(No Model.)

G. D. ROWELL.

SPLIT PULLEY.

No. 493,523. Patented Mar. 14, 1893.

Fig. 1.

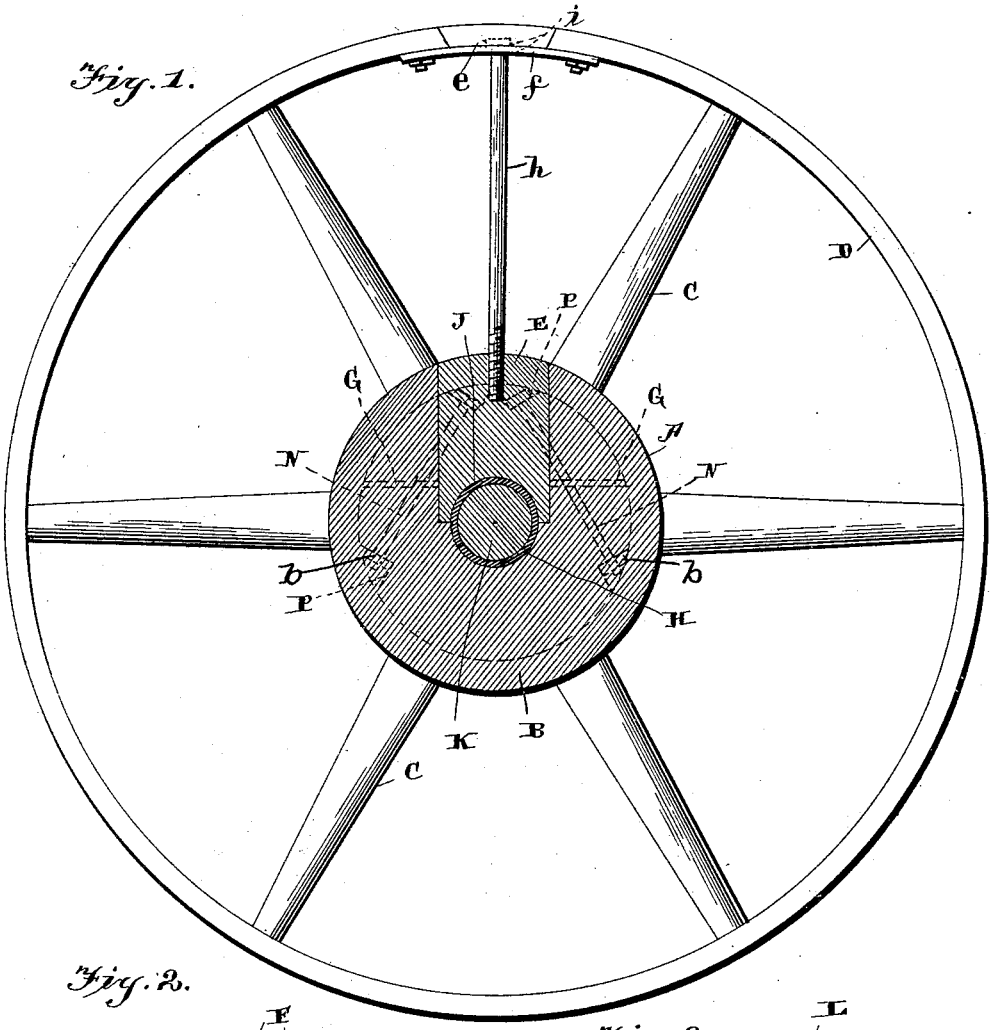


Fig. 2.

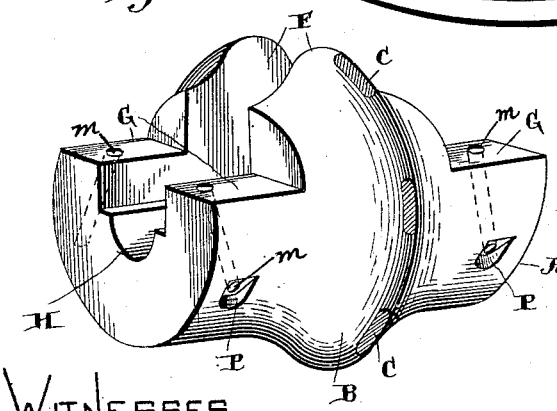
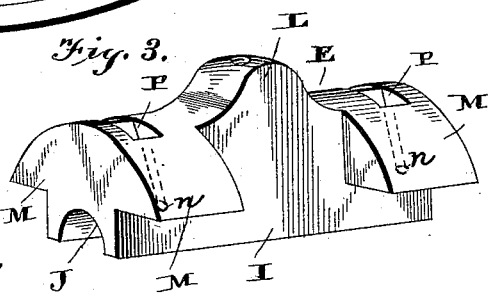


Fig. 3.



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SPLIT PULLEY.

SPECIFICATION forming part of Letters Patent No. 493,523, dated March 14, 1893.

Application filed November 26, 1892. Serial No. 453,235. (No model.)

To all whom it may concern:

Be it known that I, GUILFORD D. ROWELL, of Appleton, in the county of Outagamie and State of Wisconsin, have invented certain new and useful Improvements in Split 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in split pulleys; and it consists in the particular construction and arrangement of parts which will be fully described hereinafter and particularly pointed out in the claims.

The primary object of my invention is to construct a pulley showing an opening or slot in the hub portion to admit the passage of a shaft to the bearing thereof, and to provide a removable section with a narrow central portion clamped in said opening or slot, and to construct the removable section with oppositely laterally extending portions having diagonal holes for the passage of bolts from the hub, for the purposes fully set forth hereinafter.

Another object of my invention is to provide a supporting rod for the removable rim portion of the pulley, which rests upon the removable hub section, thus serving both to support the rim section and hold the hub section, and this supporting rod is preferably made adjustable to regulate the pressure exerted thereby.

The object of my invention also consists in other specific constructions which will be fully described hereinafter.

In the accompanying drawings:—Figure 1 is a vertical section taken transverse the hub. Fig. 2 is a detached perspective view of the hub portion, the section thereof being removed. Fig. 3 is a detached perspective view of the removable clamping section of the hub.

A indicates the hub portion which is provided with a central annular rib B, from which the spokes C radiate, all of these parts being cast integral, as is also the rim portion D, at the outer ends of the spokes. The hub portion A is provided with a longitudinal opening or slot F which is slightly wider than the diameter of the bore H of the hub, through which the shaft is passed to the said bore. At opposite sides of the central annular rib B the hub has the cut away portions G which are provided with diagonal bolt holes *m*. Fitting in this opening F, is the clamping section E having a narrow portion I, which fits and extends down into the slot F below the cut away portions G. The lower end of this narrow portion I, is provided with a longitudinal semi-circular groove J, which together with the semicircular portion of the bore forms a circle for the shaft K, to which the pulley is clamped. At the center of this narrow portion is a rib L which forms a continuation of the rib B of the hub portion proper, and which strengthens the said section at its narrow portion I. Projecting laterally from opposite ends of this narrow portion I of the clamping section, are the extensions M, which fit in the cut away portions G of the hub, and the upper faces of these extensions are rounded upon the arc of a circle equal to the hub portion, whereby together with the rib they form in appearance an ordinary hub portion. These extensions have diagonal holes *n* for the clamping bolts N, which pass diagonally through the holes in said extensions and through the hub portion to strengthen the hub as well as to clamp the shaft thereto. The object of passing the bolts through diagonally, is to cause the clamping tension of the bolts to tend to pull the cut away portions of the hub together, and hold them firmly against the inwardly extending portion of the clamping section, thus very materially strengthening the hub, and preventing it from being sprung. Also by passing the bolts diagonally, they extend into the thickest and strongest portion of the clamping section, which adds additional strength to the clamping feature of the pulley. Attention is also called to the fact that the tendency of the diagonal bolts to draw the upper edges of the hub together is due to the fact that this removable section has its clamping ears considerably above the center of the hub, for if they were extended inward until equal to half of the diameter of the hub, they would have but little practical value for that purpose. It will also be noticed, that

while the tension of these rods has that advantageous function, the clamping section, has that portion which engages the shaft extending inward beyond the said clamping ears, and forming one half of the holding surface. From this it will be seen that all of the advantages of clamping surface are retained, while at the same time all the advantages of the diagonal bolts are obtained, and in a manner to be of the most practical value for the purpose intended.

The ends of the bolts are made square or angular, or oblong, and fit in correspondingly shaped recesses P, made in the clamping section at its outer face, which hold the said bolts from turning. Made in the outer face of the hub portion are recesses P, which receive the nuts *b* of the bolts, and which are sufficiently large to allow the nuts to be revolved by a suitable wrench or socket. The hub portion is first cast with the slot and cut away portions G, and the clamping section is cast to fit the same. The two are then bored (after being clamped together) to form the shaft opening. It is found in many instances advantageous to use a wooden or other bushing between the bore and the shaft, and this may be used if desired. In this manner one bore can be made to fit several sized shafts by having bushings with different sized bores, as will be readily understood.

A piece *e*, is cut out of the rim of the pulley, of sufficient width to allow the largest sized shaft for which the pulley is intended pass through the opening. This piece *e* is then secured in position by means of a plate or plates *f*, which are clamped to the inner side of the rim and to the inner side of the piece by means of bolts as shown. In order to further support this piece against the tension of the belt, a supporting rod *h*, has its inner end screw threaded and screwed into the rib of the clamping section. The outer end of this rod rests in a recess *i*, made in the inner face of the piece, thus supporting the piece as will be understood. This rod thus constructed is capable of being forced outward against the piece to any desired tension, thus holding the piece firmly, and at the same time affording an additional brace for the clamping section for holding it in place against the shaft. From this it will be found that I have produced a very simply constructed pulley for the purposes intended, and at the same time very strong and effectual.

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

1. A split pulley having a hub portion provided with a longitudinal shaft bore, a longitudinal slot extending into the bore, and the hub cut away at one side of the hub at each end a removable clamping section having a narrow portion extending into the said slot, and ears projecting over the cut-away portions, and diagonally extending clamping bolts which pass through the hub portion into the said ears, substantially as specified.

2. A split pulley comprising a rim portion having a removable piece, a hub portion having radial spokes connected with the rim portion, the said hub portion provided with a longitudinal shaft bore and a longitudinal slot extending into the said shaft bore, and cut away portions at each end less than half of the hub, a removable clamping portion having a narrow central portion which extends into the longitudinal slot, and ears which extend over the said cut-away portions, and clamping bolts which pass diagonally through the hub and the said ears and converge toward the said removable section, substantially as described.

3. A split pulley comprising a hub portion having radial spokes, a rim portion having a removable piece, the said hub portion having a longitudinal shaft bore and a longitudinal slot extending into the said shaft bore, a removable clamping portion having a longitudinal portion extending into the said slot, clamping bolts therefor, and a supporting rod connecting the removable clamping section and the removable rim piece, substantially as and for the purpose described.

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

GUILFORD D. ROWELL.

Witnesses:
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