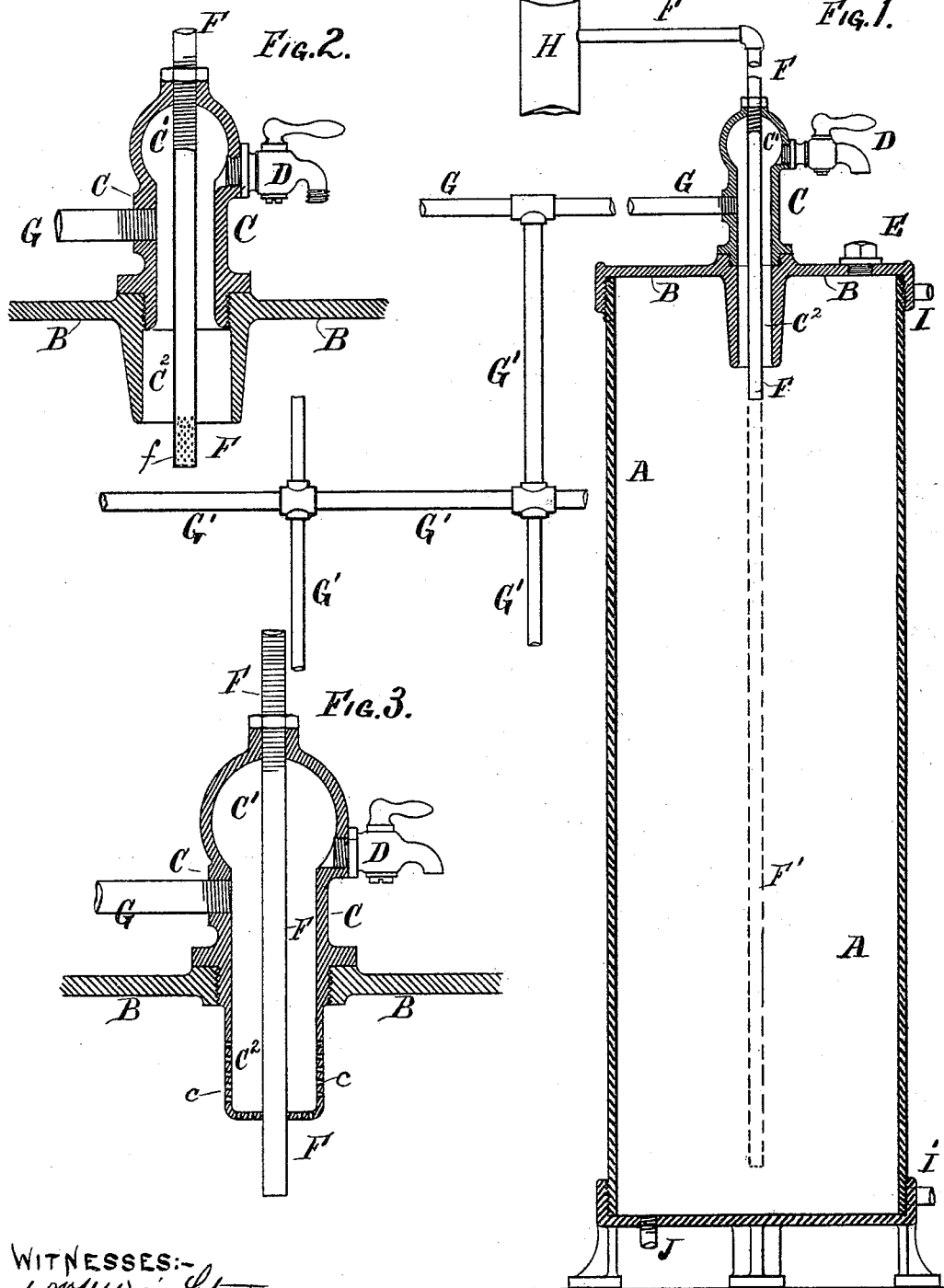


(No Model.)

G. H. WARD.
RESERVOIR FOR LUBRICANTS.

No. 458,007.

Patented Aug. 18, 1891.



WITNESSES:-
Wm. W. Crightman
E. Winans

INVENTOR:-
George H. Ward.

UNITED STATES PATENT OFFICE.

GEORGE H. WARD, OF BROOKLYN, NEW YORK.

RESERVOIR FOR LUBRICANTS.

SPECIFICATION forming part of Letters Patent No. 458,007, dated August 18, 1891.

Application filed October 21, 1890. Serial No. 368,807. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. WARD, a citizen of the United States, residing in Brooklyn, Kings county, and State of New York, have
5 invented certain new and useful Improvements in Reservoirs for Lubricants, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to and has for its object the improvement of reservoirs for lubricants in such manner that a free yet controlled delivery of the lubricant is effected; also a thorough cleansing, scouring, and clarifying of the lubricant while passing through
15 said reservoir to the supply-pipes and thence to the bearings, cups, or such localities to be supplied.

My improvements consist in the construction, arrangement, and combination of the
20 several parts or portions comprising the reservoir and its lubricant-delivery apparatus, as hereinafter shown and described.

Referring to the drawings, Figure 1 represents a vertical sectional view of a reservoir
25 and delivery apparatus embodying my improvements. Figs. 2 and 3 represent enlarged sectional views of the delivery-nozzle, through which the lubricant passes to the supply-pipes.

30 The letter A designates the reservoir within which the main supply of lubricant is to be stored. B designates the top covering portion of said reservoir.

C designates the main lubricant-delivery
35 nozzle, to which all of the branch supply-pipes G are connected. This delivery-nozzle C is directly connected to and projects upwardly from the top covering B of the main reservoir.

D designates a special surface blow valve
40 or nozzle for blowing out any surface scum or foreign matter or material that may accumulate within the upper chamber portion C' of the discharge or delivery nozzle C.

E designates the usual screw-plug, the removal of which permits of the filling of the
45 reservoir. A supply-pipe may, however, be screwed onto the valve or nozzle D and the lubricant forced through it to fill the reservoir and its connecting-pipes. The nozzle C
50 and the reservoir are preferably located at the highest level of the whole system.

F designates a force or pressure pipe supplying steam and water to the reservoir. It is preferably fastened to and passed down centrally through the delivery-nozzle C. 55

G designates the lubricant-outlet in delivery-nozzle C, and G' the supply-pipe and branches for delivering the lubricant where needed.

H represents a portion of steam-main from
60 which pipe F receives pressure and steam for reservoir.

I and I' designate blow-cock and gage connections, and J a connection for bottom blow. The upper portion C' of delivery-nozzle C is
65 preferably made larger than the lower portion to provide a greater surface area for the accommodation of any floating scum or impurities. These impurities are withdrawn through the cock or valve D. 70

C² designates a downwardly-projecting neck, forming the lower portion of the annular lubricant-space about pipe F, the upper portion being formed by a discharge-nozzle C. This downwardly-projecting neck C² cuts off
75 all direct communication between the top or uppermost surface of the lubricant in the reservoir and that within the delivery-nozzle C. c designates a collection of small perforations in the walls and bottom of the downwardly-projecting neck C² in Fig. 3, and f designates similar perforations in the bottom end of pressure-pipe F in Fig. 2.

The reservoir and its branches being filled with lubricant, it is closed tight and pressure
85 brought to bear through pipe F and water supplied after usual methods. Heretofore the pressure and water-feed pipe has been carried down to within a short distance of the bottom of the reservoir, as shown in dotted
90 lines at F', Fig. 1, and all pressure and water of condensation delivered beneath the lubricant. In my improvements for cleansing, scouring, and clarifying the lubricant I shorten the pipe F to deliver all steam and
95 water at the upper portion of the reservoir, but below the top surface of the contained lubricant, and compel it to pass downward by gravity or density to the bottom. Such steam and water entering the reservoir under either
100 moderate or strong pressure is scattered in portions or globules throughout the whole

mass or volume of the lubricant and effects a cleansing, scouring, and clarifying of the lubricant before being permitted to pass out for use. To scatter the steam and water the more effectively, I form the small perforated outlets, as shown in Fig. 2, at bottom end of pipe F. When the lubricant does not need any special cleansing, I carry the pipe F to the bottom of reservoir.

As an additional cleansing measure, the lubricant-delivery nozzle C is carried up to a higher level or elevation than, as shown at C', the outlet G to provide a space and surface level for the lubricant above the outlet G, so that any floating scum or injurious material or matter may pass above such outlet and be blown out through cock D or equivalent appliances. The more scum contained within the lubricant the larger will it be advisable to make the delivery - nozzle C and its upper chamber C'. As a further cleansing means, the downwardly-projecting neck C², forming the lower portion of delivery-nozzle C, is carried below the top portion of reservoir to provide additional space and surface for the floating or lodgment of light-weight foreign material or matter which may be separated from the lubricant. Such scum or floating material is blown out through connection I at top of reservoir, Fig. 1.

As an additional precaution against dirty lubricants, the neck C² is closed on all sides about the pressure and water pipe F and small perforations made within the walls and bottom to permit the passage of the lubricant out through the delivery-nozzle and outlet G. These perforations should be kept some distance below the top of neck C², so as to provide a space for the lodgment of the floating scum or foreign matter to be blown out at nozzle I. When the surface blow-nozzle I is used, the upper scum-chamber C' may be omitted, also cock or valve D.

When the downwardly-projecting neck C² is used, the upper chamber C' of the delivery-nozzle C may be dispensed with and all scum blown out through connection I. In such

case the perforated neck C², Fig. 3, is preferred for use.

To permit of a free movement of the lubricant from the reservoir, the annular space of delivery-nozzle C about the pipe F is made of larger area than that of the lubricant-outlet G, and the heat of the steam and water contained in pipe F maintains a special fluidity of the lubricant while passing out of the reservoir.

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

1. In combination with the reservoir A, the lubricant-discharge nozzle C, provided with an upper enlarged scum-chamber C', lubricant-outlet G, set at a lower level than the scum-chamber C', the surface blow cock, valve, or nozzle D, and the downwardly-projecting neck C², forming a downward continuation of the lubricant-discharge nozzle C, substantially as and for the purposes set forth.

2. In combination with the reservoir A, the lubricant-discharge nozzle C, provided with an upper enlarged scum-chamber C', lubricant-outlet G, set at a lower level than the scum-chamber C', the surface blow cock, valve, or nozzle D, the downwardly-projecting neck C², forming a continuation to the nozzle C, and the centrally-located steam and water inlet pipe F, substantially as and for the purposes set forth.

3. In combination with the reservoir A, the lubricant-discharge nozzle C, provided with the outlet G, the downwardly-projecting neck C², and the surface blow-nozzle I, substantially as and for the purposes set forth.

4. In combination with a lubricant-reservoir, a delivery-nozzle C, a downwardly-projecting neck C², and a pressure and water pipe extending into and centrally through said delivery-nozzle C and its continuation C², substantially as and for the purposes specified.

GEORGE H. WARD.

Witnesses:

WM. H. WEIGHTMAN,
E. WINANS.