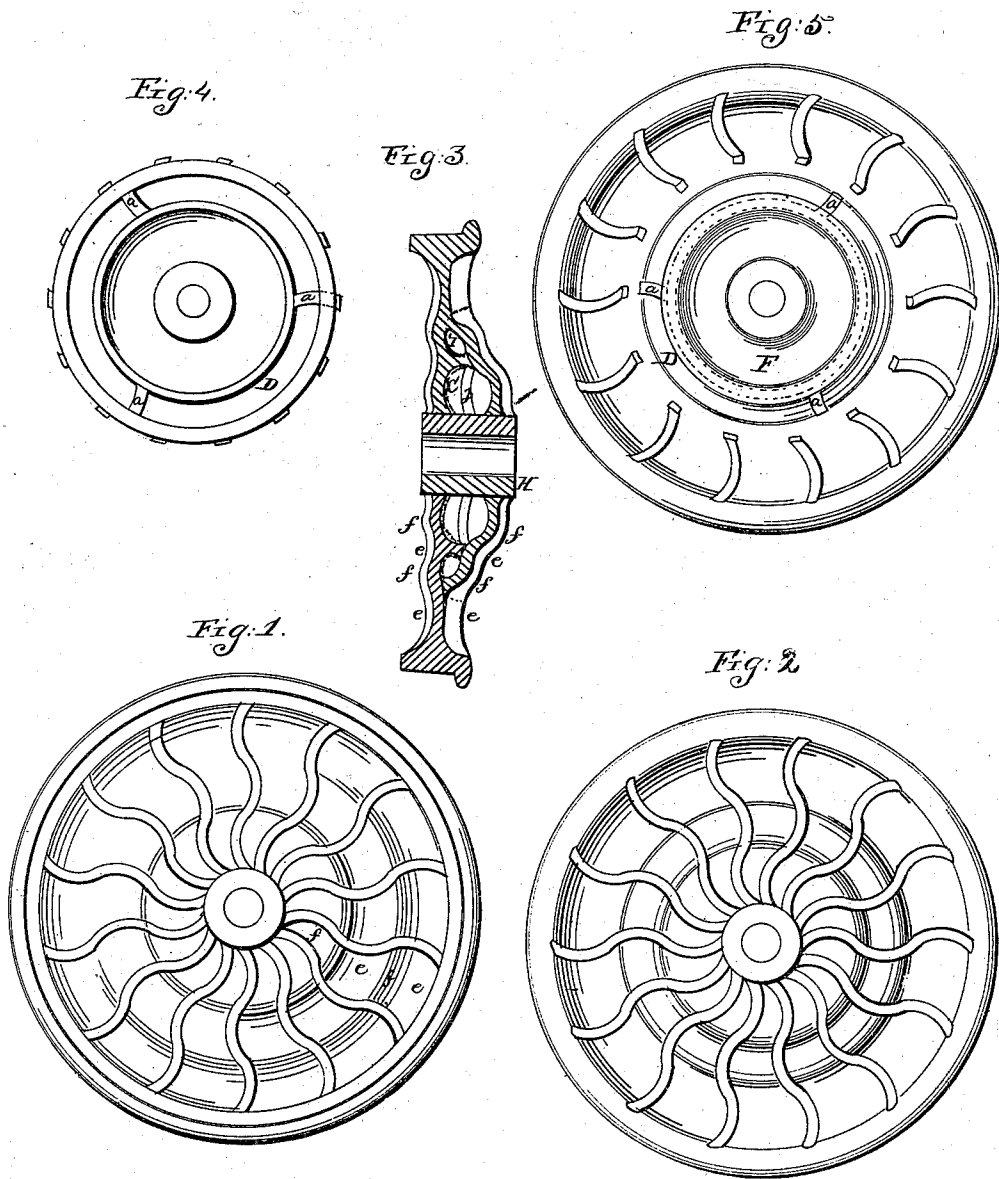


H. W. MOORE.  
CAR WHEEL.

No. 8,777.

Patented Mar. 2, 1852.



# UNITED STATES PATENT OFFICE.

HIRAM W. MOORE, OF BRIDGEPORT, CONNECTICUT.

## CAST-IRON CAR-WHEEL.

Specification of Letters Patent No. 8,777, dated March 2, 1852.

*To all whom it may concern:*

Be it known that I, HIRAM W. MOORE, of Bridgeport, in the county of Fairfield, State of Connecticut, have invented a new and useful Improvement in Wheels for Railroad-Cars; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature and object of my invention and improvement consists in constructing cast iron wheels for railroad cars in such a manner and form as to prevent their fracture and cracking by the unequal contraction of the metal composing them, while consolidating at the time of their manufacture the unequal shrinking of the different parts being the greatest difficulty to overcome in casting perfect wheels.

I construct my wheel in the disk form; the outer surface, with two concave rings *e* and two convex rings *f* between the rim and hub, (see Figures 1 and 3,) and the inner surface concave *e* around next the rim, then convex *f*, next a slightly concave ring *e*, then convex *f* to the hub, (see Figs. 2 and 3,) with curvilinear or corrugated spokes or flanges on both sides. Between the surfaces of the wheel are two hollow rings, one *c* immediately around the hub *H*; the second *D* exterior of this, (toward the rim) and divided by three short spokes or braces (letter *a*, Figs. 4 and 5) into three equal sections, (see Fig. 3; section, C and D.) The inner annulus, (*C*), is divided by a concavo-convex

plate or partition *F* which is designed and intended to support and strengthen the center or hub, (see Fig. 3.) These hollow rings may communicate by openings to the surface of the wheel for the exit of heat to allow it to cool after casting and the extraction of the core from the said rings. By means of the support gained by the use of the concavo-convex plate or partition I am enabled to reduce the thickness of the hub to one inch between the axletree and the said concave annulus *C*, which, being thus reduced in thickness, greatly adds to preserving an equilibrium of temperature, and consequently equalizing the contraction while cooling of the various parts of the wheel, and thus preventing the fracture of the work in the mold. It is intended to cast the whole in one solid wheel.

What I claim as my improvement in railroad car-wheels is—

The concave rings *C* and *D* formed and located as described in combination with the spokes or braces *a* in the exterior ring *D* and the concavo-convex plate or partition *F*, arranged and combined substantially as herein set forth.

In testimony that the above is a full and correct description of the improvement made and invented by me in cast iron (railroad) car-wheels I have hereunto set my hand this second day of January, A. D. 1852.

HIRAM W. MOORE.

Witnesses:

CHAS. F. STERLING,  
B. W. LEONARD.