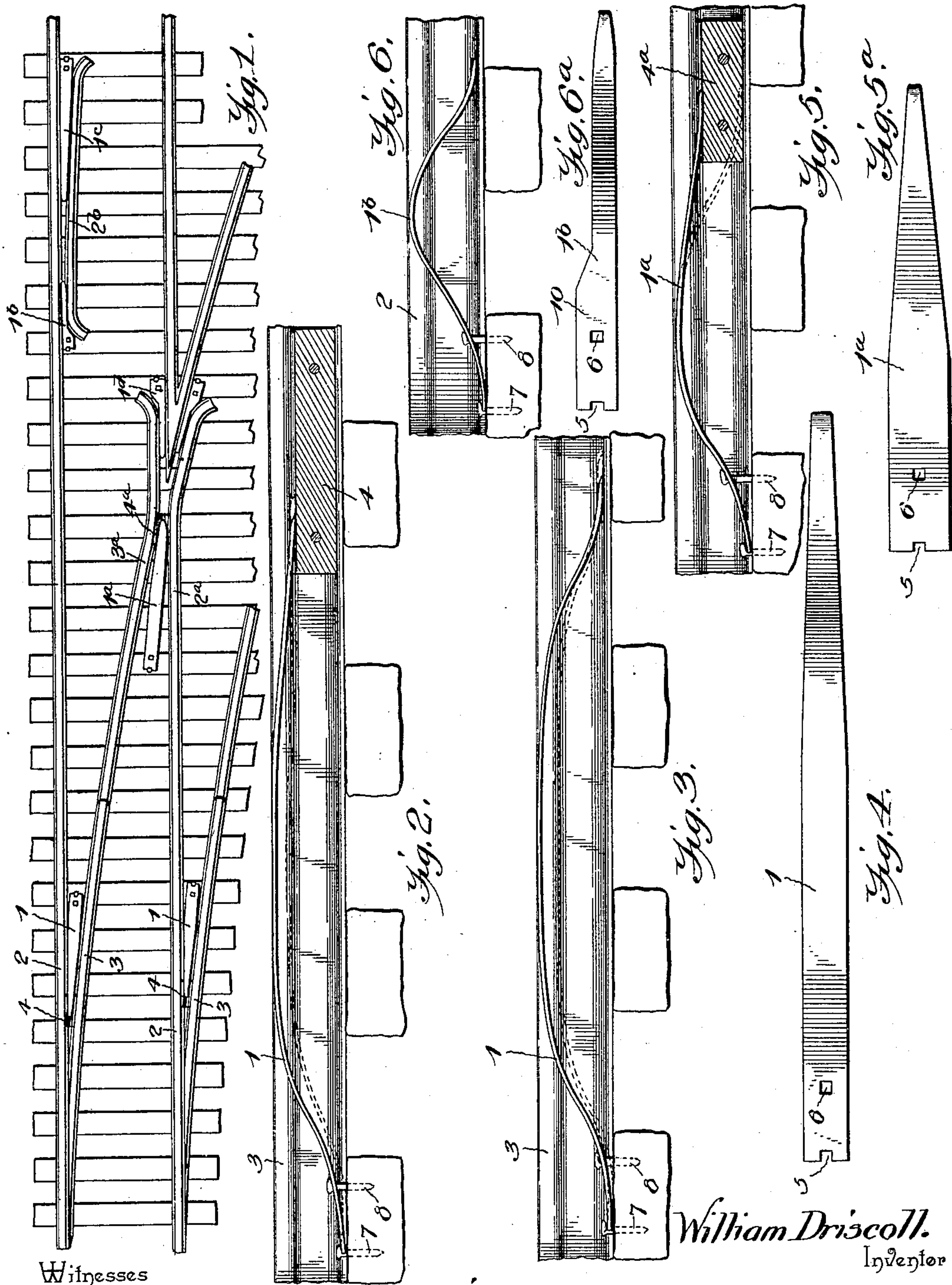


No. 680,571.

Patented Aug. 13, 1901.

W. DRISCOLL.
RAILWAY FOOT GUARD.
(Application filed Nov. 12, 1900.)

(No Model.)



Witnesses

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WILLIAM DRISCOLL, OF BROCKVILLE, CANADA.

RAILWAY FOOT-GUARD.

SPECIFICATION forming part of Letters Patent No. 680,571, dated August 13, 1901.

Application filed November 12, 1900. Serial No. 36,284. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DRISCOLL, a subject of the Queen of Great Britain, residing at Brockville, in the Province of Ontario and Dominion of Canada, have invented a new and useful Railway Foot-Guard, of which the following is a specification.

My invention relates to foot-guards for railway-frogs, switch-rails, wing-rails, and analogous parts of a road, and has for its object to provide a simple, inexpensive, and efficient yielding guard adapted for preventing the foot of a pedestrian from being caught under the round of the rails at frogs, switches, guard-rails, and the like, known as "railway-frogs."

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of a portion of a railway-track system, including a switch-rail and frog, showing foot-guards constructed in accordance with my invention applied in the operative position thereto. Fig. 2 is a side view of a switch-rail foot-guard arranged at its free end upon a spacing-block and indicating in dotted lines the position occupied by the guard when depressed by the tightening of the front holding-spike. Fig. 3 is a similar view of a switch-rail foot-guard arranged terminally upon the foot of the rail. Fig. 4 is a plan view of the foot-guard detached. Figs. 5 and 5^a are, respectively, side and plan views of a toe-guard, the former showing in dotted lines the terminal position of the guard when a spacing or rest block is not employed. Figs. 6 and 6^a are, respectively, side and plan views of a wing-rail guard.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The foot-guard embodying my invention is adapted for arrangement in the interval between any two contiguous rails of a track system to prevent accumulations between said rails, and it is yieldingly constructed with a raised center or intermediate portion, which is disposed in the path of the flanges of wheels traversing one of said rails. The construction of the foot-guard is essen-

tially the same whether used in connection with switch-rails, frogs, or wing-rails, the differences, explained hereinafter, being designed merely to adapt the guards to the peculiar relative positions of the rails between or contiguous to which they are located. Said essential construction embodies a thin plate of yielding or elastic metal secured at one end to a fixed object and resting to slide freely at the other end, the intermediate portion of the plate being bowed upwardly to occupy a position in the path of wheel-flanges. The free end of the guard-plate is tapered or reduced approximately to a knife-edge, with the object of adapting it to slide under obstructions, such as accumulations of snow and ice, and thus avoid riding thereover and displacing the body portion of the plate.

In the construction illustrated, 1 represents a switch-guard, which is interposed between a main-line rail 2 and a switch-rail 3, said plate being tapered continuously from its heel or rear end toward its toe or front end, the latter being interposed between the free end of the switch-rail and the contiguous portion of the main rail, and, as indicated in Figs. 2 and 3, said front end or toe of the guard-plate is free for sliding movement either upon a spacing-block 4, as shown in Fig. 2, or a rail-foot, as shown in Fig. 3, while the heel or rear end of said plate is provided with a terminal notch 5 and a spike-opening 6, which are engaged, respectively, by a fixed rear spike 7 and a front adjustable or guide spike 8. Between its extremities the guard-plate is bowed upwardly to normally occupy a position at its convexed side contiguous to the plane of the tread of the rail, while the extremities of the plate are reversed or upwardly concaved, of which one bears upon a fixed smooth-surfaced rest, such as the upper surface of a spacing-block 5 or the surface of a rail-foot, while the other is secured by the spikes 7 and 8 to a fixed object, such as a rail-tie. As above indicated, the normal position of the upwardly-convexed or bowed intermediate portion of the plate is preferably in or contiguous to the plane of the tread of the rail; but in this position the front or adjustable guide-spike 8 is partly drawn or is arranged with its head or terminal enlargement

spaced from the surface of the fixed support or tie 9 a greater distance than the thickness of the plate. This allows a free vertical movement of the portion of the plate which is pierced by said spike 8, in addition to the longitudinal sliding movement of the free end of the plate, and is the preferable arrangement of the parts, except in winter. During the cold season, however, I prefer to depress the guide-spike 8 to draw the convexed or bowed intermediate portion of the guard-plate downwardly to occupy a position slightly below the plane of the tread of the rail, as indicated by the dotted lines in Figs. 2 and 3, thus allowing a less yielding movement of the guard-plate, from the fact that it is depressed to a less extent by the contact of a wheel-flange therewith.

The toe-guard 1^a (illustrated in Figs. 5 and 5^a) is constructed substantially as above indicated, the toe or free end thereof resting upon a spacing-block 4^a, similar to that described in connection with the switch-rail guard; but it will be understood that the use of such a block is not indispensable. Where the location of the toe-guard adjacent to the toe of a frog or between the contiguous rails 2^a and 3^a, radiating from a frog, is not obstructed by a block, the toe of the guard may be rested upon a rail-foot, as indicated in connection with Fig. 3. In the same way a wing-rail guard 1^b, such as that illustrated in Figs. 6 and 6^a, is adapted to be arranged contiguous to the extremity of a guard-rail 2^b, the construction being similar to that hereinbefore described, with the exception that one edge of the plate is provided with an offset 10 to suit the position of the contiguous deflected end 16 of the wing-rail. I have also shown a guard-rail plate 1^c and a heel-guard 1^d, which, however, as above indicated, are constructed, essentially, as above described.

A further advantage of the construction described resides in the fact that a uniform size of guard-plate may be used in connection with roads having rails of different heights, for the reason that the guide-spike can be driven more or less to arrange the upper or tread surface of the intermediate or bowed portion of the plate in the desired position with relation to the rail-tread. The yielding quality of the plate prevents accumulations of foreign substances between the rails protected thereby from becoming compacted, and thus eventually interfering with the passage of the wheel-flanges therebetween, and thus the dangers incident to the derailing of cars by the filling or choking of frogs or guard-rail spaces is averted.

As best shown in Figs. 2 and 3 of the drawings, the free extremity of the spring-plate is formed into a chisel edge 11, with the flat lower face thereof slidably supported upon the spacing-block 4 or the foot of a rail, so as to freely move upon the same and cut under any accumulations of dirt, ice, &c., and thereby precluding the possibility of the free

end of the guard from riding upwardly and over the top of such an accumulation, as an elevation of the free end of the guard might result in damage thereto by the wheels of a train passing over the same.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. A railway foot-guard, having a yieldable plate terminally supported upon fixed bearing-surfaces, and upwardly bowed at its intermediate portion to occupy a position in the path of wheel-flanges, one end of the plate being fixed against longitudinal movement, and the opposite free end having its upper side beveled downwardly and outwardly into a chisel cutting edge, the under flat side of which being slidably supported upon the adjacent bearing-surface, whereby the chisel-edged terminal is adapted to take under any accumulation of foreign matter upon said surface, when the free end of the guard is thrust forwardly by the pressure of wheel-flanges upon the upwardly-bowed intermediate portion thereof.

2. As a new article of manufacture, a foot-guard for railway-tracks, consisting in an elongated metallic spring-plate, which has the greater part of its intermediate portion bowed in a continuous arch, with its opposite longitudinal edges converged from the heel to the toe thereof, the heel terminal of the guard being formed into a fixed attaching end having an outer terminal spike-notch and an inner spike-opening, and the opposite toe terminal being formed into a slidable support, having its upper side beveled downwardly and outwardly into a chisel edge, the beveled portion being upon the convex side of the intermediate bowed part of the guard.

3. In a railway foot-guard, opposite supports, an upwardly-bowed spring guard-plate having its terminals bearing upon the respective supports, one terminal being freely slidable and the opposite terminal being fixed to the adjacent support, the fixed end of the plate having spaced inner and outer openings, a fastening driven through the outer opening into the support and fixedly securing the plate thereto, and a vertically-adjustable fastening driven through the inner opening and into the support, the plate inclining upwardly and inwardly from the outer fastening, and the head of the inner fastening being normally located above that of the outer fastening, and in engagement with the upper side of the upwardly-inclined portion of the plate, said inner opening loosely receiving the inner fastening, whereby the adjacent portion of the plate is free to fall and rise upon the fastening as a guide.

4. A railway foot-guard having an upwardly-bowed yielding plate, terminally ar-

5 ranged upon fixed bearing-surfaces, and hav-
ing upwardly-concaved portions upon oppo-
site sides of the upwardly-bowed intermedi-
ate portion, one of said upwardly-concaved
10 portions of the plate having longitudinally-
spaced spike-openings, and front and rear
spikes respectively engaging said openings,
the front spike being headed to bear upon
the upper surface of the plate to vary the
normal interval between the same and the

surface of the fixed support, substantially as
specified.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

WILLIAM DRISCOLL.

Witnesses:

R. H. CLIFFORD,
CHARLES E. FOSTER.