

(No Model.)

A. OBERMEYER.
LUBRICATOR.

No. 483,860.

Patented Oct. 4, 1892.

Fig. 1.

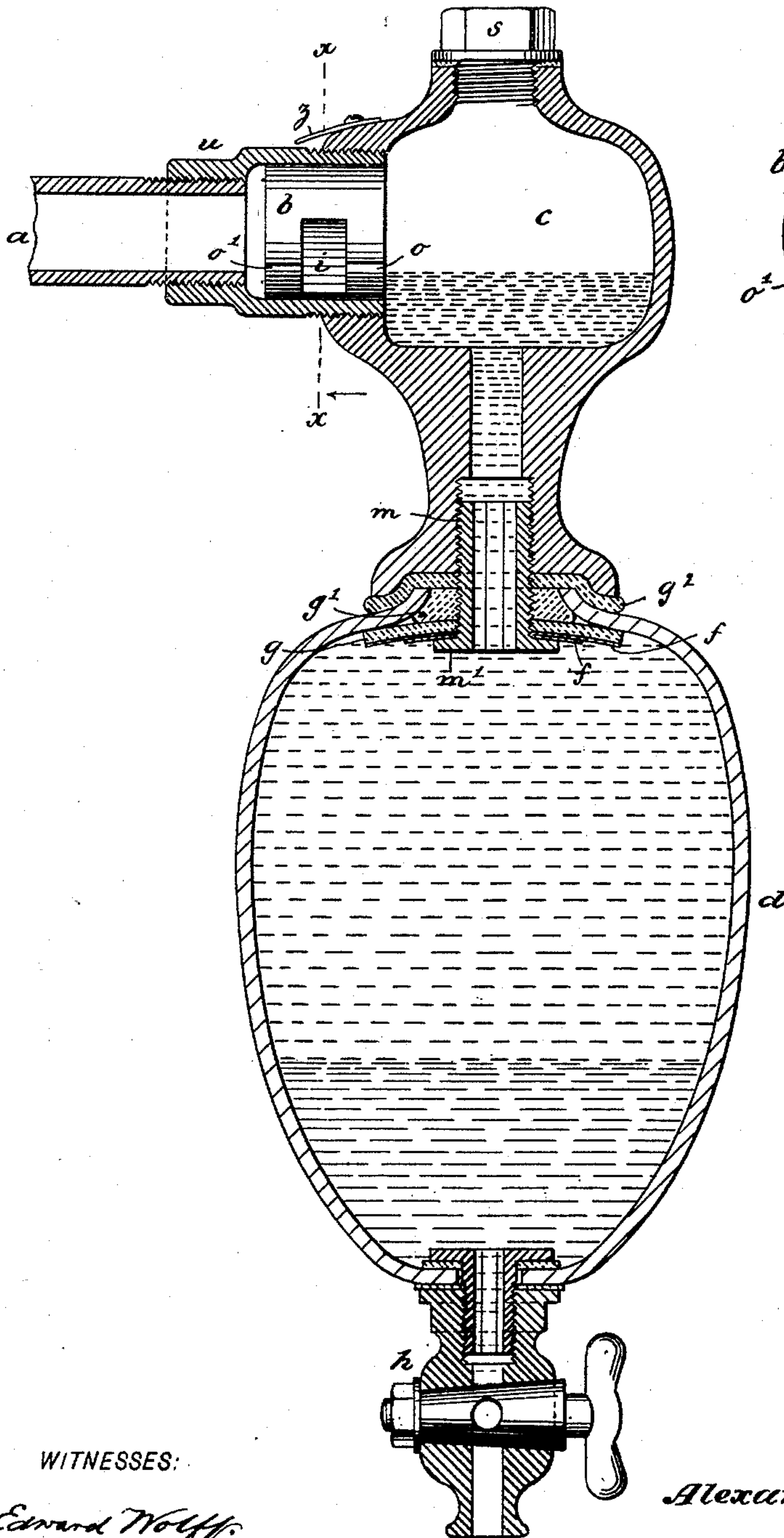
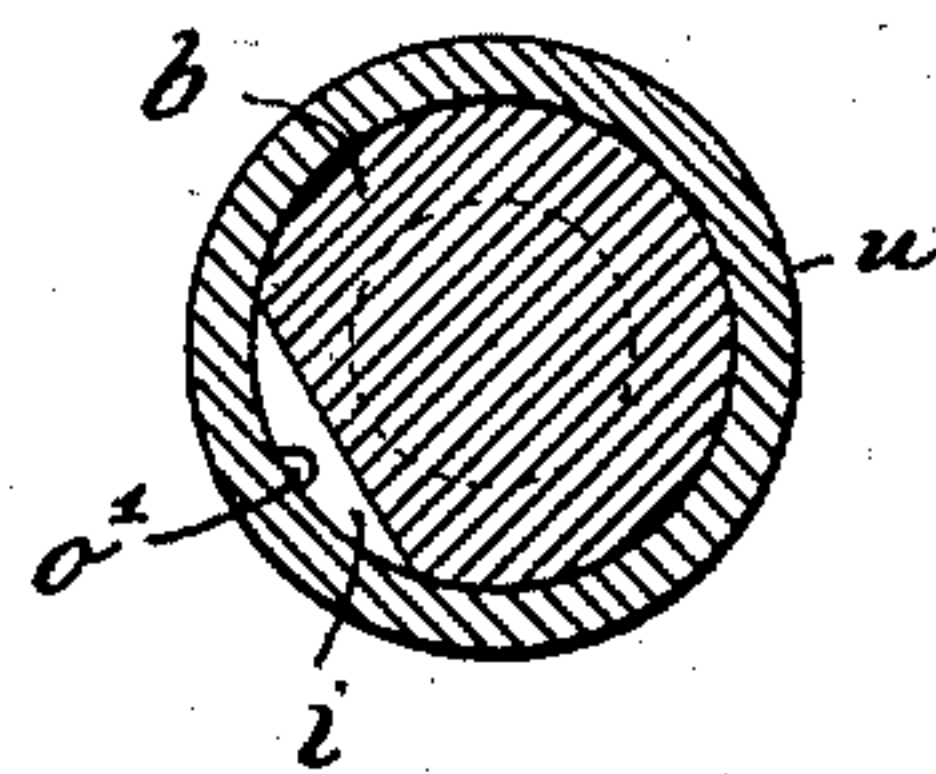


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ALEXANDER OBERMEYER, OF BARMEN, GERMANY.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 483,860, dated October 4, 1892.

Application filed April 14, 1892. Serial No. 429,172. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER OBERMEYER, a subject of the King of Prussia, residing at Barmen, in the Province of Rhenish Prussia, German Empire, have invented new and useful Improvements in Lubricators, of which the following is a specification.

The lubricator is adapted to have the oil replaced or forced out by the water of condensation and is provided with a variable condensing-chamber of novel construction.

This invention relates to a lubricator for steam-engines, in which the oil is led by the steam to the parts to be lubricated—pistons, slides, &c.—whereby the lubrication results from the condensation of the steam, since the resulting water, which on account of its greater specific weight sinks down in the oil, keeps the surface of the latter continually at the height of the exit-opening. The oil used for lubricating is thus in these apparatuses gradually replaced by the water gathering in the oil-chamber.

The invention consists in the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional elevation of the lubricator. Fig. 2 is a section along xx , Fig. 1.

In the apparatus shown in the drawings provision is made for adjusting the same for a greater or less lubrication, and this is accomplished by increasing or decreasing the steam-condensing chamber or space. The apparatus is secured to the cylinder, valve-chest, or steam-supply pipe either directly by means of the tube a or by an attachment or tube u , which at its other end is closed by a core b and carries the condensing-pot c , to which is screwed the oil-chamber d . The core b at its outer surface has an opening o o' , through which the steam can pass over the surface of the oil into the condensation-pot. The resulting water sinks to the bottom of the oil-vessel, and according to the amount of this precipitated water the surface of the oil is raised and a correspondingly greater or less quantity of oil flows to the part to be lubricated. As the mass of the water depends upon the size of the condensing-space c , the quantity of oil raised is greater the larger the

space in the pot c above the surface of the oil. This space, however, can be varied by the rise or fall of the oil therein, regulated by the position of the opening o , between the limits determined by the lowest or highest position of o in the tube a or attachment u . If the core b is fixed in the tube a or in said attachment, the change in the size of the condensing-space can be effected by the rise or fall of the oil therein, which is caused by a short turn of the tube or attachment, and it is evident that the greatest possible variation is to be accomplished by a half-turn. If the opening is in its lowest position, almost the entire interior of the pot c serves as a condensing-space. Consequently considerable steam is condensed, and therefore an increased lubrication effected. On turning the opening o upward the oil is caused to rise and the condensing-space is diminished, as is also the lubrication, which becomes least when the opening is in its highest position.

To enable the position or adjustment of opening o to be readily ascertained from without, the tube a or attachment u can be provided with a scale and the neck of the pot c with an index z to indicate the position of opening o —that is, the amount of free space in the pot c . The core b can also be made rotary in the tube a and provided with a spindle passing out through a stuffing-box, which spindle by means of an adjusting-lever or small wheel can be turned and the adjustment of opening o thus accomplished. In this case the index is secured to the spindle or axle and the scale correspondingly arranged behind the index.

The oil-chamber d is preferably of glass, so that the supply of oil and the progress of lubrication can be constantly noted. The connection of the oil-chamber with the condensing-pot c and the tight closing of the connection is effected by a tubular screw m , having a flange m' of such size that it can pass through the opening of the glass chamber. The interior of the tubular screw is angular in cross-section, so that it can be turned by a key inserted from above through the condensing-pot. Upon the flange are placed one or more sheet-metal washers f , which are passed through the opening in the glass chamber by being suitably bent. Upon

these sheet-metal washers is first laid an asbestos ring *g*, upon this a luting of litharge and glycerine, then a smaller ring *g'*, saturated with said luting, and then between the glass 5 and the neck of the condensing-pot another asbestos ring *g*². On inserting the tubular screw *m* the sheet-metal washers *f* are spread or flattened and the packings pressed tightly together. The heat from the steam by means 10 of the luting bakes the packings, the glass, and the other parts securely and firmly together, so that a thoroughly-durable closure is attained.

For filling with oil and for the insertion of 15 the key the condensing-pot *c* is provided above with an opening, which is closed by a screw-stopper *s*.

The piece or core *b* has a peculiar construction, so that the steam, which in the working 20 of the machine flows intermittently, has its force weakened on entering the condensing-pot. Into the outer surface of the core is filed a depression *i*, and into this depression the steam is led by the small opening branch 25 *o'*, while the larger branch *o* connects the depression *i* with the condensing-space *c*. The steam, coming from tube *a* in puffs or starts, is thus somewhat arrested in channels *o'* and *i*, and its concussion thereby weakened.

30 To draw off the water collecting in the glass oil-reservoir *d*, a cock *h* is applied at the lower

end, through which also the impurities settling in the glass oil-reservoir can be drawn off. The oil-cup *d* can also be connected at 35 its lower end by a conduit or other suitable means with the oil-reservoir, and the water will then flow into the latter and press the oil gradually into the glass oil-reservoir *d*.

What I claim as new, and desire to secure by Letters Patent, is— 40

1. The combination, with a condensing pot or vessel *c* and an oil-chamber *d*, communicating therewith, of a steam and oil conducting tube connected with the condensing pot or vessel and containing a rotatable core *b*, 45 provided with a channel *o*, which is adjustable to different levels relatively to the lower side of the tube, substantially as and for the purpose described.

2. A lubricator provided with a condensing-chamber having a rotary adjustable core 50 provided with an opening formed in two branches *o o'*, of varying size, and a recess or depression which communicates with both branches, substantially as described. 55

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALEXANDER OBERMEYER.

Witnesses:

FRANK HESSENBURCH,
RUDOLPH FRICKE.