(No Model.)

J. B. HICKS & F. C. BROOKSBANK.

SPLIT PULLEY.

No. 385,712. Patented July 10, 1888.

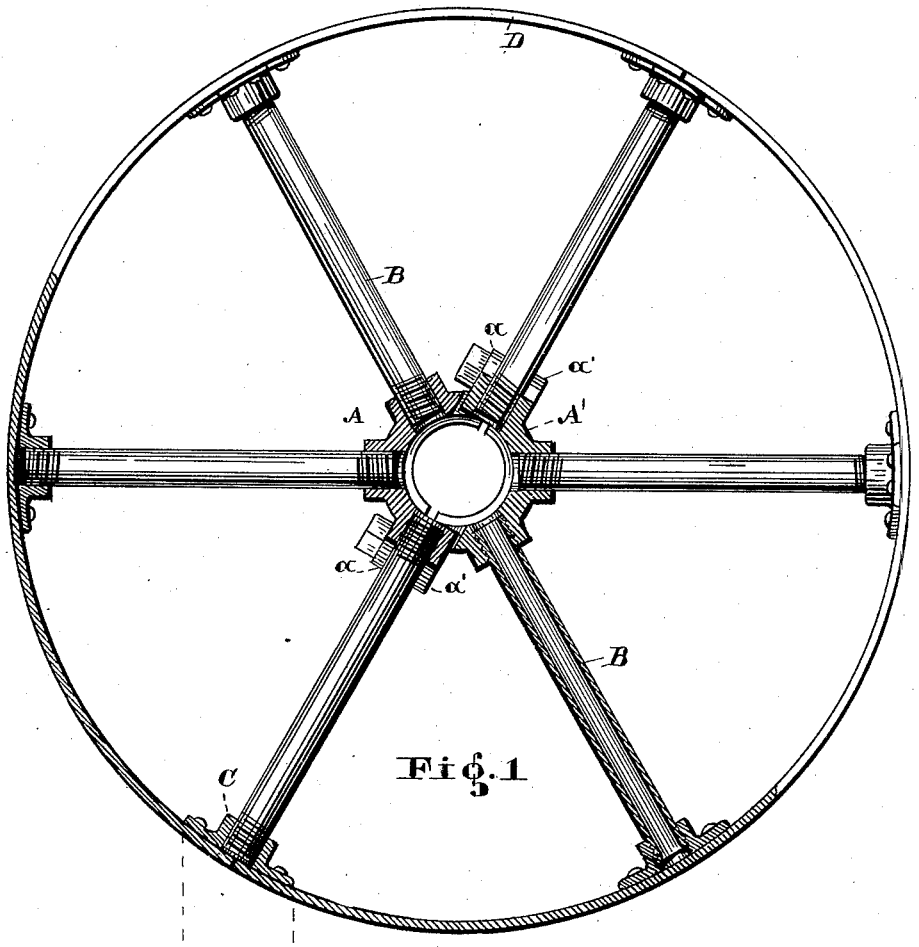
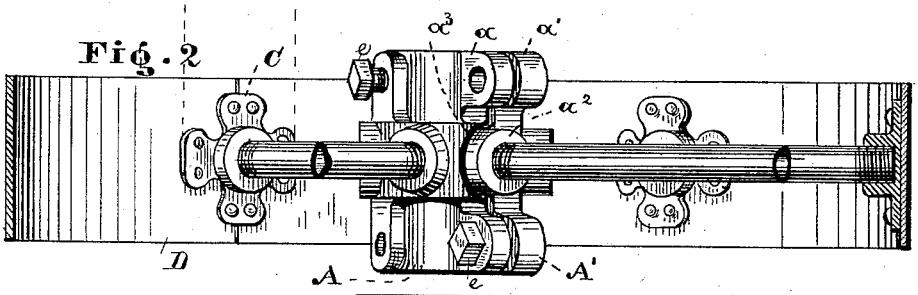


Fig. 1

Fig. 2



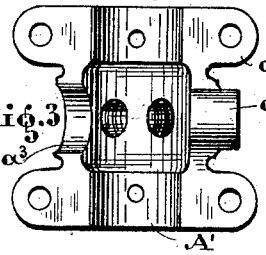


Fig. 3

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JOHN B. HICKS AND FREDERICK CLEMENT BROOKSBANK, OF CLEVELAND, OHIO.

SPLIT PULLEY.

SPECIFICATION forming part of Letters Patent No. 385,712, dated July 10, 1888.

Application filed March 3, 1888. Serial No. 266,078. (No model.)

To all whom it may concern:

Be it known that we, JOHN B. HICKS and FREDERICK CLEMENT BROOKSBANK, citizens of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Split Pulleys; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to split pulleys, and has for its object to produce a pulley in which the weight is reduced to the minimum consistent with strength and durability, and which can be made at a great saving in cost of material and labor as compared with other pulleys in common use.

To this end the invention consists in a split pulley having a hub with arm-sockets substantially on the line of its division and hollow arms screw-threaded at their ends to connect with the hub and band, respectively, all as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of the specification, Figure 1 is a side elevation, partly in section, of our improved pulley, a transverse section of the hub at its center being taken to show the means of securing the arms therein, and further section-lines disclosing the formation of the hollow arms and the socket-plates by which they are attached to the band. Fig. 2 is a plan view of the pulley with part of the band and the arms broken away to give a view of the hub. Fig. 3 is an inside view of one of the duplicate sections of the hub.

The hub of our improved pulley consists of two sections, A A′, which are exact duplicates of one another and have flanges or ears *a a′* upon their respective sides, through which they are bolted together and made practically as solid as if they were originally formed in a single piece. In the sections of the hub thus made are cast as many arm-sockets as may be required—say, as a usual thing, three to each section, or six all told. These sockets are disposed around the center of the hub equidistant apart. This arrangement of course brings two sockets on opposite sides directly in the line of division or split between the sections of the hub. To provide for this arrangement, we cast a full socket, a^2, on each section, which forms an outward projection equal to, say, half the width of the socket, and with sufficient metal to give it the necessary strength and firmness, so that an arm set into such a socket is of equal service to those disposed in the other parts of the hub. Then, to accommodate the projection of the socket *a* and not have it interfere with clamping the two sections closely together, we make a corresponding circular cavity, a^3, in the opposite section. This construction enables us to employ only the same number of arms and in the same relation and arrangement as would be employed if the hub were cast or made in a single piece with arm-sockets disposed closely about its center.

B represents the arms of the hub, which consist merely of sections of any suitably-sized pipe, as gas-pipe, cut into the necessary lengths and provided with right and left screw-threads at their opposite ends.

C are the T-shaped socket-plates, through which the band D and the arms are united. These socket-plates are cast in the form shown, so that they require no truing upon the back to adapt them to the curvature of the band, and are threaded in the usual way. The band is preferably formed in two pieces bent to the desired size and united at the ends by means of the socket-plates. The arms being inserted, as shown, and the band properly set up, it may be trued upon its periphery and brought to describe a perfect circle by turning the arms for that purpose, a turn in one direction tending to contract the band toward the center from the quarter of that particular arm, and turning it in the opposite direction expanding the band. The peculiar construction of the hub with its screw-sockets complete in the respective sections, and arranged as shown, enables us to use removable and independent arms of only the same number that would be used if the hub were in one piece, and which would be impracticable if the hub sections had not the intermediate complete sockets. With these sockets formed as herein shown and described the advantages of individually-adjustable arms is combined with the advantages of a split pulley—a result never

to our knowledge attained before and possessing evident novelty and value. It will also be seen that in a pulley thus fashioned the original labor in making the several parts is greatly simplified, and the cost of material, both as respects quantity and style, is materially reduced. This latter difference is seen by comparing our pulley with a cast-iron pulley of the same size, ours weighing only twenty-four pounds against about sixty-five pounds in the cast-iron pulley. Again, the method of making the cast-iron pulley necessarily involves molding on a large scale and considerable skilled hand-labor to finish it for use, while the moldings in our pulley are very small, and the labor of preparing the parts and setting it up is easily and quickly done in any ordinary shop. This pulley has the additional advantage of lightness in handling, so that one person can take it and easily place it upon a shaft without help.

The interior of the hub may be constructed in any desirable way as to its bearings, and screws *e* are shown as projecting through from the outside to fasten it upon the shaft. Of course other means of fastening might be adopted and other changes be made in the structure here shown without departing from the spirit of our invention.

The manner herein described of constructing the pulley enables us to use, for example, either wrought metal or steel in making the band, the T-sockets, and arms, which is a great advantage in the cost and labor of manufacture.

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

1. In a split pulley, a hub divided into two separate sections in the line of its axis, and having arm-sockets on the line of division between said sections, substantially as set forth.

2. In a split pulley, a hub formed in two sections and each having an arm socket on the line upon which the sections meet, and cavities at one edge to accommodate the said sockets, substantially as set forth.

3. In a split pulley, a hub split longitudinally in sections and provided with screw-threaded sockets on the line of the split, in combination with screw-threaded arms and a band, substantially as set forth.

4. In a split pulley, a hub formed in two equal sections split in the line of its axis and having arm-sockets on the line dividing the sections, formed wholly in one section, whereby each socket is made complete in itself, in combination with a metal band and right and left hand screw-threaded hollow arms uniting the band and hub, substantially as set forth.

5. In a split pulley, a hub formed in duplicate sections A A′, having projecting sockets a^2 on the meeting faces of the sections and curved cavities a^3 in said meeting faces, in combination with metallic band D, T-shaped sockets C, and hollow arms B, screw-threaded and set in the sockets on the band and in the hub, for the purpose set forth.

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