

No. 609,727.

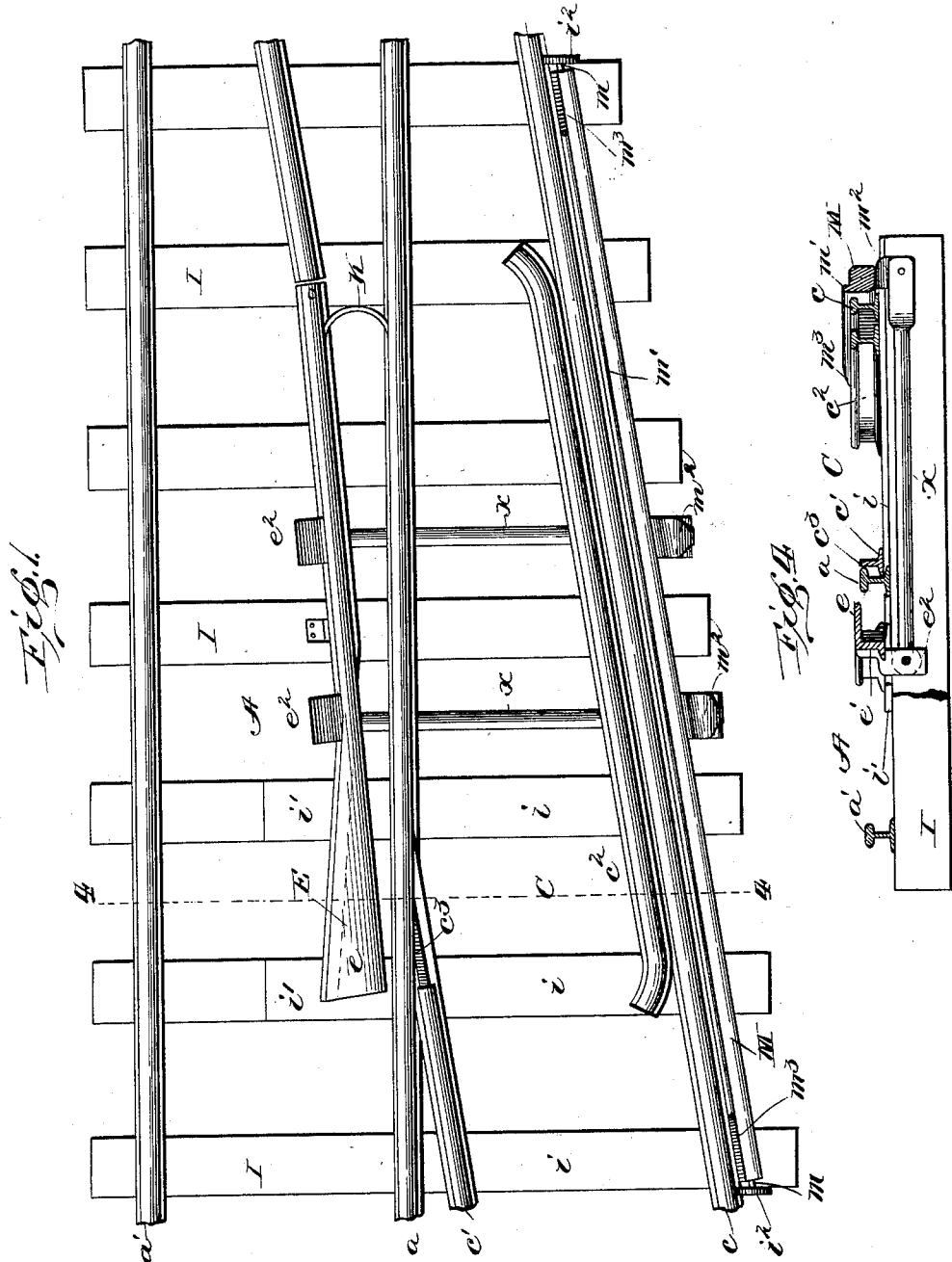
Patented Aug. 23, 1898.

C. H. BALLIETTE.
RAILWAY.

(Application filed Dec. 20, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
J. M. Fowler
Gales P. Moore

Inventor:
Charles H. Balliette,
by Chas. Stewart
Attorney.

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2 Sheets—Sheet 2.

Fig. 2

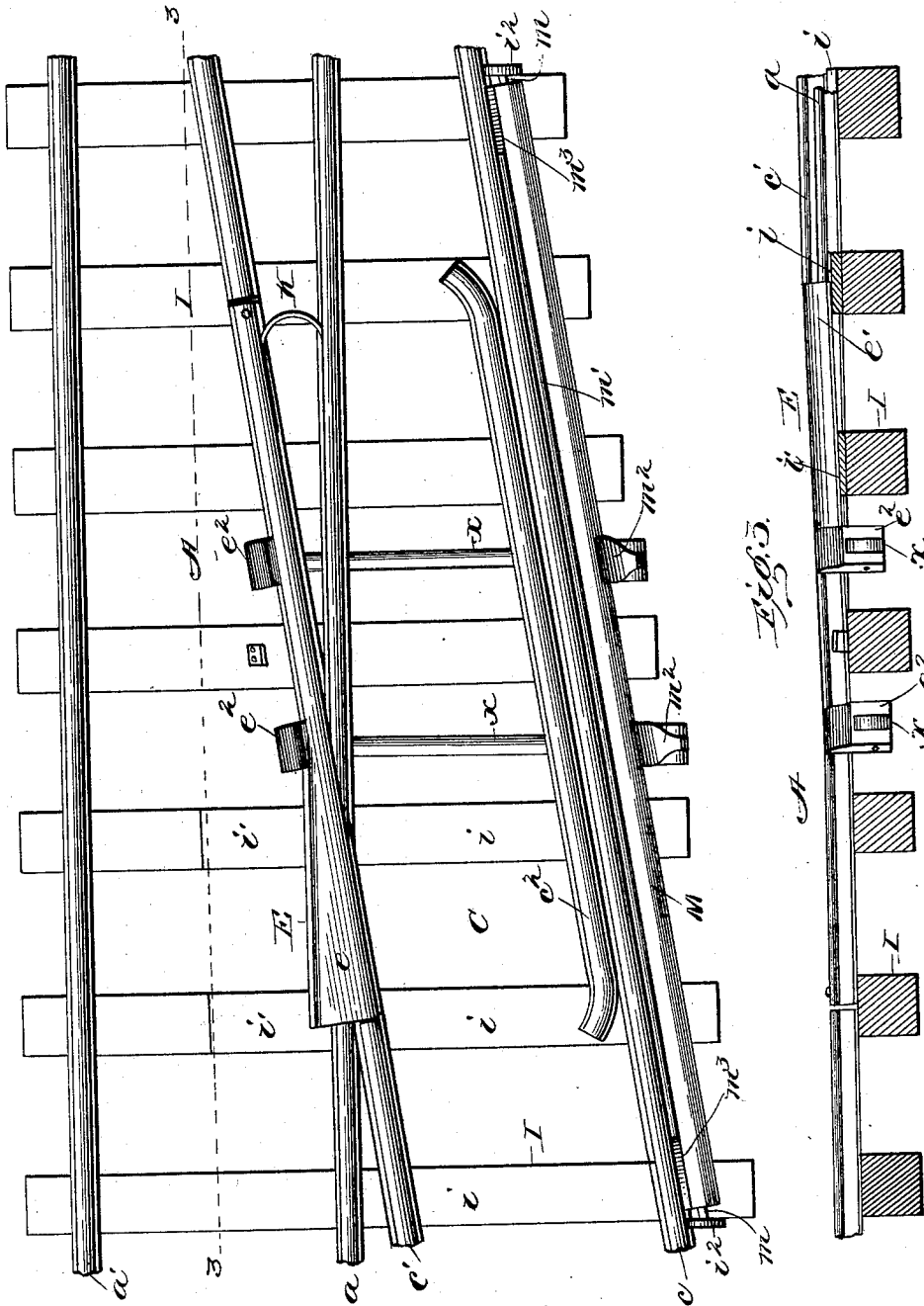


Fig. 3

witnesses:
J. M. Fowler Jr
Gales P. Moore

Inventor:
Charles H. Balliette,
by Charles A. Stewart
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES H. BALLIETTE, OF CARLISLE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO ABRAHAM B. DUNKLE, OF STEELTON, PENNSYLVANIA.

RAILWAY.

SPECIFICATION forming part of Letters Patent No. 609,727, dated August 23, 1898.

Application filed December 20, 1897. Serial No. 662,682. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. BALLIETTE, a citizen of the United States, residing at Carlisle, in the county of Cumberland, State of Pennsylvania, have invented certain new and useful Improvements in Railways, of which the following is a description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to railways, and more particularly to improvements in connection with frogs therefor and mechanism for operating the same by the train.

My object is to provide a structure in which but few parts are employed, and these parts are so constructed and arranged that positive operation is assured and binding of the parts made impossible.

To these ends and also to generally improve upon structures of the character indicated the invention consists in the various matters hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a plan view of a portion of a railway with my present invention applied, the main track being shown clear. Fig. 2 is a similar view showing the siding clear. Fig. 3 is a longitudinal sectional elevation on the line 3 3 of Fig. 2, and Fig. 4 is a transverse sectional elevation on the line 4 4 of Fig. 1.

Referring now more particularly to these drawings, A represents the main track, comprising the rails a a' , and C the siding or other line, branching from the main line, said siding comprising the rails c c' and the guard-rail c^2 on the inner side of the outer rail. The rails of the main track are not cut at the point of the frog, and for a purpose to be more fully herein described the inner rail c' of the siding joins the inner rail a of the main track and is preferably secured thereto.

E is the frog-rail, suitably pivoted to one of the ties I at a point between the rails of the main track, the said frog having movement in a horizontal plane and being normally held away from the inner rail a of said main track by a suitable spring or springs K between the rail a and the frog.

The frog is pivoted at its end farthest from the siding, and at this end is of the general structure and height of the rails of the main

track. Toward its free end, however, the tread of the frog gradually widens and its height gradually increases. At its free end the frog is cut away to produce an angular member, having the tread e for one face and the depending web e' for the other. When the frog is thrown to clear the siding, its web lies against the inner face of the rail a , and its tread rests upon the tread of said rail and upon the portion of the rail c' of the siding which adjoins the said rail a of the main track. A bearing-surface is thus produced by the rails for the tread of the free end of the frog. In fact, the web of the frog is angular, as shown, so that when it is thrown to clear the siding all of the web from which the tread projects lies against the rail a , thus permitting the extending portion of the tread to be supported throughout its entire length.

The rail c' is raised by means of plates i upon the ties or otherwise to such a height that its portion adjoining the frog is level with the tread of said frog, but the end of said rail c' which adjoins the rail a is cut away, so that it presents a portion c^3 of the height of the rail a , this portion c^3 being a part of the rest for the free end of the frog-tread. The frog can, if desired, be raised by the plates i' upon the appropriate ties.

The construction of the rails and frog, together with the manner in which either the main track or the siding is rendered clear by the position of said frog, being apparent, the mechanism for operating the frog by the train is now to be considered.

A plate M is by means of the lugs m , extending horizontally from its ends in the direction of its length, suitably journaled, as in the brackets v^2 , (here shown as secured to ties,) along the outer side of the outer rail of the siding, and a straight rib m' extends the length of said plate along its inner side—*i. e.*, the side toward the rail c .

A suitable number of lugs m^2 and e^2 depend, respectively, from the plate M and the frog E, and links x are pivoted to said lugs, so that the plate and frog move together. The spring between the frog and the rail a holds the frog normally in such position that the main track is clear, and in this position, as shown in Figs. 1 and 4, the plate M is

turned outwardly, so that rib m' is raised above the level of the rail c . This rib is not, however, carried beyond the reach of the tread of the car-wheels which run upon the rail c , and when, the switch having been thrown, a train moving upon the siding-rails from the direction of the pivoted end of the frog reaches the corresponding end of the plate the tread of the first wheel engages the rib and throws the plate inwardly until the rib is level with the rail c , this movement acting through the links x to throw the frog in position to clear the siding.

It will be noticed that the rib prevents the top face of the plate from engaging the tread of the wheels and thus obstructing full pivotal movement of the said plate. During the passage of the train over the rib it is held in its lower position and the frog remains in the position above indicated; but as soon as the last wheel of the train leaves the rib the spring returns the frog to the position to clear the main track. The operation when a train approaches the frog from the direction opposite to that just described is apparent.

In order to facilitate the engagement of the first wheel with the rib, the ends of said rib are beveled, as shown at m^3 , and the rib is of a length greater than the distance between the trucks either of a car or of adjoining cars, so that before the wheels of one truck leave the rib it is engaged by the wheels of the succeeding truck.

There is thus provided a structure which comprises but few parts, while these parts are easily and cheaply made and assembled. Furthermore, the tread of the frog is supported throughout its entire length during the passage of a train, and also the straight plate, with its rib, is pivoted in a simple manner, so that it is easily depressed by the train, thus removing all danger of derailment.

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

1. In a railway or the like, a track, a plate

along the side of one of the rails of said track and projecting above said rail, said plate having a straight upper surface, brackets along the track-rail, pivotal lugs between the plate ends and the brackets whereby the plate is pivoted to swing about its longitudinal axis, and connections between said plate and a movable member, as a frog, whereby motion given the plate is transmitted to the movable member; substantially as described.

2. In a railway or the like, a track, a plate along the side of one of the rails of said track, a rib integral with said plate and projecting therefrom above the track-rail, said rib having a straight upper surface, brackets along the track-rail, pivotal lugs between the plate ends and the brackets whereby the plate is pivoted to swing about its longitudinal axis, and connections between said plate and a movable member, as a frog, whereby motion given the plate is transmitted to the movable member; substantially as described.

3. In a railway or the like, a main track, a track branching therefrom, a frog pivoted between the rails of the main track to swing in a horizontal plane to clear either the main track or the branch track, a spring between the frog and a rail of the main track whereby the frog is normally held in such position that the main track is clear, a plate along one of the rails of the branch track and having a straight upper portion projecting above the said branch-track rail, brackets along the said rail, lugs upon the plate ends journaled in the brackets whereby the plate is adapted to swing about its longitudinal axis, and connections between the plate and the frog for moving the said members one by the other; substantially as described.

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

CHARLES H. BALLIETTE.

Witnesses:

C. E. WELLS,
J. G. KELLER.