(No Model.)

F. ROCHOW.

DEVICE FOR SECURING PULLEYS TO SHAFTS.

No. 361,323. Patented Apr. 19, 1887.

FIG. 1.

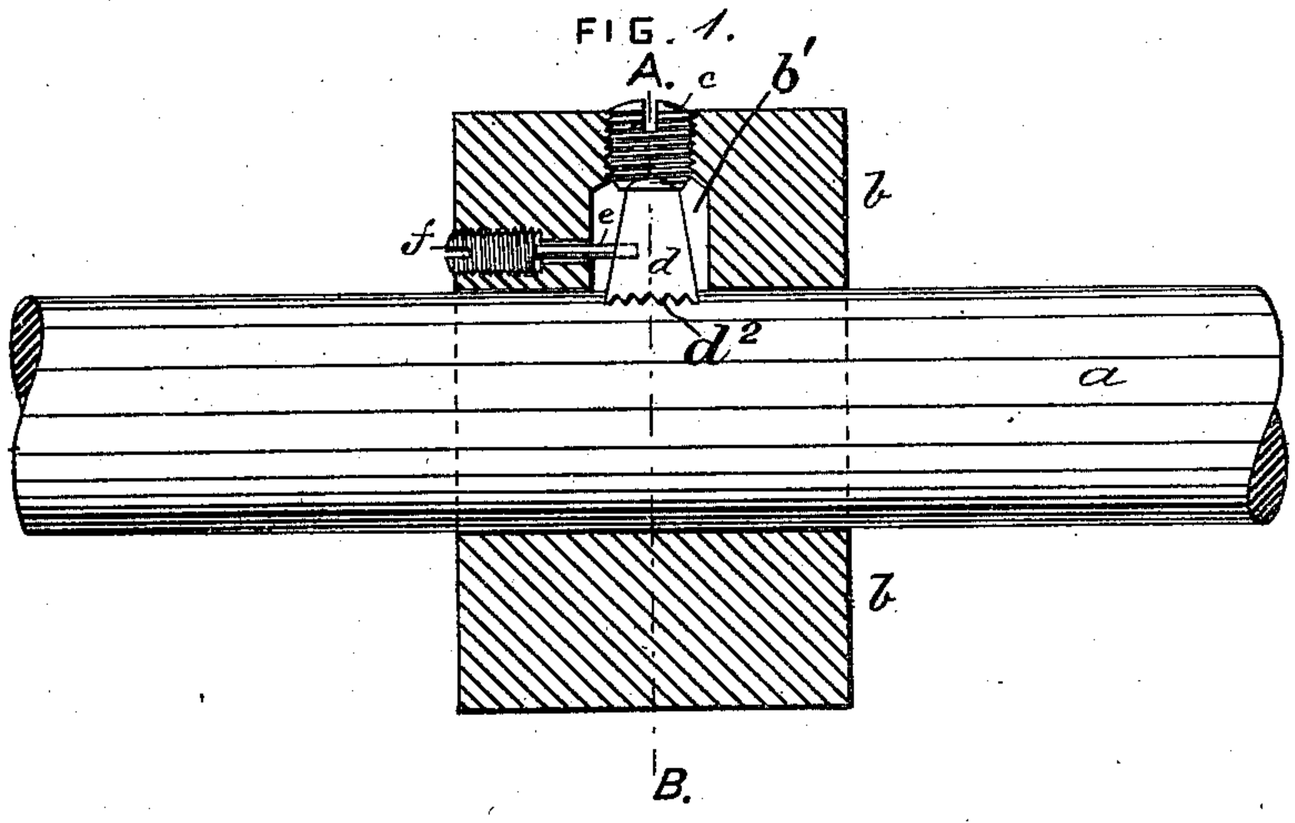


FIG. 2.

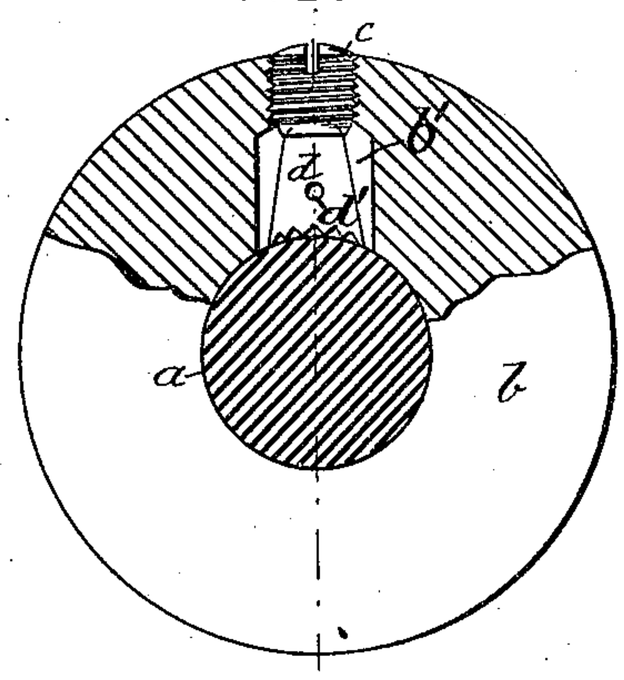


FIG. 3.

FIG. 5.

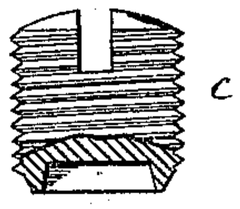


FIG. 4.

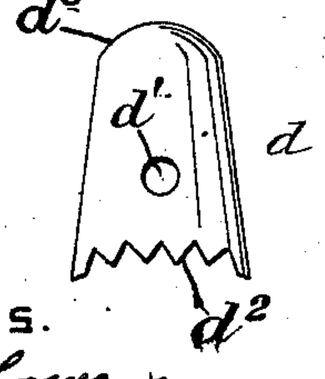
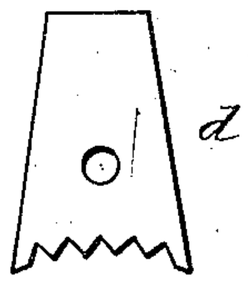


FIG. 6.



WITNESSES.

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DEVICE FOR SECURING PULLEYS TO SHAFTS.

SPECIFICATION forming part of Letters Patent No. 361,323, dated April 19, 1887.

Application filed September 22, 1886. Serial No. 214,297. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND ROCHOW, a citizen of Saxe-Coburg-Gotha, Germany, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Devices for Securing Collars and Pulleys to Shafts, of which the following is a specification.

My invention relates to a novel device for securing collars and pulleys to fixed or rotary shafts, of which a full and clear description will be given hereinafter.

My invention consists of a conical or cylindrical shaped block serrated on its larger diameter or base thereof, formed at the base to fit the shaft, the upper end of which said block engages with a screw-plug by direct contact or by means of a socket provided for that purpose in the end of the screw-plug, and the body of the said conical block being provided with a small hole adapted to receive the end of a screw-pin by which it is held within the concavity made in the hub or collar.

In the drawings, Figure 1 represents a longitudinal section of a collar in which is shown the principal features of my invention. Fig. 2 represents a part cross-section taken on line A B of Fig. 1. Fig. 3. is a detached view of the screw-plug. Fig. 4 is a detached view of the conical block. Figs. 5 and 6 are modifications of Figs. 3 and 4.

Similar letters refer to similar parts throughout the drawings, in which—

a represents the rotary shaft, and *b* the fixed collar provided with the concavity *b'*, adapted to receive the conical block *d*, the smaller end of which engages with the end of the screw-plug *c*, which enters the face of the collar. The conical block *d* is provided with the drilled hole *d'*, adapted to receive one end of the screw-pin *e*, the other end engaging with the screw *f*. The face of the larger end of the conical block is provided with a rough face, d^2, which engages with the surface of the rotary shaft *a*.

Modus operandi.—The screw *c* is set up against the conical block *d* moderately tight, and where a strain is brought against the collar *b*, either in a direction longitudinally or transversely to the shaft, then as the collar *b* is able to slip slightly in either direction on account of the clearance between it and the conical block *d*, the latter will—as it cannot slip on the shaft, but is free to oscillate slightly at the smaller end, which enables it to act as a toggle—try to tip on the shaft opposite to the side from where the strain is exerted against the collar *b*; thus the collar brings a powerful pressure upon the shaft. The pressure being proportionate to the strain brought to bear against the collar or hub of a pulley, the latter, after having passed through a very slight motion in the direction of the strain, will be unable to move any farther, unless the pressure is so great as to crush the metal of the shaft.

It will be obvious that, whether this device be used on a collar or on a hub of a pulley, wheel, or sheave, &c., the action will be exactly the same; in fact, it may be used to advantage in a variety of cases where lateral movement between two objects has to be prevented, and where the distance between them is unchangeable. The screw-pin *e* prevents the conical block *d* from turning and from falling out when the collar or hub of a pulley is removed from the shaft.

I am aware that set-screws with projecting heads have heretofore been used for securing collars and hubs of wheels, &c., to rotary shafts. I am also aware that keys have been placed between the shaft and the hub of wheels, and held in position by means of set-screws; but these devices have been proved to be dangerous, for in many instances they have caught belts, which by accident have slipped from the pulley, and have torn them asunder and they have also done much injury otherwise.

I do not wish to confine myself to the exact construction as herein shown, as the screw-pin and screw engaging therewith may be made in one piece and the conical block may also be made square or spherically, so it will be obvious that many devices may be used without departing from the spirit of my invention.

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

In a device for securing wheels and pulleys

to shafts, the combination consisting of the serrated block, the screw-plug engaging with the upper end of said serrated block, and the screw-pin adapted to hold the serrated block within the opening of the hub, substantially as shown and described.

Signed at New York, in the county of New York and State of New York, this 17th day of December, A. D. 1886.

FERDINAND ROCHOW.

Witnesses:
B. SKAATS,
JOHN I. BRANCH.