(No Model.)

S. T. WILLIAMS.

WHEEL.

No. 305,772. Patented Sept. 30, 1884.

Fig 1.

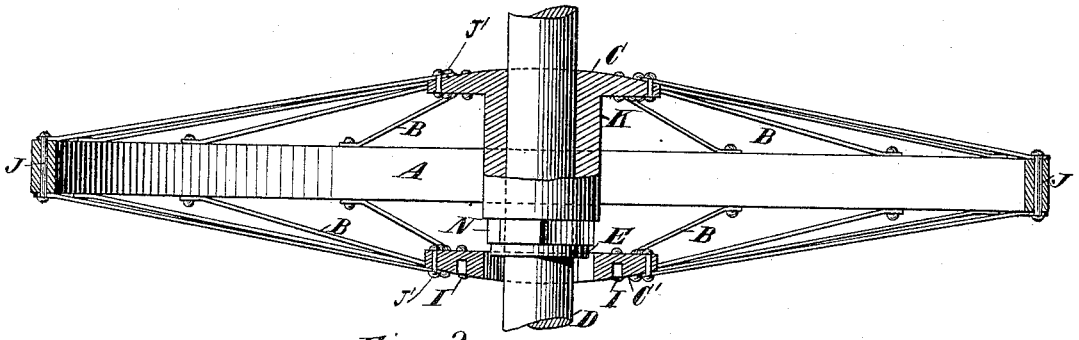
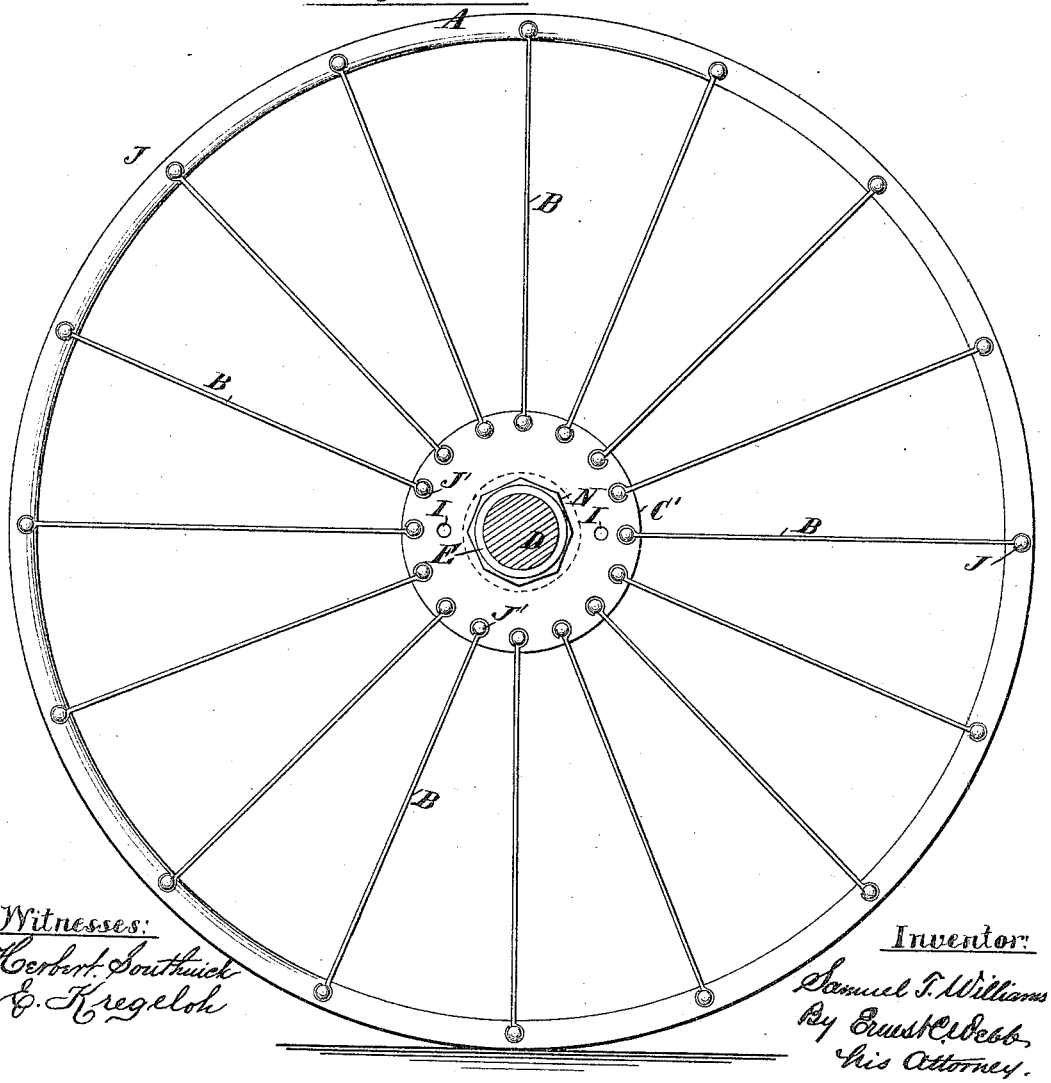


Fig. 2.



Witnesses:
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his Attorney.

UNITED STATES PATENT OFFICE.

SAMUEL T. WILLIAMS, OF RED BANK, ASSIGNOR TO THE WILLIAMS TENSION WHEEL COMPANY, OF NEWARK, NEW JERSEY.

WHEEL.

SPECIFICATION forming part of Letters Patent No. 305,772, dated September 30, 1884.

Application filed February 14, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL T. WILLIAMS, a citizen of the United States, residing at Red Bank, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Wheels, of which the following is a full, clear, and exact description.

The object of this invention is to provide a wire-spoke wheel in which the spokes are separately attachable or detachable, and capable of being put under more or less tension to make the wheel correspondingly stiff or rigid.

So far as the hub of the wheel is concerned, the invention is a modification or extension of the principle of the wheel shown in the parent application for Letters Patent, No. 83,695, filed by me the 1st day of February, 1883.

The invention consists in a two-part hub, to which and the rim the spokes, of separate pieces of wire, are attached, the members of said hub being movable rotarily with relation to one another to increase the tension upon the spokes, substantially as hereinafter specifically set forth and claimed.

In the accompanying drawings, in the two figures of which similar letters of reference indicate like parts, Figure 1 is a horizontal cross-section of the wheel, part of the hub being in plan; and Fig. 2 is a side elevation.

A is the rim, which may be cast or rolled, and it is pierced transversely by as many holes as there are to be spokes on a side, and each hole is provided with a bolt or rivet, J. The hub E is provided with two disks, C C′, each of which has as many transverse holes near its rim, and bolts or rivets J′ therein, as there are spokes to a side. A double series of spokes, B, is used, one series extending from the disk C to one side of the rim, and the other from the disk C′ to the other side of the rim, and these spokes are secured to their respective disks and to the rim by passing the bolts or rivets through eyes in their ends, substantially as shown. Each spoke is thus independently secured to the hub, and so is readily repaired, removed, and replaced irrespective of the others. The bolts J may connect the spokes separately or in pairs to the rim. The disk C is provided with a sleeve, K, to which it is made fast, or the two may be a single casting, and this sleeve is fast to the axle D, so as to rotate therewith, but capable of longitudinal movement thereon, and said sleeve is made with an angular nut-like end, N. The disk C′ has a central angular opening, the diameter of which is less than that of the sleeve K, and said disk is provided with wrench-holes I I, for use in connection with a key for turning said disk to apply tension to the spokes. The end N of the sleeve K is of the configuration of the opening in the disk C′, and of a size to be readily slipped into said opening. A key or wrench is fitted in the holes I I in the disk C′, and turned, whereby the said disk is rotated and tension applied to the spokes by drawing them from true radial lines, and the tension thus obtained is secured by forcing the nut N into the opening of the said disk, thereby holding the disk against rotation. The spokes are thus strained between their holding-points on the rim and the hub.

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

The combination, with the rim, of the disks C C′, the former having the sleeve K and nut N, movable longitudinally only on the axle, and the latter having an opening to engage the nut, and adapted to be rotated on the axle and secured in different positions by said nut, and the independent spokes B and their fastenings J J′, for connecting them separately to the rim and disks, respectively, substantially as shown and described.

In testimony whereof I have hereunto set my hand this 9th day of February, A. D. 1884.

SAMUEL T. WILLIAMS.

Witnesses:

ARTHUR C. WEBB,

ERNEST C. WEBB.