

(No Model.)

2 Sheets—Sheet 1.

E. PECKHAM.

CAR WHEEL.

No. 356,885.

Patented Feb. 1, 1887.

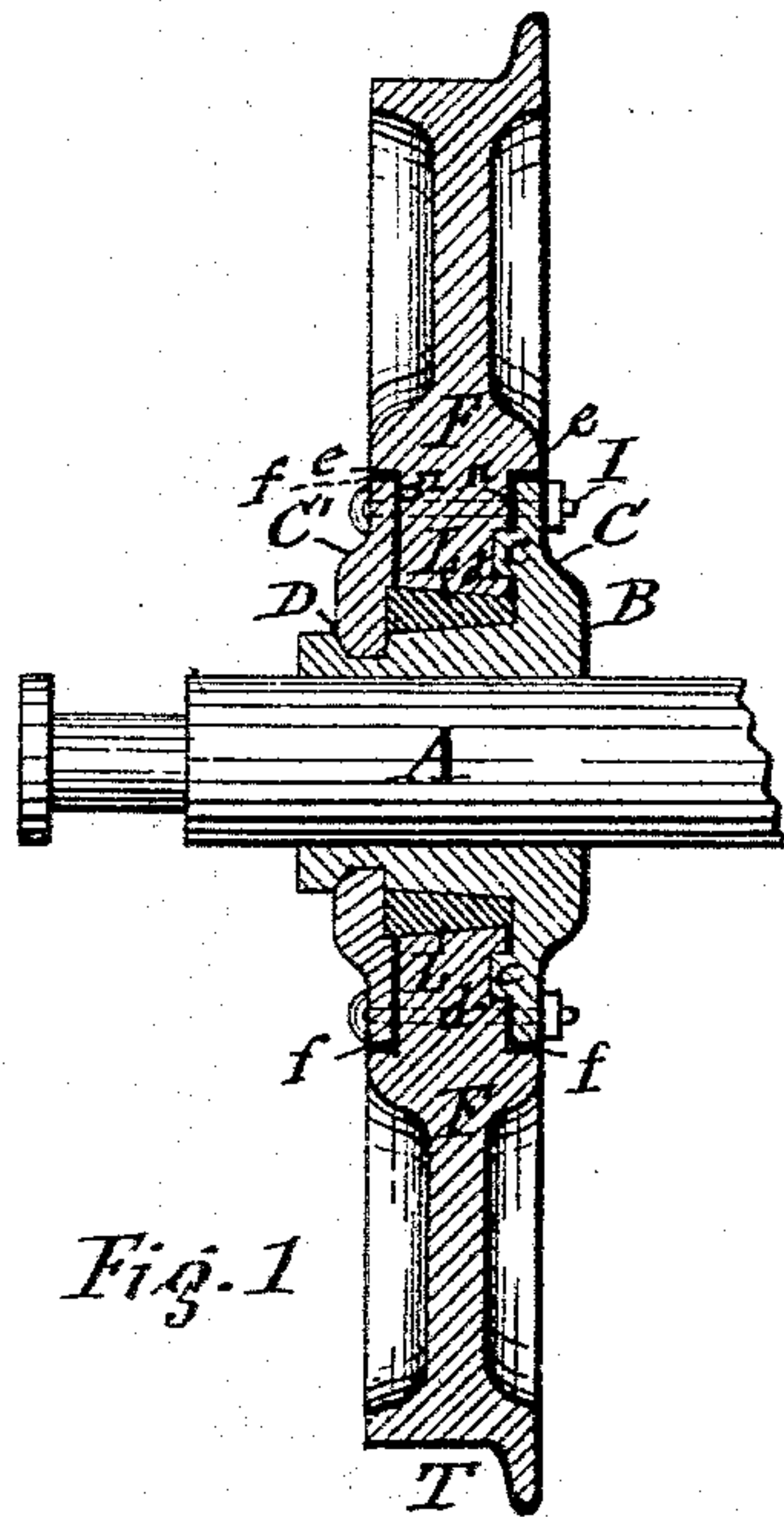


Fig. 1

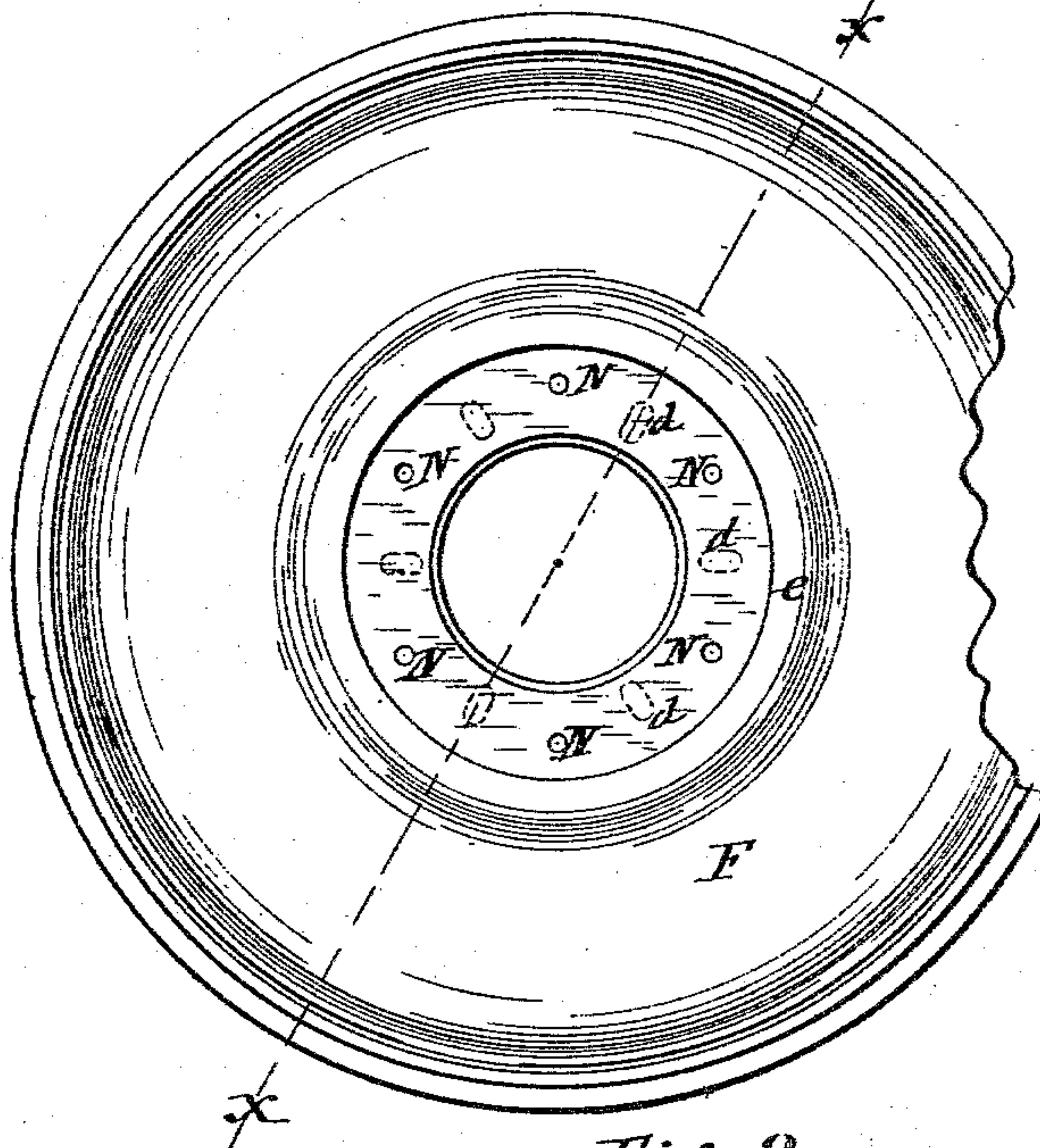


Fig. 2

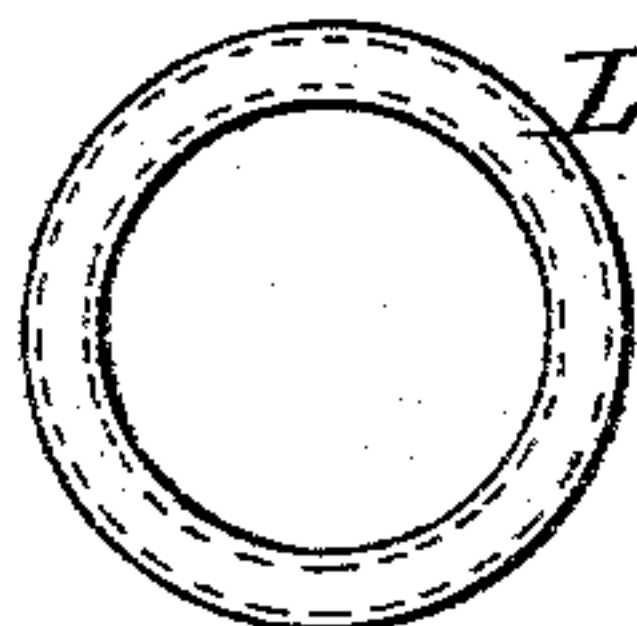


Fig. 4

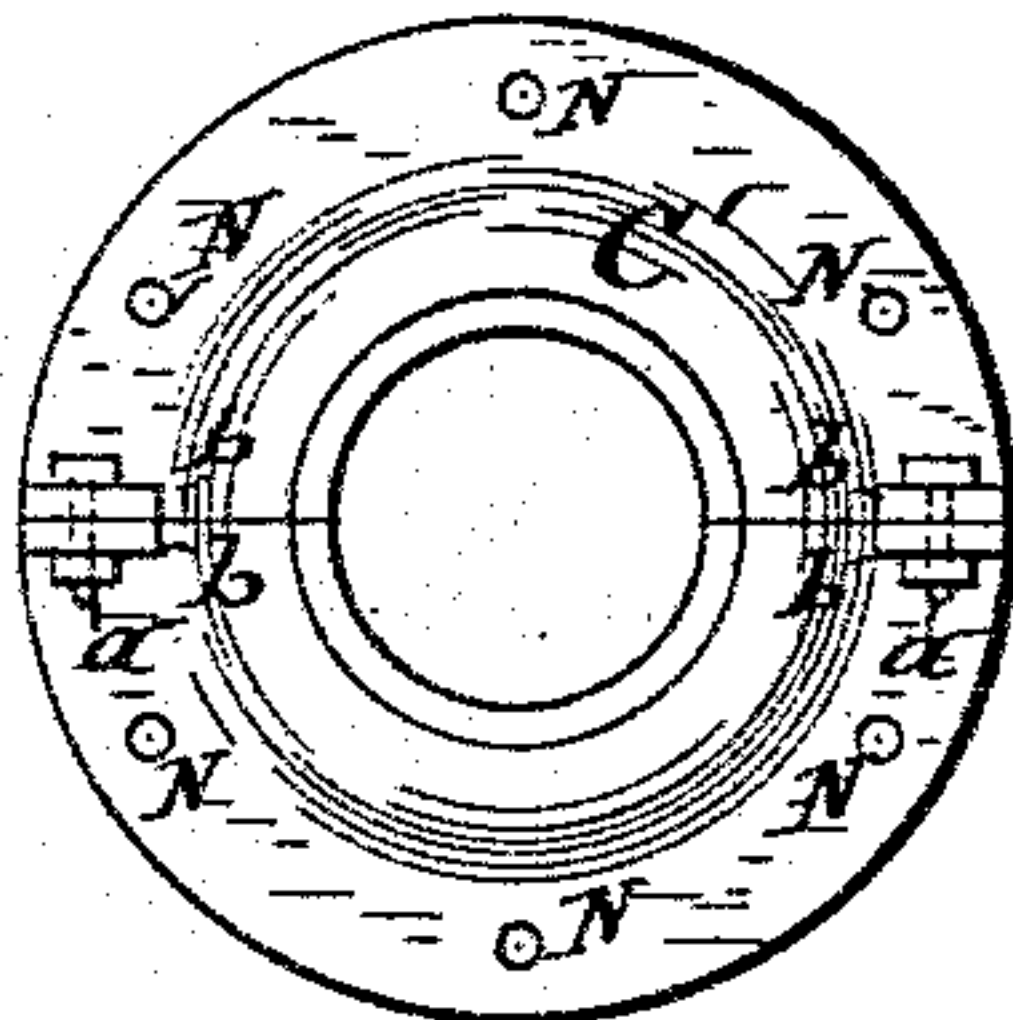


Fig. 5

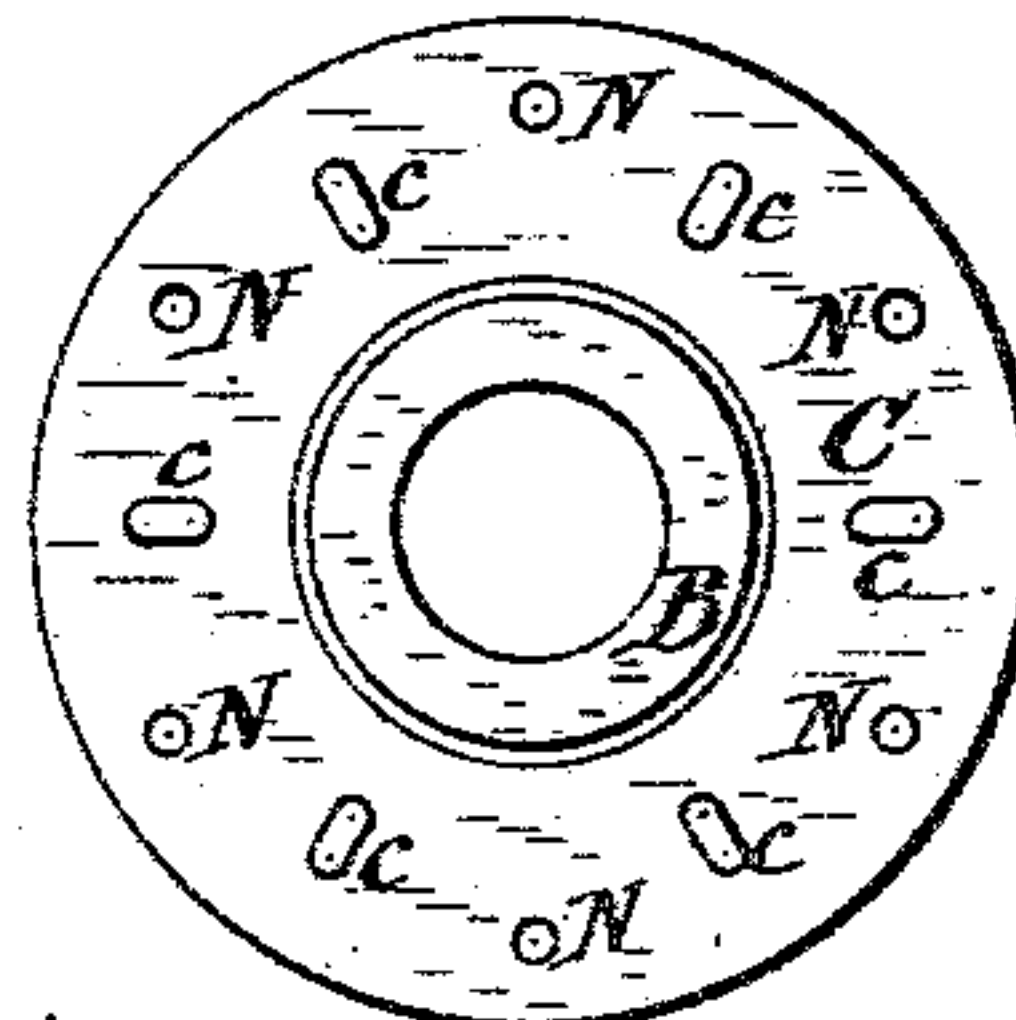


Fig. 3

WITNESSES

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E. C. Cannon

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Attys

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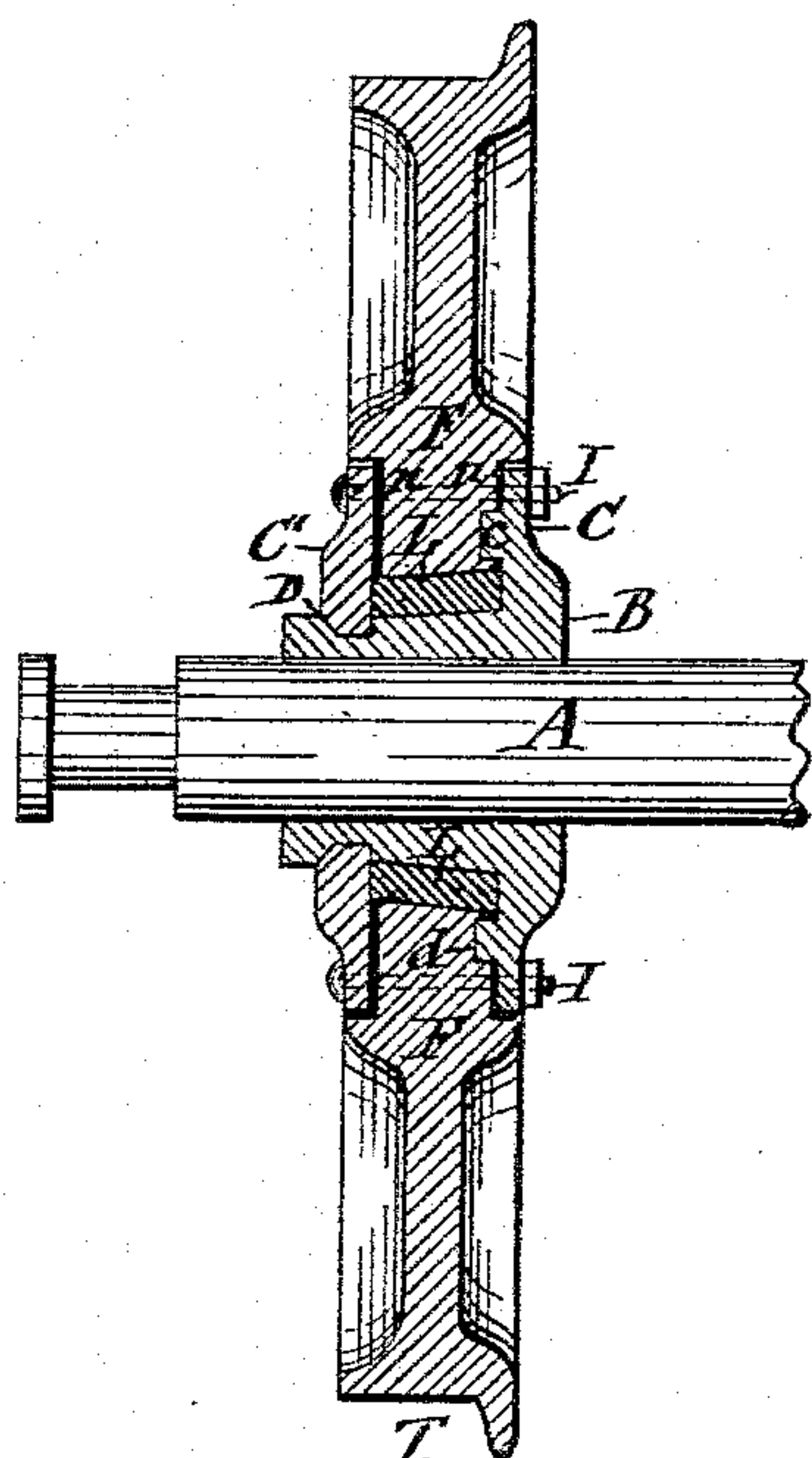


Fig. 6

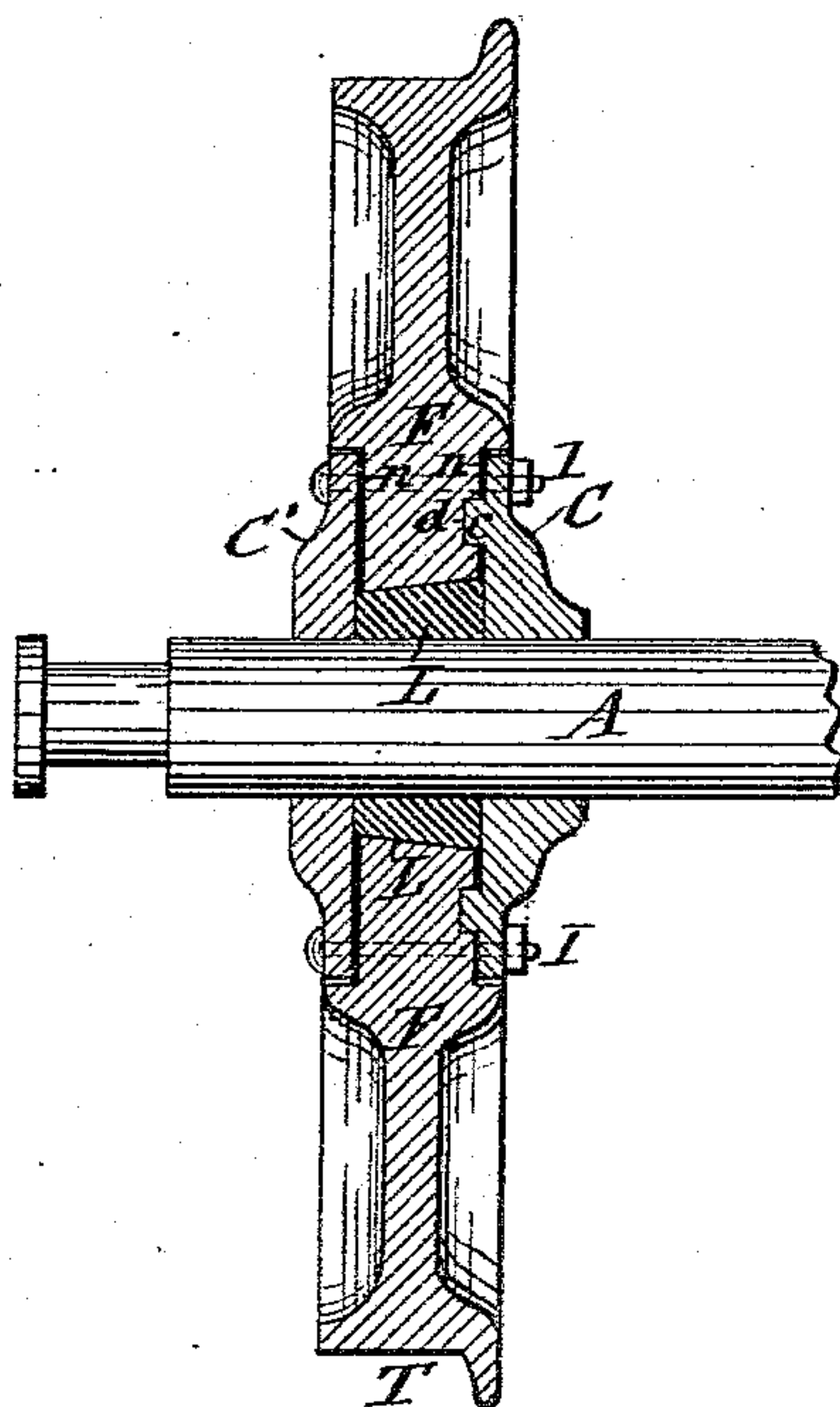


Fig. 7

WITNESSES

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# UNITED STATES PATENT OFFICE.

EDGAR PECKHAM, OF SYRACUSE, NEW YORK.

## CAR-WHEEL.

SPECIFICATION forming part of Letters Patent No. 356,835, dated February 1, 1887.

Application filed May 17, 1886. Serial No. 202,430. (No model.)

*To all whom it may concern:*

Be it known that I, EDGAR PECKHAM, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Car-Wheels, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in a novel construction of a car-wheel which possesses maximum stability, and at the same time is cushioned so as to protect its metallic parts from injury to the grain of the metal and to the integrity of the wheel incident to the jars it is subjected to when in use.

The invention is fully illustrated in the annexed drawings, wherein Figure 1 is a transverse section of a wheel embodying my improvements and taken on line *x x*, Fig. 2. Figs. 2, 3, 4, and 5 are detached face views, respectively, of the wheel-web, its hub, its cushion or lining, and detachable retaining collar; and Figs. 6 and 7 are transverse sections of wheels embodying modifications of my invention.

Similar letters of reference indicate corresponding parts.

A represents a car-axle of ordinary form.

B denotes the wheel-hub, which is composed of metal, and is rigidly attached to the axle either by pressing it thereon in the same manner as ordinary car-wheels are secured stationary on axles or in any other suitable and well-known manner. Said hub has on one of its ends, preferably the inner end, a collar, C, rigidly attached thereto or integral therewith, and thus also maintained stationary in its position in relation to the axle. The opposite or outer end of the hub is provided with a circumferential groove, D, the outer wall or shoulder of which is beveled, as shown in Fig. 1 of the drawings. In said groove is seated removably the collar C', which has a central eye the same or nearly the same diameter as the small diameter of the groove D, and has the outer face beveled around the end of the eye corresponding to the bevel of the groove.

In order to permit of seating the collar C' in the groove D, I divide said collar diamet-

rically and clamp the two sections together by bolts passing through ears *b b* on said sections, as illustrated in Fig. 5 of the drawings.

F represents a metallic web of the wheel, and T the tread, which latter may be formed directly on the periphery of the aforesaid web, or consist of a tire secured to the web. This metallic web is secured between the two collars C C' by removing the outer collar, C', then slipping the web F by its central eye onto the hub, and bringing said web to rest against the inner collar, C, then placing the sections of the outer collar into the groove D, and tying said sections together by the bolts *a a*. In the latter operation the collar-sections are drawn tightly into the groove D, and the beveled outer shoulder thereof crowds the collar toward the web F, so as to clamp the latter between the two collars C C'. This clamping of the web in its position I re-enforce by means of bolts I I, passing through holes N N provided in the two collars and intervening web, and by nuts on the ends of said bolts.

The central eye of the web F, I make of a sufficiently greater diameter than the portion of the hub which it surrounds, to permit of inserting between them a cushion or lining, L, of paper, wood, or other suitable fibrous material, which is pressed into tubular shape and inserted endwise between the eye of the web and hub, so as to be concentric with the axis of the wheel.

The internal and external diameters of the cushion L correspond, respectively, to the diameters of the hub and of the eye of the web F, so that when pressed into its requisite position it fits as closely as possible to said parts and forms an eye of fibrous material in the metallic web of the wheel.

In order to more effectually insure the close fitting of the cushion to the hub and to the eye of the web, I taper said parts longitudinally. The taper of the hub is outward, and the taper of the eye of the web may be either inward, as represented in Fig. 1 of the drawings, or outward, as shown in Fig. 6 of the drawings, and the taper of the cushion L is to be made correspondingly. When tapered, as shown in Fig. 1 of the drawings, the cushion L is to be in-



serted in the eye of the web F before applying the latter to the hub, and the cushion may be pressed and formed in the said eye to be rigidly secured thereto, and thus wheel-webs  
5 formed with fibrous or cushioned eyes may be furnished to the trade ready to be applied to axles equipped with hubs B.

The web, with its cushion L, can be pressed onto the hub by means of a wheel-press similar to those now employed for pressing car-wheels onto axles, or by other suitable appliances.  
10

When the aforesaid parts are tapered, as shown in Fig. 6 of the drawings, the cushion  
15 may be first pressed onto the hub and then the web pressed onto the cushion.

The metallic eye of the web may be formed square or octagon or other polygonal shape in cross-section, or may be provided with mortises or indentations in its interior, if desired,  
20 to more effectually lock the cushion therein.

By placing a lining, *n*, of paper or analogous material between the sides of the web F and adjacent sides of the two collars C C', I obtain  
25 perfect bearings between said parts without the necessity of planing or otherwise cutting and fitting the surfaces thereof.

To prevent the web F from turning on the hub without subjecting the bolts I I to shearing strain, I provide the outer face of the rigid collar C and adjacent side of the web F with interlocking projections or lugs *c c* and corresponding indentations or mortises, *d d*, the engagement of which parts compels the hub to  
30 rotate with the web and relieves the bolts I I of the shearing strain.

The bolt-holes through the web should be made large enough to leave spaces around the bolts, and, if desired, rubber sleeves may be  
40 slipped onto the bolts. The sides of the web F, I prefer to provide with annular projections or shoulders *e e*, which overlap the edges of the collars C C', so as to form supplemental bearings between the web and hub; and, if desired,  
45 a suitable lining, *f*, may be applied to said bearings.

I do not wish to confine myself to the employment of the hub B, inasmuch as the cushion or lining L may be applied directly to the  
50 axle A, as represented in Fig. 7 of the drawings; but in either case I employ the rigid collar C and removable collar C' at opposite sides of the web F, and lock the web on the rigid collar by interlocking projections and indentations on the adjacent sides of said parts.  
55

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

1. In combination with the axle, a metallic  
60 hub formed with an axial bearing in one piece, a cushion encompassing said hub, a metallic web mounted on said cushion, a collar on one end of the hub and a collar detachably con-

nected to the opposite end of the hub, and bolts for securing the detachable collar on the  
65 hub, substantially as set forth.

2. In a car-wheel, the combination of a metallic hub and a metallic web, and a cushion tapered longitudinally and inserted endwise into the space between the eye of the web and the  
70 hub, substantially as set forth.

3. In a car-wheel, the combination of a metallic hub, a cushion encircling said hub, a rigid collar on the end of said hub, a metallic web seated on said cushion, and the adjacent sides  
75 of said collar and web formed with interlocking projections and indentations, substantially as and for the purpose set forth.

4. In a car-wheel, the combination of a metallic hub, a rigid collar on one end of said hub,  
80 a collar detachably connected to the opposite end of the hub, a cushion encircling the said hub between the collars, a metallic web seated on the cushion, interlocking projections and indentations on the adjacent sides of the rigid  
85 collar and web, and bolts for clamping the detachable collar on the web, all constructed and combined substantially as set forth.

5. In a car-wheel, the combination of a hub, collars secured to opposite ends of said hub,  
90 and a web secured between said collars and provided on its sides with shoulders projecting over the edges of the collars, substantially as described and shown.

6. In a car-wheel, the combination of a metallic hub, collars secured to opposite ends of said  
95 hub, a cushion encircling the hub between the collars, and a metallic web seated on said cushion and provided on its sides with shoulders projecting over the edges of the collars, sub-  
100 stantially as described and shown.

7. In a car-wheel, the combination of a metallic hub, a rigid collar on the inner end of said  
105 hub provided with projections on its outer face, a circumferential groove in the outer end of the hub and having its shoulder beveled, a diametrically-divided collar having an eye corresponding to the aforesaid groove, a cushion encircling the hub between the two collars, a metallic web seated on said cushion and pro-  
110 vided at the side adjacent to the rigid collar with recesses corresponding to the projections of said collar, and clamping-bolts passing through the two collars and intervening web, all constructed and combined substantially in  
115 the manner specified and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York,  
120 this 13th day of May, 1886.

EDGAR PECKHAM. [L. S.]

Witnesses:

FREDERICK H. GIBBS,  
E. C. CANNON.