

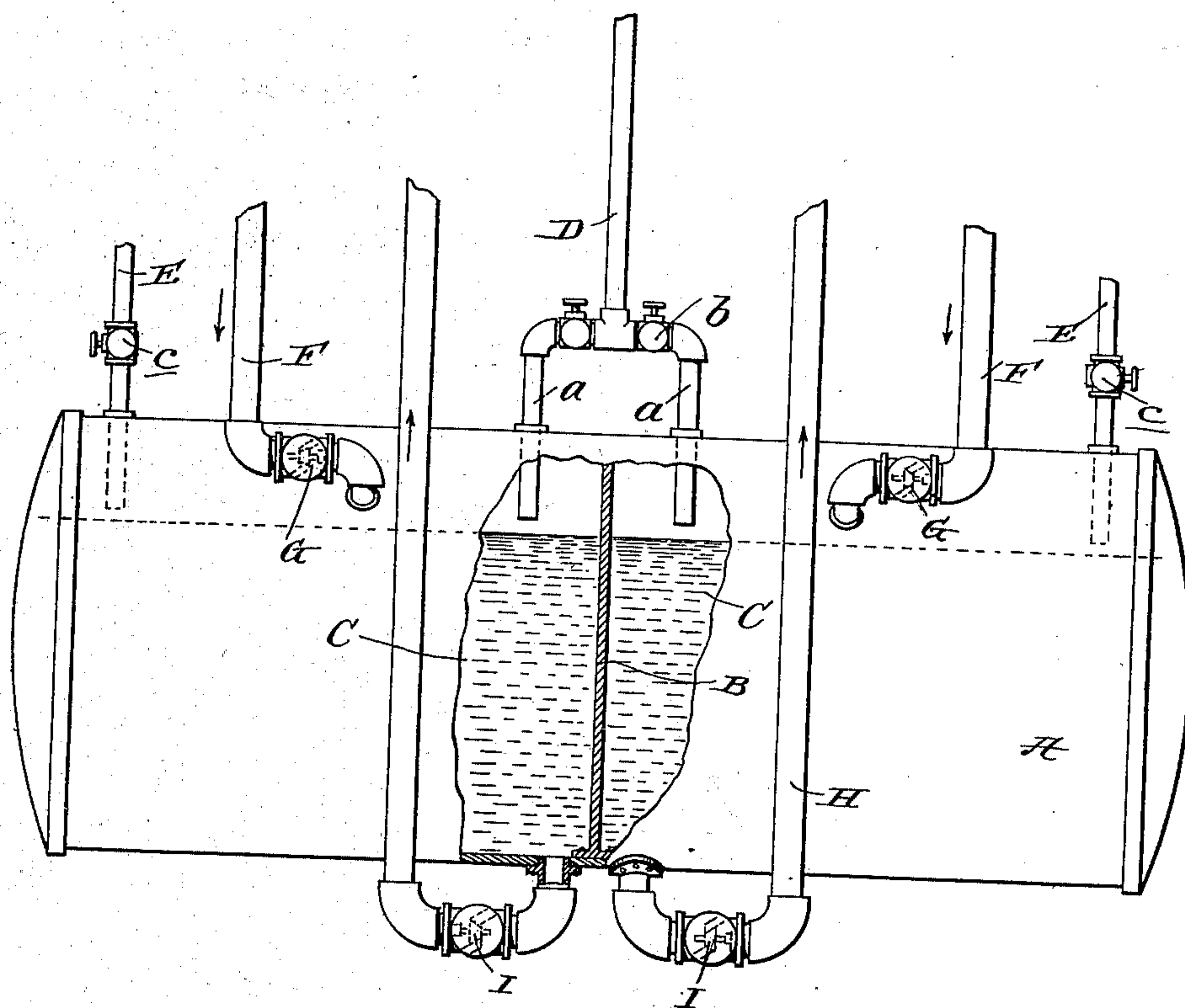
No. 731,918.

PATENTED JUNE 23, 1903.

G. B. LANDERS.  
HYDROCARBON SUPPLY TANK.

APPLICATION FILED MAR. 10, 1902.

NO MODEL.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## HYDROCARBON-SUPPLY TANK.

SPECIFICATION forming part of Letters Patent No. 731,918, dated June 23, 1903.

Application filed March 10, 1902. Serial No. 97,669. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE BERNARD LANDERS, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have invented new and useful Improvements in Hydrocarbon-Supply Tanks, of which the following is a specification.

My invention consists in an improved apparatus for utilizing steam to raise and force petroleum and other liquids; and its novelty, utility, and practical advantages will be fully understood from the following description and claim when taken in conjunction with the accompanying drawing, in which the figure is an elevation, partly in section, of the apparatus constituting the preferred embodiment of my invention.

The apparatus shown comprises a tank A, divided by a partition B into two closed chambers C, a pipe D, adapted to be connected with a source of steam-supply and having branches *a*, leading into the chambers C, preferably the upper portions thereof, and provided with valves or cut-offs *b*, pipes E, provided with valves *c* and adapted to convey steam from the upper portions of the chambers C to other closed chambers or to the open air, pipes F, provided with non-return valves G and having for their purpose to convey petroleum, water, or other fluid from a source or sources of supply into the chambers C, and pipes H, leading, by preference, from the bottoms or lower portions of the chambers and having non-return valves I. The non-return valves of the inlet-pipes F are arranged, as shown by dotted lines, to seat or close in a direction away from the chambers C, while the non-return valves I of the pipes H, which latter have for their purpose to convey the petroleum or other liquid to the point or points of use, are arranged, as shown, to seat or close in a direction toward the chambers C.

In the practical operation of the apparatus when the tank A is disposed in a plane below the source of liquid-supply gravity may be depended on to fill the chambers C with liquid when the valves *b* of pipes *a* are closed and the valves *c* of pipes E are opened, while when the source of supply is a body of liquid

disposed in the same or a lower horizontal plane than tank A and preferably, although not essentially, open to the atmosphere the operation of filling the chambers C is as follows, viz: The valves *c* of pipes E are closed, and the valves *b* of pipes *a* are opened and allowed to remain open until the chambers C are fully occupied by steam, when said valves *b* are closed. When the steam thus trapped in the chambers C condenses and creates vacuums in the chambers, the liquid from the source or sources of supply will rush in through the pipes F and occupy the chambers.

To force out the liquid supplied to the chamber C in either of the ways above described, the operator has but to open the valves *b* of pipes *a*, when the pressure of steam entering the chambers and acting against the liquid will displace the same and force it through the pipes H to the point or points desired.

When the apparatus is used to feed water to a boiler or boilers, the tank A is arranged in a plane above the water-line of the boiler in order to enable gravity to assist the pressure of steam in forcing the water into the boiler or boilers.

While I have shown and described the tank A as comprising two closed chambers C, I desire it understood that but one chamber may be employed without departing from the scope of my invention. I also desire it understood that such changes or modifications may be made in the apparatus in practice as fairly fall within the scope of my claim.

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

The apparatus described comprising the tank divided by a partition into two closed chambers, a pipe adapted to be connected with a source of steam-supply, and having branches communicating with the chambers, and provided with valves or cut-offs, steam-exhaust pipes communicating with the chambers, and having valves or cut-offs, conduits F connected with the interiors of the chambers, and adapted to be connected with a source or sources of liquid-supply, automatic non-return valves contained in said conduits, and

arranged to seat in a direction away from the  
chambers, discharge-conduits H connected  
with the interiors of the chambers, and auto-  
matic non-return valves contained in said  
5 conduits H, and arranged to seat toward the  
chambers.

In testimony whereof I have signed my

name to this specification, in the presence of  
two subscribing witnesses, this 3d day of  
March, A. D. 1902.

GEORGE BERNARD LANDERS.

Witnesses:

BENJAMIN BRUNDAGE,  
FRANK LEEDS.