

(No Model.)

C. E. SWINGLE.
RAIL JOINT.

No. 510,724.

Patented Dec. 12, 1893.

Fig. 1.

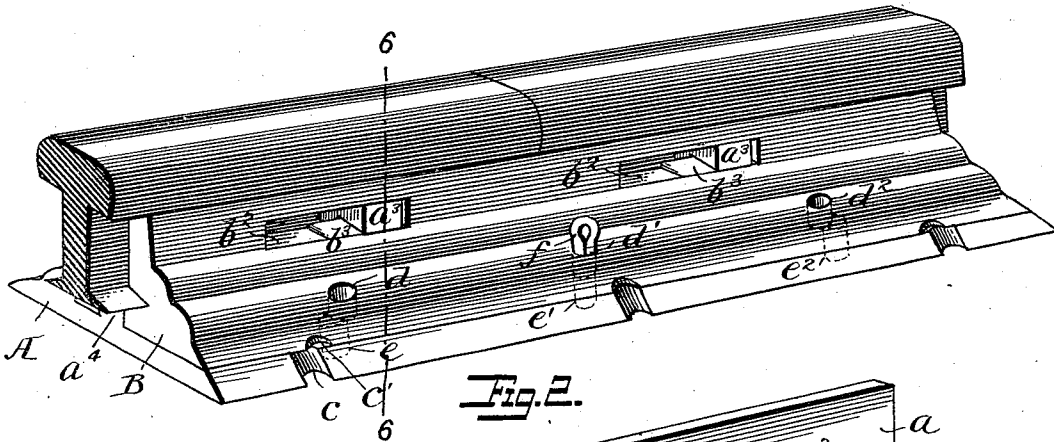


Fig. 2.

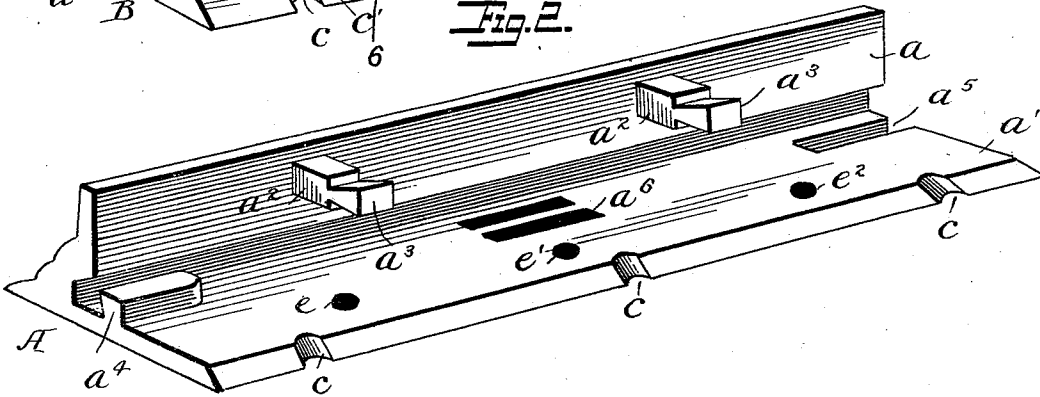


Fig. 3.

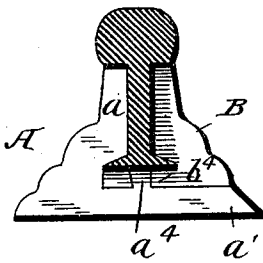


Fig. 4.

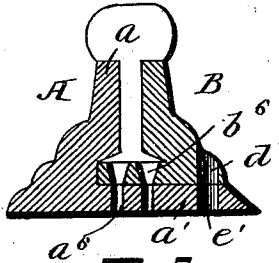


Fig. 5.

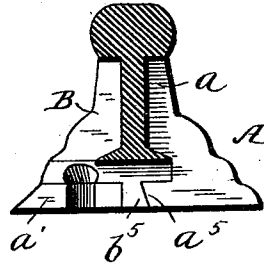
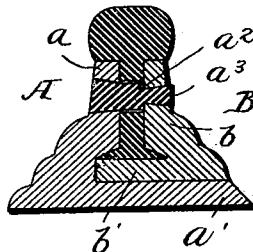


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLES E. SWINGLE, OF LUZERNE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE H. HUGHES, OF SAME PLACE.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 510,724, dated December 12, 1893.

Application filed July 24, 1893. Serial No. 481,338. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SWINGLE, a citizen of the United States, residing at Luzerne, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

My invention relates to an improved rail joint.

The object of the invention is to provide a joint for railway rails which will permit of the expansion and contraction of the rails, and which will at the same time hold the rails securely in line and provide a firm support for them.

My rail joint is adapted for use either as a suspended joint located between the ties, or it may be supported directly upon the ties.

In the accompanying drawings, in which like signs refer to similar parts throughout the several views, Figure 1 is a perspective view showing the ends of two rails connected by my improved joint. Fig. 2 is a perspective view of one of the splice bars. Figs. 3 and 5 are end views of the joint showing the rail in section. Fig. 4 is a central section taken where the rails meet, and Fig. 6 is a section on the line 6—6 of Fig. 1.

My improved joint consists mainly of two sections or plates A, B, the former plate being shown best in Fig. 2 and the latter in Fig. 1. The plate A is right-angled in section and consists mainly of a vertical portion a and a base portion a' . The vertical portion is constructed to fit against the web of the rail between the head and the foot. The foot of the rail does not rest directly upon the base a' but is sufficiently below it to allow the base b' of the plate B to be inserted between the foot of the rail and the base a' . The plate or section B is also composed of a vertical portion b fitting against the web of rail, and a foot or base b' upon which the rails rest and which in turn rests upon the larger base of the portion A.

The vertical flange a of the portion A is provided with bolts or projections a^2 which extend through suitable oblong holes in the rails and which are provided with dove-tailed extensions a^3 which fit within slots in the

flange b of the portion B. One end b^2 of each slot is made square in section to permit the larger end of the dove-tail a^3 to pass through while the opposite ends b^3 of the slots are made to conform to the dove-tails and to interlock therewith. The dove-tailed portions of the slots are moreover gradually tapered so that the splice will be locked tighter against the rails as it is driven endwise so as to bring the dove-tails nearer to the ends of the slots. The bolts a^2 may be connected in any suitable manner to the vertical flange a of the splice.

The base of the portion A of the splice is provided at one end with a dove-tailed projection a^4 about opposite the center of the rail and at the other end with a dove-tailed slot a^5 . The smaller section B of the splice has its base provided with a dove-tailed slot b^4 at one end into which the dove-tailed projection a^4 fits, and at the other end it is provided with a dove-tailed projection adapted to interlock with the slot a^5 .

In the base portion of each of the rail sections under the meeting point of the rails are slots a^6 , b^6 , through which any dirt or water which might fall between the rails may pass out, as clearly shown in Figs. 2 and 4. This makes a self clearing joint as the movement of the rails in expanding and contracting will work the dirt through the base and out.

While my improved joint is simple in construction, it holds the rails securely and it can be put together or taken apart instantly, and when together the several parts are thoroughly interlocked and there is nothing which can work loose or rattle. In connecting the plates to the rails the part A is first put in place, the dove-tailed bolts being passed through the slots in the rails. The part B is then held with the square ends b^2 of the slots opposite the dove-tailed projections a^3 . When in this position the ends of the splice bars just clear the ends of the dove-tailed projections a^4 , b^5 , which are short. The section B is then pushed against the rail which brings the dove-tailed projections a^3 through the slots b^2 . Next the part B is driven endwise until nearly opposite the part A as shown in Fig. 1. The effect of this is to force the

dove-tailed projections a^3 into the corresponding grooves b^3 and the dove-tailed projections a^4 and b^5 into their corresponding slots, thus interlocking the sections securely and clamping the rails tightly.

The two parts of the splice may be held in their locked position while spikes or screw bolts are driven into the ties and engage the notches c , c' , or they may be held by a spring pin or similar contrivance passed through the over-lapping parts of both sections.

In the drawings I have shown a series of holes d , d' , d^2 , in part B and a series of holes e , e' , e^2 , in the base of the portion A. The holes e , e' , e^2 , are spaced slightly farther apart than the holes d , d' , d^2 , so that in any adjustment of the part B upon the part A one pair of holes will be found nearly or quite opposite each other and a pin may be put through said holes to prevent any movement of the sections. As shown in Fig. 1 the pin f is passed through the holes d' , e' . Should the joint become loose it may be tightened by a blow of a hammer upon the end of the section B which would drive the bolts a^3 more tightly into the dove-tailed groove b^3 . This movement would also bring the holes d , e , opposite each other and the locking pin, which was previously removed, should be transferred to said holes. The same effect may be produced by spacing the notches c , c' , similar to the holes d , e , as shown.

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

1. In a rail joint the combination of a pair of right-angled plates, the vertical portions of said plates being connected together with dove-tailed bolts and slots and the horizontal bases being connected by dove-tailed projections and slots, substantially as described.

2. In a rail joint the combination of a pair of right-angled splice plates, the vertical portions of said plates being connected by dove-tailed bolts and slots and the bases being connected by dove-tailed projections and slots, said splice plates being each provided with a series of holes or notches unequally spaced for the purpose of locking them together in different positions substantially as described.

3. In a rail joint the combination with the right-angled section A having bolts with dove-tailed ends attached to its vertical portion, a dove-tailed projection a^4 at one end of its base, and a dove-tailed slot a^5 at the other end of the base, of the right-angled section B provided with slots having a square section at one end and a tapered dove-tailed form at the other end, and with a dove-tailed projection and a slot at its base corresponding respectively with the slot and dove-tailed projection on the base of the section A, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES E. SWINGLE.

Witnesses:

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