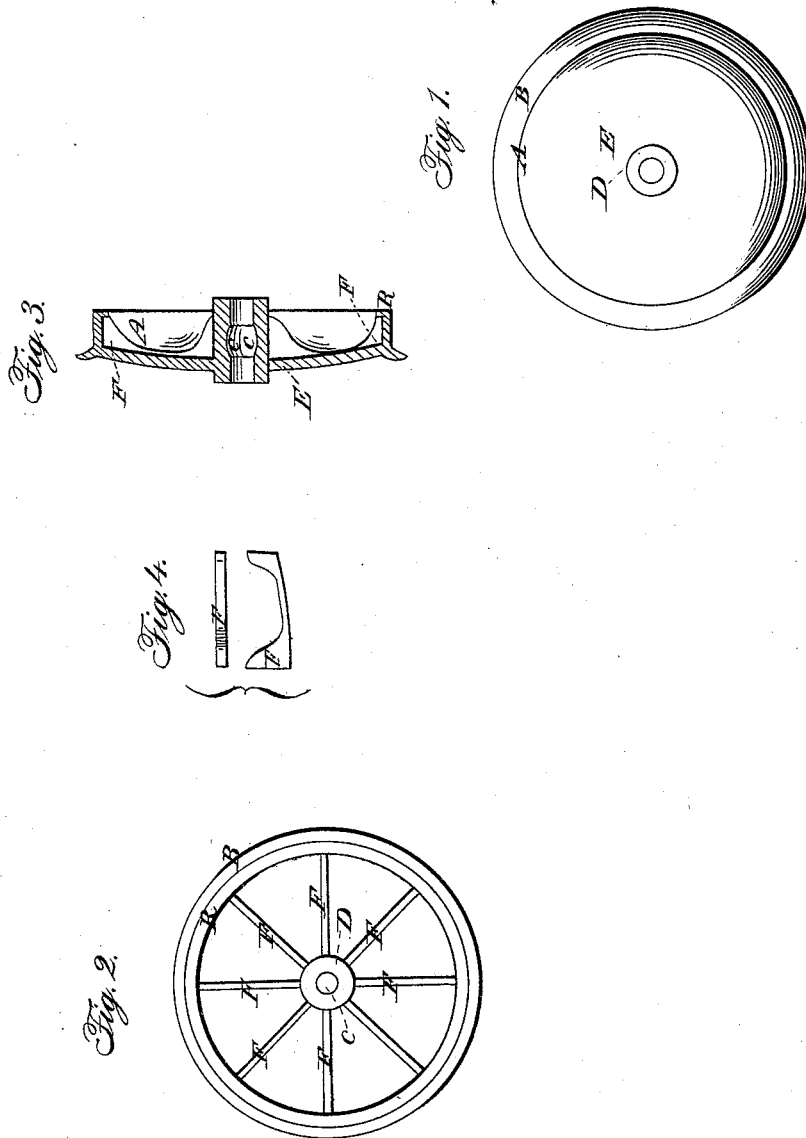


W. W. BERGSTRESSER.

Car Wheel.

No. 1,470.

Patented Jan. 11, 1840.



UNITED STATES PATENT OFFICE.

WM. W. BERGSTRESSER, OF HARRISBURG, PENNSYLVANIA.

CAST-IRON RAILROAD-CAR WHEELS.

Specification of Letters Patent No. 1,470, dated January 11, 1840.

To all whom it may concern:

Be it known that I, WILLIAM W. BERGSTRESSER, of Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented a new and useful Improvement in Wheels for Railroad-Cars, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

The nature of this improvement consists in casting the car wheel of a certain peculiar form by which the wheel is rendered not only stronger and more durable but is prevented from breaking in cooling by the unequal expansion and contraction of the metal.

To enable others skilled in the art to make and construct my improved wheel I will proceed to describe the mode of making the same.

Figure 1 is the inside of a dish wheel. Fig. 2 is the outside of a dish wheel. Fig. 3 section of a dish wheel. Fig. 4 represents a section of one of the spokes.

Similar letters refer to similar parts in the figures.

Having determined on the kind of wheel I shall adopt I prepare a model of the same, which will be (if a dish wheel) like that represented in Figs. 1, 2 and 3. The tread A and flange B are made in the usual manner. The bore C of the hub D is made greater in the center than at the ends to cause the metal to cool quicker which is effected by means of a dry sand core of a corresponding shape placed in the center. The dish E is made circular and concave and exactly filling the space between the inner periphery of the tread and the outer periphery of the hub. From 8 to 16 spokes shaped like a quarter baluster or like the figure represented at Fig. 4 or any similar shape radiate from the hub to the tread resting against the cavity of the dish plate. These spokes are designed principally for strengthening the wheel instead of brackets for effecting the same object used in some of my wheels. A

circular rim R is formed around the inner periphery of the tread at right angles to the same for strengthening it without the use of brackets at the angle formed by the union of the dish plate and the tread.

Mode of casting.—Lay the model on a board; place a circular chill around the model; lay a drag around the chill; fill in with sand and ram the same till it be even with the top of the drag, which is about two inches higher than the chill; strike the sand level and smooth; put a board over the whole and clamp this board to the under one; then turn the whole upside down and remove the board which was at the commencement the lower board but is now the upper one; then put a cope on the drag and over the model; then fill this with sand and ram it in tight; then remove the drag and draw the model from the sand; then place a dry sand core of the shape of the required bore of the hub in the center of the hub; then replace the cope on the drag; and then pour in the melted metal which will form the wheel; when sufficiently cool remove the cope and drive out the core with a bar of iron to allow the hub to cool and the wheel will be completed.

I would have it understood that I am aware that rail road car wheels have been cast in a single piece with a concave disk uniting the hub and rim and provided with brackets to sustain the hub and rim, but in these cases the brackets sustaining the hub are placed on the side of the disk opposite to those sustaining the rim and I do not therefore claim this as my invention, but

What I do claim and desire to secure by Letters Patent is—

The concave disk in combination with the arms or spokes curved in the direction of the concavity of the disk as herein described to prevent breakage in cooling.

WM. W. BERGSTRESSER.

Witnesses:

G. W. BOYD,
H. H. LUTZ.