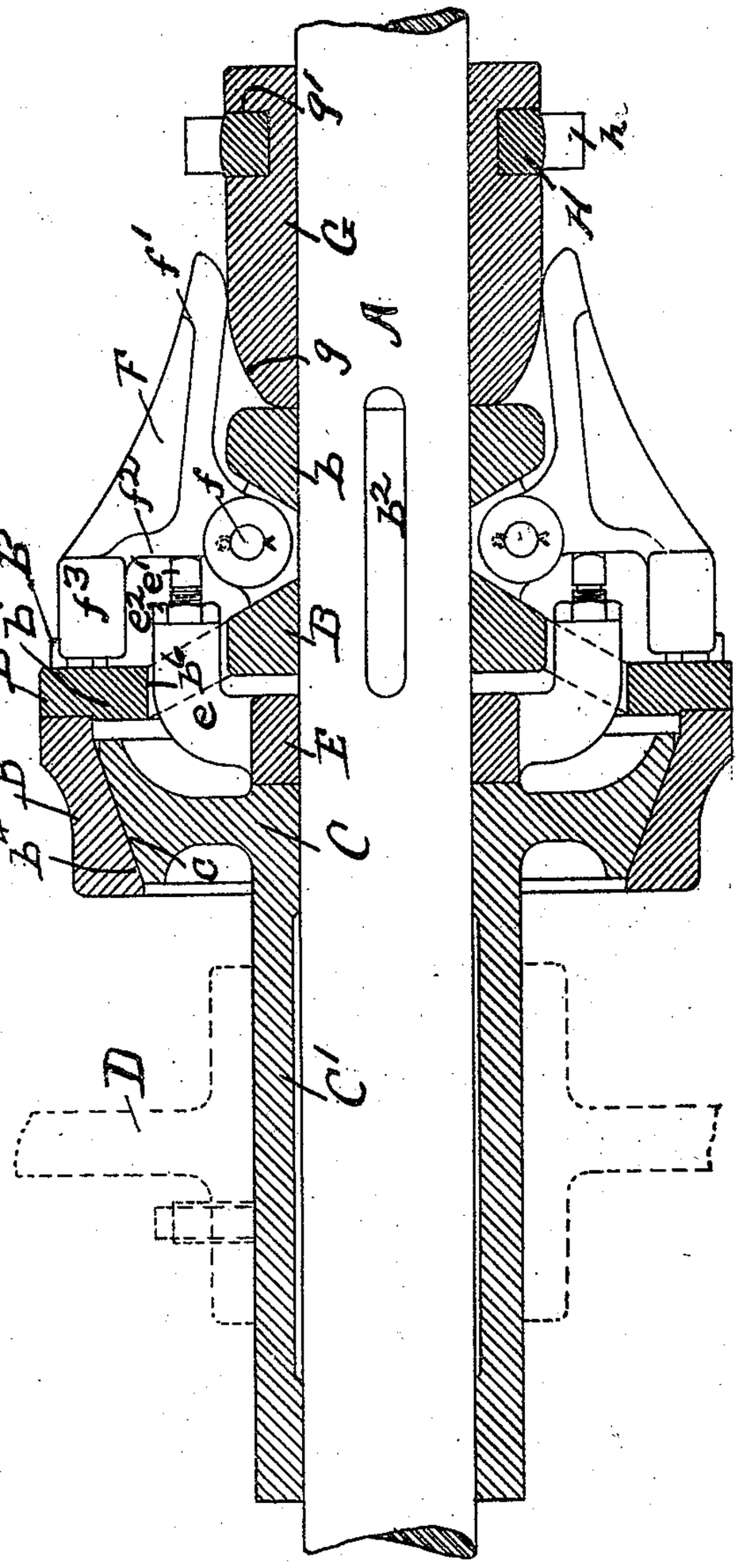
No. 841,230. PATENTED JAN. 15, 1907.

W. H. CORBETT.

FRICTION CLUTCH.

APPLICATION FILED MAR. 8, 1906.



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FRICTION-CLUTCH.

No. 841,230. Specification of Letters Patent. Patented Jan. 15, 1907.

Application filed March 8, 1906. Serial No. 304,817.

To all whom it may concern:

Be it known that I, WILLIAM HARRISON CORBETT, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented new and useful Improvements in Friction-Clutches, of which the following is a specification.

This invention relates to friction-clutches; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

The invention is illustrated in the accompanying drawing, wherein A marks the driving-shaft. The driving member B is mounted on this shaft. It comprises the hub *b*, from which extends the annular web *b'*. The outer end of the web forms a complete annulus b^3. The friction-ring B' has the cone friction-surface b^4, this surface being interiorly faced. It is secured to the annulus b^3 by the bolts b^5.

The driving member is keyed to the shaft by any convenient means, one of the keys b^2 being shown. The driven member C has the cone friction-surface *c*, which is arranged to act in conjunction with the friction-surface b^4. An extended hub C' is formed in connection with the driven member, and this has mounted on it the pulley D, a part being shown in dotted lines in the drawing.

Arranged between the hub B and the driven member C is the thrust-ring E. It has the arm *e*, extending through the aperture b^6 in the web *b'*. Adjusting-screws *e'* are screwed into the ends of these arms, and the lock-nut e^2 is provided for securing them in adjustment. Thrust-levers F, which are in the form of bell-cranks, are pivoted on the hub *b* by means of the pins *f*. One arm *f'* of the bell-crank lever is engaged by the cam-surface *g* on the sliding block G, the action of the cam-surface being to spread the arms *f'* and to move inwardly the arms f^2 against the thrust-screws *e'*, and these, acting through the arms *e* and ring E, move the driven member into engagement.

It will be noted that the driving member of this clutch normally rotates and that the annulus b^3 forms a complete closure at the larger end of the cone-surface b^4, thus forming an oil-cavity in which oil may be placed and retained through the action of centrifugal force.

This construction of clutch also permits of the weighting of the lever F, so that it normally swings back, so as to free the clutch without the interposition of springs or like mechanisms. In the construction shown I have provided the weights f^3 on the arm f^2 for accomplishing this purpose. The sliding block G has the groove *g'*, in which is arranged the ring H. The ring H has the usual pins *h*, which are engaged by the operating-lever.

Under some conditions the driven member may be made the driving member and the driving member the driven member.

What I claim as new is—

1. In a friction-clutch, the combination of the driving member having the cone friction-surface interiorly faced; the driven member having the friction-surface adapted to engage said friction-surface; the thrust-ring E adapted to operate upon the driven member having the arm *e* extending through the driving member; thrust-levers F mounted on the driving member and adapted to operate against the arm *e* for throwing the members into engagement.

2. In a friction-clutch, the combination of the driving member comprising a hub *b*, the web *b'* having a complete annulus b^3 at its outer edge and the friction-ring B' secured thereto, its larger end next to the annulus; the driven member C having a friction-surface for engaging the friction-surface on the friction-ring; the thrust-ring E having the arms *e* extending through the web *b'*; adjusting-screws on said arms; the bell-crank levers F pivoted on the hubs *b* one arm of the bell-cranks operating upon the thrust-screws; and means for operating the opposite end of the bell-crank to throw the clutch into engagement.

3. In a friction-clutch, the combination of the driving member comprising a hub *b*, the web *b'* having a complete annulus b^3 at its outer edge and the friction-ring B' secured thereto, its larger end next to the annulus; the driven member C having a friction-surface for engaging the friction-surface on the friction-ring; the thrust-ring E having the arms *e* extending through the web *b'*; adjusting-screws on said arms; the bell-cranks operating upon the thrust-screws; and means for operating the opposite ends of the bell-cranks to throw the clutch into engagement, said bell-cranks being weighted to move out of engagement with the thrust device under the action of centrifugal force.

4. In a friction-clutch, the combination of

a driving member and driven member, one of which is movable axially; thrust mechanism arranged at the opposite end of the clutch from the moving member; and a connecting mechanism communicating the thrust action from the thrust devices to the moving member, said connecting mechanism extending through the relatively stationary member.

5. In a friction-clutch, the combination of the driving and driven members having friction-surfaces adapted to be brought into engagement; levers for forcing said members into engagement; said levers being mounted on a normally rotating part and being so weighted as to throw them out of engagement to release the clutch under the action of centrifugal force; and devices operating upon said levers for setting and releasing the clutch.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM HARRISON CORBETT.

Witnesses:
J. H. La Moree,
Joseph W. Gill.