

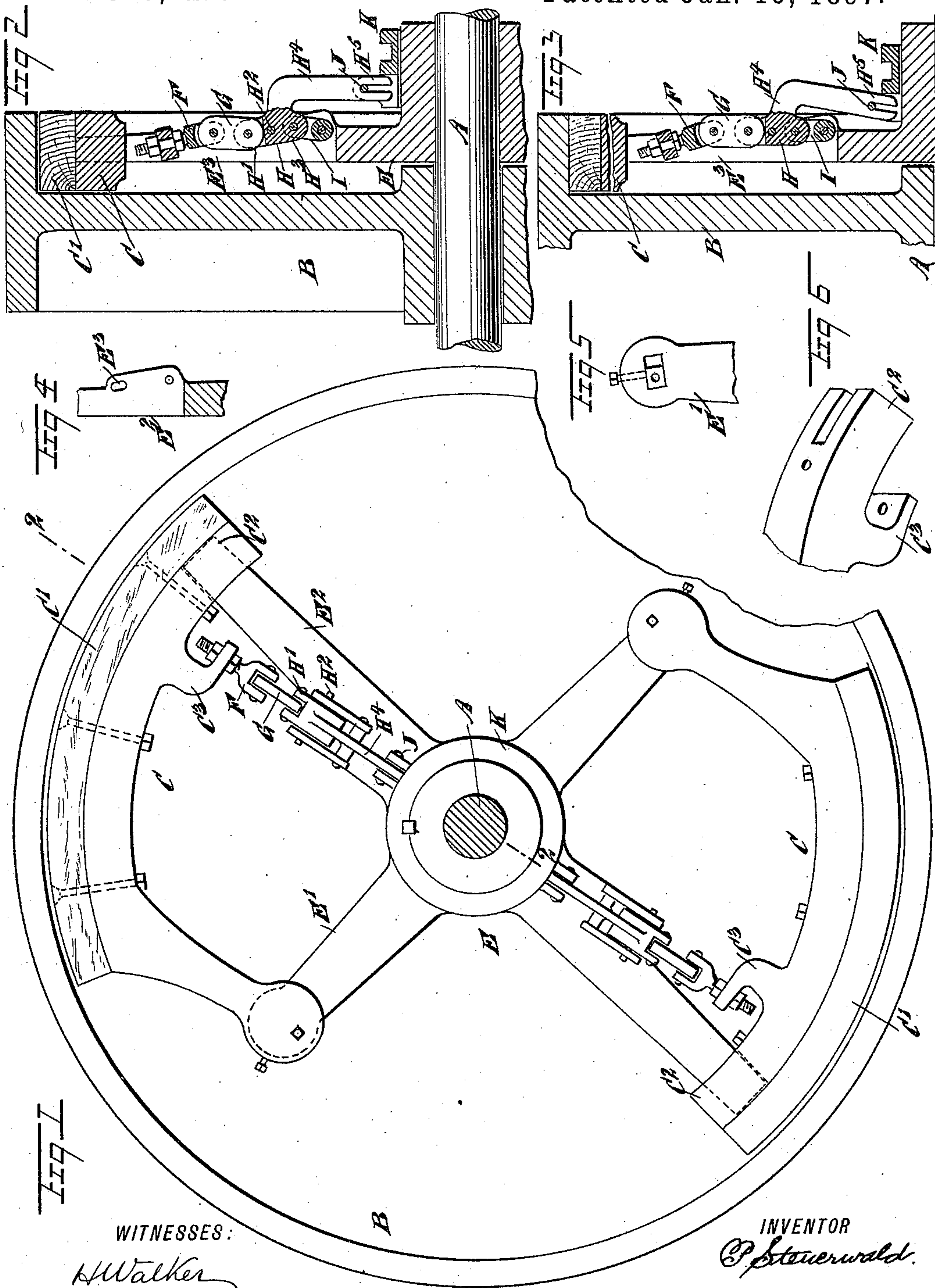
(No Model.)

P. STEUERWALD.

FRICTION CLUTCH.

No. 575,622.

Patented Jan. 19, 1897.



WITNESSES:

H. Walker

Rev. G. H. Foster

INVENTOR

P. Steuerwald

BY

Munn & Co.

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

PHILIP STEUERWALD, OF CHICAGO, ILLINOIS.

## FRICTION-CLUTCH.

SPECIFICATION forming part of Letters Patent No. 575,622, dated January 19, 1897.

Application filed April 28, 1896. Serial No. 589,403. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP STEUERWALD, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Friction-Clutch, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved friction-clutch which is simple and durable in construction, very effective in operation, easily manipulated, and arranged to prevent entangling of the belt in case the latter accidentally slips off the pulley.

The invention consists principally of a pivoted brake-shoe adapted to engage the inner surface of the pulley-rim, a link connected with the free end of said shoe, a second link having a fixed fulcrum, and a three-armed lever connected at two of its arms with said links and at its other arm with a shifting device.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

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

Figure 1 is a face view of the improvement. Fig. 2 is a transverse section of the same on the line 2 2 of Fig. 1. Fig. 3 is a like view of the same with the parts in a different position. Fig. 4 is a partial side elevation of one of the spider-arms with part in section. Fig. 5 is a face view of part of the spider-arm carrying the fulcrum for the brake-shoe, and Fig. 6 is a perspective view of the free end of one of the brake-shoes.

On the driven shaft A is mounted to rotate loosely a pulley B, adapted to be engaged at the inner surface of its rim by one, two, or more brake-shoes C, each having a segmental facing C', of wood, leather, or other suitable material, for engaging the inner face of the rim. One end of the brake-shoe C is fulcrumed on the free end of an arm E', forming part of a spider E, keyed or otherwise fastened on the shaft A next to the hub for the pulley B, as plainly indicated in Fig. 2. The free end of the shoe C is slotted, as at C<sup>2</sup>, to be guided on the outer end of an arm E<sup>2</sup> of the spider E, as is plainly shown in Figs. 5 and 6.

On the brake-shoe C near its free end is formed a bracket C<sup>3</sup>, on which is fastened a fork F by means of two nuts, as plainly shown in Fig. 1, said fork being pivotally connected by a link G with the arm H' of a three-armed lever H, fulcrumed at H<sup>2</sup> in an elongated slot E<sup>3</sup>, formed in the arm E<sup>2</sup>. The three-armed lever H has its second arm H<sup>3</sup> in alignment with the arm H', but on the opposite side of the fulcrum H<sup>2</sup>, and this arm H<sup>3</sup> is pivotally connected with a link I, fulcrumed at its inner end to the arm E<sup>2</sup>. The third arm H<sup>4</sup> of the three-armed lever H extends inwardly, and is formed at its inner free end with a fork H<sup>5</sup>, engaged by a transverse pin J, held on a shifting collar K under the control of the operator, said shifting collar K being mounted to slide loosely and longitudinally on the hub of the spider E.

Now it will be seen that when the links G and I, together with the lever H, are in an open position, as shown in Figs. 1 and 2, then the brake-shoe C is out of frictional contact with the rim of the pulley B. When the shifting collar K is moved inwardly to the position shown in Fig. 3, then a swinging motion is given to the arm H<sup>4</sup> of the three-armed lever H to bring the other two arms H' and H<sup>3</sup> in alignment with the links G and I, whereby pressure in an outward direction is exerted on the shoe C to cause the latter to engage with its facing C' the inner face of the pulley B. Thus the friction-shoe C by engaging the pulley B carries the latter around, it being understood that said shoe or shoes turn with the spider E, secured on the driven shaft A. When the operator moves the shifting lever K outward to its former position, (shown in Fig. 2,) then the brake-shoes are moved out of engagement with the rim of the pulley, and consequently the latter is disconnected from the driven shaft A.

It will further be seen that this device is very simple and durable in construction, easily manipulated, and arranged to prevent entanglement of any of the working parts, as the latter are within the rim of the pulley with the exception of the arm H<sup>4</sup>.

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

1. The combination of a shaft, a flanged

pulley loose on the shaft, a spider fixed to the shaft, a brake-shoe pivoted at one end to one arm of the spider and having at the opposite end a slotted portion contiguous to a  
5 laterally-projected bracket, a fork attached to the brake, a link pivotally connected to the fork, a three-armed lever fulcrumed to one arm of the spider and having one arm connected to the link, a collar sliding on the  
10 shaft to which the second arm of the lever is connected, and a second link connected with the third arm of the lever and to the spider, substantially as described.

2. The combination of a driven shaft, a  
15 flanged pulley loose on the shaft, a spider fixed to the shaft, the spider having a recess adjacent to a longitudinal slot, a brake-shoe

having one end pivoted to one of its arms and having its opposite end slotted and provided with a laterally-projecting bracket, a fork attached to the bracket, a link pivoted to the fork, a three-armed lever to one arm of which the link is connected, the lever being located in the recess of one of the arms and fulcrumed in the slot thereof, a collar sliding longitudinally with the shaft and connected to the second arm of the lever, and a second link connected to the third arm of the lever and to the spider, substantially as described.

PHILIP STEUERWALD.

Witnesses:

VENUS VAN ESS,

WALTER LIEBENSTEIN.