

(No Model.)

A. B. BEAN.
FRICTION CLUTCH.

No. 326,091.

Patented Sept. 15, 1885.

Fig. 1

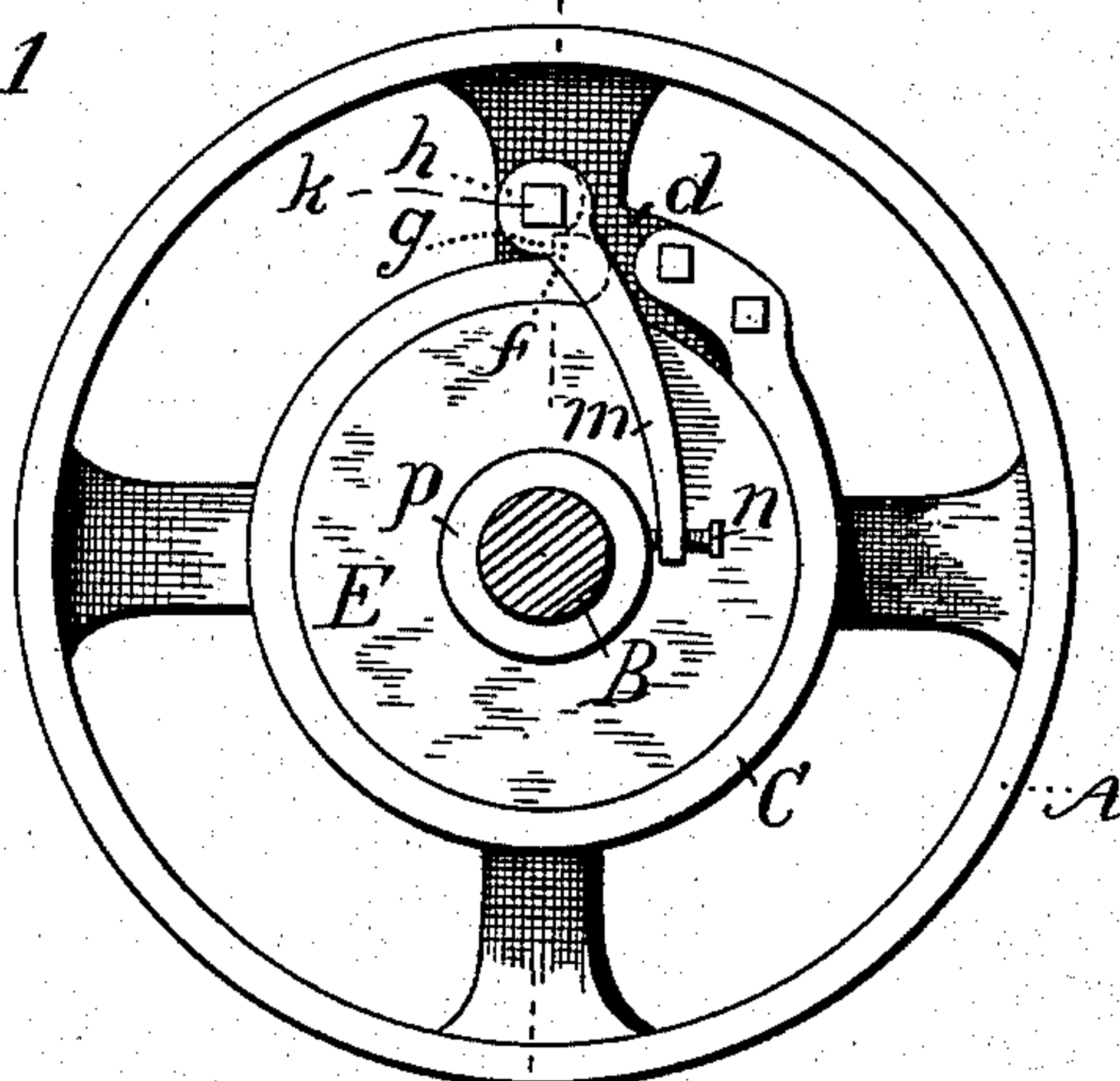


Fig. 2

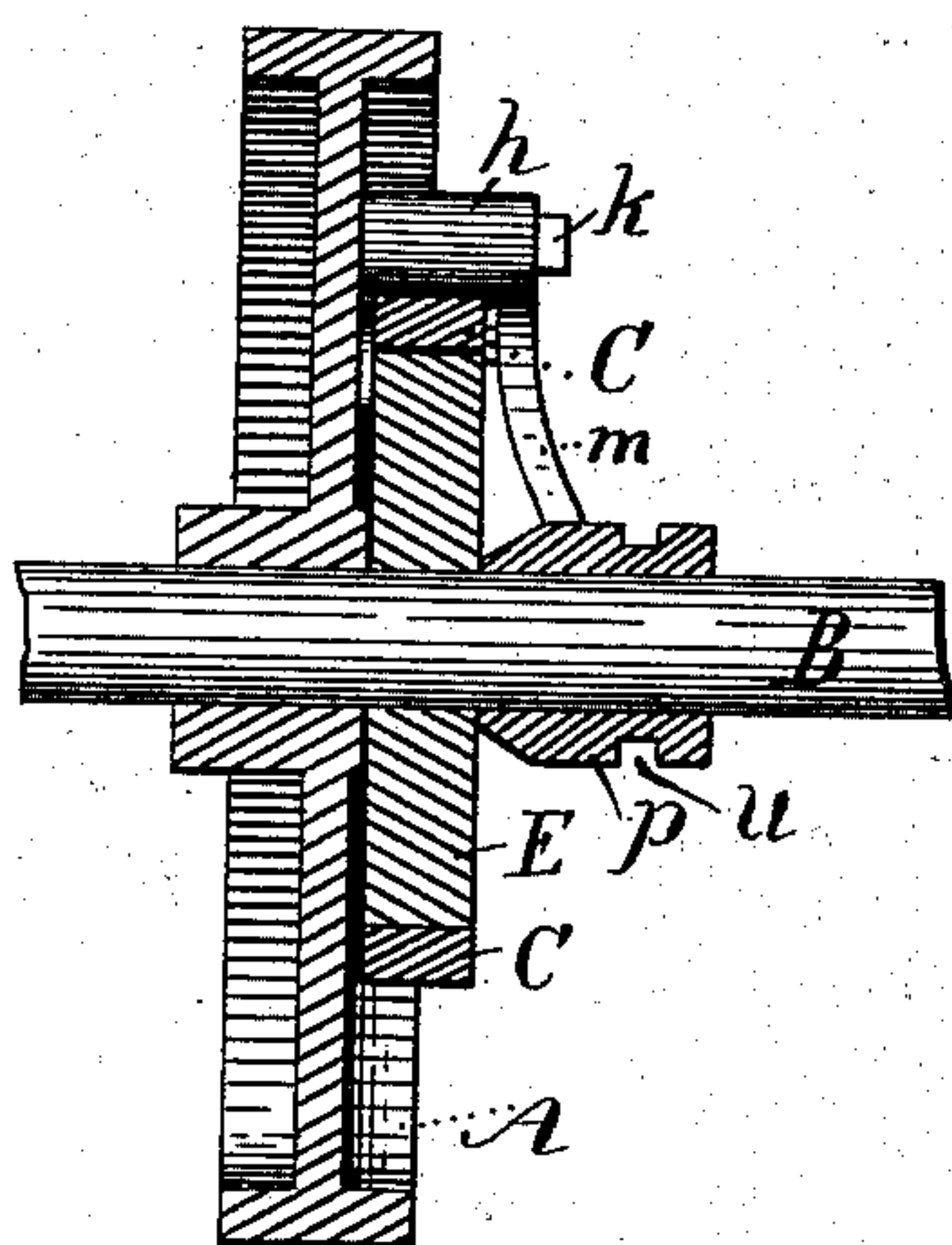
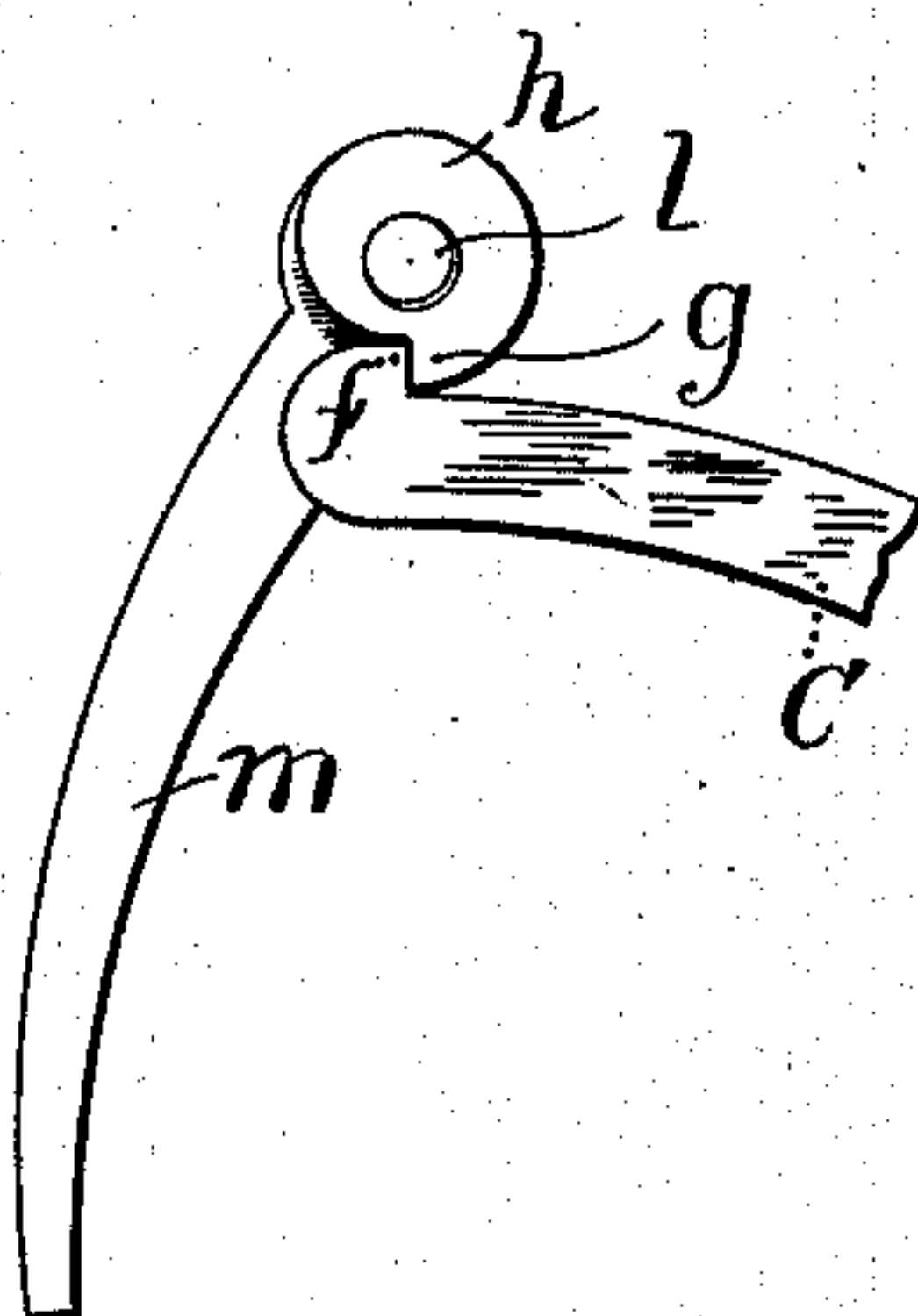


Fig. 3



WITNESSES:

George L. Barnes
David K. Andrews

INVENTOR

Albert B Bean

BY

Julius Swiss

ATTORNEY

UNITED STATES PATENT OFFICE.

ALBERT B. BEAN, OF NEW HAVEN, CONNECTICUT.

FRICITION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 326,091, dated September 15, 1885.

Application filed July 3, 1885. (No model.)

To all whom it may concern:

Be it known that I, ALBERT B. BEAN, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Friction-Clutches, of which the following is a specification.

My invention relates to an improved band friction-clutch, and has for its object to provide a simple and effective means for securing and operating the friction-band. In the ordinary construction of this class of clutches the band is loosely pivoted or hinged to the revolving mechanism, and is therefore liable to drag upon the surface of the friction-drum when revolving unclutched.

My invention consists in securing the friction-band rigidly to the wheel or arm that carries it, and also in the novel lever for clamping the band on the drum, all as hereinafter more fully described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 represents an end view of my improved clutch. Fig. 2 is a section on the line *x x*, Fig. 1. Fig. 3 shows the clamping-lever and the movable end of the friction-band.

Referring to the drawings, A designates a pulley mounted loose upon an ordinary shaft, B. A friction-band, C, is arranged concentric with the pulley and rigidly bolted at one end to a lateral web or flange, *d*, which is formed on one of the pulley-arms. The friction-band encircles a disk or drum, E, fastened on the shaft, and the fixed end of the band is offset, as shown, to clear the drum. The opposite end of the friction-band C has an exterior radially-projecting ledge or flange, *f*, forming a hook, as shown. The hook engages a corresponding ledge or shoulder, *g*, on an oscillating hub, *h*, pivoted to the pulley-arm by a bolt, *k*, passed through a perforation, *l*, in the hub. The hub is formed integral with a lever, *m*, which extends to the center of the pulley, and is provided with an adjusting-screw, *n*, at the end. The lever is actuated by a cone or tapering sleeve, P, which is arranged to slide lengthwise on the shaft B, operated by an ordinary clutch-handle (not shown) suitably fulcrumed and having its forked end received in a circumferential groove, U, in the cone P.

In operation, as the lever *m* is swung outward by the conical sleeve P the ledge or

shoulder *g* on the hub *h* oscillates and actuates the hooked end of the friction-band C, thereby clamping the band tightly upon the friction-drum E. The drum will then revolve with the band and pulley, driven by the resistance of the frictional surfaces. When the conical sleeve is withdrawn from under the lever, the band, which is elastic, will recoil from contact with the disk or drum, and the mechanism will remain unclutched. While revolving unclutched the band is in its normal position, and being bolted rigidly to the pulley it cannot sag and drag upon the surface of the friction-disk. It is evident that the friction-disk E may be secured to the pulley, and that the band and lever *m* may be attached to an arm fixed on the shaft. The arrangement, however, of the parts, as described, is preferable, as the band is more conveniently attached to the pulley, the disk is easily secured to the shaft, and the clutch is lighter and more simple when thus constructed. The web or flange *d* may extend from one arm to another or unite with the rim of the pulley, and the band may be increased in diameter within the limits of the pulley-rim. The ledge or flange *f* on the band C distributes the strain of the lever *m* equally on the cross-section of the band, and the entire mechanism is simple, cheap, compact, and effective.

In hoisting machinery the band may be bolted to the winding-drum or to the gearing thereof. The band may be bolted to the pulley at its center, with both ends movable, and each actuated by a lever.

I claim as new and desire to secure by Letters Patent—

1. In a clutch, a friction-band having one end bolted rigidly to the pulley, gear-wheel, or other revolving part, and the other end engaged with and actuated by a lever, thereby being adapted to clutch a friction disk or drum secured to the shaft, substantially in the manner described.

2. In combination, the pulley A, friction-band C, rigidly bolted thereto, the disk E, secured to the shaft, the lever *m*, pivoted to the pulley and engaged with the band, the adjustable screw *n* at the end of the lever, and the sliding cone P, all arranged and operated substantially in the manner set forth.

Witnesses: ALBERT B. BEAN.

GEORGE L. BARNES,
WM. H. KENYON.