

(No Model.)

J. L. RITTER.
VEHICLE WHEEL.

No. 333,162.

Patented Dec. 29, 1885.

Fig. 1.

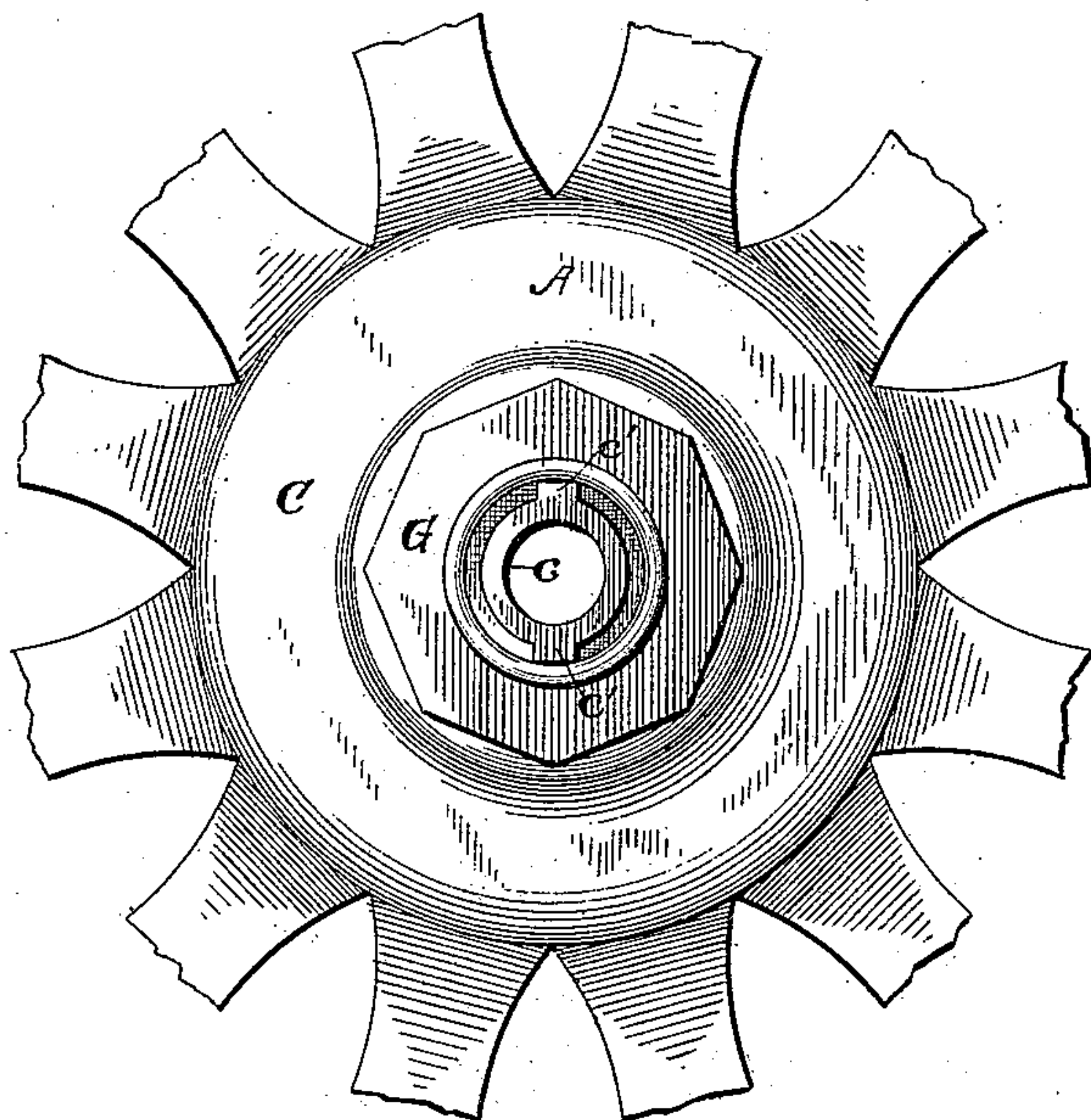


Fig. 2.

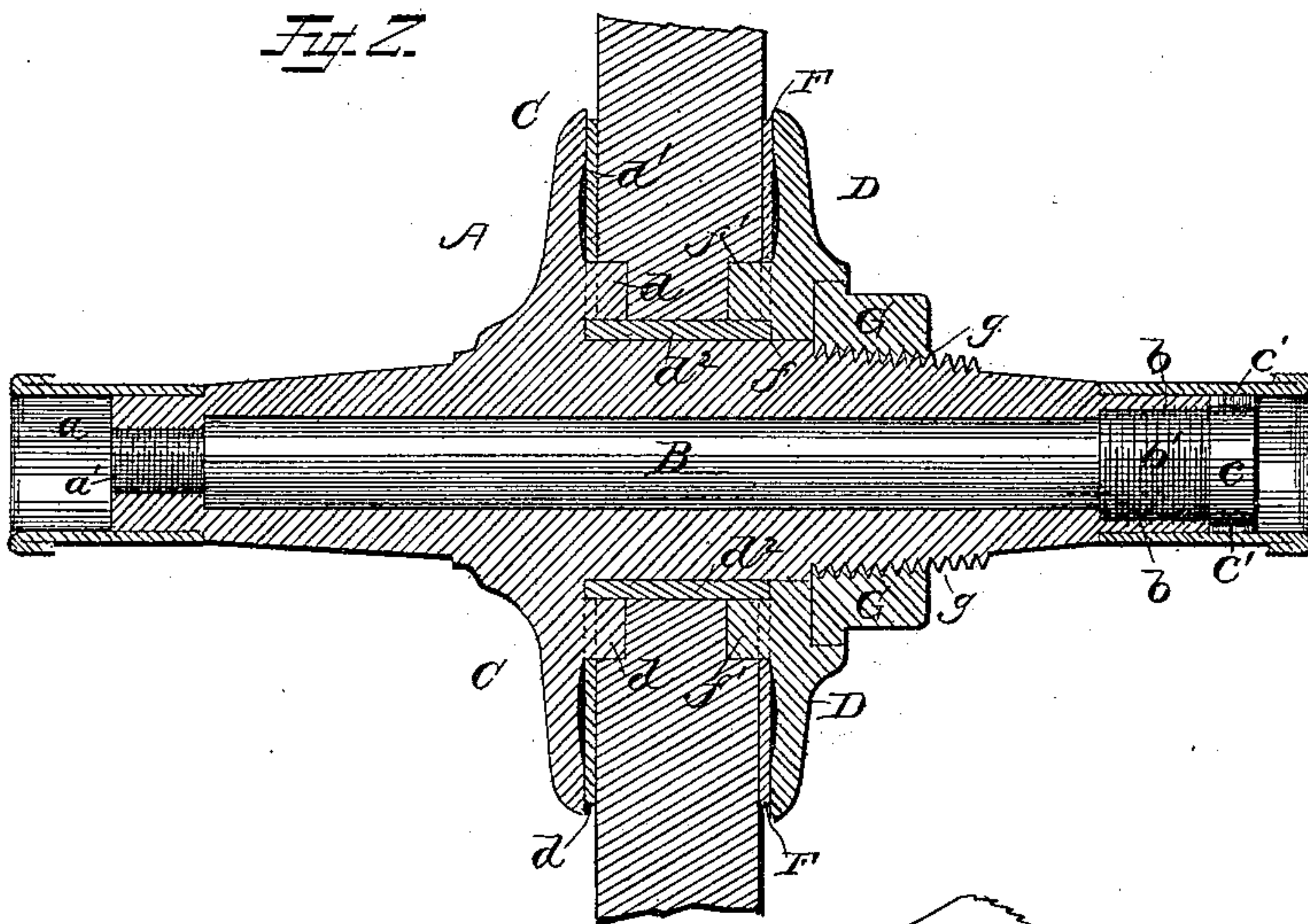
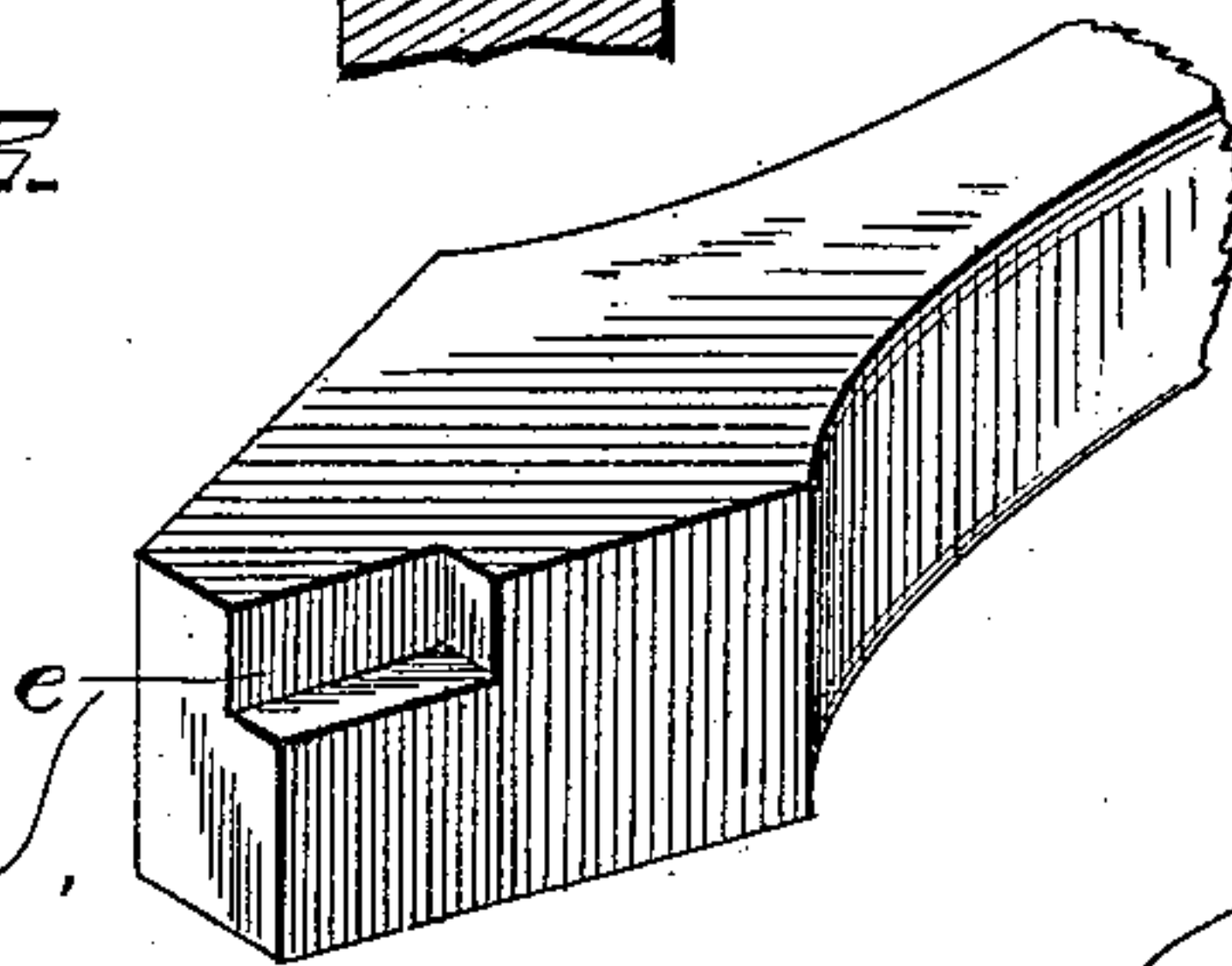


Fig. 3.



WITNESSES

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JEROME L. RITTER, OF LOYSVILLE, PENNSYLVANIA.

VEHICLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 333,162, dated December 29, 1885.

Application filed April 15, 1885. Serial No. 162,315. (No model.)

To all whom it may concern:

Be it known that I, JEROME L. RITTER, a citizen of the United States, residing at Loysville, in the county of Perry and State of Pennsylvania, have invented a new and useful Improvement in Vehicle-Wheels, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to vehicle-wheels; and it has for its objects, first, to provide improved means for removably securing the spokes to the hubs; second, to provide improved means for preventing the spokes from slipping or turning upon the hub; third, to provide elastic cushions for the confined sides and ends of the spokes; and, fourth, to provide a removable box or bushing adapted to be fitted in the hub and to receive the axle-spindle, and which will, should the box become heated, remain stationary and lock the wheel, thereby preventing the hub from becoming reamed out by said bushing turning within the hub.

A further object of the invention is to provide a vehicle-wheel embodying devices of the character above described which shall be simple in its construction, strong and durable, and thoroughly effective in use.

With these ends in view the invention consists in the construction and combinations of parts hereinafter fully described, and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a hub constructed in accordance with my invention, and showing the spokes applied thereto. Fig. 2 is a transverse vertical section, and Fig. 3 is a detail view of the lower end of one of the spokes.

In the accompanying drawings, in which like letters of reference indicate corresponding parts in all the figures, A represents the hub, which consists of a tubular metal cylinder, preferably malleable iron or cast-steel, having a contracted outer end, which is provided with interior threads *a*, while its other or inner end is also provided with interior threads *b*.

B represents a box or bushing, reduced at one end and exteriorly threaded, as at *a'*, to fit the contracted and threaded inner outer end of the hub. The inner end of the box or bushing B is provided with a shouldered por-

tion, *b'*, to engage the interiorly-threaded inner end of the hub, and said inner end of the box or bushing has a head, *c*, provided with outwardly-extending lugs *c'*, adapted to be engaged by a wrench when it is desired to remove the said box or bushing. By this construction it will be seen that should the box or bushing become heated it will not turn in the hub and wear or ream the same, but will lock the hub upon the said bushing or box. In the event that the box or bushing becomes heated the hub is removed by turning it backward. After the hub has been removed the box or bushing can be removed from the spindle, and the same lubricated, after which the box or bushing is placed in the hub and the same placed in position upon the spindle. It will also be seen that, by the construction of box or bushing before described, should the box or bushing become worn so as to be unfit for use, it may be easily removed and substituted by another.

C represents a flange which is formed integral with the hub A, and is adapted to bear against the outer sides of the spokes when the same are in position. This flange is provided on opposite sides of the hub A with inwardly-extending nibs or lugs *d*, for a purpose which will be explained, and fitted against the inner side of the said flange is a washer, *d'*, having an opening to receive the hub and slots to receive the nibs or lugs which project therethrough. The said washer is preferably of rubber, though I do not wish to be limited to the use of this material, as other elastic material might be used, and to an equal advantage. The said washer is preferably a little smaller in diameter than the flange upon the hub, so that it will not show above the same. Fitted upon the hub A, adjacent to the flange C, is an elastic collar, *d''*, preferably of rubber, said collar being about the same width as the lower ends of the spokes, which rest upon said elastic collar. Two or more of the spokes—in this case two—are provided at their lower ends with seats or recesses *e* to receive the inwardly-extending nibs or lugs of the flange C, so that when the spokes are secured in position all possibility of the hub revolving within the spokes will be prevented.

D represents a clamping-collar having a

central hole or opening, *f*, which is countersunk on its outer side; and upon the inner side of said collar are provided inwardly-extending lugs *f'*, which are adapted to fit recesses in the spokes, and thus prevent the collar from turning; and fitting against the inner side of the collar D is an elastic washer, F, having an opening for the passage of the hub, and slots for the passage of the lugs on the said collar D.

10 The hub A is exteriorly screw-threaded adjacent to the point occupied by the collar D, as shown at *g*, and adapted to engage said screw-threaded portion is a nut, G, which when tightened clamps the collar D against the spokes and holds the same firmly and securely in position, said collar having its inner end fitting in the countersink in the collar D. The nut G may, like the head on the end of the box or bushing, be provided with outwardly-extending lugs, so that it may be removed by a wrench.

It will be obvious that, by providing the elastic washers to bear against the sides of the spokes and the elastic collar on which the ends of the spokes bear, in passing over an obstruction the said collar will give, and that the elastic washers serve as springs for the sides of the lower ends of the spokes.

The collar D and rigid flange are provided with circumferential depressions midway their upper and lower ends, so that the spokes will only bear against the upper and lower ends of the flange and collar, thus preventing the spokes from rocking.

35 It will be seen that by the construction of wheel above described, should any of the spokes be broken, they may be easily removed and substituted by new ones.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a vehicle-wheel, the hub having the clamping-sections, and an elastic collar fitted on the hub between the sections, in combination with the spokes having seats or recesses at their inner ends, and lugs or projections provided on the clamping-sections and extending inwardly over the elastic collar, so as to be received by the recesses of the spokes, as set forth.

2. The hub A, having the rigid flange C, and exteriorly threaded at *g*, and the spokes, in combination with the clamping movable collar D, having a countersunk central opening, *f*, which is sufficiently large to allow the collar to slip over the threads *g*, and a nut, G, engaging with the latter and having its inner end enlarged, so as to be received in the countersunk portion of the opening *f*, as set forth.

3. In a wheel, the hub having the rigid flange C, in combination with the clamping-collar D, the binding-nut, the spokes, the elastic washers F, interposed between the sides of the spokes and the parts C D, and circumferential depressions provided in the flange C and collar D midway their upper and lower ends, in rear of washers F, for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JEROME L. RITTER.

Witnesses:

WM. A. LIGHTNER,
JOSIAH W. RICE.