

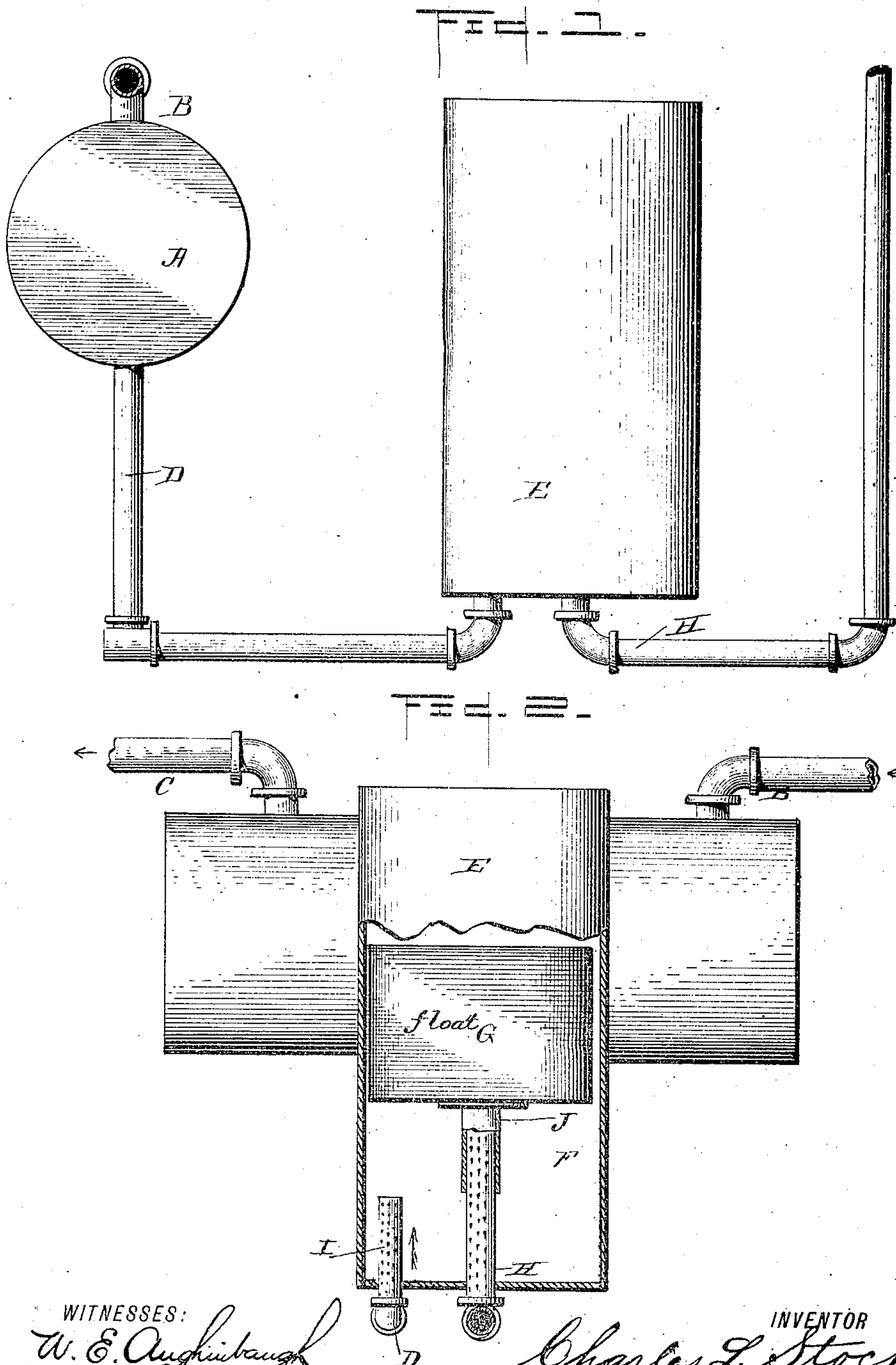
(No Model.)

C. L. STOCK.

DEVICE FOR SEPARATING LIQUIDS FROM NATURAL GAS.

No. 447,848.

Patented Mar. 10, 1891.



WITNESSES:

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DEVICE FOR SEPARATING LIQUIDS FROM NATURAL GAS.

SPECIFICATION forming part of Letters Patent No. 447,848, dated March 10, 1891.

Application filed June 30, 1890. Serial No. 307,300. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. STOCK, a citizen of the United States, residing at Fostoria, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Devices for Separating Liquids from Natural Gas; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention aims to provide a very simple and efficient device by the use of which liquids will be automatically separated from gas as it passes from the well to the main; and it consists in certain novel features hereinafter set forth.

In the accompanying drawings, which fully illustrate my invention, Figure 1 is a side elevation of my improved device, and Fig. 2 is an end view with a part in section.

In carrying out my invention I preferably employ a reservoir A, which is buried in the ground, and into which the gas and liquids are discharged from the supply-pipe B, leading from the well. An outlet-pipe C leads from the reservoir to convey the dry gas to the mains, and a discharge-pipe D leads downward from the reservoir to the blow-off E to carry the liquids thereto. It will be understood, however, that this arrangement is not an essential feature of my device, as it would be within the scope of my invention to dispense with the reservoir and employ instead a vertical pipe running directly from the gas-supply pipe to the blow-off or separator.

The blow-off E consists of a tank or holder F, a float G therein, and an escape-pipe H leading therefrom. The water or oil discharge pipe D enters the holder F through the bottom of the same, and its end is formed into a foraminous nozzle I, so as to prevent the liquid from being forced into the holder in a solid stream and thereby injuring any of the parts of the device. The escape-pipe H also passes through the bottom of the holder, and its end is carried upward a short distance into the same and is slotted or perforated, as clearly shown. The escape-pipe is carried a short distance to one side of the holder, and is then carried vertically upward to a point above the surface of the ground

and provided with an open end to permit the free escape of the water or oil into any proper reservoir. The float G rests loosely upon the liquid in the holder at all times, and it is provided with a depending imperforate tube or sleeve J on its bottom, which fits snugly over the end of the escape-pipe, and thereby prevents the escape of the gas, while it permits the escape of the liquids.

The operation of my device is thought to be obvious. The gas passes from the well with the water or oil, and the liquid will enter the water-discharge pipe under the force of gravity, while the dry gas will pass on to the mains. As the liquid accumulates in the water and oil discharge pipe it will flow into the holder, and the pressure of the gas, added to the natural flow of the liquid, will force the liquid through the escape-pipe, thus relieving the holder and the discharge-pipe, so that the uninterrupted flow of dry gas into the mains will be provided and all the liquids positively removed from the gas. As soon as the liquid descends in the holder the float will fall and the depending tube will cover the end of the escape-pipe, so as to prevent the escape of the gas.

It will be observed that my device is entirely automatic in its operation, and its advantages are thought to be obvious.

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

1. The combination of the holder, the liquid-discharge pipe entering the bottom of the same, the escape-pipe extending upward within the holder and passing through the bottom of the same, and the float fitted within the holder and provided with a depending tube on its bottom fitting over the escape-pipe, as set forth.

2. The combination of the holder, the liquid-discharge pipe entering the bottom of the holder and having a foraminous end, the escape-pipe leading from the holder and having its end provided with suitable openings, the float fitted in the holder, and the tube depending from the float and fitting over the end of the escape-pipe, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES L. STOCK.

Witnesses:

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