

(No Model.)

J. YULE.  
LUBRICATOR.

No. 287,988.

Patented Nov. 6, 1883.

Fig: 1

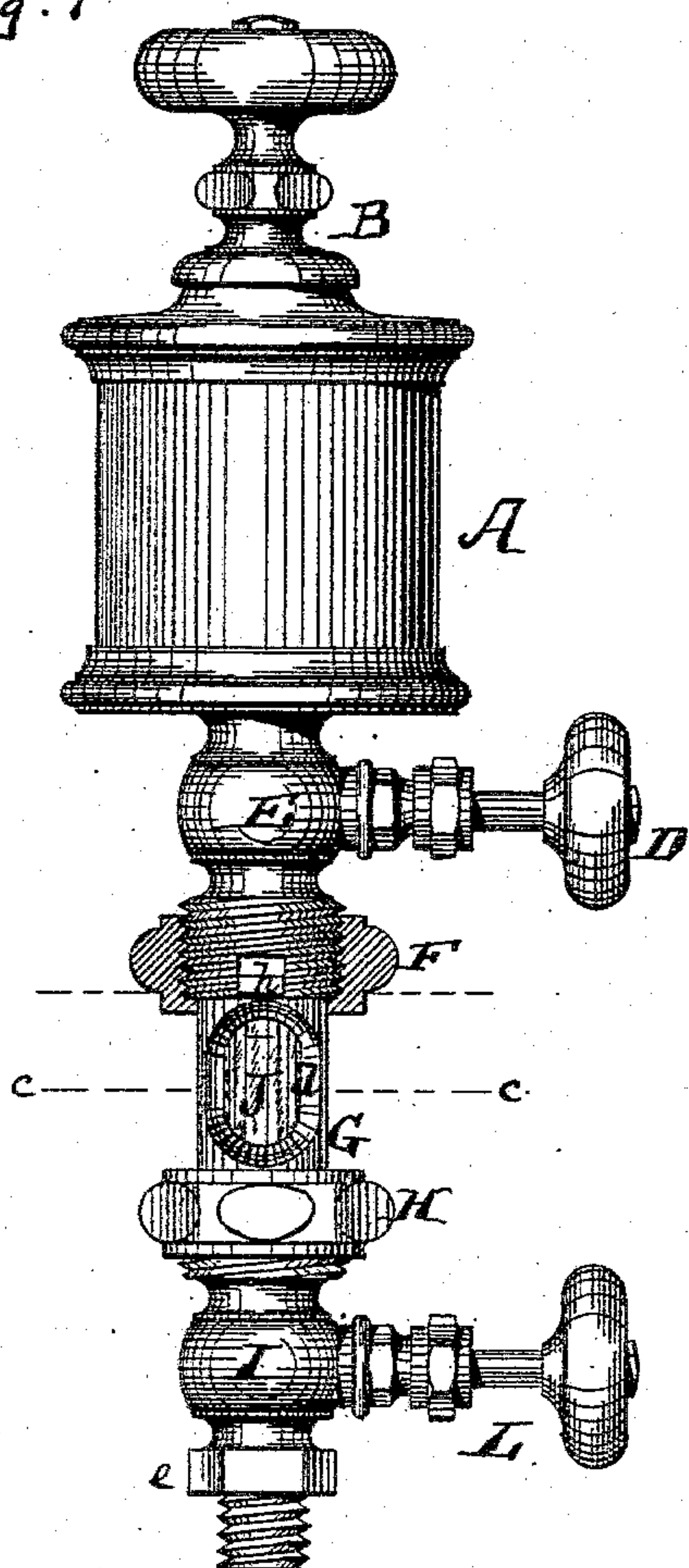


Fig: 2

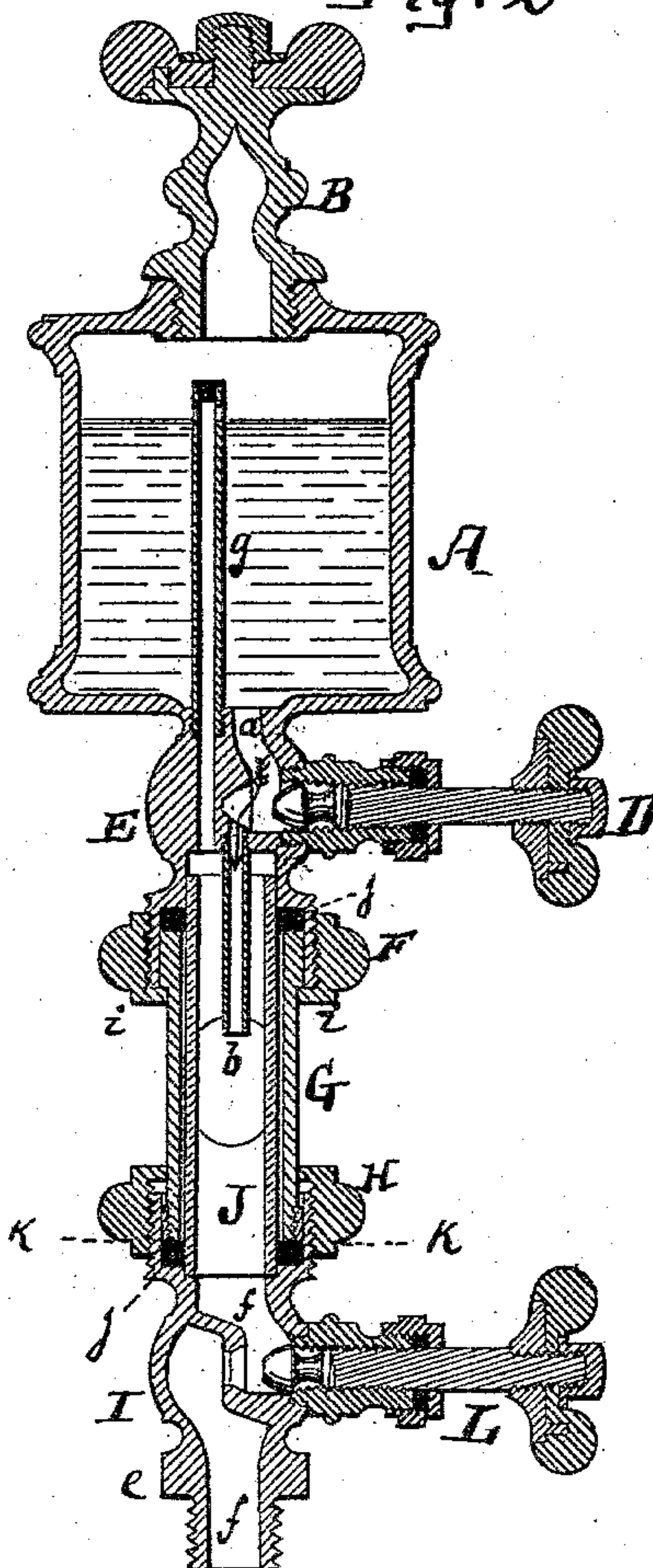


Fig: 3

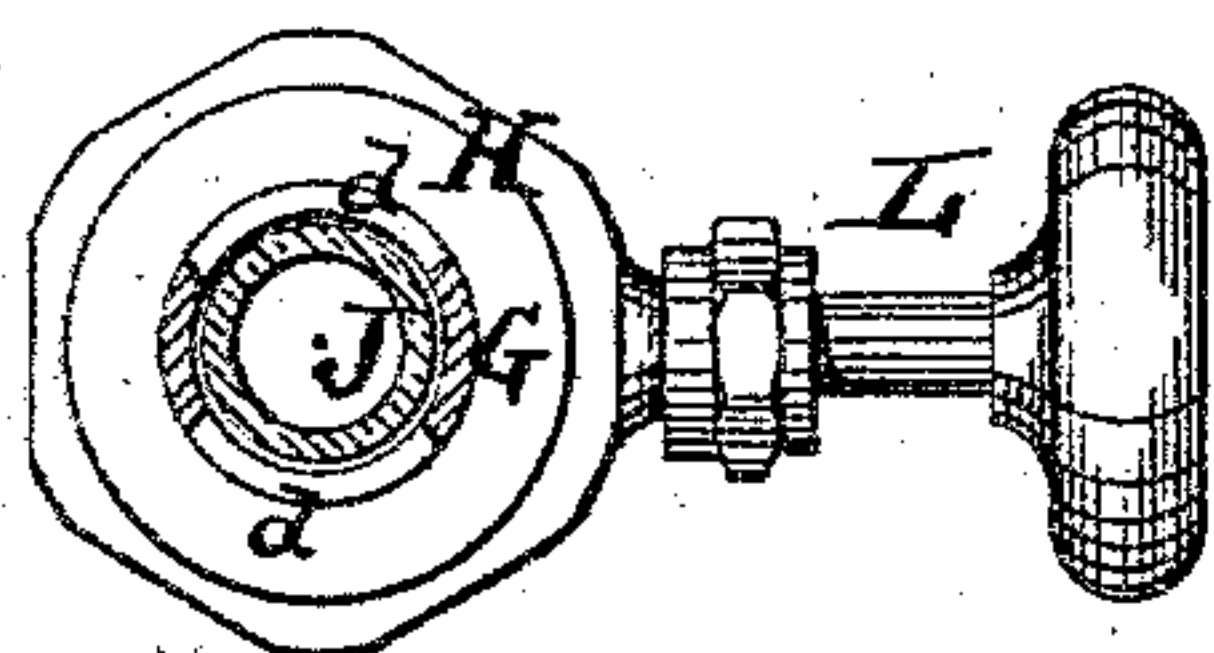


Fig: 4

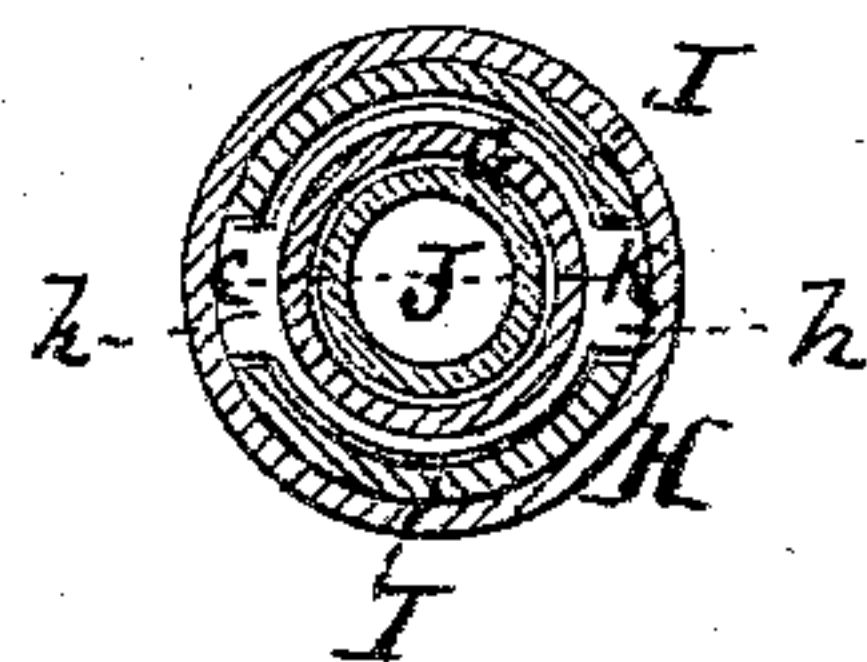
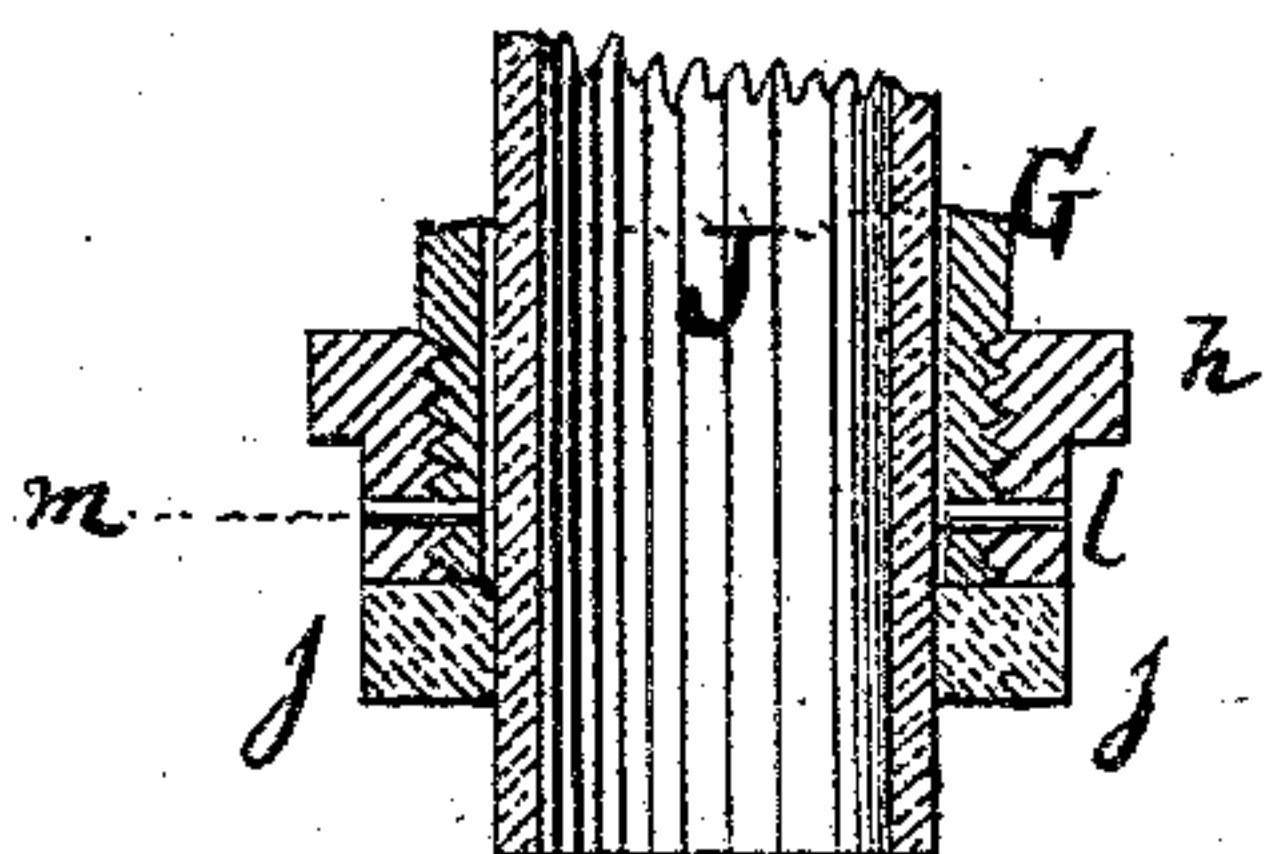


Fig: 5



Witnesses:

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Inventor:

John Yule  
by his attorneys  
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# UNITED STATES PATENT OFFICE.

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## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 287,988, dated November 6, 1883.

Application filed August 29, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN YULE, a resident of Paterson, in the county of Passaic and State of New Jersey, have invented an Improvement in Lubricators, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, in which—

Figure 1 is a side view, partly in section, of my improved lubricator. Fig. 2 is a vertical central section of the same. Fig. 3 is a horizontal section on the line *c c*, Fig. 1. Fig. 4 is a horizontal section on the plane of the line *k k*, Fig. 2. Fig. 5 is a detailed vertical section, on an enlarged scale, on the plane of the line *c k*, Fig. 4.

This invention relates to a lubricator which is more particularly intended to be placed upon steam-chests, steam-cylinders, and the like, and which may also be put in other positions, and has for its object to show to the engineer at a glance whether or not it is feeding lubricating matter to the localities required.

The invention consists in the new combinations of parts, hereinafter described, by which the rigidity of the lubricator is insured.

In the drawings, the letter A represents the lubricator-cup, which is made of sheet metal, or of other suitable substance, provided with a screw-cap, B, which, when removed, produces the orifice through which the lubricator is filled. From the bottom of the cup A extends downward a tubular passage, *a*, which terminates at its lower part in a short drip-pipe, *b*. A valve, D, is fitted into the wall of the passage *a*, so that it can be moved to close or to open said passage at will. The passage *a*, with its walls, is contained in a neck-like lower extension, E, of the cup A, as is more clearly shown in Fig. 2. The neck-like extension E is by a coupling-nut, F, joined to an upright pipe, G. The lower part of the pipe G is by another coupling-nut, H, joined to the tubular shouldered foot-piece I of the lubricator. The shoulder *e* on this tubular foot-piece I is intended to rest on the surface of the box or cylinder on which the lubricator is supported.

Within the tube G is contained a glass tube, J, which enters part way into the neck-like extension E, and rests in the foot-piece I, as

shown in Fig. 2. The tube G is cut away on opposite sides, as indicated at *d* in Figs. 1 and 3, so as to expose the glass tube J to view on opposite sides. The passage *f*, which is formed through the foot-piece I, communicates at its upper end with the bore of the glass tube J, which in turn communicates with the lower end of the drip-tube *b*, and also with the lower end of a tube, *g*, that extends into the cup A, nearly to the upper end thereof. Within the bore *f* of the foot-piece I is formed a valve-seat for a valve, L, as indicated in Fig. 2.

As far as described, the apparatus works as follows: When screwed upon a steam-box, the steam will enter through the passage *f*, glass tube J, and pipe *g* into the upper part of the cup A, and will there exert its pressure on the top of the lubricating matter contained within the cup, so as to crowd that down through the passage *a* and drip-tube *b* into the glass tube J, thence down into the pipe *f*. Of course during the operation of the lubricator the valves D and L must both be open, as they are shown to be in Fig. 2. The effect of the arrangement of the glass tube J within the perforated surrounding-tube G will be that the drops of the lubricating matter from the tube *b* can at all times be seen by the engineer, so that if he finds that no dripping takes place he can promptly restore the lubricator to operation without removing it from the engine or stopping the latter. All that he has to do will be to close the valves D and L and then open the cover B and fill the cup A with fresh lubricating matter; then on replacing the cover B and opening the two valves the operation will be resumed in its normal way. The top of the pipe *g* should, preferably, be closed, but little apertures left directly below in the side of the pipe, so that in filling the cup A lubricating matter will not be crowded into the pipe *g*.

The drip-tube *b* may be omitted, but is desirable, to centralize the drippings within the tube J.

In order to prevent the lubricator being screwed apart when, for example, strain is applied in opening the cap B, or from other causes, I have provided the upper end of the tube G, where it forms the shoulder for the nut F to bear against, with two outwardly-



projecting lugs, *h*, of which one is shown in Fig. 1, and the lower threaded part of the neck E with corresponding notches, into which said lugs enter, so that when afterward the nut F has been placed around the threaded portion of the neck E until it bears, with its flange *i*, against the lower end of said neck E, and also against the shoulder of the tube G, it will embrace the lugs *h*, that are contained within said recesses, so that no matter how much the cup A may be turned the pipe G will be bound to turn with it. The connection between the pipe I, that constitutes the foot-piece, and the pipe G is made in like manner—that is to say, lugs *h*, which are indicated in Fig. 4, project from opposite sides of the tube G into corresponding notches of the tube I, and are then embraced by the nut H, so as to complete the rigid connection. Packing-rings *j* are placed against the ends of the pipe G into the recesses of the contiguous tubes, as is indicated in Fig. 2. In order to get the nuts F and H into position on the tube G, it is necessary that one of the shoulder enlargements or ends of the said tube G should be made of a separate piece. This is indicated in Fig. 5, where the lower end of the tube G is represented with

the enlargement *l*, that carries the lugs *h*, and shown to be a separate annulus, which is screwed to the lower end of the tube G and then locked by pins *m*. This allows the nuts F and H to be slipped onto the tube G before the ring *b* is put in position.

I am aware that a transparent or open drip-chamber has already been arranged below the reservoir of a lubricator, as is shown in Letters Patent No. 106,150, and I do not, broadly, claim such arrangement.

What I do claim is—

1. The combination of the tube G, having lugs *h*, with the neck E, having corresponding notches, and with the nut F, as set forth.

2. The combination of the lubricator-cup A with the neck E, nut F, tubes G J, nut H, foot-piece I, valves D L, and with means, substantially as described, for locking the parts E G and G I together to prevent their spontaneous or accidental separation, substantially as specified.

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Witnesses:

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