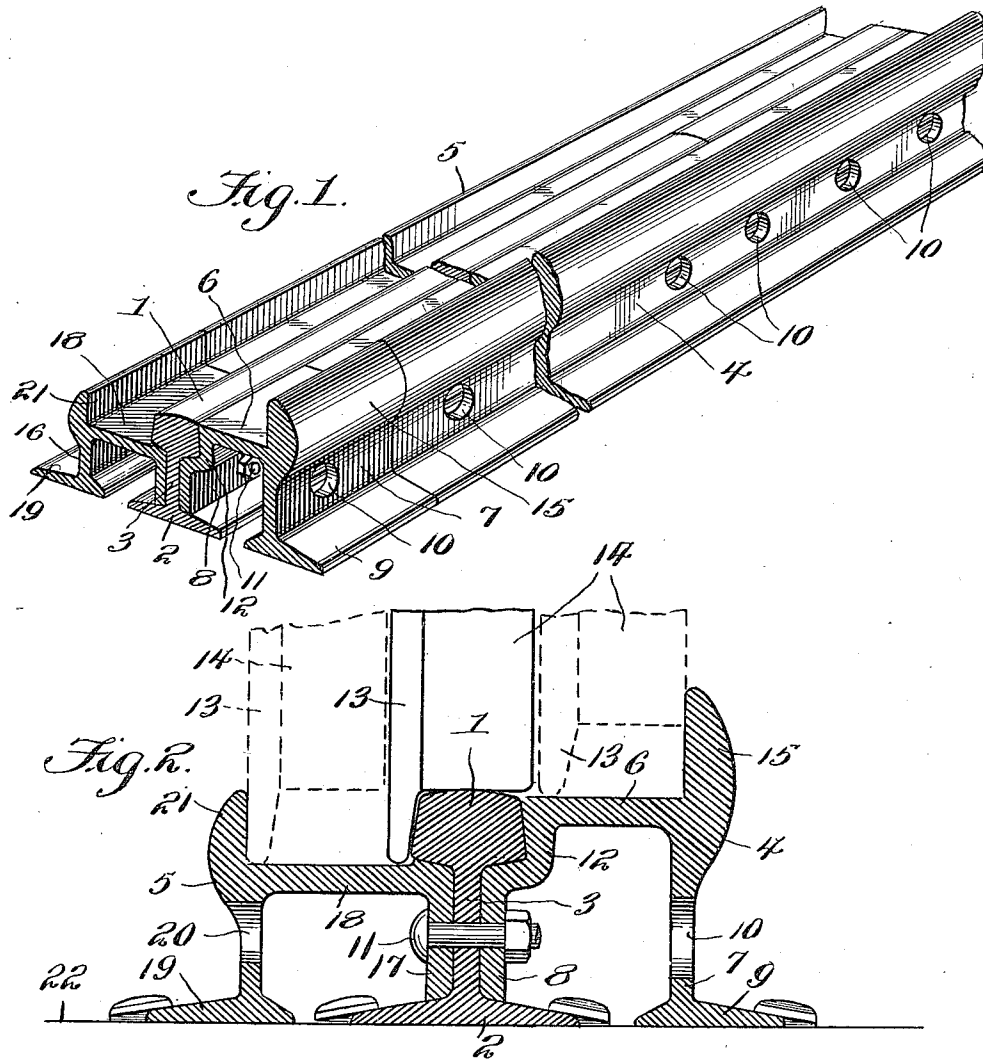


C. W. HANSEN.
RAILWAY CONSTRUCTION.
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1,042,221.

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Inventor

Charles W. Hansen,

By Victor J. Evans,

Attorney

Witnesses

J. L. Wright.
R. M. Smith.

UNITED STATES PATENT OFFICE.

CHARLES W. HANSEN, OF MARATHON, FLORIDA.

RAILWAY CONSTRUCTION.

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To all whom it may concern:

Be it known that I, CHARLES W. HANSEN, a citizen of the United States, residing at Marathon, in the county of Monroe and State of Florida, have invented new and useful Improvements in Railway Construction, of which the following is a specification.

This invention relates to railway construction, the object in view being to provide what may be termed a compound guard rail which will effectually guard against a train leaving the track, and at the same time doing away with the angle bars or fish plates at present in common use on railways, the guard rails which are located at opposite sides of the main rails acting in the capacity of the usual angle bars, and serving to catch the wheels either at the outside or inside of the main rail, when they become derailed therefrom.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

In the drawings: Figure 1 is a perspective view of a portion of a railway embodying the present invention. Fig. 2 is a cross section on an enlarged scale through the main rail and the outer and inner guard rails, showing the manner in which all of the rails are combined.

Referring to the drawings, the main rail is of the usual construction, embodying the head 1, base 2, and interposed web 3.

In carrying out the present invention, I provide an outer guard rail 4, and an inner guard rail 5, both of said rails being alike in many respects. The outer guard rail embodies a head 6, an outer web 7, and an inner web 8. The outer web 7 terminates at the bottom in a base 9, the bottom surface of which is in the same horizontal plane as the bottom of the base 2 of the main rail, and said outer web 7 is provided with apertures 10 in line with the bolts 11 which pass through the main rail and fasten the inner web 8 of the outer guard rail thereto. The inner web 8 is angular in cross section or offset, as shown at 12, so as to extend beneath the head 1 of the main rail and along side of the web 3 thereof, and also along side of the head of the main rail, the upper surface of the head 6 being substantially on a level

with the top of the head 1, so that in case of derailment the flange 13 of the wheel 14 will be supported by the head 6. Along the outer longitudinal portion of the head 6, there is an upwardly extending guard flange 15, with which the tread portion of the wheel comes into contact in case of derailment, thereby preventing the wheel from becoming totally derailed. The inner guard rail, like the outer guard rail, embodies an outer web 16, an inner web 17, and a head 18. The inner web 17 is angular in cross section, as shown, so as to fit against the web 3 of the main rail and under the head 1 thereof, so as to take the place of the usual angle bar, said inner web 17 receiving the bolts 11 above referred to. The outer web 16 is provided at the bottom thereof with a base 19, the bottom of which is in the same horizontal plane as the bottom of the main rail, while said web is apertured, as shown at 20, to admit of the insertion and removal of the bolts 11. The head 18 of the inner guard rail has its upper surface sufficiently depressed below the top of the head of the main rail to allow for the working of the flange 13 of the wheel, and at its outer side it is provided with an upstanding guard flange 21, against which the flange 13 of the wheel is adapted to strike in case of derailment.

From the foregoing description, it will now be understood that all of the rails, including the main rail and the outer and inner guard rails, are adapted to be supported on the same tie or stringer, as the case may be, represented by the line 22. It will further be seen that the flanges 15 and 21 catch the wheels in the event of derailment and serve to guide the wheels back to the main rail located centrally between the guard rails. Furthermore, the guard rails are arranged to lap joint with the main rails, so that the inner webs 8 and 17 of the guard rails constitute angle bars or fish plates, and as they extend the entire length of the main rails, the latter are thoroughly supported and braced by means of the guard rails, and the latter are in turn braced by the main rails.

The construction above described will be found very effective in use, and while especially designed for use on trestles, bridges, and the like, the guard rails may be just as effectively used throughout any portion of the roadbed.

What is claimed is:

1. In railway construction, the combination of main rails, and inner and outer guard rails at opposite sides thereof, each guard rail embodying a head, an outer web, a supporting base therefor, and an inner web of angle form constituting an angle bar which overlaps the main rail joint and is bolted to the main rail.
2. In railway construction, the combination of main rails, and outer and inner guard rails at opposite sides thereof, each guard rail embodying a head, an outer web, a supporting base therefor, and an inner web of angle form constituting an angle bar which overlaps the main rail joint and is bolted to the main rails, the head of one guard rail being substantially level with the head of the main rail, and the head of the other guard rail being substantially level with the

bottom of the head of the main rail, and the heads of both guard rails being adapted to support the wheel flanges when derailed from the main rail.

3. In railway construction, the combination of main rails, and inner and outer guard rails at opposite sides thereof, each guard rail embodying a head, an outer web, a supporting base therefor, and an inner web of angle form constituting an angle bar which overlaps the main rail joint and is bolted to the main rail, the outer webs of the guard rails being apertured in line with the bolts of the main rail.

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

CHARLES W. HANSEN.

Witnesses:

E. H. GRAY,
JOHN HANSEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."