

(No Model.)

G. W. JONES & F. F. GREEN.
VEHICLE HUB.

No. 467,031.

Patented Jan. 12, 1892.

Fig. 1.

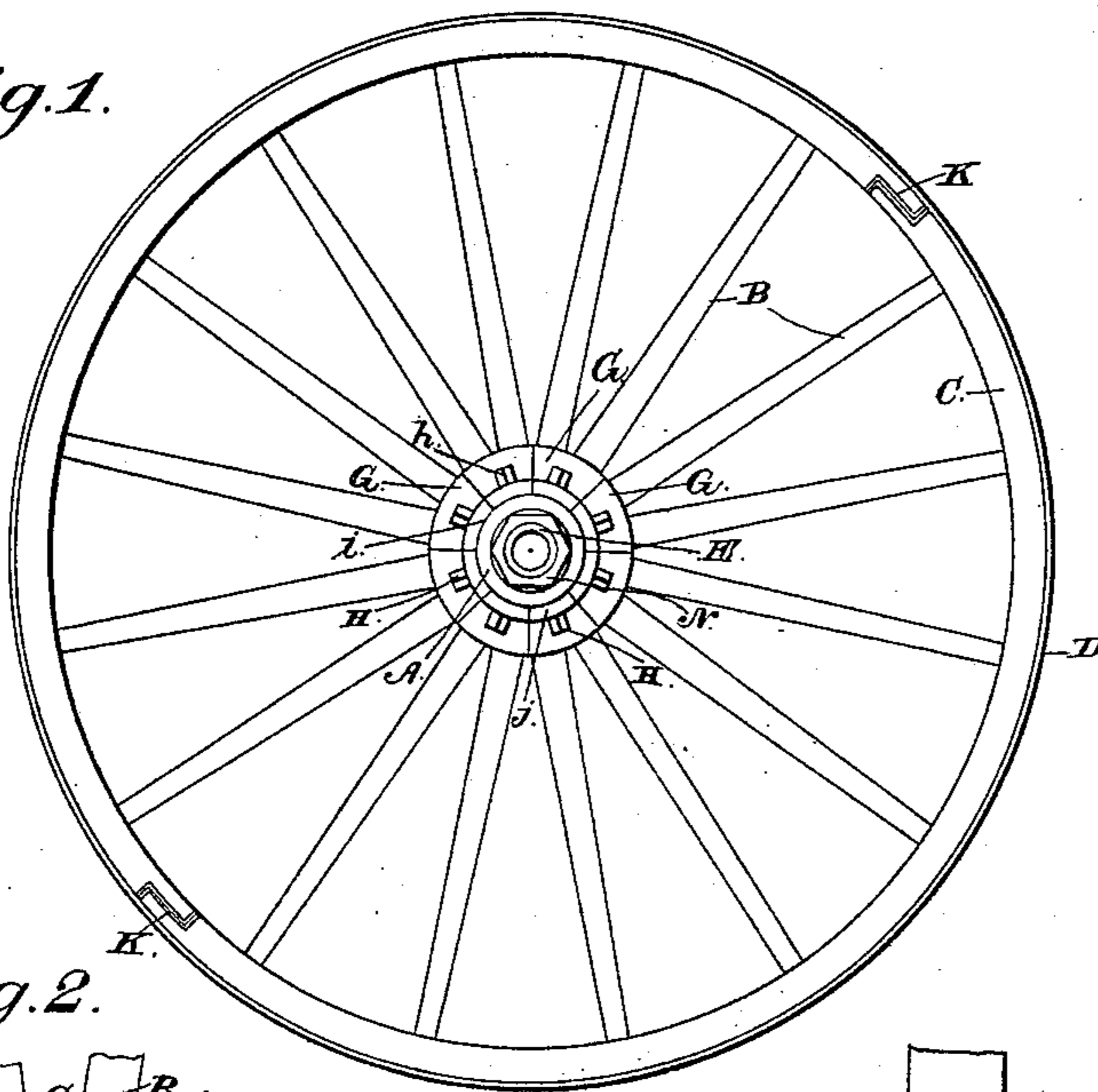


Fig. 2.

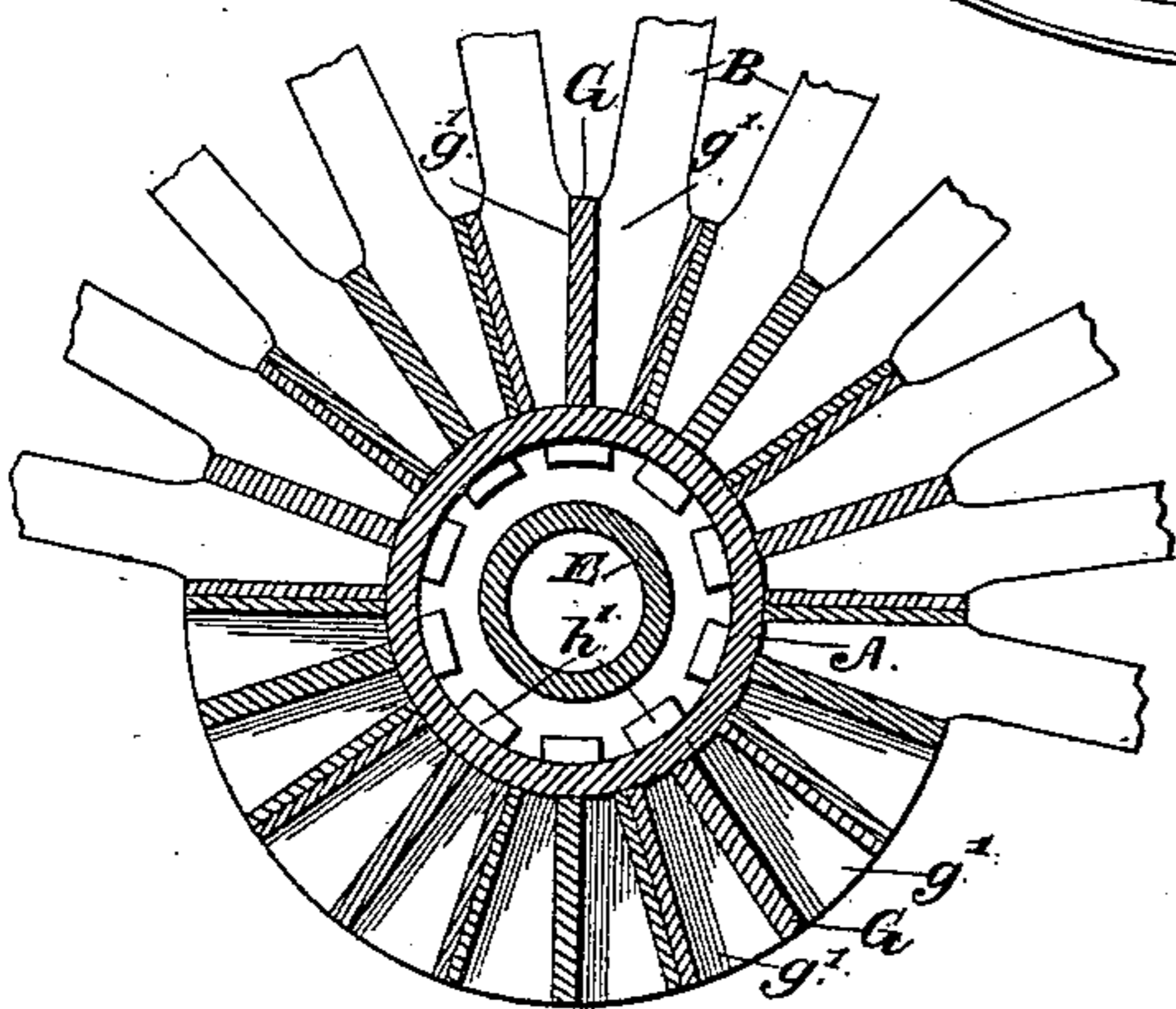


Fig. 3.

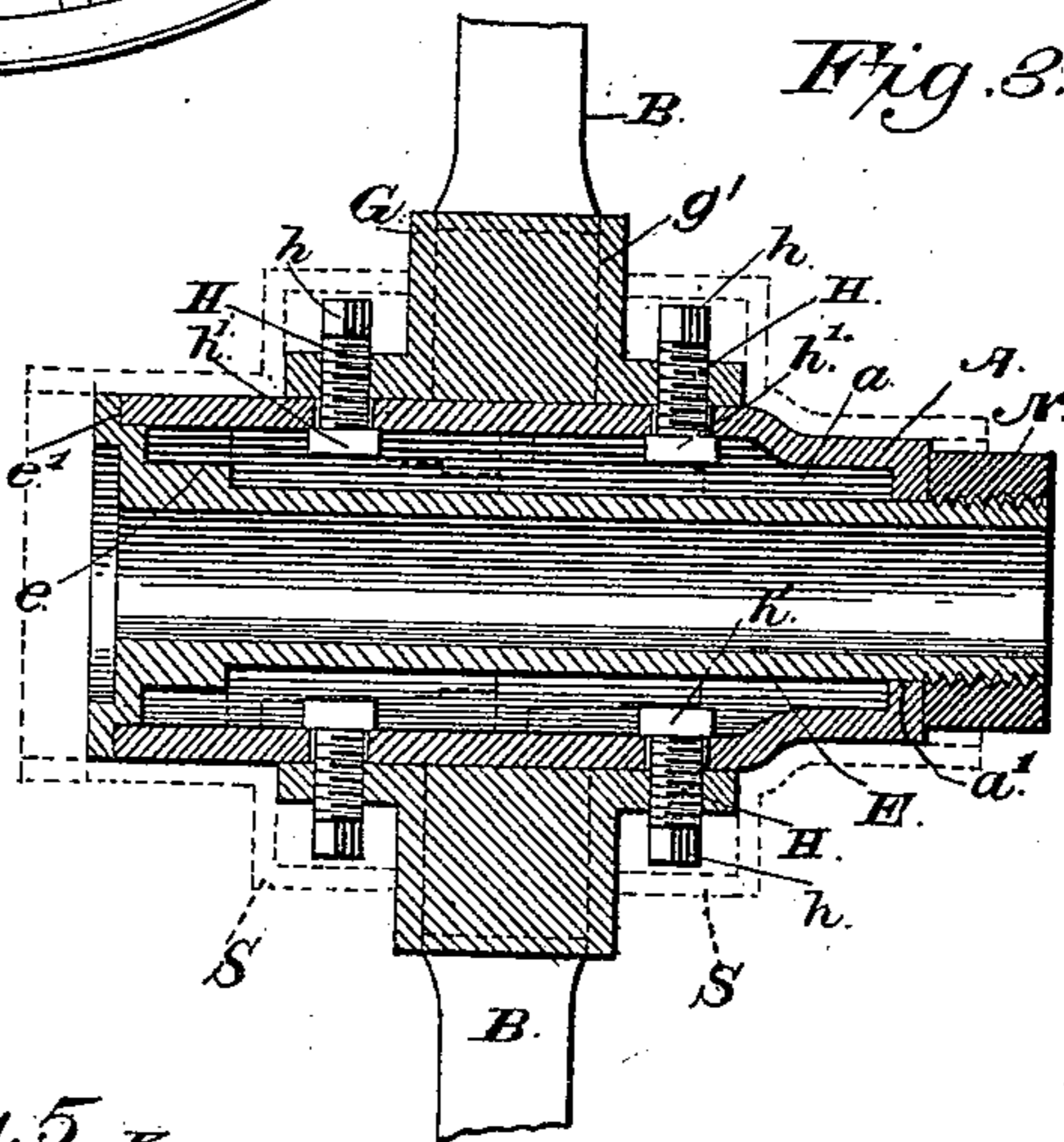


Fig. 4.

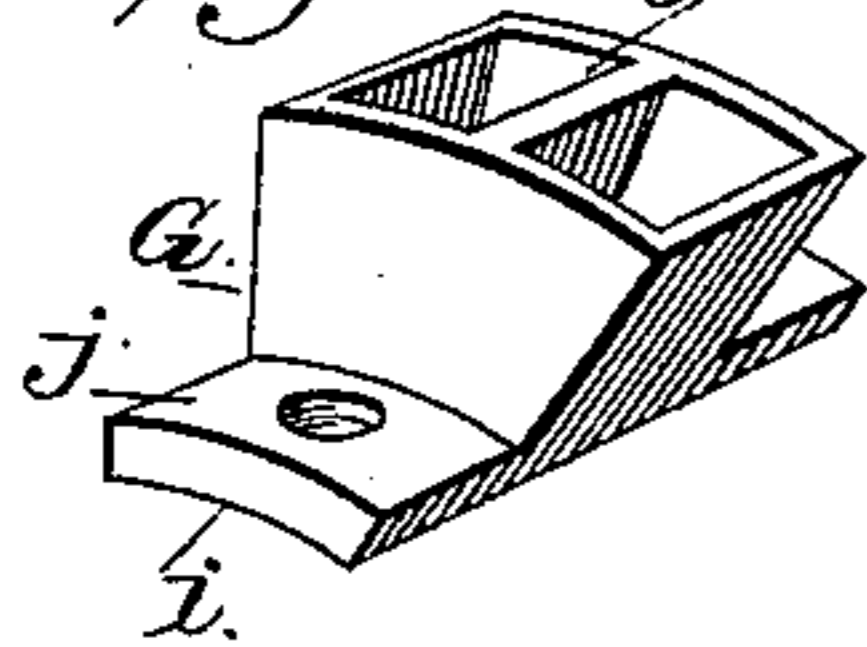


Fig. 5.

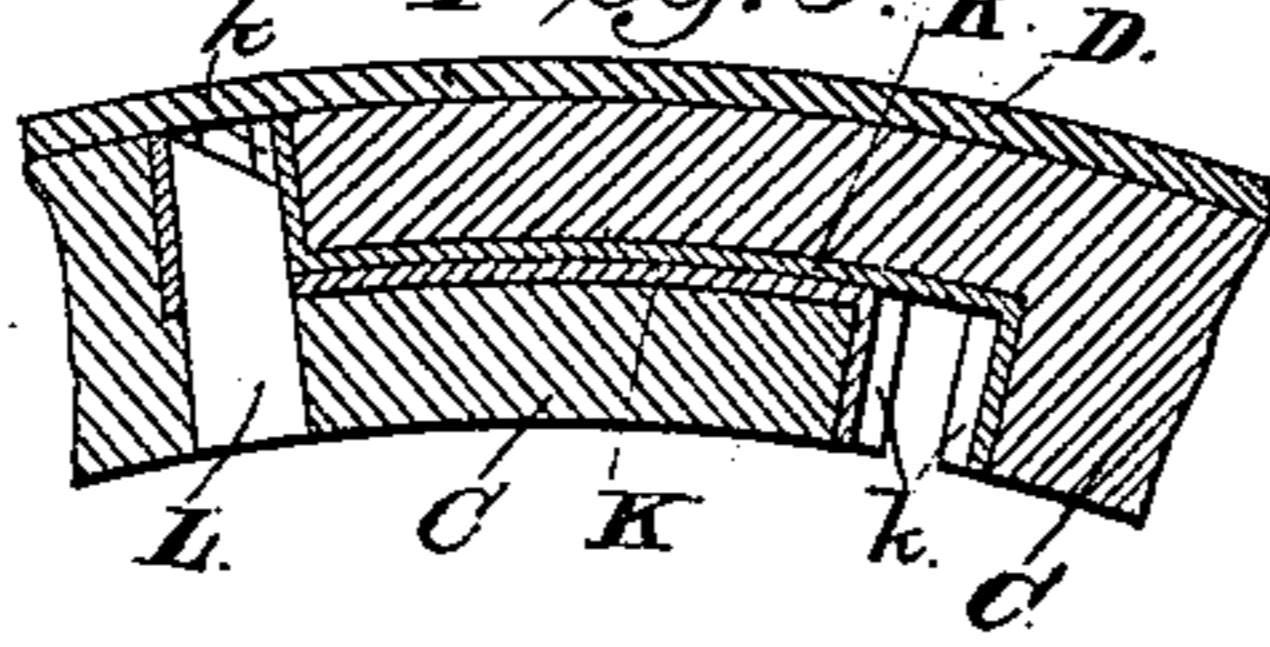
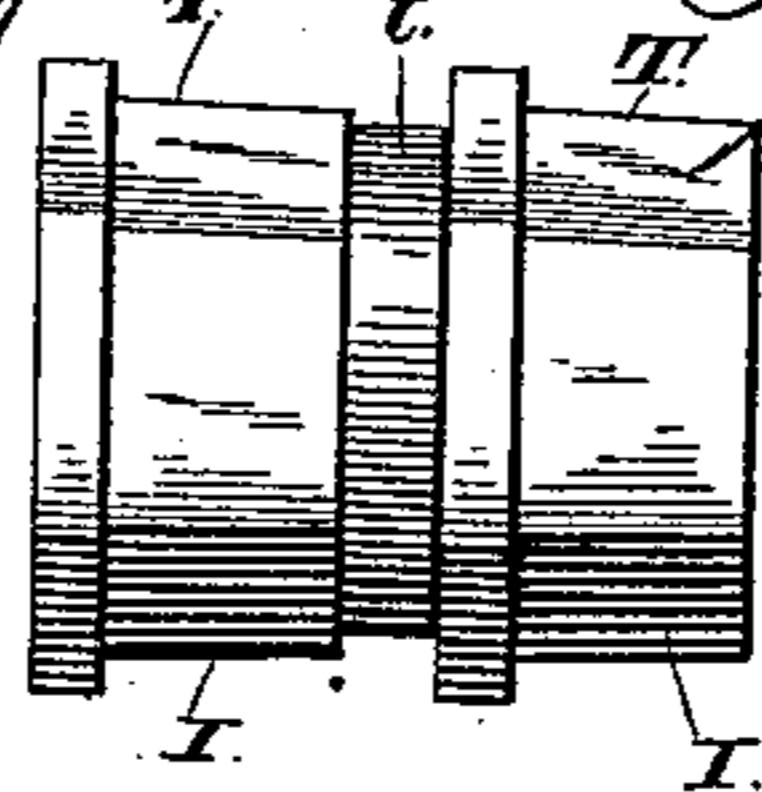


Fig. 6.



Witnesses

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UNITED STATES PATENT OFFICE.

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VEHICLE-HUB.

SPECIFICATION forming part of Letters Patent No. 467,031, dated January 12, 1892.

Application filed April 30, 1891. Serial No. 391,102. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. JONES and FURNEY F. GREEN, citizens of the United States, residing at Comanche, in the county of Comanche and State of Texas, have invented a new and useful Hub, of which the following is a specification.

This invention relates to vehicles, and more especially to the hubs of the wheels thereof; and the object of the same is to effect improvements upon Letters Patent No. 351,776, granted to us November 2, 1886.

To this end the invention consists of the peculiar construction and novel combination of the various parts, substantially as hereinafter more fully set forth, and specifically pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a vehicle-wheel embodying our invention. Fig. 2 is a vertical sectional view taken transversely through the hub and longitudinally of the spokes, only a portion of the latter being shown. Fig. 3 is a longitudinal sectional view through the hub. Fig. 4 is a detail in perspective of one of the hub-sections. Fig. 5 is a sectional view through a portion of the felly to show the means for tightening the tire. Fig. 6 is a side elevation of the two tightening-sleeves.

Referring to the said drawings, A designates the hub, B the spokes, C the felly, and D the tire, of a vehicle-wheel comprising our invention, the peculiar construction of the several parts of which will now be described. The hub A is provided with a central longitudinal opening *a*, one end of which is reduced, as at *a'*, and through this hub passes the metallic bearing or box E, which is preferably of cast-steel for great durability and strength. One end of the box E, which box is in the form of a cylinder or tube, is exteriorly threaded and passes through the reduced end *a'* of the hub, and the opposite end of the box is provided with an exterior shoulder *e* and near its extremity with another shoulder *e'*, which latter fits against the inner end of the hub, as seen in Fig. 3. A nut N screws upon the outer threaded end of the box and against the reduced end *a'* of the hub, whereby the shoulder *e'* at the other end of the box is drawn tightly against the inner

end of the hub and the several parts are locked together.

The letter G designates a number of radial hub-sections, each cast in a single piece of metal, with its lower face *i* curved so as to fit the exterior of the hub A and having a flange *j* at each side of its body. These sections are segmental in form—that is, they have arc-shaped peripheries and inclined sides which taper toward each other—and when the sections are fitted around the hub their inclined faces or sides abut against each other, while their curved faces lie concentric with each other to form complete circles. Each section is provided with two or more sockets *g'*, in which fit the tenons of the spokes B, as will be understood. In order to keep the hub-sections G upon the hub A, we provide a number of threaded pins or studs H, which pass loosely through holes in the hub proper A and outwardly through threaded holes in the flanges *j* at each side of the hub-sections, their outer ends *h* being reduced and squared for the reception of a wrench and their inner and enlarged heads *h'* standing against the inside of the tubular hub A. It will be seen that by this construction the hub-sections are prevented from outward movement or displacement upon the tubular hub A and that by permitting the pins H to turn in the hub the nuts formerly used on said pins are dispensed with. As the pins are adjusted by a simple wrench, the use of a spanner-wrench to turn the nuts formerly used below the flanges *j* is now done away with. Each of the hub-sections has the inner ends of two or more spokes fitted therein, and the number of sections employed is proportional to the number of spokes in the wheel. It will be seen that the spokes can be moved toward and from the felly and tire to take up or to increase the “dish” or concavity in the periphery of the wheel. After any one or more of the hub-sections have been adjusted to stand a slight distance from the tubular hub A some means must be provided for preventing these sections again moving inwardly and sliding the screws H through the smooth holes in the hub A. We therefore provide two tightening-sleeves T, as best seen in Fig. 6, each of which sleeves has a number of flat

slightly-inclined faces I upon its exterior, and the innermost of which sleeves is elongated, as at *t*, in order to bear against the larger end of the outermost sleeve. After the screws or pins H have been inserted with their heads *h'* inside the tubular hub A and the hub-sections G are connected with such screws and properly adjusted the sleeves T are inserted into the hub A from its inner end, as best seen in Fig. 3, and the box E is then passed through the two sleeves, its shoulder *e* striking the larger end of the inner sleeve and forcing both sleeves outwardly as the nut N is turned. This motion of the sleeves brings their inclined faces I against the heads *h'* of the screws H and presses said heads tightly against the interior of the tubular hub A around the holes therein, through which said pins pass loosely. If desired, sand-bands S may be slipped over the ends of the hub proper A for a well-known purpose, and when the axle-spindle is passed through the box E the nut on the end thereof will bear against the reduced end *a'* of the hub.

Referring now to Fig. 5, the ends of the fellys, at diametrically-opposite points in the wheel are notched, as shown in this figure, and their meeting faces lined with metal plates K, said plates at the ends of the opposite fellys having notches *k*, as shown. After the parts of the wheels are assembled and the tire D is applied wooden wedges L are driven into these notches *k* from the inner sides of the fellys, thereby distending the latter and tightening them within the tire.

It will thus be seen that we provide a secure and rigid connection or socket for the inner ends of the spokes, which socket can be adjusted, and that we also provide for taking up the slack in the fellys, and the devices are simple and strong in construction and cheap of manufacture.

We are aware that changes in the form and proportion of parts and details of construction may be made without departing from the principle of our invention.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a vehicle-wheel, the combination, with the hub A, having holes therethrough, of the hub-sections G, having flanges *j*, and the threaded studs H, having enlarged heads *h'* and squared outer ends, said studs passing loosely through the holes in the hub and taking into threaded holes in said flanges, substantially as described.

2. In a vehicle-wheel, the combination, with the hub A, having holes therethrough, the hub-sections G, having flanges *j*, and the headed studs H, passing loosely through said hub and screwing into said flanges, of the tapering sleeves T inside said hub, having inclined faces I bearing against the heads of

said studs, and means, substantially as described, for moving said sleeves longitudinally in the hub, as and for the purpose set forth.

3. In a vehicle-wheel, the combination, with the hub A, having holes therethrough, the hub-sections G, having flanges *j*, and the headed studs H, passing loosely through the holes in said hub and screwing through holes in said flanges, of the tapering sleeves T inside said hub, bearing against the heads of said studs, the box E, passing through said sleeves and having a shoulder *e* abutting against the larger end of the inner sleeve, and a nut N, screwed on the smaller end of said box against the end of said hub, as and for the purpose set forth.

4. In a vehicle-wheel, the combination, with the hub A, provided at its outer end with an inwardly-projecting shoulder *a'* and having holes through its body, the hub-sections G, having flanges *j*, and the headed studs H, passing loosely through the holes in said hub and screwing through holes in said flanges, of the tapering sleeves T inside said hub, bearing against the heads of said studs, the box E, passing through said sleeves, having an inner shoulder *e* abutting against the larger end of said sleeve and also having an outer shoulder *e'* abutting against the inner end of the hub, and a nut N, screwed on the outer end of said box against said shoulder on the hub, as and for the purpose set forth.

5. In a vehicle-wheel, the combination, with the hub A, having radial holes therethrough, of the hub-sections G, having flanges *j*, provided with threaded holes, the threaded studs H, having enlarged heads *h* and reduced and squared outer ends, said studs passing loosely through the holes in the hub and screwing through those in the flanges, and sleeves T inside said hub, bearing against the heads of said studs, as and for the purpose set forth.

6. In a vehicle-wheel, the combination, with the hub A, having holes therethrough, the hub-sections G, having flanges *j*, and the headed studs H, passing through said holes and flanges, of the two tapering sleeves T, the innermost sleeve having an elongation *t* at its outer end bearing against the larger end of the outermost sleeve, said sleeves abutting against the heads of said studs, the box E, passing through said sleeves and having a shoulder *e* abutting against the larger end of the innermost sleeve, and means for moving said box outwardly within the hub, as and for the purpose hereinbefore set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

GEORGE W. JONES.
F. F. GREEN.

Witnesses:

J. B. TAYLOR,
JNO. MCLANE.