

(No Model.)

P. BARCLAY.
LUBRICATOR.

No. 322,407.

Patented July 21, 1885.

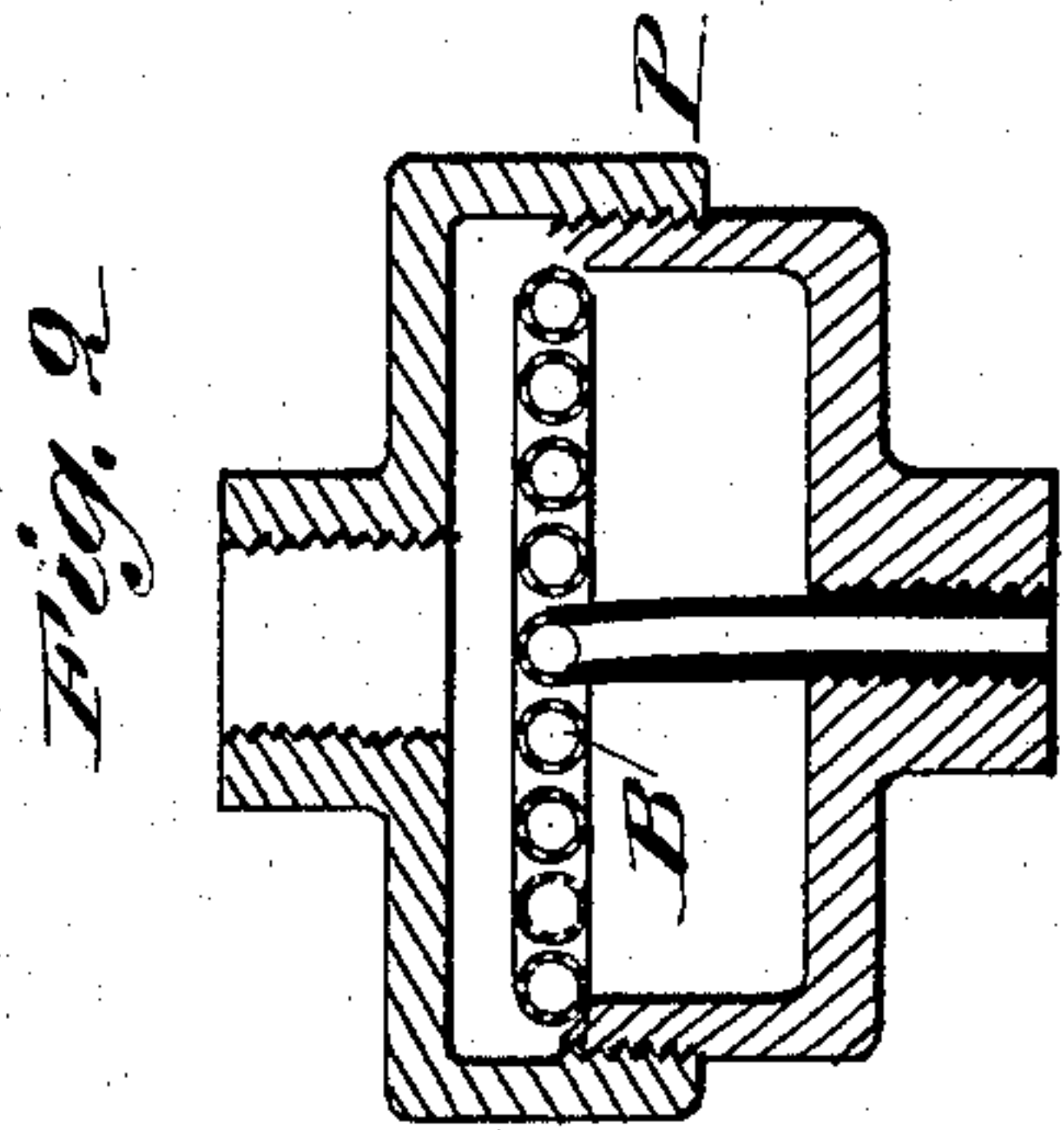


Fig. 3

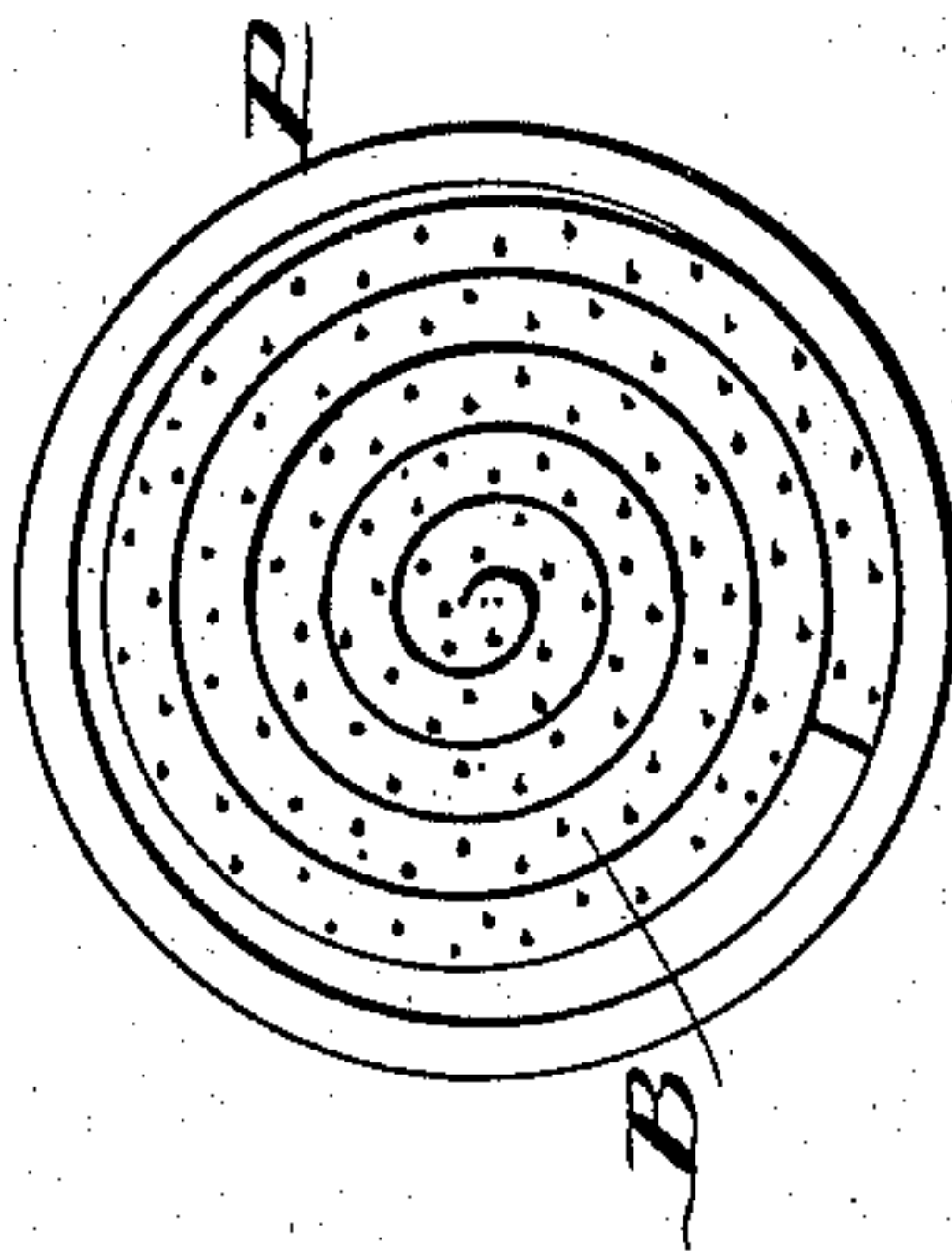
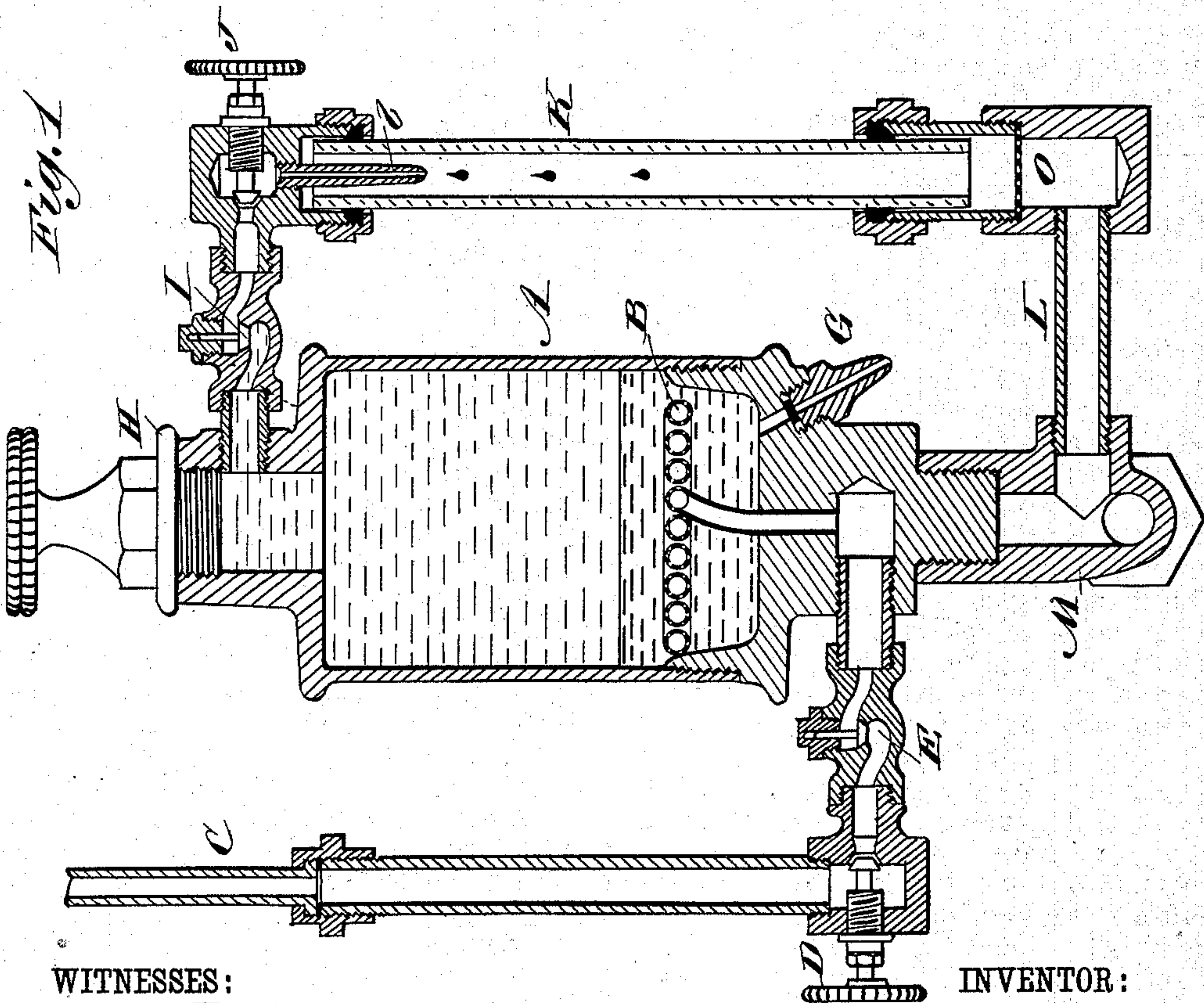
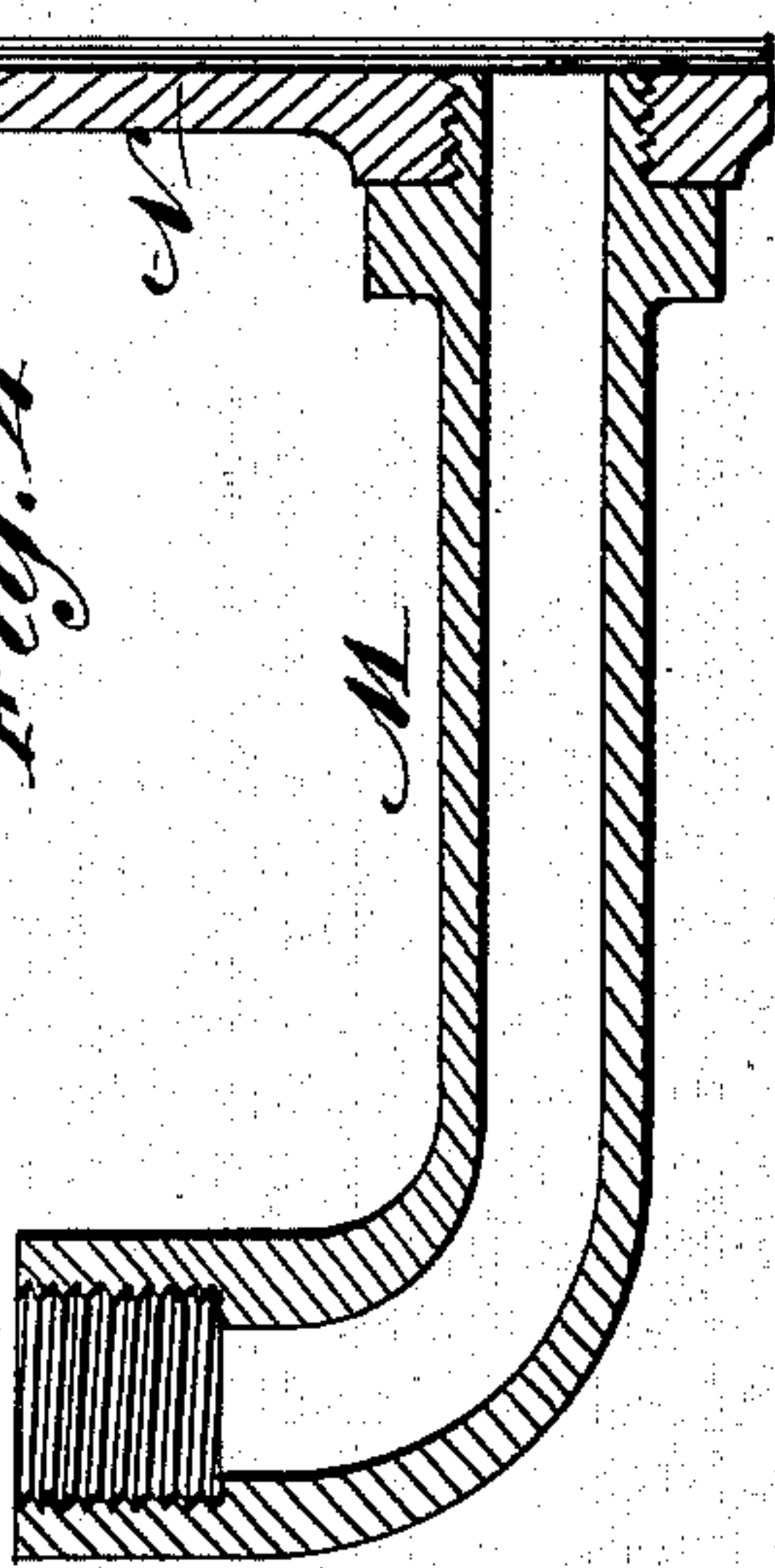


Fig. 4



WITNESSES:

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UNITED STATES PATENT OFFICE.

PETER BARCLAY, OF BOSTON, MASSACHUSETTS.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 322,407, dated July 21, 1885.

Application filed December 3, 1884. (No model.)

To all whom it may concern:

Be it known that I, PETER BARCLAY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Lubricators, of which the following is a full, clear, and exact description.

This invention relates to lubricators for locomotive, marine, and other steam-engines in which the oil is applied by the pressure of the steam, and is fed in a fine stream, or drop by drop, through a glass or glazed chamber, either directly when the feed is a downward drop one, or indirectly through a fluid therein of different specific gravity when the feed is an up one. In this lubricator, as in that for which Letters Patent No. 268,169 were issued to me on November 28, 1882, the steam is condensed in the lower portion of the oil cup or receptacle or chamber connected therewith, by an intercepting perforated device, and the oil expelled from the cup, through the pressure of the steam, by the rise of the water of condensation on which the body of oil in the cup floats. In the improved lubricator, however, which is here about to be described, I use, instead of an intercepting perforated plate, a perforated coil, whereby a greatly-increased condensing-surface is obtained. I also, when the lubricator is a downward-drop one, arrange a perforated diaphragm in or near the bottom of the glass tube or indicator, whereby the oil is restrained from being spattered or thrown back up the glass by the pulsations of the steam in the engine, and especially at starting the engine.

The invention also includes a tubular bracket for carrying the lubricator and for conducting the oil to its place of discharge in the engine or pipe connected therewith, whereby the attachment of the cup is facilitated, all as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a vertical section of a downward-drop-feed lubricator embodying my invention; Fig. 2, a vertical section of a modified construction of the condensing por-

tion of the lubricator to provide for an outside arrangement of its perforated coil, instead of within the cup itself, as in Fig. 1; Fig. 3, a plan view of the perforated condensing-coil within the chamber which carries it. Fig. 4 is a longitudinal sectional elevation of the bracket which carries the lubricator, showing its attachment to a steam pipe or chamber in part, to which the oil is to be conducted through the bracket.

Referring, in the first instance, more particularly to Figs. 1 and 4 of the drawings, and to Fig. 3, in illustration of the perforated condensing-coil which is used, A indicates the cup or oil-receptacle of sectional construction as regards its body and bottom, and fitted internally with a lower horizontal tubular coil, B, having numerous perforations throughout its length. This perforated coil B is extended downward at its center through the bottom of the cup, where it is secured, and open below, while its other or outer end is made solid or closed. This perforated coil, through which the steam from the boiler circulates and is condensed in the lower portion of the cup, takes the place of the perforated plate, hereinbefore referred to, to give a diffused pressure on the oil, and, besides being generally superior thereto, will give a very much more extended condensing-surface than is attainable by a mere perforated plate, thus greatly adding to the efficiency of the lubricator. The steam is passed to the cup, below said coil, from any convenient place—as, for instance, from the boiler-dome, steam-pipe, valve-casing, &c.—up to and through the coupling C, and from thence down through suitable connections provided with a valve, D, for regulating the supply of steam to the cup, and with a check-valve, E, to the coil B.

G is a cap-drain, and H a filling-cap to the cup; I, a check-valve in the oil-discharge pipe from the cup, and J a hand regulating-valve for controlling the discharge of oil to the engine, or, rather, through a nozzle, b, to the glass indicator-tube K, down which it is delivered in a fine stream or drops, as required, and from thence by a lower connection, L, to the tubular bracket M that serves to support the cup and to conduct the oil to the place of delivery N in the engine, and which may be

a steam-pipe, the valve-casing, or any other part. This bracket, which will vary in length as required, may be screwed to its place and have the cup screw on its outer end, thus providing for the ready attachment of the improved cup in the place of the old one.

To preserve the transparency of the glass or glazed chamber or indicator-tube K, which is necessary in order to note the feed, there is arranged at or near the bottom of said tube a perforated diaphragm, O, which serves to keep the oil from being thrown back up the tube and splattering or clouding the sides thereof, especially when the engine is first started, and as due to the pulsating of the steam in the engine or pump, as the case may be, or their steam-pipe with which the lubricator is connected.

Instead of the perforated coil B being in the cup itself, it may be arranged in a sectionally-constructed chamber, P, Figs. 2 and 3, outside of the cup and below it, and the cup be constructed with a centrally-perforated close bottom, made to fit a tubular projection on the top of said chamber, that may have a tubular stem below to connect with the outer end of the bracket M.

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

1. In a steam-pressure engine-lubricator constructed to operate by drop-feed, and in which the oil in the cup is indirectly discharged by water of condensation derived from the steam, the combination, with the oil-cup having an oil-discharge outlet at or near its top, of the lower perforated steam-condensing coil, and an inlet for the steam to said coil, substantially as specified. 35

2. In a steam-pressure engine-lubricator constructed to operate by a downward drop-feed, substantially as described, the combination, with the glass or glazed indicator-tube, of a perforated diaphragm arranged near or below the lower end of said tube, essentially as and for the purpose herein set forth. 40 45

3. The combination of the feed-nozzle with the indicator-tube K and the perforated diaphragm O, arranged near or below said tube, essentially as described. 50

4. The combination, with the lubricator-cup A, of the steam-condensing perforated coil B, having a lower central tubular extension forming a support and inlet to the coil, and an outer closed end, substantially as shown and described. 55

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Witnesses:

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