

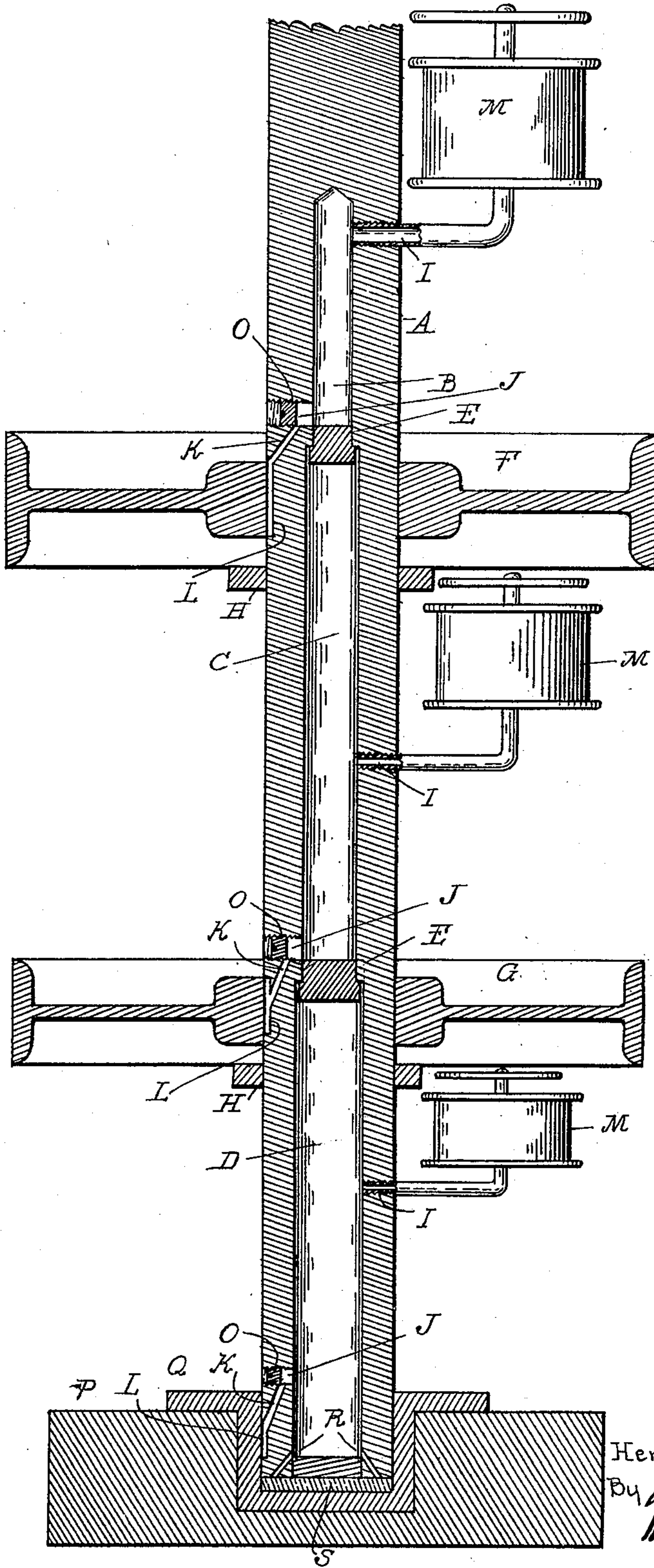
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Patented Apr. 24, 1900.

H. T. MASON.
OILING MECHANISM.

(Application filed Oct. 6, 1899.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

HENRY T. MASON, OF CHICAGO, ILLINOIS.

OILING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 648,212, dated April 24, 1900.

Application filed October 6, 1899. Serial No. 732,778. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. MASON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Oiling Mechanism, of which the following is a specification, reference being had therein to the accompanying drawing.

The invention has relation to an improved type of oiling mechanism particularly designed for use in oiling vertical shafting; and the invention consists in the novel construction of the mechanism referred to, as will be more fully hereinafter shown and described. The drawing is a vertical central section through a shaft, illustrating my improved oiling mechanism therefor.

The reference-letter A designates a vertical shaft, in which is formed a central bore B and counterbores C and D, and within the shaft at the junctions of the bores are arranged a series of plugs E of a size corresponding to their respective bores, as shown. These plugs divide the interior of the shaft into a series of reservoirs adapted to be filled with oil and provided with means for distributing the oil to the shaft at different parts of its length for the purpose of oiling pulleys, gear-wheels, &c., that may be arranged upon the shaft for rotary movement.

The letters F and G designate two band-wheels sleeved upon the shaft and held in their respective positions by means of collars H. These wheels are lubricated by the following means: Each reservoir is provided with an oil-inlet passage I and an oil-discharge passage J, these passages being preferably arranged, respectively, one above the other and leading from the reservoir to the periphery of the shaft.

K designates bores of considerably-smaller diameter than the oil-passages, which are formed in the shaft extending from substantially the middle of each lower oil-passage in a diagonal direction to the shaft-periphery, and L designates a recess, preferably formed in the periphery of the shaft, with which the small bore communicates.

M designates oil-cups secured within the upper passages of the reservoirs, and O represents threaded plugs within the lower discharge-passages adapted to control the flow

of the oil from the reservoir through the diagonal bore.

From the description of the mechanism thus set forth it will be observed that by forming counterbores in the center of the shaft in the manner set forth I am enabled to partition off the interior of the shaft by means of the plugs in a more ready manner than if a single bore were formed. This follows from the fact that the plugs constituting the partitions only have a driving fit with the bores that they are intended to engage with, thus dispensing with the necessity of forcing the plugs the entire length of the shaft; also, by forming these oil-reservoirs within the shaft I am enabled to keep a large supply of oil on hand, which by means of the plugs O may be distributed to a nicety to the rotating gears or hand-wheels upon the shaft.

The mechanism as thus far described is shown to be applied to a stationary shaft. It will be obvious, however, that the same mechanism may be applied to a vertical shaft that is mounted for rotary movement, as in case of mill-spindles. I have therefore shown the shaft as constructed for rotary movement with my improved oiling mechanism applied thereto.

P designates a base or step in which a socket Q is arranged, and within the socket the end of the shaft extends. The diagonal bore K in this case leads from the lower passage of the reservoir to a point within the socket, whereby the contacting surfaces of the socket and shaft are thoroughly lubricated. I have also provided small diagonal apertures R, leading from the lower reservoir in the shaft to the base of the latter, whereby the shaft end may be lubricated. Also I preferably interpose between the said shaft end and the socket a tempered plate S, constituting a bearing for the shaft.

What I claim as my invention is—

1. The combination of a shaft having a central bore formed therein constituting an oil-reservoir, a transverse oil-passage leading from the periphery to the central bore, and a diagonal bore extending from the transverse passage to the shaft-periphery; a plug, arranged within and occupying a portion only of the transverse passage, said plug having its inner end located at substantially the junc-

tion of said passage and the diagonal bore and adapted to control the flow of the lubricant through said diagonal bore, and an oil-cup communicating with the interior of the shaft, substantially as described.

2. The combination of the shaft having a central bore formed therein constituting an oil-reservoir, an upper and a lower transverse passage leading from the periphery of the shaft to the interior of the latter, and a diagonal bore extending from substantially the central portion of the lower transverse passage to the shaft-periphery; an adjustable plug arranged within and occupying a portion only of the lower transverse passage, said plug having its inner end located at substantially the junction of said transverse passage and the diagonal bore, and adapted to control the flow of the lubricant through said diagonal bore, and an oil-cup communicating with the upper transverse passage.

3. The combination of a shaft having a cen-

tral bore and a multiple of counterbores formed therein, plugs within the shaft at the junction of the bores dividing the interior of the shaft into a series of central oil-reservoirs, each provided with an upper and a lower oil-passage, leading from said reservoir to the shaft-periphery, and the shaft having formed therein a multiple of diagonal bores of smaller diameter, one for each reservoir and leading from the lower passage of the reservoir to the shaft-periphery at a point below the reservoir, an oil-cup communicating with the upper oil-passage of each reservoir, and a screw-plug within each lower passage controlling the flow of the oil through the diagonal bore.

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

HENRY T. MASON.

Witnesses:

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