

(No Model.)

G. T. STEVENS & W. R. CARRUTHERS.
FISH JOINT FOR RAILWAYS OR TRAMWAYS.

No. 462,031.

Patented Oct. 27, 1891.

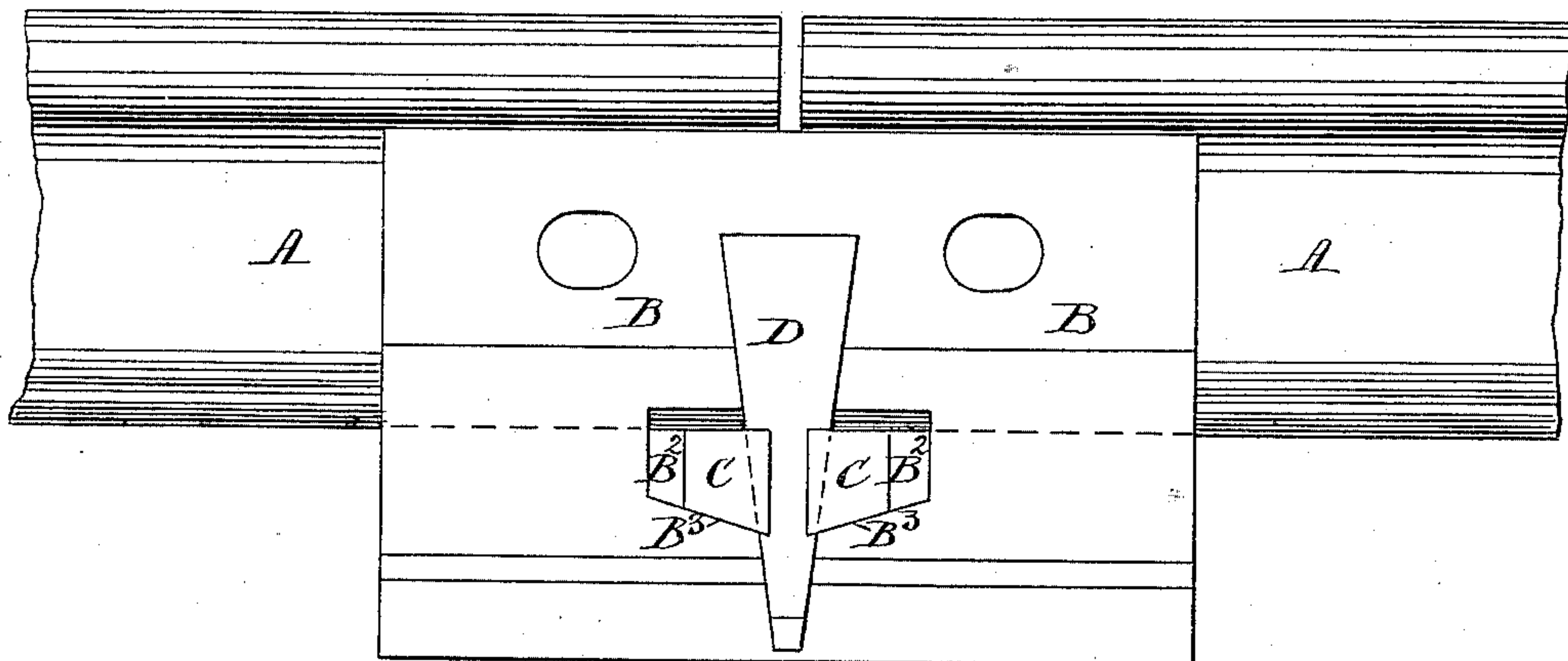


Fig. 1

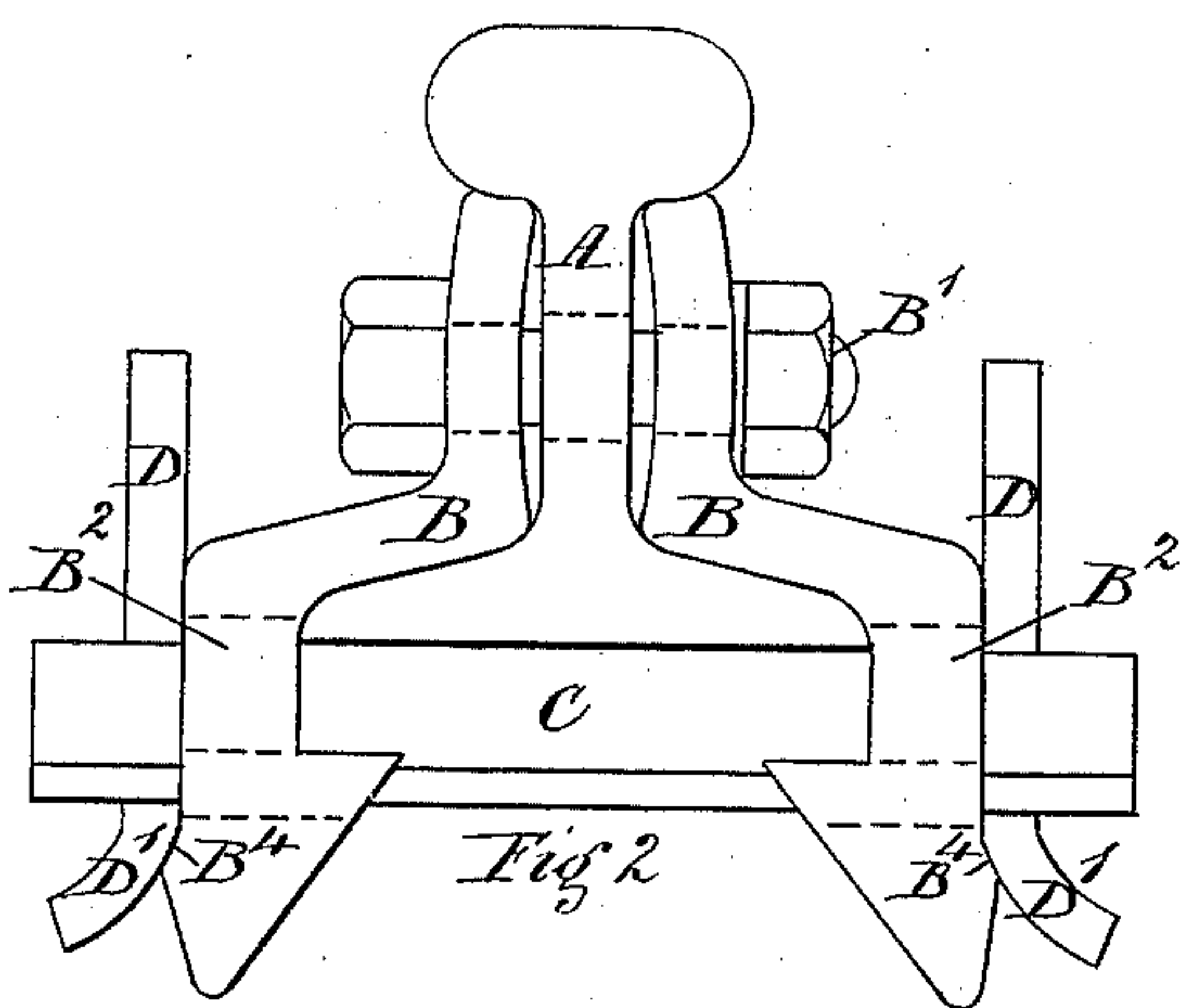


Fig. 2

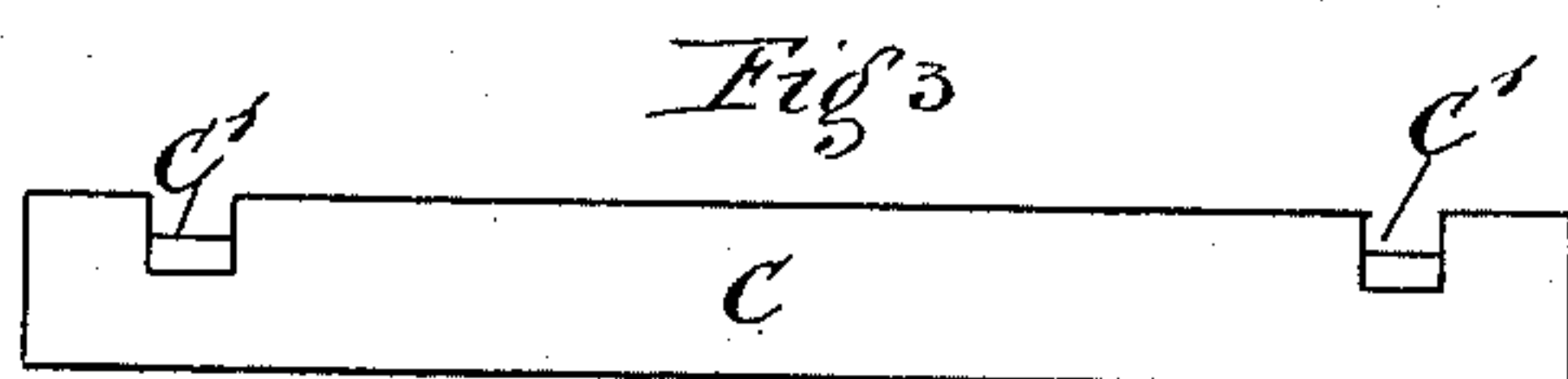


Fig. 3

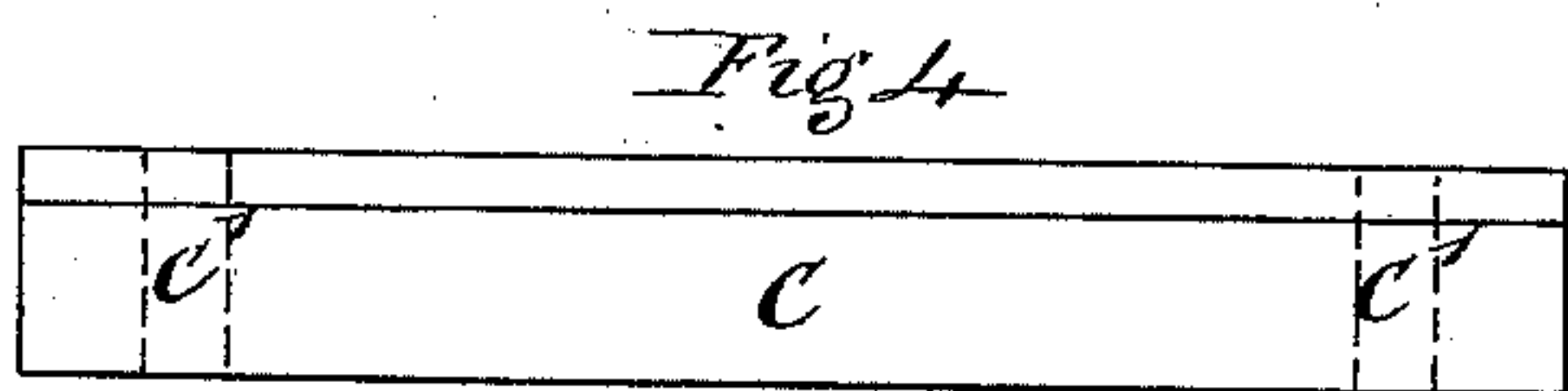


Fig. 4



Fig. 5

Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE TREACY STEVENS AND WILLIAM ROSS CARRUTHERS, OF
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FISH-JOINT FOR RAILWAYS OR TRAMWAYS.

SPECIFICATION forming part of Letters Patent No. 462,031, dated October 27, 1891.

Application filed April 23, 1891. Serial No. 390,200. (No model.)

To all whom it may concern:

Be it known that we, GEORGE TREACY STEVENS and WILLIAM ROSS CARRUTHERS, subjects of the Queen of Great Britain, both of the city of Wellington, in the Colony of New Zealand, have invented a new and useful Fish-Joint for Railways, of which the following is a specification.

Our invention relates to improvements in fish-joints for railways and tramways; and the objects of our improvements are to support the feet of the rails at or near their junction by transverse wedges passing through wedge-shaped slots formed in a part of the fish-plates carried below the rail and having travel parallel with the rail, and also firmly securing these wedges by vertical keys or wedges working against shoulders in the transverse wedges, whereby the said transverse wedges are tightened against the feet of the rails, tending to push the same upward, and so prevent the depression or wear of the top surface of the ends of the rails. By these means also a joint is made by which the soles of the rails and shoulders of the fish-plates become as one, thereby preventing one rail when receiving the weight from sinking lower than the other, and by this bracing of the sole of the rails with the shoulders of the fish-plates, if one rail sinks, so must the other, thus keeping the top of the rails on a level, which will prevent the knock at present generally produced and practically making the line one continuous rail. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side view of our improved fish-joint. Fig. 2 is a vertical section of the same. Fig. 3 is a plan of one of the transverse wedges. Fig. 4 is a side view of the same. Fig. 5 is an end view.

Similar letters refer to similar parts throughout the several views.

A A are the ends of two ordinary railway rails.

B B are the fish-plates having fish-plate bolts B' B'. These fish-plates are carried below the foot of rails, as shown, and in these parts are formed slot-holes B² B² square in form on the top and ends, but at the bottom forming two inclined planes B³ B³.

C C are two transverse wedges extending

across and underneath the bottoms of the rails and resting on the inclined planes B³ B³.

D D are wedges or keys which are driven down between the wedges C C, and by preference in grooves C' C'. These wedges or keys can be driven down from time to time by a hammer, and in being so driven their points come into contact with the ribs B⁴, by which they are turned, as at D', and securely held from returning.

It will be seen from this description of the several parts and by reference to the drawings that our invention consists of fish-plates bolted to the rails in the usual manner, but which fish-plates are carried below the base of the rails and are provided with wedge-shaped slots to receive wedges placed transversely under the feet of the rails, and that by means of vertical keys or wedges being driven down between the said transverse wedges the said transverse wedges are driven apart and up inclined planes at the same time, and thus are brought to bear against the undersides of the rails, thus producing a tendency to raise the ends of the rails, binding the fish-plates firmly together, and by producing a tendency to raise the ends of the rails prevent the wear of the same, which is found so objectionable in ordinary fish-plates.

Having fully described our invention, we wish it to be understood and that we claim, and desire to secure by Letters Patent in the United States, is—

1. The combination, in a fish-joint for railways and tramways, of the fish-plates B B, having slot-holes B², with transverse wedge-pieces C, sliding on the inclined surfaces B³ and actuated by the wedges D, all substantially as set forth.

2. The combination, in a fish-joint for railways and tramways, of the fish-plates B B, having slot-holes B², with transverse wedge-pieces C, sliding on the inclined surfaces B³ and actuated by wedges D, secured by ribs or projections B⁴, all substantially as set forth.

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Witnesses:

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