(No Model.)

L. D. DANA.

FRICTION CLUTCH.

No. 431,446. Patented July 1, 1890.

Fig. 2.

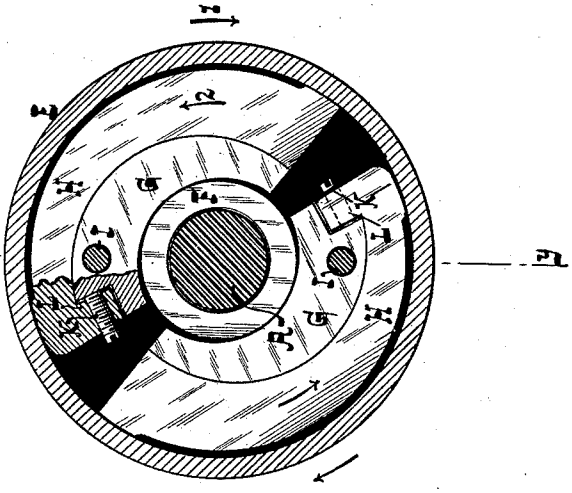
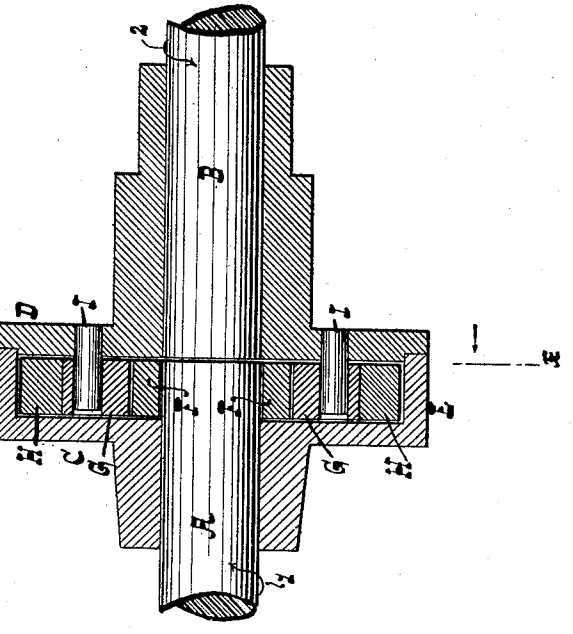


Fig. 1.



WITNESSES:

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INVENTOR:

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BY

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UNITED STATES PATENT OFFICE.

LESTER D. DANA, OF WAUPACA, WISCONSIN.

FRICTION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 431,446, dated July 1, 1890.

Application filed April 21, 1890. Serial No. 348,875. (No model.)

To all whom it may concern:

Be it known that I, LESTER D. DANA, a citizen of the United States, residing at Waupaca, in the county of Waupaca and State of Wisconsin, have invented new and useful Improvements in Friction-Clutches, of which the following is a specification.

This invention relates to an improvement in friction-clutches; and the invention consists in the details of construction set forth in the following specification and claims and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of a clutch along *y y*, Fig. 2. Fig. 2 is a section along *x x*, Fig. 1.

In the drawings, the letters A B indicate two shafts, which can be bound together by the clutch. To the shaft A is fixed a disk C, and to the shaft B is fixed a disk D. The disk C is provided with a flange E. About the shaft A sits a loose collar F. Between the collar F and flange E are interposed wedges G H. The disk D is shown connected to the wedges. In the drawings pins I on the disk D enter suitable sockets on the wedges G; but of course the pins might be on the wedges and the sockets in the disk D, or any other well-known suitable connection might be used for connecting the disk D and the wedges. When the shaft A, with the disk C, is turned in the direction of arrow 1, or the shaft B with the disk D, is turned in the direction of arrow 2, the wedges G H of each pair of wedges are moved in a direction tending to bring the narrow parts of the wedges together, so that said wedges do not bind or jam between the collar F and flange E and the shafts A B can turn independently of one another; but if the shaft A and disk C are turned in the direction opposed to arrow 1, or the shaft B, with the disk D, is turned in the direction opposed to arrow 2, the wedges G H are moved to bring the broad parts of the wedges together, so that said wedges jam or bind between the collar F and flange E, thereby compelling the disks C D and shafts A B to turn together. The collar protects the shafts against wear by the wedges.

When the wedges G H are worn, the wear can be compensated by the set-screws K passing through shoulders L on the wedges H. The wedges G H of each pair are independent of one another, so that if any one wedge is worn or unsuitable it can be removed and replaced by another wedge without the remaining wedges being disturbed. The disk D, in order to support the pins I, need not necessarily be of disk form, since arms or braces for supporting the pins will also be operative; but a disk D is of advantage, since it can be made to cover the flange E so that no dust or foreign matter will have access to the wedges G H.

In certain cases the disks C D may be mounted on one and the same shaft, one firmly and the other loosely, as described in my patent, No. 205,362, dated June 25, 1878.

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

1. A friction-clutch composed of a disk provided with a flange, a loose collar, and wedges interposed between the collar and flange, in combination with a second disk connected to the wedges, substantially as described.

2. A friction-clutch composed of a disk provided with a flange, a loose collar, and two pairs of wedges interposed between the collar and the flange, in combination with a second disk connected to one wedge in each pair of wedges, substantially as described.

3. A friction-clutch composed of a disk provided with a flange, a loose collar, and two pairs of wedges interposed between the collar and flange, in combination with a second disk connected to one wedge in each pair of wedges and a set-screw for each pair of wedges, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

LESTER D. DANA.

Witnesses:
C. S. OGDEN,
KATE OGDEN.