No. 664,028. Patented Dec. 18, 1900.

G. A. RYD.

DEVICE FOR IMPARTING ROTARY MOTION.

(No Model.) (Application filed Oct. 14, 1899.)

2 Sheets—Sheet 1.

Fig. 1.

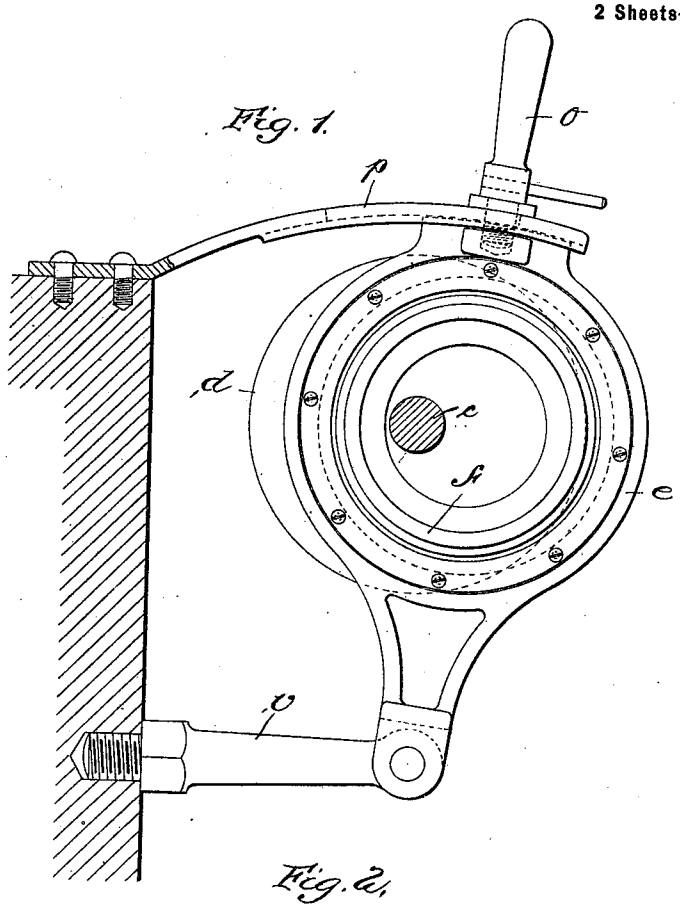
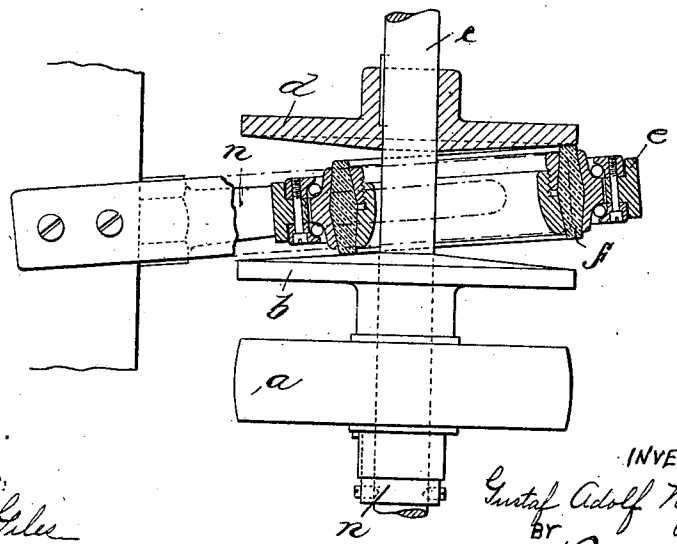


Fig. 2.



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Fig. 3.

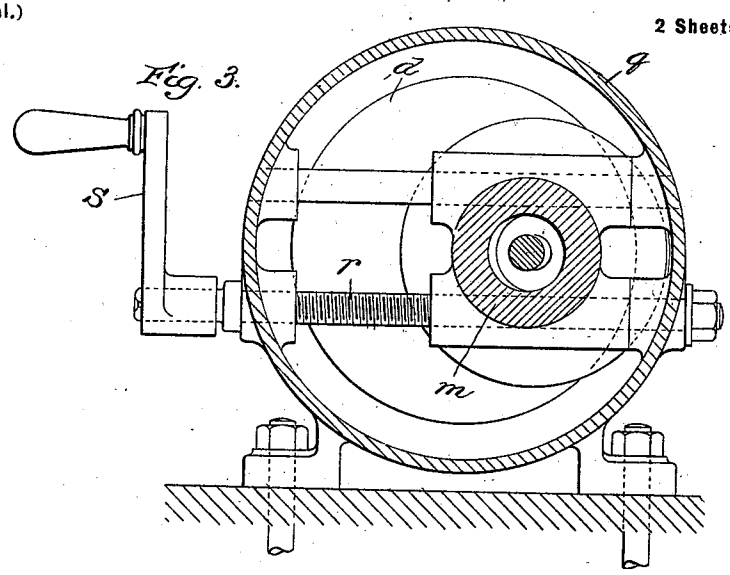
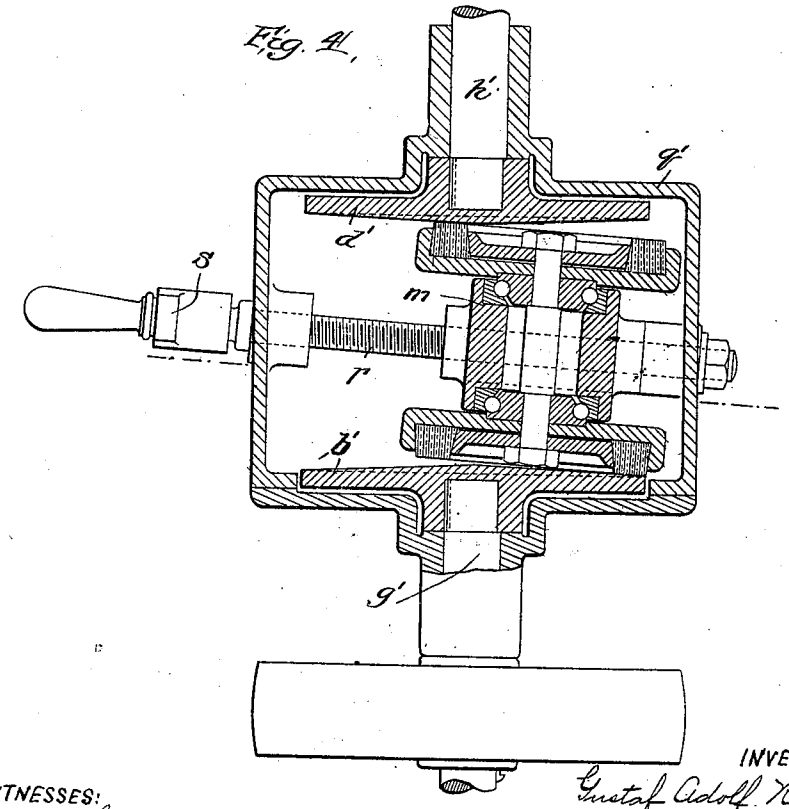


Fig. 4.



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DEVICE FOR IMPARTING ROTARY MOTION.

SPECIFICATION forming part of Letters Patent No. 664,028, dated December 18, 1900.

Application filed October 14, 1899. Serial No. 733,659. (No model.)

To all whom it may concern:

Be it known that I, GUSTAF ADOLF RYD, engineer, (Nya Aktiebolaget Atlas,) of Stockholm, in the Kingdom of Sweden, have invented certain new and useful Improvements in Devices for Imparting Rotary Motion with Variable Speed to Rotating Parts of Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to a device by means of which one part of a machine rotating at a constant speed is enabled to impart rotary motion with variable speed to another part.

In the accompanying drawings, Figure 1 is a side elevation with the shaft in section, and Fig. 2 is a plan view with parts in section, showing how the rotary motion of a pulley running at constant speed is transmitted to a shaft. Fig. 3 is a transverse section, and Fig. 4 a horizontal section, showing the transmission of motion from one shaft to another.

In the arrangement shown in Fig. 1 the pulley *a* is fast on the hub of the friction-disk *b*, which latter is loose on the shaft *c*. A fixed ring *n* limits the endwise movement of the disk. Upon the shaft *c* a second friction-disk *d* is keyed at a certain distance from the friction-disk *b*. Between these two friction-disks is placed a frame or ring *e*, mounted with capability of rotation upon another ring *f*. The rings thus combined together are placed at an angle between the disks *b* and *d* in such a manner that the projecting sides of the ring *f* lean one against the disk *b* and the other against the disk *d*. When the disk *b* rotates, it causes the ring *f* to rotate within the stationary frame *e*. The ring *f* then communicates its rotary motion to the disk *d*, which causes the shaft *c* to revolve. The ring *e*, supporting the friction-ring *f*, is below turnably secured to a solid arm *v*. At the upper edge the ring *e* is provided with a handle *o*, by means of which the same may be turned in such a manner that the friction-ring *f* will occupy different positions between the disks *b* and *d*, corresponding to the desired speed of same. A curved way *p* serves as a guide for the handle *o*, which may be adjusted to different points thereof.

The frame *e*, with its friction-ring *f*, may be adjusted and held in position between the disks *b* and *d* by any appropriate contrivance, such as a screw or the like, as shown in Fig. 2 at *x*. When the ring is in the position shown at Fig. 1, it will be obvious that the shaft *c* must revolve slower than the pulley *a*, owing to the point of contact between the ring *f* and disk *b* being nearer the center than that of the ring and the disk *d*. The speed of the shaft must therefore increase in proportion as this latter point of contact approaches the shaft and the former recedes therefrom. When the center of the ring *f* coincides with the center of the shaft, the speeds of the shaft *c* and the pulley *a* become uniform.

The device hereinbefore described may also usefully serve as a coupling; but in such case the frame *e* must not only be movable endwise, as hereinbefore described, but it must be adapted to be moved sidewise in such a manner as to interrupt the contact between the sides of the ring *f* and the two disks *b* and *d*, respectively, in order to uncouple the mechanism. With this coupling it will be possible before coupling up to determine the speed which it is desired to impart to the driven mechanism.

In the arrangement illustrated in Figs. 3 and 4 different speed is transmitted to two disks secured to different shafts. The friction-rings, as well as the disks *b'* and *d'*, are surrounded by a covering *q'*, which forms at the same time journals for the shafts *g'* and *h'* of the disks *b'* and *d'*. In the covering *q'* there is, moreover, journaled the screw *r*, on which, like a support, the journal *m* of the friction-rings is movable. The screw *r* can be turned by means of the crank *s*. It may be easily understood how the friction-rings are moved between the disks *b'* and *d'* when the screw *r* is turned.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In combination, the driving and driven disks facing each other and axially in line,

the rotary transmitting means between them extending in inclined position from the face of one disk to the face of the other disk and means for adjusting the transmitting means, said means touching the surface of one disk at a point diametrically opposite the point of contact between the said means and the surface of the other disk, substantially as described.

2. In combination, the driving and driven disks facing each other and axially in line, the transmitting-ring between them extending in incline position from the face of one disk to the face of the other disk, and means for adjusting the transmitting-ring transversely, said ring touching the surface of one disk at a point diametrically opposite the point of contact between the said ring and the surface of the other disk, as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GUSTAF ADOLF RYD.

Witnesses:
CARL P. GERELL,
C. T. WAURINSKY.