J. M. COOK.

Car Wheel.

No. 5,953. Patented Dec. 5, 1848.

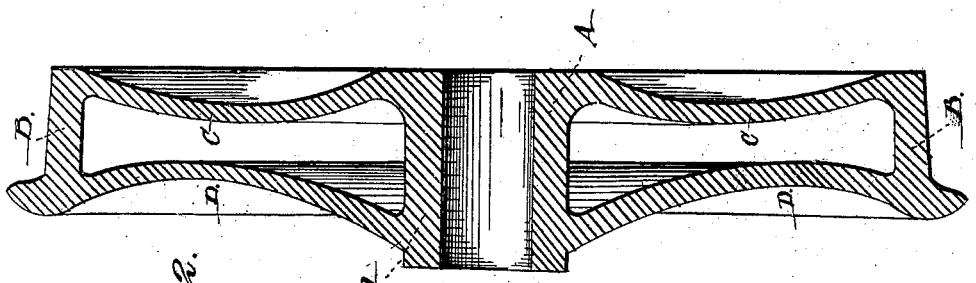

Fig. 2.

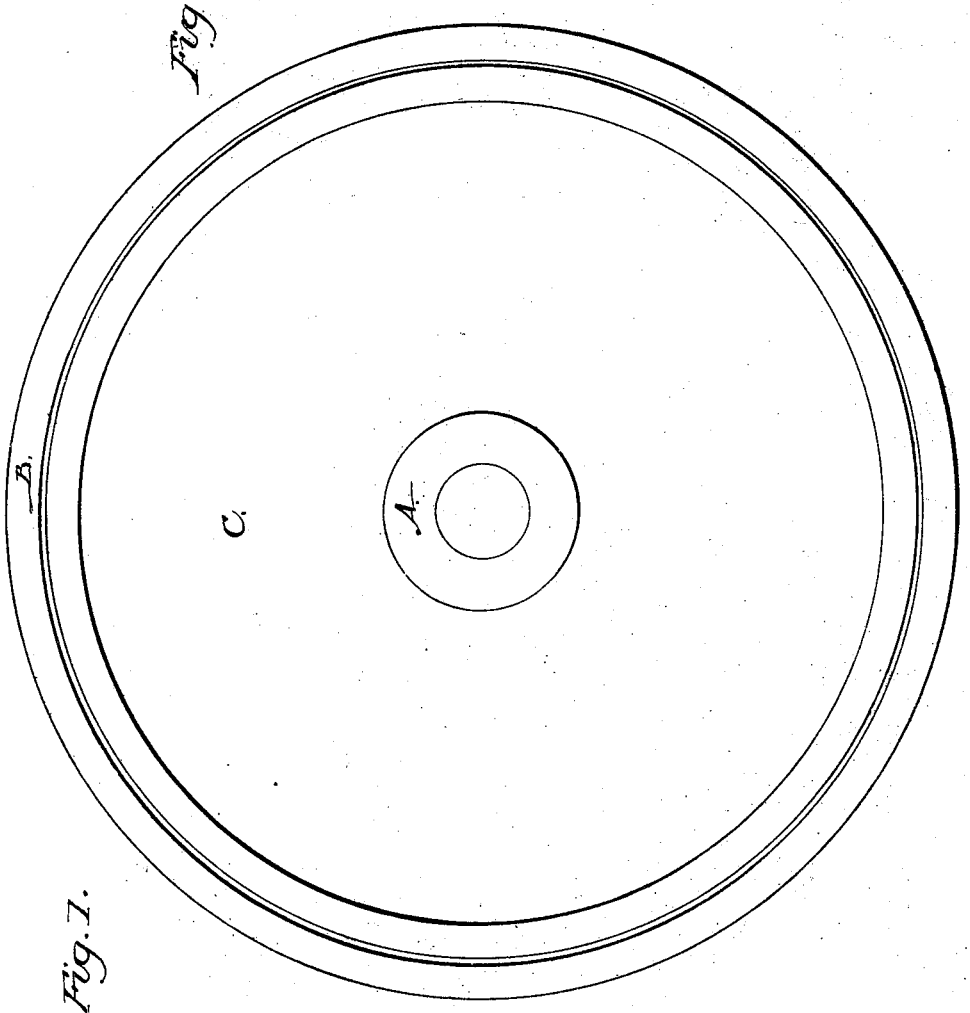

Fig. 1.

UNITED STATES PATENT OFFICE.

JAMES M. COOK, OF TAUNTON, MASSACHUSETTS, ASSIGNOR TO LYMAN KINSBY.

CAR-WHEEL.

Specification of Letters Patent No. 5,953, dated December 5, 1848.

To all whom it may concern:

Be it known that I, JAMES M. COOK, of Taunton, in the county of Bristol and State of Massachusetts, have invented a new and useful Improvement in the Manufacture of Railroad-Car Wheels, whereby they may be cast or founded with a chilled rim, two side plates, and an undivided hub; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and references thereof.

Of the said drawings, Figure 1, denotes an external elevation of my improved wheel. Fig. 2, is a transverse and central section of the same.

The founding of a car wheel having two cast metal plates, made convex from the hub to the rim, and with one or both of the convexities standing outward from the wheel has been attended with great difficulty or risk, owing to the peculiar manner in which the two plates contract while in the act of cooling after being cast in the mold. The said contraction of the plates is such as to cause them to approach toward each other, and by so doing compress the core between them. This requires the removal of the core while the wheel is in a hot state, and before the contraction freely takes place, otherwise there is danger of breakage of the wheel, or other injurious consequences.

In order to prevent the evil above mentioned, I give to the two plates, the curved shape or section from the hub to the rim as represented in Fig. 2, wherein C, and D, denote the plates, B, the rim and A the hub. Any transverse and central section of the wheel, should present the appearance exhibited in Fig. 2, the two plates being curved inward toward each other. Now as a modification of such a mode of constructing the wheel, either one of said plates may be made, without any convexity or concavity or it may have a convex form, so as to be parallel or nearly parallel to the other plate, the object of making either of the plates concave from the hub, to the rim, as seen in Fig. 2, being to cause it to enlarge or preserve the size of the core space while the wheel is in the act of cooling in the mold.

What I claim as my invention is—

The above described improved manner of making a cast metal chilled tread wheel, having two side plates united to the rim and hub by the process of founding the same consisting in making both the plates concave from the hub to the rim, in the manner above specified, whereby the core can be suffered to remain in the wheel while in the act of cooling, and the advantage of a slow reduction of temperature secured thereby. The said slow reduction of temperature permits the particles of the iron to so adjust themselves, as to equally diffuse the various contractile strains. Besides, the metal is more or less toughened and annealed by the process of slow cooling.

In testimony whereof I have hereto set my signature, this thirtieth day of October, A. D. 1847.

JAS. M. COOK.

Witnesses:
R. H. EDDY,
JOHN LISCOM.