No. 708,888. Patented Sept. 9, 1902.

H. C. IVES.

JOINT FOR TOY RAILROAD TRACKS.

(Application filed July 23, 1902.)

(No Model.)

Fig. 1.

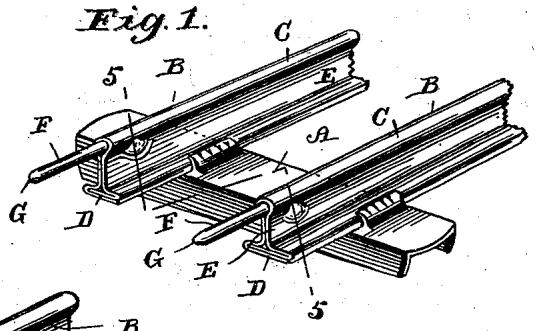


Fig. 2.

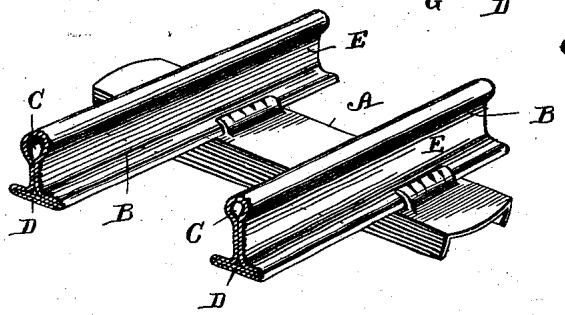


Fig. 3.

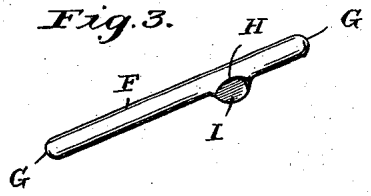


Fig. 4.

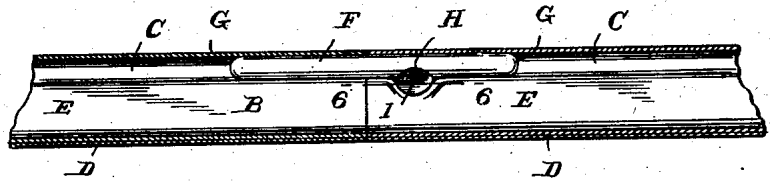


Fig. 5.

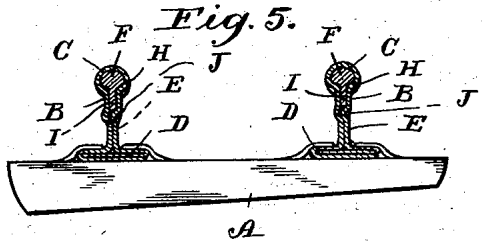
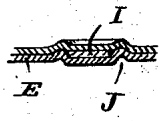


Fig. 6.



Witnesses

J. L. Mosier

H. B. Devitt

Inventor

Harry C. Ives

By Chamberlain & Newman

Attorneys

UNITED STATES PATENT OFFICE.

HARRY C. IVES, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO THE IVES MANUFACTURING CORPORATION, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

JOINT FOR TOY RAILROAD-TRACKS.

SPECIFICATION forming part of Letters Patent No. 708,888, dated September 9, 1902.

Application filed July 23, 1902. Serial No. 116,611. (No model.)

To all whom it may concern:

Be it known that I, HARRY C. IVES, a citizen of the United States, and a resident of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Joints for Toy Railroad-Tracks, of which the following is a specification.

My invention relates to new and useful improvements in joints for toy railway-tracks upon which may be operated spring or electric actuated toy trains, and is more especially applicable to a track formed of sheet metal in suitable sections which can be assembled to form a track of any desired length, including the customary curves, switches, and turnouts, as may be necessary to provide various designs of track.

It is the object of my invention to improve upon sheet-metal tracks of the above class by producing a more desirable connection or rail-joint for detachably uniting the several sections together; further, to provide a connection which will make the sections interchangeable one with another and permit their being quickly and firmly united, and, finally, to design it in a way that will allow of the parts being manufactured by automatic machinery. These tracks, as will be understood, comprise a hollow oval tread portion, the usual vertical central web, and a bottom flange which, like the tread, is slightly hollow. It is through the medium of this hollow tread and web that I preferably secure my connection, which consists of an improved form of pin, comprising in part the formation of a wing upon the under side of the pin and the swaging of the vertical portion of the rail around and against this wing in such a manner as to positively prevent the withdrawal of the pin from the section in which it is placed. In the production of these sections it will be obvious, of course, that each section must in itself represent a male and female member having a connecting-pin upon one end and an open hollow tread upon the other, so as to permit the sections being joined interchangeably to form indefinite lengths and designs of track.

With the above objects in view my invention resides and consists in the novel construction and combination of parts shown upon the accompanying drawings, forming a part of this specification, upon which similar letters of reference denote like or corresponding parts throughout the several figures, and of which—

Figure 1 shows a perspective view of the pinned end of a rail-section, while Fig. 2 shows a similar perspective of the opposite or adjoining end, the parts of these two figures being in their relative positions for assembling. Fig. 3 is a detail perspective view of a pin such as is employed and secured within the ends of the rails shown in Fig. 1. Fig. 4 is a central vertical longitudinal section through one rail, showing my improved pin connection in place. Fig. 5 is a cross-section of the track, taken on line 5 5 of Fig. 1, illustrating the manner in which the stock is swaged down around the wing of the pin to hold the same in place. Fig. 6 is a longitudinal cross-section taken on line 6 6 of Fig. 4 and illustrates the way in which the stock is swaged into the pin, fore and aft of the wing, to prevent any lateral movement.

Referring in detail to the reference characters marked upon the drawings, A indicates the sleepers or ties, which, as will be observed, like the track, are made of sheet metal stamped up into the desired form. In practice there may be two or three of these sleepers to each section, according to the length of the latter. These connections are made up both straight and curved, so as to produce any desired layout of track.

B indicates the rails proper, both of which are alike in construction, being formed in two operations of sheet metal, such as tin, bent first substantially central and longitudinally to form a hollow tread C and the inwardly-deflected flange portions D and next closed together and completed, forming the vertical central web E. The two edges of the blank overlap upon the under side of the flange to produce increased strength and rigidity. The rails are preferably secured onto the sleepers by having a portion of the latter turned

up over the flange of the rail and then swaged down firmly by means of automatic machinery.

My connection proper comprises a round pin F, formed of wire, having suitable round ends G to insure their free insertion into the hollow treads C of the rail. One side of the pin is punched or swaged adjacent to one end in a manner to form semicircular-shaped indentations H on opposite sides and to throw out a thin lateral projecting fin or wing I central with the pin. The short end of the pin is thus inserted into one end of the rail to about one-half its length, leaving an equal amount projecting for detachable connection with the adjacent section. When the pin is inserted in the tread for attachment, this fin is forced in between the two parts of the web E of the rail in a manner to slightly spread the same. The end of the rail containing the pin is next laid under the press, whose dies descend, engaging the web of the rail at a point opposite to the fin in a manner to swage a small part of each side of the lower edge of the hollow tread into the recesses H of the pin and to swage one side of the web in around the fin, forming a semicircular recess J on said side and a correspondingly-shaped bulge upon the other, thus securely retaining the pin in the rail against both lateral and rotary movement.

I am aware that there have been several patents granted upon joints for sheet-metal tracks with pins or tubes for connecting the rails together; also, that one or more of them are provided with means for preventing the connections being shoved too far in the tread. None of these patents, however, contains means for preventing the withdrawal of a connecting-pin, and it is consequently the essence of this application to cover a practical and very desirable method of securing the connecting-pins into the rail ends of sections of sheet-metal tracks in a way to avoid the defacement of the tread and to positively prevent the withdrawal and loss of the pins from the sections in which they are secured.

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

1. In a sheet-metal railway-track the combination with a hollow tread and two vertically-disposed web members, of a pin adapted to enter said hollow tread and provided with a projecting fin or wing to fit in between the web members to retain the pin in place.

2. A rail-section formed of sheet metal having a hollow tread and a substantially hollow web, a pin fitted into the hollow tread of the rail and provided with a depending fin extending into the opening of the web and indentations in the web fore and aft of the fin to prevent its withdrawal.

3. A railway connection comprising a rail having a hollow tread and web, a pin in said hollow tread having a projection to enter the opening of the web to prevent the turning of the pin, the stock of the web being swaged in around the projection to prevent the lateral movement of the pin.

4. In a connection for toy-track sections, the combination with a rail having a hollow tread and web, of a pin to enter said tread with recesses on the side and inward projections of the rail to enter said recesses of the pin, in a manner to prevent both the withdrawal and turning of the pin within the rail.

5. A railway-joint consisting of a pin having rounded ends and a fin struck up and projections from one side of the pin, one end of the pin and its fin being adapted to frictionally enter the hollow tread and rail-web.

6. A railway-joint consisting of a pin having rounded ends and a fin struck up and projecting from one side of the pin, one end of the pin being adapted to frictionally enter the hollow tread and rail-web, and means to engage the fin to prevent its withdrawal from said rail.

7. A railway-joint, comprising a rail having a hollow tread and web, of a pin to enter said tread bearing indentations on opposite sides and a fin to enter the web, projections in the sides of the rail to engage both the indentations and the fin in a manner to retain the pin against both rotary and lateral movement.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 16th day of June, A. D. 1902.

HARRY C. IVES.

Witnesses:
C. M. NEWMAN,
HARRIET L. SLASON.