

(No Model.)

N. N. HORTON.  
VEHICLE WHEEL.

No. 431,896.

Patented July 8, 1890.

FIG. I.

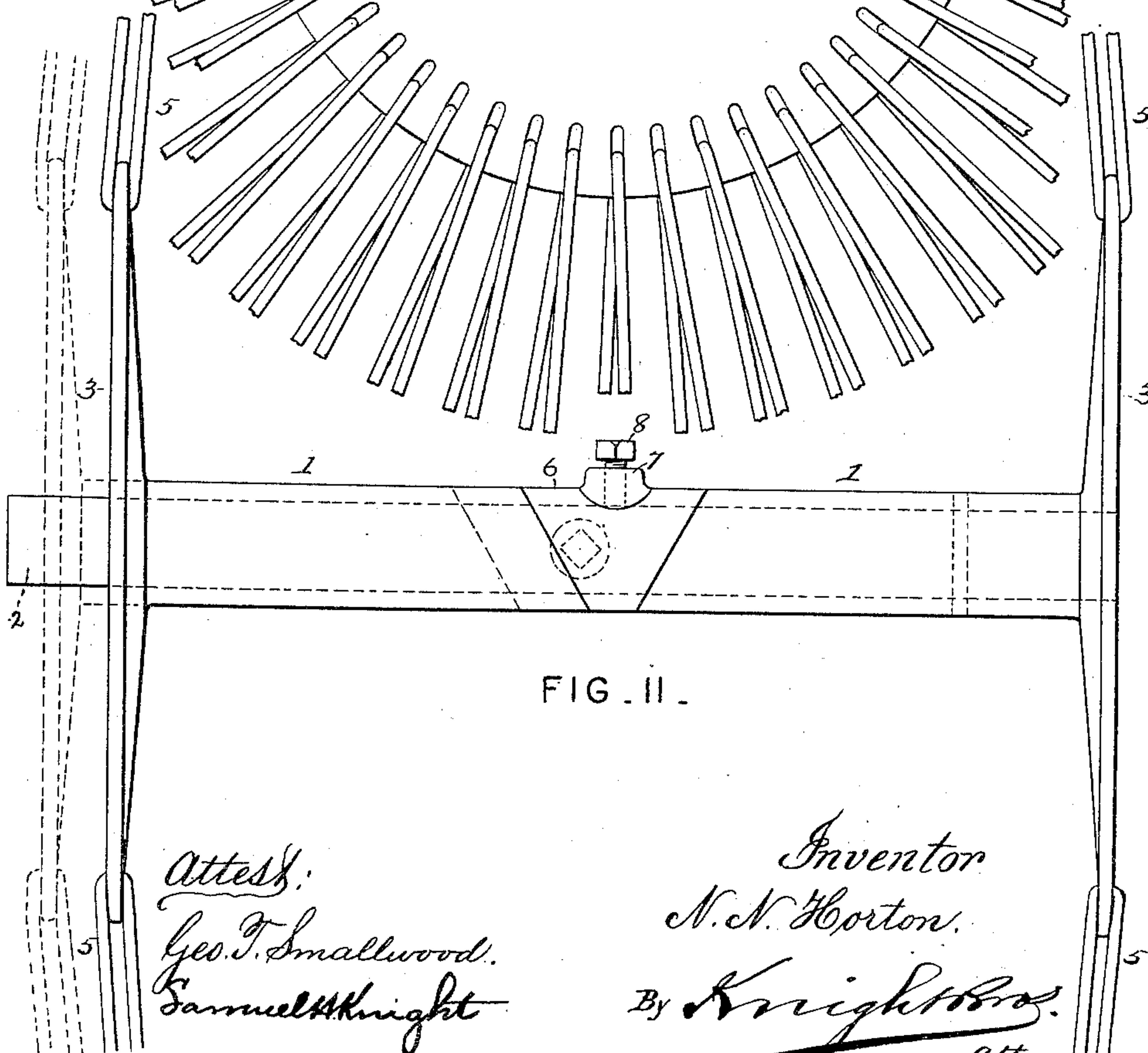
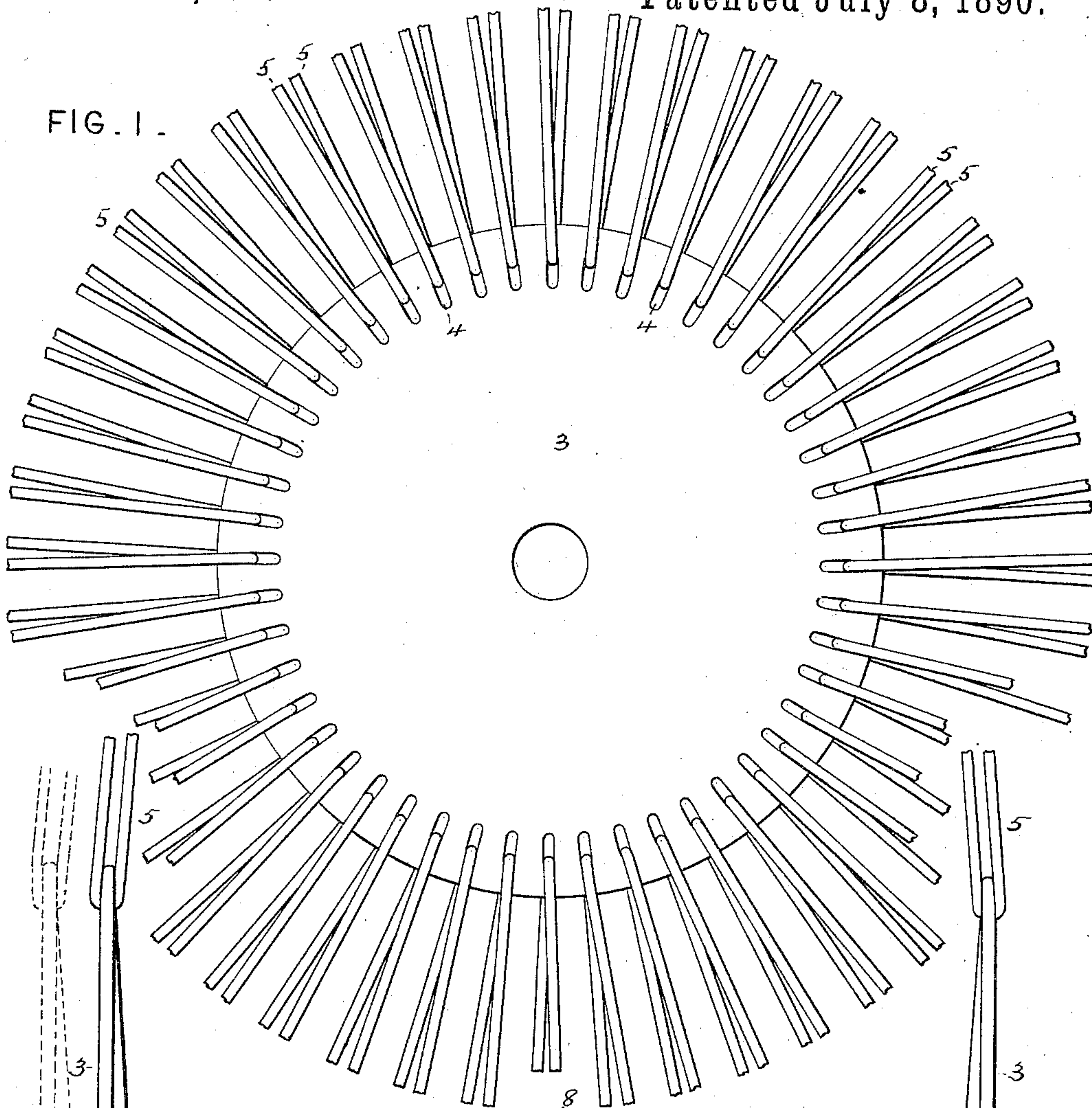


FIG. II.

Attest:  
Geo. T. Smallwood.  
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By *Knight Bros.*  
attys.



# UNITED STATES PATENT OFFICE.

NUMON N. HORTON, OF KANSAS CITY, MISSOURI.

## VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 431,896, dated July 8, 1890.

Application filed October 25, 1889. Serial No. 328,114. (No model.)

*To all whom it may concern:*

Be it known that I, NUMON N. HORTON, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Improvement in Vehicle-Wheels, of which the following is a specification.

My invention relates to vehicle-wheels with tension-spokes; and it consists in an improved construction by which a cheap and strong wheel is produced adapted to be strained to any necessary extent by the outward elongation of the hub, as hereinafter described.

In order that my invention may be more fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure I is a side elevation of the central part of the wheel, and Fig. II is a front elevation of the same.

The hub is made up of two sleeves 1 1, mounted end to end on a central tube or box 2. On the outer ends of the sleeves 1 1 are flanges 3 3, in which are formed in a concentric circle equidistant radial slots 4 for the reception of the looped inner ends of spokes 5, the said spokes being formed in pairs, each pair of a single piece of wire or other metal. The extremities of the spokes are not shown, their connection to the rim of the wheel being made in any customary or usual manner, and the rim itself being of any usual and suitable construction. The opposed inner ends of the hub-sleeves 1 1 are formed with continuous oblique or spiral faces, as shown in Fig. II, separated by a rotatable strengthening-sleeve 6 of equal diameter with the hub-sleeves 1 1, and also having continuous oblique or spiral matching faces and adapted to turn independently of the latter upon the central tube or box 2.

On the central portion of the center hub-section 6 is formed a boss 7, in which is tapped a screw 8, formed with a square head for the reception of the wrench for turning it in or out. The boss 7 is adapted for the applica-

tion of a spanner or pipe-wrench—such as is used with hose-pipe couplings and the like—for applying any necessary force to rotate the sleeve-section 6, the oblique faces of which, bearing against the corresponding inner ends of the hub-sections 1, force them apart as the central hub-section 6 is rotated, as illustrated in dotted lines in Fig. II, thus imparting any necessary tension to the spokes. The desired tension being obtained, the central hub-section is permanently fixed in position by turning in the set-screw 8 against the central tube 2.

The central tube 2 is adapted for the reception of the customary hub-boxes as now ordinarily manufactured and sold. The radial slots 4, in which the spokes are held, afford elasticity to the wheel, allowing the spokes to spring inward without breaking under any sudden strain.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. The combination of the divided hub 1 1, having continuous oblique or spiral faces, end flanges 3, perforations 4 therein, tension-spokes 5, and rotatable sleeve-section 6, also having continuous oblique or spiral faces, substantially as and for the purposes set forth.

2. The combination of the hub-sections 1 1, having continuous oblique or spiral faces, flanges 3, tension-spokes 5, central rotatable hub-section 6, also having continuous oblique or spiral faces and formed with a boss 7, and the set-screw 8 for fixing said rotatable section in position, substantially as and for the purposes set forth.

3. A vehicle-wheel constructed with tension-spokes passed through radial slots in the hub-flanges and returned to permit the spokes to spring inward without breaking, as explained.

NUMON N. HORTON.

Witnesses:

OCTAVIUS KNIGHT,  
HERVEY S. KNIGHT.