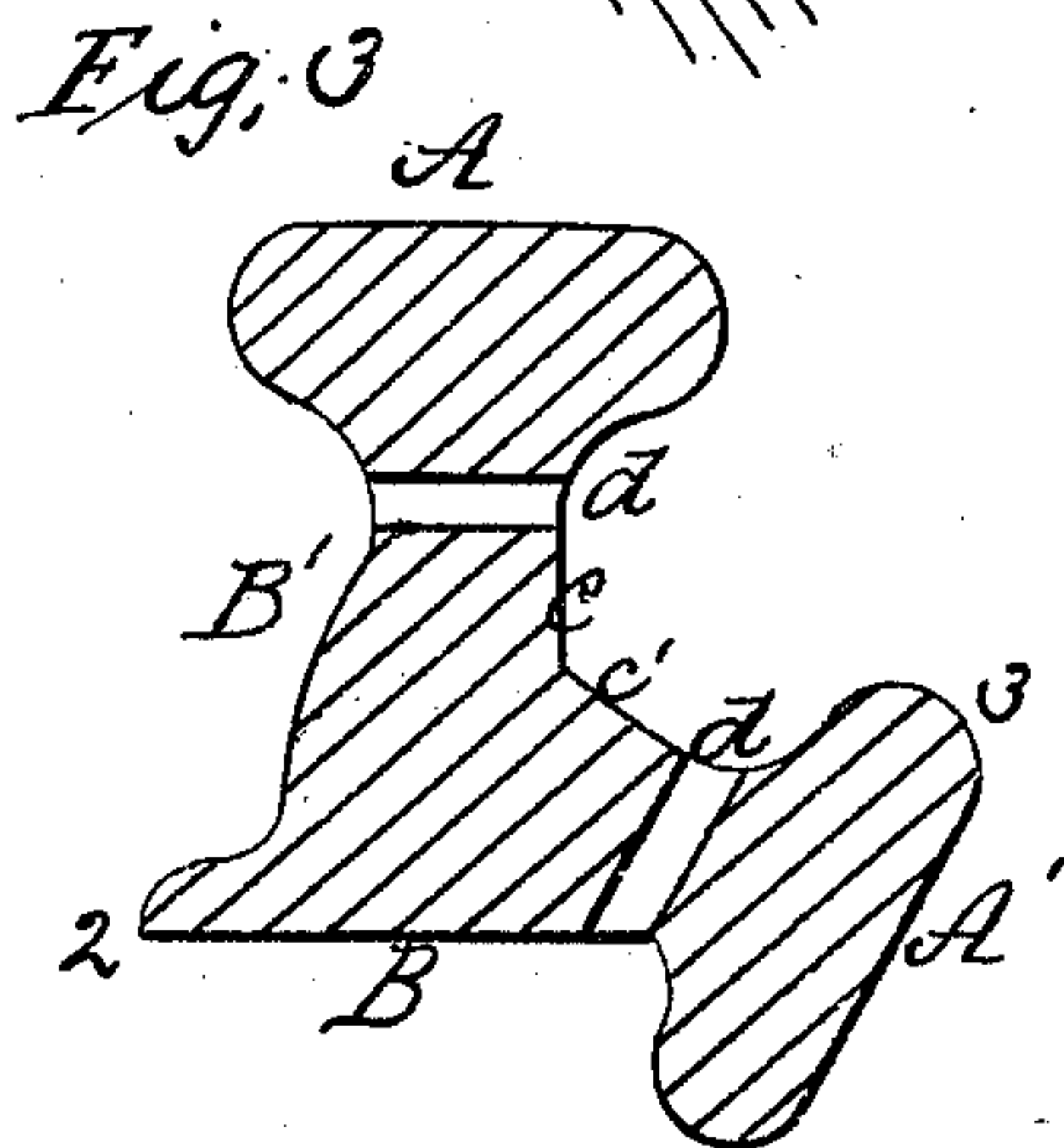
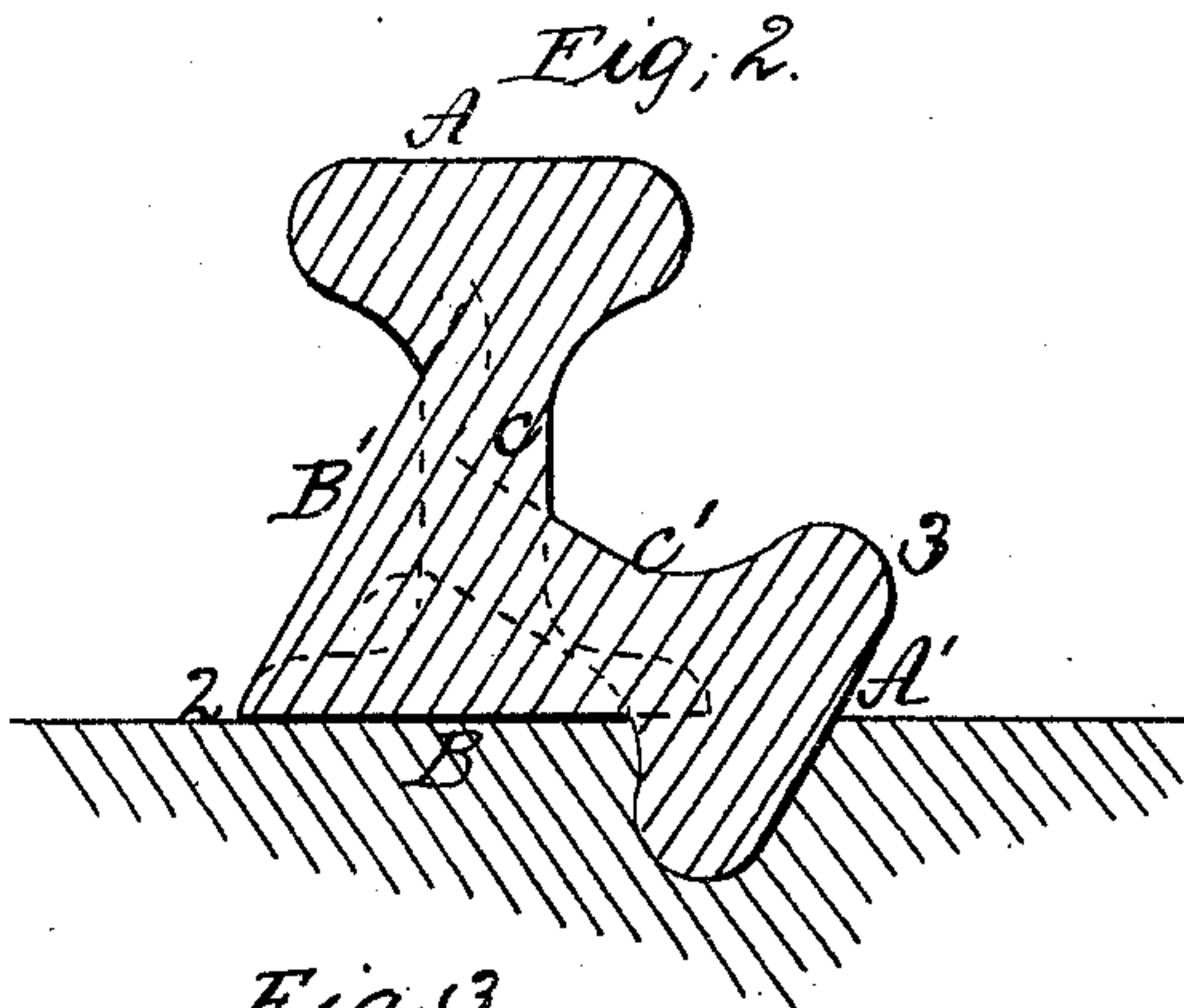
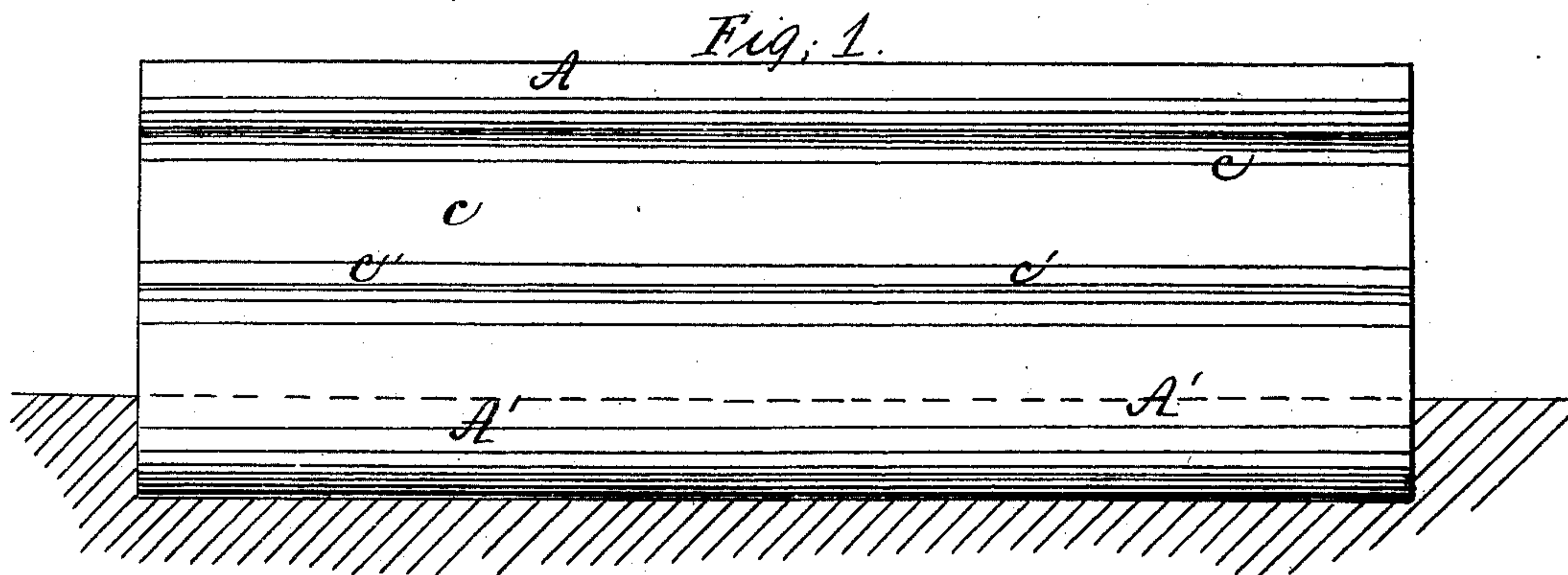


C. H. Collins,

Railway Rail.

No. 86,281.

Patented Jan. 26. 1869.



Witnesses,
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Chas. A. Gott.

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CHARLES H. COLLINS, OF NEW YORK, N. Y., ASSIGNOR TO FRANK H. COLLINS, OF SAME PLACE.

Letters Patent No. 86,281, dated January 26, 1869.

IMPROVED RAILWAY-RAIL.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES H. COLLINS, of New York city, of New York county, in the State of New York, have invented certain new and useful "Improvement in Railroad-Rails;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this application.

Previous to my invention, railroad-rails had been made double, or reversible, so that, in the event of the upper or bearing-surface of the rail becoming worn and unsafe, the rail could be turned over, and a new bearing-surface brought into use.

But such reversible rails have been made in the shape of a double T, (that is, like two ordinary T-rails, having their bases joined together,) and consequently not only necessitated the consumption of double the stock of an ordinary rail, but presented the T or bearing-surface only at the base to rest on the ties, and, of course, required heavy and peculiarly-formed chairs, at close intervals, to hold them securely in position.

Such rails, on account of their great cost, and the expense of properly laying them, have not come into use in this country at all, to my knowledge.

My invention has for its object to provide a reversible rail, which shall not only require less stock than the reversible rails heretofore made, but also be less costly than two separate rails, and shall present a resting-surface, or base, which will be even more efficient and desirable than the base of the ordinary T-rail, and, at the same time, to provide a reversible rail, which, in either of the positions in which it is designed to be used, shall present a better shape to resist the strain to which it may be subjected, than rails now in use; and, to these ends,

My invention consists in making a compound reversible rail, so that there shall be a portion of the stock common to two T-shaped rails, as will be hereinafter more fully explained; and

My invention further consists in so making the compound reversible rail, that, in either position in which it is designed to be used, there will be a flanch-portion presented, to facilitate the fastening down of the rail to the ties, as will be hereinafter more fully explained; and

My invention further consists in making such compound reversible rail of such a shape, that the base-portion of each part shall constitute a vertical brace or strengthener of the other part, as will be hereinafter more fully described.

To enable those skilled in the art to make and use my invention, I will proceed to describe the construction and use of one of my compound reversible rails, referring by letters to the accompanying drawings, in which—

Figure 1 is a side view or elevation of a piece of one of my improved rails, and

Figure 2 is a cross-section of the same.

Figure 3 is a similar section, showing the holes for the fish-plate bolts.

Similar letters in the different views indicate the same parts of the rail.

The red line illustrates the surface of the ties on which the rail is laid, and the dotted lines illustrate the outline of the rails, where they are compounded, (where the stock is common to both contours,) in cross-section.

The cross-section at fig. 3 is taken through the holes which are made for the bolts of the ordinary "fish-joint" plates.

A and A' are the heads or wheel-surfaces of the two rails,

B and B', their bases or tie-surfaces, and

C and C', their shanks or stems.

The shape of the rails, or compound rail, is clearly illustrated by the drawings.

It will be seen, by a careful observation of fig. 2, that, embraced within the whole, are the outlines or contours of two ordinary-shaped T-rails, (such as now in common use,) and it will be observed that, as a large portion of the whole figure is common to both T-shapes, the rail, as an entirety, embodies much less metal or stock than two separate T-rails of the same cross-sectional area.

d d are the holes for bolting on the "fish"-plates.

When the rail is placed with the base B on the ties, so as to present for use the surface A, the base B' forms part of the stem of rail A B C, and constitutes a brace or strengthening-enlargement of the latter, and the same peculiarity will be observed when the rail is reversed, the base B then forming a brace to the stem of rail A' B' C'.

In each position in which the rail may be used, a portion of one of the heads extends downward into the ties, (which are notched out to receive it,) and by this means the rail is interlocked with the ties, so that it is less liable to slide, or move sidewise, and requires fewer chairs to insure its retention in the proper place.

It will be observed that, in either position in which the rail is to be used, it presents, on one side, a flanch or foot-like portion at 3, (very similar to the flanch of a common T-rail,) which affords great convenience in the securing of the rail to the ties, by spikes, and it will also be seen that the holes d d for the fish-plate bolts afford accommodation for spikes in that part of the rail which happens to be down, and by means of which the rail is held firmly on the ties.

In lieu of having the rail shaped as seen at figs. 1 and 2, it may be hollowed out all along, (or have depressions at intervals punched out,) as seen at fig. 3, to more effectually accommodate the spikes, and to facilitate the spiking-down of the rail.

By reason of the peculiar shape (or manner of compounding the two T-shapes) illustrated, the holes through which the bolts of the fish-plates pass, in that

part of the rail which is uppermost, become suitable for the insertion of the spikes, (for spiking down the rail,) when said part of the rail is turned downward.

Of course the chairs which are employed should be made to suit the shape of the rail, and so as to embrace, in one side, the angular portion at 2, and on the other, the projecting portion 3 of the rail-head, (which is not in use,) and such spikes may be used for spiking the rails to the ties, as will head over these points, 2 and 3, and securely hold the rail down.

The shape of the rail may be somewhat varied, so as to change the relative outlines of the two T's in the cross-sectional contours, but I have shown about the shape which I propose to employ.

It will be seen that my compound reversible rail possesses in each of its parts greater strength than either the single or double T-rail heretofore used, while, at the same time, it is of comparatively cheap manufacture, and can be readily fastened down firmly on the ties.

Having described my new compound reversible rail, so that those skilled can fully understand it,

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

The compound rail, made with the top surfaces of the two heads and the under surfaces of the two bases at acute angles to each other, so that the under surface of the base of each shall form one side of the stem of the other, substantially as described.

Also, a compound reversible rail, shaped substantially as described, so as to present the flanged (or foot-like) base in either position in which it is intended to be used.

In testimony whereof, I have hereunto set my hand and seal, this 1st day of December, 1868.

CHAS. H. COLLINS. [L. s.]

Witnesses:

CHAS. A. SCOTT,

FREDERIC A. SAYER.