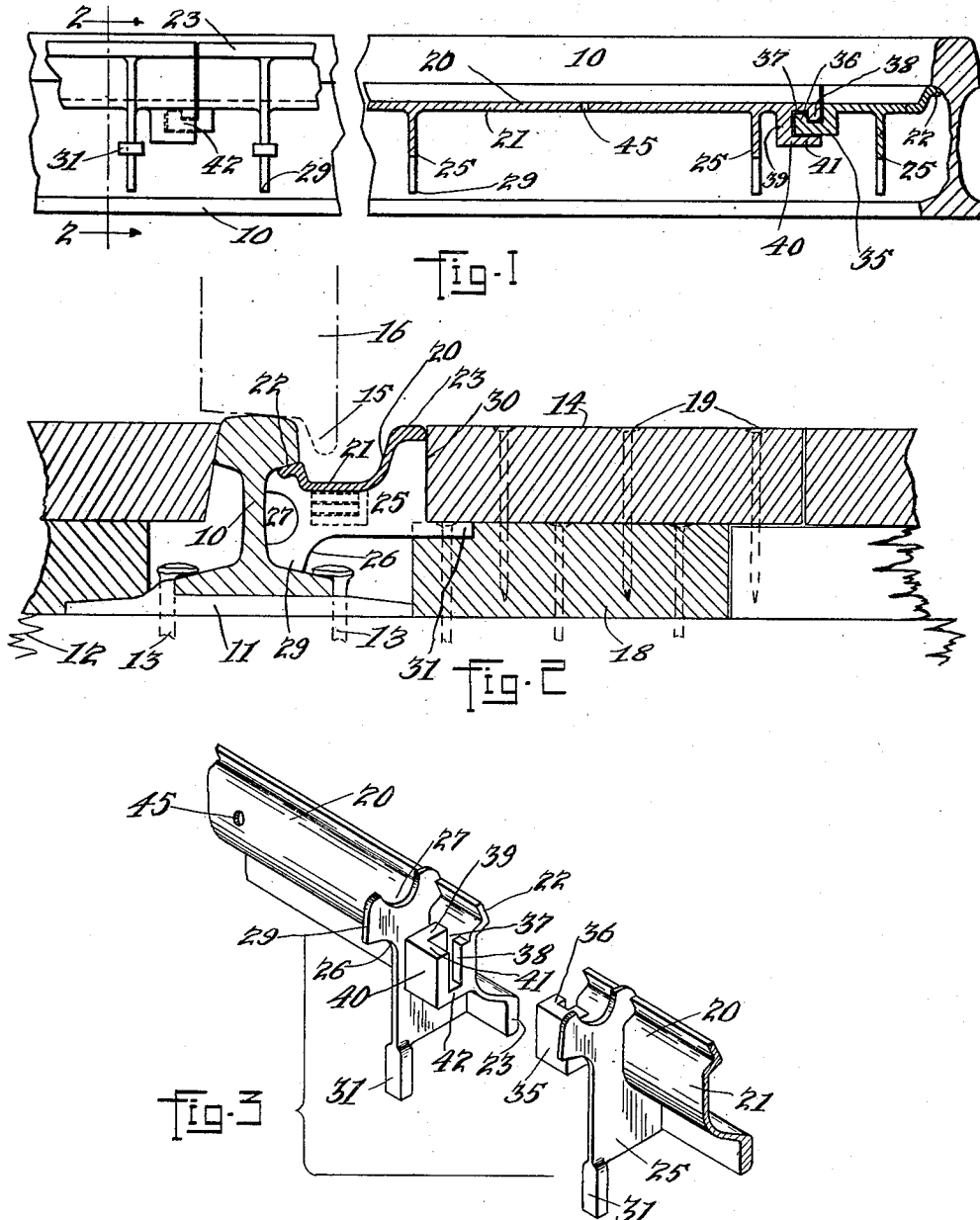


W. S. NEWHALL.
FLANGEWAY GUARD FOR HIGHWAY CROSSINGS.
APPLICATION FILED NOV. 19, 1914.

1,130,997.

Patented Mar. 9, 1915.



Witnesses
Arthur W. Dickson
Justin W. Macklin

Inventor
Walter S. Newhall
By Albert H. Baker, Atty

UNITED STATES PATENT OFFICE

WALTER S. NEWHALL, OF CLEVELAND, OHIO.

FLANGEWAY-GUARD FOR HIGHWAY-CROSSINGS.

1,130,997.

Specification of Letters Patent.

Patented Mar. 9, 1915.

Application filed November 19, 1914. Serial No. 873,040.

To all whom it may concern:

Be it known that I, WALTER S. NEWHALL, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Flangeway-Guards for Highway-Crossings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to foot guards on railways and more particularly to foot guards adapted to provide a protected flangeway in the space usually left between the running rail and the planking provided at highway crossings and station platforms to level the space between the tracks to approximately the height of the rail. This device is a modified form of the flangeway guard shown and described in my application No. 833,056, filed April 20th, 1914.

An object of this invention is to provide a durable and efficient securing means at the ends of a footguard unit adapted to cooperate with securing means on an adjacent unit and so prevent accidental displacement when the footguard is installed in the track.

Other and more specific objects will become apparent in the following description in connection with the drawings, and the essential characteristics are set forth in the claims.

In the drawings Figure 1 is a fragmentary side elevation of my device, the right hand portion being a section on the longitudinal center line; Fig. 2 is a transverse section on the line 2—2 of Fig. 1, showing also the adjacent planking; Fig. 3 is a perspective view of the end portions of two coacting units of my foot guard showing the locking devices on the bottom, the devices being tipped on edge for better illustration.

Referring to the drawings by reference numeral; 10 represents the usual running rail supported on a tie plate 11, carried on the tie 12, and secured thereto by the usual spikes 13, which are adapted to extend through the tie plate into the tie. The usual planking provided to level the space between the tracks to substantially the level of the tracks is shown in Fig. 2, and the plank 14 is spaced away from the head of the running rail to provide a clearance for the flange 15 of the wheel 16, shown in dot and dash lines. In this space the foot guard 20 is adapted to be inserted and thus provide a protected flangeway. Using the embodiment shown, it

is advantageous to have the shim 18, usually provided between the planking 14 and the top of the tie, run parallel with the planking for reasons hereinafter described.

The foot guard consists of a horizontal trough-shaped plate 21, having its upwardly extending side portions terminating in outwardly extending shoulders, one of which 22, abuts the under side of the rail head, and the other 23, being horizontal and adapted to align with the top of the planking. At intervals along the length of the plate 21, I provide webs 25, the same being preferably cast integrally with the plate and extending transversely of the same on its under side. The edge of this web nearest the rail, substantially fits the contour of the web of the rail, and bears on a portion of the flange of the same as at 29, being cut away as at 26, to provide a clearance for the spikes 13. To provide clearance for bonding wires, etc., which are usually carried along the central portion of the web of the rail, the edge of the web 25 is preferably cut away opposite this point forming an opening as at 27.

The outer edge 30 of the web 25, abuts the edge of the plank 14, thereby preventing lateral displacement of the footguard when the plank has been fastened in place by suitable means, as for example spikes 19. The bottom of this edge is widened to form a lug 31, adapted to extend in under and engage the under side of the plank 14 and be supported in a pocket formed in the shim 18. This lug being embraced between the crossing planking 14 and the shim 18 provides against the foot guard being shifted vertically from its position when once properly installed, while also giving an auxiliary support to this edge in the event the plank 14 should warp out of shape.

On the under side at one end of the plate, 21, I have provided a tongue projecting downwardly and then outwardly and terminating in an upwardly extending rib 36 adapted to engage a groove 37 on the end of an adjacent unit and thereby prevent longitudinal displacement of the foot guard when in position. As shown, this groove is formed between a projecting lug or rib 38 and the downwardly depending leg 39 of an L-shaped bracket 40, formed on the under side of the plate 21. The outwardly extending leg 41 of the depending bracket 40, passes beneath the rib 38, there being sufficient clearance to accommodate the tongue 35 when the same has been placed in position

and thereby prevent a vertical movement of one unit with regard to another in either direction, when once assembled. On the side of the depending bracket 40, away from the rail, is provided a web 42 connecting the outwardly extending leg 41 and the trough-shaped plate portion 21 of the foot guard.

It will be seen that after the device is assembled by sliding the tongue into the bracket 40, any movement in any direction (except the reverse of that used to assemble the parts) is prevented, and this tends to insure the alinement of the various units of the foot guard even if the surrounding parts of the crossing should be warped or distorted by reason of the action of frost, etc. Weep holes 45 have been provided at intervals along the trough-shaped portion 21, to prevent any accumulation of water in the guard.

Having thus described my invention, what I claim is:

1. A foot guard adapted to fit between a rail and an adjacent plank having a trough-shaped surface forming a flangeway and having a transverse web portion, one edge abutting the under side of the rail head and the upper face of the flange and formed to bear against the web immediately below the head and immediately above the flange and having a cut-away portion at the center of this edge, the other edge of said web portion being formed to bear against the vertical edge of the plank.

2. A foot guard adapted to fit between a rail and an adjacent plank having a trough-shaped surface forming a flangeway and having a transverse web portion, one edge abutting the under side of the rail head and conforming to the shape of the web and resting on the flange of the rail and having a cut-away portion at the center of this edge, said web being provided at the opposite edge with a projection to extend beneath the plank.

3. The combination with a rail and a plank adjacent thereto and substantially parallel therewith, of a foot guard comprising a longitudinal member having a trough-shaped upper surface and having a transverse web portion adapted to be supported by the base of the rail at one side and adapted to bear against the edge of the plank at the other side and having a projection extending in under the plank adapted to be supported by the filler beneath the plank.

4. A foot guard adapted to fit between a rail and an adjacent plank having a trough-shaped upper surface forming a flangeway and having a transverse web portion resting on the base of the rail and abutting the edge of the plank and having a projection extending in under the plank, said projec-

tion being wider than the web portion and adapted to rest on the filler beneath the plank.

5. The combination, with a rail and an adjacent plank, of a plurality of alined foot guards in the space between the rail and the plank, said adjacent foot guards being provided with means interlocking with another for preventing upward movement of either foot guard with reference to the other.

6. The combination, with a rail and an adjacent plank, of a plurality of alined foot guards in the space between the rail and the plank, adjacent foot guards being provided with means interlocking with one another for preventing outward movement of one foot guard with reference to the other.

7. The combination, with a pair of trough-shaped foot guards adapted to be mounted end to end, of a rib and an L-shaped bracket carried by one foot guard and providing a space between them, and a hooked tongue on the other foot guard adapted to be slid into the space between the rib and bracket.

8. The combination of trough-shaped foot guards adapted to aline, a rib on one foot guard, a cooperating hooked tongue on the adjacent foot guard adapted to interlock and prevent longitudinal separation of the foot guards, and means on one of the foot guards coacting with the other and preventing lateral movement of one with reference to the other.

9. The combination of a trough-shaped foot guard, a rib and an L-shaped bracket on the under side thereof spaced apart, a web connecting one end of the rib with the corresponding end of the bracket, and a hook-shaped tongue on the adjacent foot guard adapted to enter the space between the rib and bracket and abut against the said web.

10. The combination, with a rail and adjacent planking spaced therefrom, a plurality of foot guards adapted to aline and occupy such space, said foot guards being provided with adjacent interlocking devices and each foot guard comprising a trough-shaped top plate and a transverse web projecting downwardly from the top plate and formed to abut the base and under side of the head of the rail and having an opening opposite the middle of the rail web, and provided with means projecting beneath such planking and resting upon a supporting shim below the planking.

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

WALTER S. NEWHALL.

Witnesses:

ALBERT H. BATES,
ARCHER W. RICHARDS.