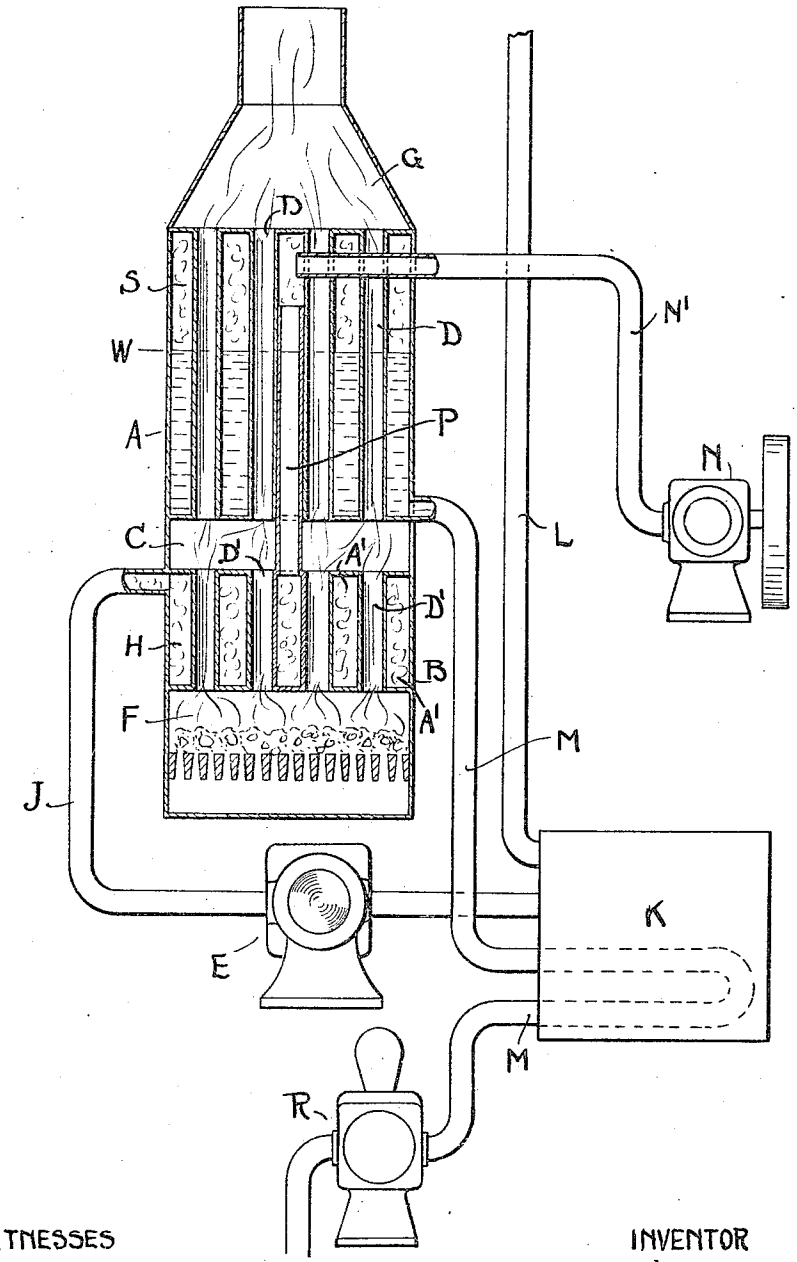
W. K. OMICK.

STEAM GENERATOR.

APPLICATION FILED APR. 21, 1913.

1,122,796. Patented Dec. 29, 1914.



WITNESSES

Robert N. Van Dusen

Virginia C. Spratt.

INVENTOR

William K. Omick

BY

Redgewood A. Parker

ATTORNEY

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM K. OMICK, OF DETROIT, MICHIGAN.

STEAM-GENERATOR.

1,122,796. Specification of Letters Patent. Patented Dec. 29, 1914.

Application filed April 21, 1913. Serial No. 762,474.

To all whom it may concern:

Be it known that I, WILLIAM K. OMICK, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Steam-Generators, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to steam generators, and consists of the introduction of air into the steam chamber of a steam generator whereby it is mingled with wet steam, then transferring the mingled air and wet steam into a superheater, taking the superheated steam therefrom to be used in an engine, or for any other purpose that may be desired: and it is represented in the accompanying drawing which is understood to be diagrammatic rather than illustrating a specific structure.

In the drawing I have shown an arrangement of boiler and superheater which I prefer and which is convenient, but it will be clearly understood that my invention is not limited to such an arrangement.

In the drawing A represents the boiler, which is preferably of the upright fire-tube type, and for convenience I have shown a water line W therein with a steam space S above it. In the structure shown, but one shell B is illustrated, which incloses the fire box F, the superheater H and combustion chamber C, above the superheater and fire tubes D, D, and a smoke chamber G. The superheater H has, preferably, corresponding tubes D′, D′ and steam and air space A′, A′. A steam pipe P connects the steam space above the water line with the superheater whereby the steam and air are transferred from the steam space to the superheater. An induction pipe J leads to any engine, which I have merely indicated at E. The exhaust from the engine passes into an exhaust steam box K, and the water supply for the boiler is taken from a pump R by a coil M through the steam box K and thence delivered into the boiler by the same pipe M. The exhaust finally passes off by the exhaust pipe L.

Concerning the engine and water supply there is nothing new, and they need not be further described. N is an air pump which may be driven from the engine or any other convenient source of power which need not be described, nor is there anything new in the air pump itself, but compressed air is furnished therefrom through the pipe N′ leading to the steam space S in the generator A. All of these conduits are controlled by valves whereby they may be regulated, but as there is nothing involved in these valves I do not illustrate or describe them.

In the operation of the device steam is generated with any practicable or convenient pressure. The air pump furnishes air to the generated, wet steam at a pressure somewhat exceeding that of steam so as to cause the air to enter the steam space. On opening the throttle valve of the engine, in order to permit its being driven, it is obvious that steam would be drawn from the superheater, and as it is drawn from the superheater the mingled air and wet steam would be drawn from the steam space above the water line and transferred to the superheater, where the mingled air and wet steam would be superheated and subsequently transferred in a superheated condition to the engine. Certain changes result from this method of introducing air under pressure to the wet steam before superheating, but which are unnecessary to mention.

Having thus described my invention, what I desire to claim is:

1. A steam generator including a boiler, heat producing means arranged beneath the boiler, said boiler including an upper water containing chamber, a lower chamber in communication with said water containing chamber, said lower chamber constituting a superheater, a steam conduit leading from the lower chamber, and means for supplying air under pressure to the upper chamber to force the steam generated therein through the lower chamber.

2. A steam generator including a boiler having a fire box at its base, an upper chamber, means for supplying water to said upper chamber and lower chamber, means for forcing air into the upper chamber to convey the steam generated therein to the lower chamber, and a conduit leading from the lower chamber to an engine.

3. A steam generator including a vertically disposed boiler casing, a fire box at the base of said casing, communicating spaced

chambers disposed in superposed relation within the casing and above the fire box, means for supplying air under pressure to the upper casing whereby steam generated therein will be forced to the lower casing, and a steam conduit leading from the lower casing.

In testimony whereof, I sign this specification in the presence of two witnesses.

WILLIAM K. OMICK.

Witnesses:
R. A. PARKER,
VIRGINIA C. SPRATT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."