

(No Model.)

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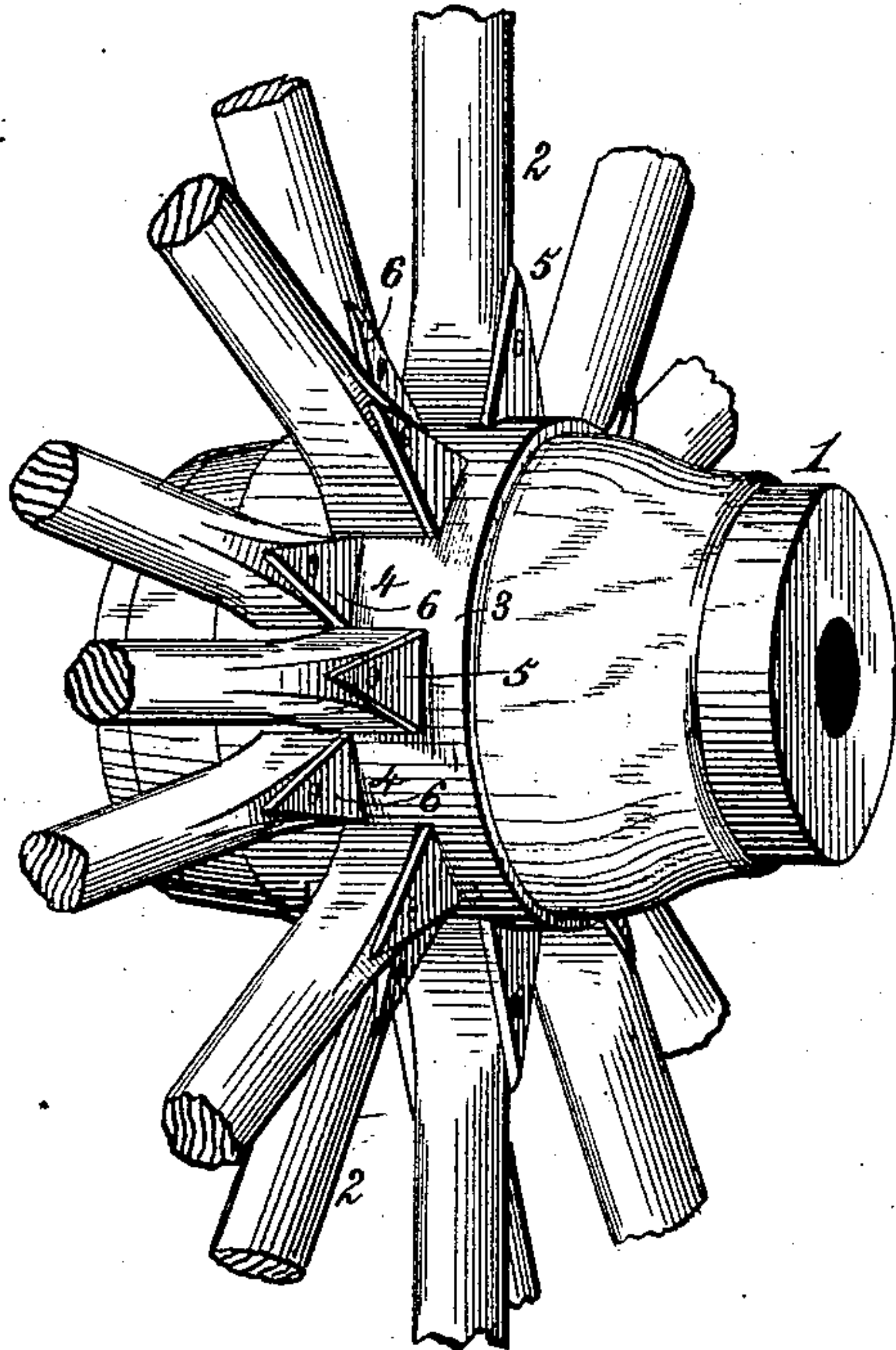
P. P. SMITH.

VEHICLE HUB.

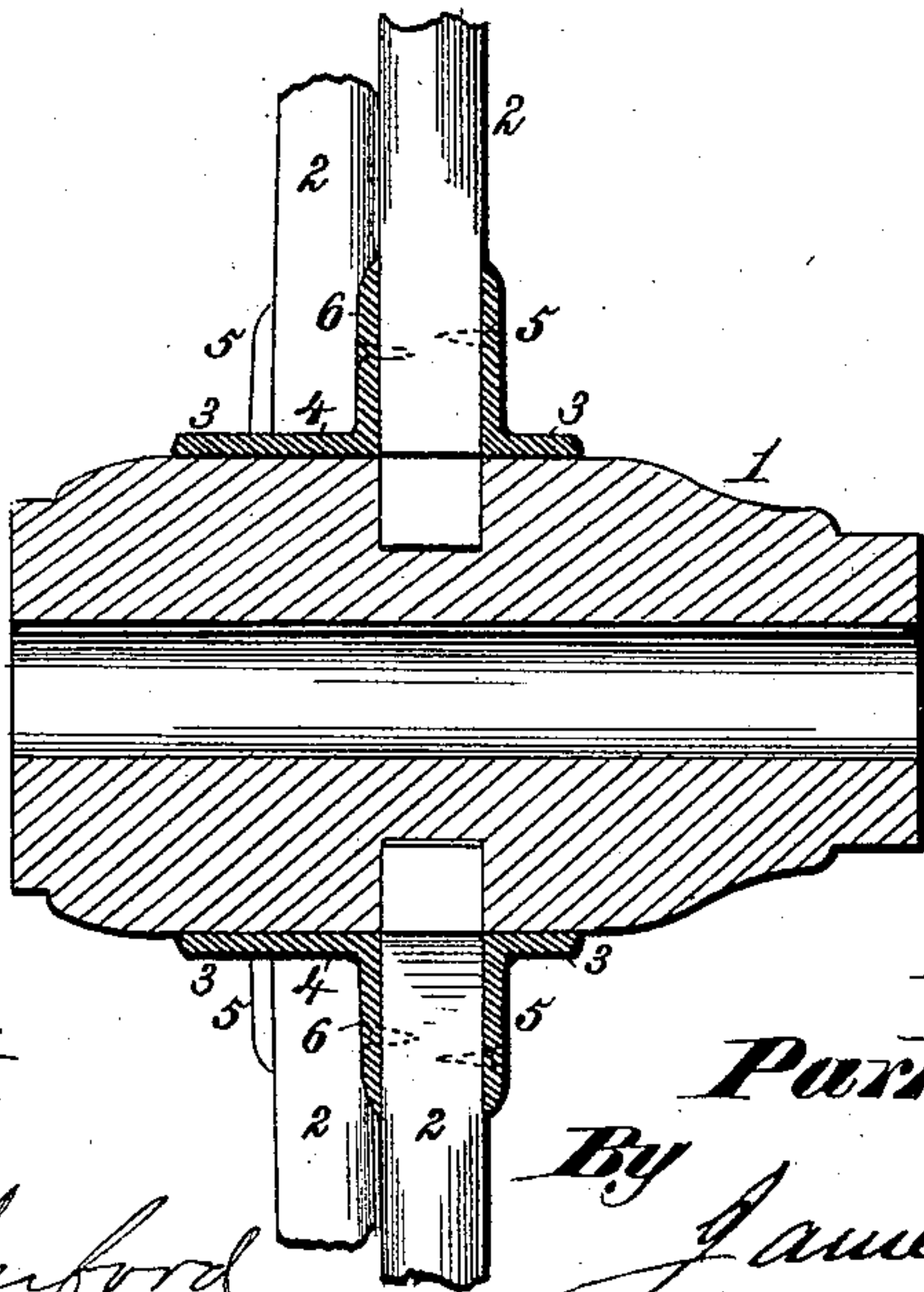
No. 322,759.

Patented July 21, 1885.

*Fig. 1.*



*Fig. 2.*



*Witnesses.*

*Robert Everett.*

*J. A. Rutherford.*

*Inventor.*

*Parker P. Smith.*

*By*

*James L. Norris.*

*Atty.*

(No Model.)

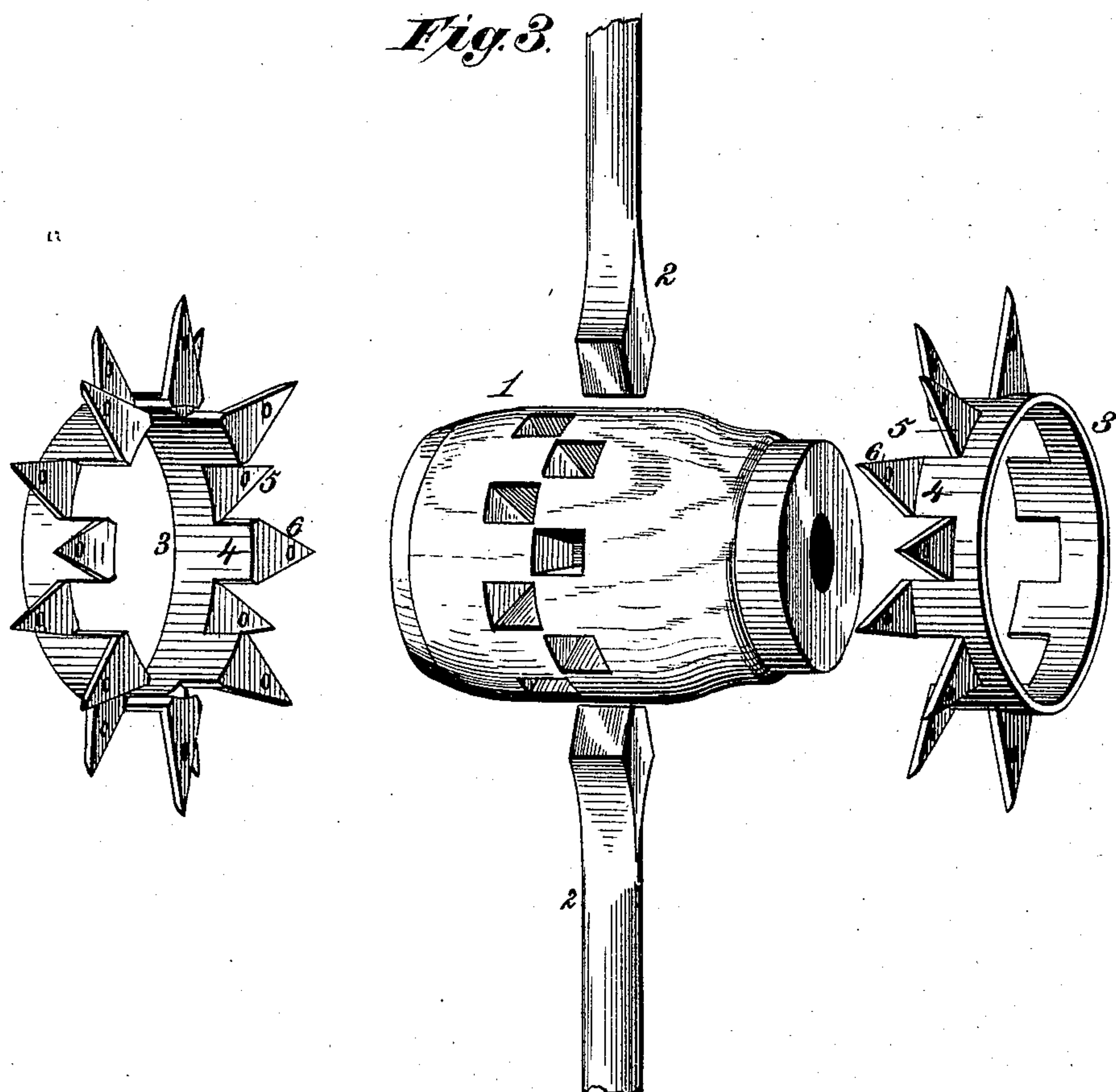
2 Sheets—Sheet 2.

P. P. SMITH.

VEHICLE HUB.

No. 322,759.

Patented July 21, 1885.



*Witnesses.*

*Robert Emmett.*

*J. A. Rutherford.*

*Inventor.*

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*James L. Norris.*

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# UNITED STATES PATENT OFFICE.

PARKER P. SMITH, OF PITTSBURG, PENNSYLVANIA.

## VEHICLE-HUB.

SPECIFICATION forming part of Letters Patent No. 322,759, dated July 21, 1885.

Application filed February 12, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, PARKER P. SMITH, a citizen of the United States, residing at Pittsburg, Pennsylvania, have invented new and useful Improvements in Vehicle-Wheels, of which the following is a specification.

This invention relates to improvements in that class of vehicle-wheels in which the spokes are staggered or arranged alternately inward and outward on the hub for the purpose of imparting strength to the wheel and rendering it capable of withstanding great lateral strain.

The object of my invention is to provide a metallic ring of novel construction for connecting with and bracing the staggered spokes to secure them rigidly and substantially to the hub, while at the same time embellishing the appearance of this class of wheels.

The object of my invention I accomplish in the manner and by the construction and combination of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of sufficient of a wheel to illustrate my invention; Fig. 2, a central sectional view taken longitudinally through the hub, and Fig. 3, detached views of the hub and the flanged plates for securing and bracing the spokes in staggered position.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, where the number 1 indicates a plain cylindrical wooden hub and 2 the staggered spokes, the inner ends of which rest in mortises in the hub. The two ring-plates for bracing and attaching the spokes are duplicates of each other, and a description of the construction of one will therefore suffice for both. The ring-plate 3 is constructed to slip upon the hub, and is constructed with laterally-projecting spaced lugs 4, and two sets of outward or radially projecting flanges, 5 and 6, arranged in a staggered path to correspond with the staggered position of the spokes. The outer series of flanges, 5, project outward from the inner edge of the ring-plate intermediate the lateral-spaced lugs, while the inner series of flanges, 6, extend outward from the inner ends of the lugs themselves, all in such manner that when the ring-plate is in position on

the hub and the spokes arranged in a staggered path, the lateral lugs 4 fill the spaces between one row of spokes, while the flanges 5 and 6 extend radially along the two rows of spokes, respectively. A ring-plate of a construction corresponding to the one already described is applied to the opposite side of the spokes, as shown, and the lateral lugs 4 on it will enter between the other row of spokes. The two ring-plates being in position upon the hub, and their flanges 5 and 6 secured to the sides of the two rows of spokes, respectively, the latter are thereby connected with the hub and braced and secured in a very strong and substantial manner. The respective lugs on the ring-plates constitute, in effect, mortises receiving the inner ends of the spokes, and thereby the lugs afford intermediate supports to the spokes in the immediate vicinity of the hub, so that the strain applied to the spokes in the direction of the length of the felly of the wheel is sustained by the lugs.

The ring-plates may be rigidly secured to the hub in any suitable manner, such as by screws or otherwise, and the flanges are likewise attached to the spokes along the length thereof.

The flanges are preferably tapering in an outward direction, and they may be formed of any desired length to extend any suitable distance along the length of the spokes, whereby the latter are furnished with lateral supports in the nature of braces, which renders the wheel very strong, substantial, and durable.

The fashion of the ring-plates and their lugs and flanges may be such as to impart an ornamental appearance to the wheel without undue metal or other devices. The construction is not only economical, but very useful, in that the spokes are staggered, and each of the ring-plates connects with and laterally braces both rows of spokes.

The ring-plates are preferably cast of malleable iron integral with their lateral spaced lugs and two sets of flanges; but obviously they may be made of brass or other metal.

In the manufacture of carriage-wheels having wooden hubs and spokes various devices have been employed to secure the spokes in the vicinity of the hub—notably the Sarven wheel—where the spokes are mortised in the wooden hub and clamped on opposite sides by



annularly-flanged plates. Wheels have also been composed of a wooden hub and spokes mortised therein in a staggered manner, the spokes being clamped on opposite sides by 5 collars; but in such it has been customary to employ wedges for filling the spaces between the alternating spokes and the collars, which is very objectionable. By my invention I avoid the employment of extraneous devices— 10 such as wedges—and I provide a ring-plate which connects with and embraces both rows of staggered spokes, which is a very useful and desirable construction.

Having thus described my invention, what 15 I claim is—

The combination, with a wooden hub, 1, and staggered spokes 2 mortised therein, of the

two ring-plates 3, each constructed with the laterally-projecting spaced lugs 4, and two 20 sets of radially projecting flanges, 5 and 6, connected from each other at their outer ends and formed, respectively, on the ends of the lugs and the inner edge of the ring-plate between the lugs, each flange extending outward 25 along one of the spokes, and provided with a perforation for the passage of a fastening-screw, or equivalent, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

PARKER P. SMITH.

Witnesses:

C. HARRISON,

JOHN H. CRATTY.