(No Model.)

F. SIEBERT.

PULLEY.

No. 490,835. Patented Jan. 31, 1893.

Fig. 1.

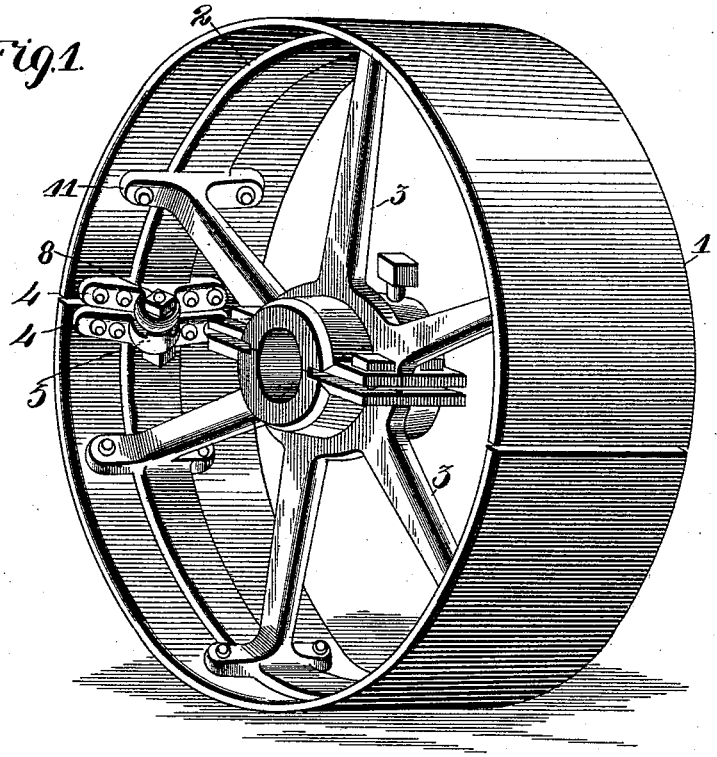


Fig. 2.

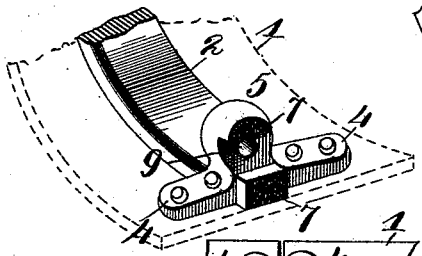


Fig. 4.

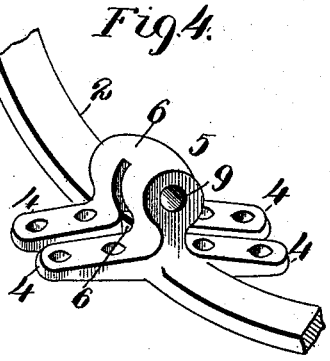
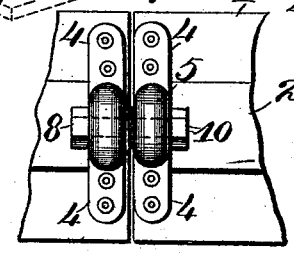


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK SIEBERT, OF ST. LOUIS, MISSOURI.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 490,835, dated January 31, 1893.

Application filed October 10, 1892. Serial No. 448,407. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK SIEBERT, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Pulleys, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in pulleys and consists in the novel arrangement and combination of parts as more particularly described in the specification and set forth in the claims.

In the drawings Figure 1 is a perspective view of my improved pulley; Fig. 2 is a perspective view of the inner rim together with the lug at one extremity thereof; Fig. 3 is a plan view of the lugs at each end of the inner rim showing the manner of connecting the same; Fig. 4 is a perspective view of the lugs as first cast and before the same are fractured.

The present invention is an improvement in split and ordinary fixed pulleys and especially on the pulley described in my Letters-Patent numbered 319,140 under date of June 2, 1885; and its objects are, to secure a pulley of lighter construction and great durability, a better disposition of the supporting arms in split pulleys, a more even distribution of the strain exerted on them by the belt pressure, a better means of securing the two halves of the inner rim encircling the arms thus dispensing with the arms usually cast to the hub at the extremities of such supporting rim, and other details hereinafter referred to. Another result is attained by the disposition of the supporting arms, viz. a better and more perfect balancing of the completed pulley.

In the drawings, 1 represents the outer rim of the pulley, and in Fig. 1 is shown as split. To the inner surface of this rim are secured the two halves of the inner rim 2. The inner rim has cast integral therewith the supporting arms 3 the number and disposition of which is dependent both on the size of the pulley and the pressure to which the outer rim is to be subjected. In all cases however where the inner rim is split, a supporting arm is disposed on each side of the juncture of the two halves, and this for a purpose to be hereinafter explained. The seam of the inner rim terminates in broad lugs 4, having projecting lugs 5. The latter are cast integral with each other when the inner rim is cast and are subsequently fractured at their juncture 6 presenting the appearance as shown in Fig. 2. The casting of the lugs 5 integrally and subsequent fracture thereof is important as practical experience has demonstrated, the fractured ends of said lugs presenting a rough surface characteristic of cast metal, and when subsequently brought together the opposite sides fit snugly and accurately, and owing to such roughened surface lateral displacement is impossible. When once fitted together the same are tightened by the bolts 8 passing through openings 9 in said lugs 5, the bolts being capped by suitable nuts 10.

Heretofore in the casting of split pulleys arms were extended from the hub of the pulley into the broad lugs 4 said lugs forming practically extensions of the arms as may be seen in my patent above referred to. This arrangement is however open to two objections, viz., first, it results in an unnatural disposition of the supporting arms, since two arms are brought together at the juncture of the two halves of the inner rim, and only single arms are disposed at all other parts of the rim; and as two supporting arms can resist more pressure than one the tendency is to bring uneven strain upon the pulley and a tendency for the single arms to crack near the hub of the pulley. In my present arrangement however the broad lugs 4 are unsupported and the arms of the pulley are disposed singly and thus each has its proportioned amount of strain to carry. A second objection to the old construction is, that the arms being in the way there is a practical difficulty in properly securing the inner rim to the outer one as, on account of the arms very little room is had for manipulating or handling the parts at that point.

The object of having or locating the broad lugs 4 at the juncture of the two halves of the inner rim is important, their main function being to secure the inner rim to the outer one, whereas the function of the arms is chiefly to carry the strain or pressure to which the pulley is subjected. The arms 3 are expanded into lugs 11 which are secured to the outer rim in the ordinary way.

In practice the two halves of the inner rim

are cast integral also at the hub and subsequently fractured along the line of division clearly shown in Fig. 1, and, as in the case of the fractured lugs, the tendency is to make the parts fit snugly and accurately. It is obvious also from the foregoing that there results from the construction described a pulley which is lighter than that covered by my former patent, and from the disposition of its arms and the location of the broad lugs 4 can in proportion to its weight resist a greater amount of strain.

Reference to Figs. 2 and 3 shows that the lug 5 is fractured above and below the openings 9 the space between the upper and lower portions being hollowed out so as to facilitate the fracture of the lug by reducing the metal at the portion where the bolt passes where any extra amount of metal is unnecessary.

Having fully described my invention what I claim is,

1. A split pulley having an outer rim, a sectional inner rim having arms and hub integral therewith, said inner rim terminating at its sectional extremities in lugs between two adjacent arms, said lugs being secured directly to the outer rim and to each other and out of contact with radial arms extending from the hub, substantially as and for the purpose set forth.

2. A split pulley having an outer rim, a sectional inner rim secured thereto, lugs at the sectional extremities of said inner rim and integral therewith and with each other, said lugs being bolted to each other and secured to the outer rim, radial arms disposed out of contact with said lugs, and integral with the inner rim and with the hub, substantially as and for the purpose set forth.

3. A split pulley having an outer rim 1, a sectional inner rim 2 secured thereto, broad lugs 4 at the sectional extremities of said inner rim and integral therewith, the projecting lugs 5 having openings 9, a bolt 8 passing through the same and nuts 10 at the ends thereof, radial arms 3 out of contact with lugs 4 and integral with the inner rim, and the sectional hub at the inner end of the arms 3, all operating as and for the purpose set forth.

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

FREDERICK SIEBERT.

Witnesses:
JAMES B. CLARK,
EMIL STAREK.