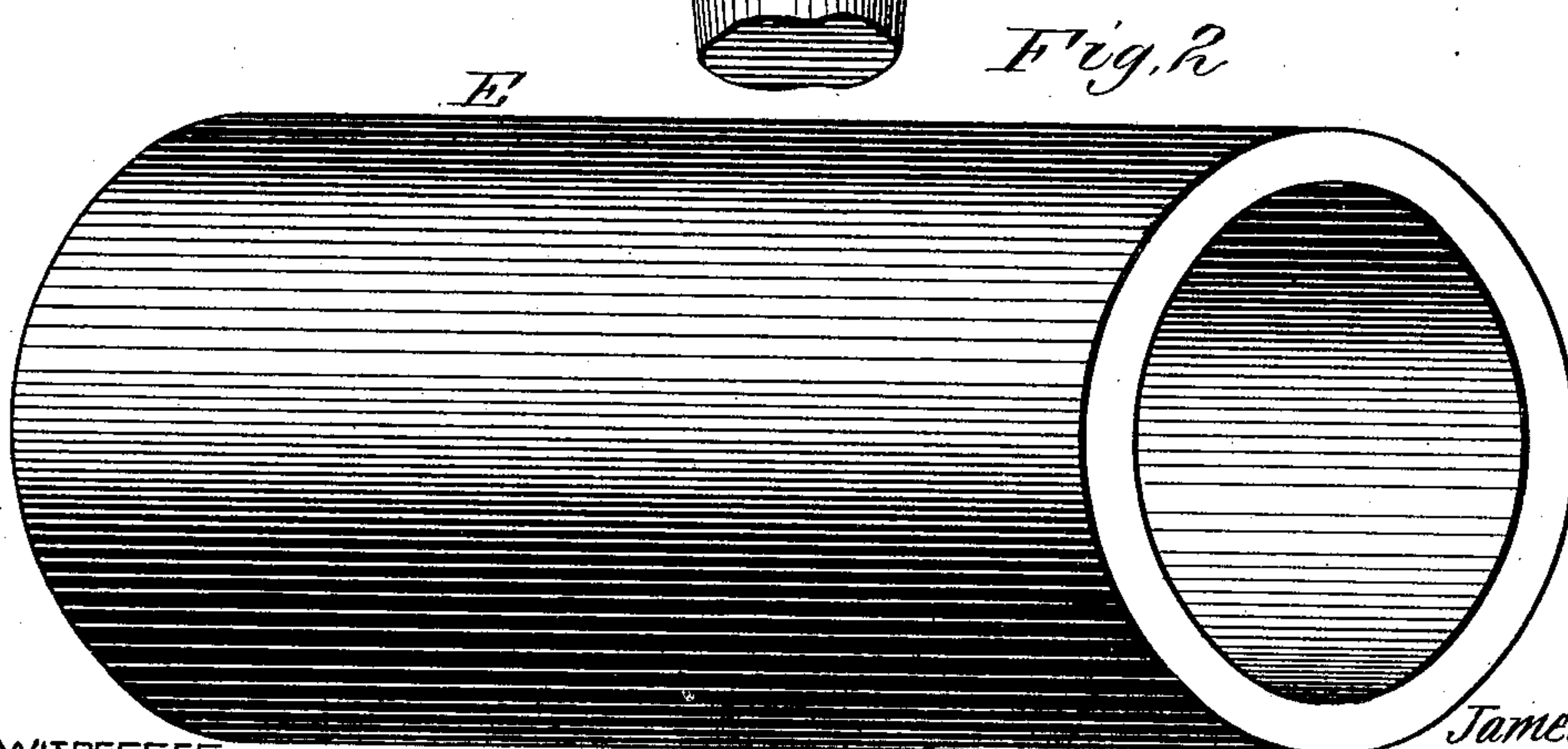
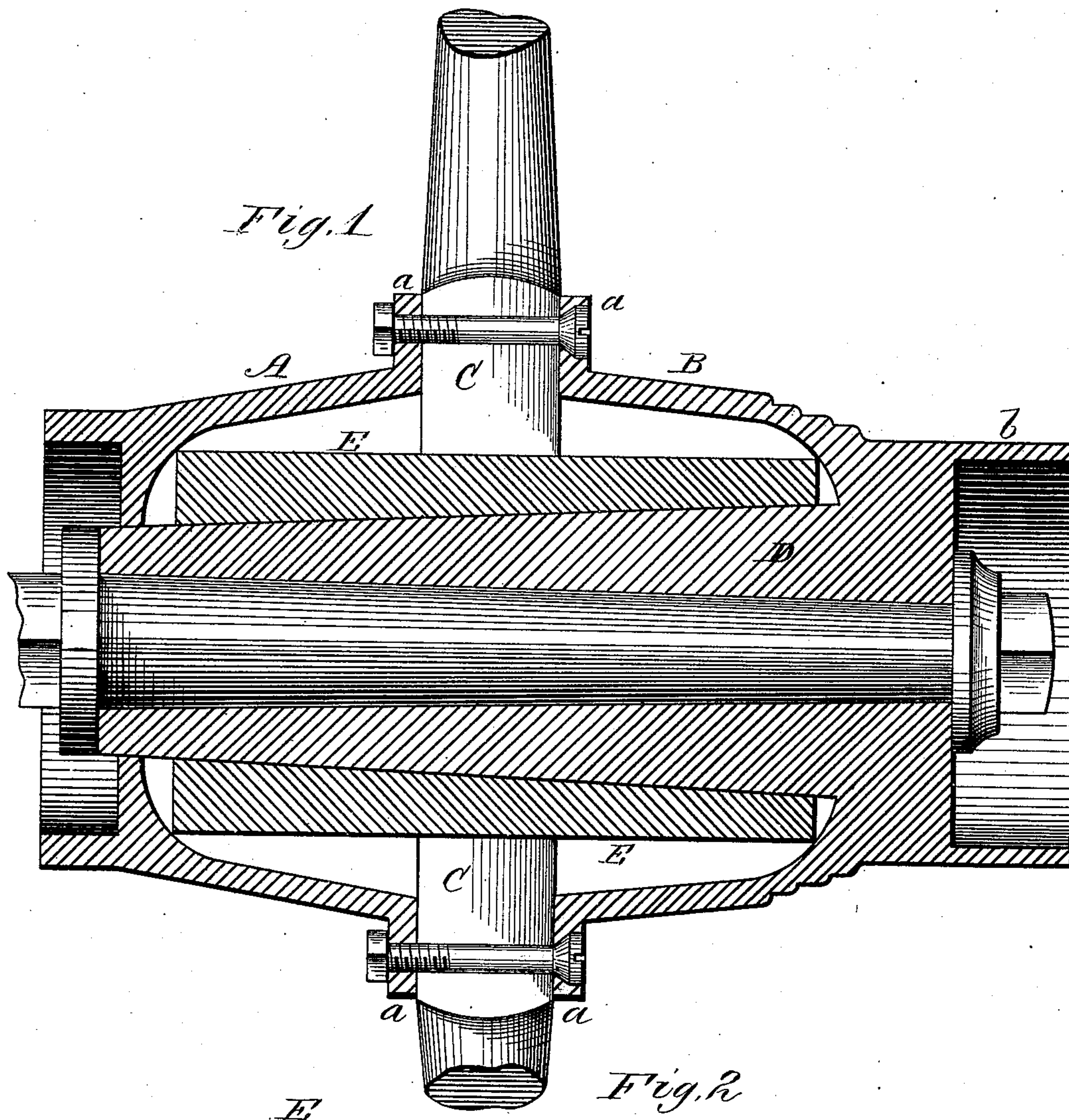


J. I. HEALEY.  
Vehicle-Wheel Hub.

No. 215,741.

Patented May 27, 1879.



WITNESSES  
Nat. & Oliphant.  
Geo. A. Porter.

INVENTOR  
James I. Healey.  
per Cha. H. Fowler



# UNITED STATES PATENT OFFICE.

JAMES I. HEALEY, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN VEHICLE-WHEEL HUBS.

Specification forming part of Letters Patent No. **215,741**, dated May 27, 1879; application filed March 26, 1879.

*To all whom it may concern:*

Be it known that I, JAMES INGALLS HEALEY, of Brooklyn, in the county of Kings and State of New York, have invented a new and valuable Improvement in Hubs for Wheels; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a sectional view of my invention, and Fig. 2 is a perspective view of the wooden cylinder for the spokes to cushion upon.

This invention has relation to that class of hubs composed of two hollow metallic shells secured to the axle-box, and between which the spokes of the wheels are clamped; and consists in casting the outer or front shell of the hub with its band or rim in the same mold with the axle-box, and at the front or outer end thereof, and also providing the axle-box with a covering of wood to form a cushion for the ends of the spokes, as will be hereinafter described, and subsequently pointed out in the claims.

In the accompanying drawings, A B represent the two hollow shells composing the hub, and formed with flanges *a*, between which the wooden spokes C are clamped by suitable bolts and nuts. The shell B of the hub is cast with and from the same metal as forms the axle-box D, as is also the rim or band *b*, thereby forming a light and durable hub with the requisite strength to withstand the strain that the front or outer end of the hub is subjected to, this part of the hub being the only portion exposed.

Over the axle-box D is placed a hollow wooden cylinder, E, to allow the ends of the spokes C to cushion on. This wooden cylinder is seamless and is formed by boring through a solid cylinder of wood, the opening through the cylinder being slightly tapering to conform to the taper of the axle-box, so that when the wooden cylinder is in place over the axle-box the outer periphery will be of the same diameter to accommodate it to the horizontal edges of the spokes throughout their entire length. This wooden tube or hol-

low cylinder E may be manufactured at a trifling cost, and the material from which it is constructed forms a cushion for the ends of the spokes of just the right substance, as the wood does not allow the ends of the spokes to give so much as would be the case where rubber, leather, or other highly elastic material is used.

The hollow shells A B, when together, form a chamber or space for the wooden cylinder E, and after being slipped over the axle-box from the inner end the shell A is secured in place and secured to the shell B by bolts and nuts, the inner portion of the shells coming in contact with the ends of the wooden cylinder and retaining it in place upon the axle-box.

It should be understood that the wooden cylinder is equal in diameter throughout its length—or, in other words, its outer periphery is the same from one end of the cylinder to the other. Thereby its outer surface in a direction toward its length is parallel with the axis of the hub. This feature in the construction of the wooden cylinder is of very great importance, as by having the outer surface perfectly horizontal the end of the spokes throughout their whole length comes in contact with the surface of the cylinder, making the spokes more rigid and gaining the full benefit of a cushioned seat, which advantage cannot be obtained in a wooden cylinder tapering upon its outer surface or periphery.

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

1. The combination, with the axle-box D, of the wooden cylinder E, having its outer surface or periphery throughout its entire length parallel with the axis of the hub, substantially as and for the purpose specified.

2. The axle-box D, cast with hollow shell B, in combination with the wooden cylinder E, constructed as described, and the hollow shell A, for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAMES INGALLS HEALEY.

Witnesses:

MICHAEL QUIGG,

WASHINGTON ROBERTS.