(No Model.)

A. L. SWEET.

FRICTION CLUTCH.

No. 568,006. Patented Sept. 22, 1896.

Fig. 1.

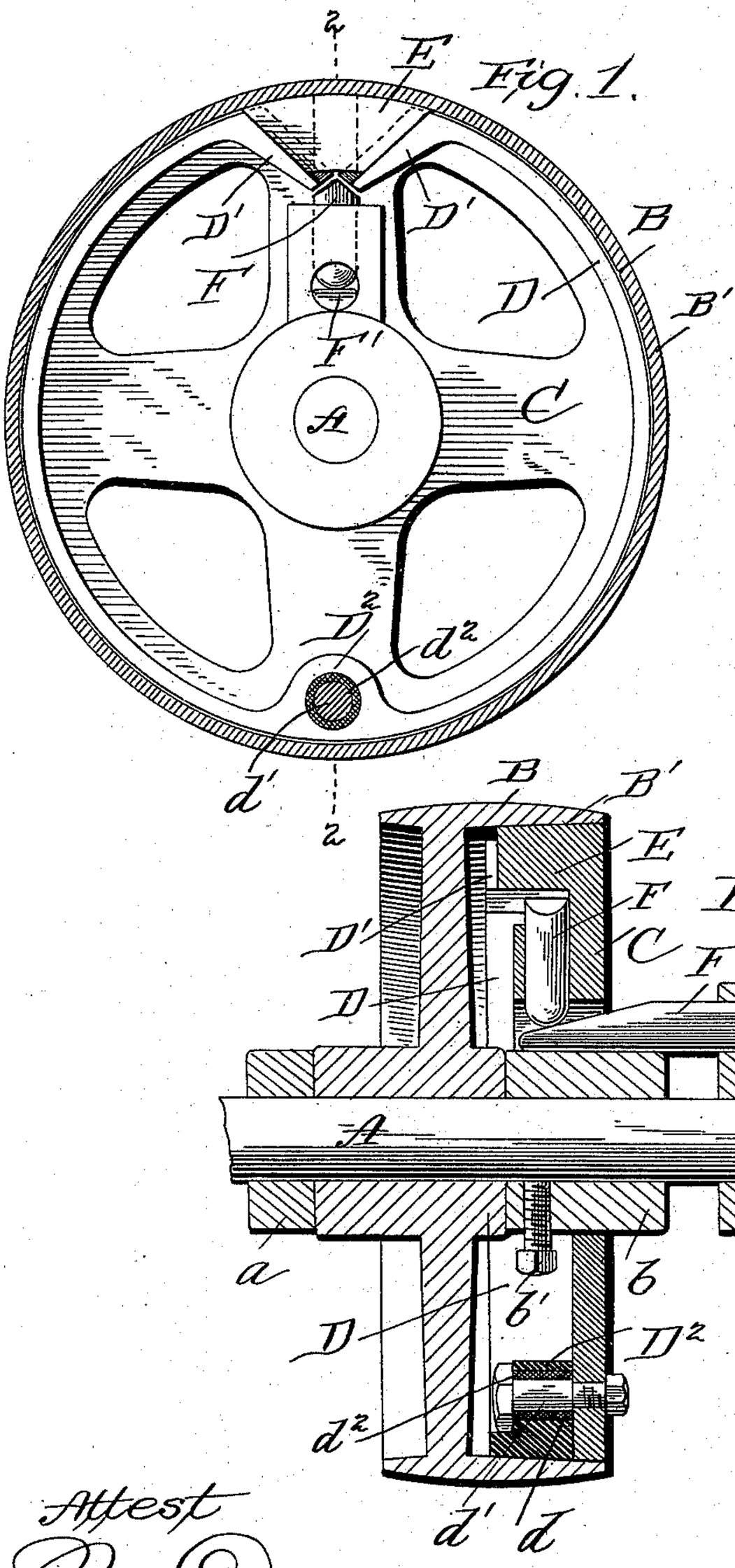

Fig. 3.

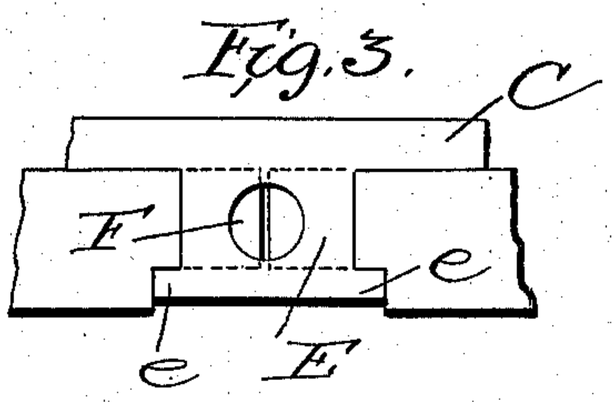

Fig. 2.

Attest

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ALONZO L. SWEET, OF CHICAGO, ILLINOIS.

FRICTION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 568,006, dated September 22, 1896.

Application filed January 4, 1896. Serial No. 574,297. (No model.)

To all whom it may concern:

Be it known that I, ALONZO L. SWEET, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Friction-Clutches, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in clutches of that class in which the pulley or like part to be driven is connected with the driving-shaft by means of a divided ring which is expanded to bear against the inner face of a flange on the part to be driven.

The object of the invention is to reduce the number of parts and simplify the construction and to enable the ring to be so expanded that it will bear at every point of its periphery against the face of the flange when expanded, but when released will automatically spring away from the face of the flange to release the same.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a face view of the pulley, with parts broken away and parts in section. Fig. 2 is a section on line 2 2 of Fig. 1, and Fig. 3 is a detail view.

In the drawings, A represents a continuously-driven shaft, and B the pulley or like part to be connected therewith and driven thereby. This pulley is confined in place against longitudinal movement upon the shaft by means of collars *a b*, secured upon either side thereof by means of set-screws, as *b'*. The pulley is provided with a suitable bearing-flange, which may be either the inner face of the rim of the pulley, as shown in the drawings, or where the pulley is too large to render this convenient a separate flange may be provided, as will be readily understood by those skilled in the art. This flange is indicated at B' in Figs. 1 and 2. A web C is secured upon or formed integral with the collar *b*, preferably fitting within the outer edge of the rim or flange, and to the inner face of this web or support the expansible ring D is secured by an elastic or yielding connection, as hereinafter described. The ring is provided at its divided portion with inwardly-extending inclined portions D', and on its opposite side has an enlarged portion D^2, through an opening *d* in which is passed a bolt *d'*, which connects the ring with the web or support. The opening *d* is made larger than the bolt, so that the latter can be surrounded by an elastic washer or ring d^2, preferably of rubber. This elastic washer tends normally to hold this portion of the ring away from the flange, allowing the pulley to revolve freely without contact therewith, but when the ends of the ring are forced apart to expand the ring the washer yields and allows the ring to engage with every portion of the flange. A wedge-shaped projection E is formed upon or secured to the inner face of the web or support between the inwardly-extending ends of the ring and the flange, the inclined faces of this wedge forming bearing-faces against which the inclined ends of the ring bear when the same is expanded. In order to prevent lateral displacement of the ends, flanges *e e*, formed upon the edges of the projection E, overlap the ends of the ring and guide them in their movement. The ends of the ring are forced outwardly to expand the ring by means of a radial pin F, the upper end of which is beveled to fit the extreme ends of the inward extensions of the ring ends, while the inner end of the pin is acted upon by a wedge F', extending through an opening in the web and operated from a sliding collar F^2 or in any suitable or well-known manner.

Having thus described my invention, what I claim is—

1. In combination with a pulley having a suitable rim or flange, a web or support, an expansible ring having an elastic connection with said web, and means for expanding the ring, substantially as described.

2. In combination with a pulley having a suitable rim or flange, a web or support, a divided ring within said rim or flange, having a lateral opening, a bolt passing through the opening and connecting the ring with the web, and an elastic washer surrounding the bolt and forming a yielding bearing for the ring, substantially as described.

3. In combination with a pulley having a suitable rim or flange, a web having a wedge-shaped bearing portion within said flange, a divided ring elastically connected with the

web and having its ends provided with inclined faces corresponding to the faces of the wedge-shaped bearing portion, and means for forcing said ends against the wedge to expand the ring, substantially as described.

4. In combination the pulley having a suitable rim or flange, the web having a wedge-shaped bearing portion, the divided ring elastically connected with the web and having its ends provided with inwardly-extending inclined bearing-faces, the radially-movable pin bearing against said inwardly-extending ends, and the wedge for moving said pin outwardly, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALONZO L. SWEET.

Witnesses:
J. C. RONAN,
KARL KEELY.