

P. HINKLE.

CLUTCH.

No. 173,790.

Patented Feb. 22, 1876.

Fig. 1.

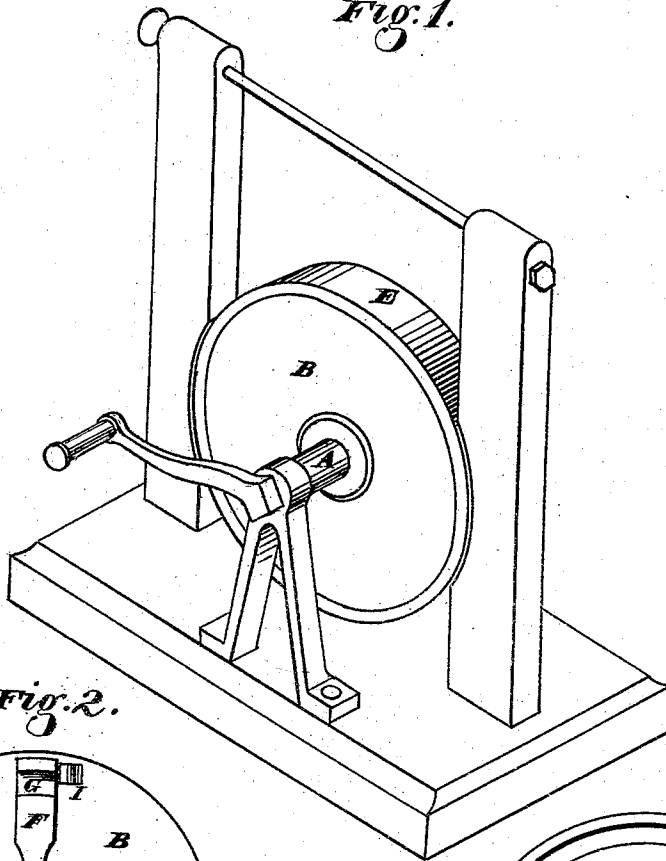


Fig. 2.

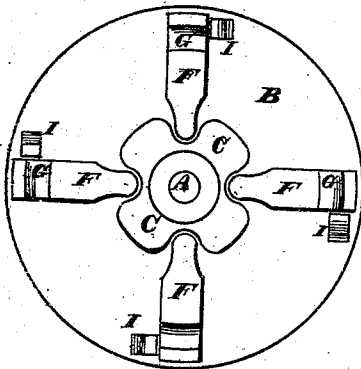


Fig. 3.

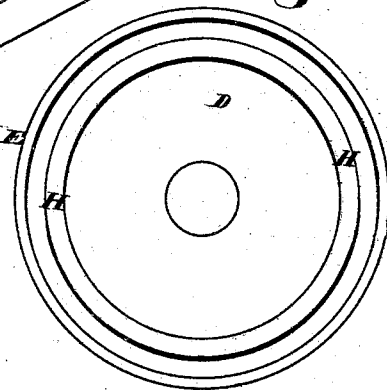


Fig. 4.

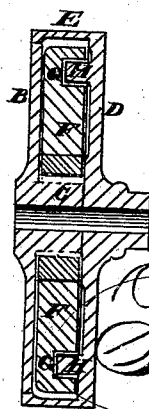


Fig. 5.



Witnesses

Geo. H. Strong.
Jno. L. Boker

Inventor

Philip Hinkle
by Dewey & Co.
His Attys.

UNITED STATES PATENT OFFICE.

PHILIP HINKLE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN CLUTCHES.

Specification forming part of Letters Patent No. **173,790**, dated February 22, 1876; application filed November 27, 1875.

To all whom it may concern:

Be it known that I, PHILIP HINKLE, of San Francisco city and county, State of California, have invented an Improved Clutch; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

The object of my invention is to provide an improved clutch to be used where it is necessary to allow a shaft to turn freely in one direction, and either wholly prevent it from moving in the opposite direction, or cause it to carry with it some attachment.

This clutch is intended to operate without any pressure upon the rim, and without an undue or indirect strain upon the hub, its action being that of a monkey-wrench; and it consists of an outer rim and one side of a case, which turns loosely upon a shaft, the side having a flange projecting inward from it. The other side of the case is fast upon the shaft, and has an interior hub, from which loose arms project toward the circumference.

These arms are notched or grooved to fit over the flange upon the opposite side, and they move loosely over it in one direction, but are cramped upon it when moving in the opposite direction, as will be more fully described by reference to the accompanying drawing, in which—

Figure 1 is a perspective view. Fig. 2 shows the interior face of side B, with hub and arms. Fig. 3 is an interior view of side D, showing flange H. Fig. 4 is a vertical section in plane, passing through axle. Fig. 5 is a view of one of the arms.

A is the shaft, having the flange or side of the case B and a hub, *c*, secured to it, as shown. The opposite side D of the case and the rim E are formed in one piece, so that the edge of the rim fits over the side B, and makes a close case, the parts moving over each other freely. The hub *c* is formed with depressions, into which the rounded ends of the arms F fit, so as to allow the arms to move freely about this point. These arms

extend out to a point near the rim, but do not touch it, and they may be two or more in number. A deep groove, G, is formed in each arm equidistant from the center, and a flange, H, is turned upon the inner face of the side B of the case. The grooves in the arms fit over this flange, and it will be manifest that if the arms are turned a little to one side they will cramp upon the flange, and hold it fast on the principle of a monkey-wrench. This action takes place when the shaft and hub are turned in one direction, and this either arrests the movement of the shaft, or causes the side D and rim E to move with it, as the case may be.

In order to prevent this result when the shaft is turned in the opposite direction, and allow it to move freely without the rim, a lug, I, is formed upon the side B, behind each arm F, and against which it rests, so as to stand in an exactly radial position, when it will be prevented from clasping the flange, and will, consequently, move freely over it.

By this construction I am enabled to make a clutch which acts instantly with no slip, and I avoid the difficulty of too great a pressure upon the rim, which is liable to be burst by the strain.

I am aware that clutches have been constructed in which arms are used which hold by outward pressure against the rim, either by a ratchet and pawl, or by arms which bind by being inclined to one side, and I do not therefore claim such a device; but

What I do claim as new, and desire to secure by Letters Patent, is—

The combination, with the hub *c* secured to the shaft A, and having depressions, as described, of the slotted arms F, the side B of the case, having interior flange H, and side of the case B, having stationary lugs or stops I, all constructed and arranged to operate in the manner substantially as and for the purpose specified.

In witness whereof I hereunto set my hand and seal.

PHILIP HINKLE. [L. S.]

Witnesses:

JNO. L. BOONE,
C. M. RICHARDSON.