

UNITED STATES PATENT OFFICE.

CHARLES A. PAUL, OF FORT WAYNE, INDIANA.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 466,948, dated January 12, 1892.

Application filed February 26, 1891. Serial No. 382,932. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. PAUL, a citizen of the United States, residing at Fort Wayne, in the county of Allen and State of Indiana, have invented certain new and useful Improvements in Pulleys; 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.

This invention relates to that class of pulleys which are so constructed that they may be applied to or removed from a shaft without removing said shaft from its bearings, and which are generally known as "split pulleys."

The object of my invention is to provide a pulley of the class named that may be accurately centered upon the shaft, so as to run truly therewith.

My invention further has for its objects to provide for holding the clamping-block of the pulley in place while the pulley is being applied to the shaft, as more fully hereinafter set forth.

The above-mentioned objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a longitudinal section of a pulley constructed according to my invention, and Fig. 2 is an elevation showing the face of the pulley; Fig. 3, a cross-section taken on the line xx of Fig. 1, and Figs. 4, 5, and 6 are details of parts of my said invention.

Referring to the drawings, the letter A indicates the rim of the pulley, which is constructed, preferably, of segmental sections of wood cemented or fastened together, as usual, and having a break at one side, provided with angular grooves a , in which is removably fitted a short segmental section B, having angular ends to engage the grooves above mentioned.

The letter C indicates two cross-arms, the ends of which are dovetailed into or otherwise secured to the rim of the pulley. The said cross-arms are braced together by means of the removable screw-bolts D, which are headed at one end and provided with nuts E at the other. Between the two cross-arms is movably located a block of wood or other

suitable material, (indicated by the letter F.) The said block is placed at one side of the axial plane of the pulley, and its face adjoining said plane midway between its ends is formed with a substantially semicircular groove G, which fits one-half of the shaft when the pulley is in place thereon. At each side of said groove are formed angular recesses H, for the purpose hereinafter explained.

The letter I indicates a similar movable block, which is located between the cross-arms on the opposite side of the axial plane of the pulley to the block F, and which is provided with a semicircular groove R and angular recesses L, similar to those in the block F.

The letter M indicates a series of bolts headed at one end and screw-threaded at the other. These bolts pass through apertures m in the blocks at each side of the central semicircular groove and may be of any number, two being represented in the present instance.

Between the angular recesses in the adjoining faces of the blocks are located angular or wedge-shaped blocks N, which are held in position by means of pins P, and which may be adjusted laterally by means of the bolts R', so as to fit the pulley to shafts of different diameters. The inner faces of the cross-bars are grooved transversely, and in said grooves are set transverse plates R², having openings through which the bolts R' pass, the plates serving to strengthen the cross-arms and permit the pulley to be more securely fastened to the shaft.

To permit the pulley to be conveniently applied to the shaft it is necessary that one of the clamping-blocks should be temporarily held in place. This may be accomplished in any convenient manner. In the present instance I have shown this block fastened to the cross-arms by means of a wedge T, setting in an inclined groove in one of the ends of the block and the inner face of one of the cross-arms. The wedge may consist of an inclined pin T', driven diagonally into the cross-arm.

To apply my improved pulley to a shaft, one of the brace-bolts D is removed, also the removable section from the rim and the removable block nearest thereto. The pulley is then set over the shaft with the semicircular

groove of one of the blocks resting thereon. The other block is then placed in position and the two blocks clamped together upon the shaft by means of the bolts. As both of the
5 clamping-blocks are movable, it will be perceived that they will be brought together simultaneously, being guided by the angular blocks, so as to accurately center the pulley upon the shaft. The pulley being thus centered, the brace-bolt and removable segmental
10 section of the rim are replaced, thus completing the attachment of the pulley to the shaft.

While it is intended to construct the principal portions of the pulley of wood, it is evident that other suitable material may be employed without departing from my invention.
15 Having thus fully described my invention, what I claim as my invention, and desire to secure by Letters Patent, is—

20 1. The combination, in a split pulley, of the cross-arms and the movable blocks located between the same and recessed on their adjoining faces, as described, of the wedge-shaped

blocks within said recesses and confining-bolts whereby the parts are centered and secured to a shaft, substantially as specified. 25

2. The combination, with the cross-arms and the wedge-shaped blocks secured thereto, of the plates set in grooves in the faces of the arms and the bolts whereby the wedge-shaped
30 blocks are held and adjusted, substantially as specified.

3. The combination, in a split pulley, of the cross-arms, the movable blocks located between the same and recessed on their adjoining
35 faces, as described, of the wedge-shaped blocks, the pins that hold the same in place, and confining-bolts whereby the parts are centered and secured to a shaft, substantially as specified. 40

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES A. PAUL.

Witnesses:

S. M. ELLISON,
N. E. NOBLE.