

J. KUKELKORN.
Steam-Cylinder Lubricators.

No. 157,844.

Patented Dec. 15, 1874.

Fig. 1

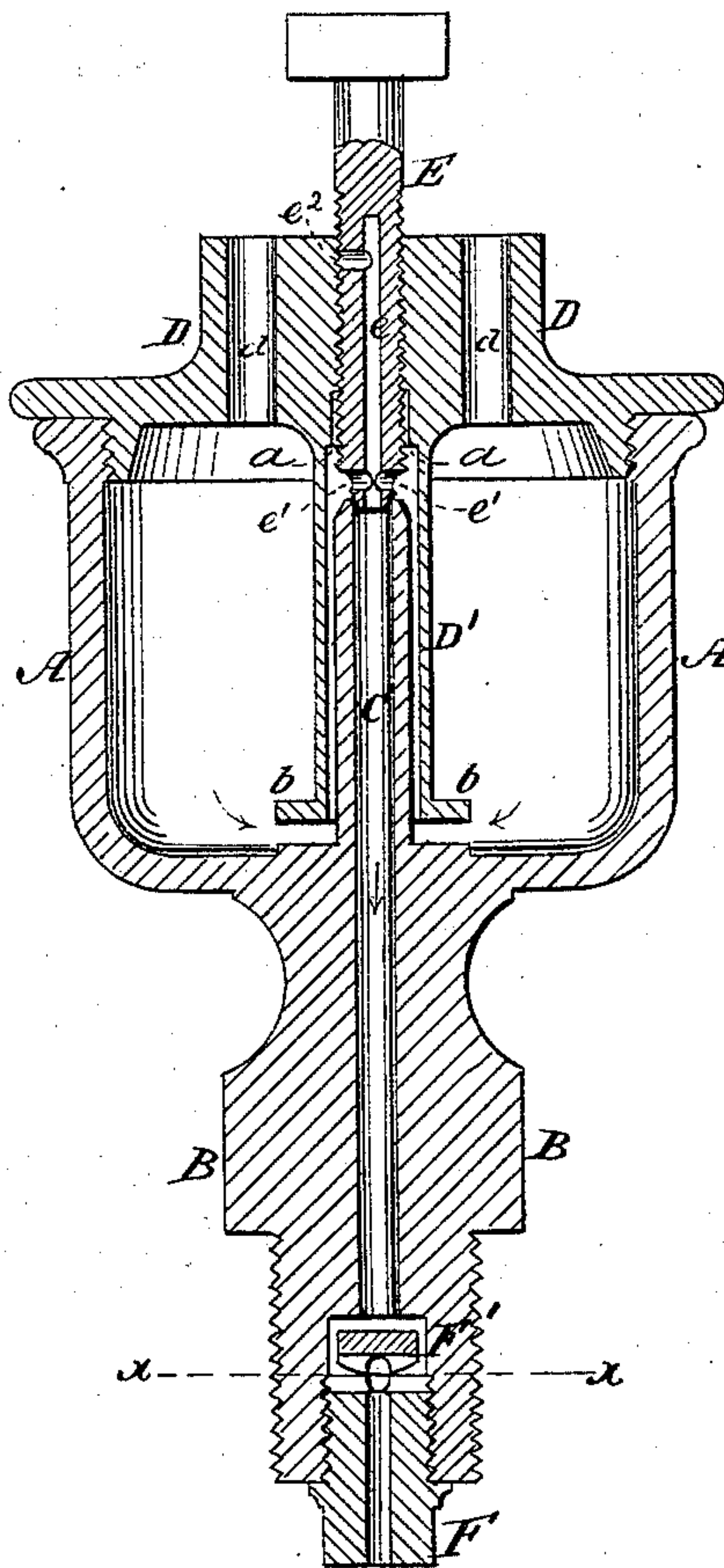


Fig. 2

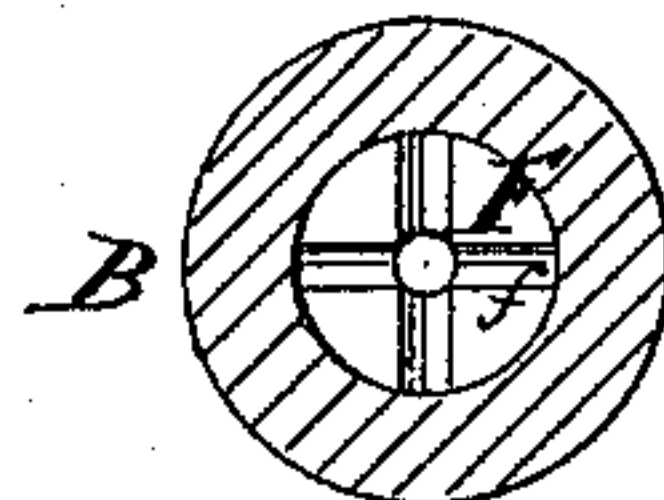


Fig. 3



WITNESSES:

E. Wolff
A. F. Terry

INVENTOR:

J. Kukelkorn
BY *M. M. H.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH KUKELKORN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN STEAM-CYLINDER LUBRICATORS.

Specification forming part of Letters Patent No. 157,844, dated December 15, 1874; application filed November 7, 1874.

To all whom it may concern:

Be it known that I, JOSEPH KUKELKORN, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Steam-Cylinder Lubricator, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical central section of my improved steam-cylinder lubricator; Fig. 2, a horizontal section of the same, taken on the line *xx*, Fig. 1, through the lower valve part; and Fig. 3, a detail bottom view of the valve.

Similar letters of reference indicate corresponding parts.

My invention relates to an improved lubricator for steam-cylinders, by which the oil is fed to the cylinder with great economy and in nicely-graduated quantities; and it consists in a reservoir with a central tubular stem, surrounded by a sleeve of the cover or top part, which is provided with an adjustable screw-plug, having air-channels for conveying a greater or smaller quantity of oil to the stem, or interrupting the supply of oil altogether, in connection with a grooved steam-acted valve and stationary bottom plug of the lubricator, so that any required quantity may be fed in connection with the stroke of the piston.

In the drawing, A represents the valve-cup or reservoir for the lubricating material, which is screwed, by its hollow standard or stem B, to the steam-cylinder, or other steam-acted part of machinery. The reservoir A is provided with a central tubular stem, C, cast or otherwise arranged in connection with the channel of the standard B, and closed by a top or cover, D, tightly screwed to the upper rim of the reservoir. The cover D has a central tubular sleeve, D', which is extended in a downward direction, so as to be placed over the stem C, in such a manner that the bottom flange *b* of the sleeve D' is retained at some distance from the bottom of reservoir A, forming between sleeve D' and stem C a narrow intermediate space, into which the oil can readily rise to its level, and be then conducted to the top of stem C, and to an interior shoulder, *a*, of the sleeve. Perforations or channels *d* pass through the top D, and admit the

air to the interior of the reservoir, serving also for the purpose of filling the same from time to time without requiring the unscrewing of the top and the interruption of the lubricating action. A central screw-plug, E, of the top C passes through the same until its lower conical part is seated on the top part of stem C. A central perforation or channel, *e*, of the screw-plug E communicates, by side openings *e*¹, with the oil-feeding space around the stem, and by another aperture, *e*², at suitable distance above the former, with the outer air. Aperture *e*² is closed entirely when the end of the plug is tightly seated on the stem, but may be partly or completely opened when the plug is raised by unscrewing from the stem, so that in this manner the supply of oil from the sleeve to the lower openings *e*¹ of the plug, and thence to the interior channel of the stem, may be established, diminished, and interrupted, as required, for the purpose of economizing the oil and feeding it only when the engine is at work. The position of the plug may be secured by a suitable spring locking device, so as not to be changed by the vibrations of the cylinder. A centrally-perforated plug, F, is screwed into the lower part of standard B, and arranged with diametrical top grooves or channels F. A valve, F', with similar grooves at the lower side, rests on plug F, and slides in an enlarged space above the plug, in such a manner that on the entrance of the steam through the plug from the cylinder it will close the central oil-conveying channel of standard B, and interrupt thereby the flow of oil, but will drop on the return of the piston, so as to feed the oil through the grooves and plug to the inside of the cylinder.

The action of the steam in the cylinder on the valve interrupts, at each forward stroke of the piston, the flow of oil, and re-establishes the same on the return stroke. Thus the lubricating material is supplied by the action of the steam without waste to the cylinder in the quantity required, according to the speed of the engine, the quantity being regulated by means of the top plug, forming thus a reliable, substantial, and economical lubricating device for steam-engines.

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

1. A lubricator for steam-cylinders, &c., constructed of a cup or reservoir, A, having hollow standard B and interior central stem C, a cover, D, with downward-extending sleeve D' and regulating screw-plug E, and of a grooved bottom plug, F, and steam-acted valve F', the whole being arranged for operating substantially as shown and described.

2. The combination of sleeve D', provided with interior shoulder *a*, with central cup-stem C and screw-plug E, having central channel *e*, with lower and upper apertures *e*¹ *e*², for the purpose of regulating and interrupting the flow of lubricating material to the cylinder, substantially as and for the purpose set forth.

JOSEPH KUKELKORN.

Witnesses:

T. B. MOSHER,

ALEX. F. ROBERTS.