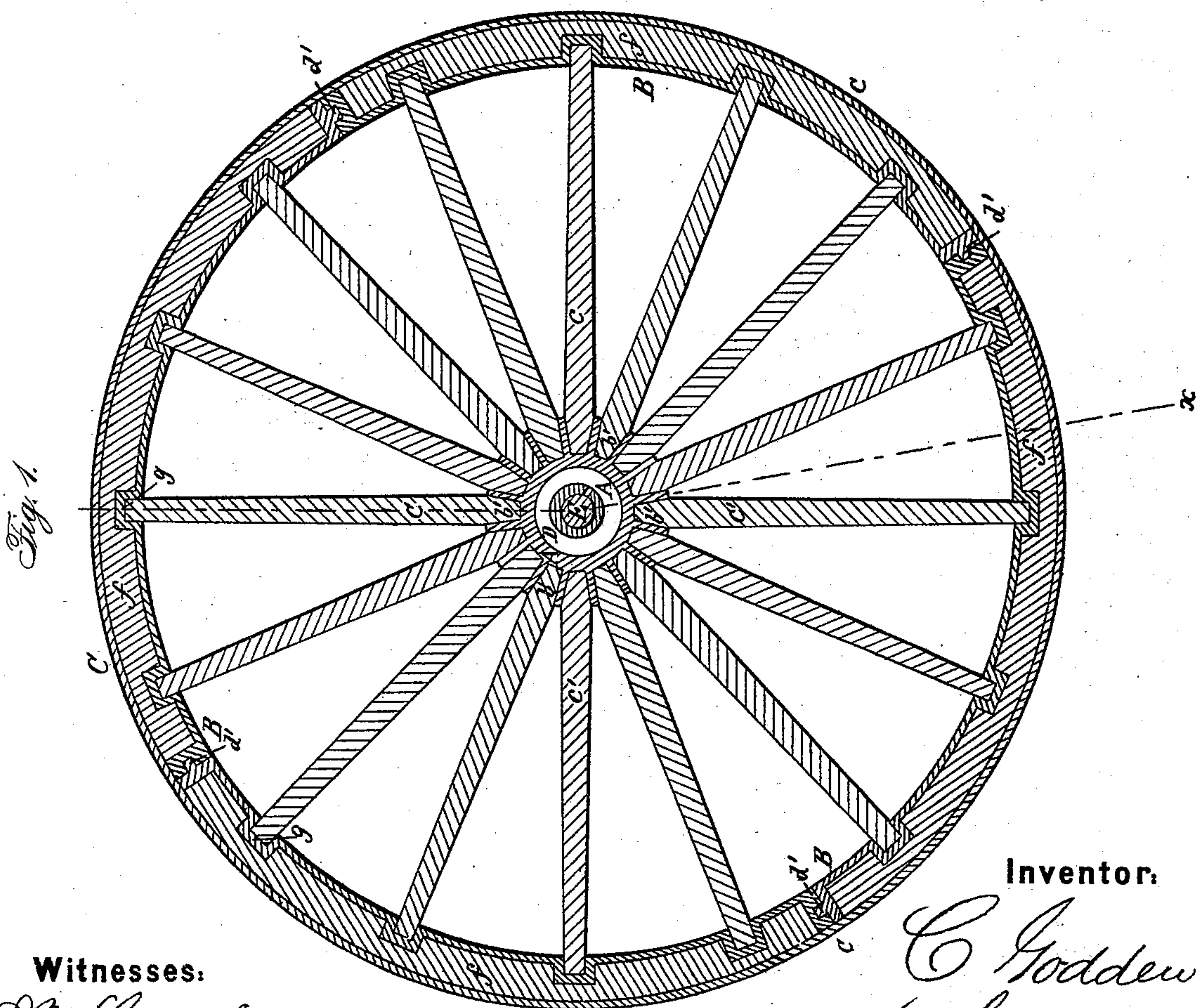
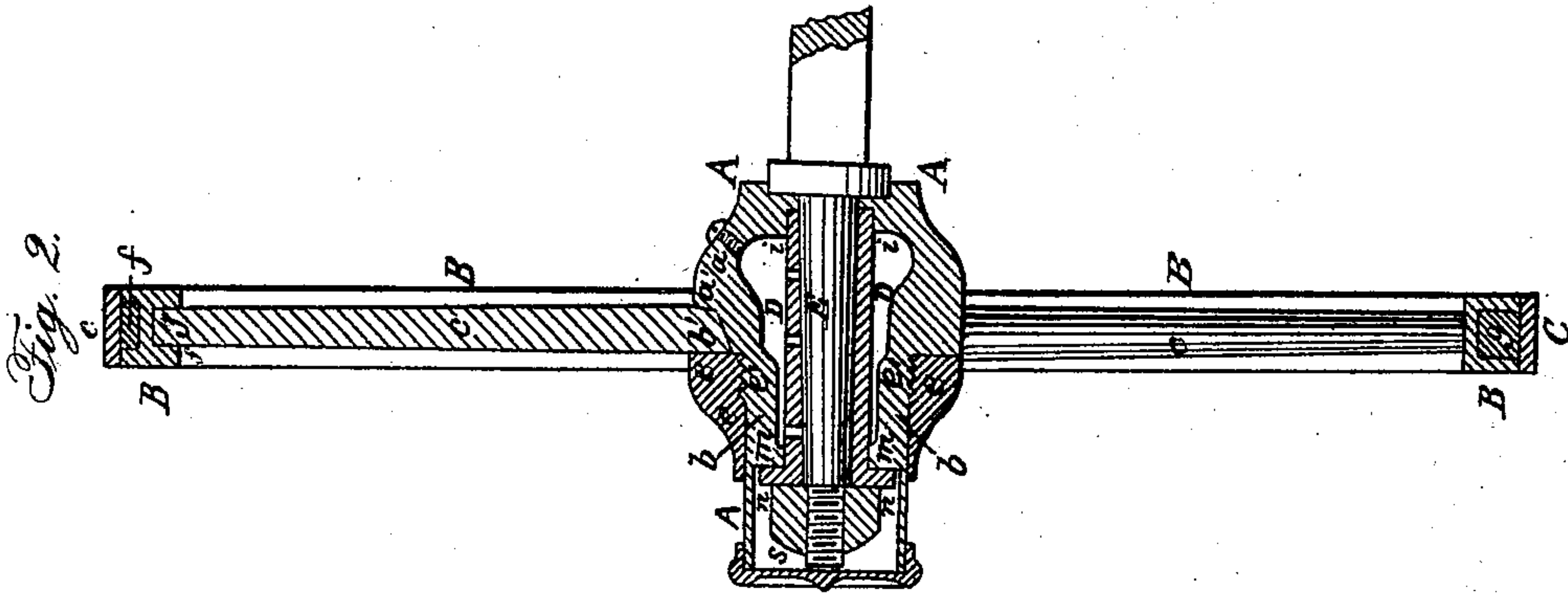


C. GODDEN.
Vehicle-Wheel.

No. 59,385.

Patented Nov. 6, 1866.



Witnesses:

J. W. Coombs,
G. W. Reed

Inventor:

C. Godden
per his attorney
Brown Coombs

UNITED STATES PATENT OFFICE

CHRISTOPHER GODDEN, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN WHEELS FOR VEHICLES.

Specification forming part of Letters Patent No. 59,385, dated November 6, 1866.

To all whom it may concern:

Be it known that I, CHRISTOPHER GODDEN, of Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Wheels for Vehicles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical section of a wagon or carriage wheel constructed according to my invention, and taken at right angles to the axle upon which it is situated. Fig. 2 is a transverse section of the same, taken in the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts in both figures.

The object of this invention is to enable the spokes of a carriage or other similar wheel to be easily and conveniently removed and replaced without removing the tire or felly from the same, so that new spokes may be readily substituted in the place of old ones or in the place of those broken or otherwise injured; also, to render such wheels stronger and more durable than those heretofore devised; and, furthermore, to provide for the more effective retention of the axle-boxes in their places than in the wheels in common use.

The invention consists in a novel construction of a wheel whereby these objects are effectually secured.

To enable others to understand the nature and construction of my invention, I will proceed to describe it with reference to the drawings.

The hub of the wheel is constructed with a hollow outer shell, A, which may be made of cast or malleable iron. The rearmost portion of this hub is enlarged, as shown at *a* in Fig. 2, in order that a concentric series of sockets or recesses, designed for the reception of the innermost ends of the spokes, may be formed in the front or outermost side of the said portion, the rearmost sides of the said sockets being closed by shoulders *a'*, and the bottoms thereof being made sloping or inclined, as shown at *b'*. The forward portion, *b*, of the shell A, or, in other words, that portion in

front of the sockets just described, may be of cylindrical form, and is furnished with a screw-thread, as shown at *c'* in the aforesaid Fig. 2. The innermost ends of the spokes *c* are placed in the sockets formed in the front side of the enlarged portion of the shell A, and are confined therein by means of a collar, *e*, which is fitted upon the screw-thread *c'*, as will be presently fully described.

B indicates the felly, which is intended to be made of malleable cast-iron or wrought-iron, and which is made of any desired number of sections united at their ends by projections *d'*, of which there is one formed upon one end of each section, and fitted into a suitable hole or recess formed in that end of the adjacent section in contact therewith, as shown in Fig. 1. A deep rectangular or other properly-shaped groove is formed in the outer side of each section of the felly B, and has fitted snugly into it a section of a wooden rim or filling, as shown at *f*, and outside of these wooden sections *f* and upon the circumference of the metallic felly B is fitted a tire, C, of wrought-iron or other suitable material. Formed in the inner circumference of the felly B, at suitable distances apart, are a number of recesses, *g*, which are designed to receive the outermost ends of the spokes *c*, the said outer ends of the spokes *c* being inserted in these recesses *g*, with their lower ends resting upon the inclined bottoms *b''* of the sockets formed (as hereinbefore set forth) in the shell A. The collar *e* is then screwed up toward the shoulders *a'*, and thus forces the inner ends of the spokes back upon the inclined bottoms *b'* of the sockets, so that the said spokes are forced outward longitudinally toward and against the felly B, and thus firmly brace the same, at the same time that the inner ends, being clasped between the collar *e* and the shoulders *a'*, are firmly and securely held in the said sockets, so that by these means a very strong and rigid construction of the wheel is secured, and, in consequence, the wheel is rendered much more durable and less liable to get out of order than those in which the spokes are secured in place in the usual manner, the additional advantage being also obtained that one or more spokes may be quickly and conveniently re-

moved or replaced for repairs or other purposes without necessitating the removal of either the tire or felly of the wheel.

D indicates the journal-box, which is situated longitudinally within the shell A, with its rear or innermost end supported in an annular recess, *i*, formed in the rearmost end of the aforesaid shell, around the opening through which the axle E is passed into the hub, while the outermost end of the said journal-box is fitted into an inwardly-projecting flange, *m*, formed upon the interior of the shell near the outer end thereof, there being, furthermore, an outwardly-projecting annular flange, *n*, formed upon the outermost end of the said journal-box D, which is fitted snugly against the outer side of the flange *m*, and firmly attached thereto by set-screws *r*, thus securely fastening the journal-box D in its place within the axle. The hub may be held upon the axle

E by a nut, *s*, or by any other suitable means. The space between the journal-box D and the shell A may be filled with oil or other lubricating material, which passes to the axle or journal E through small holes or orifices formed in one side of the aforesaid journal-box D.

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

1. The metallic felly B, furnished with a wooden rim or filling, in combination with the tire C, substantially as herein set forth, for the purpose specified.

2. The shell A, furnished with sockets having inclined bottoms, in combination with the collar *e*, substantially as herein set forth, for the purpose specified.

CHRISTOPHER GODDEN.

Witnesses:

THOS. THORP,
ISAAC MCGEE.