

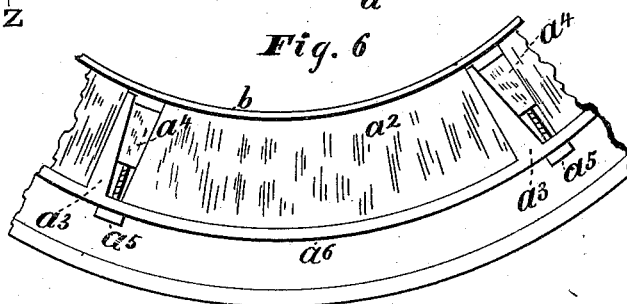
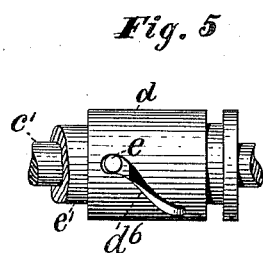
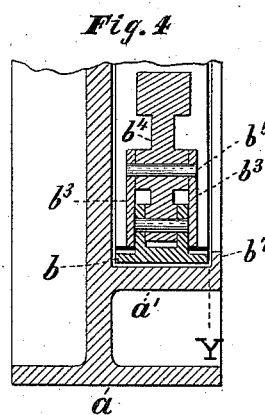
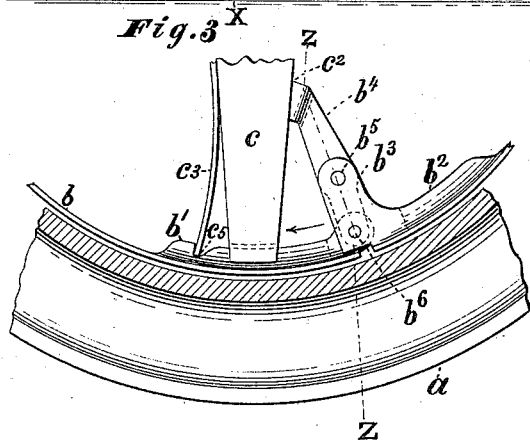
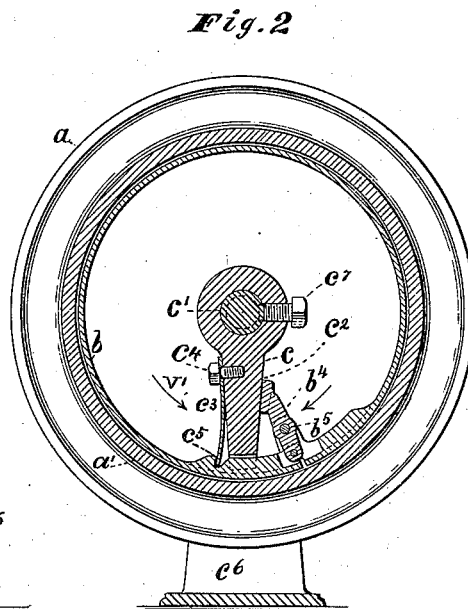
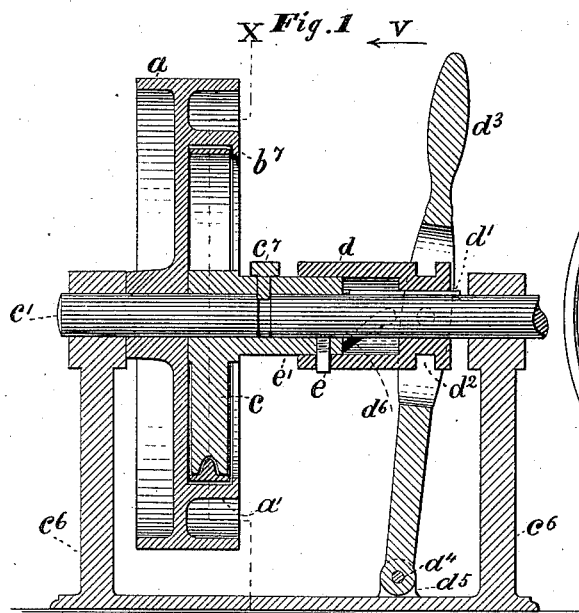
(No Model.)

C. W. CARDOT.

FRICTION CLUTCH.

No. 307,434.

Patented Nov. 4, 1884.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES W. CARDOT, OF JAMESTOWN, NEW YORK.

FRICTION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 307,434, dated November 4, 1884.

Application filed April 10, 1884. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. CARDOT, a citizen of the United States, residing in Jamestown, in the county of Chautauqua and State of New York, have invented certain new and useful Improvements in Friction-Clutches, of which the following is a specification.

The object of this invention is to provide the means for easily starting and stopping machinery by means of a noiseless friction device, the construction and operation of which will be fully and clearly hereinafter shown by reference to the accompanying drawings, in which—

Figure 1 is a vertical central section through the clutch and its operating and supporting mechanism. Fig. 2 is a front elevation of the clutch, showing a section through line X X, Fig. 1. Fig. 3 is a side elevation of a portion of the clutch, showing a section through the clutch-rim in line Y, Fig. 4. Fig. 4 is a section through line Z Z, Fig. 3. Fig. 5 is a side elevation of the sliding sleeve for operating the clutch; and Fig. 6 represents a portion of the clutch-wheel and clutch-rim, showing the construction when wood is used for the wearing portion of the rim.

In said drawings, *a* represents the pulley, which turns loosely on the shaft, except when made fast so as to turn with it, as will hereinafter appear.

a' is the clutch-rim or wearing portion of the clutch-rim. If desired, this portion may be filled in with wood, (see Fig. 6, in which *a''* represents the wood with the grain running from the circumference toward the center.) The wood is put in place in sections. Each section is placed within the metallic portions *a''* of the pulley.

Between the parts *a''* and one end of each of the wood sections *a''* is a wedge, *a''*, having a screw-bolt, *a''*, which passes through a rim, *a''*, of the clutch wheel or pulley. By means of this bolt *a''* and the wedge, as will be seen, a section of wood can be tightened in place. The clutch-ring *b* is a thin metallic hoop having the heavier portions *b'* near the ends of the hoop, which come together, or nearly so. When the clutch is intended to run loosely on the shaft, it is kept in place by the flange *b'* on the

clutch-rim *a'*. (See Figs. 1 and 4.) The portion *b'* is provided with two upwardly-projecting portions or ears, *b''*, between which the arm or lever *b'* is jointed by a pin or bolt, *b''*. The lower end of the arm *b'* is jointed to the other end of the hoop by a pin or bolt, *b''*. The arm *c* is secured to the shaft *c'* so as to turn easily thereon, but is prevented by a pin, *c''*, from moving longitudinally on said shaft, and the upper end of the arm *b'* rests against the arm *c* at the point *c''*.

c'' is a spring secured to the arm *c* by a bolt, *c''*. The opposite end of the spring *c''* rests in the notch *c''* of the clutch ring or hoop *b*.

c' is the frame for supporting the shaft, which may be made in any well-known way. The sleeve *d* is secured to the shaft *c'* by a feather, *d'*, which prevents it from turning on the shaft, but allows a free longitudinal movement back and forth along the shaft. It is provided with the usual groove, *d''*, into which a pin or friction roller or rollers project from the hand stopping and starting lever *d''*, which lever is secured by a bolt, *d''*, to any suitable point of support, *d''*. (See Fig. 1.) The sleeve *d* is provided with a diagonal slot or opening, *d''*, through which projects a pin, *e*, from the hub *c'* of the arm *c*. It will now be seen that a movement of the hand-lever *d''* in the direction of the arrow V will move the arm *c* in the direction of the arrow V', (see Fig. 2,) which will force the ends of the hoop or ring *b* so as to tighten it and hold it rigidly within the rim *a'*, so that it will turn with the shaft. A reverse movement of the hand-lever will draw the ends of the clutch-ring *b* toward each other, the spring *c''* assisting, and thereby loosen it, so that the shaft will turn within the clutch-pulley and the pulley will remain stationary while the shafts turn.

If desired, the portion of the clutch-hook *b'* may be made so as to be adjustable, and thereby allow the hook *b* to be made longer, so as to compensate for the wearing of the same. Such parts can be made adjustable by means of a wedge to separate them and a set-screw to fasten them in place when adjusted in any well-known way.

When it is desired to use the clutch on the driving-shaft, so that it will move with the

shaft in one direction and allow the shaft to turn in the opposite direction without moving the clutch, or turn within it, all that is necessary to do is to fasten the arm *c* rigidly to the
5 shaft and use the device without the sleeve *d* and lever *a*³.

I claim—

1. A friction-clutch consisting of a pulley provided with a rim adapted to receive a
10 clutch-hook having an arm jointed to one end of the hook by a bolt, *b*⁶, and to the opposite end by a bolt, *b*⁵, with the upper end of said arm resting against an arm, *c*, connected loosely to the driving-shaft, and being provided

with a spring, *c*³, substantially as and for the 15 purposes described.

2. In a friction-clutch, the pulley *a*, provided with a rim, *a'*, and flange *b*⁷, and the hoop *b*, jointed to the arm *b*⁴, substantially as specified, in combination with the arm *c*, fitted 20 loosely on the shaft *c'*, and having a spring, *c*³, and a pin, *e*, the sleeve *d*, provided with a diagonal slot, and the operating-lever *d*³, substantially as and for the purposes described.

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Witnesses:

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