No. 722,023. PATENTED MAR. 3, 1903.

Z. T. KALE.

HUB.

APPLICATION FILED JULY 19, 1902.

NO MODEL.

Fig. 1.

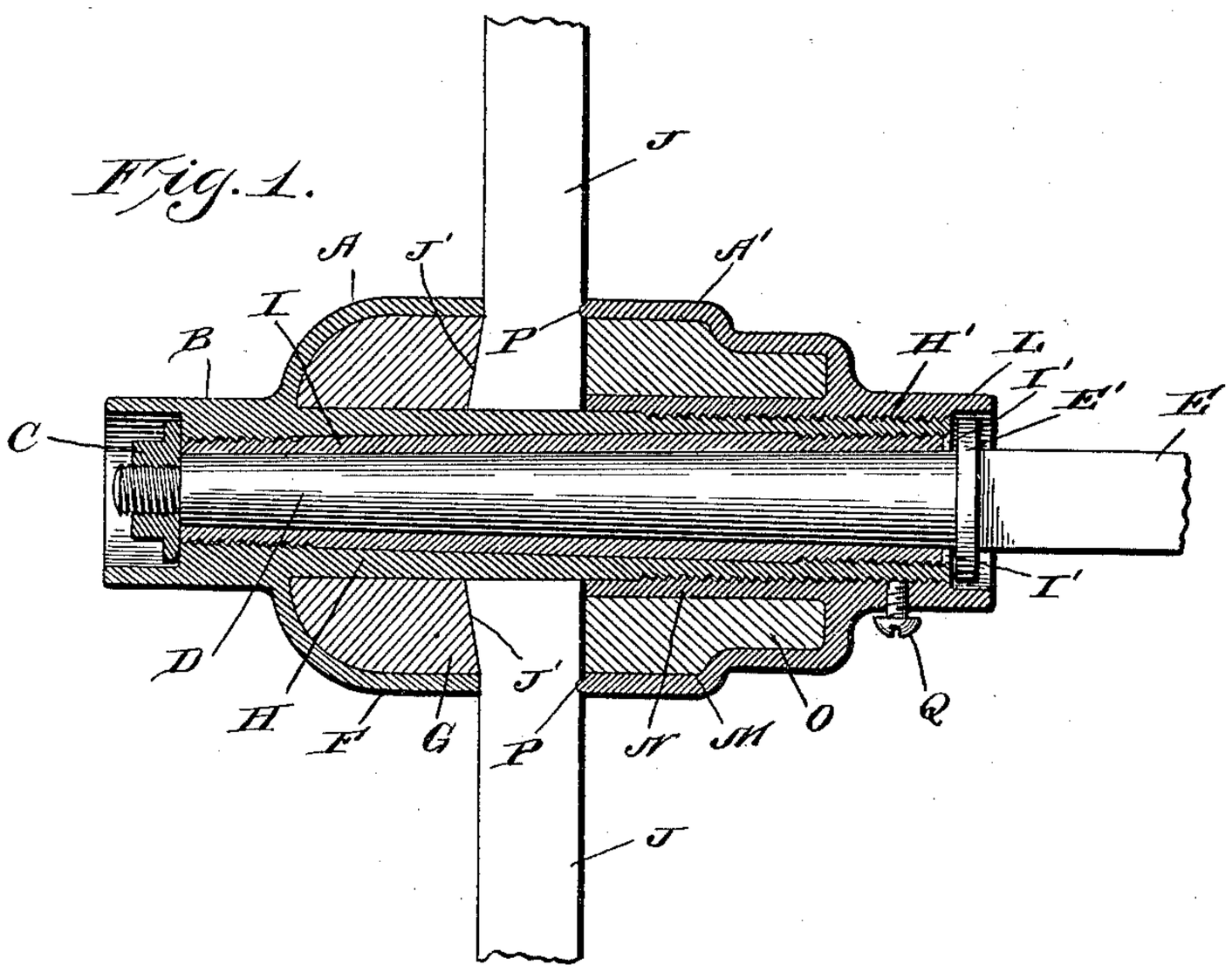
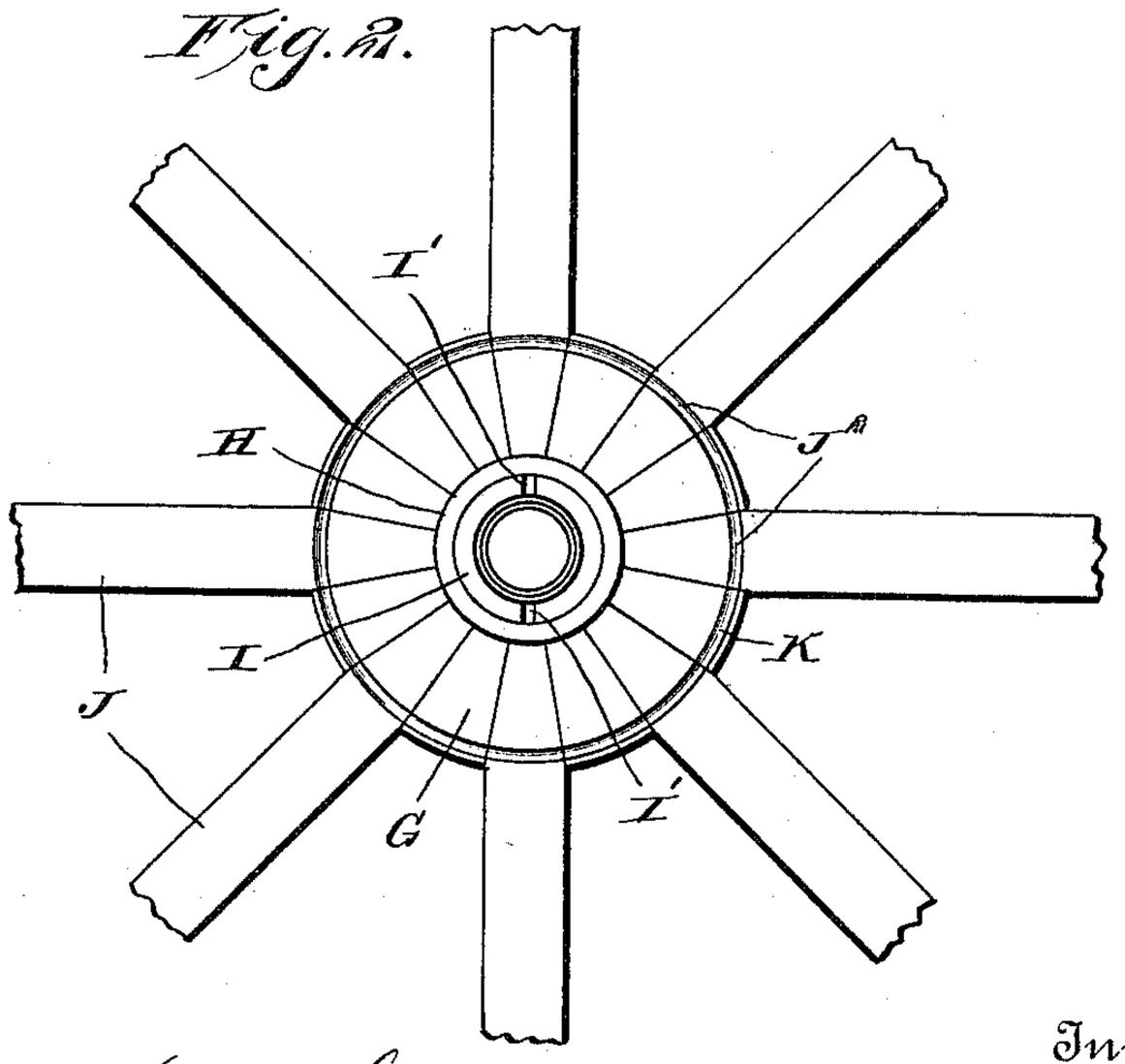


Fig. 2.



Witnesses
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ZACHARY T. KALE, OF NEWCASTLE, VIRGINIA.

HUB.

SPECIFICATION forming part of Letters Patent No. 722,023, dated March 3, 1903.

Application filed July 19, 1902. Serial No. 116,254. (No model.)

To all whom it may concern:

Be it known that I, ZACHARY T. KALE, a citizen of the United States, residing at Newcastle, county of Craig, and State of Virginia, have invented a certain new and useful Improvement in Hubs, of which the following is a specification.

My invention relates to a new and useful improvement in hubs for vehicle-wheels, and has for its object to provide a hub made in two parts, said parts to be threaded together, so as to allow the spokes to be easily removed or inserted.

A further object of my invention is to so form the spokes and also the hubs as to provide for the spokes being retained rigidly within the hub.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a longitudinal section through my improved hub; Fig. 2, an end view of half of the hub, the inner half being removed.

In the drawings, A and A′ represent the two halves of the hub, A being the outer and permanent half and A′ the inner and removable half. The half A has formed upon its outer end the boss B, which is recessed to receive the nut C, threaded upon the end of the spindle D of the axle E. The balance of the part A is a cylindrical shell F, which shell is filled with wood or similar substance G.

Extending inward from the boss B through the wood G of the part A is a sleeve H, which is exteriorly threaded upon its inner end, as represented at H′, and this sleeve tapers upon the inside, its largest diameter being at the inner end, and its smallest diameter is at the outer end or at the end where it extends from the boss B. In this tapered sleeve is fitted the tapering boxing I, adapted to receive the spindle D of the axle. This boxing is threaded at each end in the sleeve H and can be removed at any time by means of a screw-driver being inserted in the slots I′ at the outer end of the boxing.

The inner face of the half A of the hub or the face against which the part A′ impinges has formed in it a series of radial tapering slots which extend from the periphery of the hub to the sleeve H, through both the shell F and the wood G.

J represents the spokes, which are formed straight on one edge—the edge nearest the inner end of the hub—but the opposite edge of the spoke flares outward at the inner end of the spoke, as illustrated at J′. This flared-out portion J′ is included within the hub, and the wood G of the part A is undercut to accommodate this flared-out part of the spoke. The inner slotted face of the part A of the hub has formed therein an annular groove K, and the spokes J are also grooved, as indicated at J^2, so that when the spokes are placed correctly in the hub the grooves J^2 in the spokes will register with the groove K in the part A, so that together they will form a continuous annular groove.

The part or half A′ of the hub has formed on its inner end the boss L, which is recessed to receive the collar E′ of the axle E. The balance of the part A′ is formed cylindrical and hollow, as indicated at M, and extending from the boss L inward through the center of the portion M is an interiorly-threaded sleeve N, and the exteriorly-threaded opening through the sleeve N also extends through the boss L, and by this means the part A′ is threaded upon the exteriorly-threaded sleeve H of the part A.

The annular space between the shell M and the sleeve N of the part A is filled with wood or other like material, as represented at O, and the inner edge of the shell M is provided with an annular bead P, which when the two parts of the hub are together is adapted to enter the annular groove K in the part A and the grooves J^2 in the spokes, and thus help to hold the two parts of the hub in more rigid alinement with one another and also coöperate with the flared portion J′ of the spokes to prevent said spokes from being pulled out of the hub.

While I have shown a portion of each part of the hub being formed hollow and filled with wood or other suitable material, it is ob-

vious that both parts of the hub could be made of solid metal; but the form shown in the drawings has been found to be more practical, as the filling lightens the hub and gives more resiliency to the wheel.

The advantage of my invention is that the spokes of the wheel are held rigidly within the hub, but may be easily removed at any time and new spokes inserted. Thus if it is desired at any time to tighten the tire upon the wheel the old spokes may be removed and slightly-longer spokes inserted, so as to tighten the tire, or if the spokes are broken off flush with the hub the stub still remaining in the hub can easily be removed for the insertion of a new spoke.

Of course it is a necessity that the removable part A′ of the hub shall be held against loosening, and various means could be utilized to prevent this, and what I have shown in the drawings consists of a set-screw Q, threaded through the boss L and impinging against the sleeve H.

Of course I do not wish to be limited to the exact construction here shown, as slight modifications could be made without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and useful is—

1. In a two-part hub, an interiorly-threaded sleeve extending out from the permanent part, the removable part threaded upon said sleeve, spokes adapted to be clamped between these two parts, means whereby the spokes are held against removal from the hub, a boxing arranged upon the interior of the exteriorly-threaded sleeve, as and for the purpose specified.

2. A vehicle-hub consisting of two parts, the outer part being permanent and the inner part removable, each of said parts consisting of a shell filled with wood or other suitable material, a central sleeve extending outward from the permanent part, the removable part threaded upon the outer end of said sleeve, radial slots formed in the face of the permanent part, spokes adapted to be fitted in said slots, said slots being undercut and said spokes being flared, an annular groove formed near the periphery of the face of the permanent part, said groove cut in the hub and also through the spokes, an annular bead carried by the removable part adapted to enter said groove when the two parts are assembled, and means for holding the removable part against rotation relative to the permanent part, as and for the purpose specified.

3. A two-part hub consisting of a permanent and a removable part, a sleeve extending outward from the permanent part and exteriorly threaded at its outer end, upon which outer end the removable part is adapted to be threaded, the bore of this sleeve being formed tapering and interiorly threaded at each end, a boxing threaded within the sleeve, radial slots or notches formed in the outer face of the permanent part of the hub, said slots being undercut, spokes adapted to said slots and flared to correspond with the undercut, an annular groove formed in the outer face of the permanent part, said spokes also grooved so that their groove will form a continuation of the annular groove, and an annular projection extending inward from the removable part and adapted to enter the annular groove in the opposite part and spokes when the parts are assembled, as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

ZACHARY T. KALE.

Witnesses:
W. M. ECHOLS,
C. C. JONES.