

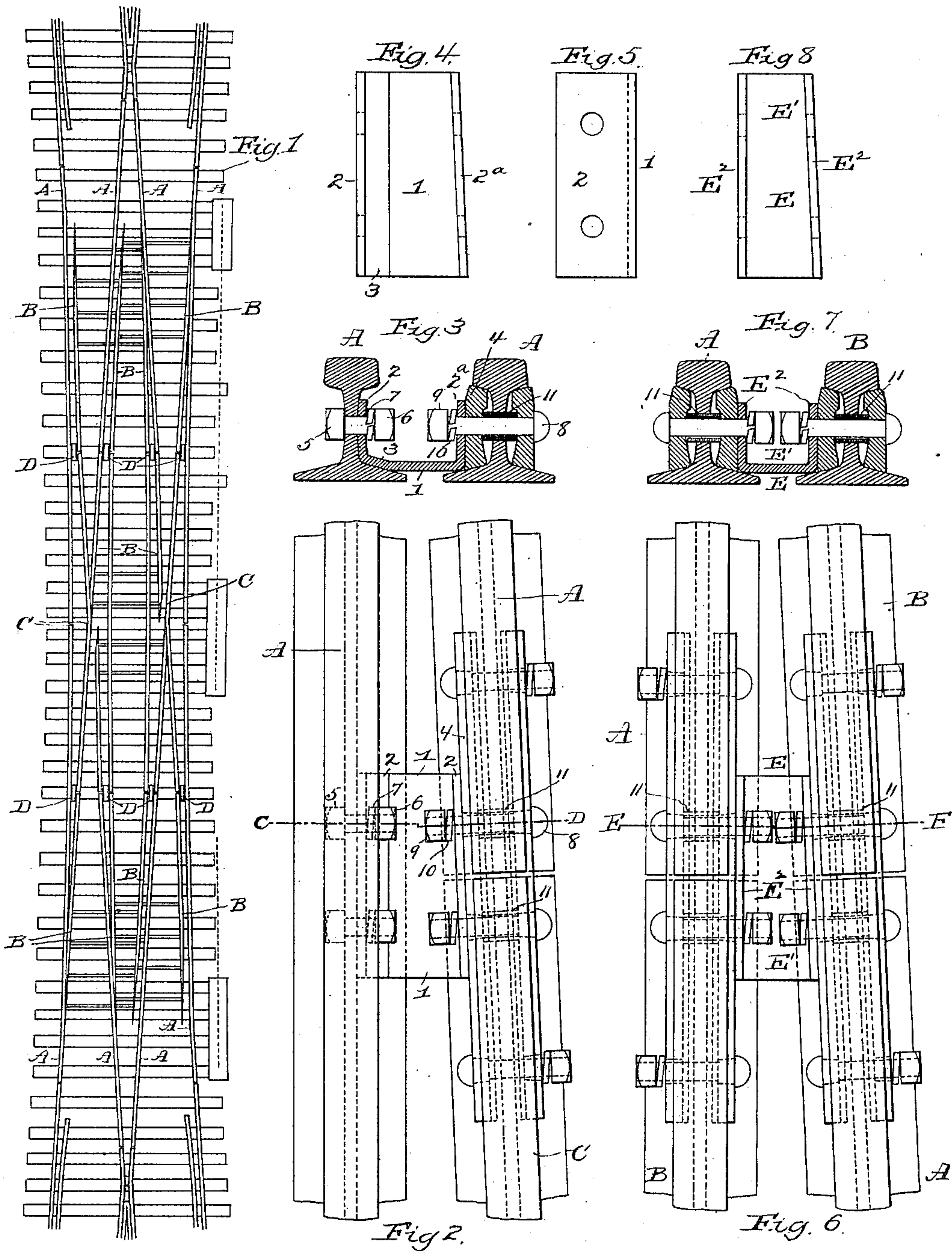
No. 660,000.

Patented Oct. 16, 1900.

E. H. BRYANT.
RAIL CONNECTOR.

(Application filed Dec. 22, 1899.)

(No Model.)



WITNESSES:

G. F. Downing
D. G. Nottingham

INVENTOR

E. H. Bryant
BY
H. A. Seymour
ATTORNEY.

UNITED STATES PATENT OFFICE.

EMERY H. BRYANT, OF BOSTON, MASSACHUSETTS.

RAIL-CONNECTOR.

SPECIFICATION forming part of Letters Patent No. 660,000, dated October 16, 1900.

Application filed December 22, 1899. Serial No. 741,322. (No model.)

To all whom it may concern:

Be it known that I, EMERY H. BRYANT, a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Rail-Connectors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in connectors for railroad-rails, one object of the invention being to provide improved means for connecting rails which will effectually prevent longitudinal or lateral movement thereof.

A further object is to provide a connector for rails which will be especially adapted for connecting adjacent rails at a crossing or switch.

A further object is to provide means to hold the heel of a switch from longitudinal as well as lateral movement, there being a tendency for one point to drive ahead of the other, thereby causing the switch-rods to set at an acute angle with the switch-rail and preventing the points from fitting up tight to the main rail, also giving a tendency to the switch to shut together in the manner of a "jackknife" drawbridge.

A further object is to hold the knuckle-rail from longitudinal movement, as such a movement would prevent the points of the movable frog from fitting up to the rail in their proper position as planned.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view illustrating my improvements. Fig. 2 is an enlarged detail plan view. Fig. 3 is a view in transverse section on the line C D of Fig. 2. Figs. 4 and 5 are views of the connector. Fig. 6 is a plan view showing my improvements applied to two movable switch-sections. Fig. 7 is a view in transverse section on the line E F of Fig. 6, and Fig. 8 is a detail view of the form of connector shown in Figs. 6 and 7.

A represents the rails of two tracks crossing each other, B a series of movable frogs

or switch-arms, and C knuckle-rails, as clearly shown in Fig. 1.

My improved connector D is disposed between two converging rails at the pivotal point of the switch-rails and at the ends of the knuckle-rail C, and each consists of an approximately U-shaped angle-iron having a wedge-shaped base 1 and upright side members 2 2^a, and when used to secure a knuckle-rail is provided at one side with an inclined portion 3 to conform to the flange of the rail A, while the knuckle-rail C is provided with suitable fish-plates 4, against which the side 2^a of the connector abuts. The member 2 of the connector is provided with holes in alignment with holes in the rail A for the reception of bolts 5, secured in place by nuts 6 and locks 7, and the side 2^a is also provided with holes in alignment with holes in the fish-plates 4 and rail A and knuckle-rail C for the reception of bolts 8, held in place by nuts 9 and locks 10, as clearly shown in Fig. 3. The openings in the knuckle-rail C and rail A, connected therewith, are larger than the bolts, and tubes 11 are disposed therein, the internal diameter of said tubes being appreciably larger than the diameter of the bolts 8, passing therethrough, thus permitting the nuts 9 to be screwed home and at the same time (owing to the movement of the bolts 9 in the tubes 11) permitting a slight movement of the knuckle-rail C.

When my connector is used to connect two movable frogs or switch-arms B and stationary tracks A, as shown in Figs. 6 and 7, the connector E comprises a wedge-shaped base E' and two upright side sections E², and the rail-sections A and movable frogs or switch-arms B are each provided with tubes 11 for the passage of the bolts (as heretofore described in connection with Fig. 2) to permit the necessary movement of the switch-arms.

It will be seen that while my improved connector holds the rails against any accidental displacement it will at the same time permit of a slight movement of the parts to allow of contraction and expansion of the rails and also to permit a slight pivotal movement of the movable frogs or switch-arms.

Various slight changes might be resorted to in the general form and arrangement of the several parts described without departing

from the spirit and scope of my invention, and hence I would have it understood that I do not wish to limit myself to the precise details set forth, but consider myself at liberty
 5 to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. The combination with a fixed rail and a movable point-rail disposed end to end and a rail alongside of said fixed and point rails, of a rigid connector disposed between the joint
 15 of the fixed and point rails and the rail alongside the same, bolts passing through the connector and said rails for tying said fixed and pointed rails together and also for tying both of said rails to the rail alongside the same,
 20 the connection between the connector and the fixed and point rails being such as to permit the point-rail to have a pivotal movement relatively to the fixed rail and prevent longitudinal movement of the point-rail.

2. The combination with a fixed rail, a movable point-rail in line therewith and a rail alongside of said fixed and point rails, of a connector disposed alongside of said rails and between the point and fixed rails and the rail
 30 alongside the same for tying all of said rails together, a single bolt passing loosely through the connector and fixed rail and a single bolt passing loosely through the connector and movable point-rail whereby said rails will be
 35 tied together against longitudinal displacement and at the same time be permitted to have a pivotal movement relatively to each other, and bolts passing through said connector and the rail alongside of the fixed and
 40 point rails.

3. In a railroad-switch, the combination with a fixed rail and a fixed knuckle-rail, of point-rails at the respective ends of the knuckle-rail and in line therewith, and con-
 45 nectors at respective ends of the knuckle-rail and overlapping the same and the point-rails, said connectors secured to the fixed rail and

bolts passing through each connector and the knuckle and point rails and pivotally connecting point-rails to the ends of the knuckle- 50 rail.

4. In a rail connection, the combination with two rail-sections disposed side by side, of a connector disposed between said rail- 55 sections, upright side sections on said connector having holes therein in alinement with holes in the rail-sections, fish-plates on the respective sides of one rail-section, a tube disposed in an opening in the rail-section and having its ends abutting against the inner 60 faces of the fish-plates and a bolt passing through said fish-plates, tube and side section of the connector and secured in place, said bolt being appreciably smaller in diameter than the internal diameter of the tube. 65

5. The combination with alining rail-sections, one adapted to have pivotal movement, of a connector overlapping the sides of said rail-sections, tubes passing through the webs of the respective rail-sections, and bolts, each 70 having a diameter appreciably less than the internal diameter of said tubes, passing through said connector and tubes.

6. The combination with alining rail-sections, one movable relatively to the other 75 each provided with a hole in its web, of a connector overlapping the webs of the two rail-sections, bolts of a diameter appreciably less than the diameter of the holes in the rail-sections, passing through said holes and the con- 80 nector to pivotally connect the movable rail-section with the other rail-section, a rail alongside said rail-sections and bolts passing through said last-mentioned rail and said connector for tying said rail to both of said 85 rail-sections.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

EMERY H. BRYANT.

Witnesses:

M. E. THOMAS,
 JOHN J. BURKE.