

D. JONES.  
Lubricators.

No. 154,051.

Patented Aug. 11, 1874.

Fig. 1.

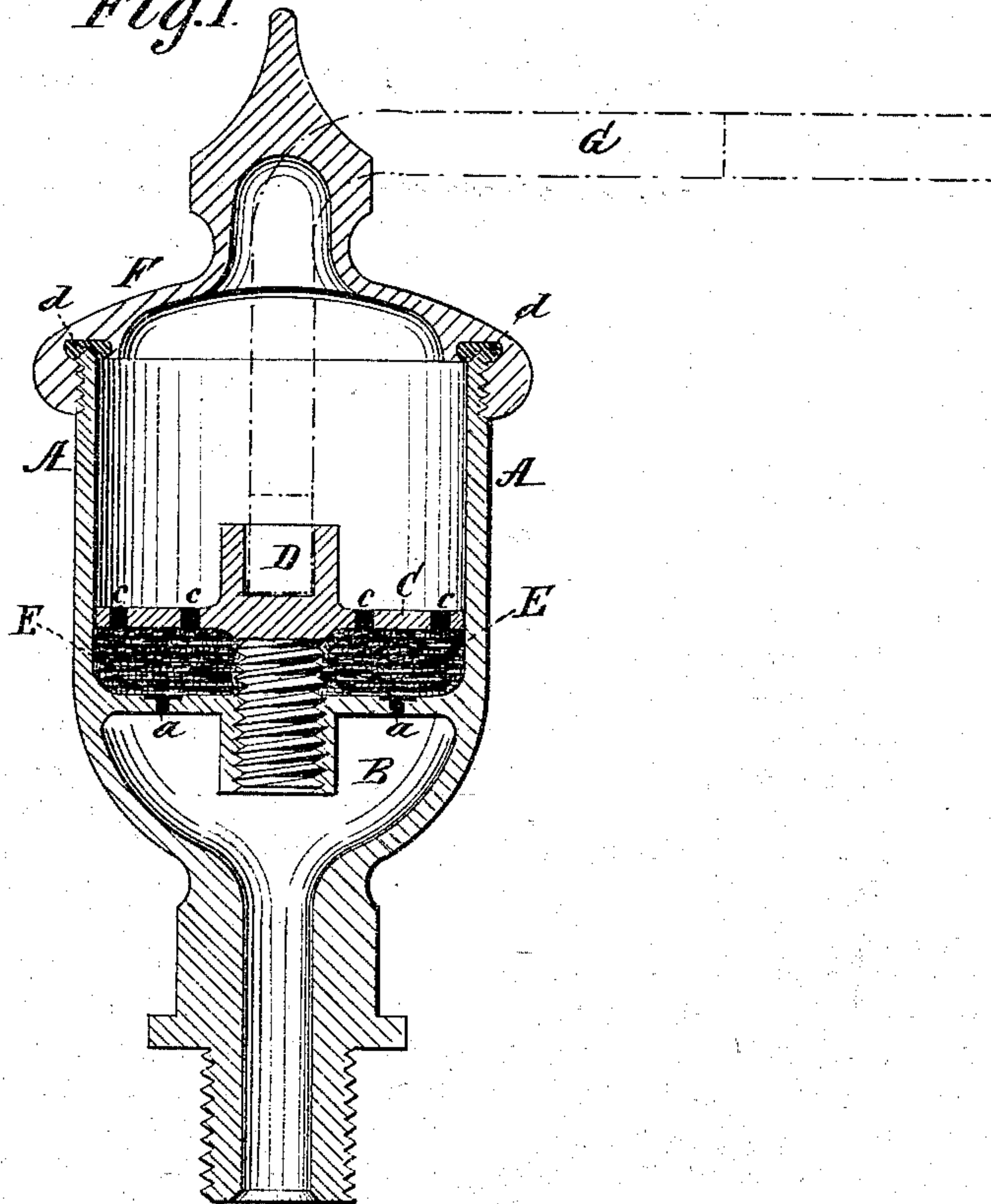


Fig. 2.

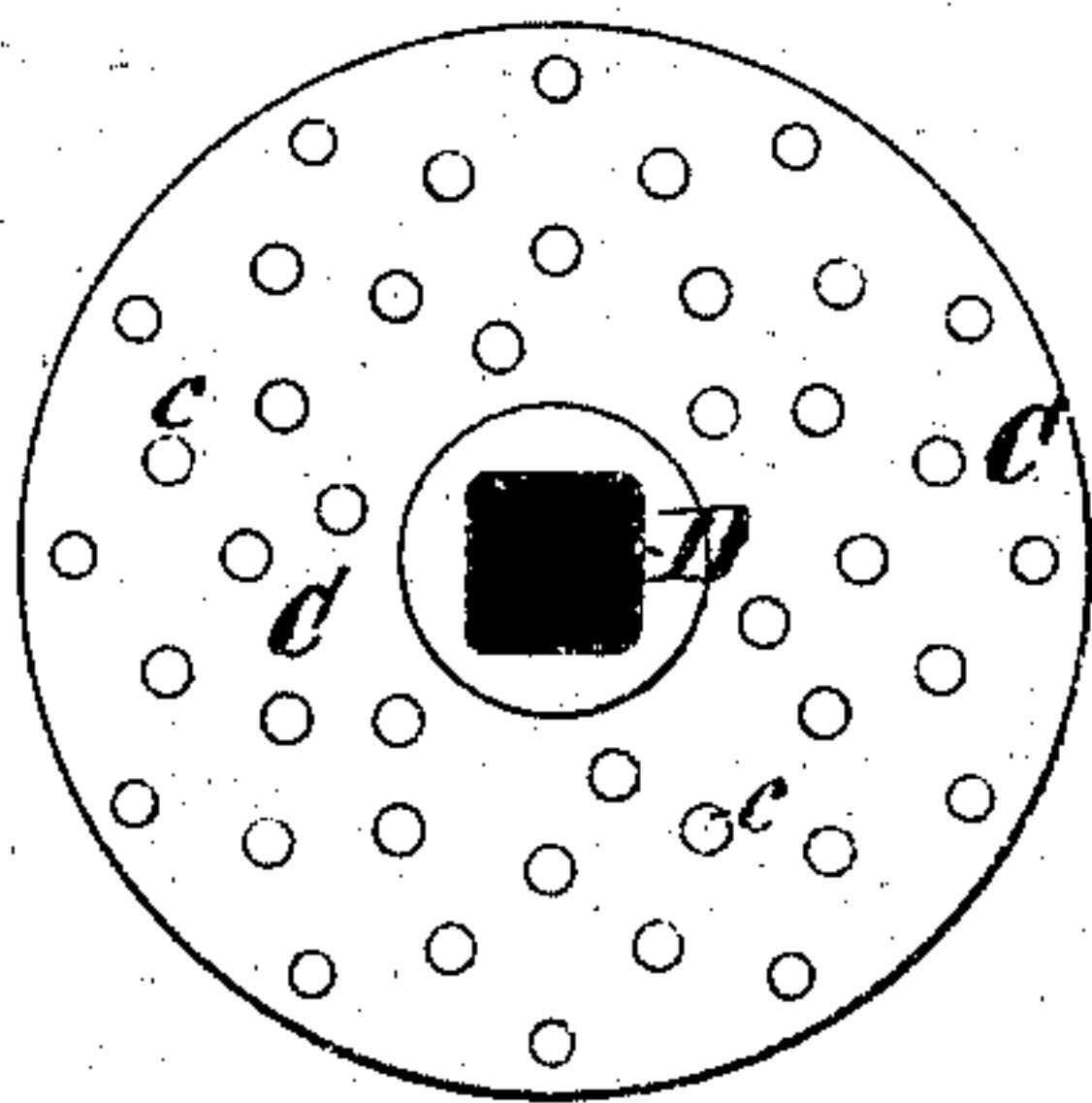
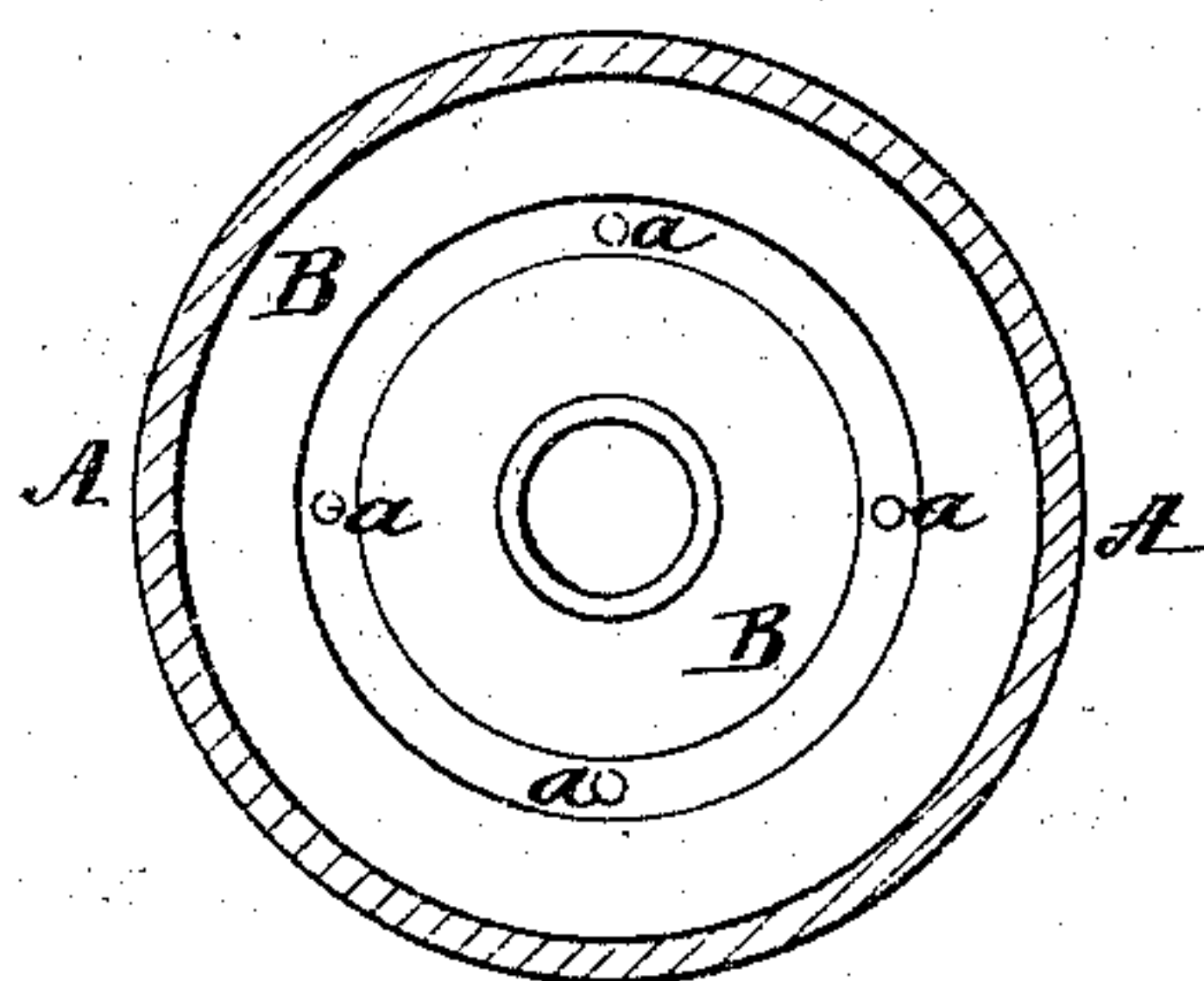


Fig. 3.



WITNESSES:

G. Mattheys.  
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INVENTOR:

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BY

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# UNITED STATES PATENT OFFICE.

DAVID JONES, OF MILLBURN INVERNESS, SCOTLAND.

## IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. 154,051, dated August 11, 1874; application filed June 30, 1874.

*To all whom it may concern:*

Be it known that I, DAVID JONES, of Millburn Inverness, in the county of Inverness, Scotland, have invented a new and useful Improvement in Lubricators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a sectional elevation; Fig. 2, a plan view of disk C; Fig. 3, a plan view of partition B.

The object of my invention is the peculiar and important one of providing a uniform and constant lubrication for the cylinder and valves of engines, by means of a lubricator-cup or reservoir having small holes opening through to the cylinder or valve, and covered by a pad or retarder, which regulates the flow of the lubricant. Said pad or retarder is made of alternate layers of gauze wire and cloth, or any other suitable material—the lubricator-cup or reservoir being made without either valve or cock and of any suitable dimensions, and the top cover screwed on with a steam-tight joint.

In the drawings, A represents the lubricator-cup or reservoir; B, a partition which divides the apparatus into two chambers, having several small holes, *a*, which serve to admit the passage of the oil. C is a metallic disk, provided with a threaded stem, *b*, that fits into the partition B. Said disk has upon its stem the packing of cloth or cloth and wire gauze for forming the pad E, and in the disk the holes *c*, which are more numerous and larger than those in the partition B, said disk being also provided with a cavity, D, adapted to receive a wrench for the purpose of regulating the flow of oil by tightening or loosening the packing, or of removing the disk entirely, for the purpose of cleaning and repairing the apparatus. F shows the detachable screw-threaded cap or cover, having an annular piece of lead, *d*, which, with the rim of the cup, forms a steam-tight joint. G is a wrench,

adapted to the screwing or unscrewing of the disk C and the cap F.

The operation of this apparatus is as follows: We will suppose the apparatus to be set upon a low-pressure steam-cylinder and the receptacle A filled or partially filled with oil. From the influences of gravity and capillary attraction, the said oil passes down through the holes *c* and permeates thoroughly the pad E. Now, as the piston of the cylinder moves, the steam is brought into contact with the packing E through the holes *a*, but does not pass through the same, by reason of the tightness of the packing and the oil held in the fiber. The piston being reversed, however, a few drops of the oil held by capillary attraction is forced out into the cylinder from the combined influences of gravity, the partial vacuum produced by the condensation of the steam on that side of the piston, and the expansive force of the heated and rarefied air in the top of the cup, the holes in the disk C being larger and more numerous than those in the partition B, for the purpose of keeping the pad always supersaturated with oil. The above action is repeated at every stroke of the piston, and by this means a uniform and constant method of lubrication is secured without the use of valves.

Having thus described my invention, what I claim as new is—

In a lubricator, the combination of the perforated adjustable disk C, having a screw-threaded stem and cavity for wrench, with the packing E, perforated partition B, and steam-tight cap F, substantially as and for the purpose specified.

The above specification signed by me this 15th day of April, 1874.

DAVID JONES. [L. S.]

Witnesses:

JAMES CALDER,  
*Of Inverness, Scotland, Writer.*  
ALEXR. DALLAS,  
*Of Inverness, Scotland, Writer.*