E. A. TRAPP.

Railway-Switch.

No. 162,434. Patented April 20, 1875.

Fig. 1.

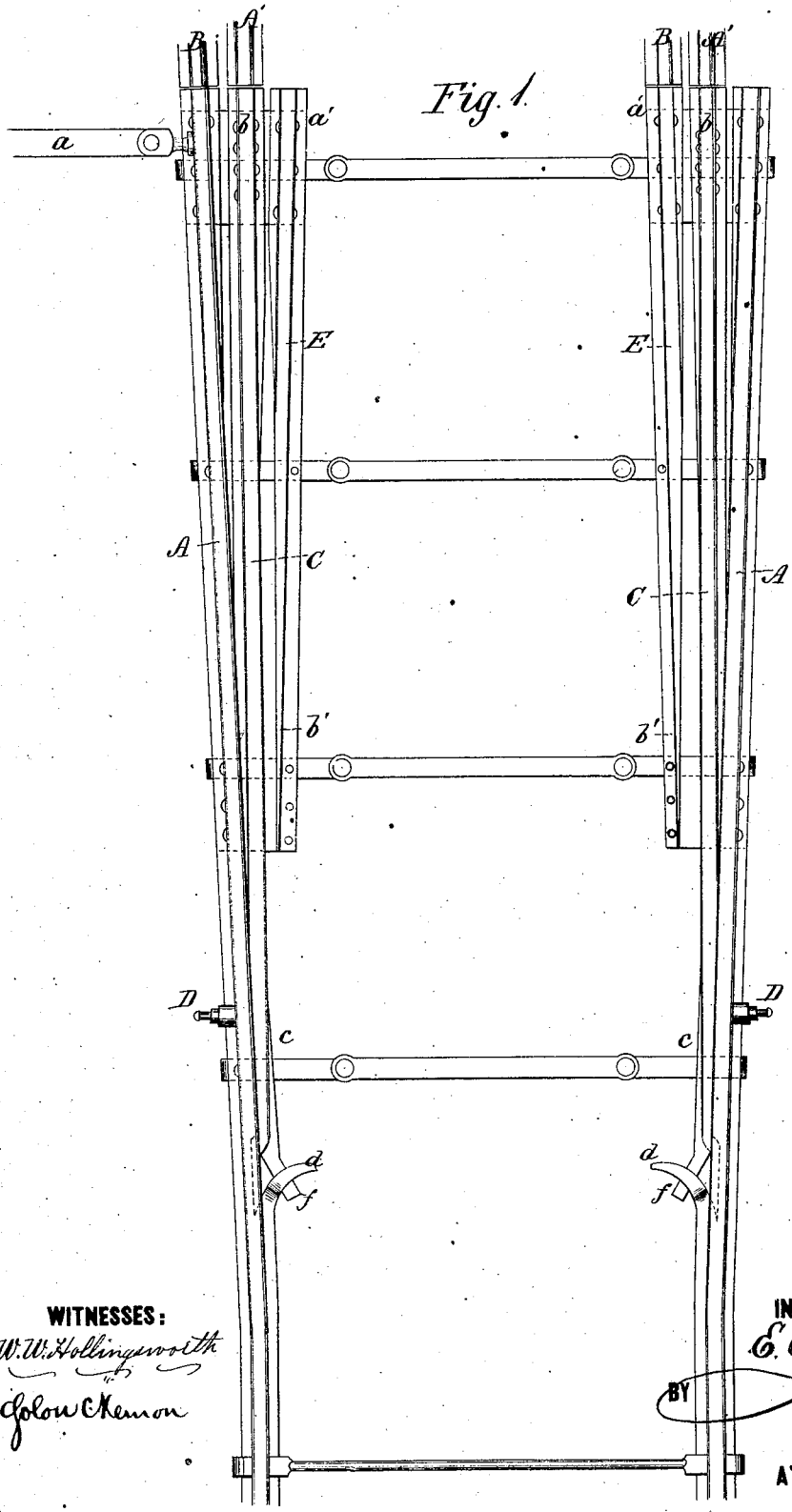
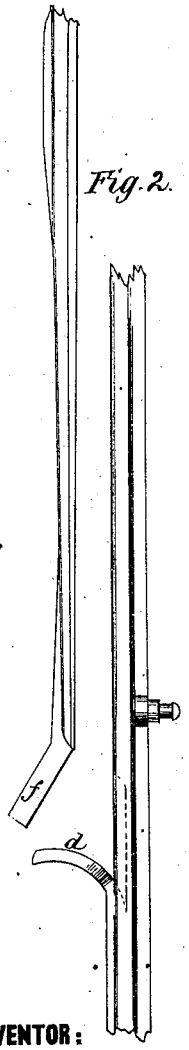


Fig. 2.



WITNESSES:

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EDWARD A. TRAPP, OF DAVENPORT, IOWA.

IMPROVEMENT IN RAILWAY-SWITCHES.

Specification forming part of Letters Patent No. **162,434**, dated April 20, 1875; application filed April 2, 1875.

To all whom it may concern:

Be it known that I, EDWARD A. TRAPP, of Davenport, in the county of Scott and State of Iowa, have invented a new and Improved Railway Safety-Switch; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a plan view of a switch constructed according to my improved method; Fig. 2, details of the particular construction of the main and spring rails.

This invention relates to certain improvements in railway safety-switches; and it consists in a main rail, having its bottom flange cut, flared inwardly, and bent up to form a horizontal guide, in combination with leading tongues, a volute spring, and a spring-rail having its bottom flange extended, so as to move under the guide formed by the cut portion of the main rail.

In the drawing, A represents the movable, and A′ the stationary, part of a main track, the portion A being provided with a lever-connection, *a*, as usual. B is the turn-out or switch, and C is a flexible spring-rail, which is rigidly attached at *b*, and is free at *c*, and tapered into the main track. D are volute spiral springs, which act as auxiliary to the natural elasticity of the spring-rail C, and insure its position by the side of the main track. The main rails A, at the end of the spring-rails, have their bottom-flanges cut, flared inwardly, and bent up to form horizontal guides *d*, and the bottom flanges of the spring-rails are extended beyond their points at *f*, so as to move under the guides *d*. By means of this construction and arrangement the spring-rails are prevented from bending upward at their points from the weight of the cars, and are made always to move in a horizontal plane with the track, without the use of separate guide-pieces, bolts, or any other devices except the rails themselves. E are tapered stationary leading tongues, which co-operate with rails A and C to insure always a continuous line of rails from the tracks A′ and B to the track A. The ends *a′* of the leading tongues E are equidistant from rails C, as A′ from B, and the tread of the wheel here is confined to one rail; but at the end *b′* it is so tapered that the tread rides both tongue E and rail C, and is finally transferred entirely from the former to the latter, and from thence to the main track A.

The operation of my improved safety-switch is as follows: In going from A to A′ the train runs upon the rail C, and its end must be adjusted mechanically to register with main rail A′ or turn-out B, as desired; but in going in the reverse direction no adjustment is necessary, as the main line and any number of turn-outs B transfer their trains automatically to the main track A. When trains are going in the direction A′ to A, then those upon the track A′ enter the switch, the flange of one wheel going between rail A and the spring-rail C, pushing the latter to one side, and the tread of the other wheel rides the tapered end of the tongue E, and also the spring-rail C, being transferred from the former to the latter, and finally to the rail A. If the train is on the turn-out B it simply runs upon the spring-rail C, and is transferred from thence to the rails A. Now, if the switch is moved so that rails C register with A′, the same effect is produced, except that opposite sides of the track make an interchange of their action with reference to the function of the leading tongues and spring-rails.

By means of the above-described construction nothing but rails is necessary to form the switch, all frogs, plates, and guard-rails being dispensed with. The lines of railway are always continuous in both directions, and can never be open, no matter how the switch is set, and the switch, moreover, needs adjusting only for trains going in one direction, and even then need not be replaced to its former position.

Having thus described my invention, what I claim as new is—

The railway safety-switch consisting of the tongues E, springs D, main rails A, having the bottom flanges cut and bent inwardly at *d*, and the spring-rails C, having their bottom flanges extended at *f*, all combined and arranged substantially as shown, and for the purpose described.

The above specification of my invention I have signed this 27th day of March, 1875.

EDWARD A. TRAPP.

Witnesses:

SOLON C. KEMON,

CHAS. A. PETTIT.