

(No Model.)

E. RIVETT.
FRICTION CLUTCH.

No. 462,738.

Patented Nov. 10, 1891.

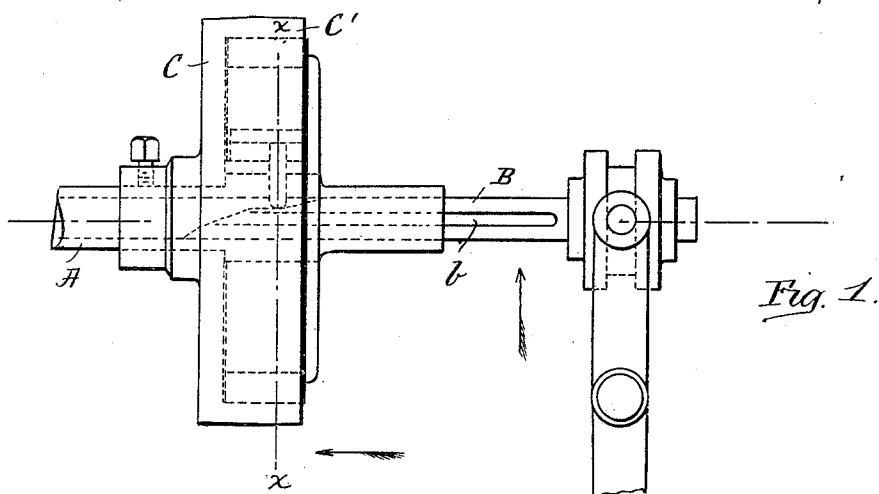


Fig. 1.

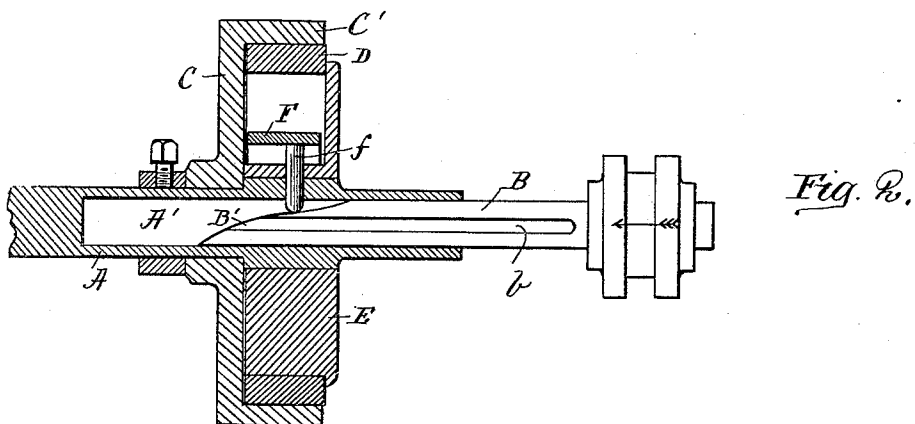


Fig. 2.

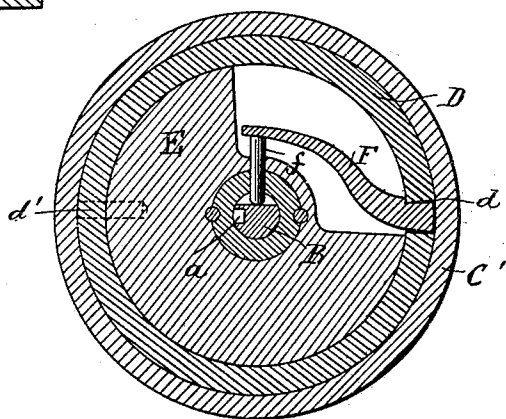


Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

EDWARD RIVETT, OF BOSTON, MASSACHUSETTS.

FRICTION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 462,738, dated November 10, 1891.

Application filed February 9, 1891. Serial No. 380,811. (No model.)

To all whom it may concern:

Be it known that I, EDWARD RIVETT, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Friction-Clutches, of which the following, taken in connection with the accompanying drawings, is a specification.

10 This invention relates to improvements in friction-clutches for the purpose of connecting and disconnecting a loose pulley, gear, cam, or other object to and from a shaft, as will hereinafter be more fully shown and described, reference being had to the accompanying drawings, wherein—

15 Figure 1 represents a side elevation of the invention. Fig. 2 represents a central longitudinal section, and Fig. 3 represents a cross-section on the line X X shown in Fig. 1.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

25 A represents the shaft having a tubular bore or recess A', adapted to receive the clutch-expander rod B, which is capable of a longitudinal adjustment within said recess, but is preferably prevented from turning around its axis within the same, and for this purpose I prefer to make a longitudinal groove 30 b on said rod B, adapted to receive a key or projection a on the interior of the recess A', as shown.

35 On the shaft A is loosely journaled the disk C, which may represent a pulley, gear, cam, or the like, to be frictionally connected to the shaft A whenever so desired, said disk having an annular rim or flange C', adapted to receive the expansive slitted ring D, as shown 40 in the drawings.

In one piece with the shaft A or secured to it in any suitable manner is a hub E, which is arranged within the expansive slitted ring D, as shown in Figs. 2 and 3, said hub being 45 held in one place to said ring, preferably diametrically opposite to its slitted portion d, as shown in dotted lines at d' in Fig. 3. The said ring and hub may be held together by means of a screw, pin, rivet, key, or any other

well-known device without departing from 50 the essence of my invention.

The inner end of the rod B is made tapering or inclined, as shown at B' in Fig. 2, or it may be conical for the purpose of pressing outward a pin f when the rod B is moved 55 in the direction of the arrow shown in Fig. 2, said pin being preferably guided in a lateral perforation made through the shaft A and part of the hub E, as shown in Figs. 2 and 3.

F is a lever the outer end of which is inserted in the slit d of the ring D, the said lever having its inner end resting on the outer end of the pin f, as shown in Figs. 2 and 3. It is not essential that the pin or projection f should be made separate from the lever F, as 65 it may be made in one piece with it or secured to it, if so desired.

The operation of the improved friction-clutch device is as follows: When it is desired to frictionally connect the shaft A and the disk C, all that is necessary to do is to push the expander-rod B inward, as shown in the drawings, causing the inner end of the lever F to be forced outward, and causing its outer end to expand the slitted ring D, which is 75 thereby forced against the interior of the annular flange of the disk C, thus securing the latter very firmly to the shaft and its hub and holding said parts together as long as the slitted ring is so expanded. To release the 80 disk C from its shaft it is only necessary to move the rod B in a direction opposite to that shown by arrow in Fig. 2, by which the outward pressure on the lever F is released, causing the slitted ring D to contract sufficiently 85 to release it from contact with the ring C' on the disk C, thus permitting the latter to rotate without imparting motion to the shaft A, or vice versa.

Any suitable device may be employed for 90 actuating the expander-rod B without departing from the essence of my invention.

Having thus fully described the nature, construction, and operation of my invention, I wish to secure by Letters Patent and claim— 95

The herein-described friction-clutch, consisting of a tubular shaft, a disk loosely journaled thereon, a slitted expansive ring se-

cured to said shaft, a longitudinally-adjustable tapering expander-rod arranged within the tubular shaft, and a lever actuated by said rod and having its outer end inserted in the
5 slitted portion of said expansive ring, substantially as and for the purpose set forth.
In testimony whereof I have signed my

name to this specification, in the presence of two subscribing witnesses, on this 3d day of February, A. D. 1891.

EDWARD RIVETT.

Witnesses:

ALBAN ANDRÉN,
ALICE A. PERKINS.