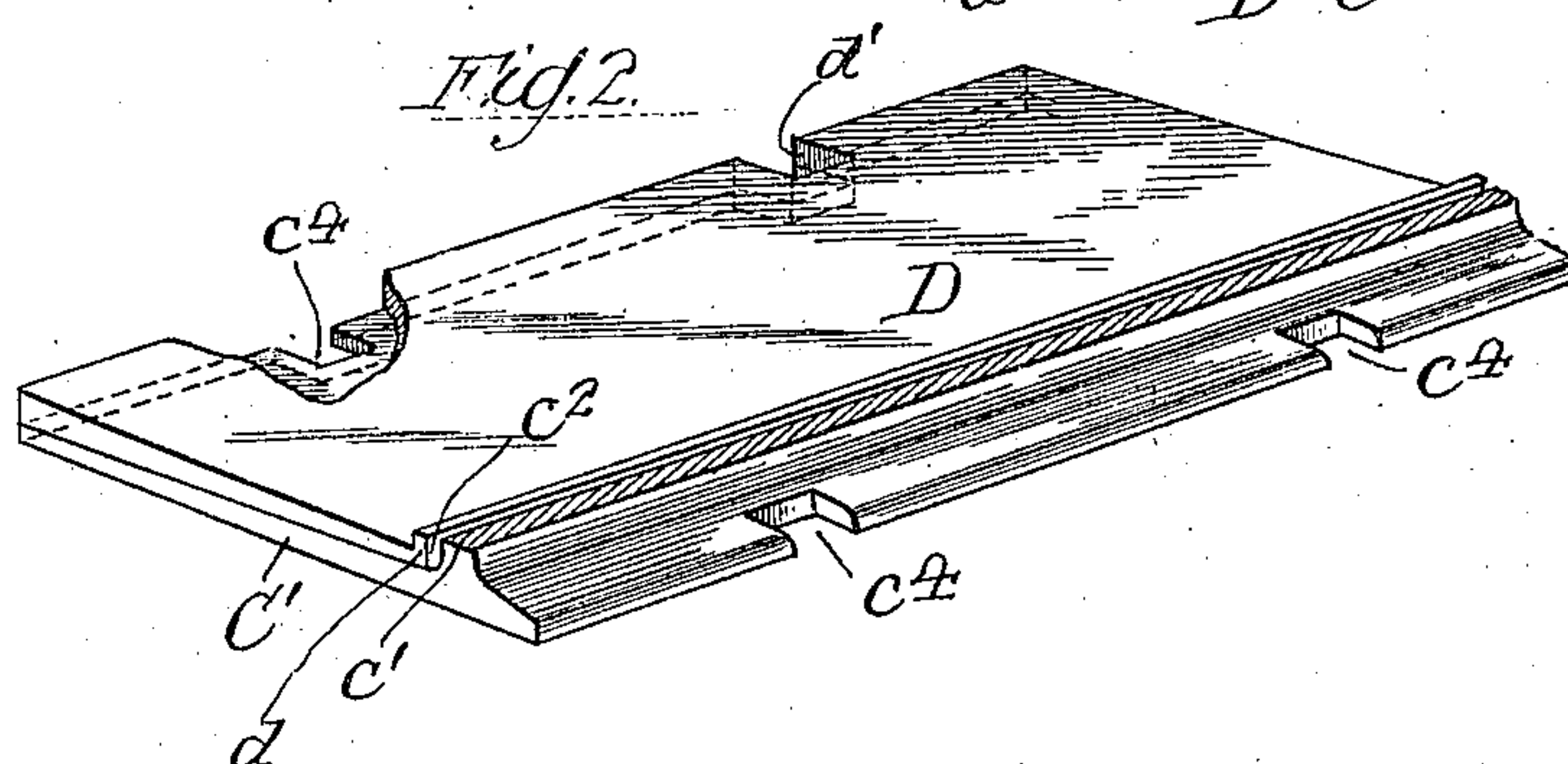
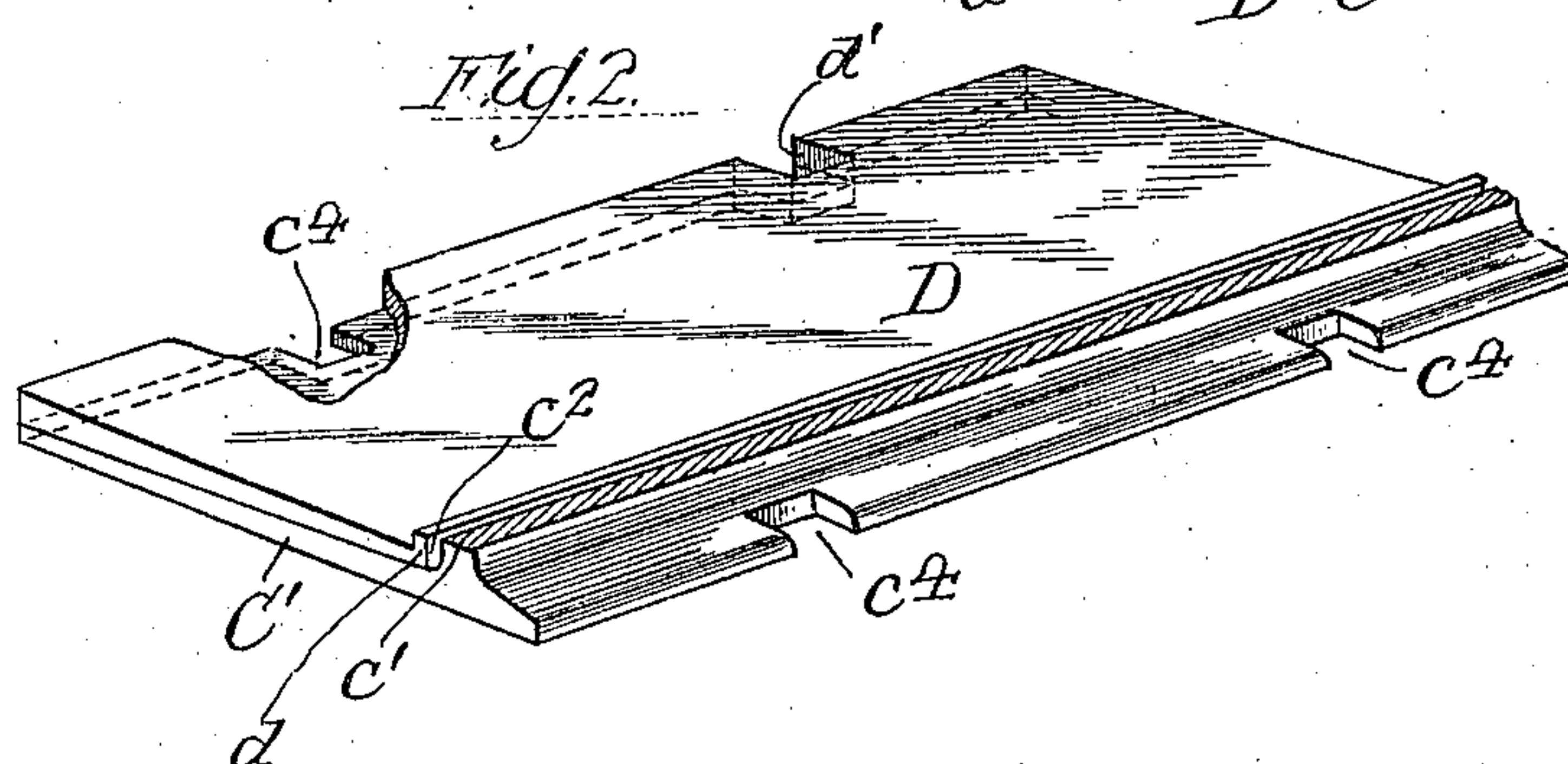


Fig. 2.



Witnesses:

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RAIL-JOINT.

No. 847,400.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, STERLING H. CAMPBELL, a citizen of the United States, residing at Detroit, county of Wayne, and State of Michigan, have invented certain new and useful Improvements in Rail-Joints, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification.

My present invention has relation to rail-joints that combine the advantages of the fish-plate and the rail-chair; and the object of the invention is to provide a construction whereby a more effective engagement of the joint with the rail may be secured.

To this end my invention consists in the features of novelty hereinafter described, illustrated in the accompanying drawing, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a perspective view showing my invention applied to the abutting ends of two railway-rails. Fig. 2 is a perspective view of the chair-plate and wedge, the fish-plate being broken away on line 2 of Fig. 1. Fig. 3 is a perspective view similar to Fig. 1, but showing a modified form of the invention.

In the accompanying drawing my invention is shown as applied to an ordinary T-rail. At opposite sides of this rail A are placed the plates B and C, that comprise the joints. The plate B in the embodiment of my invention illustrated in Figs. 1 and 2 of the drawing is a familiar form of fish-plate having its top *b* and its base *b'* arranged to bear against the head and base-flange of the rail respectively. The plate C has its head *c* adapted to bear beneath the head of the rail A, and its base portion *c'*, which bears against the base-flange of the rail A, is extended outward beyond the base-flange of the rail and has formed integral therewith a chair-plate C', that extends across and beneath the base of the rail A. Between the chair-plate C' and the base *a* of the rail A is interposed a wedge-plate D of suitable construction. In the preferred form of the invention the wedging action between the chair-plate C' and the wedge-plate D is effected by forming their contacting faces beveled or inclined, as shown, and by preference the inner end of the wedge-plate D will be formed with an offset or flange *d*, adapted to sit within the recess *c*²

at the base of the plate C and to engage with the base-flange *a* of the rail A. The plates B and C will be provided with the usual bolt-holes to receive the threaded retaining-bolts E, that pass through these plates and through the web of the rail A in the usual manner, and notches *c*⁴ will be provided at the opposite sides of the chair-plate C' to receive the usual retaining-spikes. From the foregoing description it will be seen that when the plates B and C and the wedge-plate D have been placed in position, as shown, the tightening of the bolts E will serve to draw the plates B and C together. As the plates B and C are thus drawn together by the bolts E the chair-plate C' will also be correspondingly moved in the direction of the arrow against the wedge-plate D. As the chair-plate C' is thus shifted it forces the wedge-plate D upward into firm bearing with the base *a* of the rail A, thereby affording a secure support for the rail-base and resisting the downward strain of the plates B and C upon the base-flanges of the rail.

I am aware that rail-joints have been heretofore provided in which a chair-plate formed integral with one of the side plates of the joint was extended entirely beneath the base of the rail; but in such prior construction no provision was made for securing any wedging action between the chair-plate and the base of the rail, and consequently no uniformity or certainty of bearing of the rail upon the chair-plate was insured. When it is remembered that rail-joints of this character are commonly formed by drop-forging; the difficulty of insuring an accurate bearing of the chair-plate against the bottom of the rail will be readily appreciated.

With prior constructions of rail-joints in which a chair-plate formed integral with a fish-plate extended entirely beneath the rail the inward movement of the chair-plate incident to tightening the retaining-bolts did not secure any tighter bearing of the chair-plate against the rail-base, because the opposing faces of the rail-base and of the chair-plate were at all times parallel. With my invention, on the contrary, the tightening of the retaining-bolts not only serves to effect the accurate bearing of the plates B and C against the head and base-flanges of the rail, but insures also the firm contact of the wedge-plate D across the entire base *a* of the rail.

The construction illustrated in Fig. 3 of the drawings is substantially the same as that illustrated in Figs. 1 and 2, except that the chair-plate C' and the wedge-plate D are considerably shorter than the fish-plates B and C. In this form of the invention, as in that hereinbefore described, the chair-plate C' is formed integral with the bottom of the central portion of the fish-plate C and extends to a sufficient distance beyond the center of the fish-plate to form a support for the abutting ends of the rails A A. In this form of the invention, as in that hereinbefore described, the chair-plate C' will have its upper surface inclined, and the wedge D will have its lower surface inclined. By forming the chair-plate C' and wedge D shorter than the fish-plates a material saving in weight and in cost of transportation is effected.

It will be readily understood that the details of construction above set out may be modified without departure from the spirit of the invention.

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

1. A rail-joint comprising a fish-plate, a combined fish-plate and chair-plate, the chair-plate extending beneath and entirely across the rail-base, a wedge-plate adapted to extend beneath the rail-base and between it and the chair-plate, and bolts extending through the fish-plates to draw them and the chair and wedge plates together.

2. A rail-joint comprising a combined fish-plate and chair-plate, and a wedge-plate

adapted to be interposed between the chair-plate and the rail-base, said chair-plate and said wedge-plate being adapted to extend across the rail-base from side to side thereof.

3. A rail-joint comprising a fish-plate, a combined fish-plate and chair-plate, a wedge-plate adapted to be interposed between the chair-plate and the rail-base, said chair and wedge plates being adapted to extend from side to side of the rail-base, and bolts extending through the fish-plates to draw them and the chair and wedge plates together.

4. A rail-joint comprising a fish-plate, a combined fish-plate and chair-plate, a wedge-plate adapted to be interposed between the chair-plate and rail-base, and bolts extending through the fish-plates to draw the parts together, said chair and wedge plates being adapted to extend from side to side of the rail-base and having abutting inclined surfaces and said wedge-plate having an offset to lock it against movement when the chair-plate is shifted.

5. A rail-joint comprising a fish-plate, a combined fish-plate and chair-plate, a wedge-plate adapted to be interposed between the chair-plate and the base of the rails, the chair and wedge plates being shorter than the fish-plates and adapted to extend beneath the abutting ends of the rails to be joined, and bolts extending through the fish-plates to draw the parts together.

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Witnesses:

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