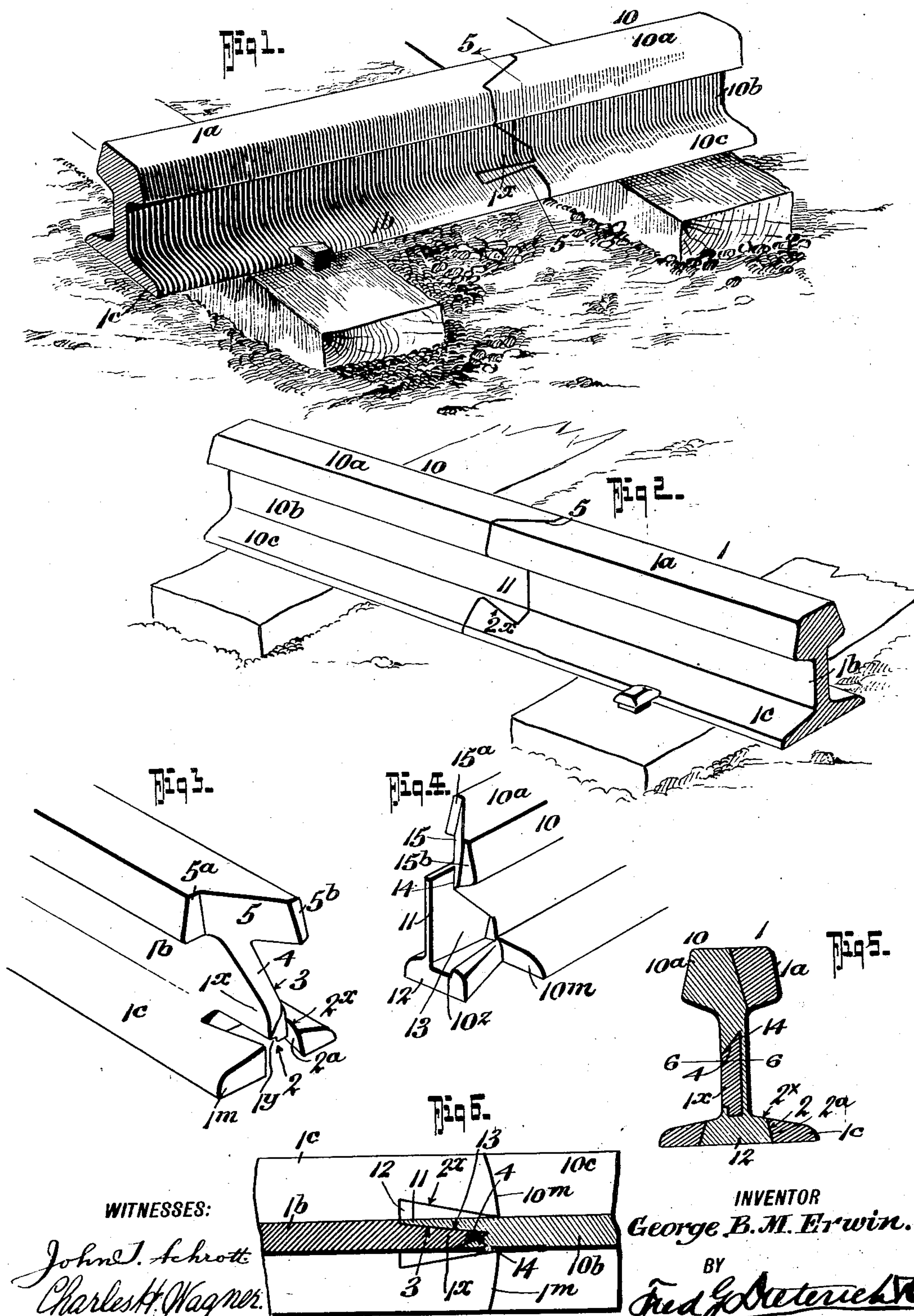


RAIL.

Patented Mar. 9, 1909.

914,648.



UNITED STATES PATENT OFFICE.

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No. 914,648.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE B. M. ERWIN, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Rails, of which the following is a specification.

My invention relates to certain new and useful improvements in rails for railways and the like and it particularly seeks to provide a continuous rail having a scarf joint to eliminate the use of fish plates, rail chairs, splice bars and the like.

Generically my invention embodies a rail having one end provided with a dove-tailed groove in the rail base, a depression in one side of the web, a beveled portion in the other side of the web, and a beveled and shouldered portion on the end of the rail tread, the adjacent end of the next succeeding rail section being formed with corresponding but opposite portions to receive those of the preceding rail ends.

In its more specific nature, the invention comprises certain novel details of construction, combination and arrangement of parts, all of which will be first described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which:

Figure 1, is a perspective view of a rail embodying my invention looking at the same from one side. Fig. 2, is a similar view looking at the rail from the opposite side. Fig. 3, is a detail perspective view of one rail end. Fig. 4, is a similar view of the other rail end. Fig. 5, is a vertical cross section on the line 5—5 of Fig. 1. Fig. 6, is a horizontal section on the line 6—6 of Fig. 5.

Referring now to the accompanying drawings in which like numerals and letters of reference indicate like parts in all of the figures, 1 designates the first rail section and 10 the second rail section, which rail sections are provided with tread portions 1^a — 10^a respectively, a web portion 1^b — 10^b respectively and a base portion 1^c — 10^c respectively.

The base portion 1^c of the rail section 1 is provided centrally with a dove-tailed recess 2 whose side walls 2^a converge slightly upwardly toward the rail web 1^b and the rail web 1^b has one side cut away as at 3 to form a recess or socket portion to cooperate with and receive the tongue portion 11, of the other rail web 10^b , the tongue 11 being

formed by socketing the web as at 13 to receive the tongue portion 1^x of the web 1^b of the first rail section.

The recess wall 3 of the web 1^b extends parallel to the edge 2^x of the dove-tailed recess 2, the corresponding face of the tongue 11 lying correspondingly. In other words, the adjacent faces of the tongues 11 and 1^x each lie in contact with one another when the rail ends abut while in a plane at an angle to the vertical plane of the rail, as a whole, as clearly indicated in Fig. 6 of the drawings.

The web 1^b has its tongue end 1^x provided with a beveled face 4 which slopes upwardly and lies in a plane at an angle to the vertical plane of the rail so as to cooperate with the undercut face 14 of the rail section 10 to interproject therewith.

The tread portion 1^a of the rail is provided with a face 5 that extends at an angle of approximately 45° to the vertical plane of the rail. The face 5 does not lie in a plane which makes a right angle with the horizontal but is slightly slanted inwardly to correspond with the correspondingly but oppositely formed face 15 on the tread portion 10^a of the other rail section 10, the faces 5 and 15 terminating in transverse portions 5^a — 5^b and 15^a — 15^b respectively.

The web 1^b of the rail section 1 has its under face provided with a groove 1^y to project into the grooves 10^z of the dove-tail 12 in the face portion 10^c of the section 10.

The ends 1^m of the rail section 1 are slightly rounded to cooperate with the rounded portions 10^m of the other rail section so that the parts will all interlock when the rail ends are jointed.

By providing the groove 10^z and permitting the rail web tongues 1^a to rest therein, a firm support is provided for the end of the web 1^b and by providing the cut-away portion 13 to receive the end 1^x of the web 1^b and by providing the beveled surfaces 4 and the corresponding cut surfaces 14 the rail web 10^b will have a bearing on the rail web section 1^x and form a support therefor. The beveled surfaces 5 and 15 prevent the car rails binding as they pass over the joint and by virtue of the various interlocking tongues and grooves of the rail ends a perfectly solid connection is made between the rail ends, thus giving a smooth tread surface to the rails and preventing pounding as the wheels pass over the ends of the rails. Furthermore by providing the dove-tailed interlock-

ing tongue and grooves in the rail bases the rails will not pull apart longitudinally.

In assembling the rail ends the rail section 10 has the dove-tailed portion fitted into the 5 dove-tailed groove of the rail section 1^b while the rail 10 is inclined to the horizontal and is then swung up into a horizontal position when the rail ends will be in their final interlocked position.

10 The rails may be secured to the ties by spikes in the usual manner or in any other approved manner and no further connection between the rail ends will be needed thus eliminating the use of splice bars, rail chairs 15 and the like.

From the foregoing description taken in connection with the accompanying drawings, it is thought the complete construction, operation and many advantages of my invention 20 will be readily understood by those skilled in the art to which the invention appertains, and I desire to say that slight changes in the detail construction, combination and arrangement of parts may be made 25 without departing from the spirit of the invention or the scope of the appended claims.

What I claim is:

1. In a rail joint, the combination of a pair of rails each having a face, a web and a tread 30 portion, one of said rails having the end of the tread portion provided with a beveled face 5 and having the web end provided with a beveled face 4, and a groove 1^v on the under face of the web, said rail end having a 35 dove-tailed recess in the base, the other rail having a dove-tailed portion to fit said dove-tailed recess and having other portions to cooperate with the beveled faces and underface of the web of the first rail section.

40 2. A rail composed of sections, each having a base, a web; and a tread portion, one of said sections being provided with a beveled face 5 on the tread portion, a beveled face 4 on the web portion merging with the beveled 45 face 5, a dove-tailed groove 2 in the base por-

tion and a beveled face 3 on the web portion opposite the beveled face 4, the other rail having its web end provided with a face 13 to cooperate with the face 3 of the first rail end, said other rail end having also a beveled 50 face 15 to cooperate with the face 5 of the first rail section, the second rail section having a dove-tailed portion 12 to cooperate with the dove-tailed groove of the first rail section, and having a groove 10^z to receive the projecting 55 portion of the web of the first rail section.

3. A rail composed of sections; one of said sections having a dove-tailed recess in the base at the end of the rail, the other section 60 having a dove-tailed portion in the base at the end of the rail to cooperate with said dove-tailed recess, the ends of the rail webs each having cutaway portions overlapping one another with the overlapping portion of 65 one rail web resting in the cutaway portion of the other rail web, each of said rails having their tread ends provided with beveled faces lying in a plane at an acute angle to the vertical longitudinal plane of the rail. 70

4. A rail composed of sections, one of said sections having a dove-tailed recess in the base at the end of the rail, the other section having a dove-tailed portion in the base at the end of the rail to cooperate with said 75 dove-tailed recess, the ends of the rail webs each having cutaway portions overlapping one another with the overlapping portion of one rail web resting in the cutaway portion of the other rail web, each of said rails having 80 their tread ends provided with beveled faces lying in a plane at an acute angle to the vertical plane of the rail, said dove-tailed portion having a recess to receive the projecting portion of the web of the other rail end.

GEORGE B. M. ERWIN.

Witnesses:

W. P. REESE,
ALEX. N. HART.