

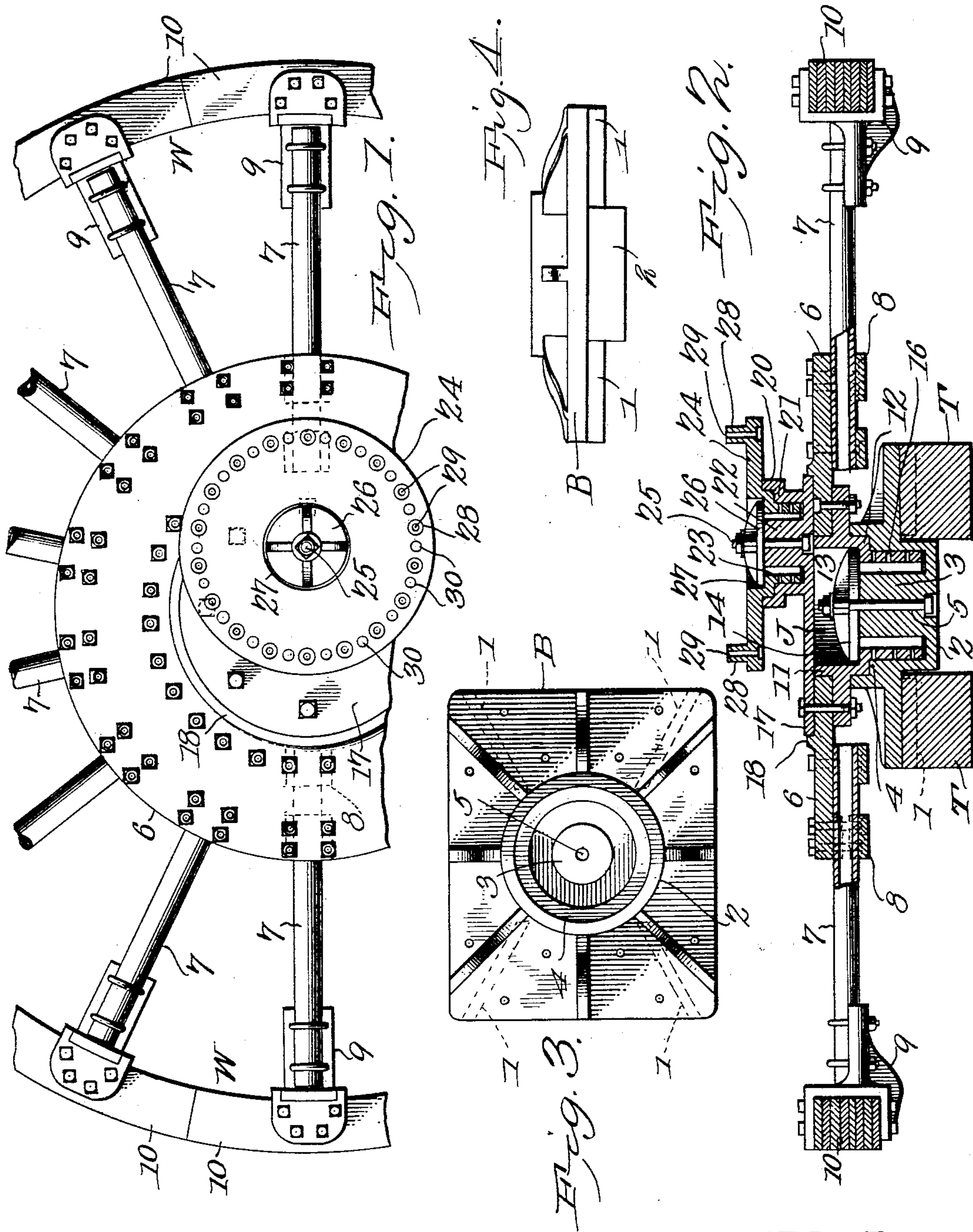
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S. F. FIELD.
PUMP OPERATING MECHANISM.

APPLICATION FILED OCT. 10, 1903.

NO MODEL.



Witnesses
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PUMP-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 751,624, dated February 9, 1904.

Application filed October 10, 1903. Serial No. 176,537. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL F. FIELD, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented a new and useful Pump-Operating Mechanism, of which the following is a specification.

This invention relates to power mechanisms for operating oil-well pumps and other machinery.

The principal object of the invention is to provide an improved band-wheel power in which the friction of operation is reduced to a minimum and the bearings provided with means for insuring perfect lubrication.

A further object of the invention is to provide a band-wheel power with an improved bed-plate which will be positively prevented from shifting its position upon the base upon which it is secured.

In attaining the objects above mentioned I make use of the novel construction and combination of parts of a band-wheel power hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of the apparatus with parts broken away to save space. Fig. 2 is a vertical section through the entire apparatus. Fig. 3 is a plan view of the bed-plate. Fig. 4 is a view in side elevation of the bed-plate.

In the drawings, in which corresponding parts are designated by similar characters of reference, B designates the bed-plate, which is preferably of rectangular form and provided on its under surface with radially-arranged ribs 1, which are adapted to enter slots formed therefor in the timbers T, forming the base upon which the bed-plate is mounted, or to be embedded in a base of concrete or other similar material. At the center of the bed-plate B there is formed a socket (designated generally as 2) into which the journal upon which the band-wheel is mounted is inserted. The socket 2 is preferably formed with a central upward projection 3, which makes the socket proper annular in form. In the outer wall of the socket 2 there is formed a shoulder

4, which extends entirely around the socket and forms a supporting-surface for a corresponding shoulder on the journal of the band-wheel. The central projection 3 is pierced by an opening 5, whose utility will hereinafter be explained.

The band-wheel, which is designated generally as W, comprises a central disk 6, from which extend spokes 7, formed, preferably, of pipes for the sake of lightness. The spokes 7 are securely attached to the disk 6 by means of suitable grips or clamping devices 8 and at their ends bear brackets 9, in which are mounted wooden cants 10 of segmental form, which constitute the rim of the wheel over which the driving-belt travels. The disk 6 is supported upon a journal (indicated generally as J) which has an upward-projecting flange 11, upon which the disk 6 is bolted. The journal is hollow and fits within the socket 2 in the bed-plate, the outer surface of the journal being in contact with the inner surface of the socket and an open annular space being left between the central projection 3 and the inner surface of the hollow journal. The journal is provided with a shoulder 12 of annular form, which rests upon the shoulder 4 in the socket 2, and so supports the weight of the band-wheel. At the top the journal J is counterbored to form a chamber 13, within which fits a washer 14, secured in position upon the projection 3 by means of a bolt extending through the washer and through the opening 5 in the projection 3 and which is counterbored at its lower end. In order to insure proper lubrication of the turning parts, the space between the projection 3 and the inner surface of the hollow journal will be filled with oil, and in order to convey the oil to the shoulders on the journal and in the socket oil-conducting passages 16 are formed in the journal at about the level of the shoulder 4.

On the upper surface of the disk 6, which forms the central portion of the band-wheel, to which the spokes are secured there is mounted a small disk 17, which fits within the space bounded by an upwardly-disposed annular rib 18 on the upper surface of the disk 6. The disk 17 has on the upper surface

thereof and formed integral therewith an eccentrically-placed socket 20, similar in formation to the socket 2 already described. The socket 20 is formed with a shoulder 21 near the top thereof and has a central upward projection 22, leaving an annular space for the reception of a hollow journal 23, provided on the underside of a circular disk 24. The disk 24 is held in position by means of a bolt 25, extending through an opening provided therefor in the upward projection 22, and a washer 26, which rests upon the upper end of the projection 22 within a chamber 27, formed on the upper surface of the disk 24. The disk 24 is provided near its periphery with a plurality of upwardly-projecting pins or studs 28, which are arranged in a ring spaced apart, as best seen in Fig. 1. The studs 28 are all pierced by vertical openings 29 for the reception of bolts and are adapted to enter eyes at the ends of pitmen, by means of which power is transmitted to the pumping mechanism or other machinery. Between the studs 28 openings 30 in the disks are provided for the attachment of other devices for transmitting power to the pumping mechanism.

In order to insure lubrication of the shoulders of the socket 20 and the journal 23, a series of oil-passages 31 are formed in the journal 23 at about the height of the shoulder 21.

The operation of the improved band-wheel power above described is similar to that of other band-wheel powers for the same or analogous purposes. Power will preferably be applied directly to the periphery of the band-wheel by means of a quarter-turned belt running from a suitable pulley upon the shaft of the engine. (Not shown). The rotation of the band-wheel will cause the socket 20, whose center is preferably ten inches from the center of the socket 2, to describe a circle having a radius of ten inches, and consequently the pitmen carried by the disk 24 will have a throw of twenty inches. When the band-wheel power is in operation, both the journal-sockets 2 and 20 will be kept filled with oil, which is prevented from escaping because the sockets are closed at the bottom, and this oil will pass through the passages provided for that purpose in the journals to the shoulders, which receive the downward thrust due to the weight of the band-wheel and the structures mounted thereon.

The number of pitmen which may be simultaneously operated by the band-wheel power depends only upon the number of studs and openings in the disk 24, as each of said studs and openings may be used to afford means for attaching a pitman to the disk.

From the foregoing description and the

drawings forming a part of this specification it will be seen that the number of bearing-surfaces has been reduced to a minimum, that the journals and sockets are so arranged that perfect lubrication will be automatically maintained, and that the entire mechanism is extremely simple in construction and operation.

Having thus described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in mechanism of the class described, of a horizontally-disposed bed-plate provided on its upper surface with a socket, said socket being closed at the bottom and provided with a central upward projection, a band-wheel having a hollow journal fitted in said socket, and an eccentric disk mounted on said band-wheel.

2. The combination in mechanism of the class described, of a horizontally-disposed bed-plate provided on its upper surface with a socket, said socket being provided near the top with a shoulder and having a central upward projection, a band-wheel having a hollow journal provided near its upper end with an external shoulder adapted to rest upon the shoulder in said socket, said journal being provided at its upper end with a counterbore, a bolt extending upward through the projection in said socket, and a washer disposed in said counterbore and secured by means of said bolt.

3. The combination in mechanism of the class described, of a bed-plate provided on its upper surface with a socket having a shoulder near the top thereof, a band-wheel having a hollow journal fitted within said socket and provided near its upper end with an external shoulder for contact with the shoulder in said socket, said journal being pierced by radially-arranged apertures about the level of the shoulder in said socket to afford passages for oil, and an eccentric mounted on said band-wheel.

4. The combination in mechanism of the class described, of a bed-plate provided on its under surface with radially-disposed downwardly-projecting ribs for engagement with the base upon which said bed-plate is supported, a band-wheel journaled in said bed-plate, and an eccentric disk carried by said band-wheel.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL F. ^{his} × FIELD.
mark

Witnesses:

SANFORD M. KETTNER,
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