

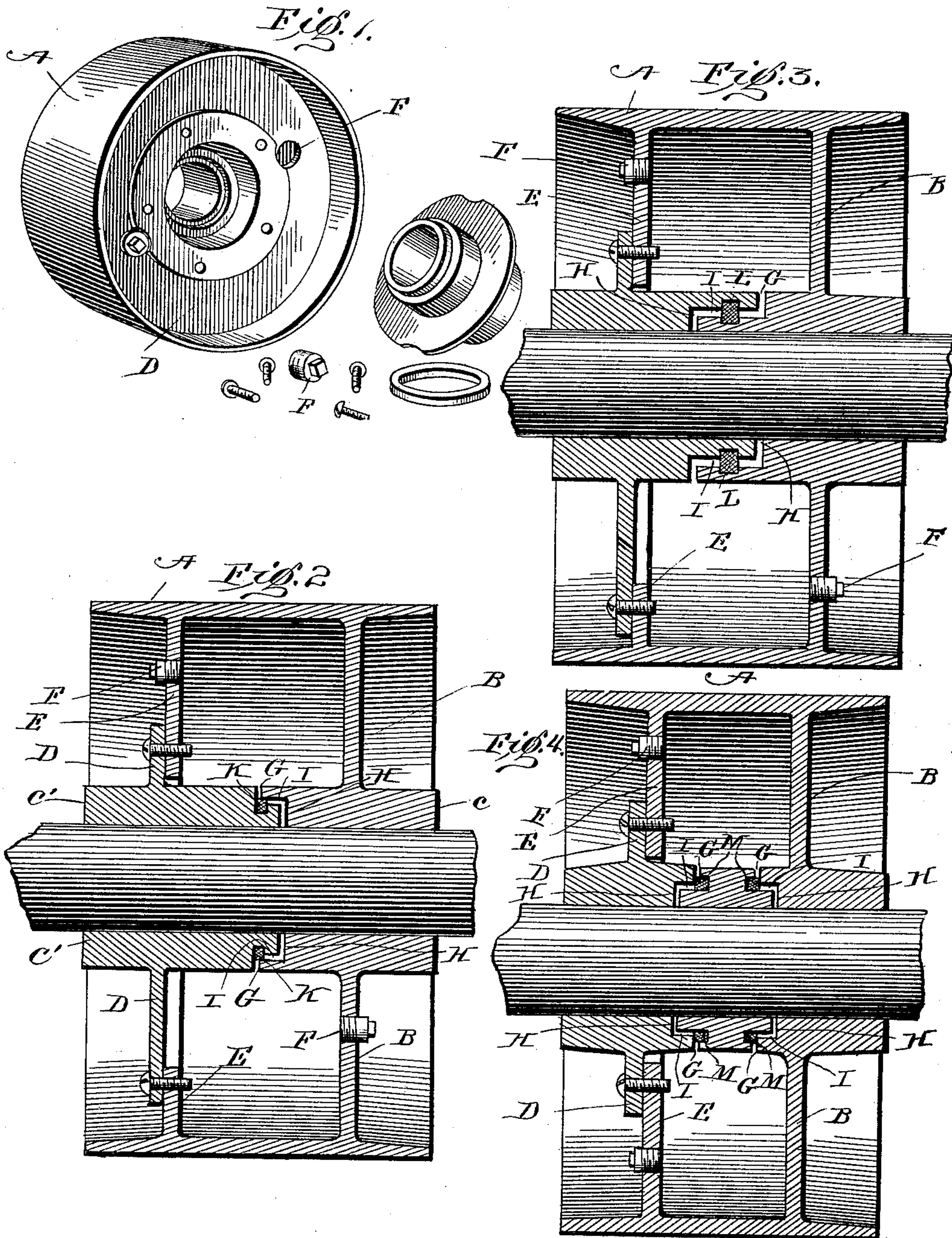
No. 697,721.

Patented Apr. 15, 1902.

C. J. HUNT & B. H. LAMBERS.
SELF LUBRICATING PULLEY.

(Application filed Aug. 30, 1901.)

(No Model.)



Witnesses:
J. M. Fowler Jr.
J. Peyton, Jr.

Inventors
Charles J. Hunt and
Bernard H. Lambers
Church & Church
their Attys.

UNITED STATES PATENT OFFICE.

CHARLES J. HUNT AND BERNARD H. LAMBERS, OF DAYTON, OHIO.

SELF-LUBRICATING PULLEY.

SPECIFICATION forming part of Letters Patent No. 697,721, dated April 15, 1902.

Application filed August 30, 1901. Serial No. 73,887. (No model.)

To all whom it may concern:

Be it known that we, CHARLES J. HUNT and BERNARD H. LAMBERS, of Dayton, in the county of Montgomery, State of Ohio, have invented certain new and useful Improvements in Self-Lubricating Pulleys; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the letters of reference marked thereon.

This invention relates to improvements in pulleys, &c., adapted to be journaled on the supporting-shaft and to supply the bearing-surfaces with lubricant from a receptacle within the pulley and which may be of large capacity, thereby not only having the advantage of supplying the lubricant at the most efficient point, but avoiding the necessity of attention save at long intervals.

The objects of the invention are to provide a simple structure easily manufactured in accordance with principles and methods now in vogue in the manufacture of ordinary pulleys, and more especially those in which the rim, web, and hub are cast together, although the invention is not limited to that or any other particular type of pulley.

The invention consists in certain novel details of construction and combinations and arrangements of parts, all as will be now described, and pointed out particularly in the appended claims.

Referring to the accompanying drawings, Figure 1 is a perspective view of a pulley constructed in accordance with the present invention with the parts separated. Fig. 2 is a section longitudinally of the axis of a pulley, showing one arrangement of oil receptacle and duct for conducting the oil to the bearing. Figs. 3 and 4 are details of modified arrangements of the packing for regulating the feed of lubricant.

Like letters of reference in the several figures indicate the same parts.

In accordance with the present invention the pulley is formed in two sections, each section having a portion of the hub and bearing, the two sections being united to form an internal oil-receptacle, from which the oil finds its way by means of an annular passage be-

tween the sections to the bearing-surfaces, the flow of oil being restricted by suitable annular packing introduced in a chamber in the passage, but removed from contact with the journal, whereby wear or accumulation of dirt thereon is avoided.

Referring to Figs. 1 and 2, it will be seen that the face A of the pulley is formed on one section of the pulley, said section having one web B and a portion *c* of the hub formed integral therewith. The other section of the pulley consists of a face-plate or web D, which may be small, as in Fig. 1, or large, as in Fig. 2, and a mate portion *C'* of the hub. The face-plate is adapted to be bolted fast to the other section of the pulley, usually to a flange or seat E, formed on the inner side of the face and made wide or narrow, depending upon the side of the face-plate of the operating section. The joint between the face-plate and its seat is made oil-tight by packings, gaskets, or other well-known means, thereby forming an oil chamber or receptacle within the pulley, and to which oil may be supplied as desired through suitable plug-holes F, formed in one or the other of the webs.

When the two sections are joined, as just described, the two parts of the hub are brought into alinement and are adapted for the reception of the shaft or journal; but the inner or adjacent ends of said hub-sections are so formed as that one passes within the other, preferably, however, without actual contact at any point, thereby forming an annular passage, a cross-section of which shows that it is not straight, but broken by portions extending parallel with the shaft for a greater or less distance. In this annular passage an annular chamber is formed for the reception of an annular packing, preferably of fibrous material or material through which the oil will percolate or pass by capillarity from the oil-chamber to the bearing-surfaces within the hub-sections. The entrance and exit portions G and H of the annular passage extend radially or in planes at substantially right angles to the axis of the pulley, and the intermediate portion I extends parallel with said axis. In the preferred construction the chamber for the annular packing is formed in the latter portion of the passage. Thus in

Fig. 2 said chamber (indicated with its packing-ring by the letter K) is formed in the outer face of the inner wall of the passage, while in Fig. 2, as indicated by the letter L, it is formed in the inner face of the outer wall of the passage, and in Fig. 3, as indicated by the letter M, it is formed in the portion G of the passage. The packing, as before stated, is preferably of fibrous material and bridges the passage, thus forming a barrier to the free flow or wash of the oil; but at the same time a sufficient quantity passes and is supplied to the bearing-surfaces, the inner portion of the passage forming, as it were, a small annular chamber which will hold a ring of oil at the center of the pulley, from which point it will be distributed in each direction to the wearing-surfaces of the pulley and journal. The packing may be permanent, inasmuch as it does not contact with any wearing-surface, and being remote from the wearing-face of the shaft will not become foul and clog up by reason of accumulations from the bearing.

Obviously more than one passage of the character described may be formed for supplying a greater quantity of oil or for effectively lubricating a long journal, as in Fig. 4, and hence it is not desired to limit the invention to the specific construction shown, nor to any specific construction of pulley, save that it must have a suitable oil-receptacle for retaining a considerable body of oil.

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

1. In a self-lubricating pulley the combination with the pulley made in sections transversely of its axis with a portion of the hub on each section, an oil-chamber within the pulley and on the outer side of the hub, and the adjacent ends of said hub-sections formed with an annular oil-passage between them, a portion of said annular passage extending parallel with the axis of the pulley, of an annular pervious packing located in an enlarge-

ment of said passage; substantially as described.

2. In a self-lubricating pulley, the combination with the pulley made in sections transversely of its axis with a portion of the hub on each section, an oil-chamber within the pulley and on the outer side of the hub, and the adjacent ends of said hub-sections formed with an annular oil-passage between them, a portion of said annular passage extending parallel with the axis of the pulley, of an annular pervious packing located in an enlargement of said passage, remote from the inner end of the passage; substantially as described.

3. In a self-lubricating pulley the combination with the pulley made in sections transversely of its axis with a portion of the hub on each section, an oil-chamber within the pulley and on the outer side of the hub, and the adjacent ends of said hub-sections formed with an annular oil-passage between them, a portion of said annular passage extending parallel with the axis of the pulley, of an annular chamber in the said portion of the passage parallel with the axis and an annular pervious packing located in said chamber and bridging the passage; substantially as described.

4. In a self-lubricating pulley, the combination with the pulley made in sections transversely of its axis with a portion of the hub on each section, an oil-chamber within the pulley and on the outer side of the hub, and the adjacent ends of said hub-sections formed with an annular oil-passage between them, a portion of said annular passage extending parallel with the axis of the pulley, of an annular chamber in the inner wall of said portion of the passage parallel with the axis and an annular pervious packing located in said chamber and bridging the passage; substantially as described.

CHARLES J. HUNT.

BERNARD H. LAMBERS.

Witnesses:

G. W. PAXTON,

C. B. WYSONG.