

(No Model.)

S. MEAD.
FRICTION CLUTCH.

No. 323,189.

Patented July 28, 1885.

Fig. 1

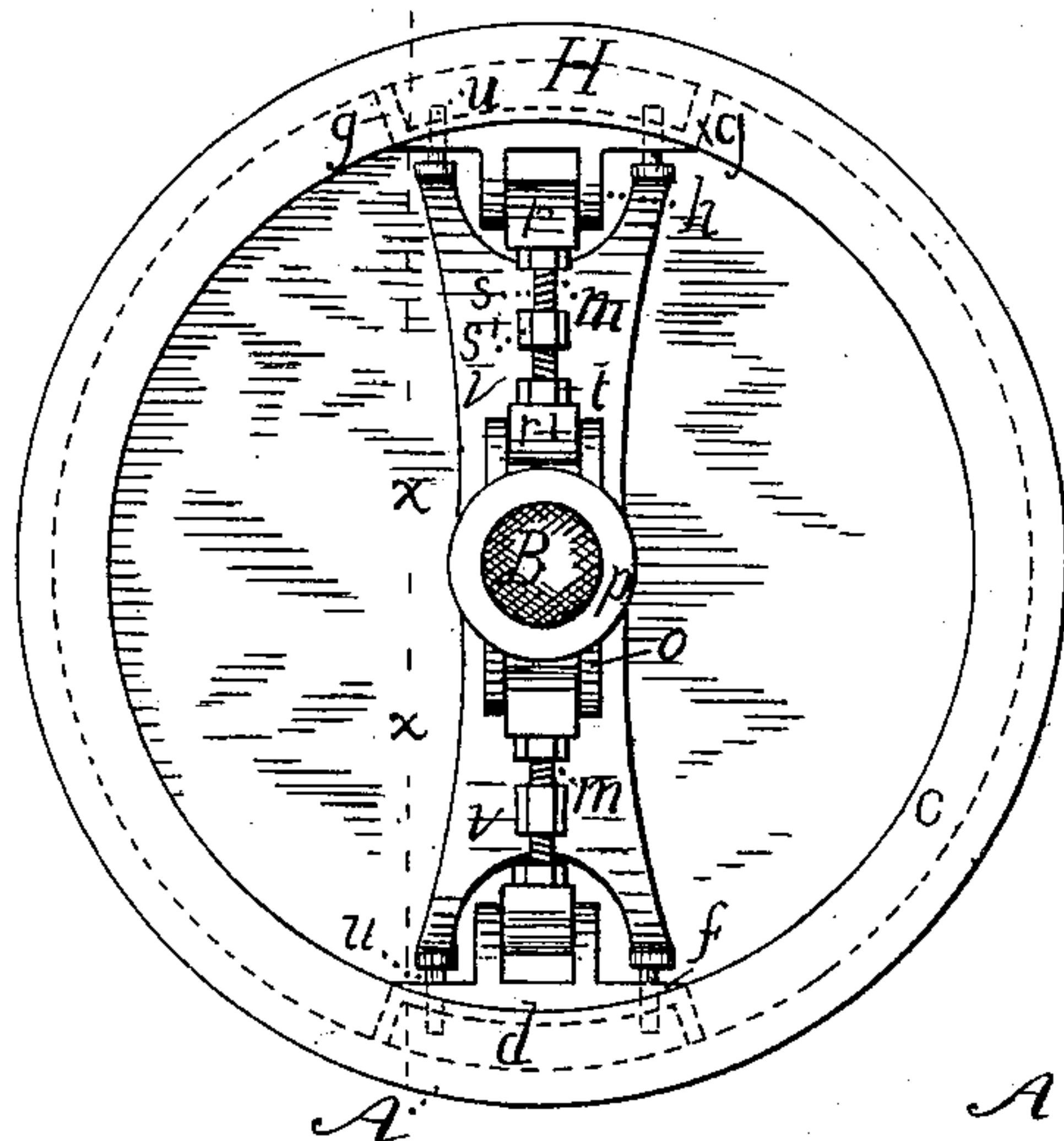


Fig. 2

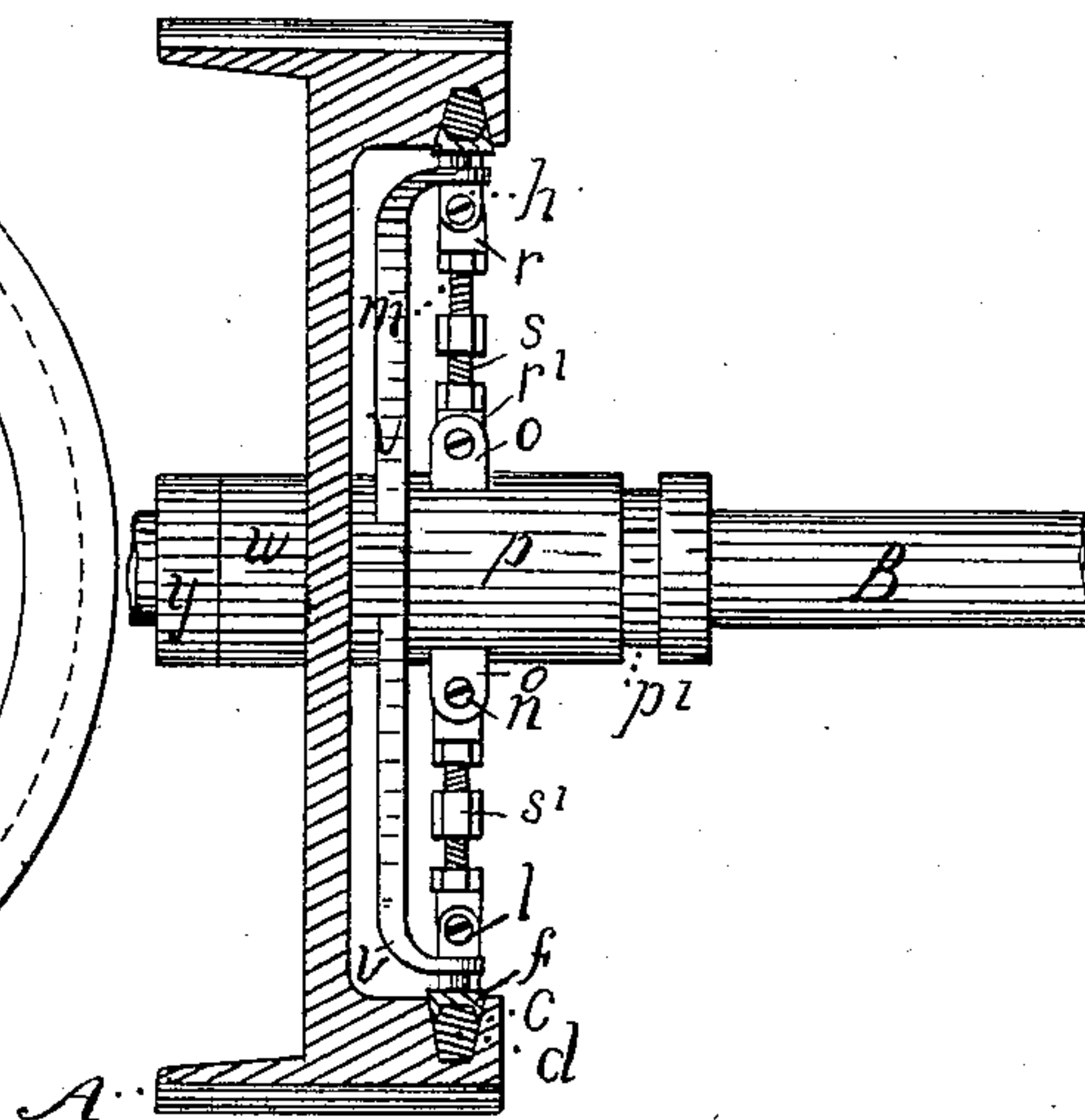
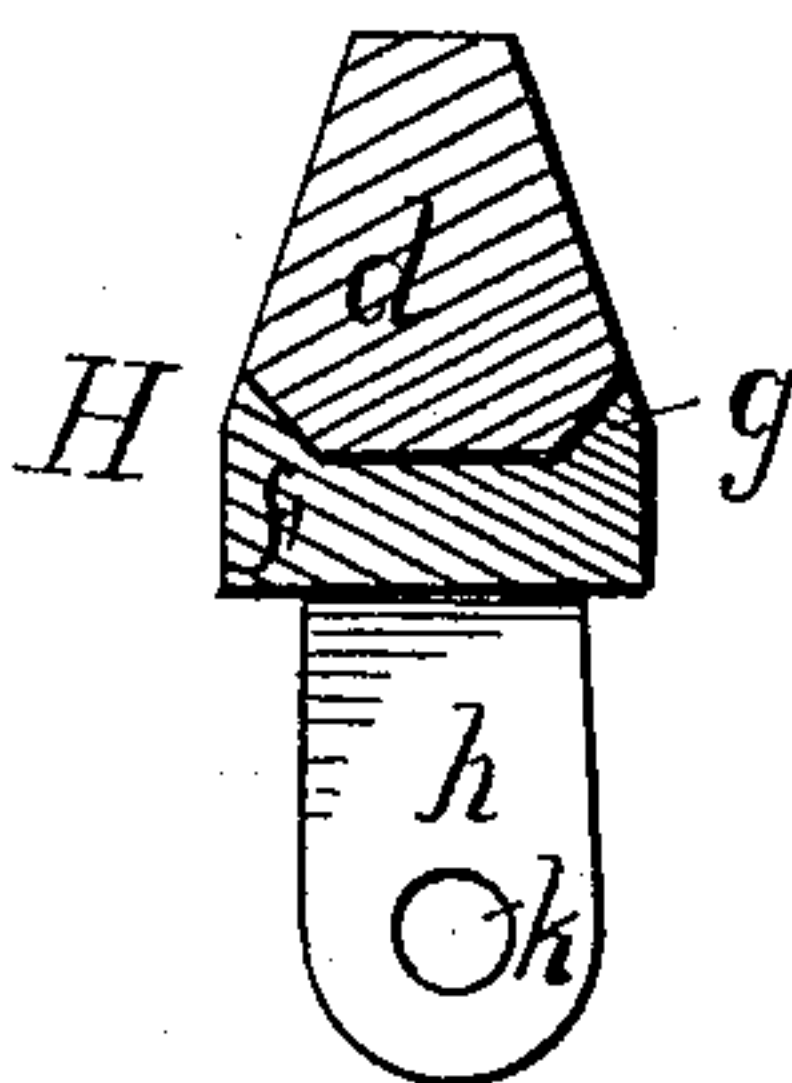


Fig. 3



WITNESSES:

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FRICTION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 323,189, dated July 28, 1885.

Application filed December 31, 1884. (No model.)

To all whom it may concern:

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

My invention relates to an improved friction-clutch, and has for its object to provide a simple and powerful clutch which may be easily adjusted to compensate for wear of the frictional surfaces.

The invention consists in the hereinafter-described means for attaining said objects.

In the drawings, Figure 1 is an end view of the clutch. Fig. 2 is a longitudinal section through *xx*, Fig. 1; and Fig. 3 shows a cross-section of one of the friction-brakes *H*.

Referring to the drawings, *A* is the pulley, fitted loosely on a shaft, *B*. A ∇ -shaped groove, *C*, is formed around the interior of the pulley-rim, and receives corresponding ∇ -shaped brakes, *H*. Each brake is composed of wooden friction-shoes *d*, supported upon metal plates *f*, which have raised edges *g*, to hold the shoes in place. On the interior surface of the plates are ears *h*, with perforations *k*, for the reception of pins or screws *l*, which connect the plates to the outer ends of the expanding-arms *m*, arranged radially within the pulley. The inner ends of each expanding-arm are connected by means of screws or pins *n* to ears *o* on a sleeve, *p*, fitted loosely on the shaft *B*. The sleeve has a groove, *p'*, formed around it to receive the points of an ordinary forked clutch-lever, (not shown,) and pivoted to any convenient fulcrum. Each expanding-arm *m* consists of two blocks, *r r'*, perforated to form bearings for the pins *l n*, and connected by a right and left handed adjusting-screw, *s*. Each screw *s* has an enlarged part, *s'*, adapted to fit a wrench, and is provided with jam-nuts *t*, that screw against the blocks *r r'*, to lock the screw after it has been adjusted. It is evident that the right and left hand screws *s* may be a part of blocks *r r'*, and connected by a suitable nut conversely to the arrangement shown. The brakes *H* are supported and carried around by studs *u*, inserted into the ends of radial arms *v*, fastened on the pulley-shaft. The studs are arranged parallel to the radii of the

arms *v*, at right angles to the shaft, and form guides on which the shoes can move radially. The hub *w* of the pulley *A* is arranged between the hub of the arms *v* and a collar, *y*, fixed on the shaft, and thus endwise motion of the pulley on the shaft is thereby prevented. The number of friction-brakes and their corresponding expanding-arms may be increased in proportion to the required size and capacity of the clutch.

It is obvious that when the clutch is to be used to drive a hoisting-drum the ∇ -shaped groove *C* may be made in a rim formed integral with the drum, also that the brake *H* may be made in one piece entirely of metal.

Constructed as above described and shown, the operation of my improved clutch is as follows: With the expanding-arms *m* in line, the screws *s* are adjusted to produce the required friction of the brakes *H* in the groove *C*, and the pulley will then be locked, and will revolve with the shaft *B*. If, then, the sleeve *p* be moved lengthwise on the shaft and the arm *m* thereby thrown out of alignment, the brakes *H* will be drawn away from contact with the sides of the groove *C*, and the pulley will be free to revolve upon the pulley-shaft, and the mechanism may be successively clutched and unclutched by throwing the sleeve to and fro.

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

1. In a friction-clutch, in combination with the brake and the clutch-sleeve, an arm pivoted to the sleeve, an arm pivoted to the brake, and a right and left handed screw tapped at its ends into such arms and pivoted at or near its middle with an angular enlargement by which it can be turned, substantially as and for the purpose described.

2. In a friction-clutch, in combination with the arm pivoted to the brake and the arm pivoted to the sliding clutch-sleeve, the right and left handed screw tapped at its ends into such pivoted arms and provided with jam-nuts to prevent the turning of the ends in the arms, substantially as and for the purpose described.

3. In a friction-clutch, in combination with the movable brake provided on its inner or lower side with suitable openings, the arm *v*,

provided on its outer end with studs or pins
h h, entering the openings in the friction-shoe,
substantially as and for the purpose described.

4. In combination with the pulley loosely
5 journaled on the shaft, the arm v, rigidly con-
nected with the shaft and provided on its outer
end with pins or studs, the brake provided
with openings engaging the pins or studs on
the arm, the clutch-sleeve sliding on the shaft,
10 and the link or arm pivotally connected at its
end to the clutch-sleeve and brake, substan-
tially as and for the purpose described.

5. In combination with the pulley or wheel

having on the interior of the rim a groove
having its sides inclined toward or approach- 15
ing each other toward the bottom of the groove,
the brake having its bearing portion shaped
to correspond with the shape of the groove,
and the expanding-arm pivotally connected at
its ends to the brake and clutch-sleeve, sub- 20
stantially as and for the purpose described.

SOLOMON MEAD.

Witnesses:

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