9283X

A. TIERS.

Car Wheel.

Patented Dec. 2, 1835.

Fig. 3.

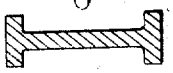


Fig. 2.

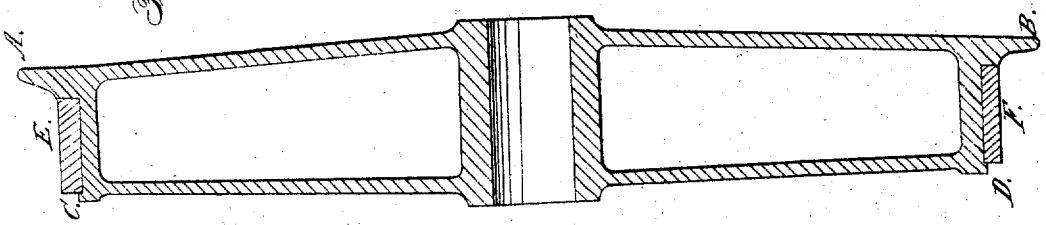
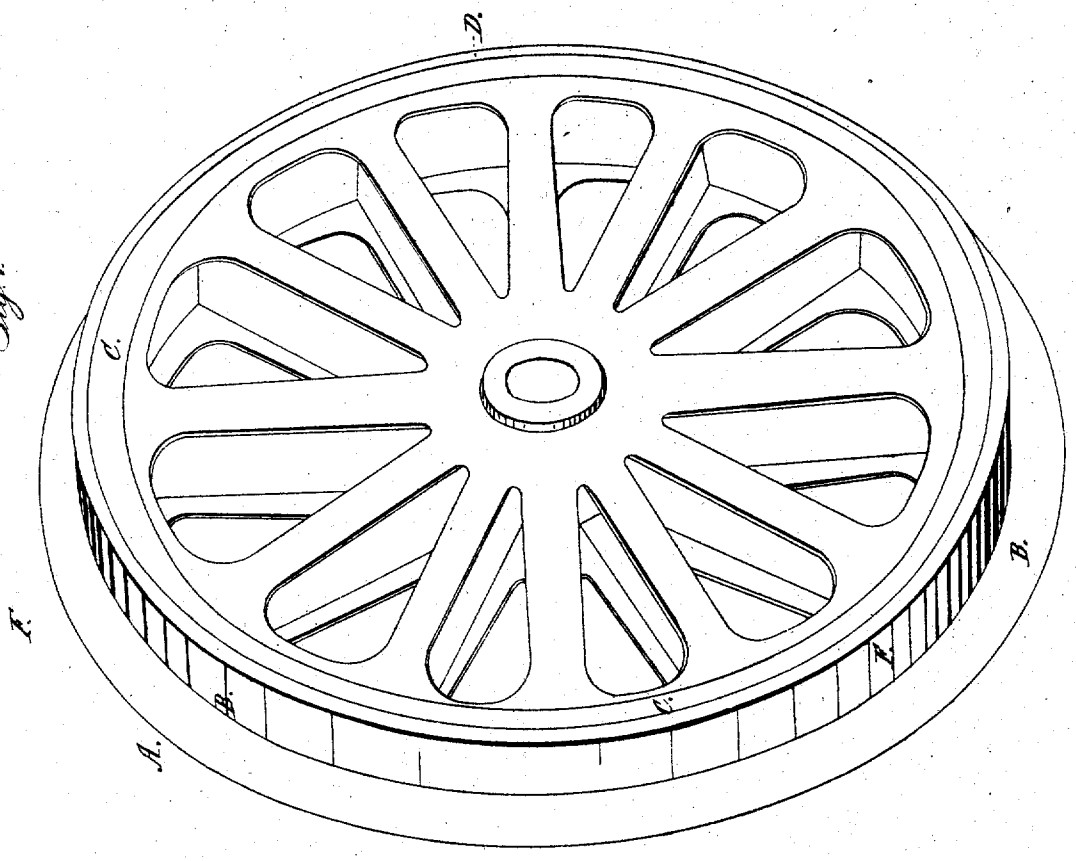


Fig. 1.



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Arundus Tier

Letters Patent 741

The schedule referred to in these letters patent and making part of the same containing a description in the words of the said Arundus Tier himself of his improvement in the construction of Rail Road Car Wheels.

To all to whom these presents shall come;
Be it known that I Arundus Tier, of the District of Wilmington in the County of Philadelphia and State of Pennsylvania, have invented a new and useful improvement in the construction of wheels for Rail Road Cars, and that the following is a full and exact description of the construction of said wheel as invented and improved by me. The wheel is to be made of cast iron with a wrought iron band shrunk upon it to form the tread of the wheel. The form & the shape of the respective parts of the wheel which I most prefer is exhibited in the drawing and laid down upon a scale of one fourth of the original size. The same letters of reference are used in each of the figures to designate similar parts. Fig 1 shows the wheel in perspective. Fig 2 is a section supposed to be taken through

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the center of the wheel and perpendicular to the side face of

Fig 3 is a section of one of the arms or spokes of the wheel. In the construction of that part of the wheel which is made of cast iron the flange A B is chilled and hardened in the mould as it is cast in the ordinary way of chill hardening cast iron. A small rim or flange C D is formed and cast on the inner side or face of the wheel; this rim is intended and used to confine the wrought iron band which is afterwards to be put around the wheel. The wrought iron band E is first welded together in the form of a hoop, and then heated until it has expanded sufficiently to pass over the small rim or flange above referred to: when it is allowed to become cool and to contract upon the wheel as exhibited in the drawing. This wheel possesses all the advantages of a chilled cast iron flange with a wrought iron band or head and is therefore deemed to be decidedly preferable to the cast iron wheels with wrought iron flanges, in as much as the wrought iron flanges soon wear out especially on roads that have frequent curves in them. This wheel is also exempt from one of the greatest objections to the common chilled cast iron wheels in being free from slots in the hub. The small quantity of metal which requires to be chilled in this wheel allows the wheel to be cast solid in the hub and to render the precautionary operation of slotting the hub entirely unnecessary. The shape of the hub as shown in fig 2 is that of a flat or oblong square, and hence may be formed by the ordinary rolls, and consequently when worn out may be replaced at a small expense. What I claim as new and as my own invention or discovery in the above described wheel, and for which I ask an exclusive right, is the manner of constructing wheels with chilled flanges and wrought iron bands as above described

Witnesses
Benjn Hutchinson
Wm. D. Morris

Francis Tiers