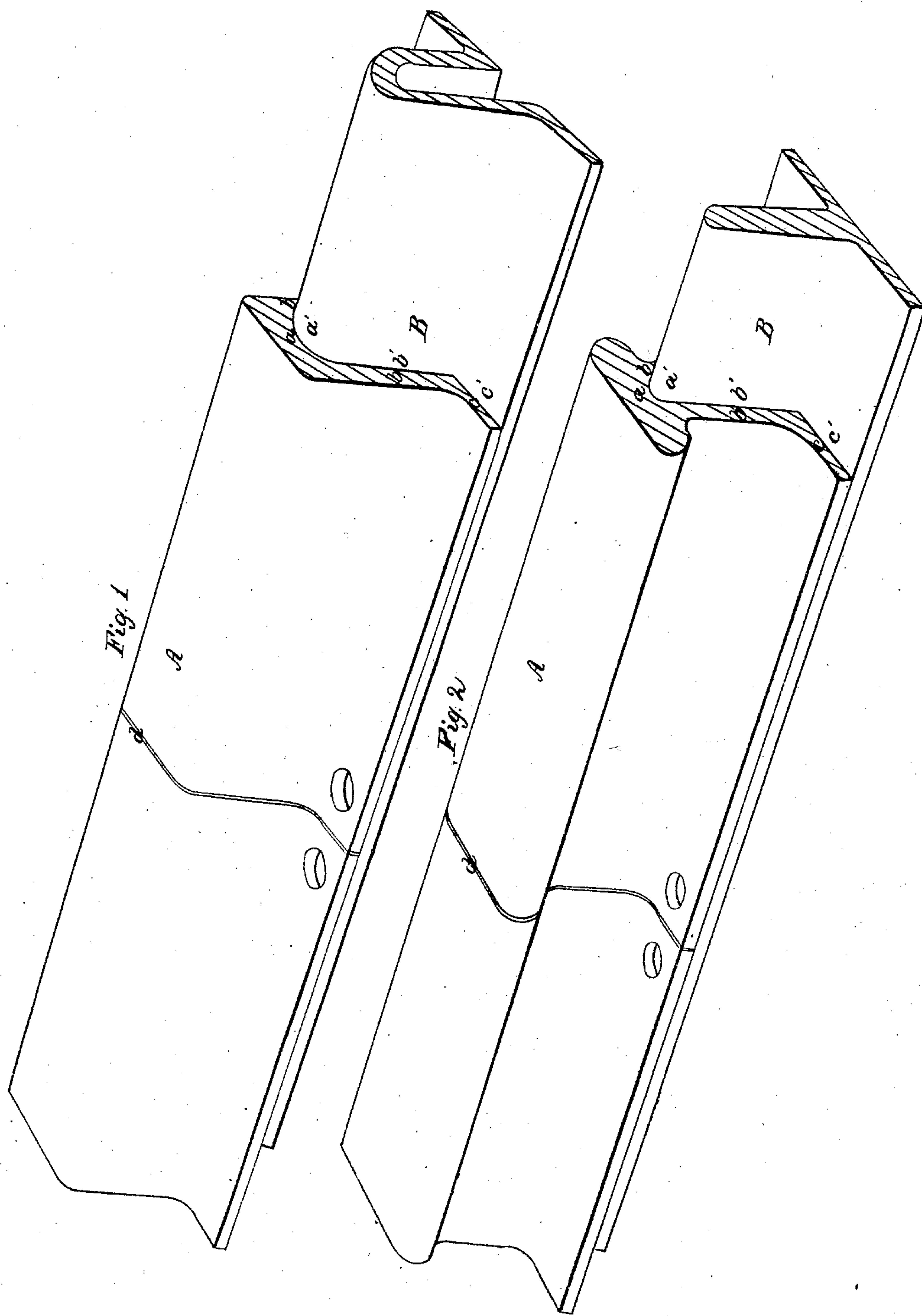


P. O. Reilly,
R.R. Tracks,
No 9,703,
Patented May 3, 1853.



UNITED STATES PATENT OFFICE.

PATRICK O. REILLY, OF READING, PENNSYLVANIA.

RAIL FOR RAILROADS.

Specification of Letters Patent No. 9,703, dated May 3, 1853.

To all whom it may concern:

Be it known that I, PATRICK O. REILLY, of Reading, in the county of Berks and State of Pennsylvania, have invented a new and useful Improvement in Rails for Railroads, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figures 1 and 2 represent views in perspective of fragmentary parts of two varieties of my divided rail.

My improvement consists in dividing the ordinary "bridge" or any other rail having a flanged base by a longitudinal division or joint parallel or nearly so to the top of the flanges and arch and the sides which join the arch and flanges into two layers, plates, parts or half rails of nearly equal thickness and weight and sliding the upper one over the under one until the end of one is opposite the middle of the other, and riveting or otherwise fastening them together in this position, so that they will reciprocally break joint with and support each other and thus give greatly increased stiffness and strength to the track.

In Fig. 1 of the accompanying drawing the half-rails (A and B) are of the Ω or bridge variety of rail as it is sometimes termed. They are rolled in the usual manner but of less proportionate thickness than is customary. The rider half (A), which is always arched or shaped similar to the Ω variety, is rolled of such form that its under side corresponds in shape and size with the upper side of the base rail, so that when placed upon the latter (as represented in the drawing) it shall exactly fit it, its arch (a) bearing upon the arch (a'), its sides (h) against the sides (h'), and its flanges (c) upon the flanges (c') of the base rail; hence when the rider is applied to the base rail the former will be in close contact with the latter and will be supported by it throughout its entire length, and as the joints (d) of the rider meet upon the middle of the base rail the extremities of the former are as firmly supported against deflection as its middle. The compound rail thus formed is secured to the cross ties by bolts or spikes or by chairs in the usual manner, such fastenings securing both rails, by their overlapping bases, to each other and the cross ties.

In Fig. 2 of the drawing the base half

rail is of the \perp variety, while the rider half is of the Ω description of rail.

From the foregoing description it is evident that the advantageous connection of the two sections of the rail with each other in this manner depends upon their peculiar form and relative proportions and positions, which are such that the upper section is supported against horizontal as well as vertical pressure by the lower section, without the employment of any fastenings other than those usually employed to secure the rails to the cross ties. A weight rolling upon a rail of this construction will tend to force the two sections more closely in contact, and will not tend to rupture the combination, as is the case where the joint of the two sections is vertical and where the combination depends for its strength, or resistance to fracture, entirely upon the strength of the bolts, or rivets, which hold the sections together. This rail also affords great facilities for repair, as the upper section or rider can be readily removed and replaced when worn. As the lower rail is not exposed to the rubbing action of the wheels, it will not be worn away and consequently, unless accidentally fractured, will not need renewing. It in fact forms a continuous chair which supports the upper section throughout the entire length of the track, and as the upper section of the rail only weighs about one half as much as an ordinary bridge rail only one half as much metal is condemned and replaced in renewing my rails that must be condemned and replaced in renewing the common bridge rail.

What I claim as my invention and desire to secure by Letters Patent, is—

1. The divided or double plate rail herein described, which is composed of a flanged arch or bridge rail of the usual form and about half the usual thickness and weight, with another rail of similar external form, thickness and weight, on which it rides, the under side of the arch of the upper rail, or rider forming a groove to fit over and rest upon the arch or tongue of the lower rail, the flanges of the upper rail resting upon and fitting those of the under rail and the spike holes of the two corresponding so that the same bolts or spikes will secure them firmly together and to the foundation; the compound rail thus formed and proportioned having a double bridge and a double

base the two portions of which reciprocally support and strengthen each other.

2. I also claim the method herein described of strengthening the joints of the
5 ordinary bridge rail, while leaving its middle of adequate strength, by moving a longitudinal section of its inside, equal to about half the weight of the rail, half its length endwise, so as to break joint with
10 the outside; or constructing the rail in two parts to correspond in form and position with the two parts, if the inner half were divided from the outer and moved as afore-

said, whereby the joints of the upper rail are rendered as capable of supporting the 15 load as its middle and the whole made stronger with a given quantity of material than by any mode of construction heretofore known.

In testimony whereof I have hereunto 20 subscribed my name.

P. O. REILLY.

Witnesses:

CLEM S. STULL,
E. S. RENWICK.