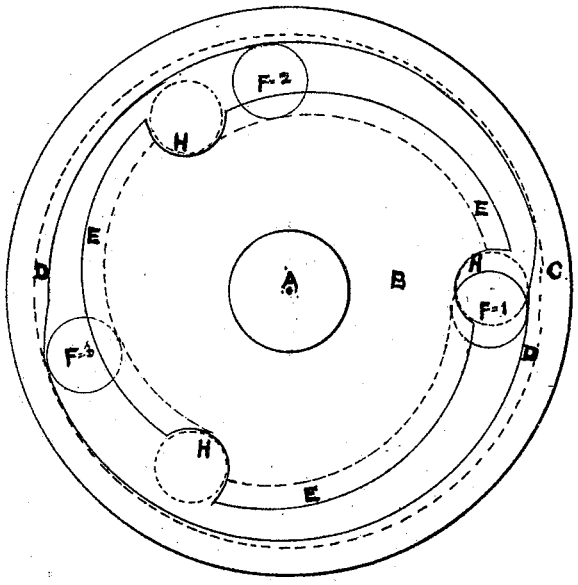
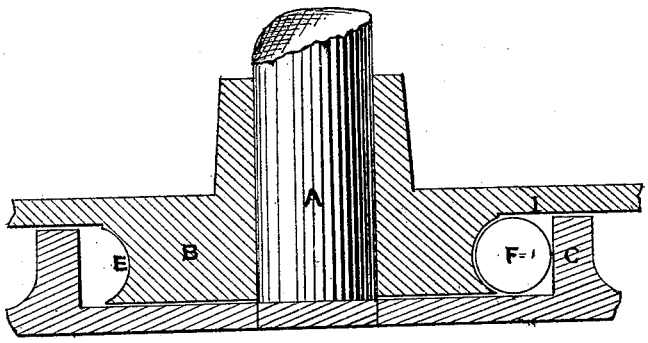
T. Caldwell,

Friction Clutch.

No. 109,299. Patented Nov. 15. 1870.





Witnesses

Jno. F. Doe

Albert L. Doe

Inventor

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United States Patent Office.

THOMAS COLDWELL, OF NEWBURG, NEW YORK.

Letters Patent No. 109,299, dated November 15, 1870.

IMPROVEMENT IN FRICTION-CLUTCHES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS COLDWELL, of the city of Newburg, in the county of Orange and State of New York, have invented a new and useful Improvement in Friction-Clutch; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification.

Figure 1 represents a longitudinal elevation.

Figure 2, a transverse section.

Like letters of reference designate like parts in each of the figures.

The nature of my invention consists—

First, in the construction of the eccentric flange.

Second, in the chilling of the periphery of the ratchet-hub.

Referring to the drawing—

A represents a shaft;

B, the ratchet-hub, fitting loosely therein;

C, the sleeve or flange, which forms a part of the wheel or roller, from which the motive-power is derived;

D D, eccentrics on the inner circle of the sleeve or flanges;

E E E, chilled depressions formed in the periphery of the hub; and

F^1 F^2 F^3, the balls fitting therein.

I represents a broken section of the wheel or pulley to be driven, the hub B forming a part thereof, and also forms a flange that overlaps the flange C, to prevent the balls from falling out when they are thrown back in depressions H, as shown in fig. 1.

The depressions H H H are made for the purpose of admitting the balls to their proper places.

The operation of my improvement is as follows:

The flange C being revolved in the direction indicated by the arrow, one or more of the balls will, by their gravity, fall and wedge in the converging channels between the eccentric chilled grooves E E E, on the periphery of the ratchet-hub B, and the eccentrics D D on flange or sleeve C; thus the eccentrics form a wedge on each side of the balls, and prevents the possibility of their slipping; thus the hub B is securely clutched to the flange C, and carried forward with it, while an opposite movement of the flange C will release the balls and permit it to freely revolve.

The concave grooves in the periphery of the hub B are chilled or hardened, to prevent the balls making a depression therein, and hence making them more durable.

The sleeve C, being eccentric, brings the balls in different positions on the periphery of the ratchet-hub B, as shown in fig. 1, which makes it more durable, and avoids the balls wearing in one place on the ratchet-hub, as is the case when a concentric sleeve is used.

Claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

The eccentric sleeve C, in combination with the chilled surface of hub B and balls F^1, F^2, and F^3, for the purpose as herein set forth and described.

Witnesses: THOMAS COLDWELL.

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