T. R. TIMBY.

Improvement in Railway Rails.

No. 124,175. Patented Feb. 27, 1872.

Fig. 1.

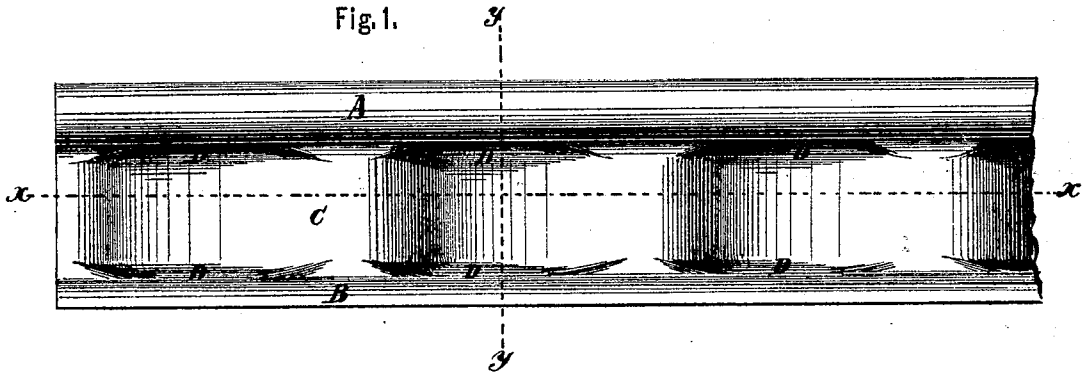


Fig. 2.

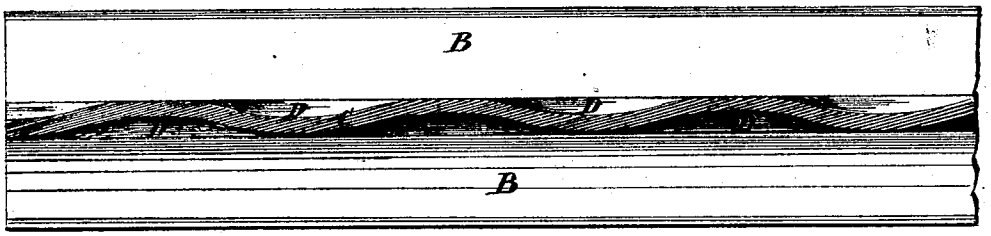
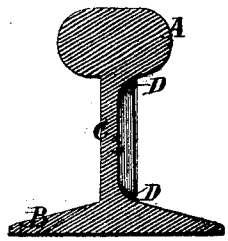


Fig. 3.



WITNESSES.

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124,175

UNITED STATES PATENT OFFICE.

THEODORE R. TIMBY, OF TARRYTOWN, NEW YORK.

IMPROVEMENT IN RAILWAY RAILS.

Specification forming part of Letters Patent No. 124,175, dated February 27, 1872.

Specification of an Improvement in Railway Rails, invented by THEODORE R. TIMBY, of Tarrytown, in the county of Westchester, State of New York.

The subject of this invention is a T-rail with a head and base of common form and a web corrugated in a peculiar manner, the prominent or salient part of each corrugation being straight and vertical, while the concave part unites by curved shoulders with the head and base, as hereinafter specified.

A great advantage results from forming the corrugations in the manner herein described. In that part where the chief strain is borne the face of the web is vertical. In forming the corrugations no abrupt angles are produced, and no violence or rupture is caused to the fiber of the iron where the web is united to the head and base.

In the drawing, Figure 1 is an elevation of my improved rail. Fig. 2 is a horizontal section thereof at *x x*, Fig. 1. Fig. 3 is a transverse section of the same at *y y*, Fig. 1.

A is the head, and B the base, which may have the form of a common T-rail. The web is of peculiar construction. It is formed with corrugations, the shape of which will be understood when the manner of producing them is explained. Between the corrugated web and the head and base, respectively, are curved shoulders D, which are produced in the act of rolling the corrugations, and serve to strengthen the structure at those points and to prevent the straining of the metal in the act of final rolling.

In carrying out my invention I produce a T-rail with any necessary number of passes through rolls of any usual or suitable construction, the web being first produced straight, but of greater thickness than it is finally to have. The final shaping of the rail is effected by passing it through rolls of peculiar shape with projections located in intermediate positions on the respective rolls, so as to produce concavities *c* alternately on opposite sides of the web, the salient or prominent parts C retaining their straight and vertical condition, and the metal at the parts C being undisturbed by the formation of the cavities *c*. These indentations or cavities *c* are not extended fully up to the head or down to the base; but the projections which form them are so shaped as to leave oblique curved shoulders D. I thus avoid any abrupt angles which would tend to weaken the structure. The depressions on alternate sides of the web are thus produced without any straining of the metal, and form together regular corrugations, which impart great lateral strength to the rail and permit material reduction in its weight.

I am aware that it has before been proposed to form T-rails with corrugated webs; but I am not aware that any form has heretofore been devised for such corrugations, which could be successfully produced by rolling without great strain and violence to the metal.

It will be observed that in my invention a common straight web of considerable thickness is first formed, and the surfaces of this web are not pressed outward in either direction, but, in the last rolling operation, concavities are formed on opposite sides of the web alternately, the displaced metal being forced upward and downward into the shoulders and head and base of the rail. These cavities are curved or concave in a vertical as well as in a horizontal direction, and, in forming them, abrupt bends or angles are entirely avoided. This enables me to produce a better rail, not only because the metal is not strained and broken in first rolling, but because no initial points of fracture are presented while the rail is in use.

I claim as my invention—

1. The T railway rail herein described, constructed of wrought-iron or steel, with a head and base of common form, and a corrugated web formed by pressing cavities in its opposite sides alternately, leaving curved shoulders above and below, the prominent parts between the said cavities retaining the original vertical and straight form, all as shown and specified.

2. The combination of the rail-head A, base B, vertical faces C, cavities *c*, and curved shoulders D, all formed as herein shown and described, for the purposes set forth.

THEODORE R. TIMBY.

Witnesses:
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