

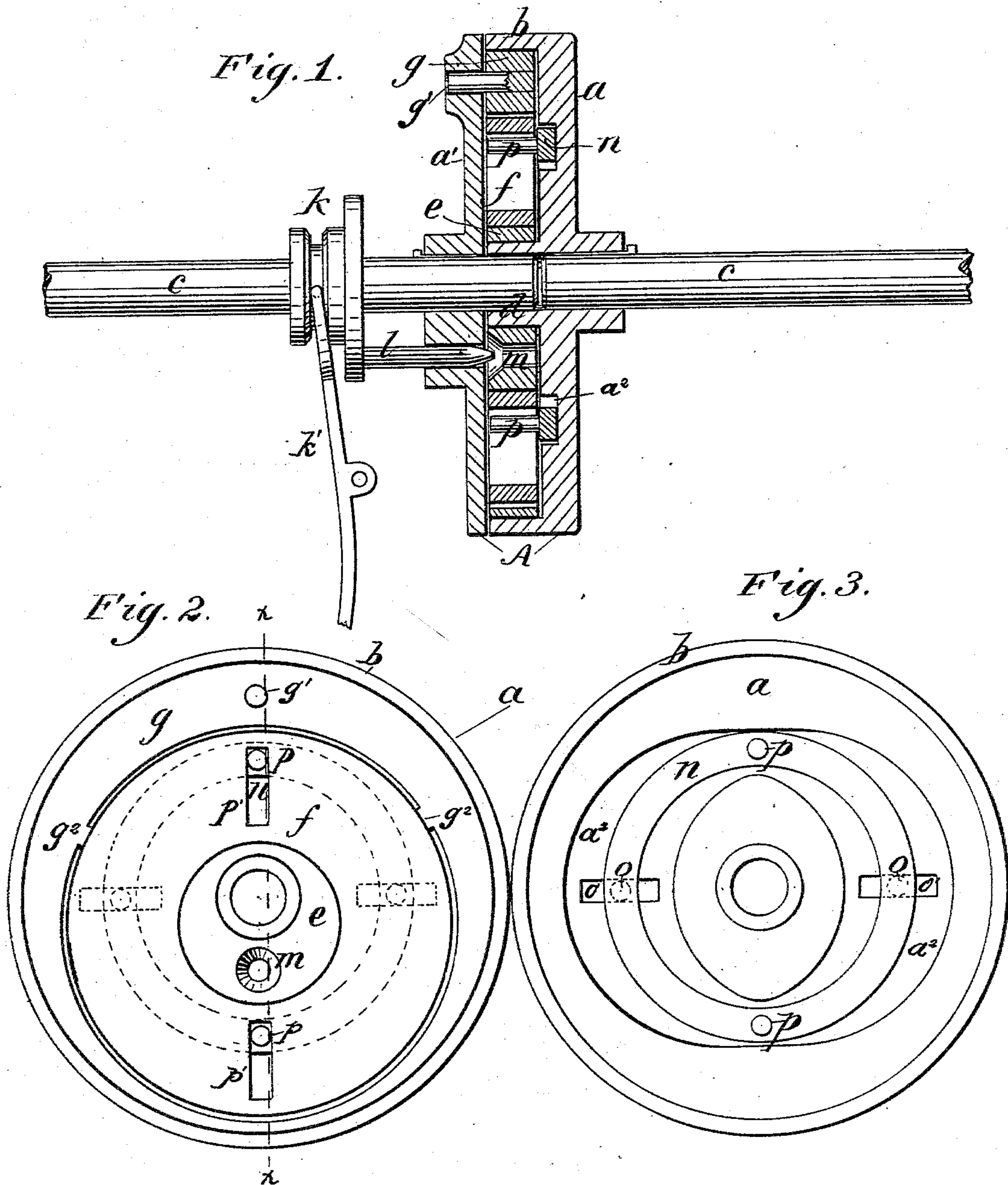
(No Model.)

W. W. WYTHER.

CLUTCH.

No. 283,452.

Patented Aug. 21, 1883.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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CLUTCH.

SPECIFICATION forming part of Letters Patent No. 283,452, dated August 21, 1883.

Application filed December 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. WYTHER, of Red Bank, in the county of Monmouth and State of New Jersey, have invented a new and useful Improvement in Clutches, of which the following is a full, clear, and exact description.

My invention consists in clutch mechanism, constructed as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification; in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a transverse section of my improved mechanism as applied to a pulley, on line $x x$, Fig. 2, when the disk a' is in position. Fig. 2 is a plan view of the pulley with one disk removed. Fig. 3 is a plan view of one of the flanged disks, with the ring in the recess thereof.

The mechanism may be used for couplings, pulleys with hoisting-drums, or otherwise, for engaging and disengaging a prime mover. As shown, the invention is applied as a clutch-pulley, A.

The pulley consists of two circular disks, a and a' , one of which is made with a flange, b , so as to form a case in which the friction devices are contained. $c c$ is a divided shaft, the disk a being attached upon the end of one portion and the disk a' upon the other portion; or, if the shaft be continuous, one disk will be loose. The disk a is formed with a hub that projects at both sides, so as to receive both ends of the divided shaft. Around the part d of the hub of the disk a is an eccentric, e' . Around this eccentric is a circular disk, f , and outside of that, between it and the flange b , is a clamping-wedge, preferably made in the form of an eccentric ring, g , or a segment thereof.

The disk a' is provided with a hole for receiving a pin, g' , projecting from the outer eccentric, g , so as to lock the parts. Upon the end of the shaft connected to the disk a' is fitted a sliding collar, k , adapted to be moved to or from the pulley by a lever, K' , and is provided with a pin, l , that passes through the hub of the disk a' , opposite a hole, m , that is provided in the inner eccentric, e , so that by the movement of the sleeve the pin may be entered in the hole m , or withdrawn

therefrom. The disk a is formed interiorly with an elliptical recess, a^2 , in which is a ring, n , having at one side pins $o o$, that enter slots $o' o'$, formed in the disk a , and at the other side pins $p p$, that enter slots $p' p'$, formed in the ring f , the slots in the ring f being at right angles to those in the disk a . The inner surface of the eccentric g is provided with two inwardly-projecting lugs, g^2 , so that it will only bear upon the ring f at those points, and thus permit the mechanism to be clamped when moving in either direction. In operation, the disk a' , being in rotation with the sleeve k , moved out to disengage the pin l from the eccentric e , the ring f is clamped by the eccentrics $e g$, and the disk a is thereby carried around with the disk a' . When the sleeve is moved inward, and the pin l engages with the eccentric e , this eccentric is caused to move with the disk a' , to which the outer eccentric, g , is locked, and as both of the said eccentrics are now locked to the disk a' , they never change their position with respect to each other, and consequently there will be no clamping action so long as the said eccentric e is locked to the disk a' . While the eccentric e is locked to the disk a' the ring f is given an oscillating movement by the said eccentric, the ring n serving to prevent rotation of the same, but allowing of its shifting movement.

It is to be observed that the clamping is caused by a wedge action induced by the rotation of the disk a' when the eccentric e is not locked thereto. The movement of the sleeve K outward is not the movement of clutching, as it simply releases the parts, so that they are free to clutch.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with a pulley, of an inner rotating eccentric, an intermediate non-rotating disk, and an outer clamp or segment connected to one of the disks of said pulley, substantially as herein shown and described.
2. The combination, with the disks $a a'$, of the inner rotating eccentric, e , the disk f , the outer clamp or segment, g , and the ring n , secured in a recess of the disk a , and connected to the disk f , substantially as herein shown and described.
3. The combination, with the disks $a a'$, the

apertured inner eccentric, *e*, the non-rotating disk *f*, and the outer clamp or segment, *g*, connected to the disk *a'*, of the sliding collar *k*, provided with the pin *l*, substantially as herein
5 shown and described.

4. The combination, with the disk *a'*, and the outer clamp or segment, *g*, secured thereto, of the recessed and slotted disk *a*, provided

with the flange *b*, the ring *n*, provided with pins *o p*, the disk *f*, provided with the slots *to p' p'*, and the inner eccentric, *e*, substantially as herein shown and described.

WILLIAM W. WYTHER.

Witnesses:

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EDWD. M. CLARK.