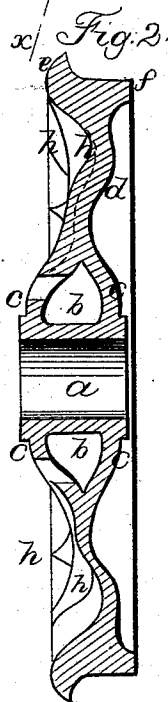
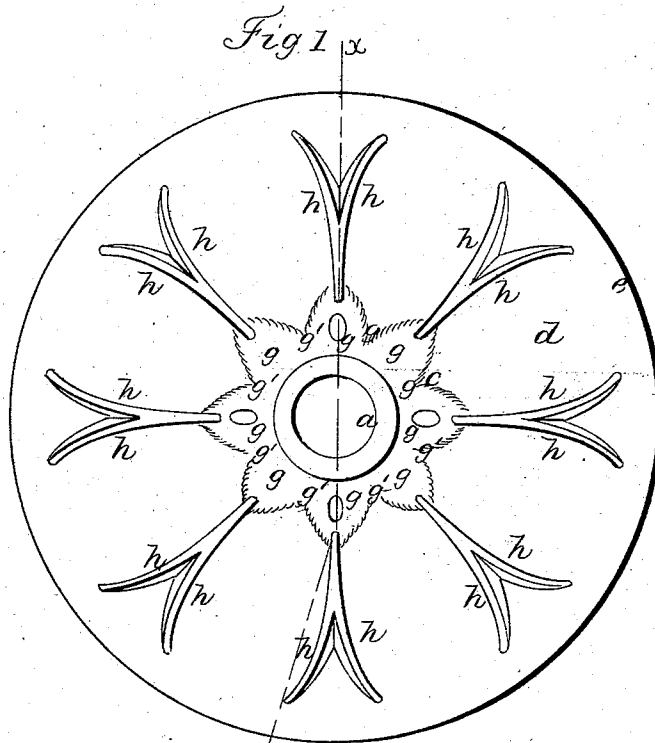


P. PUTNAM,
Car Wheel.

No. 43,337.

Patented June 28, 1864



Witnesses;
J W Coombs
G W Reed

Inventor:
Perley Putnam
per Munn & Co
attys

UNITED STATES PATENT OFFICE.

PERLEY PUTNAM, OF LACONIA, NEW HAMPSHIRE.

IMPROVEMENT IN CAR-WHEELS.

Specification forming part of Letters Patent No. 43,337, dated June 28, 1864.

To all whom it may concern:

Be it known that I, PERLEY PUTNAM, of Laconia, in the county of Belknap and State of New Hampshire, have invented a new and Improved Cast-Iron Car-Wheel; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable any person skilled in the art to make and use the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a view of one side of a car-wheel cast according to my invention; Fig. 2, a section of the same, taken in the line *x x*, Fig. 1.

Similar letters of reference indicate the same parts.

This invention consists in casting the wheel with a corrugated double plate around its center, and having the flange side of the wheel cast with V shaped arms or projections, which extend from the corrugations around the center of the wheel outward and underneath the flange of the wheel, as hereinafter fully shown and described, whereby a very strong and durable cast-iron car-wheel is obtained. I cast the wheel with a central opening, *a*, to receive the axle, and with an opening, *b*, which extends all around *a*, and forms what may be termed a "double plate" or two sides, *c c*, as shown clearly in Fig. 2. These two sides *c c* merge into one plate or part at the outer side of the opening *b*, which has a slightly serpentine shape, as shown at *d*, and said part *d* has a flange, *e*, and a thread, *f*, at its outer part, as shown in Fig. 2. The two sides *c c* project outward in convex form, and have alternate projections and depressions *g g'*, as indicated by the shading in Fig. 1, forming a cor-

rugated surface at each side of the wheel around its opening *b*. These corrugated plates or sides *c c* give great strength to the wheel without augmenting its weight.

On the flange side of the serpentine part *d* of the wheel there are cast V-shaped arms or projections *h*. (Shown clearly in Fig. 1.) These arms extend from the outer parts of the corrugated plates or sides *c c* of the wheel to the edge of the same, and along underneath the flange *e*, the arms diverging from their inner to their outer ends, as shown in Fig. 1.

The arms or projections *h* strengthen the serpentine part *d* of the wheel, and support the flange *e*, and these arms, in connection with the corrugated plates or sides *c c* and serpentine portion *d*, constitute a wheel of great strength and durability.

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

1. A cast-iron car-wheel having a double plate or two plates with corrugated surfaces or alternate projections and depressions extending around the central opening of the wheel, substantially as shown and described.

2. The V-shaped arms or projections on the serpentine portion of the wheel, and extending along underneath the flange thereof, as set forth.

3. The corrugated double plates *c c*, serpentine portion *d*, and arms *h*, all combined and arranged to form a new and improved cast-iron car-wheel, as described.

PERLEY PUTNAM.

Witnesses:

A. C. DOW,
WM. L. ROWELL.