

(No Model.)

W. G. RICHARDS.

CAR WHEEL.

No. 383,989.

Patented June 5, 1888.

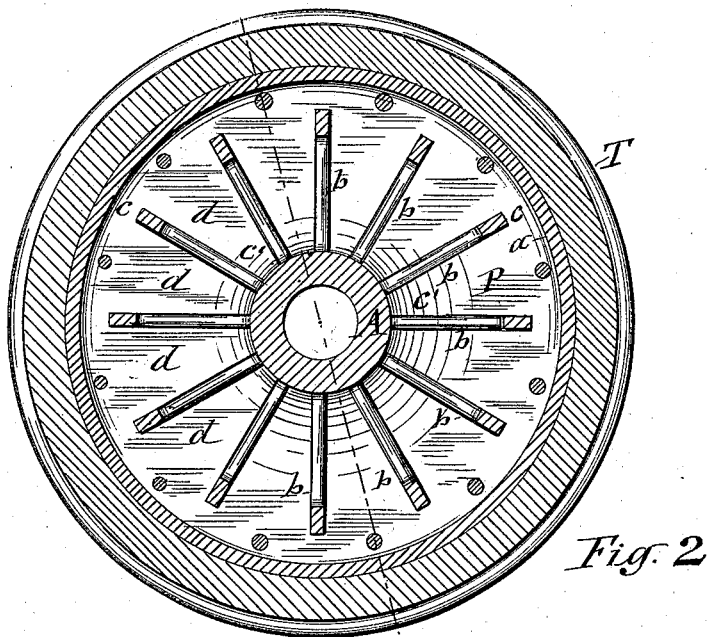


Fig. 2

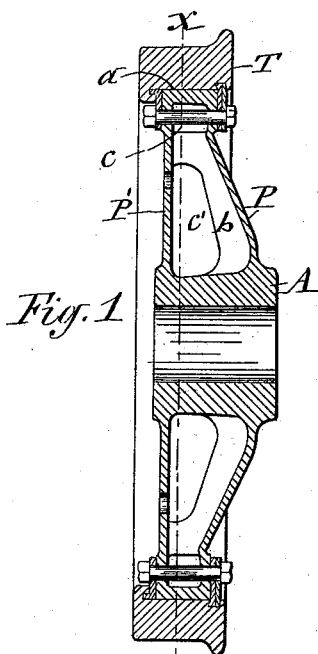


Fig. 1

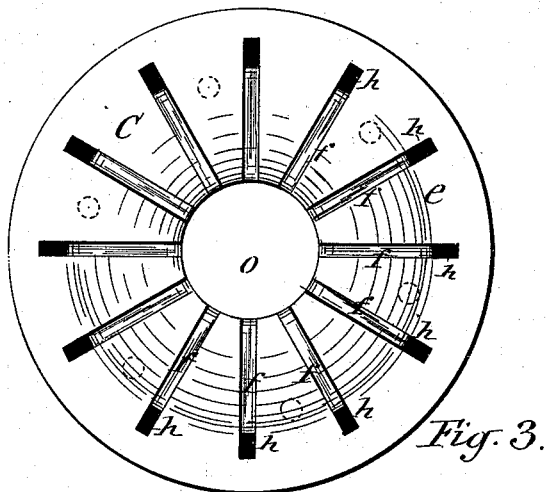


Fig. 3.

Witnesses.

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By

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# UNITED STATES PATENT OFFICE.

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## CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 383,989, dated June 5, 1888.

Application filed December 29, 1887. Serial No. 259,336. (No model.)

### *To all whom it may concern:*

Be it known that I, WILLIAM G. RICHARDS, of the city of Brooklyn, in the county of Kings, in the State of New York, have invented new and useful Improvements in Car-Wheels, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in a novel construction of a car-wheel composed of a single piece of cast metal which is hollow to reduce its weight to a minimum without unduly impairing its stability, and can be cast with but a single core, and thus the manufacture of said wheel-body is simplified and the cost thereof diminished.

The invention is fully illustrated in the annexed drawings, in which Figure 1 is a transverse section at right angles to the plane of the wheel with the tire attached thereto. Fig. 2 is a transverse section in a plane on line *xx*, Fig. 1; and Fig. 3 is a plan view of the core employed in casting the wheel-body.

My improved wheel-body is composed essentially of the hub A, the web-plates P P', extending from opposite ends of the hub with a space between the said plates, the peripheral ring *a*, uniting the outer peripheral portions of the two web-plates and forming the seat for the tire T, and the radial ribs *b b*, formed on the inner side of the web-plate P, for the purpose of bracing the same. All of said parts are cast in one piece. The ribs extend from the hub only part way toward the peripheral ring *a*, leaving adjacent to the latter an uninterrupted annular cavity, *c*, in the in-

terior of the wheel-body. The main portion of each rib adjacent to the hub extends only part way across the interior of the wheel-body, and thus an annular internal cavity, *c'*, is formed around the hub, which cavity is united with the aforesaid cavity *c* by the sectoral cavities *d d*, formed between the ribs *b b*.

By uniting the cavities, as described, I am enabled to cast the wheel with a single core, C, of the form illustrated in Fig. 3 of the drawings, said core consisting of an annular body, *e*, having a central orifice, *o*, of the diameter of the exterior of the hub A, and formed with radial grooves *f f*, extending part way the depth of the core and terminating at their outer ends in orifices *h h*.

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

1. A car-wheel composed of a single piece of cast metal formed with annular internal cavities respectively around the hub and near the periphery, and sectoral cavities uniting the annular cavities, substantially as set forth.

2. The improved cast-metal wheel-body composed of the hub A, web-plates P P', peripheral ring *a*, and the ribs *b b*, extending part way across the interior of the wheel-body, all cast in one piece with the internal annular cavities *c c'*, and sectoral cavities *d d*, uniting the annular cavities, substantially as described and shown.

WILLIAM G. RICHARDS.

Witnesses:

ROBERT H. POLLOCK,  
JOHN H. STOUTENBURGH.