

(No Model.)

J. L. TUCKER.  
CAR WHEEL.

No. 320,986.

Patented June 30, 1885.

Fig. 1.

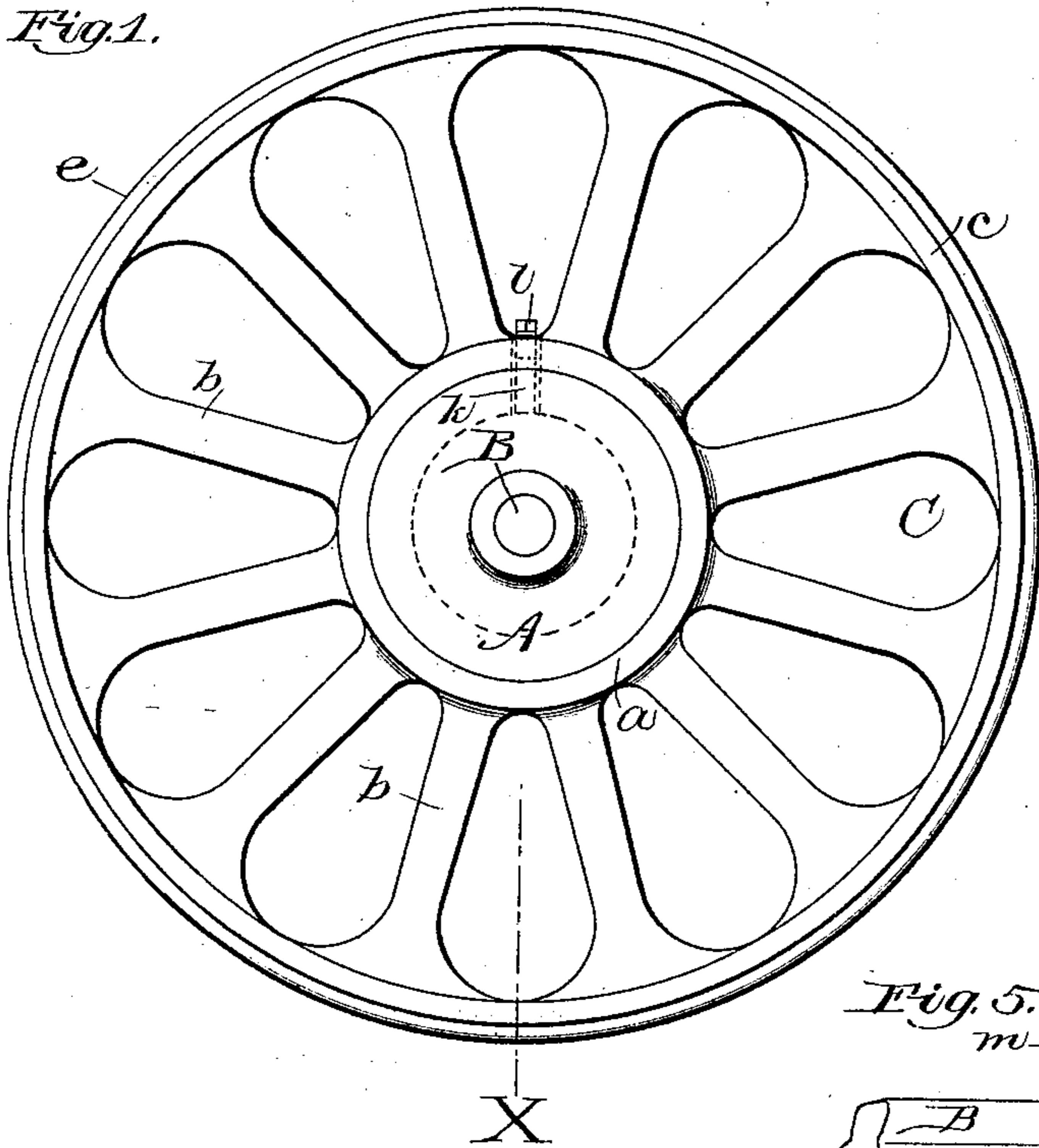
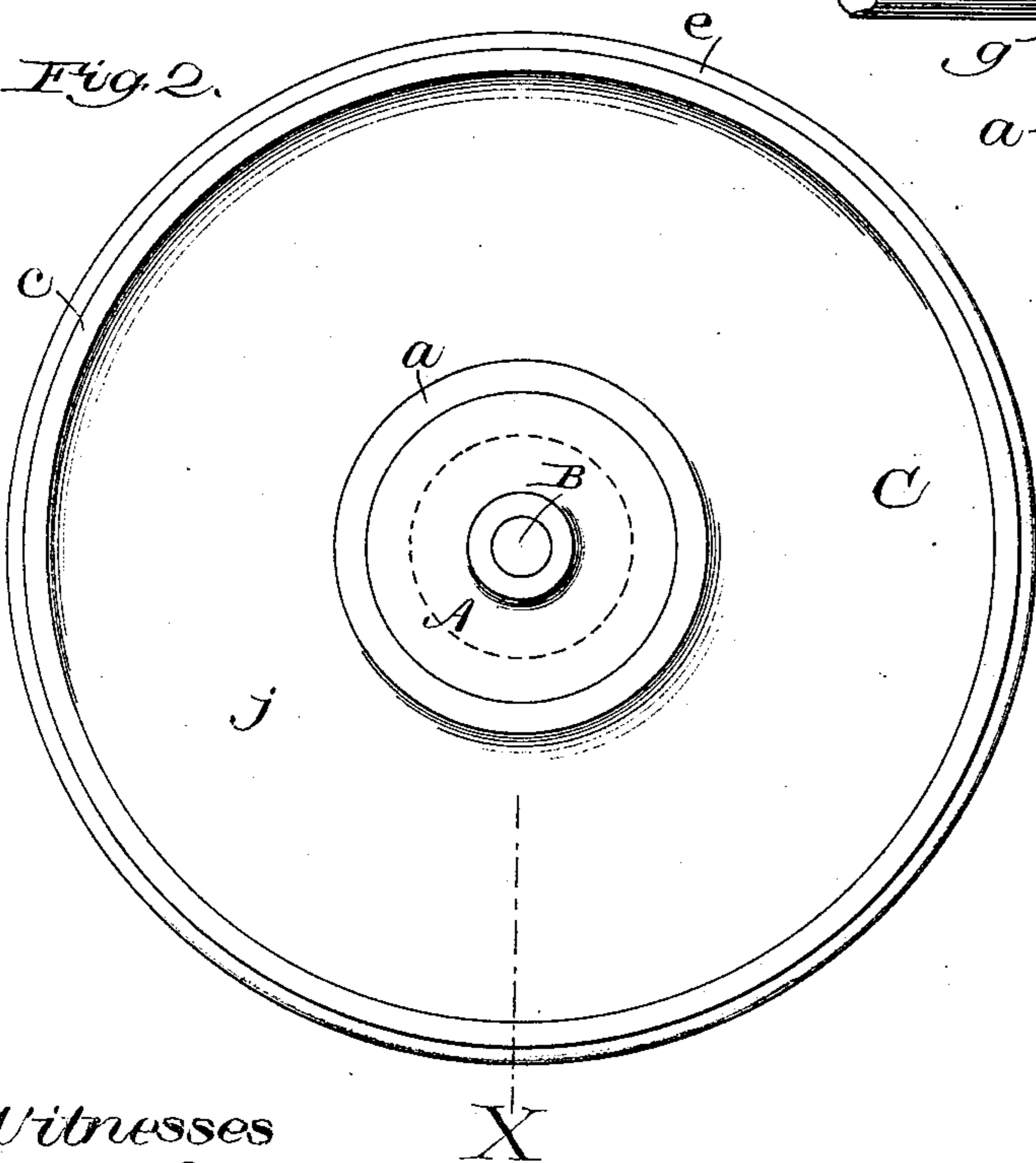


Fig. 2.



Witnesses

A. O. Orme  
O. B. Hall

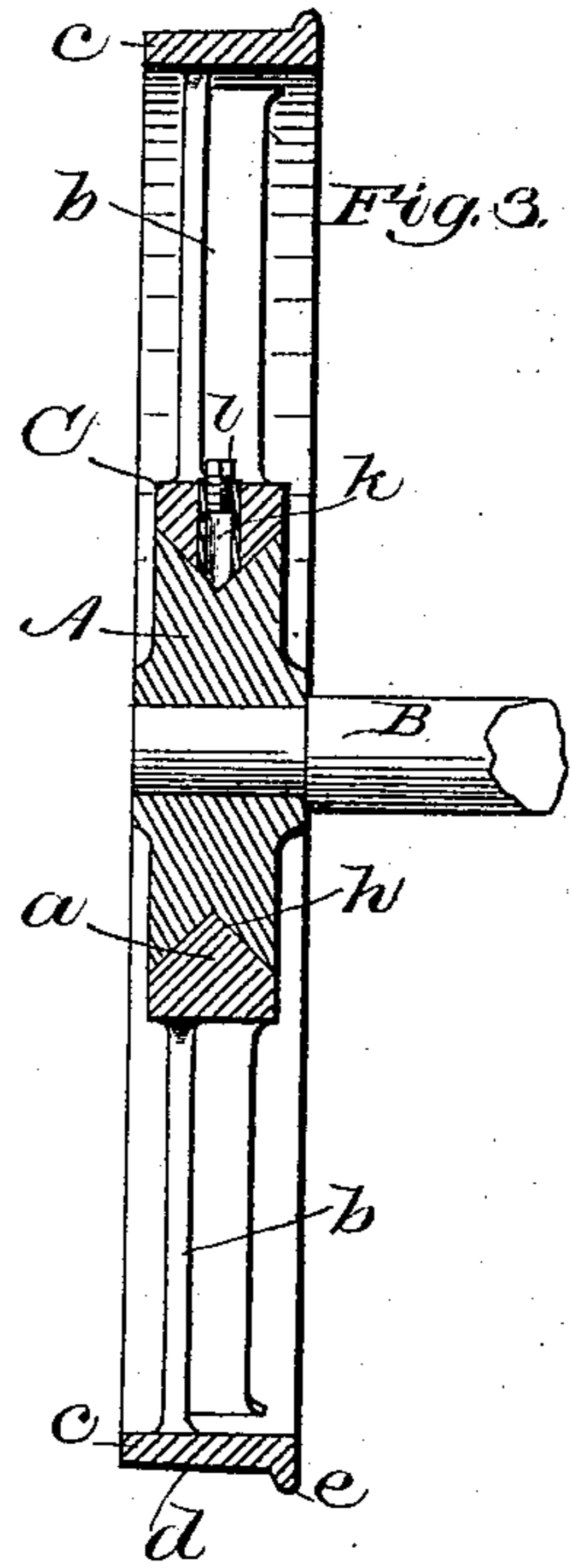
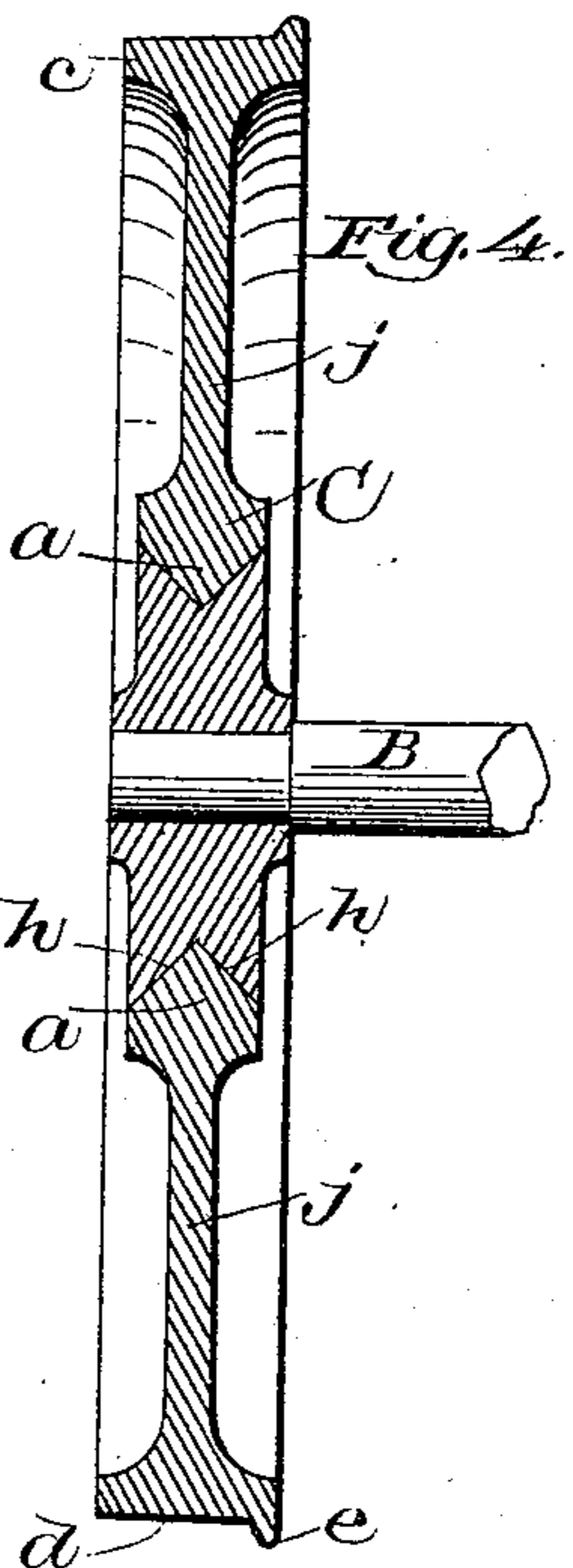
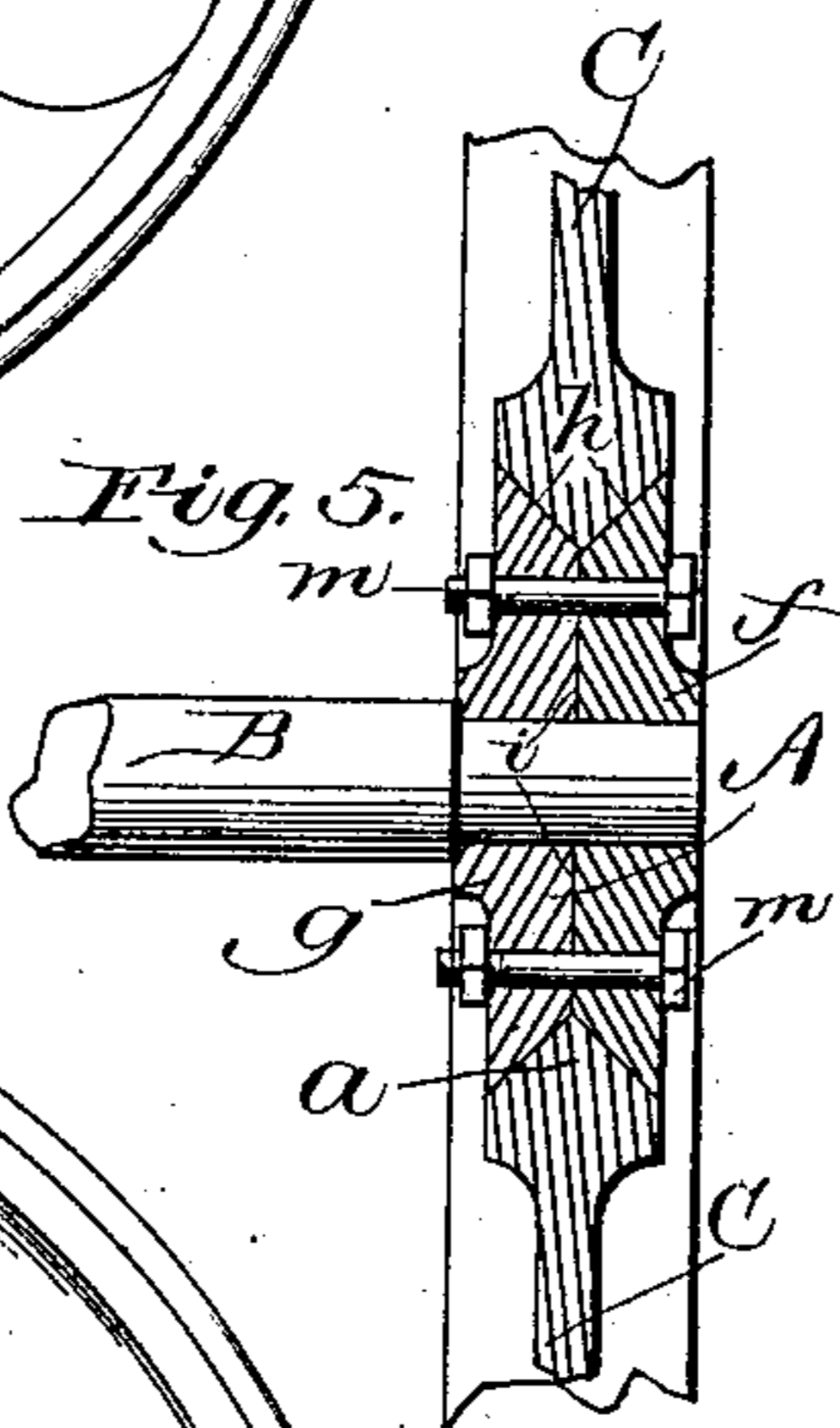


Fig. 5.



Inventor  
John L. Tucker  
per Porter & Hutchinson, Atty.

# UNITED STATES PATENT OFFICE.

JOHN L. TUCKER, OF CHELSEA, MASSACHUSETTS, ASSIGNOR OF ONE-HALF  
TO HIRAM A. FOSTER, OF SAME PLACE.

## CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 320,986, dated June 30, 1885.

Application filed March 28, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN L. TUCKER, of Chelsea, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Car-Wheels, which will, in connection with the accompanying drawings, be hereinafter fully described, and specifically defined in the appended claim.

This invention has for its object the production at low cost of a durable car-wheel, the hub of which may be rigidly secured to the axle, while the peripheral or outer portion has an orbital movement around the hub, as will, in connection with the accompanying drawings, be hereinafter fully described and particularly claimed.

In said drawings, Figure 1 is a side elevation of a "spoked" wheel embodying my invention. Fig. 2 is a similar view of a "flanged" wheel embodying my invention. Fig. 3 is a vertical section taken through Fig. 1 on line *x x*. Fig. 4 is a section taken through Fig. 2 on said line *x x*. Fig. 5 is a detached section taken as on the same line as Figs. 3, 4, but showing a modification of the hub shown in said Figs. 3 and 4.

In said views, A represents the central or hub portion of my wheel, and B is a portion of the axle. Said hub A is formed with a concentric peripheral groove having the retiring faces *h h*, the hub being cast within a correspondingly-formed iron ring, termed a "chill," to give endurance and solidity to said faces *h*. The outer portion of the wheel C may be formed with an interior band, *a*, fitting in the concentric groove in hub A, and the outer rim, *c*, having the "tread" or peripheral face *d* and guard *e*, the rims *a c* being united by spokes *b*, as shown in Figs. 1 and 3; or said part C may have the inner band, *a*, and outer rim, *c*, connected by a continuous web or flange, *j*, as shown in Figs. 2 and 4.

After hub A is formed part C is formed by casting it "in place" upon hub A in the manner well known to foundrymen, the hub acting as a chill to harden the faces of part C, which bear upon faces *h* of the hub.

Instead of forming hub A as an entirety, and then casting part C in place thereon, part A may be formed in two parts, divided at the conjunction of faces *h*, as at line *i*, as shown

in Fig. 5, and after the assembling of part C and the two halves of A the whole may be secured together by bolts, as shown at *m*; but I prefer to form hub A in one piece, as shown in Figs. 3, 4, and then cast part C in place therein, as the highest degree of simplicity, durability, and low cost is achieved thereby.

For the purpose of lubricating the meeting faces of sections A C when the wheel is spoked, I insert in rim *a* the tube *k*, Fig. 3, the inner end of which is beveled to correspond with the inclined faces of the sections, while it is closed by a screw-plug, *l*, as shown, and as the chilled faces of rim *a* preclude fitting tube *k* therein after casting said tube may be secured in position in the mold and the molten iron closed round it.

It will be obvious that faces *h* of hub A and the abutting faces of rim *a* may be reversed, so that faces *h* shall form a salient instead of a retiring angle, while the faces of rim *a* form a retiring angle, and that instead of a single flange, *j*, between rims *a* and *c* a double flange, with a chamber or space between them, may be employed in the well-known manner.

By forming my wheel in two concentric sections adapted to revolve independently of each other, the section C of two wheels whose hubs A are rigidly secured upon the same axle will, when moving on curved tracks, have different peripheral velocities, as the outer sections of each wheel will revolve upon the inner one to an extent to compensate for one-half the difference in the length of the rails, thereby avoiding the slipping of the wheels thereon, and the consequent wear and expenditure of force; but when moving on straight rails the sections A C will move together, as if constituting a single piece or casting.

I claim as my invention—

A car-wheel formed with an inner section, A, and outer section, C, one section being cast in place relatively to the other, and the two being interlocked by the act of casting, and so as to allow independent rotation of each, substantially as specified.

JOHN L. TUCKER.

Witnesses:

T. W. PORTER,  
HIRAM A. FOSTER.