

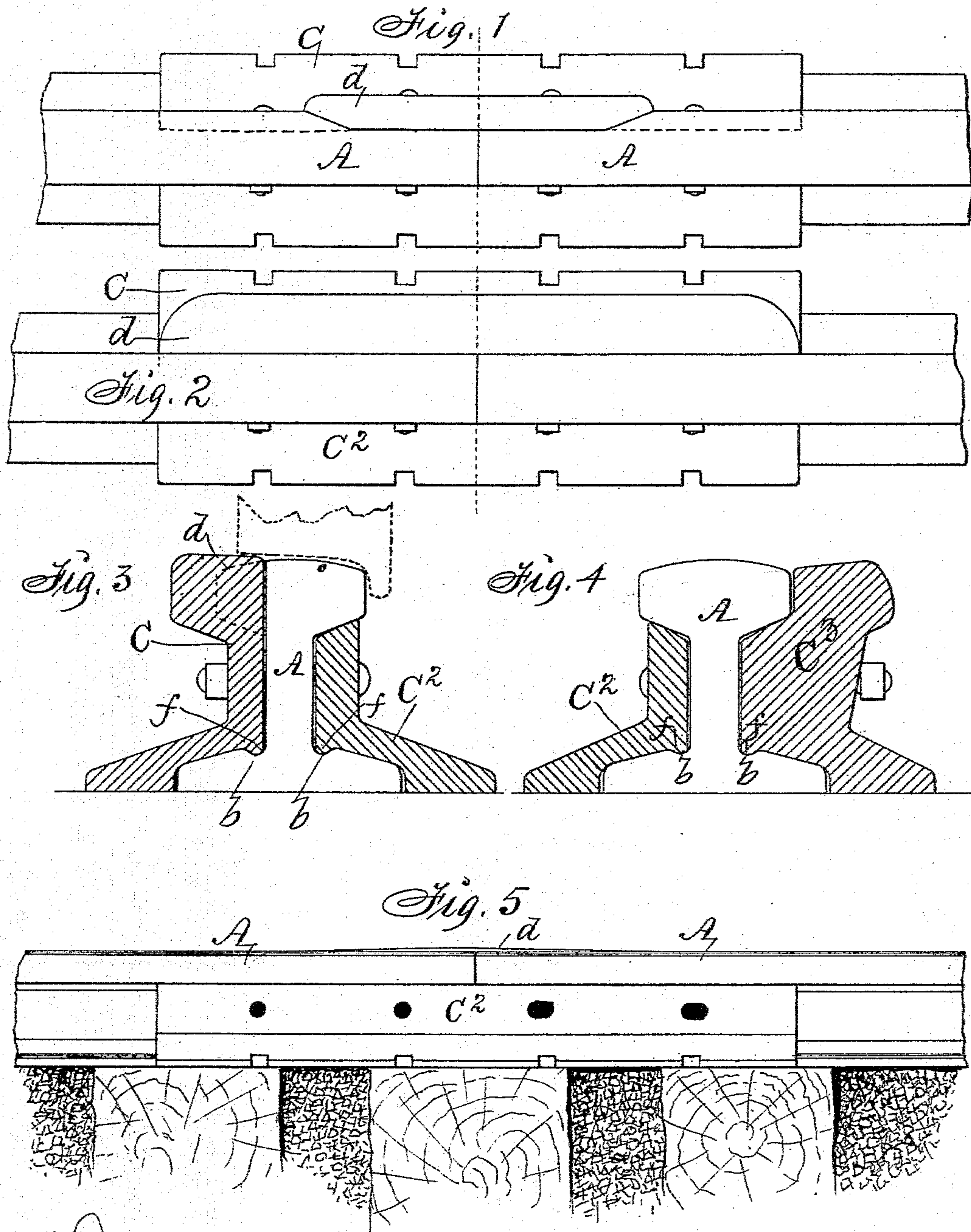
(No Model.)

D. S. SNYDER & C. J. HOTELING.

RAILROAD JOINT PROTECTOR OR BRACE.

No. 356,799.

Patented Feb. 1. 1887.



Witnesses:

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UNITED STATES PATENT OFFICE.

DAVID S. SNYDER AND CHARLES J. HOTELING, OF NEVADA, IOWA.

RAILWAY-JOINT PROTECTOR OR BRACE.

SPECIFICATION forming part of Letters Patent No. 356,799, dated February 1, 1887.

Application filed September 23, 1886. Serial No. 214,795. (No model.)

To all whom it may concern:

Be it known that we, DAVID S. SNYDER and CHARLES J. HOTELING, citizens of the United States of America, and residents of Nevada, in the county of Story and State of Iowa, have invented an Improved Railway-Rail Joint, of which the following is a specification.

Our object is to prevent wear on the abutting ends of rails in a continuous track and the accidents, damages, and costs incident to the passage of cars and trains over joints of common form.

Heretofore splicing-pieces or fish-plates have been fitted into openings formed in the balls of the contiguous ends of rails in such a manner that the tread of the wheels came in contact with the top surface of such plates to relieve the abutting ends from much of the weight of a passing car and train. Grooves have also been formed in the flanges of rails, at the opposite sides of the base of the web, to admit corresponding edges on the bottoms of fish-plates; but in no instance has the top edge of a plate been on a level with the top of the abutting ends of rails, and its lower edge let into their flanges at the bases of their webs for the purposes contemplated by our invention, which consists in the construction and combination of plates with the abutting ends of rails, as hereinafter set forth, pointed out in our claims, and illustrated in the accompanying drawings, in which—

Figures 1 and 2 are top views of our improved joint; Fig. 3, a transverse section through the dotted line in Fig. 1; Fig. 4, a transverse section through the dotted line in Fig. 2, and Fig. 5 a side view showing the fish-plates combined with the abutting ends of two rails but not fastened.

A A represent rails of common form, having grooves *b* in the top faces of their flanges and on the opposite sides of the bases of the webs. These grooves are readily made in the end portions of a rail by a machine specially adapted for the purpose.

C is a splice bar or plate that extends vertically at its center above the top of the rail and horizontally over the flange of a rail to overlap a tie. It has notches in the outside

edge, through which spikes are driven to fasten it to the cross-ties. *d* is the vertical extension at its center, that is designed to fit into an opening of corresponding shape formed in the balls of the abutting ends of rails by cutting portions of the balls away, as clearly shown in Fig. 1. The top surface of this extension *d* is inclined longitudinally downward in opposite directions from its highest point and center and also inclined laterally upward from its inner edge in such a manner that the tread of a wheel will pass over its ends without causing any jar and the wheel will be thereby elevated sufficiently to prevent the weight of the car from being transmitted direct upon the ends of the rails to pound them and abrade them and wear them off, so as to impair the continuity of the surface of the track and endanger travel.

f is a bead at the inner lower corner of the plate C, that fits into the longitudinal grooves *b* in the webs of the rails in such a manner that the vertical pressure of a wheel and car will aid in preventing lateral movement of the plate and the breaking of bolts incident to such pressure and the spreading and damaging of rail-joints.

C² is in all respects a counterpart of the plate C, excepting that it has no vertical extension *d*, and therefore the entire length of its top edge fits against the under sides of the balls of the rails.

C² is a modification of the plate C, in which the vertical extension *d* fits against the straight edges of the balls of rails that are left intact. It can readily be applied for splicing and reinforcing broken rails without lifting them.

To form a joint by means of the plates C and C², we simply place them on the opposite sides of the abutting ends of rails in a track by lateral motions in such a manner that their beads *f* will extend through the grooves *b* in the flanges of the rails and then clamp them fast to the rails by means of bolts, and fasten them to the cross-ties by means of spikes in a common way.

We claim as our invention—

1. In a railway-rail joint, the plate C, having a vertical extension, *d*, at its top and a bead, *f*, at its bottom, in combination with

the abutting ends of rails having grooves *b* in their flanges, substantially as shown and described, for the purposes stated.

2. An improved railway-rail joint composed of a plate, C, having a continuous straight bead, *f*, on its under side, a vertical extension, *d*, at its center, a plate, C², having a bead, *f*, and two rails having sections of

their balls removed to admit the vertical extension *d* of the plate C, substantially as shown and described, for the purposes stated.

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Attest:

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