H. D. BALDRIDGE.

FRICTION CLUTCH.

APPLICATION FILED SEPT. 24, 1910.

991,817.

Patented May 9, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

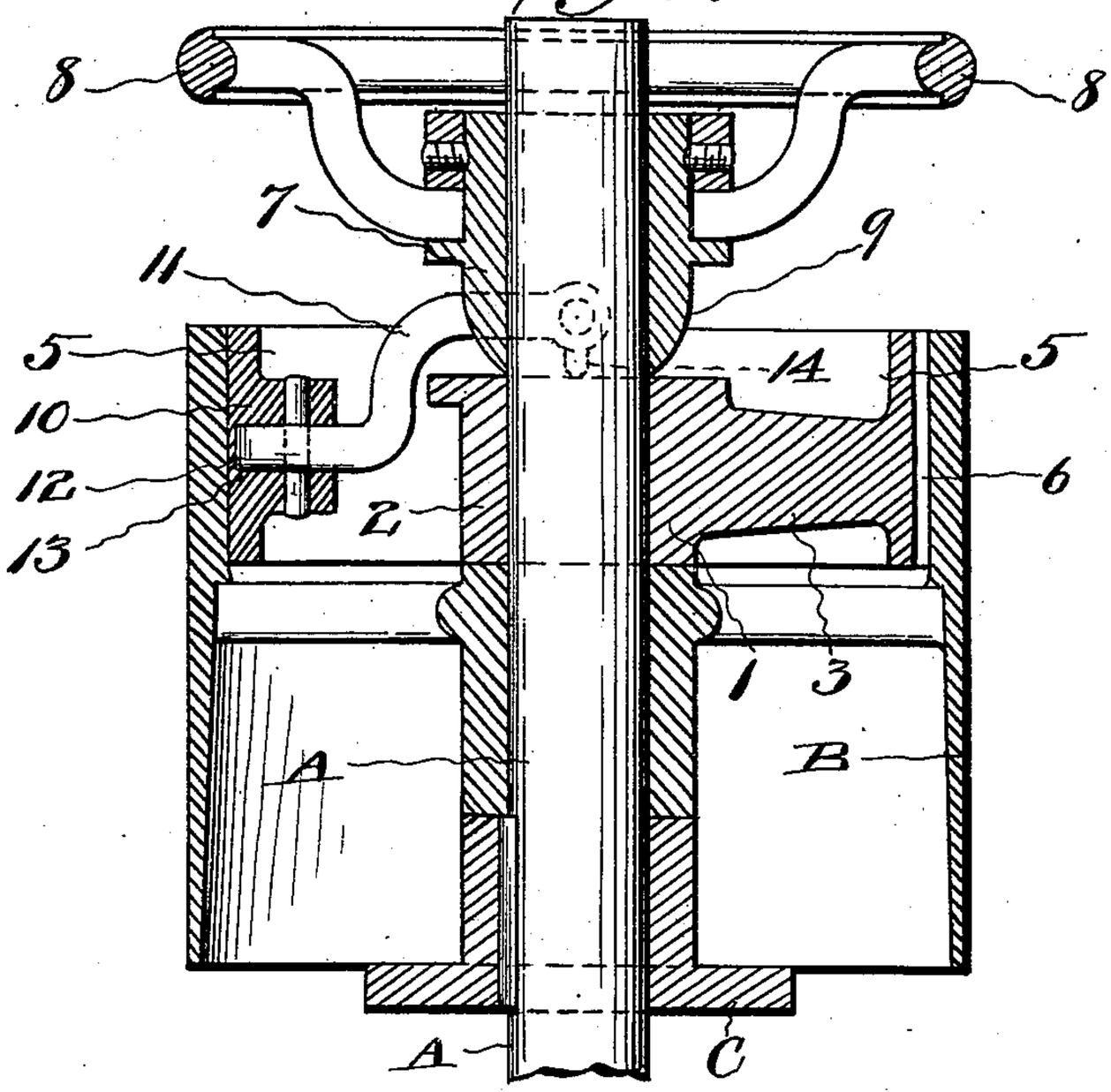
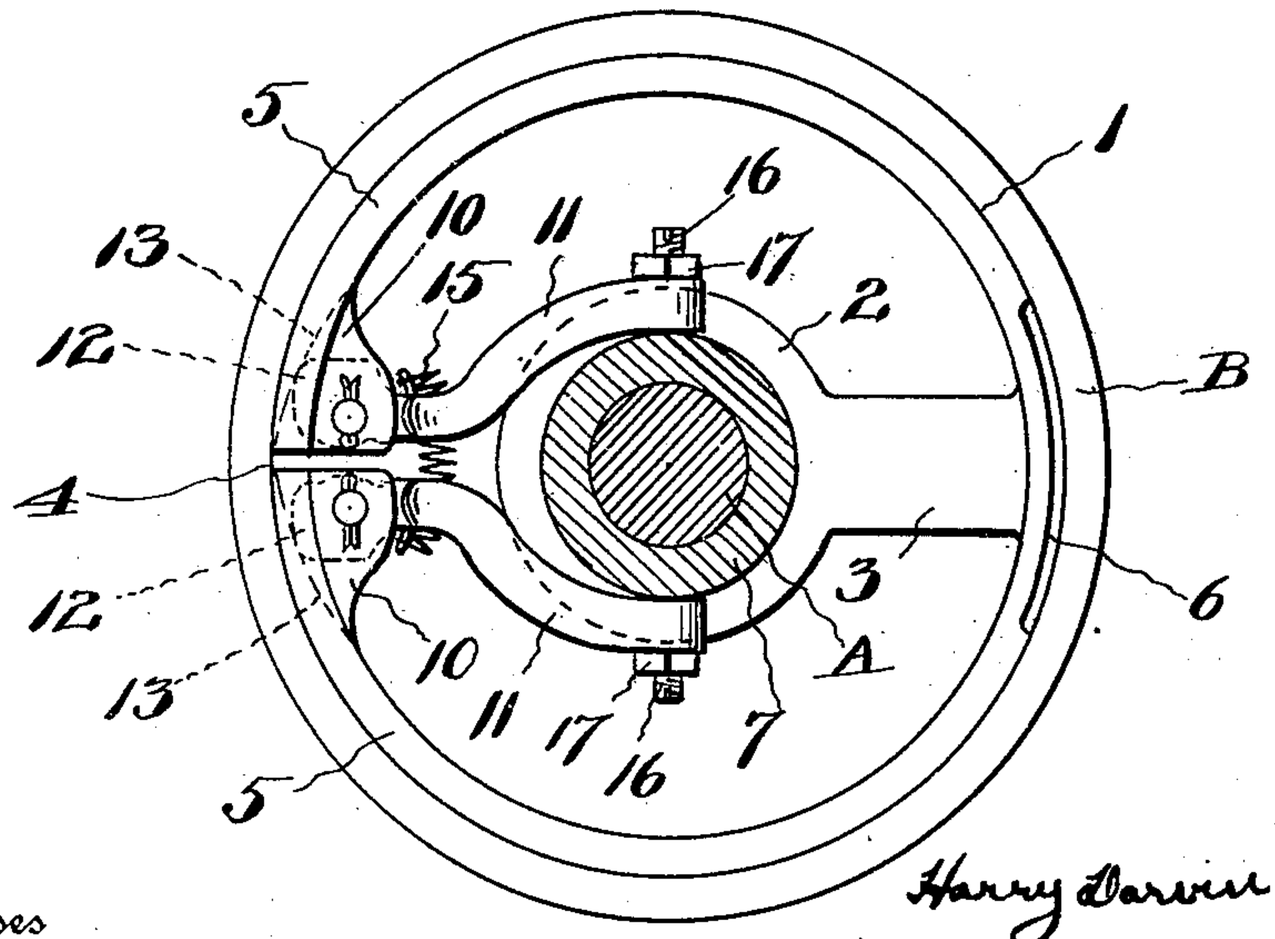


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 3.

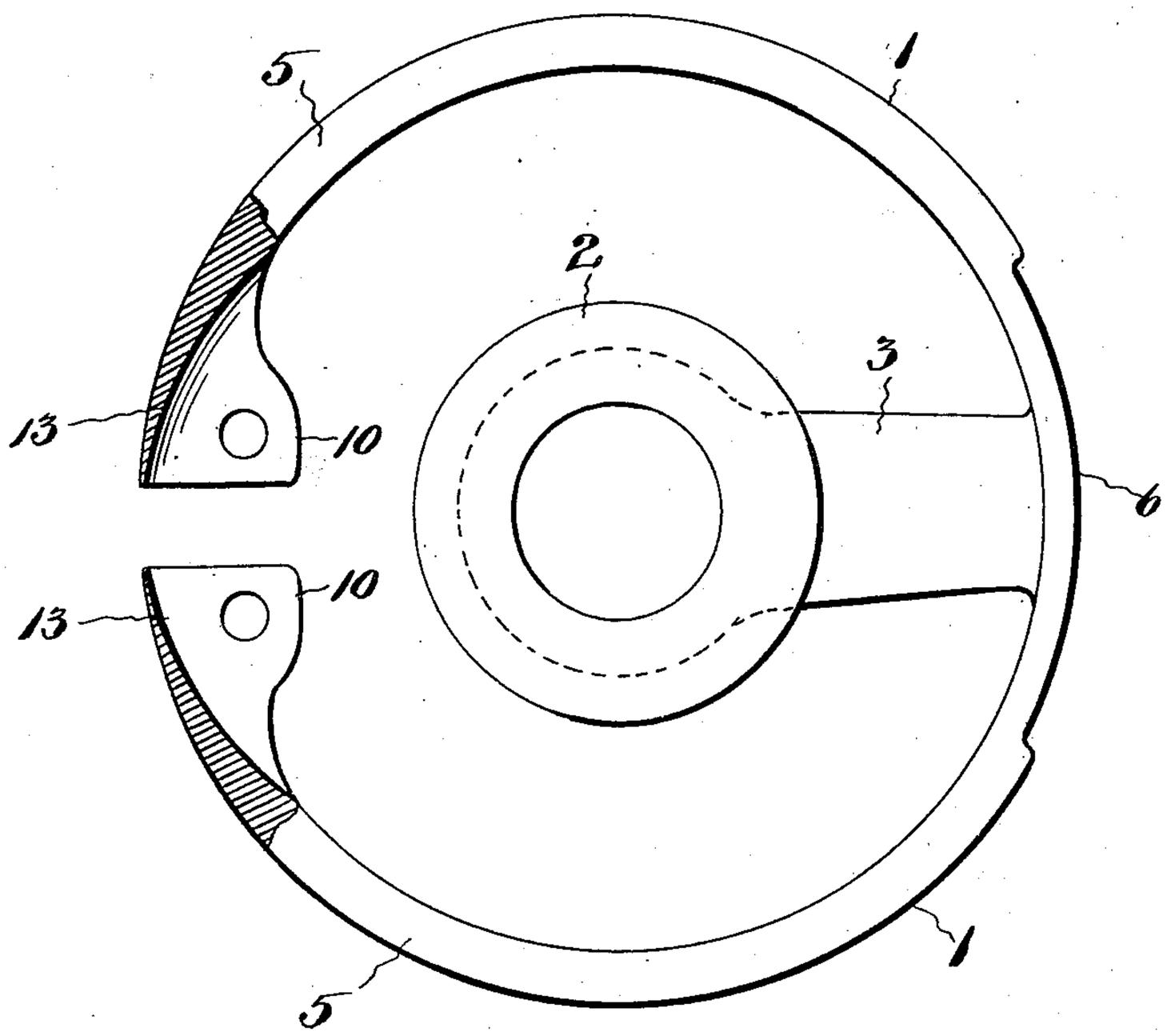


Fig. 4.

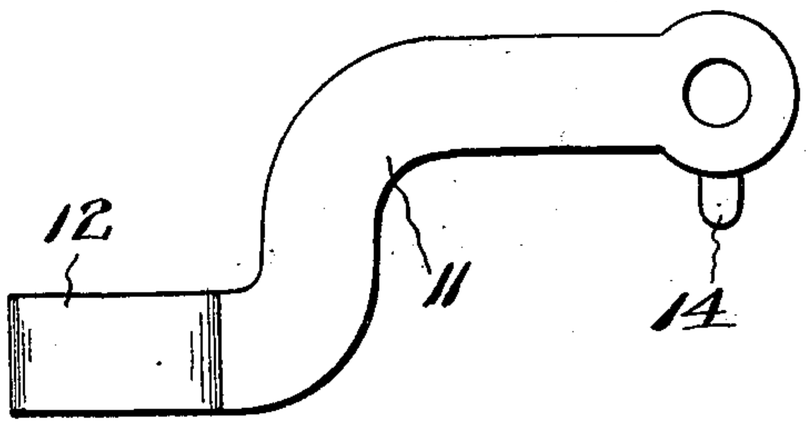
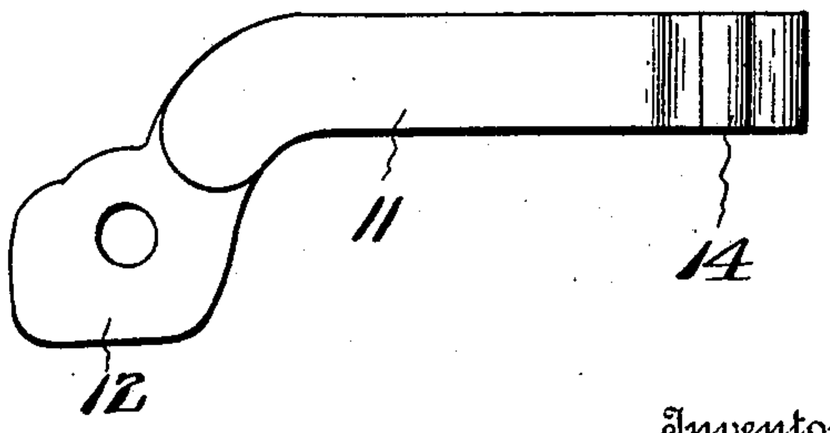


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

HARRY DARVIN BALDRIDGE, OF SANDUSKY, OHIO, ASSIGNOR TO THE BROWN CLUTCH COMPANY, OF SANDUSKY, OHIO, A CORPORATION OF OHIO.

FRICTION-CLUTCH.

991,817. Specification of Letters Patent. Patented May 9, 1911.

Application filed September 24, 1910. Serial No. 583,603.

To all whom it may concern:

Be it known that I, HARRY DARVIN BALDRIDGE, a citizen of the United States, and a resident of Sandusky, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Friction-Clutches, of which the following is a specification.

My invention relates to clutches for power-pulleys, and has for its object the provision of an improved construction of friction-clutch consisting of a split-ring keyed to the shaft and held normally from engaging the pulley by the resistance of the arms of the ring, rods being secured to the ends of the arms of the ring that are engaged by a cone sleeve slidably mounted on the shaft to spread the ring into engagement with the pulley.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of a pulley with my improved clutch in position; Fig. 2, an end view with the shaft and cone-sleeve in cross section; Fig. 3, a detail view in plan of the clutch-ring showing its ends in section; and Figs. 4, and 5, detail views of the clutch-arms.

In the drawings similar reference characters indicate corresponding parts throughout all of the views.

A indicates the shaft to be driven and B a pulley loosely mounted on the shaft and held from endwise movement by the collar C and clutch-ring 1, secured to the shaft. Clutch-ring 1 consists of a split ring secured to the shaft by means of a collar 2 and an integral arm 3, opposite the split 4, thus forming two semicircular arms 5, that are held normally from engagement with the inner face of the pulley by the resistance of the arms.

6 indicates a cut-away portion of the face of the ring opposite arm 3 and extending to each side thereof to admit of the arms 5 engaging throughout their length when in a clutching position and when unclutched no parts of the ring engage the pulley.

7 indicates a sleeve slidably mounted on shaft A by means of a hand-hold ring 8, revolubly mounted thereon. Sleeve 7 has its end toward clutch-ring 1 tapered, as shown at 9, and forming what I shall hereinafter designate a "cone-sleeve."

The free ends of semicircular arms 5 are formed with ears 10, and 11 indicates fingers pivotally secured to ears 10 and having free ends engaging opposite sides of the cone-sleeve 7. As clearly shown in Fig. 3 the ends of arms 5 of clutch-ring 1 are formed with segmental sockets, the perpendicular walls 13 of which are eccentric with the pivot holes in the ears 10, and the pivoted ends of fingers 11 are formed with projections 12 that engage the walls of sockets 13 when the free ends of the fingers are spread apart by moving the cone-sleeve toward the clutch-ring 1, so that arms 5 are moved into engagement with the rim of the pulley.

14 indicates lugs on the free ends of fingers 11 that engage the collar 2 to prevent the ends of the fingers from moving toward the collar when the cone-sleeve is pushed toward the ring.

15 indicates a spring connecting fingers 11 that serves to swing the fingers toward one another when the cone-sleeve is pulled away from the ring 1, so that the arms 5 may release themselves from the pulley-rim.

To overcome the effects of wear on the fingers 11 and cone-sleeve 7, I provide the free ends of the fingers with screw-pins 16 and binding-nuts 17, said pins being adapted to be screwed up, as their ends wear away, for the purpose stated.

The operation of my improved clutch will be readily understood from the above description and an inspection of the drawings. I do not, however, limit myself to the specific construction shown and described except where specifically stated in the subjoined claims, as my invention is capable of slight changes in construction without altering the spirit of the invention.

Having thus described my invention, what I claim is—

1. A clutch for pulleys comprising the combination of a shaft, and a pulley loosely mounted thereon, a collar secured to the shaft, an arm extending radially from the collar, semicircular arms extending from said radial arm, said arms being normally out of engagement with the pulley, fingers pivotally secured to said semicircular arms, the ends of said arms being formed with sockets having segmental walls eccentric with the pivots of the fingers to engage said

fingers to flex the arms into engagement with the pulley, substantially as shown and described.

2. A clutch for pulleys comprising the combination of a shaft, and a pulley loosely mounted thereon, a collar secured to the shaft, an arm extending radially from the collar, semicircular arms extending from said radial arm, said arms being normally out of engagement with the pulley, ears on the ends of said semicircular arms and having sockets therebetween with segmental walls, fingers pivotally secured to said ears eccentrically of the segmental walls of the sockets aforesaid and having projections thereon to engage the walls of said sockets, and means engaging the free ends of said fingers to flex the arms into engagement with the pulley, substantially as shown and described.

3. A clutch for pulleys comprising the combination of a shaft, and a pulley loosely mounted thereon, a collar secured to the shaft, an arm extending radially from the collar, semicircular arms extending from said radial arm, said arms being normally out of engagement with the pulley, ears on the ends of said semicircular arms and having sockets therebetween with segmental walls, fingers pivotally secured to said ears eccentrically of the segmental walls of the sockets aforesaid and having projections thereon to engage the walls of said sockets, screw-pins secured in the free ends of said arms, a cone-sleeve slidably mounted on said shaft and engaging said fingers, and a coil-spring connecting said fingers and tending to swing the fingers toward each other, substantially as shown and described.

In witness whereof, I have hereunto set my hand in presence of two subscribing witnesses.

HARRY DARVIN BALDRIDGE.

Witnesses:

ANDY KNEHR,

GEO. C. STEINEMANN.