

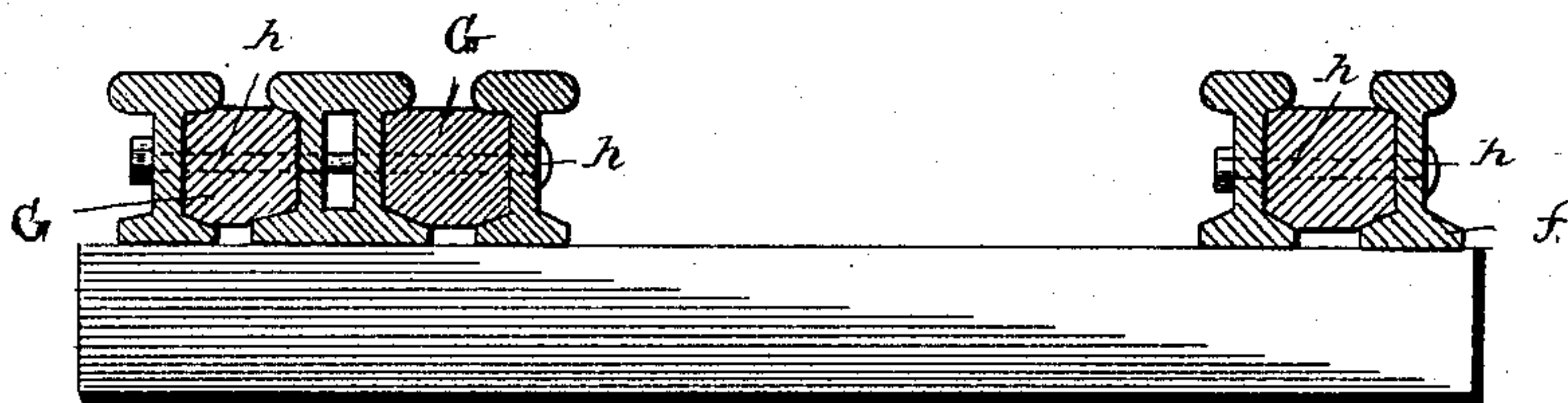
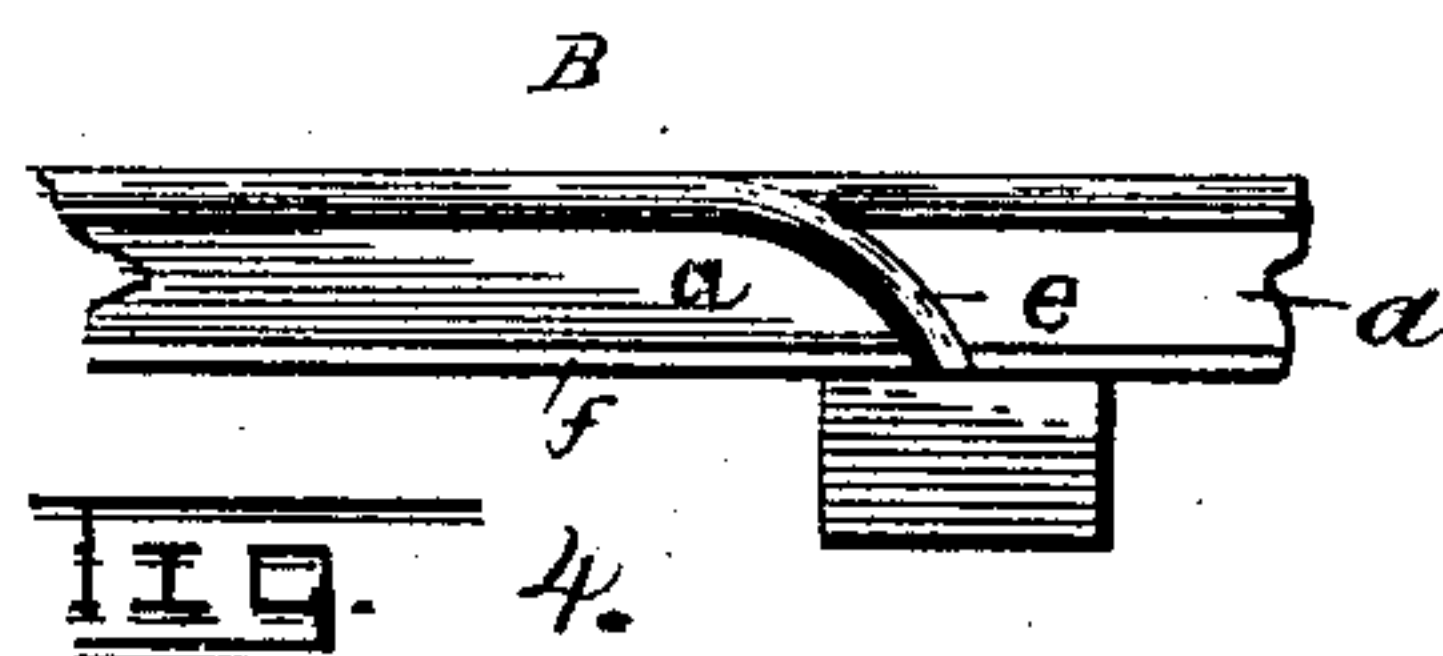
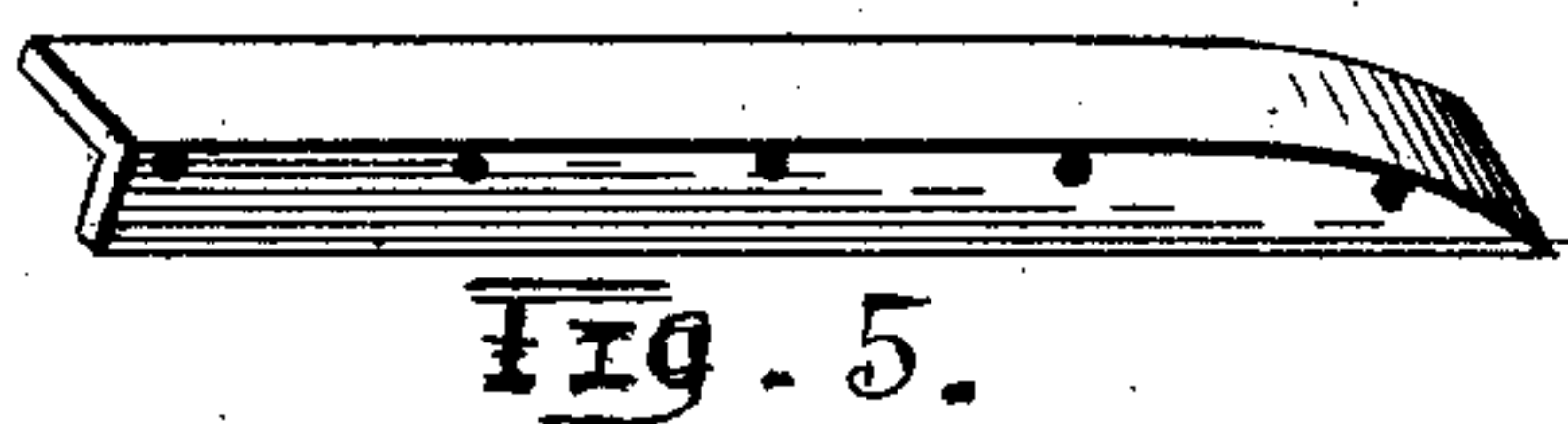
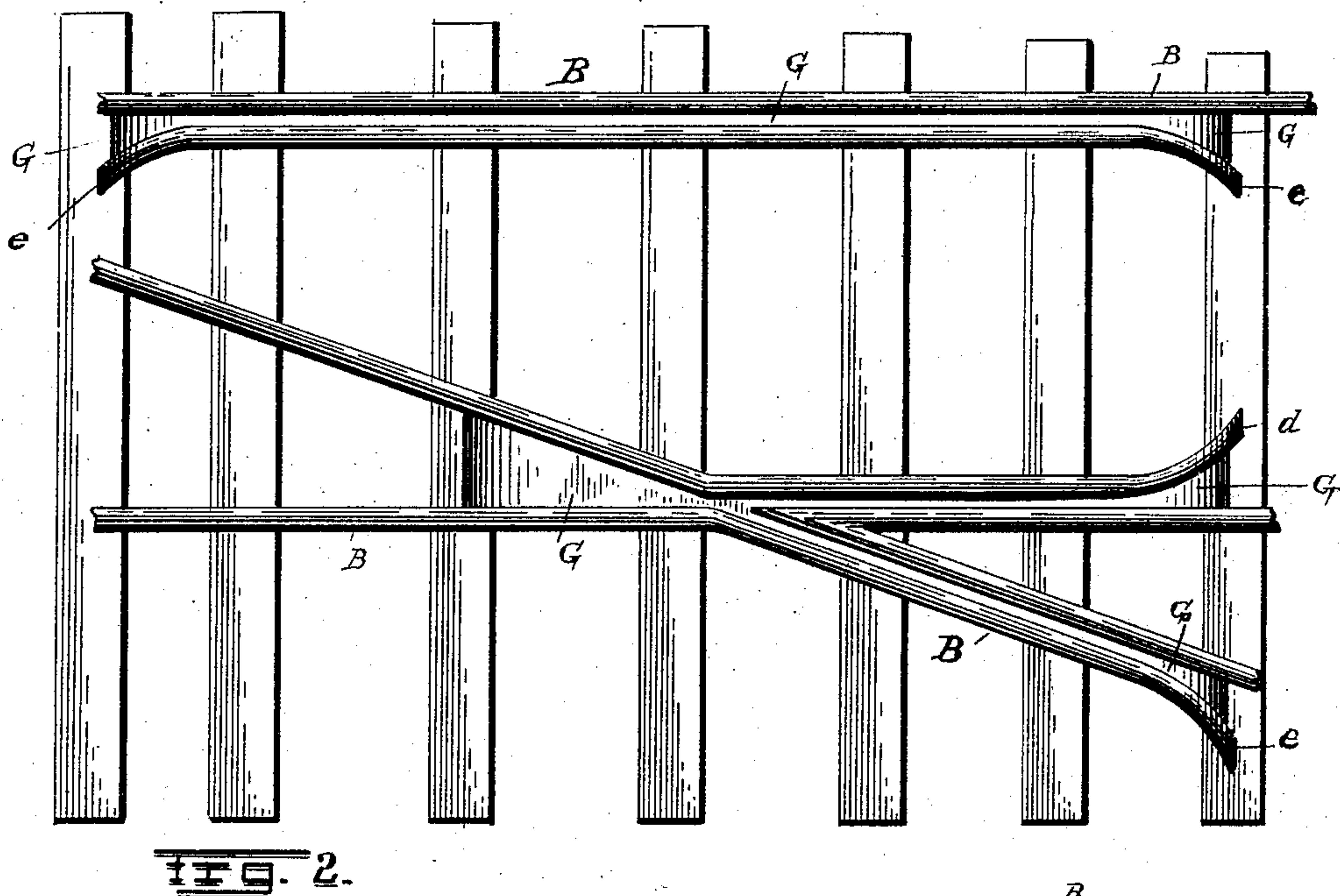
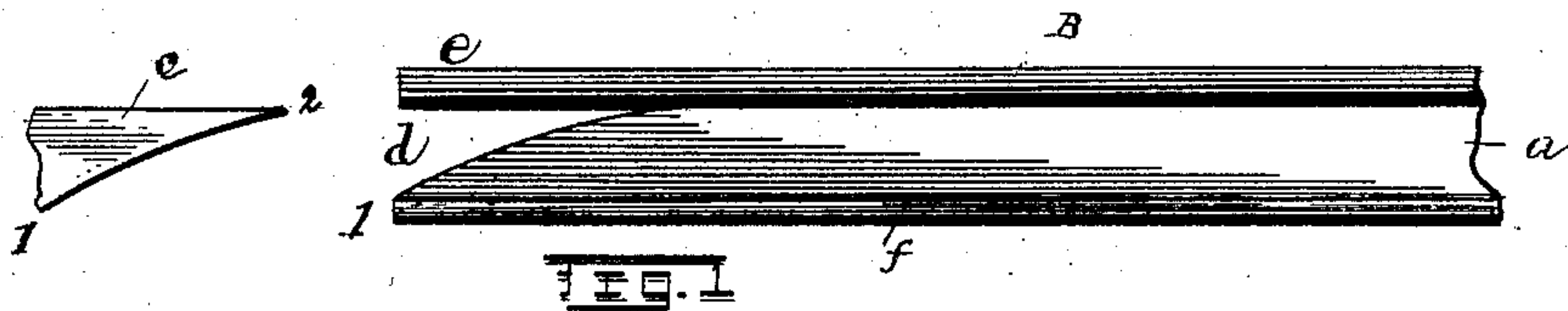
(No Model.)

J. E. BOWES & L. H. HARRIS.

GUARD RAIL OR FOOT GUARD FOR RAILWAY FROGS.

No. 444,518.

Patented Jan. 13, 1891.



Witnesses:
Jonathan Bailey
H. B. Jewell

Inventors:
John E. Bowes and
Lorenzo H. Harris,
By his Attorneys.
John J. Halsted for

UNITED STATES PATENT OFFICE.

JOHN E. BOWES AND LORENZO H. HARRIS, OF AURORA, ILLINOIS.

GUARD-RAIL OR FOOT-GUARD FOR RAILWAY-FROGS.

SPECIFICATION forming part of Letters Patent No. 444,518, dated January 13, 1891.

Application filed October 18, 1890. Serial No. 368,543. (No model.)

To all whom it may concern:

Be it known that we, JOHN E. BOWES and LORENZO H. HARRIS, both of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Guard-Rails or Foot-Guards for Railway-Frogs; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

It is well known that frogs and guard-rails as generally constructed have proved very dangerous, and that the loss of life caused by one's foot being caught in them is not only great, but is constantly increasing.

Our invention aims to prevent this destruction of human life; and to that end it consists in an improved and special construction of the guard-rail or foot-guard, whereby they are rendered free of all such dangerous features. The wood filling or blocking now very generally employed for guard-rails and frogs seems to have lessened the evil very little, if at all, because in most instances such filling is insecure, either from not being properly constructed or not being properly fitted to the place it is to occupy, and being nailed to the ties the constant jar caused by passing trains soon works it loose and the top or "tread" (sometimes called the "ball") of the rail forms also a similar trap or stumbling block for pedestrians.

Our improvements will be readily understood from the following description and from the drawings accompanying the same, in which—

Figure 1 shows a side view of a rail having a piece cut out of one end of its web preparatory to bending down its top or tread; Fig. 2, a plan of our improved guard-rails and frog, and Fig. 3 a cross-section of the same and through the fillings; Fig. 4, a partial view in elevation, and Fig. 5 a form of the filling when not made solid.

From the web *a* of a rail or rails *B* we cut out a piece *c* nearly triangular, so as to open a space *d* in the web, which resembles nearly a long right-angled triangle, but which, however, in the line 1 2, which subtends the right angle, is preferably gently arched, so that the

portion *e* of the ball or tread from which the web has thus been cut off may be suitably bent down on and over the edge 1 2 of the cut web and so as to meet or nearly meet the bottom or flange *f* of the rail. The filling *G* may be of iron or of wood or other material, and the "drop" of this filling is made to conform in shape to the top or ball of the rail, so as to make it impossible for the foot to be caught between the rails, the filling reaching up to and occupying the space beneath the inner edges of the tops or balls of the adjacent rails and of the rails and adjacent frog, as shown, and being, except at its downwardly-curved ends, substantially flush with such edges. This filling is to be securely fastened in position by means of any ordinary bolts *h*, and which should pass entirely through both the rails and the filling, thus firmly holding it in every direction, it being prevented from escape or from projecting at its ends by the downwardly-bent part *d* of the tread and from rising upward not only by the bolts, but also by the rail tops or balls.

In bending down the tread of the end of the guard-rail it is not necessary to weld it, as there is no particular or appreciable strain upon it, but the shape of it is such as to preclude the possibility of the foot being caught, while anything that might previously have been caught by the pilot or by the truck and by it dragged along would easily pass over it in comparative safety and without damage to the frogs, guard-rails, or any other parts.

We claim—

1. A guard-rail or foot-guard for railway-frogs, having a portion of its web cut out between its tread and the end of its flange, as set forth, and having such part of its tread bent down on the web to or near the flange, substantially as and for the purposes described.

2. In combination with a railway-frog, a guard-rail or foot-guard having a part of its web cut away and its tread bent down on the edge of such cut web, and a filling applied and secured to the rail and frog, all substantially as set forth.

JOHN E. BOWES.

LORENZO H. HARRIS.

Witnesses:

RUSSELL P. GOODWIN,
E. T. PRINDLE.