

No. 750,493.

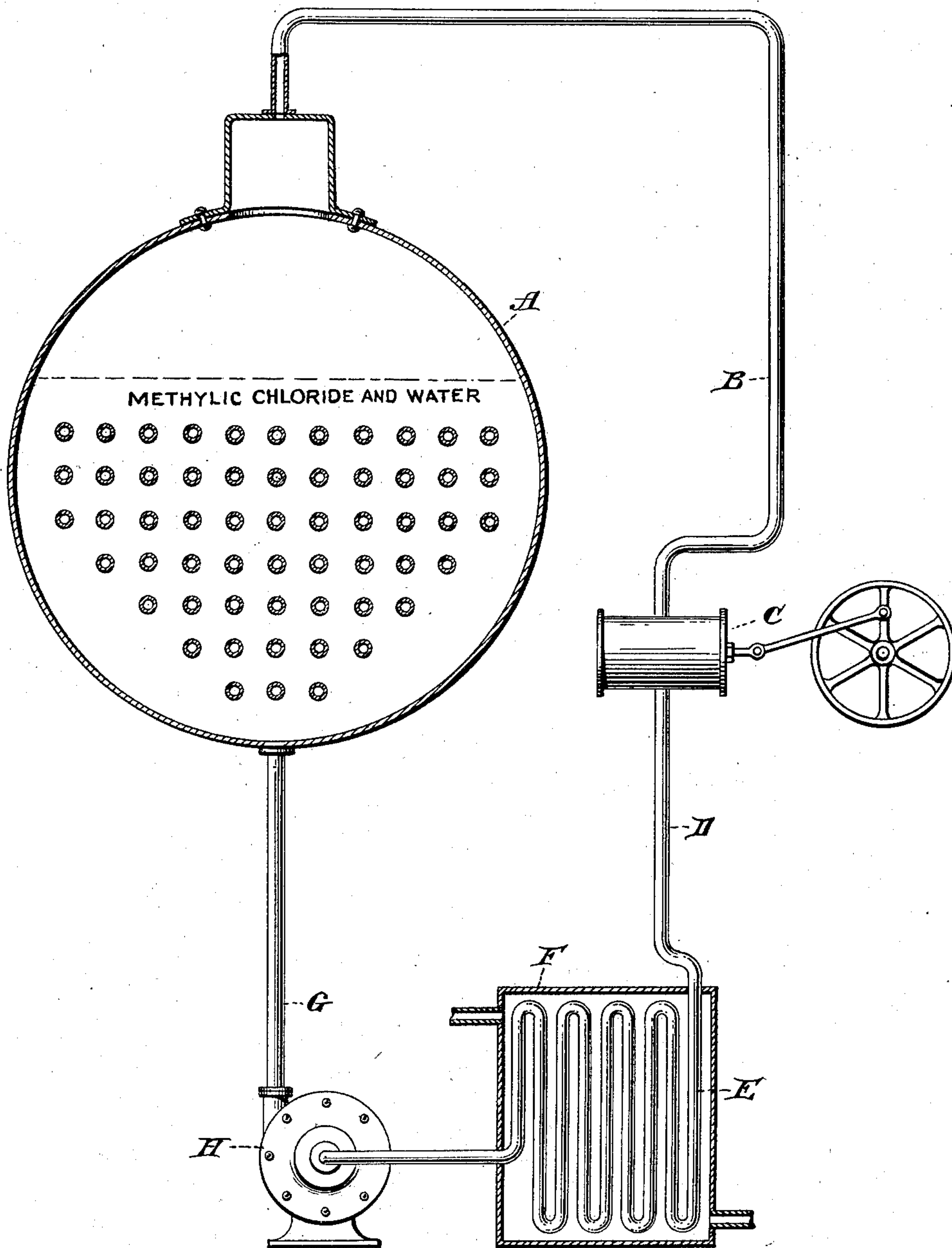
PATENTED JAN. 26, 1904.

A. SCHÜTT.

PROCESS OF GENERATING MOTIVE POWER.

APPLICATION FILED APR. 23, 1902.

NO MODEL.



WITNESSES:

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## UNITED STATES PATENT OFFICE.

ALFRED SCHÜTT, OF CHARLOTTENBURG, GERMANY.

## PROCESS OF GENERATING MOTIVE POWER.

SPECIFICATION forming part of Letters Patent No. 750,493, dated January 26, 1904.

Application filed April 23, 1902. Serial No. 104,236. (No specimens.)

*To all whom it may concern:*

Be it known that I, ALFRED SCHÜTT, engineer, a subject of the Emperor of Germany, and a resident of No. 19 Pestalozzi street, Charlottenburg, in the Kingdom of Prussia and Empire of Germany, have invented new and useful Improvements in Processes of Generating Motive Power, of which the following is a specification.

The present invention has for its object to diminish the quantity of liquid necessary for supplying the working steam in boilers without thereby reducing the heating or the evaporating surface, or, in other words, to heat a larger surface with the same quantity of evaporating fluid. Such heating system will prove to be of particular advantage wherever expensive liquids are to be evaporated—for instance, in cold steam-engine plants—where the costs of construction make it convenient to work with the smallest possible quantity of evaporating fluid.

If we take into account that whenever a liquid is evaporating in a boiler all those particles of same which in a given moment are not converted into steam serve in said moment only as conductors or transmitters of heat, we do not fail to see that in such cases their chemical nature is of less importance than their movability and their conducting power for heat. For such reason it is obvious to understand that those particles may be substituted by other ones the chemical nature of which is, however, to be chemically indifferent or neutral to the fluid to be vaporized. In carrying out such process the liquid to be evaporated has been mixed, as it is generally known, with solid matters. The present invention, intended for simplifying this latter process considerably, attains this object merely by adding another liquid to that to be evaporated. The two liquids must be of a nature allowing of their being mixed together without forming a chemical compound nor acting upon each other. Moreover, the second liquid must have a higher boiling-point than the liquid to be evaporated. We must therefore only use such liquids as will enter with another into either an inconstant chemical combination or into a merely physical one, (a solution,)

that when they are both heated the liquid of low boiling temperature evaporates and separates from the filling liquid. The entire contents of the boiler form in such case of mixed liquids a uniform substance, the course of the process being that the particles of the filling liquid transmit the heat directly to the neighboring particles of the evaporating liquid without taking any essential part in the evaporation. It is true that a small portion of the admixed liquid evaporates as well or is mechanically carried away; but in most cases, practically speaking, there will be no objection to that.

When carrying this process into execution, it must be born in mind that two liquids (solutions) on being mixed together undergo a molecular alteration in both of them, in consequence whereof the steam-pressure of the liquid to be evaporated is somewhat lowered on the addition of a liquid of a higher boiling-point—in most cases a very desirable event. As an example, I cite the evaporation of methylic chlorid in cold-vapor engines, in which case water may be made use of as filling liquid. The water combines with the methylic chlorid to hydrochloric methyl when the whole liquid has quite different a molecular composition. When boiling, however, nothing but tolerably pure methylic chlorid evaporates, and the water remains behind in the boiler. At the same temperature the steam-pressure will then be considerably lower than in the case of pure methylic chlorid being employed, which fact will turn out to be very useful. As further examples for the application of this process I may cite naphtha to be used with ether, furthermore, glycerin or pure mineral oils (carbureted hydrogen) to be used with sulfurous acid.

The accompanying drawing illustrates an apparatus suitable for carrying out my present invention, it being understood that such apparatus is not herein claimed as part of my invention.

A indicates a boiler of the common tubular type; B, a pipe through which the vapor is conveyed to the engine C. The exhaust from said engine passes through the pipe D to a cooling-coil E, located within a condenser F,

and the condensed vapor is conveyed back to the boiler A through a return-pipe G, in which a pump H is arranged to propel the liquid.

What I claim as my invention, and desire to  
5 secure by Letters Patent, is—

The herein-described process of generating motive power, which consists in mixing methylic chlorid with water, heating the mixture to vaporize the methylic chlorid while leaving  
10 the water in a liquid condition, and utilizing

the methylic-chlorid vapors as a driving medium.

In testimony whereof I have hereunto signed my name, this 7th day of April, 1902, in the presence of two subscribing witnesses. 15

ALFRED SCHÜTT.

Witnesses:

HENRY HASPER,  
WOLDEMAR HAUPT.