(No Model.)

J. T. CARMODY.

PULLEY.

No. 453,075. Patented May 26, 1891.

Fig. 1.

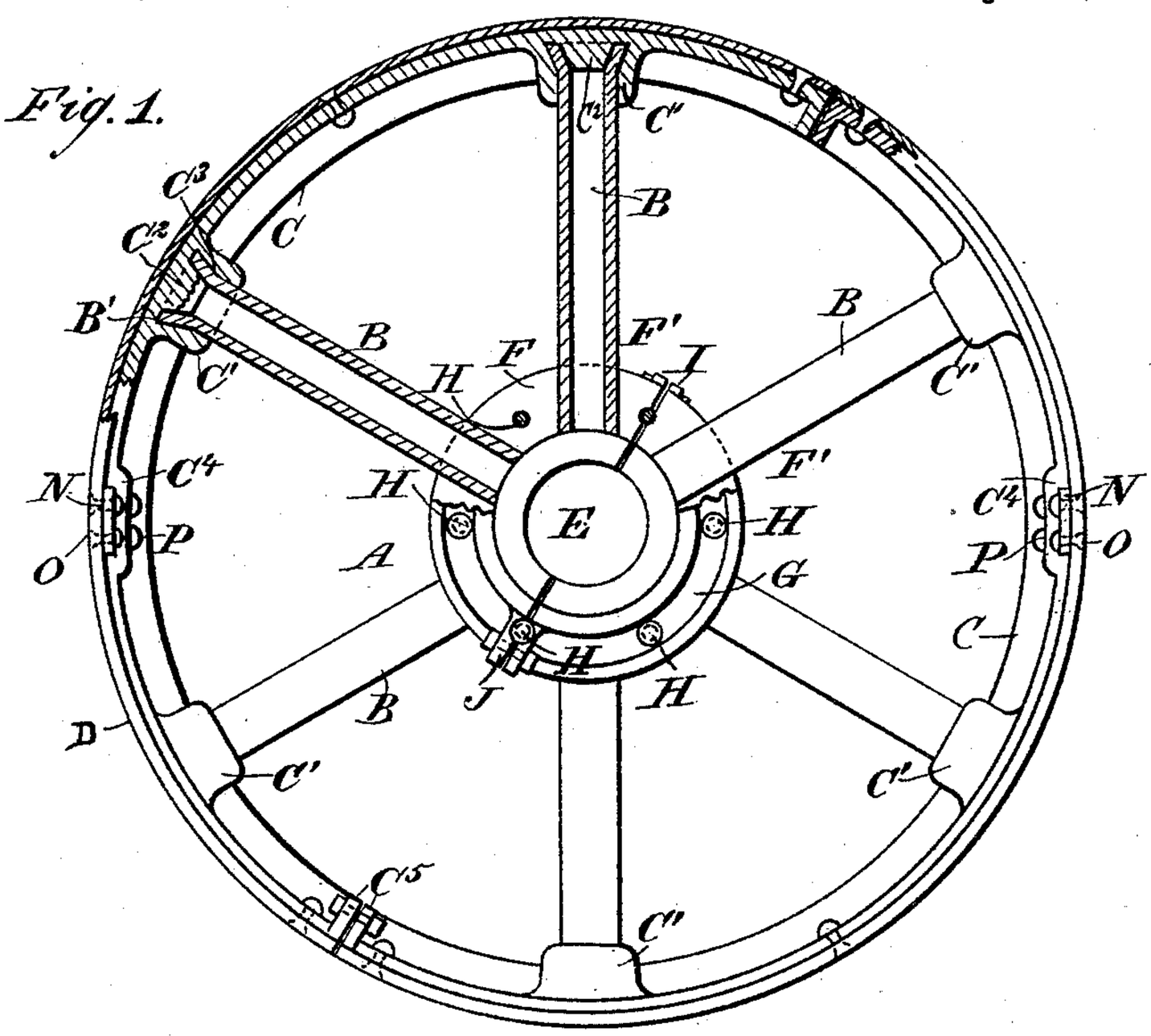

Fig. 2.

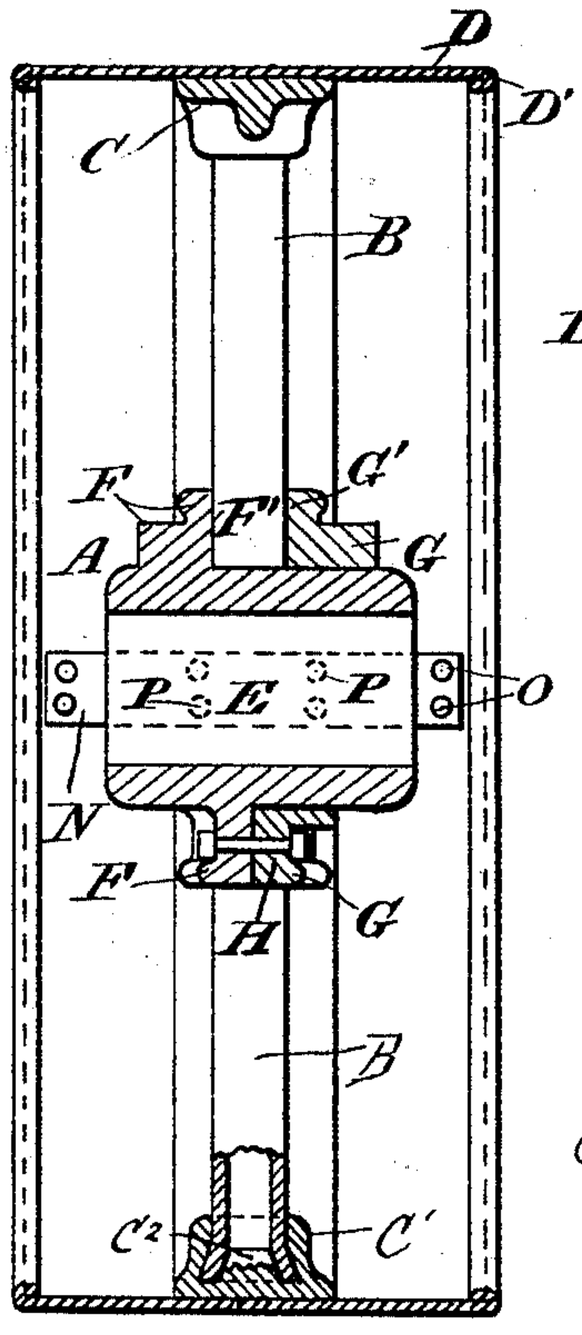

Fig. 4.

Fig. 3.

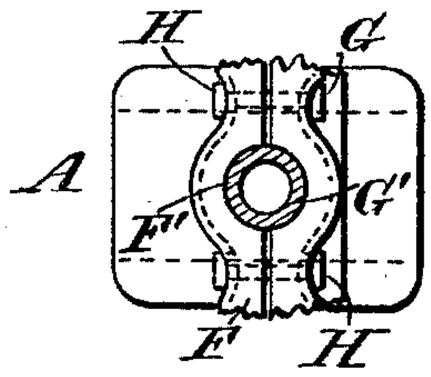

Fig. 5.

Fig. 6.

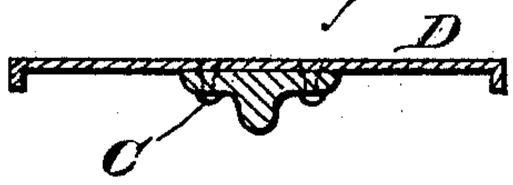

Fig. 7.

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UNITED STATES PATENT OFFICE.

JOHN T. CARMODY, OF CEDAR RAPIDS, IOWA, ASSIGNOR OF ONE-FOURTH TO D. C. H. ROSS, OF SAME PLACE.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 453,075, dated May 26, 1891.

Application filed January 3, 1891. Serial No. 376,566. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. CARMODY, of Cedar Rapids, in the county of Linn and State of Iowa, have invented a new and Improved Pulley, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved pulley which is simple and durable in construction, evenly balanced, and adapted to be constructed as a solid or a split pulley.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a face view of the improvement with parts in section. Fig. 2 is a transverse section of the same. Fig. 3 is a plan view of part of the hub with one of the spokes in section. Fig. 4 is a cross-section of the spider-ring. Fig. 5 is a cross-section of modified form of the pulley-rim; and Figs. 6 and 7 are sections of old forms of rims.

The improved pulley is provided with a hub A and spokes B, clamped at their inner ends on the hub A and connected at their outer ends to a spider-ring C, supporting the pulley-rim D. The hub A is made in two ring-sections, of which one is formed with the bore E and with an exterior annular flange F, opposite which is arranged a ring G, adapted to be fastened by bolts H or other means to the flange F. The latter and the flange G are provided with recesses F′ and G′, arranged opposite each other, so as to form an opening or recess corresponding to the shape of the inner end of the respective spoke B. It is understood that the recesses F′ G′ correspond in number with the number of spokes employed.

When the pulley is to be used as a split pulley, the hub A and its ring-section G are diametrically divided, and both are provided with suitable lugs I and J, respectively, for fastening the parts together at the split joint. Bolts or other suitable means pass through the lugs I and J to fasten the parts together.

The outer ends of the spokes B are fitted into and fastened to circular lugs C′, formed on the inside of the spider-ring C. The outer ends of the spokes may also be passed against the truncated cone C^2, formed concentric in the opening of the lug C′, so that when the tubular spoke is driven into the lug C′ the ends flare outward when coming in contact with the truncated cone C^2 to pass into an annular cone-shaped opening C^3 in the bottom of the lug C′.

The rim D is secured by rivets or other suitable means to the spider-ring C, as is plainly shown in the drawings. In addition, however, the spider-ring C is provided at diametrically-opposite points with interior lugs C^4, each formed with a transverse groove engaged by a plate N, riveted to the lugs C^4 by rivets P, and fastened at its outer ends by rivets O to the inside of the pulley-ring D. (See Figs. 1 and 2.) In case the pulley is used as a split pulley, the spider-ring C and the rim D are divided in line with the split in the hub, and on the ends of the split sections of the ring C are formed lugs C^5, connected with each other by suitable bolts in the usual manner. (See Fig. 1.) The spider-ring is preferably made T-shaped in cross-section, as is plainly shown in Fig. 4, while the edges of the rim D are bent inward toward each other parallel with its face, as shown at D′ on the said edges, or may be bent over rings D^2, as illustrated in Fig. 5.

It is understood that the outer ends of the spokes do not come in contact with the rim D, but terminate a suitable distance inside of the same, as is plainly illustrated in Fig. 1. A pulley made in this manner is very strong and durable and equally balanced. It is, further, readily adapted to be constructed as a solid pulley or as a split pulley, as described above.

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

1. A pulley comprising a hub, spokes, or arms, a ring T-shaped in cross-section connecting the outer ends of the spokes or arms and having transverse recesses across its outer face, strengthening lugs C^4 on the inner face of the ring at said recessed portions,

transverse plates N, riveted in said recesses and projecting at their ends therebeyond, and the rim D, encircling said ring and riveted to the ends of the said transverse plates, substantially as set forth.

2. A split pulley comprising a hub formed of the divided hub proper A, having the bore E and integral external flange F, provided on its inner face with recesses F′ and at its ends with abutting pairs of apertured lugs I, bolted together, the ring-section G, in two parts, fitting upon the hub parallel with flange F and having recesses G′ on its inner face and apertured abutting lugs J at its ends, bolted together, the spokes or arms seated in the recesses, and the divided ring and rim secured together and to the outer ends of the spokes, substantially as set forth.

3. A pulley-ring having a spoke-socket C′, provided with a central internal truncated cone C^2, and the annular conical opening in the bottom of the socket around the said cone, substantially as set forth.

4. The combination, with the pulley-ring having a spoke-socket C′, provided with a central truncated cone C^2, and the annular conical opening in the bottom of the socket around the cone, of the tubular spoke or arm expanded at its outer end into said conical opening by the said cone, substantially as set forth.

JOHN T. CARMODY.

Witnesses:
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