

C. K. HUMPHREYS.
RAIL JOINT.
APPLICATION FILED MAY 13, 1905.

Fig. 1.

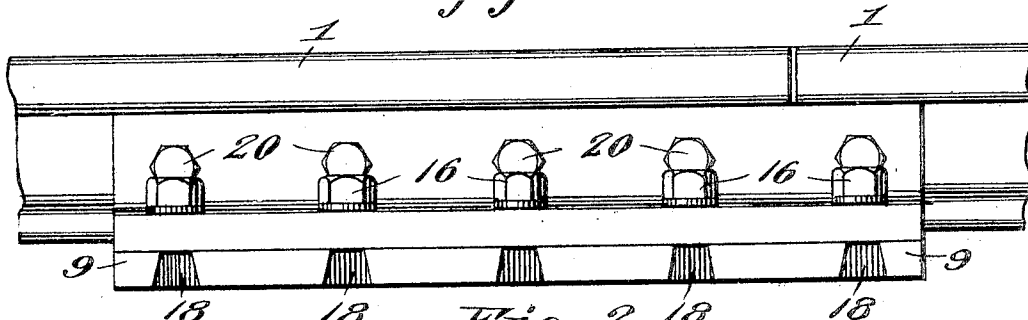


Fig. 2.

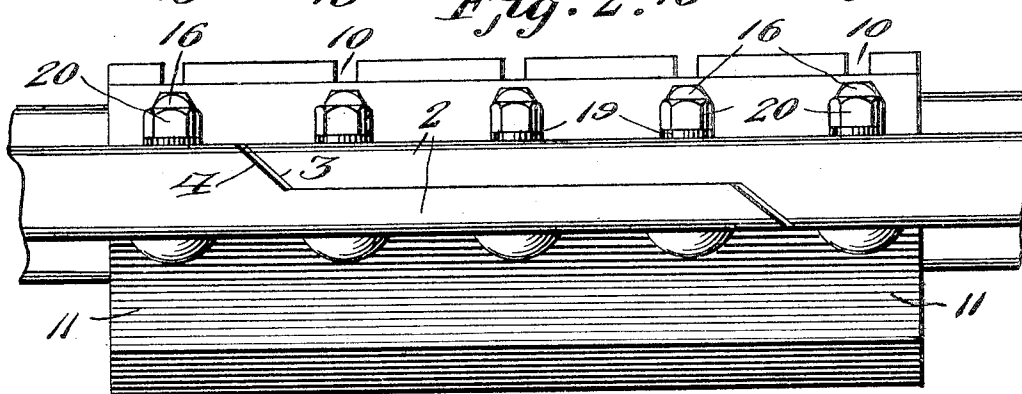


Fig. 3.

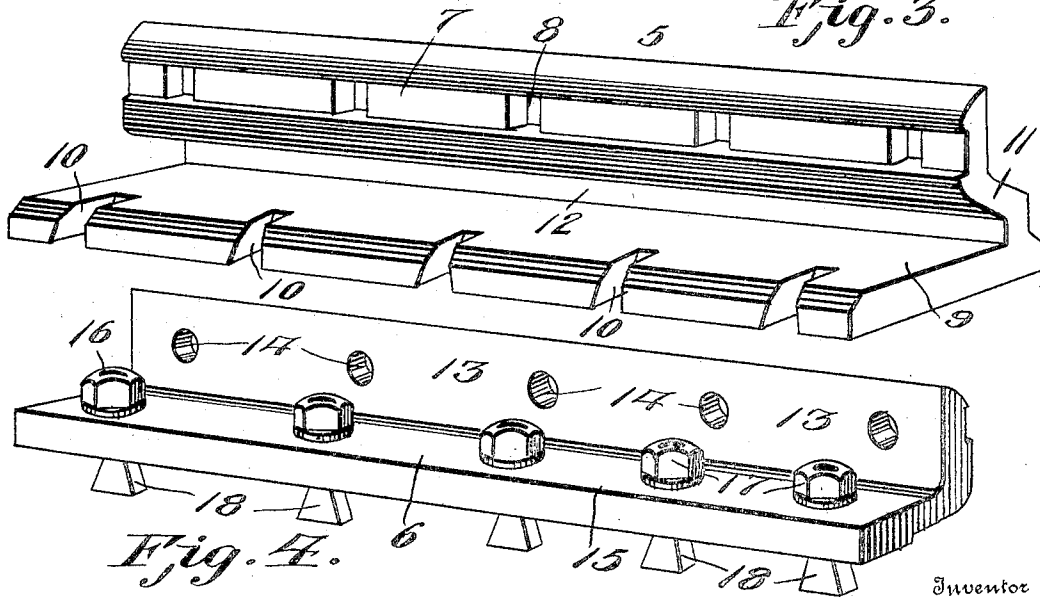


Fig. 4.



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RAIL-JOINT.

No. 804,724.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES K. HUMPHREYS, a citizen of the United States of America, residing at Baltimore, in the State of Maryland, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail-joints, and especially to an improved connecting or splice bar for uniting the meeting ends of the rail-sections, and has for its objects to produce a comparatively simple inexpensive device of this character by which the rails will be firmly supported and united to form a perfect joint, one wherein relative vertical movement of the meeting ends of the rails is obviated, thus to insure a smooth tread and prevent pounding of the rail ends, and one wherein the splice-bars may be quickly and firmly secured to or readily detached from the rails.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a rail-joint embodying the invention. Fig. 2 is a top plan view of the same. Fig. 3 is a perspective view of one of the splice-bars. Fig. 4 is a similar view of the other splice-bar.

Referring to the drawings, 1 1 designate a pair of rail-sections assembled in endwise relation and having formed upon their meeting ends overlapping portions 2, each equaling in width one-half the width of the rail, said portions having their terminals beveled, as at 3, to conform to correspondingly-beveled shoulders 4, formed at the inner ends of the portions or tongues 2, it being noted in this connection that when the rails are assembled there is a slight amount of play between the beveled ends 3 and shoulders 4 to allow for expansion and contraction of the rail-sections.

For connecting the meeting ends of the rails I provide a pair of splice-bars or fish-plates 5 and 6, adapted to seat upon opposite sides of the rail and each cast or otherwise formed in a single piece, the bar 5, as seen in Fig. 3, comprising a side portion or fish-plate 7, provided at suitable intervals with rectangular bolt-receiving openings 8, and a base-plate or chair 9, designed to seat beneath the rails at the joint and having at its outer edge inwardly-extending seats or recesses 10, disposed at appropriately-spaced intervals, these recesses being of wedge shape in elevation and pre-

senting downwardly-divergent inner side faces, as seen more clearly in Fig. 1. The fish-plate 7 merges at its lower edge into a horizontally-inclined flange 11, designed to overlie the adjacent base-flange of the rail and to the lower edge of which flange 11 the base 9 is joined, thus presenting a recess 12 in which the rail-base will snugly fit.

The splice-bar 6 comprises a vertical side portion or fish-plate 13, provided at intervals with bolt-holes 14, designed when the parts are assembled to register with the holes 8, and a horizontally-inclined base-flange 15, through which is extended a series of vertically-disposed fastening members or bolts 16, each having tapped onto its upper end a nut 17 and terminating at its lower end in a wedge-shaped head 18, designed to enter and fit snugly within one of the seats or recesses 10, it being understood that the bolts 16 are appropriately spaced to register with the spaced seats 10.

In practice, the rail-sections having been assembled in endwise relation, the bar 5 is applied with its fish-plate 7 bearing against the rail-webs at one side of the latter and the base portion or plate 9 disposed beneath the adjoining ends of the rail-sections. The member 6 is next placed in position by loosening the nuts 17 and entering the wedge-shaped heads 18 into the respective seats or recesses 10, after which the nuts 17 are tightened for clamping the member 6 securely in position upon the base portion 9. The members 5 and 6 are finally secured to the rail by means of bolts 19, entered transversely through the openings 8 and 14 and corresponding openings formed in the web of the rail, it being understood in this connection that the shanks of the bolts adjacent their headed ends are squared to fit the rectangular openings 8, thus to prevent turning of the bolts and materially decrease liability of the nuts 20 becoming loosened. It will be particularly observed that under this construction the rail-sections will be securely clamped together between the fish-plates 7 and 13 and at the same time supported from beneath by means of the base-plate 9, to which the member 6 is in turn securely fastened, it being apparent that a strong and durable joint will thus be formed and one wherein relative vertical movement of the meeting ends of the rail-sections is obviated to thereby present a smooth even tread and prevent pounding of the rail ends. It will be seen at once that the parts of the joint may

be readily disconnected by removing the transverse bolts 19 and loosening the nuts 17 for freeing the member 6 from the base-plate 9. It will be observed, further, that under this construction there is produced a sectional rail in which play of the sections at the joint is obviated, thus admirably adapting the device for use as a third rail which will present a smooth unbroken tread for the plow or trolley.

10 From the foregoing it is apparent that I produce a simple inexpensive device admirably adapted for the attainment of the ends in view, it being understood that minor changes in the details herein set forth may be
15 resorted to without departing from the spirit of the invention.

Having thus described my invention, what I claim is—

1. In a device of the class described, a fish-plate having a base portion adapted to seat

beneath a rail and provided with vertically-disposed dovetailed seats, a second fish-plate having a base-flange, and fastening members entered through the base-flange and provided with vertical dovetailed heads designed to enter said seats. 25

2. In a device of the class described, a fish-plate having a base portion to extend beneath a rail and having transversely-extended dovetailed recesses, a second fish-plate having a base flange to seat upon said base-plate, and vertical bolts extended through the base-flange and provided with dovetailed heads to enter the recesses. 30

In testimony whereof I affix my signature in presence of two witnesses. 35

CHARLES K. HUMPHREYS.

Witnesses:

H. B. HUMPHREYS,
HENRY GILLIGAN.