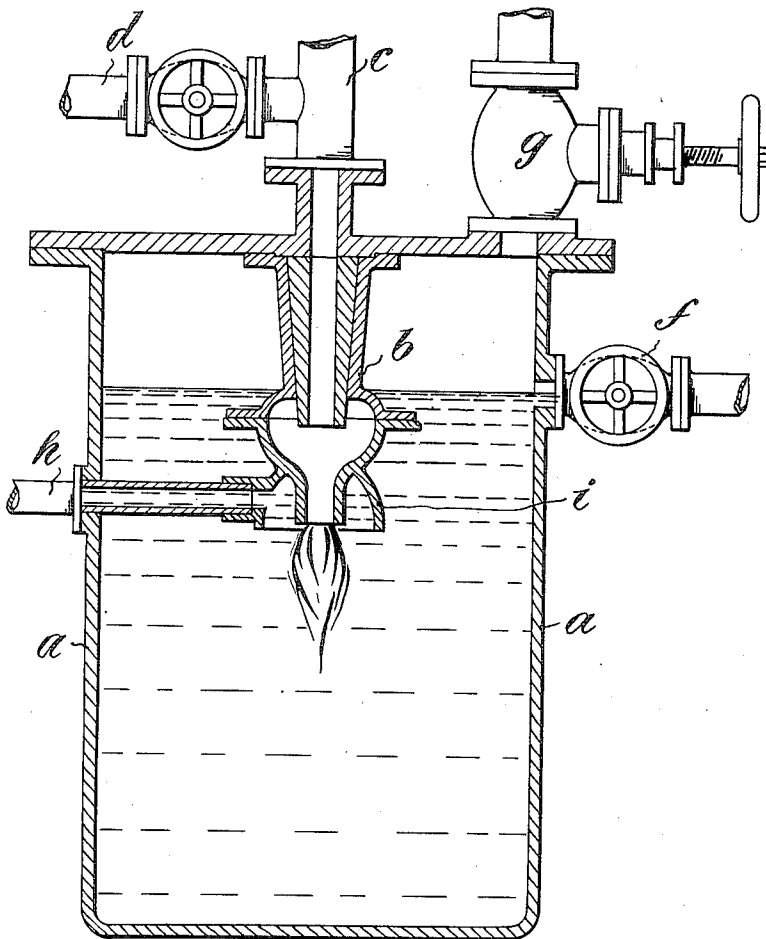


O. H. U. BRÜNLER.
 STEAM GENERATOR WITH WATER IMMERSED FLAME.
 APPLICATION FILED AUG. 31, 1909..

971,724.

Patented Oct. 4, 1910.



Witnesses.

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UNITED STATES PATENT OFFICE.

OSCAR HEINRICH ULRICH BRÜNLER, OF BRUSSELS, BELGIUM.

STEAM-GENERATOR WITH WATER-IMMERSED FLAME.

971,724.

Specification of Letters Patent.

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Application filed August 31, 1909. Serial No. 515,530.

To all whom it may concern:

Be it known that I, OSCAR HEINRICH ULRICH BRÜNLER, a subject of the King of Belgium, and a resident of Brussels, Belgium, have invented certain new and useful Improvements in Steam-Generators with Water-Immersed Flame, of which the following is a full, clear, and exact specification.

According to my invention I provide for the introduction of the water in such a manner that the temperature of the water in the vicinity of the flame changes very rapidly, and to this effect I introduce the water in the vicinity of the flame and cause it to flow past the same, so that there is a constant change of cold water immediately around the flame. In the ordinary arrangement, where there are no rapid changes of temperature around the flame, the chemical rays penetrate the surrounding water without causing it to undergo much decomposition, but with rapid changes in temperature, as effected according to my invention the chemical rays cause considerable decomposition of the water into its elements and increase the pressure.

The accompanying drawing shows in section a generator constructed according to my invention.

a is the boiler, partly filled with water, into which projects downwardly, the burner *b* connected to the air supply pipe *c* and the fuel pipe *d*. The feed water enters through the pipe *h* which opens into the cup or chamber *i*, situated immediately above the flame and directing the entering water downward past the flame, so that very rapid changes of temperature occur. Hot water can be drawn

off through the valve *f*, and steam and gases through the valve *g*, the valve *f* being then closed.

Having thus described my invention, what I claim is:—

1. A device of the character described comprising a boiler, a burner suspended within said boiler adapted to produce an inverted flame, an inverted cup shaped vessel surrounding the lower end of said burner immediately above the flame, means connected to the vessel for the introduction of cold water into the same for producing rapid changes in the temperature of the water in the vicinity of said flame, and means to remove the heated water and the generated steam and gases, substantially as described and for the purpose set forth.

2. A device of the character described comprising a boiler, a burner suspended within said boiler, adapted to produce an inverted flame, an inverted cup shaped vessel surrounding the lower end of said burner immediately above the flame, and a pipe opening into said vessel for the introduction of cold water into said vessel for producing rapid changes in the temperature of the water in the vicinity of said flame, and valve controlled pipes for the removal of the heated water and the generated steam and gases, substantially as described and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

OSCAR HEINRICH ULRICH BRÜNLER.

Witnesses:

JAMES M. FAY,
EMILE VANWANUCH.