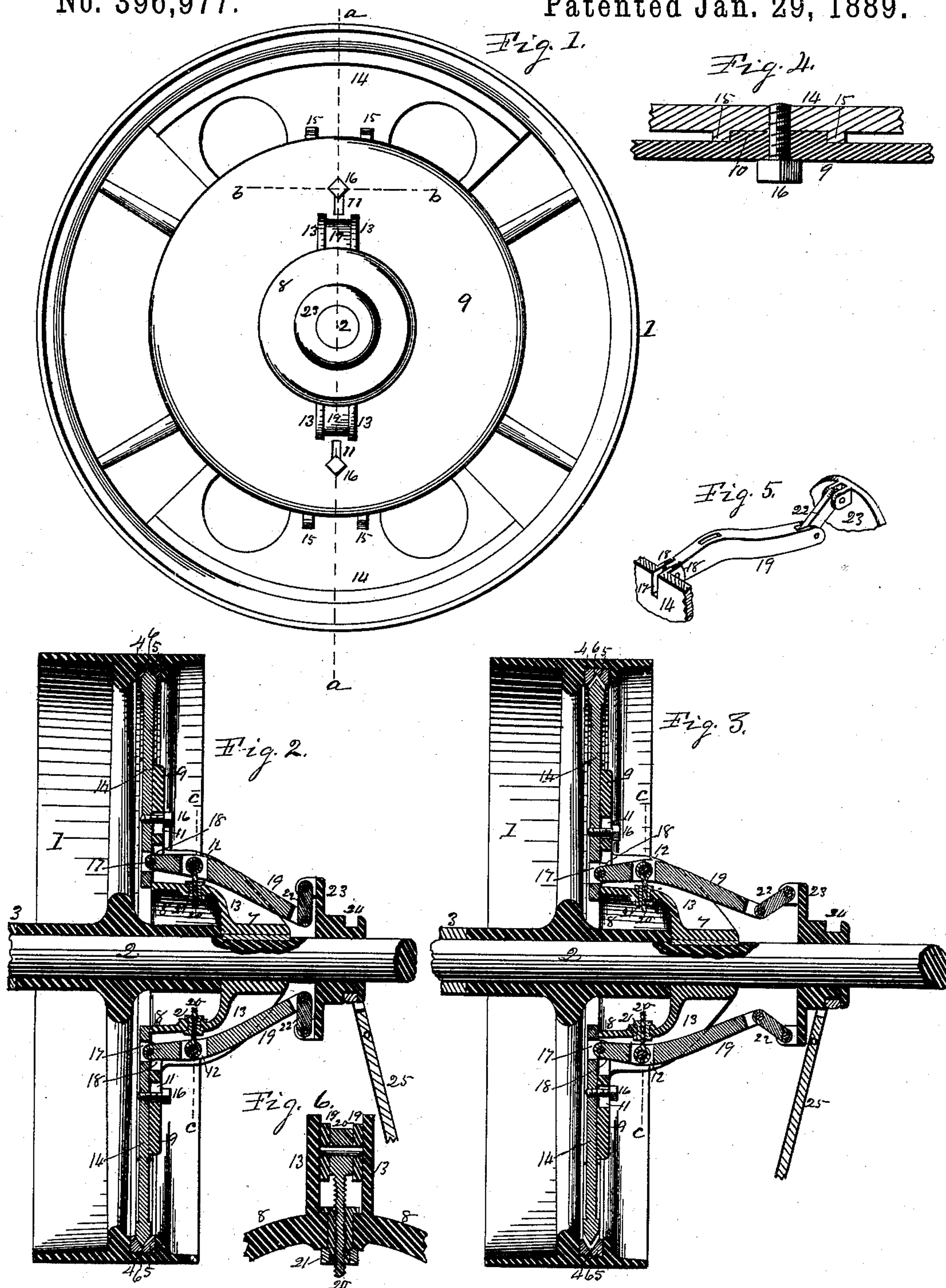


(No Model.)

E. BLAKE.  
CLUTCH PULLEY.

No. 396,977.

Patented Jan. 29, 1889.



WITNESSES.  
E. C. Merrick  
H. Tyson

INVENTOR.  
Evan. Blake.  
Per. Jacob Behr  
Att'y.



# UNITED STATES PATENT OFFICE.

EVANS BLAKE, OF ROCKFORD, ILLINOIS.

## CLUTCH-PULLEY.

SPECIFICATION forming part of Letters Patent No. 396,977, dated January 29, 1889.

Application filed July 25, 1887. Serial No. 245,232. (No model.)

*To all whom it may concern:*

Be it known that I, EVANS BLAKE, a citizen of the United States, residing in the city of Rockford, county of Winnebago, and State of Illinois, have invented certain new and useful Improvements in Clutch-Pulleys, of which the following is a specification.

This invention relates to a class of pulleys known as the "clutch-pulleys." Its object is to produce a more efficient article of its class at a reduced cost; and to this end I have designed and constructed the apparatus represented in the accompanying drawings, in which—

Figure 1 is an elevation of a pulley embodying my invention. Fig. 2 is a central section on dotted line *a*, in which the parts are shown in frictional contact. Fig. 3 is also a central section on dotted line *a*, in which the parts are shown in their non-frictional position. Fig. 4 is a transverse section on dotted line *b*. Fig. 5 is an isometrical representation of the lever mechanism, and Fig. 6 is a transverse section on dotted line *c*.

The pulley 1 (represented in the figures) is in the main substantially the same as pulleys heretofore in use, and is mounted to revolve on its shaft-support 2, and a collar, 3, fixed on the shaft prevents a movement of the pulley in one direction on its shaft-support. A groove, 4, is formed in the inner surface of the rim of the pulley, and a wood filling, 5, is fixed therein, and a V-shaped groove, 6, in its inner face forms the frictional surface of the pulley.

The fixed portion of the driving mechanism to the pulley consists of a hub, 7, fixed to the shaft against the hub end of the pulley, a bell-shaped portion, 8, extending over the end portion of the pulley-hub and a disk-web, 9, radiating from the open end of the bell-formed portion. A rib, 10, projects from the inner face of the disk and extends from its inner edge to its periphery on opposite sides of the shaft, and radial slots 11 are formed in the rib centrally on opposite sides, and flanges 13 on opposite sides of the slots 11 rise from the bell portion and extend from the disk to the hub in parallel lines. Friction-sectors 14 are provided with parallel radial ribs 15 to receive the ribs 10 on the disk to slide radially there-

on, and a screw, 16, passed through the slot 11 and screw-threaded into the sector serves to hold it in place to permit of a limited radial sliding movement.

The peripheral rims of the friction-sectors 14 are beveled in V shape to enter the V-shaped groove 6 on the inner face of pulley-rim.

The sectors 14 are provided with a slot, 17, and ears 18 project therefrom on each side of the slot and receive one end of a lever, 19, which is pivotally connected therewith.

A screw, 20, which forms the fulcrum-support to the lever 19, is pivoted in a slotted portion, 12, of the lever, and its screw-threaded portion is secured in a screw-threaded thimble, 21, which is capable of a rotary movement in its support in the wall of the bell-shaped portion 8 of the driving mechanism between the flanges 13, rising from its periphery. The inner end of the thimble 21 is made in a screw-nut form to receive a wrench, by which it may be turned to raise or lower the fulcrum-support of the lever.

A link, 22, connects the outer end of the lever 19 with a sliding head, 23, mounted on the shaft-support.

An annular groove, 24, is formed in the sliding head, which receives a lever, 25, employed to impart a sliding movement to the head endwise on its shaft-support.

To adjust the friction mechanism to the required holding force, the sliding head is moved to the position shown in Fig. 2, and the thimble 21 is then turned to press the friction-sectors into the V-groove in the rim of the pulley with a force sufficient to hold it for the purposes required, after which the movements of the shifting-lever to the position shown in Figs. 2 and 3 connect and disconnect the friction mechanism with the pulley to stop and start the machinery with which the pulley is connected.

In the foregoing I have employed but two friction-sectors; but more than two may be employed.

I have also employed wood in the pulley to form the friction-groove; but instead thereof any other material capable of use for the purpose may be employed, or the V-shaped groove may be formed in the pulley in the solid.

From the foregoing it will be seen that by the movement of the shifting-lever to the position shown in Fig. 2 the friction-sectors will be forced to engage the pulley, and that the position of the parts will be such as to hold them in engagement, and when the shifting-lever is carried to the position shown in Fig. 3 the sectors will be withdrawn from their frictional contact and the pulley will be free to revolve on its shaft-support.

I claim as my invention—

1. The combination, with a pulley, a friction device to move into and out of engagement with the pulley, a hub, and an operating-head, of a lever connecting the operating-head with the friction device, and an adjustable fulcrum to the lever, whereby the holding force of the friction mechanism is regulated, substantially as set forth.

2. The combination, with a pulley, a hub, a friction-sector, and an operating sliding head,

of a lever connected at one end with the friction-sector and its other end connected to the operating sliding head, and an adjustable fulcrum to the lever to regulate the holding force of the friction mechanism, substantially as and for the purpose set forth.

3. The combination, with the pulley, the friction device, the sliding head, the thimble-support, and the thimble, of the lever connecting the friction-sectors and the sliding head, and a fulcrum to the lever, said fulcrum having a screw-connection with the thimble-support, said thimble capable of a rotary movement in its support to adjust the fulcrum, substantially as and for the purpose set forth.

EVANS BLAKE.

Witnesses:

JACOB BEHEL,  
A. E. HOLT.