(No Model.)

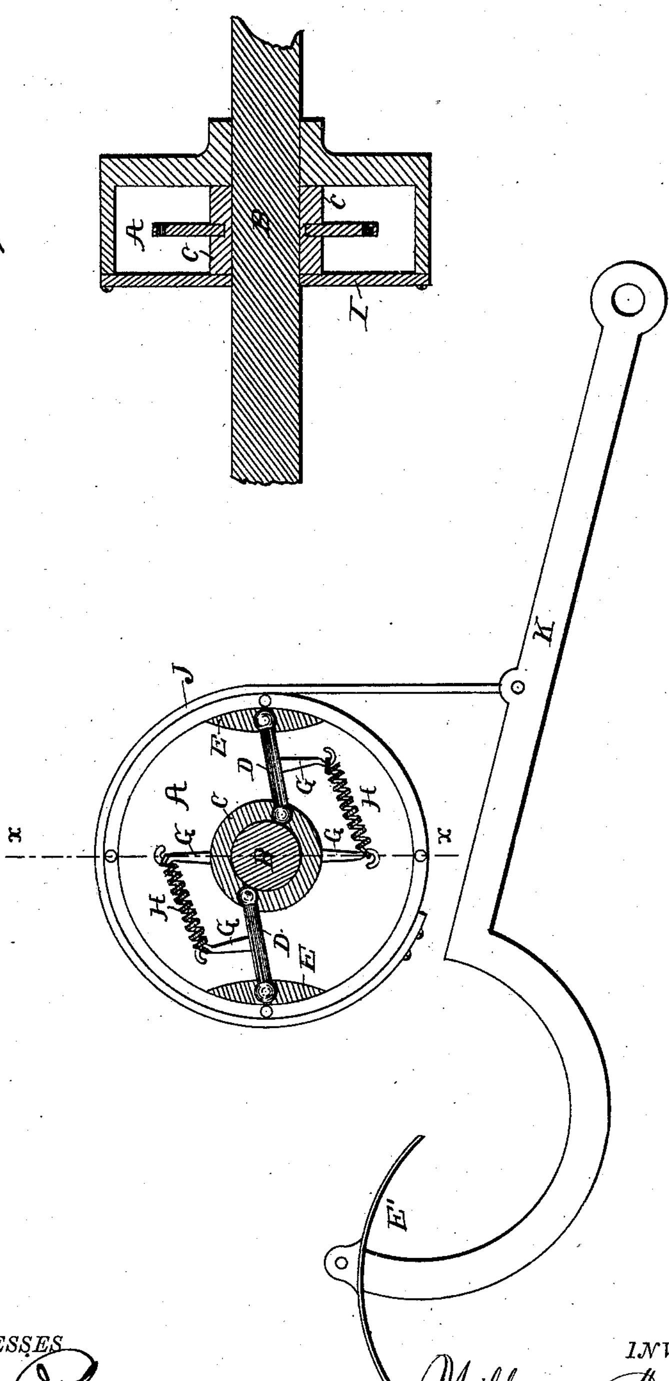
W. MATHEWS.

CLUTCH.

No. 302,012. Patented July 15, 1884.

Fig. 2.

Fig. 1.



WITNESSES

INVENTOR

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UNITED STATES PATENT OFFICE.

WILLIAM MATHEWS, OF SAN JOSÉ, CALIFORNIA, ASSIGNOR OF ONE-HALF TO JOHN I. BURNHAM, OF SAME PLACE.

CLUTCH.

SPECIFICATION forming part of Letters Patent No. 302,012, dated July 15, 1884.

Application filed April 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MATHEWS, of the Kingdom of Great Britain, residing at San José, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Clutches, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to improvements in frictional clutches, which are applicable particularly to treadle-power-operated mechanism or contrivances, and it has for its object to transmit motion or power by friction; and the invention consists of the combination of parts and their construction, substantially as hereinafter fully set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional view, partly in side view, of my invention. Fig. 2 is a section taken on the line X X of Fig. 1.

In carrying out my invention I employ a cylindric casing, A, which is provided at its center with a sleeve fitted upon the driving-shaft B of the vehicle or contrivance it is designed to drive or revolve—as, for instance, a velocipede, bicycle, or other analogous vehicles, or any treadle-power-operated contrivance or mechanism. Shrunk, keyed, or otherwise also secured upon said shaft is a collar, C, which, together with the plate I, also fitted upon said shaft against said collar and bolted to the outer face edge of said casing, is adapted to hold said casing upon the shaft so as to permit said casing to revolve thereon. Ball-and-socket or knuckle jointed or pivoted to the collar C are two levers, D, one being disposed slightly below and the other slightly above a horizontal plane passing centrally through the shaft B, to enable the shoes E, pivoted or ball-and-socket-jointed to their outer ends, to alternately grip or impinge upon its inner periphery, as the said arms with their shoes are operated to impart the requisite rotary movement to said casing. The levers D are each suitably supported in position by a spring, H, connected to a standard, G, one being secured to the shaft, collar, or box C and the other to the lever, whereby, also, as the strap J, which is fastened to and carried nearly around said casing and connected to the treadle K, is pulled downward or uncoiled from said casing by exerting downward pressure upon the foot-piece E′ of said treadle, accordingly revolving in one direction said casing, said levers will be caused to yield, and thus prevent their shoes from resisting the action of said casing in that direction of its movements. Immediately, however, upon the removal of said pressure from the treadle (the casing in practice being acted upon by the recoil of a spring, not here shown) the reflexing of the levers under the action of their springs will cause the thrusting and impingement of their shoes upon the inner periphery of the casing and cause them to partake of the movement of the casing, which will of necessity be transmitted to the shaft, and thus effect the driving of the same, to be communicated by belt to stationary machinery, or directly to the wheel of said shaft in movable contrivances—as, for instance, velocipedes or similar vehicles.

This appliance, it is obvious, does away with the checking or noise of the pawl and ratchet and the possibility of the failure of engagement of the parts as is experienced in the jumping a tooth by the pawl with the use of the latter mechanism, rendering the same unreliable.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the cylindric casing A, shaft B, collar C, lever D, having shoes E, springs H, connecting-standards G, strap J, and treadle K, substantially as shown, and for the purpose described.

2. In a friction-clutch, the casing having the partially-coiled band connected to the treadle, said casing being secured upon the shaft, in combination with the spring-levers carrying the shoes impinging upon the casing, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM MATHEWS.

Witnesses:
J. E. BROWN,
C. C. REDMOND.