(No Model.)

A. HYMAS.

CAR WHEEL.

No. 479,366. Patented July 19, 1892.

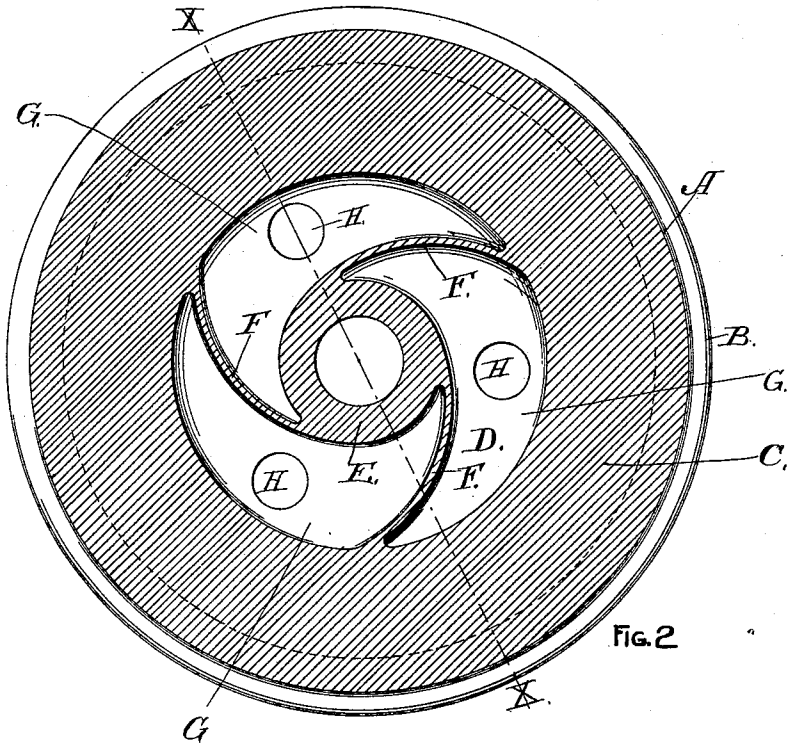

FIG. 2

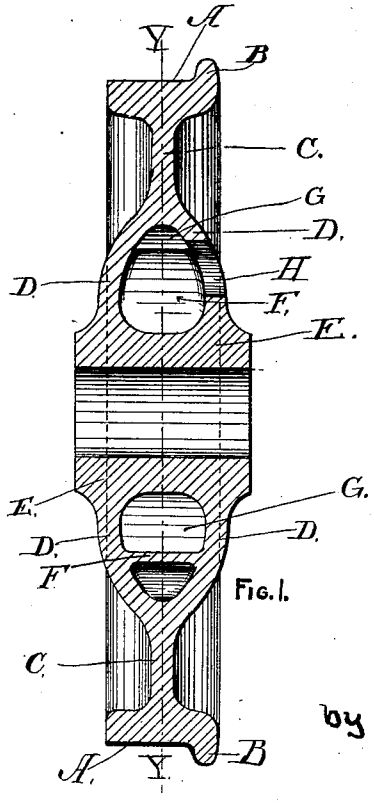

FIG. 1.

WITNESSES:

S. B. Brown.

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ALFRED HYMAS,

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UNITED STATES PATENT OFFICE.

ALFRED HYMAS, OF ALBANY, NEW YORK, ASSIGNOR OF ONE-HALF TO JACOB BROCKLEY, OF SAME PLACE.

CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 479,366, dated July 19, 1892.

Application filed April 9, 1892. Serial No. 428,433. (No model.)

To all whom it may concern:

Be it known that I, ALFRED HYMAS, of the city and county of Albany, in the State of New York, have invented certain new and useful Improvements in the Construction of Car-Wheels for Railways, of which the following is a specification.

My invention relates to improvements in the construction of railway-car wheels, but especially to improvements in that class of said wheels which are provided with an annular chamber between the hub and rim of the wheel for the purpose of obtaining greater strength by reason of the walls of said chamber; and the object of my invention is to produce a car-wheel which combines a maximum of strength and flexibility with a minimum of weight of material. This object I attain by the construction illustrated in the accompanying drawings, which, being herein referred to, form part of this specification.

In said drawings, Figure 1 is a vertical section of my car-wheel, taken at the line X X on Fig. 2; and Fig. 2 is a transverse vertical section taken at the line Y Y on Fig. 1.

As represented in the drawings, A designates the rim or tread of said car-wheel, and B the circumferential flange of said rim, both of which are made in the usual and well-known form.

C designates an annular member of a single thickness, whose outer circumference is integrally joined to the inner circumference of the rim A, and whose inner circumference is integrally joined to two annular walls D, which inclose an annular chamber, whose transverse section is preferably made of an egg-shaped form, with the smaller part arranged toward the rim of the wheel. The inner circumference of the walls D are integrally joined to a hub E, which forms a tubular center, by which the wheel is secured to an axle in the usual manner.

F designates the arms or ribs of said wheel. Said arms are arranged tangentially to the circumference of the hub E and are curved to give them greater flexibility, and said arms are integrally joined to the walls D. By means of said arms a series of segmental chambers is formed between the walls D, and the number of said segmental chambers will correspond to the number of the arms F. The cores which form said segmental chambers are supported on necks, which form openings H in one of the walls D, and said necks afford the means for maintaining the cores in a required position for obtaining the desired thickness of metal in the walls D and for the insertion of anchor-bolts in said cores to hold them in place to resist the flotage-power of the molten metal as it enters the mold. When the casting of the wheel has been accomplished, the openings H will afford ample means for the removal of the anchor-bolts and the débris of the cores from the interior of said chambers. By reason of the curvature of the arms F and the convex form of the walls D a degree of flexibility of the structure of said wheel is obtained that renders the breaking of the wheel by percussive force a matter of great difficulty.

I am aware that car-wheels have heretofore been made with annular chambers between the hub and rim, and I am also aware that such wheels have also heretofore been made with annular chambers in which the side walls have been partially connected by radial brackets which did not separate the annular chamber into segmental chambers. I do not claim these earlier constructions; but

What I claim as my invention, and desire to secure by Letters Patent, is—

That improvement in car-wheels which consists in connecting the rim of the car-wheel to the hub by means of an annular member of single thickness integrally joined to two walls, which are bulged outwardly to form annular swells, said walls being connected together by means of curved arms, which are integrally joined to said hub and walls and which curve tangentially from the periphery of said hub, whereby the space between said hub and walls is separated into a series of segmental chambers, as and for the purpose herein specified.

ALFRED HYMAS.

Witnesses:
J. BROCKLEY,
WM. H. LOW.