

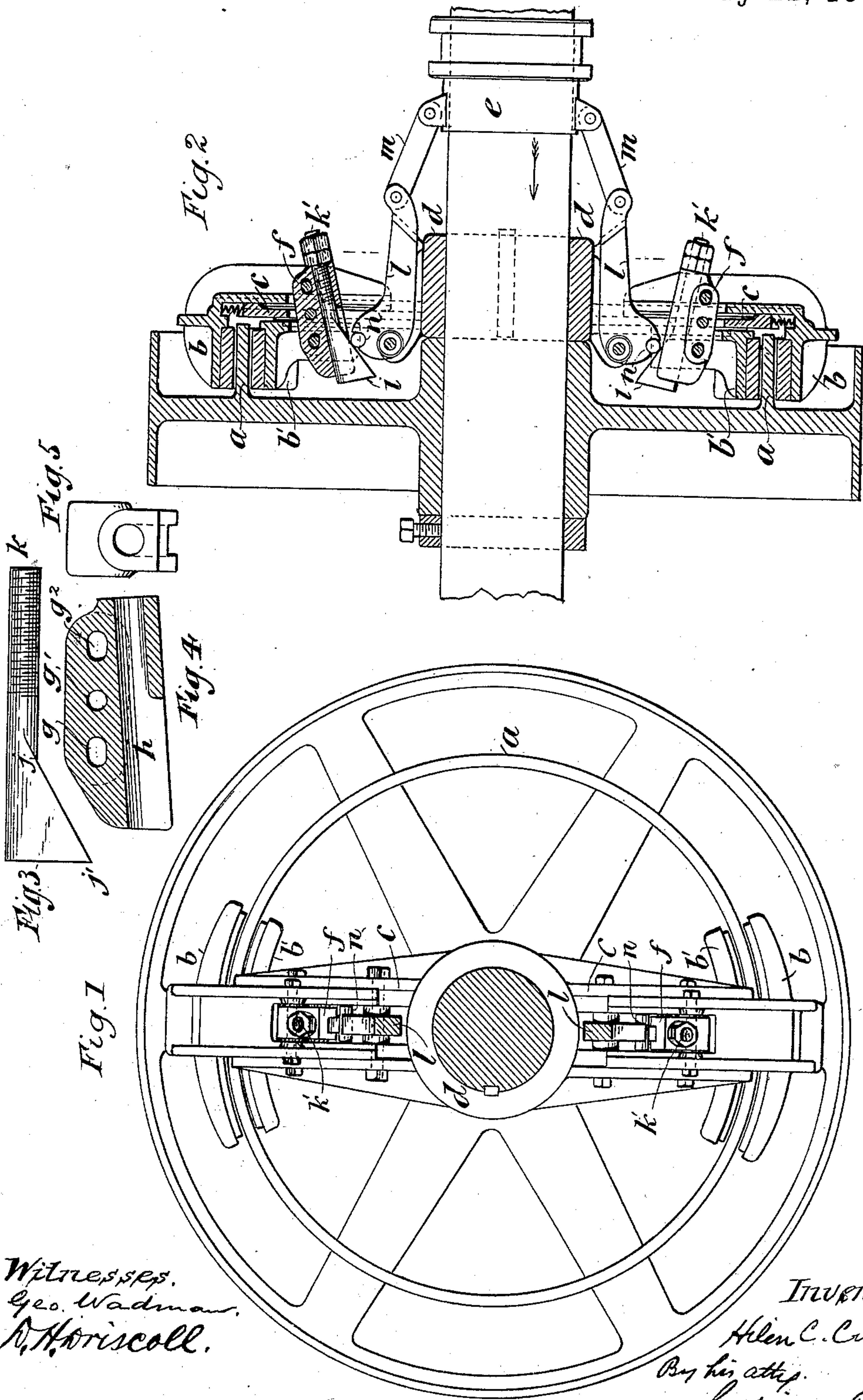
(No Model.)

H. C. CROWELL.

FRICTION CLUTCH.

No. 383,104.

Patented May 22, 1888.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## FRICITION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 383,104, dated May 22, 1888.

Application filed January 28, 1888. Serial No. 262,193. (No model.)

*To all whom it may concern:*

Be it known that I, HILEN C. CROWELL, of Cuyahoga Falls, Ohio, have invented a certain new and useful Improvement in Friction-Clutches, of which the following is a specification.

My invention relates to that class of clutches in which a flange on a loose pulley running cylindrically around the axis of the pulley is grasped by a pair of jaws which are inversely reciprocated and are secured to an arm fast to the shaft. One example of such class may be seen in Letters Patent of the United States, No. 367,856, to Geo. A. Slayton, August 9, 1887.

In the clutches of the class referred to as heretofore constructed the jaws were made adjustable with reference to the mechanism for actuating them; but the adjustment required access to the space between the clutch and the pulley, which was extremely inconvenient.

The object of my present invention is to so construct the means of adjustment that it may be accomplished on the side of the clutch removed from the pulley, to which access can be easily gained.

Figure 1 is an end view of the shaft with the pulley and clutch attached. Fig. 2 is a longitudinal section of the same. Figs. 3, 4, and 5 are detail views.

In Fig. 2 the section through the clutch mechanism above the shaft is taken at a different point from the section through the clutch mechanism below the shaft, for the purpose of more clearly illustrating the relationship and the form of the parts.

*a* is the pulley-flange.

*b b'* are the clutching-jaws, which are constructed as heretofore and slide in guideways on the arms *c*. These arms are, as before, secured to a sleeve, *d*, which is fast to the shaft. A sleeve, *e*, is operated by a shifter, as heretofore. *f* is the lever by which the jaws are operated. This lever is, as heretofore, pivoted at or near its center to the arm *c*, and near each extremity it is pivoted on the one side to the jaw *b* and on the other side to the jaw *b'*. This piece is shown in section in Fig. 4, where *g g' g''* are the holes by which it is bolted to the piece *c* and to the jaws. The bolt-holes *g* and *g''* are slightly oblong, to admit of some play.

*h*, in Figs. 4 and 5, is a hole cut through the lever *f*, into which is inserted the means which I provide for adjustment. This means consists of the piece shown in Fig. 3, and which in Fig. 2 is lettered *i*. It is so formed that when it fits in the opening *h* of the lever *f* the inclined portion from *j* to *j'* projects below the lever, as shown in Fig. 2, and the screw portion at *k* projects from the end of the lever, so as to receive the nuts *k'*, as shown in Fig. 2. Beneath the inclined portion of the piece *i*, when in the position as shown in Fig. 2, is arranged the lever *l*, having its fulcrum on the sleeve *d*. Its long arm is connected with the sleeve *e* by the link *m*, and its short arm, provided with a friction-roller, *n*, impinges against the inclined surface of the piece *i*.

The operation of the contrivance is as follows: When it is desired to put the clutch into operation, the sleeve *e* is advanced toward the sleeve *d*, thereby raising the long arm of lever *l* and throwing the friction-roller *n* forward toward the pulley. The action of this roller upon the inclined surface of the piece *i* is to raise the end of the lever *f* next the pulley and depress the opposite end, thus causing the two jaws to clutch the flange *a* of the pulley. If now it is desired to so adjust the jaws that a less motion is required to operate the clutch, it is only necessary to tighten the nut *k'* so as to draw the piece *i* farther into the lever *f*, and thus to bring the roller *n* at a higher point of the inclined plane upon the piece *i*. The reverse effect may be produced by loosening the nut *k'*.

I claim—

In a friction-clutch having reversely-moving jaws and a lever for moving such jaws pivoted upon an arm moving with the shaft, the combination, with such lever and another lever for moving the first-named lever, also moving with the shaft, of an inclined piece interposed between said two levers and provided with means of adjustment, substantially as described.

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Witnesses:

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