

E. Wheeler,

Manf. Railroad Rails.

No. 104238.

Patented June 14, 1870.

fig. 1.

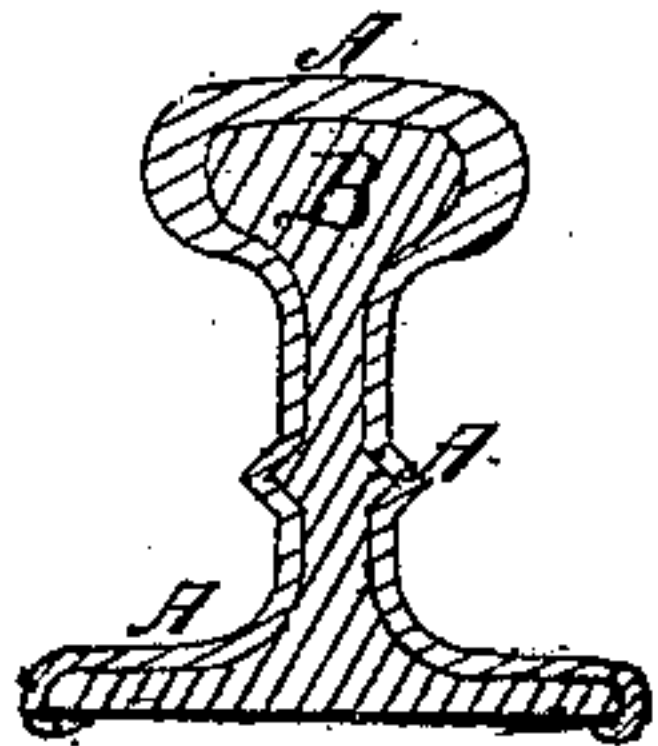
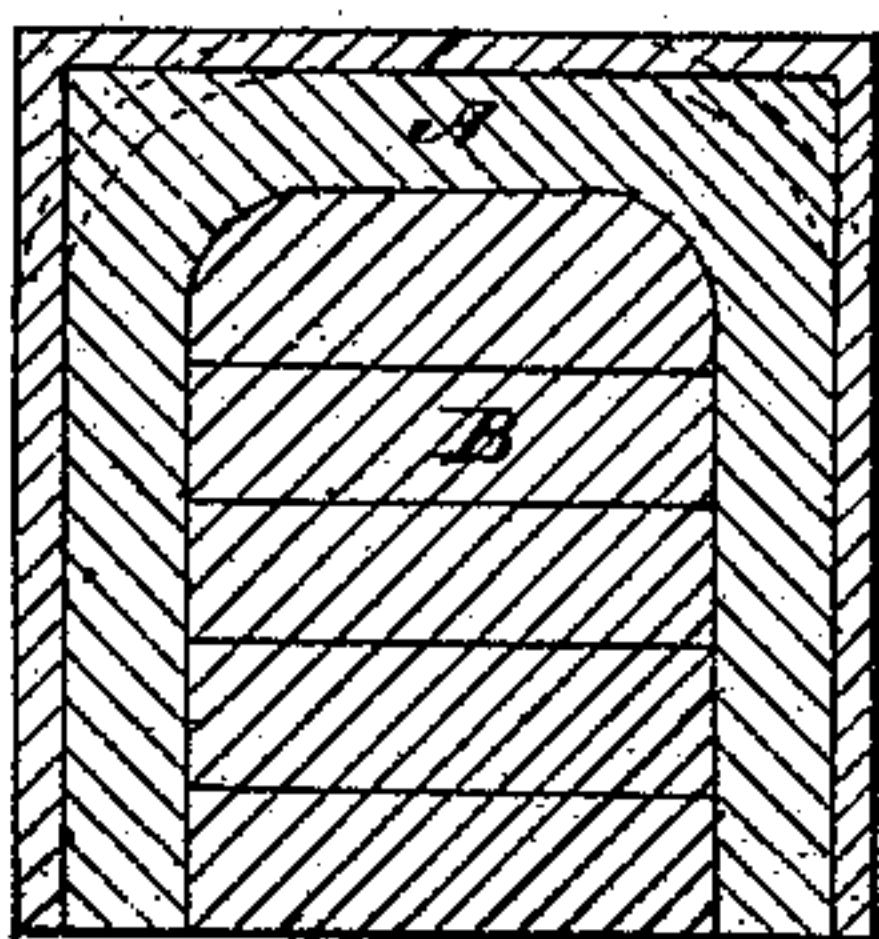


fig. 2.



Witnesses:

Victor Hagmann

A. M. Panner

Inventor:

E. Wheeler
per H. H. H. Co.
Attorneys.

UNITED STATES PATENT OFFICE.

ELLRIDGE WHEELER, OF HUDSON, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF RAILS FOR RAILROADS.

Specification forming part of Letters Patent No. **104,238**, dated June 14, 1870.

To all whom it may concern:

Be it known that I, ELLRIDGE WHEELER, of Hudson, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Railroad-Rails; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to an improvement in railroad-rails; and consists in so constructing them of iron and steel that the central portion or core shall be longitudinally surrounded by a perfectly homogeneous surface or tube of wrought-steel having no exterior seams except on the under surface of the base or foot, the same being thoroughly and completely welded to the central core.

The invention has for its object the production of rails presenting to wear and strain a thoroughly compact and homogeneous wrought-steel surface, which, having no line of seam except with the under surface of base or foot, will not be liable to laminate, cradle-hole, or separate and peel off, as is the case with rails having seams of welds on the exterior.

Another object of my invention has been to form a more perfect union of the two metals than has hitherto been attained, by largely increasing the welding-surface, thus securing the elastic and tenacious qualities of iron, securely confined in the central part of the rail, to prevent fracture or breakage, and the hardness and homogeneity of steel around nearly the entire surface, to give increased strength and durability.

Figure 1 represents a transverse section of a rail covered by a seamless shell of steel except at the base. Fig. 2 is a similar section of the fagot from which this rail is formed.

The outer surface of the finished rail may be formed of separate plates for each side, and

a rail may be made therefrom approximating to some extent the qualities of my improved rail; but such arrangement necessitates the forming of seams or lines of piling on the exterior of the finished rails at the points where these plates would weld together, which joints or lines of piling are the places where rails, as heretofore made, laminate and give way, and which it is one of the special objects of my invention to avoid.

In the production of an iron and steel rail, I do not confine myself to any one kind or grade of steel, though I preferably use converted or blister steel, for the following reasons: The scrap of old iron rails is valuable as an article of merchandise, being worth from fifty to sixty per cent. of their original cost; but the scraps of combined cast steel and iron rails is practically worthless, as the steel cannot be separated from the iron, and the combined scrap cannot be reworked, owing to the hardened refractory nature of the steel, which defies ordinary and cheap manipulation, and even if it could be cheaply reworked the product would be a conglomerate mixture of cast steel and iron of little cohesive or tensile strength or commercial value; but the scrap of combined blister-steel and iron can be readily and cheaply reworked, as the process decarbonizes it, and my rail is thus valuable for a secondary purpose.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A railroad-rail composed of an interior core of iron and a seamless outer shell of steel, covering every part of said core except the base.

The above specification of my invention signed by me this 2d day of October, 1869.

ELLRIDGE WHEELER.

Witnesses:

GEO. W. MABEE,
ALEX. F. ROBERTS.