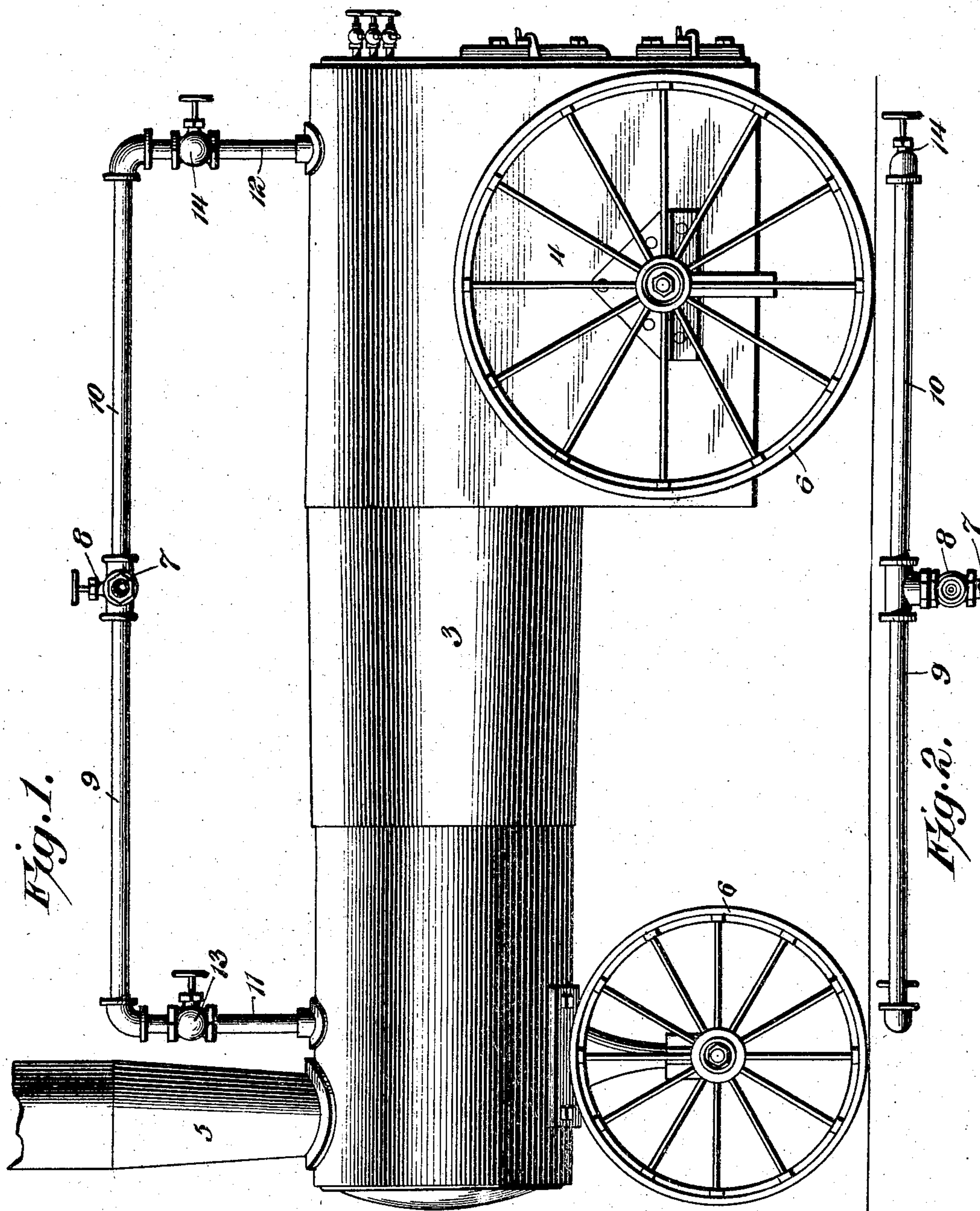


No. 782,668.

PATENTED FEB. 14, 1905.

S. S. LANYON.
STEAM BOILER.

APPLICATION FILED DEC. 8, 1903.



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By

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Witnesses
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UNITED STATES PATENT OFFICE.

SIMON S. LANYON, OF MINERALPOINT, WISCONSIN, ASSIGNOR OF ONE-HALF TO JOHN CARROW AND WILLIAM CARROW, OF LINDEN, WISCONSIN.

STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 782,668, dated February 14, 1905.

Application filed December 8, 1903. Serial No. 184,288.

To all whom it may concern:

Be it known that I, SIMON S. LANYON, a citizen of the United States, residing at Mineralpoint, in the county of Iowa and State of Wisconsin, have invented a new and useful Steam-Boiler, of which the following is a specification.

The present invention relates to improvements in steam-boilers, and more particularly to movable boilers that can be transported and are employed in connection with or constitute part of traction-engines. It is a well-known fact that in the use of these boilers great difficulty is often experienced in obtaining a proper supply of dry steam when ascending or descending hills or steep grades. This is for the reason that the water contained in the boiler will gravitate to the lower end of the same, and if the said boiler is well filled water will often enter the dome and even the steam-supply pipe, and consequently be carried into the engine. In traveling, therefore, it is ordinarily necessary to keep a small supply of water in the boiler, and as this water drops alternately to the ends thereof during the climbing or descent of hills the opposite ends will be emptied, and therefore exposed to the burning effects of the fire.

The object of the present invention is to provide a simple arrangement in a boiler of this character whereby said boiler may be kept well supplied with water and steam of proper condition can at all times be obtained therefrom without regard to the position of said boiler and without the use of a steam-dome.

The preferred embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation of a traction-boiler constructed in accordance with the present invention. Figure 2 is a top plan view of the steam-supply pipe and branches.

Similar reference-numerals indicate corresponding parts in both figures of the drawings.

A horizontal boiler-body 3 is illustrated, which may be of any desired or well-known construction, having a fire-box 4 at one end and a stack 5 at the other. This boiler is

shown as mounted on suitable wheels 6, whereby it may be transported. A supply-pipe 7 is located above the central portion of the boiler and extends to the engine in any desired manner. This supply-pipe is provided with a suitable valve 8, by means of which the passage of steam can be controlled. It is connected with the opposite ends of the boiler by oppositely-extending branches 9 and 10, which branches have depending ends 11 and 12, connected with the top of the boiler at its ends by any suitable means. Valves 13 and 14, located in said depending ends, control the passage of steam from the boiler therethrough. It will be observed that the branches are substantially equal in length and that the downturned ends support the horizontal portions some distance above the boiler-top.

When the boiler is in horizontal position, as illustrated, both the valves 13 and 14 may be opened, and the steam is supplied from the opposite ends of the boiler, thereby equalizing to a great extent the pressure and overcoming the vibration, especially when the valves are completely opened. If, however, the boiler is being transported up a steep grade, the valve 14 at the lower end is closed and the valve 13 is opened. The result is that the dry steam at the top of the boiler is obtained for driving the engine, and at the same time no water can pass through the lower branch. In like manner in running down grade the valve 13 is closed and the valve 14 opened. By this combination of parts it will therefore be seen that extremely important advantages are obtained, for the reason that dry steam can be supplied to the engine without regard to the position of the boiler-body. Moreover, actual experience has demonstrated that the boiler can be kept well filled with water even when traveling over a hilly country.

It will be seen that owing to its great simplicity the device is adapted to be applied to a boiler at a very low cost, that it will not interfere with any mechanism upon the top of the boiler, and that as it obviates the necessity of employing a steam-dome it not only reduces the cost of traction-engines, but avoids

weakening the shell of the boiler by cutting the same for a steam-dome. Also it will be clear that as the branch pipes are no larger than an ordinary steam-supply pipe and as the down-
5 turned terminals of the branch pipes are located adjacent to the ends of the boiler the latter is in no manner weakened by the device.

From the foregoing it is thought that the construction, operation, and many advantages
10 of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction
15 may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

The combination with a movable horizontal

boiler, of a steam-supply pipe located above the same, and branch pipes extending in opposite directions from the supply-pipe longitudinally of and above the top of the boiler
25 and provided with downturned inlet terminal portions connected directly to the boiler in close proximity to the ends of the same, said branch pipe constituting the sole means of communication between the interior of the
30 ends of the boiler and the steam-supply pipe, whereby dry steam may be obtained at all times from the boiler when the same is in a horizontal or inclined position and without the use of a steam-dome. 35

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

SIMON S. LANYON.

Witnesses:

PHIL ALLEN, Jr.,
FRANK E. HANSCOM.