

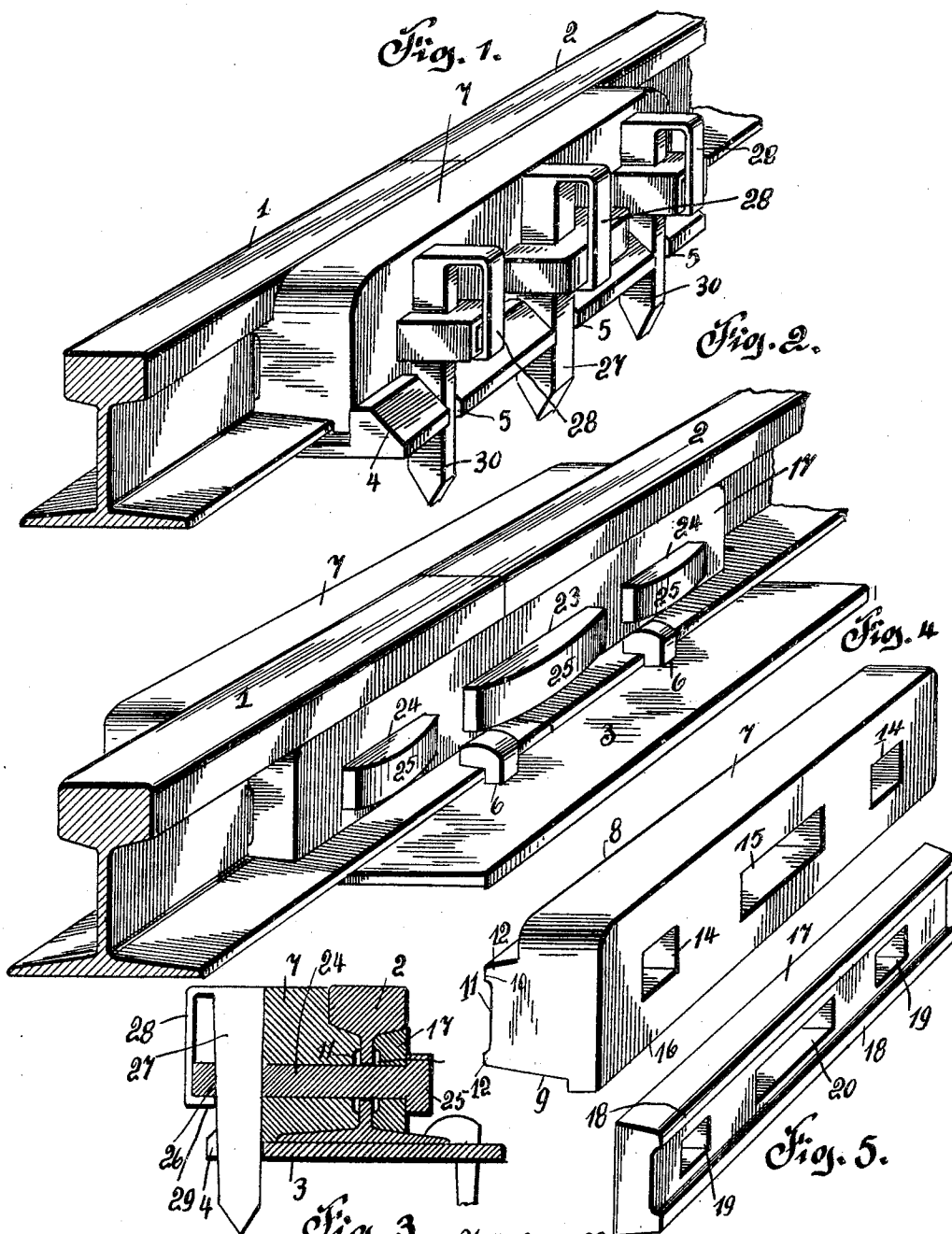
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W. M. HORNER & B. F. LANDIS.

RAIL JOINT.

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Witnesses:
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Fig. 6.

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UNITED STATES PATENT OFFICE.

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RAIL-JOINT.

No. 810,208.

Specification of Letters Patent.

Patented Jan. 16, 1906.

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To all whom it may concern:

Be it known that we, WILLIAM M. HORNER and BENJAMIN F. LANDIS, citizens of the United States of America, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in rail-joints; and the primary object of the invention is to provide positive and reliable means for holding the confronting ends of two sections of rails together, whereby they cannot become separated or spread independently of one another.

15 Another object of this invention is to provide a rail-joint particularly adapted to be used in connection with a wooden sleeper or tie, and we have devised novel means for simultaneously supporting the heads of adjoining rails and preventing the rails from spreading after they have been once secured to a suitable support.

20 A further object of this invention is to provide a rail-joint which will be extremely simple in construction, strong and durable, comparatively inexpensive to manufacture, and highly efficient in use.

25 With the above and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts, to be hereinafter more fully described, illustrated, and claimed.

30 Referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

35 Figure 1 is a perspective view of our improved rail-joint, illustrating the outer side of the rail. Fig. 2 is a similar view of the inner side of the joint. Fig. 3 is a transverse sectional view of the joint. Fig. 4 is a perspective view of a fish-bar used upon the outer side of the joint. Fig. 5 is a similar view of the bar used upon the inner side of the joint, and Fig. 6 is a fragmentary side elevation of the confronting ends of the sections of rails.

40 In the accompanying drawings we have illustrated the confronting ends of two sections of rails 1 and 2, which are adapted to be connected together by our improved rail-

joint. The joint consists of a base-plate 3, the one edge of which is provided with an upwardly-extending flange 4, this edge of the plate being preferably used as the outer edge when placed in position to receive the rails 1 and 2. The flange 4 of the base-plate 3 is provided with a plurality of slots 5, and the plate 3 adjacent to its opposite edge is provided with vertically-disposed openings 6. The object of these openings and the slots 5 will presently appear.

45 A fish-bar 7 is arranged upon the outer sides of the rails 1 and 2, this fish-bar being cut away upon its upper edge, as at 8, to receive the heads of the rails 1 and 2, while the lower edge of said fish-bar is cut away, as at 9, to accommodate the base-flange of the rails. The vertical side 10 of the fish-bar 7 is also cut away, as at 11, forming two longitudinally-disposed ribs 12 12, which are adapted to bear against the web portions of the rails 1 and 2 and retain these web portions in alinement with one another. The fish-bar 7 is also provided with transversely-disposed openings 14 14 and 15, the opening 15 being larger than the openings 14 14. When the rail-sections 1 and 2 have been placed in engagement with the ties, the outer vertical edge 16 of the fish-bar 7 is adapted to bear against the flange 4 of the base-plate.

50 Upon the inner sides of the rails 1 and 2 we use a fish-bar 17, this fish-bar also having its one side cut away, forming longitudinally-disposed ribs 18 18, which are adapted to bear against the web portions of the rails 1 and 2. The bar 17 is also provided with openings 19 19 and 20, corresponding to the openings 14 14 and 15 of the fish-bar 7.

55 The web portions of the rails 1 and 2 are cut away, as at 21 21, to form a longitudinally-disposed slot or opening, and upon each side of this slot the web portions of the rails are provided with openings 22 22, these openings corresponding to the openings 14 and 19 of the fish-bars 7 and 17, while the openings 21 correspond to the openings 15 and 20 of the bars 7 and 17.

60 In order to retain the fish-bars 7 and 17 in engagement with the rails 1 and 2, we employ a plate 23 and pins 24 24. The plate is provided upon its one end with a substantially T-shaped head 25, while the opposite end of the plate is pierced, as at 26. This plate is adapted to extend through the open-

ing 15 of the fish-bar 7, openings 21 of the rails 1 and 2, and the opening 20 of the fish-bar 17, and a spike 27 is employed for locking the plate 23 within the fish-bars 1 and 17. It will be observed that the head of the spike 27 is provided with a depending resilient metallic strip 28, the lower end of which is adapted to be bent beneath the end of the plate 23, as at 29, in order to prevent the spike 27 from becoming disengaged from the opening 26 of the plate 23. The pins 24 24 are constructed similar to the plate, with the exception that their area in cross-section is slightly smaller than the plate. These pins are adapted to pass through the openings 14 14, 22 22, and 19 19, and the pierced ends of said pins are adapted to receive spikes 30 30 similar to the spike 27 heretofore described.

When the base-plate 3 is placed in position upon a sleeper or tie and the fish-bars 7 and 17 placed in engagement with the rails and retained in this position by the spikes 27 and 30 30, it will be impossible for the fish-bars to become detached from the sections of rails and it will be impossible for the rails to spread, owing to the fact that the outer sides of said rails are braced by a heavier fish-bar than the inner sides, and a greater number of fastening means are employed upon the outer side of the joint to retain the fish-bars in position and hold the rails upon the ties or sleepers.

We desire to call attention to the construction of the bar 7, the top face of which is in horizontal alinement with the treads of the rails 1 and 2. The fish-bar 7 forms a continuous tread for the rolling-stock passing over the rails 1 and 2, dispensing with the noise and jar heretofore realized by rolling-stock bumping over the joint of two rails. By constructing a continuous tread for the rails 1 and 2 the wear and tear upon the mechanism used to join the rails together is also eliminated.

It is thought from the foregoing that the construction, operation, and advantages of the herein-described rail-joint will be apparent without further description, and various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

What we claim, and desire to secure by Letters Patent, is—

1. In a rail-joint, the combination with two

rails having openings formed therein adjacent to their ends, of a base-plate having openings formed therein, a flange carried by the one side of said base-plate and having slots formed therein, fish-bars adapted to embrace the web portions of said rails, said fish-bars having transversely-disposed openings formed therein adapted to aline with the openings of said rails, a headed plate adapted to extend through one of said openings, headed pins adapted to extend through the other of said openings, spikes passing through the ends of said pins and said plate, depending resilient strips carried by said spikes and adapted to lock said spikes in engagement with said pins and said plate, means to secure said rails to said base-plate, substantially as described.

2. In a rail-joint, the combination with rails, having openings formed therein, adjacent to their ends, of a base-plate, fish-bars adapted to embrace the web portions of said rails, said fish-bars having openings formed therein adapted to aline with the openings of said rails, pins passing through some of said openings, a plate passing through the other of said openings, spikes adapted to pass through the ends of said pins and said plate, means carried by the upper ends of the spikes and engaging the pins and plate, respectively, to secure said spikes in said pins and said plate, and means to lock said rails in engagement with said base-plate, substantially as described.

3. In a rail-joint, the combination with rails having openings formed therein adjacent to their ends, of a base-plate, fish-bars adapted to embrace the web portions of said rails, pins passing through said fish-bars and said rails, a plate passing through said fish-bars and said rails, separate and independent means carried by the plate and by each of the pins respectively to lock said plate and said pins within said fish-bars, means to lock the last-named means in said pins and in said plate, and means to lock said rails in engagement with said base-plate, substantially as described.

In testimony whereof we affix our signatures in the presence of two witnesses.

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Witnesses:

R. H. LIME.
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