C. H. MELLOR.

Loose Pulley for Shafting.

No. 165,852. Patented July 20, 1875.

Fig. 1.

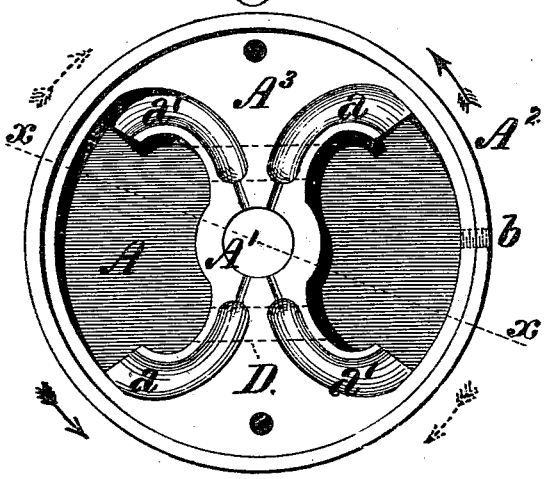


Fig. 2.

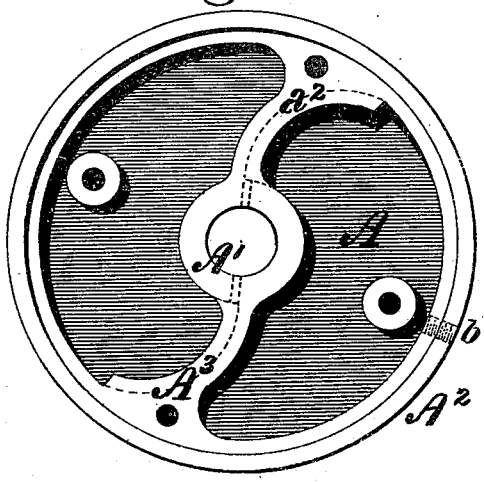


Fig. 3.

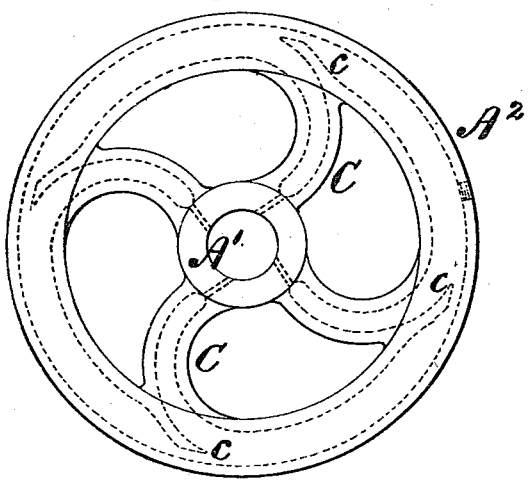
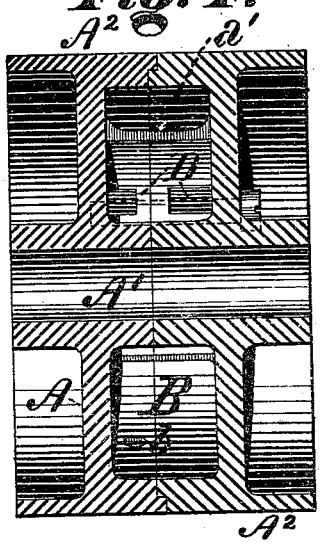


Fig. 4.



Witnesses.

John Everding

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UNITED STATES PATENT OFFICE.

CHARLES H. MELLOR, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN LOOSE PULLEYS FOR SHAFTING.

Specification forming part of Letters Patent No. **165,852**, dated July 20, 1875; application filed May 22, 1875.

To all whom it may concern:

Be it known that I, CHARLES H. MELLOR, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Loose Pulleys for Shafting, of which the following is a specification:

The object of my invention is to provide, in a loose pulley, simple and convenient means for lubricating the bearing thereof upon its shaft; to which end my improvement consists in combining an oil-reservoir formed in or attached to the pulley and channels or guides leading from the outer portion of the reservoir to the shaft, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a view, in elevation, of one section of a loose pulley embodying my improvement; Fig. 2, a similar view, showing another form thereof; Fig. 3, a view showing my improvement applied to a pulley having arms instead of disks; and Fig. 4 a longitudinal section at the line *x x* of the pulley shown in Fig. 1.

My improved pulley is constructed, by preference, in two sections, accurately fitted together and united by bolts, each section being composed of a disk, A, hub A^1, and rim A^2, the hubs and rims being made of such length that when the sections are united an oil-reservoir, B, is formed between the two disks, to which reservoir oil is supplied, as required, through an opening closed by a screw-plug, *b*. This reservoir extends from the hub to the rim of the pulley, and is divided into two compartments by projecting ribs A^3, formed upon the disks A, these ribs being placed directly opposite each other upon the two sections of the pulley, so that when fitted together they shall form a close partition from rim to hub on each side of the shaft. Instead of extending entirely across the pulley, as described, the dividing-ribs may be formed on one side of the hub only, if desired, but the construction first above stated is preferable, for the reason that it affords better facilities for lubrication, as presently to be described.

In order to conduct the oil from the outer portion of the reservoir to the shaft, I provide a curved oil-channel or oil-channels *a a a' a'*, formed in the ribs A^3, and terminating by small orifices at the inner surface of the hub.

In the pulley shown in Figs. 1 and 4 the oil will be fed through the channels *a a* to the shaft when the pulley is rotated in the direction of the full-line arrows, and through the channels *a' a'* when rotated in the direction of the dotted arrows, the centrifugal force developed by its rotation acting, in each case, to carry the oil to the outer portion of the reservoir, and to feed it to the shaft through the channels, which are curved, as shown, in the direction of its motion. The pulleys shown in Figs. 1, 2, and 4, are adapted to feed when running in either direction, but the number of oil-channels could be reduced to one, if the pulley was always to be run one way. In the form shown in Fig. 2 the rib A^3 is curved, and provided with a narrow lip or flange, a^2, at top, instead of having channels formed in it, thus providing a guide which conducts the oil to small openings in the hub.

Fig. 3 shows my invention applied to an arm-pulley, and, in this instance, the oil-reservoir is formed in the rim of the pulley, and the channels in the curved arms C, deflectors *c*, inclined in reverse direction to the movement of the pulley, being provided at the outer ends of the channels.

In cases where the ribs A^3 extend entirely across the pulley, communicating passages D (shown in dotted lines in Fig. 1) should be provided to enable the oil to pass from one to the other of the compartments of the oil-reservoir.

It is obvious that the oil-reservoir might be made a separate structure, and secured to the pulley, but the construction shown is, in every respect, preferable.

My improvement enables a simple and compact self-oiling pulley to be made with only two castings and from two to four bolts, and the feeding of the oil being accomplished by the movement of the pulley, its lubricating action is automatically performed, and only at the time when lubrication is required.

I am aware that an oil-reservoir formed in the body of a loose pulley, and surrounding the hub thereof, has been heretofore known

and used, and do not, therefore, broadly claim such device.

I claim as my invention and desire to secure by Letters Patent—

The combination, in a loose pulley, of an oil-reservoir formed within or attached to the pulley and curved oil channels or guides leading from the outer portion of the oil-reservoir to the inner surface of the hub, substantially as set forth.

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Witnesses:
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