

(No Model.)

P. PEARTREE.
FRICTION PULLEY.

No. 305,842.

Patented Sept. 30, 1884.

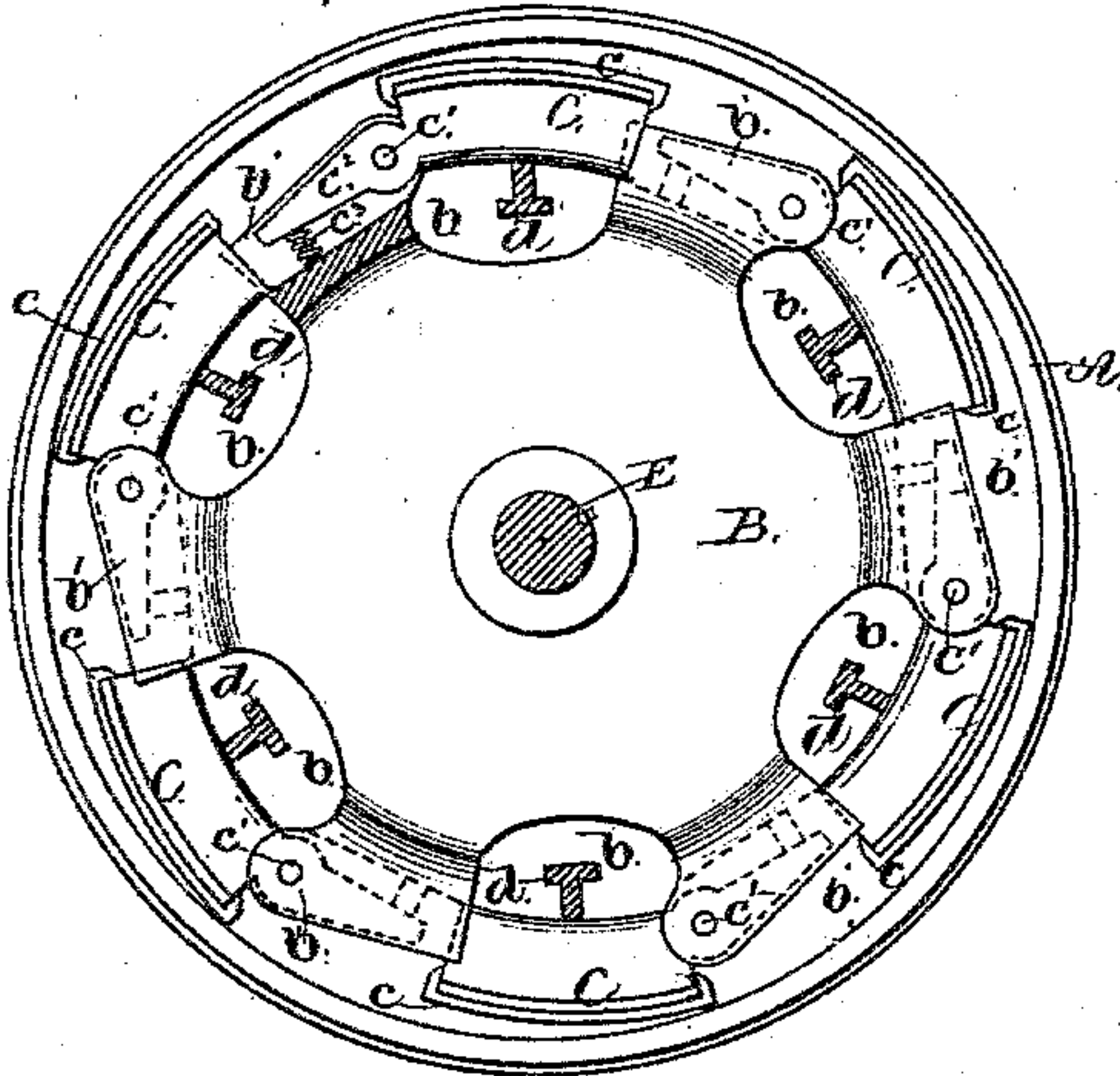


FIG. 1.

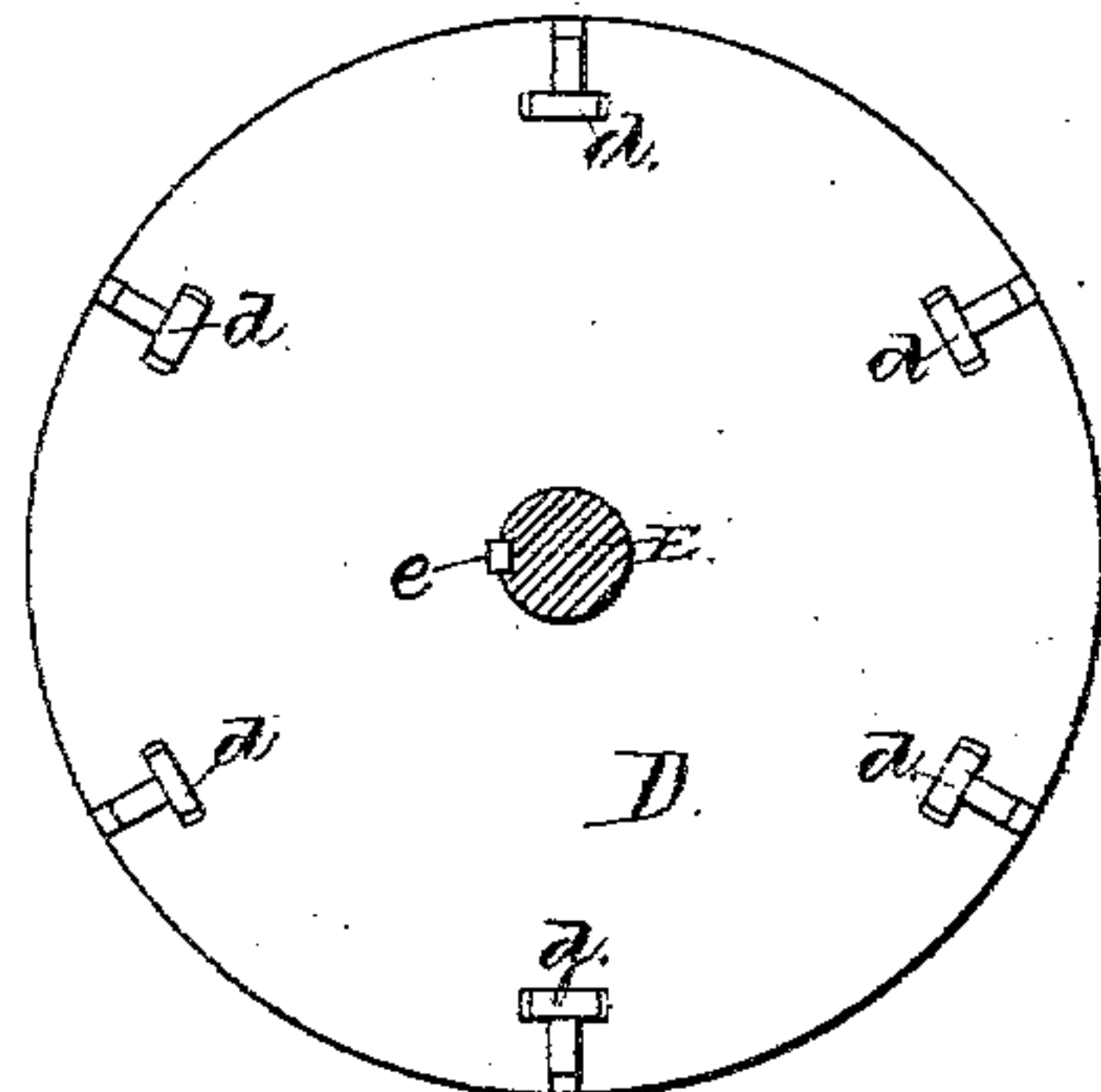


FIG. 2.

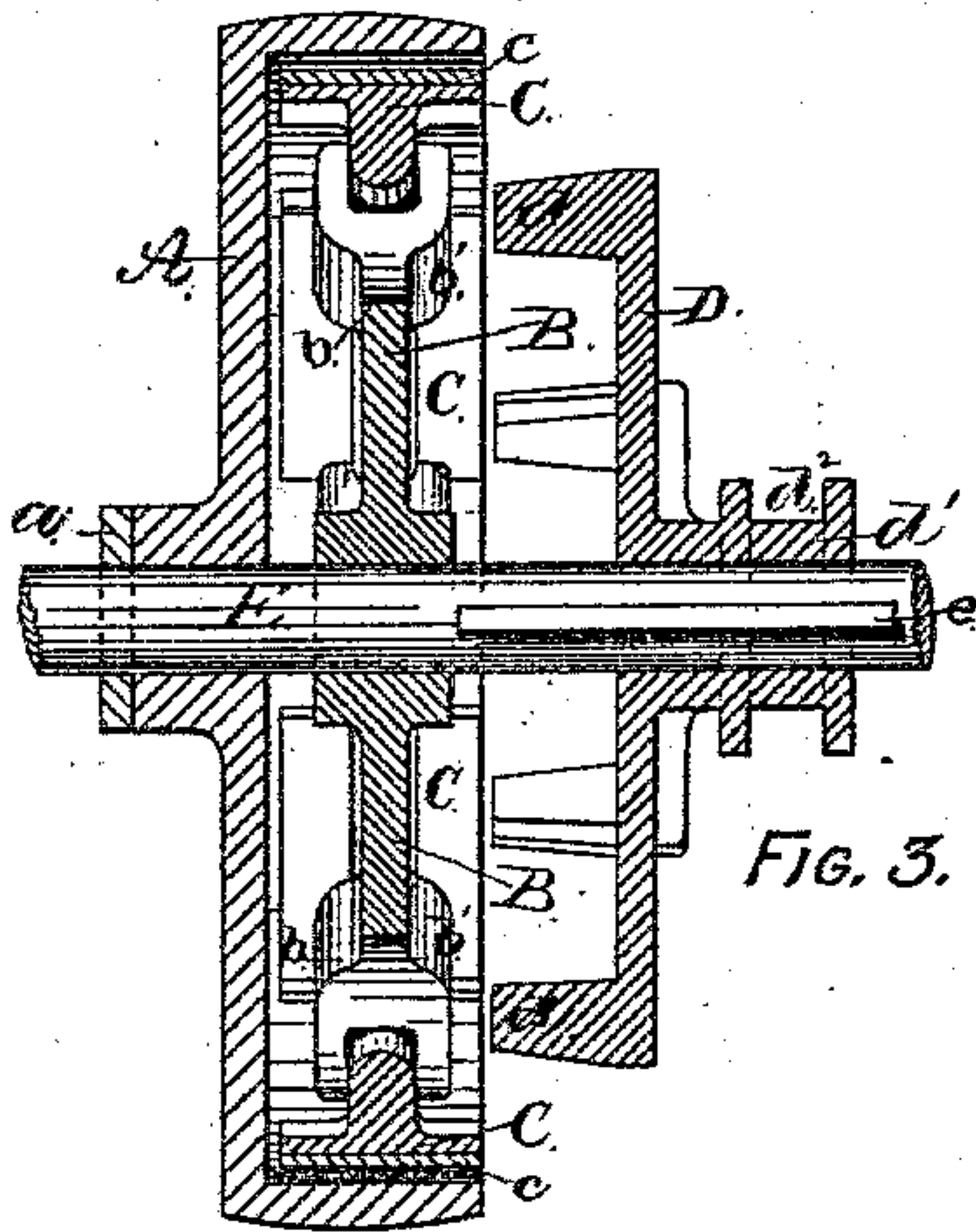


FIG. 3.

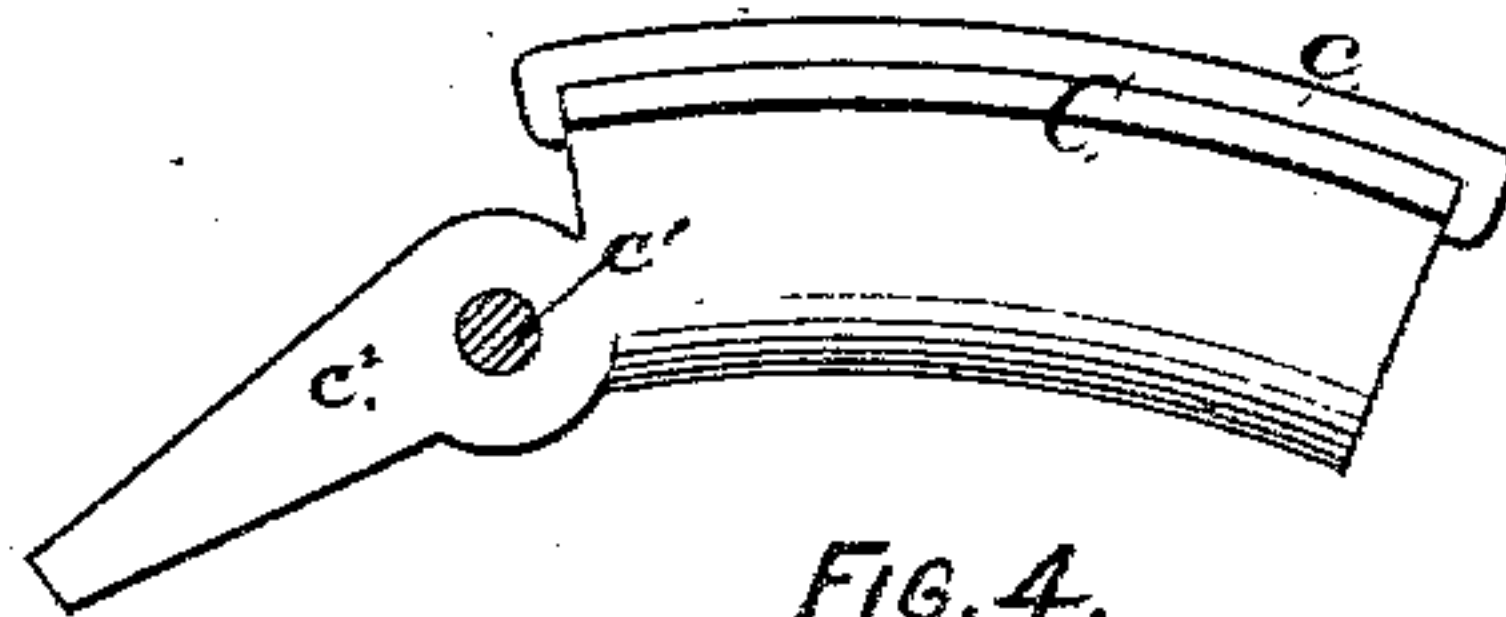


FIG. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

PETER PEARTREE, OF COHOES, NEW YORK, ASSIGNOR TO ROBERT JOHNSTON,
OF SAME PLACE.

FRICTION-PULLEY.

SPECIFICATION forming part of Letters Patent No. 305,842, dated September 30, 1884.

Application filed April 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, PETER PEARTREE, of Cohoes, in the county of Albany and State of New York, have invented certain new and useful Improvements in Friction-Pulleys, of which the following is a full and exact description, reference being had to the accompanying drawings, which form part of this specification, and in which—

10 Figure 1 is a front elevation of the pulley and fixed disk, portions of the cams being shown in section; Fig. 2, a rear elevation of the sliding cam-plate; Fig. 3, a vertical section of the pulley, fixed disk, and cam-plate; 15 and Fig. 4, an enlarged and detached detail of one of the friction-clamps.

The object of my invention is to afford suitable facilities for quickly engaging and disengaging a shaft and pulley when occasion requires; and I attain this object by means of the mechanism illustrated in the accompanying drawings, and described in this specification.

As represented in the drawings, A is a loose pulley; B, the fixed disk; C, friction-clamps; D, sliding cam-plate, and E the shaft.

The pulley A is fitted upon the shaft E in such manner that it can be revolved independently of said shaft. Said pulley is prevented from moving sidewise by means of a collar, *a*, or other suitable device, which bears against the outer end of the hub of the pulley.

The disk B is secured to the shaft E near the inner end of the hub of the pulley A, and 35 in such manner that the annular flange or rim of said pulley will overlap the periphery of said disk. The outer edge of the latter is provided with a series of openings or indentations, *b*, which are spaced at uniform distances around its periphery, and at one end of each indentation lugs *b'* are formed, as shown in Fig. 1.

The friction-clamps C have their outer faces 45 convexed, to fit the concavity of the annular flange or rim of the pulley A, and, preferably, the outer faces of said clamps are provided with facings *c*, of leather or other suitable material, for producing a close frictional contact with the inner side of the rim of the pulley. 50 Said clamps are pivoted to the lugs *b'* by means

of pins *c'*, which are arranged parallel to the shaft E, so as to swing from and toward the center of the disk B on a plane with the face of the latter. Said clamps are provided with arms *c''*, which project oppositely to the clamps, 55 (in respect to the pivotal centers of the latter,) and which rest upon springs *c'''* in such manner that the power of the springs is exerted to force the faces of the clamps from their contact with the rim of the pulley. 60

The cam-plate D is fitted to slide on a spline, *e*, of the shaft E, so that the latter and the said cam-plate will always revolve together. Said cam-plate has a series of cams, *d*, which project sidewise from said plate, and are equal 65 in number and position with the friction-clamps C. The cams *d* have their outer faces formed on an inclined plane in respect to the center line of the shaft, and said cams are so arranged that each of them can be slid into 70 its appropriate opening, *b*, beneath a clamp, C, and so that by a sliding movement in the plate D in the required direction said cams will simultaneously force all the clamps C outwardly into frictional contact with the inner 75 side of the rim of the pulley A; but by a sliding movement of the plate D in the opposite direction the cams *d* can be withdrawn, so as to permit the springs *c'''* to force the clamps C from their contact with the pulley and effect 80 the releasement of the shaft. The sleeve *d'* of the cam-plate is provided with a circumferential groove, *d''*, for receiving a forked lever or other suitable appliance, whereby said cam-plate may be slid back and forth on the shaft 85 E as occasion may require.

By using a number of the friction-clamps, C, I am enabled to distribute the frictional contact with the pulley over a greater extent of surface than can be obtained by means of 90 two oppositely-arranged clamps, and thereby I obtain a greater degree of adhesion with a smaller expenditure of force.

When required, the sleeve *d'* may be provided with two cam-plates D—one at each end 95 of said sleeve—so as to be optionally used for engaging with either one of two pulleys that revolve in opposite directions.

I claim as my invention—

1. The loose pulley A and a disk, B, secured 100

to the shaft E, and provided with a series of frictional clamps, C, pivoted to said disk by pins *c'*, arranged in line with the shaft E, said clamps being operated in one direction by
5 springs *c*³, as herein described, in combination with a sliding cam-plate, D, provided with a series of projecting inclined cams, *d*, which are adapted to force the clamps C outwardly, as and for the purpose herein specified.
10 2. The combination, with a loose pulley, of

a fixed disk provided with a series of friction-clamps pivoted thereto to swing on a plane with the face of said disk, and mechanisms, substantially as described, for moving said clamps, as and for the purpose specified.

PETER PEARTREE.

Witnesses:

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