J. H. Ferguson,

Lubricator.

No. 50,233. Patented Oct. 3, 1865.

Fig. 2.

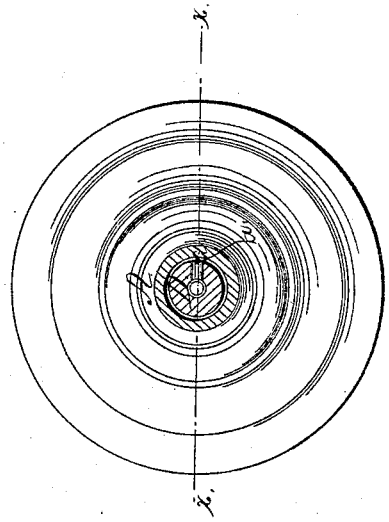
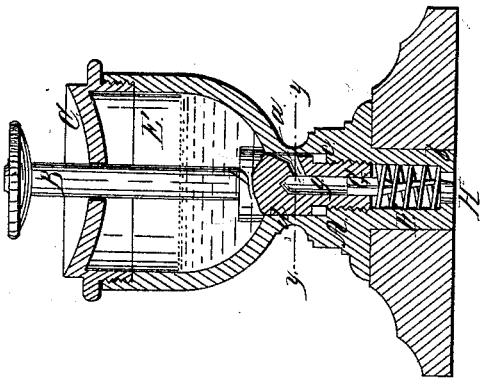


Fig. 3

Fig. 1.



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UNITED STATES PATENT OFFICE.

J. H. FERGUSON, OF SPRINGFIELD, MASSACHUSETTS.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. **50,233**, dated October 3, 1865.

To all whom it may concern:

Be it known that I, J. H. FERGUSON, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Lubricators; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of a vertical section of a lubricator or oil-cup made according to my invention, the line of section being seen at *x*, Fig. 2. Fig. 2 is a plan of a horizontal section, taken on the line *y* of Fig. 1. Fig. 3 is a sectional view of the stem and valve-plug.

Similar letters of reference indicate like parts.

One of the objects of this invention is to apply oil to the bearing-surfaces continuously, and not intermittently at long intervals, according to the usual mode, experiments by Morin having demonstrated that the friction is about twenty-eight per cent. less when such surfaces are lubricated by a continuous flow than when they are lubricated from time to time, and that less oil is used, because there is less opportunity for wastefulness.

Another object of the invention is to be able to adjust the lubricator while the machinery it is attached to is in motion.

A designates the lubricator, whose cup E has a perforated cap, C, to receive the spindle B. The cap C is fitted to the top of the cup with a screw-joint, so as to be removable at pleasure. The head of the spindle B is milled, so that it can be easily rotated. The bottom of the lubricator has a perforation, H, made vertically through it, and the lubricator is to be applied to the part of the machine to be lubricated in such a way as that the perforation H will communicate therewith in a proper manner. A shoulder, *b*, is formed in the lower part of the said perforation in order to receive and support a spring, F, whose upper end is in contact with the lower end of the valve-plug D. The part of the perforation which is above the shoulder *b* is continued thence of an uniform diameter up to the line *c*, where its diameter is enlarged, so as to form a shoulder at that line. The part so enlarged in diameter is designated by the letter *d*. The upper portion of that part of the perforation H which lies below the shoulder *c* has a screw-thread formed on it to receive the lower part of the valve-plug D. The valve-plug D is cylindrical in shape. Its upper part has a socket, *e*, (seen in Fig. 3,) which receives the end *f* of the spindle B. The spindle can be easily raised out of the socket *e*, when desired, but it is not allowed rotary motion therein. The plug D is of unequal diameter. The lower part thereof, which has the smallest diameter, has a screw-thread cut on it, which takes into the internal screw-thread of the perforation H. The upper part of the plug fills the part *d* of said perforation snugly, so that when the plug is screwed down to its farthest extent the contents of the oil-cup cannot pass into the perforation H. The lower part of the plug D has a perforation, *g*, which extends from the bottom of the plug upward about two-thirds of its length, where it is intersected by a radial opening, *a*, which inclines upward, and which opens into a triangular groove made vertically on the side of the plug, the apex of the said groove extending nearly if not quite to the level of the bottom of the cup.

G is a finger, of metal or other suitable material, which projects from the bottom of the plug D, being in this example fitted within its perforation *g*. It may be fixed in the neck of the lubricator instead. It is of scroll or screw form, and terminates in a fine point near the bottom of the lubricator.

The cap C may be perforated to allow the access of air to the oil-cup, or the opening in it which receives the spindle may be a little enlarged on one side for that purpose.

The operation of the apparatus is as follows: The passage H in the lubricator having been first closed by screwing down the plug D, the cup may be filled after either withdrawing the spindle B or removing the cap C. When the spindle is replaced, and it is desired to let the oil flow from the cup, the spindle is turned to the left, so as to raise the plug sufficiently to bring the apex of the triangular groove that leads to the lateral passage *a* above the bottom of the cup, when the oil will pass through it into the passage *g*, and thence down its sides

to the finger G, from whose point it will drip with regularity and continually so long as there is any oil in the cup. The rapidity of its discharge can be regulated by turning the spindle and screwing the plug D up or down. The office of the spring is to prevent the jar of the machinery or any accident from causing the plug D to become displaced from its adjustment. This it accomplishes by pressing continually upward against the bottom of the plug and aiding to hold it firmly in place.

The spring may be applied in any other convenient position instead of being so placed as to act upward against the bottom of the plug.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The lateral passage *a* and its triangular groove in the valve-plug, and the vertical passage *g* in the bottom of the plug, in combination with the screw-thread, by means of which the plug is adjusted, substantially as above described.

2. The finger G, arranged with and projecting downward below the plug D, constructed and operating substantially as above described.

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