

Joseph J. Shaeffer and Curtis C. Steinmetz.
Transferring Cars from one Rail-Road track to another.

100707

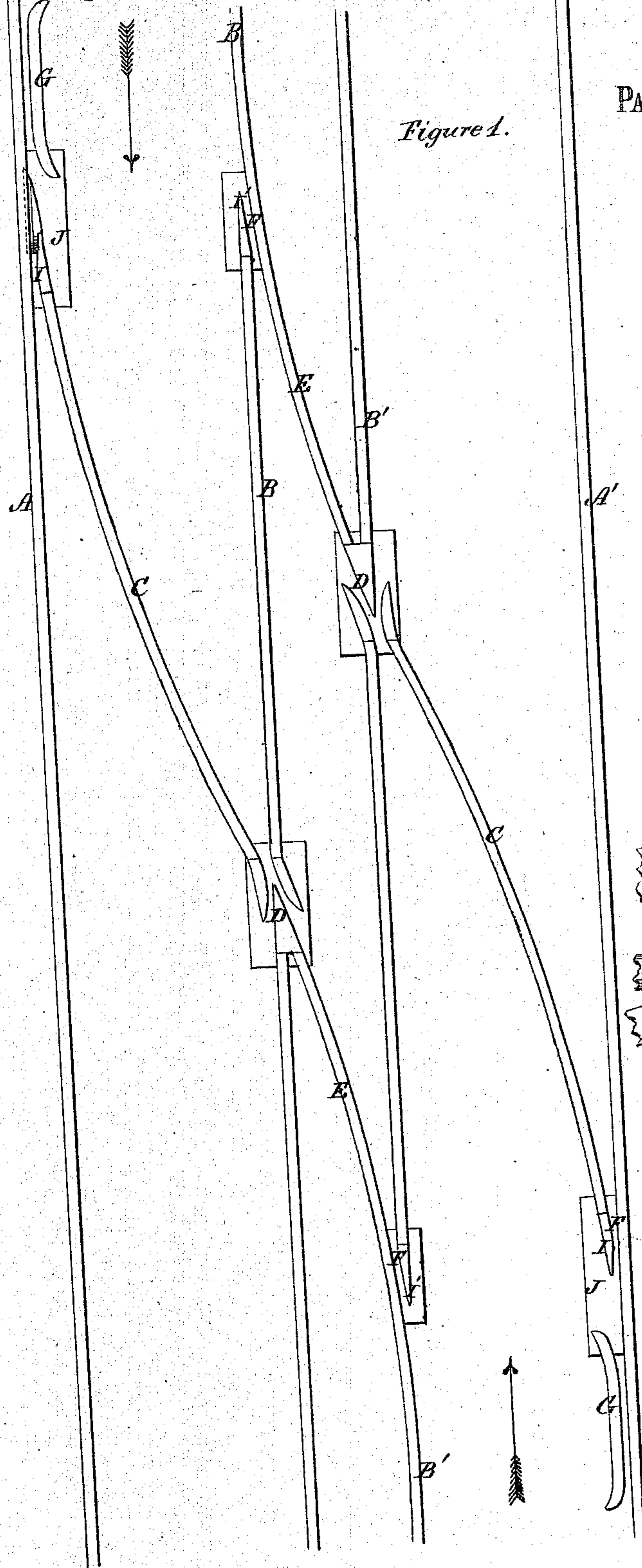


Figure 1.

PATENTED MAR 8 1870

Figure 2.

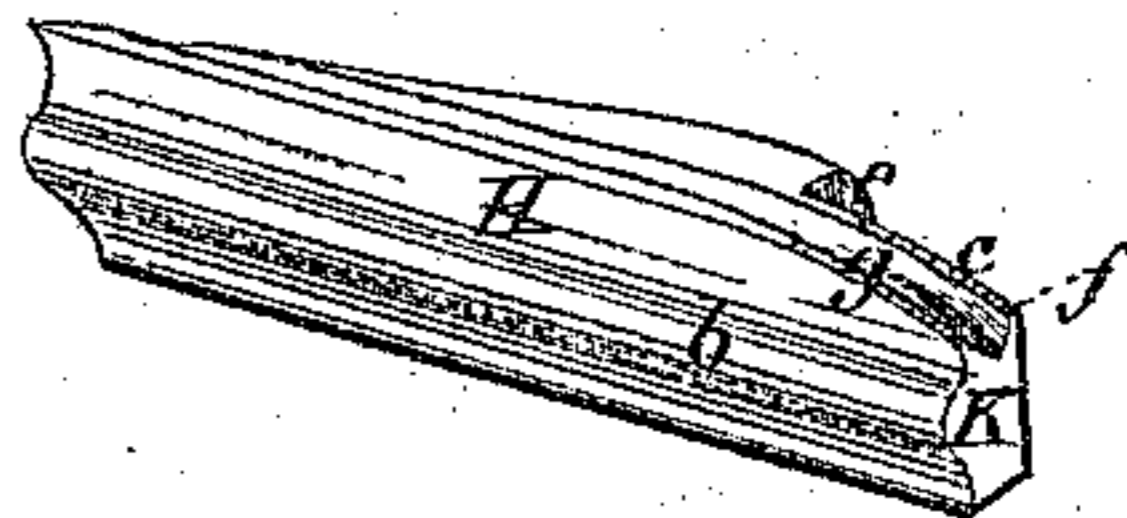


Figure 3.

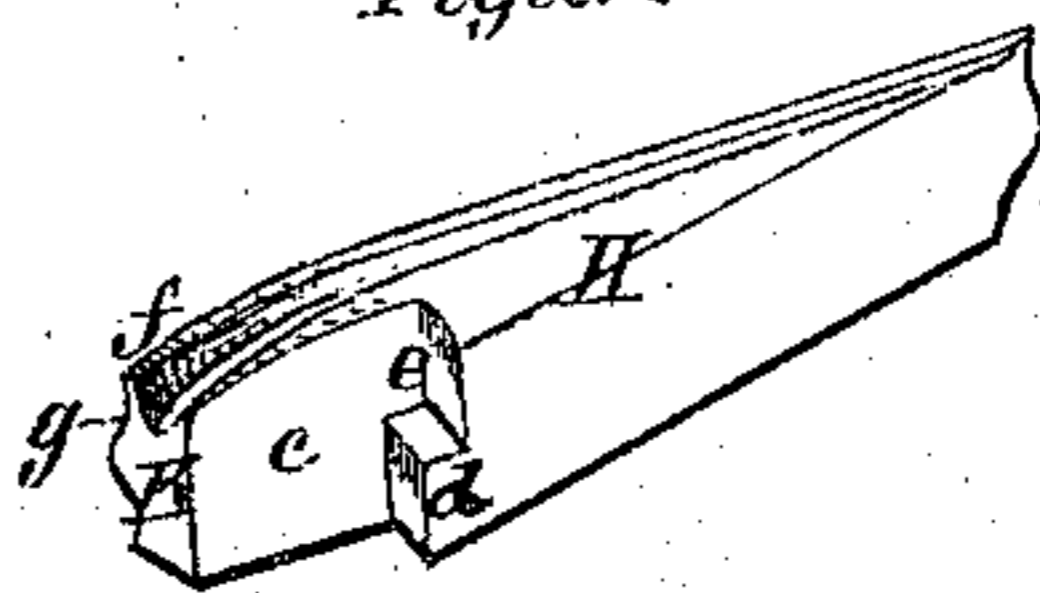


Figure 4.

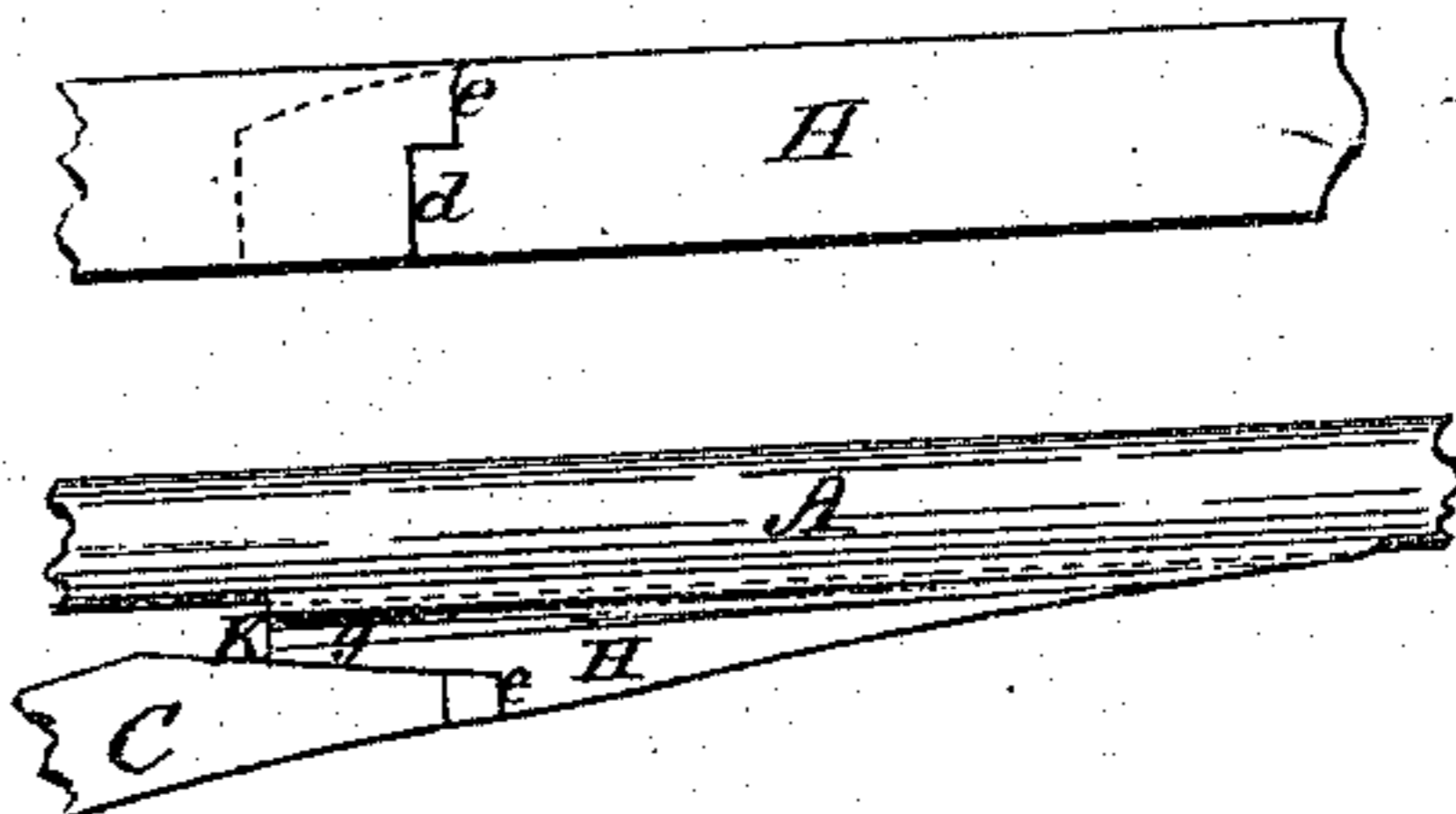


Figure 5.



Joseph J. Shaeffer,
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By their Attorneys,
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Witnesses

Chas. E. Wofferman
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United States Patent Office.

JOSEPH J. SHAEFFER, OF MIDDLETOWN, AND CURTIS C. STEINMETZ, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 100,707, dated March 8, 1870.

IMPROVEMENT IN RAILWAY SWITCH.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that we, JOSEPH J. SHAEFFER, of Middletown, in the county of Dauphin, and State of Pennsylvania, and CURTIS C. STEINMETZ, formerly of Middletown, in the same county and State, but now of Pittsburg, in the county of Allegheny, and State of Pennsylvania, have invented certain new and useful Improvements in Transferring Railroad Cars from one track to another; and we do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings of the same, which make part of this specification, and in which—

Figure 1 represents a ground plan of a portion of a double solid track, embracing our improvements.

Figure 2 represents a view in perspective of a portable switch used in connection with independent tracks, and by which they are made, as it were, a single track.

Figure 3 represents a similar view, showing the portable switch in a different position.

Figure 4 is a side and top view of the crossing-rail, with the switch joined thereto.

Figure 5 is a cross-section, showing the outer rail and switch when united.

Our invention relates to transferring cars in motion from one track to another without the use of a movable switch-rail.

We are aware that efforts have been made to accomplish this desideratum, and while the cars have been changed from one track to another, the means by which this has been accomplished are very objectionable and defective. That plan which has been submitted to the public involving a new construction of car-wheels, is not only too expensive, but seeks to attain the object by moving the cars bodily and laterally by means of a flaring fixed guard acting against separate flanges on the sides of the wheels.

In another plan, the cars have also been moved laterally by a thrusting action, so that the wheels of one side thereof must mount, cross, and pass down the opposite side of the rail, which is effected by means of a removable convex thrusting-block placed at the end of a fixed switch in connection with elevating and riding-blocks on the inner rail. It is apparent, however, that no plan which contemplates the transfer of a train of cars by causing the wheels of one side of the entire train to mount and be slid upon and over the inner rail, can be considered as having any practical utility.

It is the object of our invention to avoid these difficulties and disadvantages, and to obtain a fixed track or tracks, upon which three separate and distinct movements can be made, by means of a fixed crossing

and a single portable switch, with the parts arranged and operating so as to effect the transfer of the cars from one track to another as if running on a single track.

In the accompanying drawings—

A A' represent the two outside rails, and B B' the two inner rails of a double track.

These tracks are united to each other by means of a pair of oblique fixed rails, C C, constituting a single crossing, which may be converted into a switch for either track, as will be presently described.

At the junction of these crossing-rails with the inner rails B and B', are formed frogs, D, in the usual manner, and a portion of each inner rail is curved to connect with the frog on the inner rail of the next track, and also to form a continuation of the switch-rail C, as shown at E, in the drawings.

Suitable spaces, F, are left between the curved portions E and the inner rails, and between the oblique and outer rails at their junction, for the passage of the flanges of the wheels.

At the junction of each oblique rail C with the outer rail of each track, a fixed guide, G, is placed, so as to leave a sufficient space between the main rail and the end of the crossing-rail for the flanges of the wheels to pass through, and for this purpose the guide is curved inward at each end. The object of this guide G is to keep the cars upon the main track, and prevent the flanges of the wheels from striking the points of the oblique crossing-rails, when going in the direction indicated by the arrows:

Each track thus constructed is complete in itself, and allows the cars to pass over it in either direction without the slightest change or interruption.

To transfer the cars from one track to the other, a single portable switch is employed, which consists of a metal point, H, about eighteen inches long, and corresponding in height to that of the rail. It is fitted at the junction of the crossing with the outer rail and forms the point of the oblique crossing-rail.

Its inner side is curved to correspond with said crossing-rail, and its opposite side is fitted with a convex projection, b, corresponding in form to the side of the rails, as shown in figs. 2 and 5, into and against which it is firmly held.

Its rear end, K, is made slightly tapering, and is rebated at c, so as to fit snugly between the end of the crossing-rail and the inner side of the outer rail, and the shoulder d of this rebate is abutted against the end of said crossing-rail, to which it is securely held by a notch, e, made to interlock with the point of the crossing-rail, which is also notched for this purpose, as shown in fig. 4.

This portable switch can be easily and quickly put

in position at night as well as in the day, and as readily removed, while it is held, when in position, by the rails alone, so that it cannot be lifted or thrown out by the approach or contact of the wheels of the train, because it is held at three points, viz: at the side by the hollow in the rail; at the end between the rails; and by the notch in the shoulder fitting into a projection on the end of the oblique rail, so that it is perfectly braced against any vertical or lateral movement.

This switch is put in place on either track, when it is desired to cross the cars from one to the other; and by its use the cars may have three independent movements, viz: a transferring movement from either track to the other, and a forward or backward movement on the track to which the cars have been transferred, and when so transferred, the switch is removed.

In all these movements of a train, nothing whatever is required to effect its transfer from one track to another but to place the portable switch in position at the junction of the crossing-rail with the track desired to be left, and *vice versa*.

In case the switch should be left in its place by oversight or accident, and the trains should be coming in the direction of the heel thereof, it is beveled downward at *f*, and provided with a groove, *g*, along its upper side, tapering toward its point, to receive the

flanges of the wheels, whereby the train will pass over without accident, and with scarcely any perceptible jarring.

The switch-ends of the oblique crossing-rails are provided with half frogs, *I I'*, cast with or made separately, and secured to base-plates *J*, which are secured to the bed of the track.

The removable switch thus made can be carried on the train, one at the forward and another at the rear end thereof, whereby the number of switch-tenders may be greatly lessened.

Having described our invention,

We claim—

1. The switch constructed with a rebate, *c*, and shoulder *d*, at its interlocking-heel, and a curved projection, *b*, on its side adjacent to the rail, for the purpose of bracing it both vertically and laterally between and against the rails, substantially as herein described.

2. A removable switch, *H*, having its heel *K* inclined downward, and its upper side grooved, for the purpose herein shown and described.

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Witnesses:

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