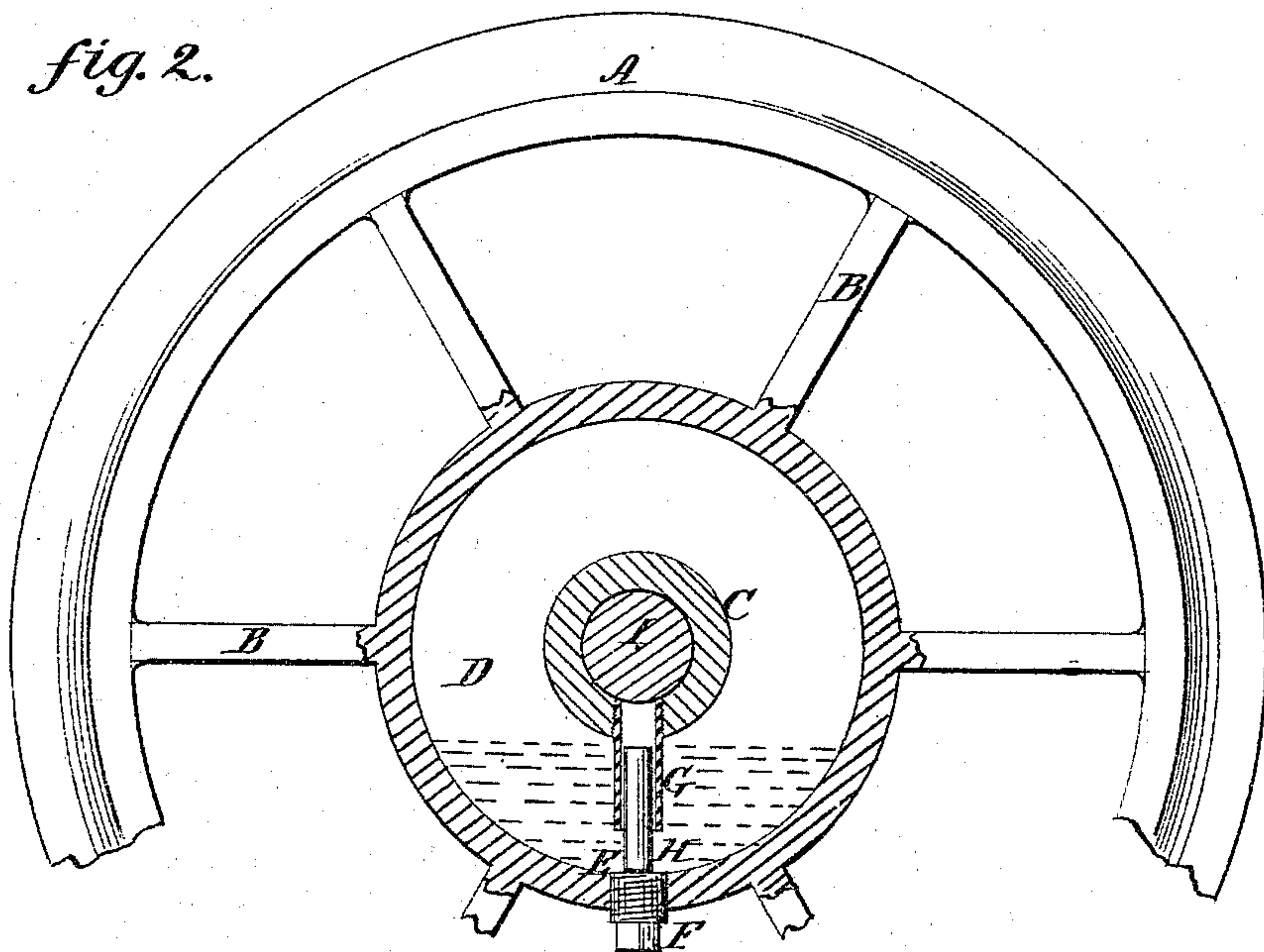
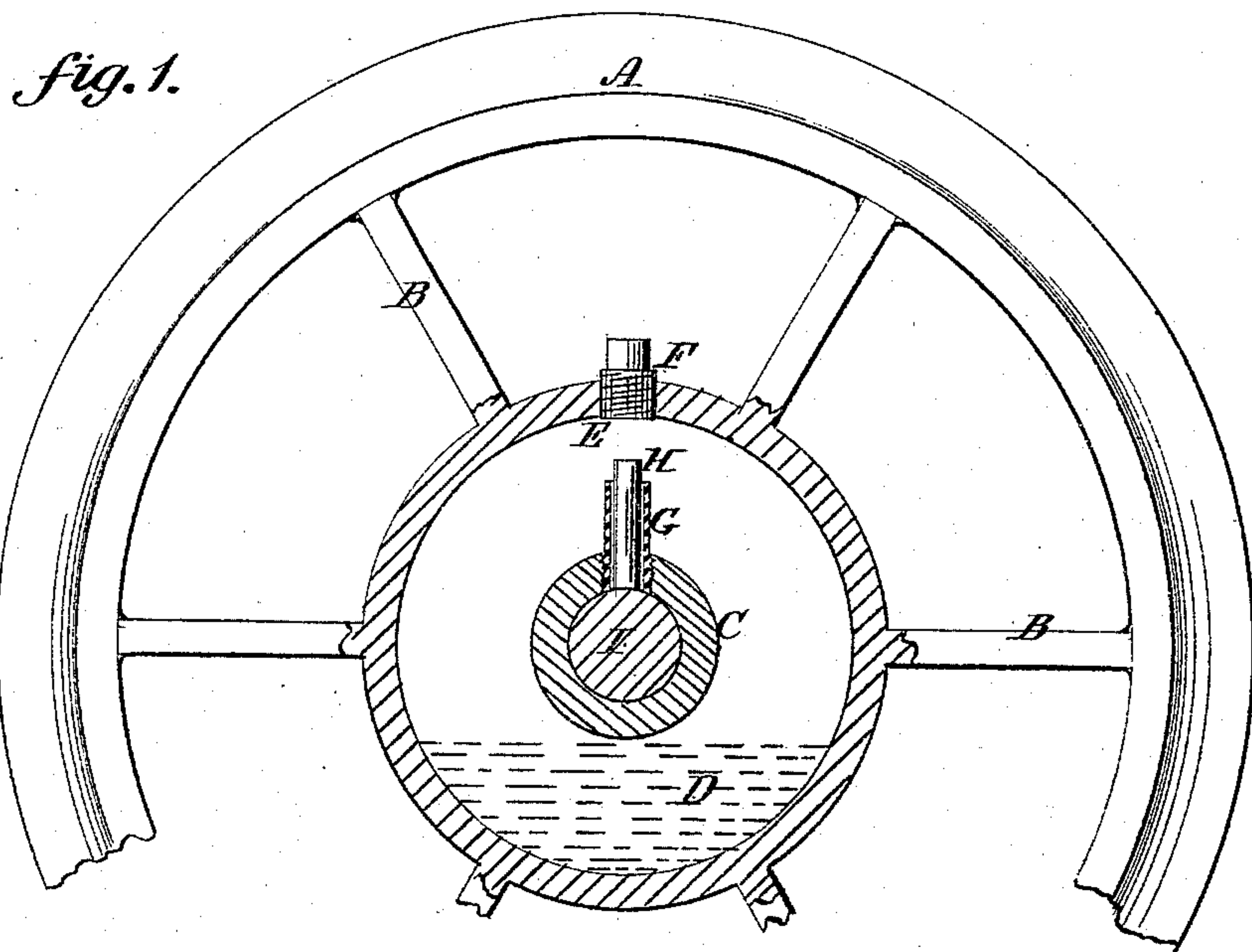


J. H. MURRAY.
Lubricating Car Wheels.

No. 143,370.

Patented September 30, 1873.



Witnesses:

Thos. Jewett
Wm. E. Chaffee

Inventor:

John H. Murray
By Johnson & Johnson
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UNITED STATES PATENT OFFICE.

JOHN H. MURRAY, OF HOLLIDAYSBURG, PENNSYLVANIA.

IMPROVEMENT IN LUBRICATING CAR-WHEELS.

Specification forming part of Letters Patent No. **143,370**, dated September 30, 1873; application filed August 9, 1873.

To all whom it may concern:

Be it known that I, JOHN H. MURRAY, of Hollidaysburg, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Self-Lubricating Car-Wheels, of which the following is a specification:

This invention relates to a simple and effective method of supplying the oil to the bearing-surface in that class of wheels which are provided with an annular oil-chamber surrounding the hub, and which turn upon their bearings; and my improvement therein consists of a loose plug in combination with the short tube which incloses it, the adjusting screw-plug by which the axial movement of the plug is adjusted to project more or less outside of the tube, and the oil-chamber, whereby the outer end of the plug is caused to have a greater or less projection beyond the outer end of the tube, which is arranged entirely within the oil-chamber for the purpose of increasing or diminishing the length of the feed end of the plug, to regulate the feed of the oil by exposing more or less of the outer surface of the plug to the oil in the chamber as the plug is moved in and out of the tube by the revolutions of the wheel.

In the accompanying drawing, Figure 1 represents an elevation of a car-wheel embodying my invention, the hub and oil-reservoir being shown in section, and with the plug-valve resting upon the axle; and Fig. 2, a similar view, with the plug-valve down and resting upon the inner wall of the oil-chamber.

In mining or pit car wheels, turning loosely upon their axles, great difficulty and annoyance are experienced in obtaining a proper supply of oil to the bearing-surface or journal, as the distributing-duct for conducting the oil from the oil-chamber formed in the hub to the axle is liable to become clogged, or, when a ball or other valve is employed, the oil is generally fed either to an excessive degree or not at all.

In order to overcome the defects stated, I have devised the present invention, the advantages of which are not only confined to its cheapness, simplicity, and durability of its parts, but are also found in the accuracy and reliability of its automatic operation.

Referring to the drawing, A B C designate the tread, body or arms, and hub or nave of a wheel, such as is usually employed in cars for mining purposes. The hub portion C is cast or otherwise formed with an annular concentric oil reservoir or chamber, D, to which the oil is supplied by a filling-orifice, E, closed by a screw-plug, F, or other equivalent device. Within the oil-chamber D there is located an open-ended tube, G, extending nearly to the wall of the same, and communicating at the inner end with a radial duct in the hub, which conducts the oil to the bearing-surface or journal I of the wheel or pulley. The tube G may be cast with the hub, or it may be separately applied to the same by a screw-thread and socket.

For supplying the lubricant to the bearing-surface I in regular manner, I employ a plug or stem valve, H, which is of a diameter somewhat less than that of the tube G, so that it may freely slide in the same. The plug-valve H will, when the oil-tube G is in a downward position, be projected from the same to a sufficient extent for collecting on its surface a sufficient amount of oil, which is then conducted, when the tube reaches its highest elevation, to the bearing-surface.

Thus it will be perceived that the oil is intermittently fed to the journal I in a regular manner without incurring waste of the same.

The sliding plug-valve H being inserted into the distributing-tube G loosely, it can freely move in the same without the liability of its becoming clogged; but, if this contingency should occur, it is a very easy matter to remove the foreign matters from the tube and plug-valve, as the latter can be readily withdrawn by detaching the plug or cap F of the filling-orifice E.

Another advantage offered by the plug-valve arranged as shown is, the total absence of all stop devices, for it is apparent that, whatsoever position it may be in, the shaft or journal I acts as a stop for limiting its inward movement, while the inner wall or plug F of the oil-chamber subserves a similar purpose in preventing its entire projection from the distributing-tube when the same is in a pendent position.

So perfect has the plug-valve been found to

work that, with one-half pint of oil in the chamber D, the wheel will run for six weeks.

It will be seen that the screw-plug F serves to adjust the axial movement of the feeding-plug H, as, by screwing the plug F in, it shortens the movement of the plug H, and lessens its surface exposed to the oil; and, upon the reverse adjustment of the plug F, the feeding-plug H will be caused to project a greater distance from the tube G, and expose a greater feeding-surface to the oil outside of the tube, and in this way the projecting end of the feeding-plug is lengthened and shortened to feed more or less oil.

I do not claim a loose plug for feeding the lubricating material to the journal-bearing,

nor a loose plug arranged to feed from an oil-chamber within and through a tube.

I claim—

The loose feeding-plug H, in combination with the short tube G, the oil-chamber D, and the adjusting screw-plug F for regulating the length of the feeding movement of the plug H outside of the tube, as shown, and for the purpose described.

In testimony whereof I have hereunto set my hand this 18th day of July, A. D. 1873.

JOHN H. MURRAY.

Witnesses:

A. E. H. JOHNSON,

J. W. HAMILTON JOHNSON.