No. 813,075. PATENTED FEB. 20, 1906.

A. BAUDIN.

GENERATOR OF FLUID PRESSURE.

APPLICATION FILED AUG. 5, 1903.

Fig. 1.

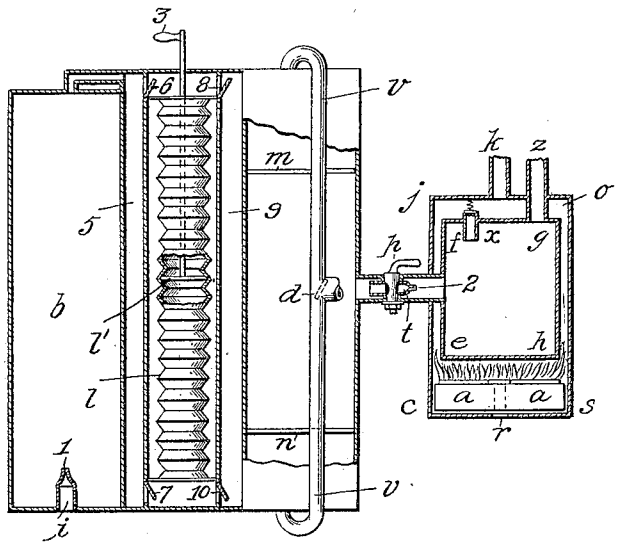
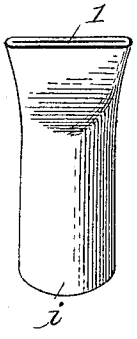


Fig. 2.



Witnesses

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ADRIEN BAUDIN, OF PARIS, FRANCE.

GENERATOR OF FLUID-PRESSURE.

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Application filed August 5, 1903. Serial No. 168,325.

To all whom it may concern:

Be it known that I, ADRIEN BAUDIN, engineer, a citizen of the French Republic, residing at Paris, in the Department of the Seine, France, have invented certain new and useful Improvements in Generators of Fluid-Pressure; and I do hereby 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.

This invention relates to an apparatus for generating fluid-pressure, and especially an elastic fluid consisting of a mixture of hot air and steam.

The invention comprises means for pumping air through a moistening and cooling chamber and forcing it into a heating-chamber, where the moisture in the air is turned into steam. The mingled steam and hot air are led to any suitable motor.

In the accompanying drawings, Figure 1 is a diagrammatic sectional elevation of my improved generator. Fig. 2 is a detail view, on an enlarged scale, showing the automatically-closing inlet-valve.

The cooling-chamber *b* may contain cold water or ice. At the bottom is an inlet-pipe *i*, provided with an automatically-closing valve, preferably consisting of two flat flexible parts set against each other. The upper part of this chamber communicates with a compartment 5, with which a pump-cylinder *l* is connected at each end by valves 6 7, which open into said cylinder. The pump has a central piston *l'*, which is preferably connected with a double bellows or accordion arrangement, whose open ends are attached to the walls of the pump-cylinder adjacent to the valves 6 7. Delivery-valves 8 10 are located opposite the valves 6 7 and communicate with a compartment 9, from which a single port leads to a tank *d*, opening into it between two floating pistons *m n*. By means of a pipe *v* compressed air is admitted to the ends of the tank, tending to force the floating pistons toward each other and exerting an elastic pressure on the cold damp air delivered to the tank by the pump. From the tank the cold damp air can be admitted through a pipe provided with a stop-cock *p* and a check-valve *t*, similar to the valve on the inlet-pipe *i*, to the heating-chamber *e f g h*. This is inclosed in a furnace *c j o s*, at the lower end of which is some means for heating, such as the lamp *a*, to which air is supplied through the pipe *r*. The hot products of combustion pass up around the chamber *e f g h* and escape through the chimney *k*. The heating-chamber has a safety-valve *x* and is provided with a pipe *z*, through which the mingled hot air and steam can be led to any suitable motor.

The operation is as follows: The pump is first operated by hand to draw air into the chamber *b* through the pipe *i*. In its passage through the cold aqueous material in the chamber *b* the air is cooled and absorbs a large quantity of moisture. The pump draws it through the chamber *b* into the compartment 5 and through the valve 6 or 7 at each stroke of the piston. By the same stroke air is driven out of the pump-cylinder by the valve 10 or 8 into the compartment 9 and thence into the tank *d* against the tension of the compressed air behind the floating pistons *m n*. On opening the stop-cock *p* the cold damp air flows into the heating-chamber, where it rapidly absorbs heat and expands, the moisture which it contains being converted into steam. This mixture of hot air and steam is capable of exerting a pressure which can be utilized to drive a motor, part of the energy being applied to operating the pump-piston *l'*, so that when once started the apparatus operates automatically.

I claim—

1. A fluid-pressure generator comprising a chamber containing a quantity of aqueous material, a pump for drawing air through said material, a chamber into which the cooled and moistened air is delivered, and means for heating said last-named chamber.

2. A fluid-pressure generator, comprising a chamber containing means for cooling and moistening air, a pump for drawing air through said chamber, a tank for receiving the cold damp air from said pump, and a heating-chamber communicating with said tank.

3. In a fluid-pressure generator, a chamber containing cold aqueous material, an inlet-pipe having a check-valve and opening near the bottom of said chamber, an air-pump taking air from said chamber, a pressure-tank receiving air from said pump, and a heating-chamber connected with said tank.

4. A fluid-pressure generator, comprising a chamber containing cold water, an inlet-pipe for said chamber having an inwardly-opening check-valve, a compartment communicating with said chamber, an air-pump connected with said compartment, a tank re-

ceiving the cold damp air drawn by said pump from the chamber, means for keeping the air in said tank under pressure, a heating-chamber, a pipe connecting said chamber with the tank, and a stop-cock in said pipe.

5. A fluid-pressure generator, comprising a chamber for cold water, an air-pump connected with said chamber and drawing air through the water, a tank into which said pump delivers the cold damp air, floating pistons in the ends of said tank, means for maintaining fluid-pressure behind said pistons, a furnace, a heating-chamber in said furnace, and a pipe connecting said heating-chamber with the tank and provided with a stop-cock and a check-valve.

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

ADRIEN BAUDIN.

Witnesses:

ADOLPHE CHENAULT,

AUGUSTUS E. INGRAM.