

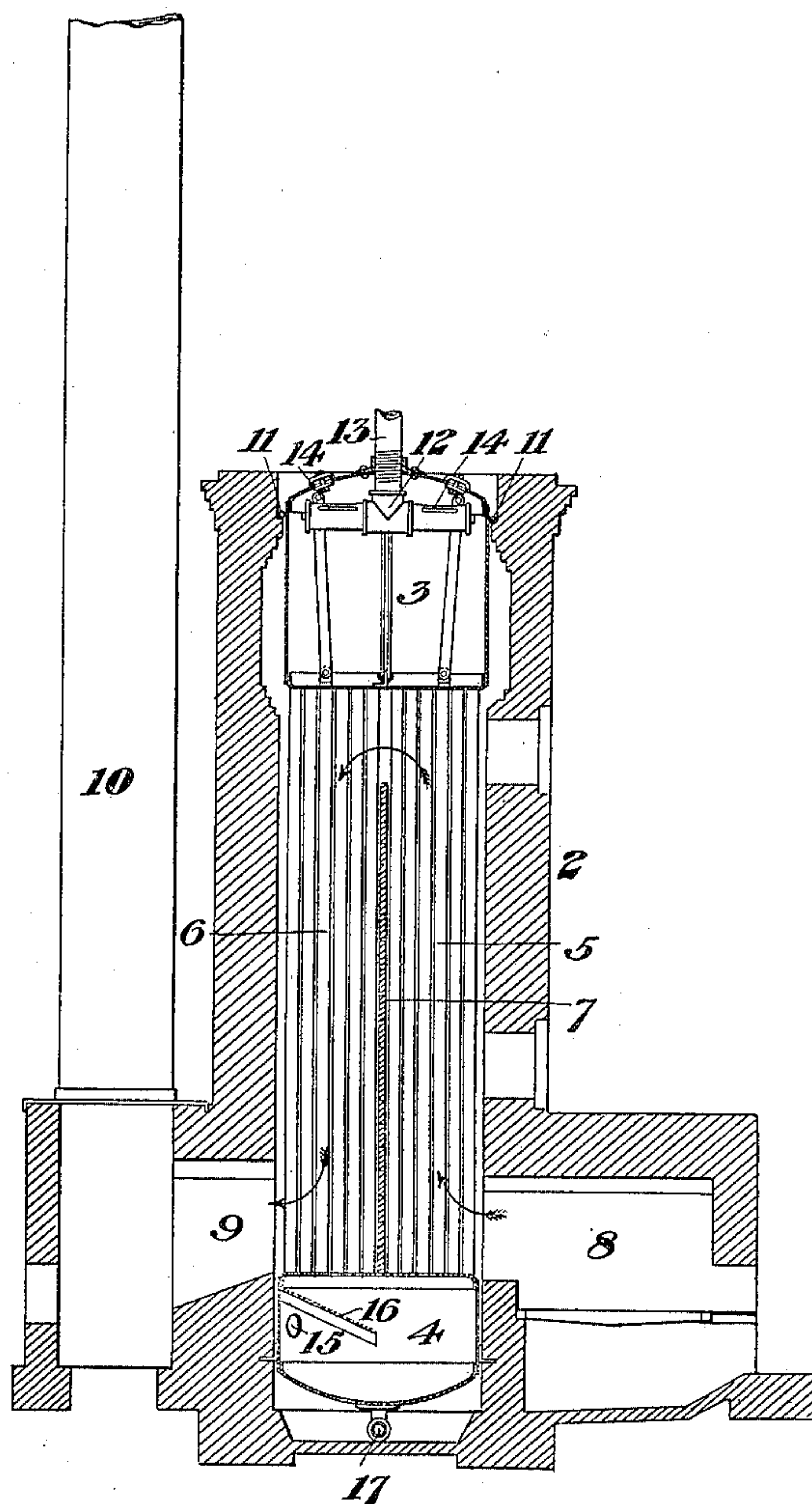
No. 672,426.

Patented Apr. 16, 1901.

W. C. TEMPLE.
STEAM BOILER.

(Application filed Sept. 27, 1900.)

(No Model.)



WITNESSES

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STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 672,426, dated April 16, 1901.

Application filed September 27, 1900. Serial No. 31,261. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. TEMPLE, of No. 1090 Shady avenue, Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Steam-Boilers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, in which the figure is a vertical central section of my improved boiler.

My invention relates to water-tube boilers, and in its preferred form it relates to that class of vertical water-tube boilers wherein an upper and a lower drum are connected by front and rear sets of tubes, with a transverse partition between the sets, the flame and gases entering one set of tubes from a source of heat on one side of the partition and the products passing out of the other set on the other side of the partition; and its objects are to provide means whereby dry steam will be drawn from the upper drum and also to prevent the sediment and impurities from entering the circulation and being carried into the tubes.

In the drawing, 2 represents the external masonry shell of the boiler, which boiler is composed of an upper drum 3 and a lower or mud drum 4, connected by two sets of tubes 5 and 6. Between the sets of tubes is placed a vertically-extending partition 7, the top of which is some distance below the upper drum and which compels the flame and gases entering the lower portion of the bank 5 from a fireplace 8 to rise through this bank and then pass down through the bank 6 to the offtake-flue 9, leading to the stack 10.

The boiler is supported upon the mud-drum, which rests upon or is carried by the foundation, and the upper drum is provided with a surrounding packing-ring 11, of asbestos rope or a similar material, which closes the space between the drum and the outer shell, but allows movement of one relatively to the other, due to expansion and contraction under heat, without danger of injury to the boiler or setting.

In order to prevent water passing off with the steam, which is a common trouble with boilers of this type, I preferably provide a dry pipe 12 at the lower end of the steam-off-

take 13 and in the steam-space of the upper drum, this pipe being closed and having upper slots 14, through which the steam passes off without danger of admixture with water.

The water is fed into the lower drum through a pipe 15, and in order to prevent the entering sediment from becoming mixed with the water circulating through the tubes I provide a transverse partition or baffle-plate 18, covering the inlet and extending, preferably, at a downward inclination across the drum and having at its lower portion an open space or passage-way for the passage of water. By reason of this baffle-plate the circulation, which is very strong and is naturally up through the tubes 5 and down through the tubes 6, does not directly mix with the entering feed-water, and the sediment consequently settles in the mud-drum, from which it may be withdrawn through a blow-off cock 17.

I claim—

1. A vertical water-tube boiler comprising an upper and a lower drum, a plurality of tubes connecting the same and adapted to maintain a circulation of water through the lower drum, a feed-pipe entering the lower drum, and a partition set opposite to the feed-pipe and having a space for the passage of water, said partition being arranged to deflect the entering current of feed-water out of the path of circulation through said tubes; substantially as described.

2. A vertical water-tube boiler comprising a casing having a transverse partition therein, a fire-chamber communicating with the heating-space on one side of the partition, and an outlet for the gases on the other side of the partition, front and rear sets of tubes arranged on opposite sides of the partition, a mud-drum connecting the lower ends of the sets of tubes, a steam and water drum connecting their upper ends, a feed-pipe leading to the mud-drum, and a baffle-plate extending transversely over the feed-inlet within the said drum; substantially as described.

In testimony whereof I have hereunto set my hand.

WILLIAM C. TEMPLE.

Witnesses:

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