

(No Model.)

E. GRACE & C. H. PARSHALL, Jr.

LUBRICATOR.

No. 330,891.

Patented Nov. 24, 1885.

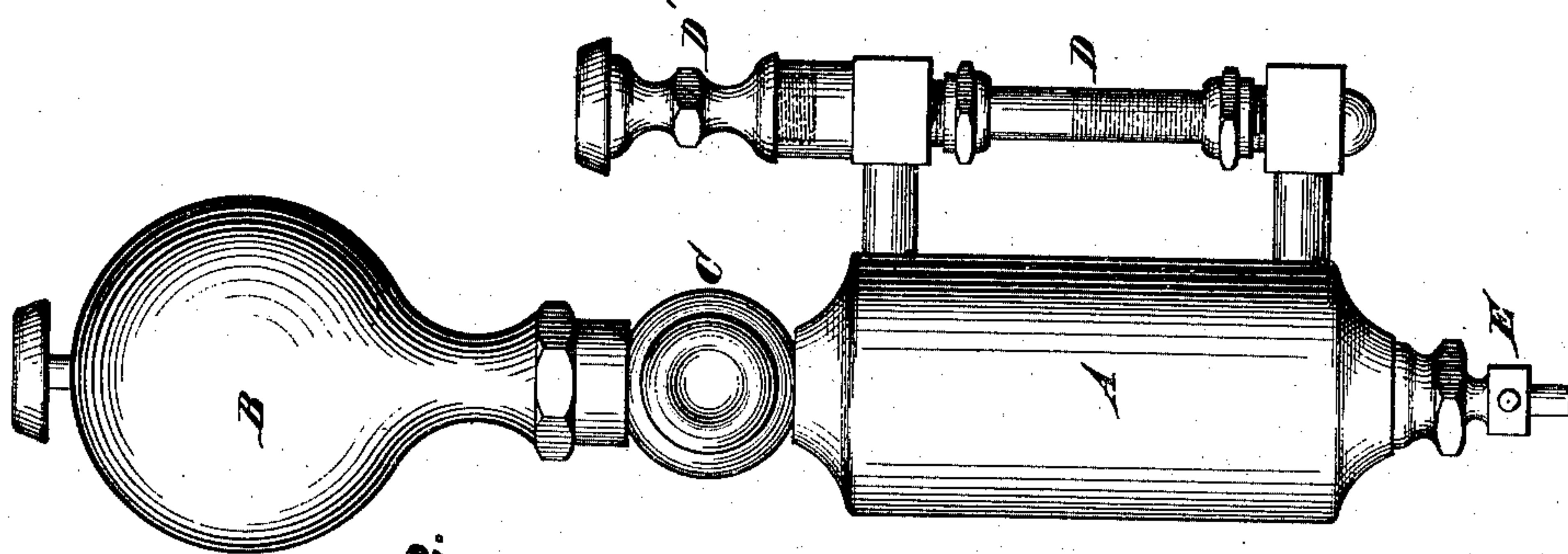


Fig. 2.

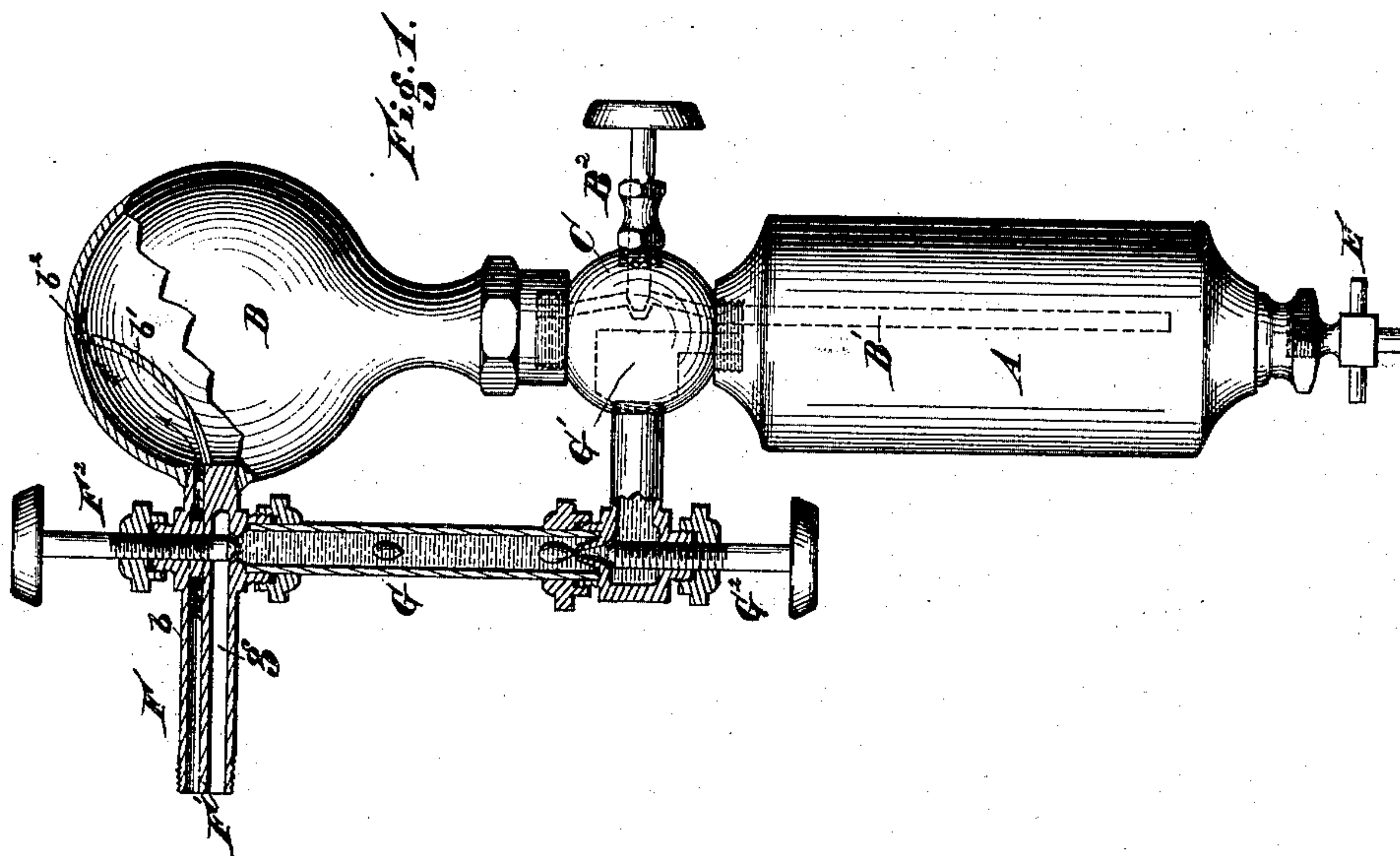


Fig. 1.

**WITNESSES**

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# UNITED STATES PATENT OFFICE.

EDWARD GRACE AND CHARLES H. PARSHALL, JR., OF DETROIT, MICHIGAN.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 330,891, dated November 24, 1885.

Application filed July 30, 1885. Serial No. 173,094. (No model.)

*To all whom it may concern:*

Be it known that we, EDWARD GRACE and CHARLES H. PARSHALL, Jr., of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Lubricators; and we declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

Our invention consists of the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claim.

In the drawings, Figure 1 represents in section and elevation a device embodying our invention; Fig. 2, a side elevation showing the indicator-tube.

Our invention has for its object the production of a lubricator in which steam is admitted to the condenser and oil discharged from the lubricator both through the same stem, said stem connected directly with the side of the condenser; also, in connection therewith, a sight-feed tube depending directly from the under side of said stem and leading from the neck between the condenser and the oil-reservoir, one of the principal features of our construction being the avoidance of the use of the usual small pipe in the condenser and in the oil-reservoir.

A is the oil-reservoir. B is its condenser; C, the neck between the condenser and the oil-reservoir. D is the indicator, provided with a removable plug, D', to facilitate filling the oil-reservoir. E is the faucet for drawing off the water from the reservoir prior to filling with oil. F is the stem, provided preferably with a partition, F', throughout its whole length. G is the sight-feed tube; G', an oil-passage from the reservoir A to the sight-feed tube. G<sup>2</sup> is a throttling-valve for governing the flow of oil, and F<sup>2</sup> is a similar throttling-valve for regulating the inflow of steam to the condenser. B' is a conduit, which leads condense-water down into the oil-reservoir; B<sup>2</sup>, a throttling-valve for governing the same. *b* is a steam-passage in the stem F, and *g* is the oil-exit passage in the same stem. *b'* is a cored passage in the condensing-chamber, with an opening into the

condenser at *b*<sup>2</sup>. The lower end of the passage B', which passes down into the oil-chamber, may, if desired, be formed with the neck C in casting, or it may be simply a tube fastened in place.

The operation of the device is as follows: Steam, entering through the passages *b* *b'*, passes into the condenser B. The condense-water, passing down through the passage B', displaces the oil and floats the latter up through the passage G', and thence through the sight-feed tube into the stem F and out through the passage *g*.

It will be observed that the location of the stem F at the side of the condenser, as shown, enables us to employ a short cored passage, *b'*, within the condenser, and so dispense with all fixtures inside of the condenser, as well as with all lengthy passages, which are always liable to become clogged up. It will be observed, also, that the sight-feed tube is connected at its lower end to the neck C above the oil-reservoir, and that the oil simply follows up through the cored passage, and thence through the sight-feed tube. This dispenses with the necessity of the usual oil-exit pipe within the oil-reservoir. There is therefore needed but the single pipe B'.

A lubricator thus constructed can scarcely get out of order, and possesses little tendency to become clogged. The steam-admission and the oil-exit ports *b* and *g* are always subject to the same pressure and the same pulsations of steam, and since the oil-exit passage leads directly to the top of the sight-feed tube there is effected the equalization of pressure at both ends of the lubricator, which is of so much importance in a properly-constructed device. The lubricator is also much simplified.

Instead of the cored passage *b'*, we may simply introduce a small bent pipe into the end of the stem F, to connect with the passage *b* before the stem is screwed into its place. We prefer, however, to core this passage, as shown. So, also, while we represent the partition F' as extending the whole length of the stem F, it is apparent that it may be extended only a portion of the distance toward the free extremity of the said stem.

What we claim is—

The combination, with the reservoir A, condenser B, single stem F, having a steam and

an oil passage, and extending through the wall of the condenser, and a sight-feed tube, G, connected at its upper end with the oil-passage of stem F, of the neck C, intermediate  
5 of and connected with reservoir A and condenser B, and having a water-passage communicating with said condenser and reservoir, and an oil-passage, G', communicating with the reservoir and the sight-feed tube, the lat-

ter being connected at its lower end with the neck C, substantially as described.

In testimony whereof we sign this specification in the presence of two witnesses.

EDWARD GRACE.

CHARLES H. PARSHALL, JR.

Witnesses:

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