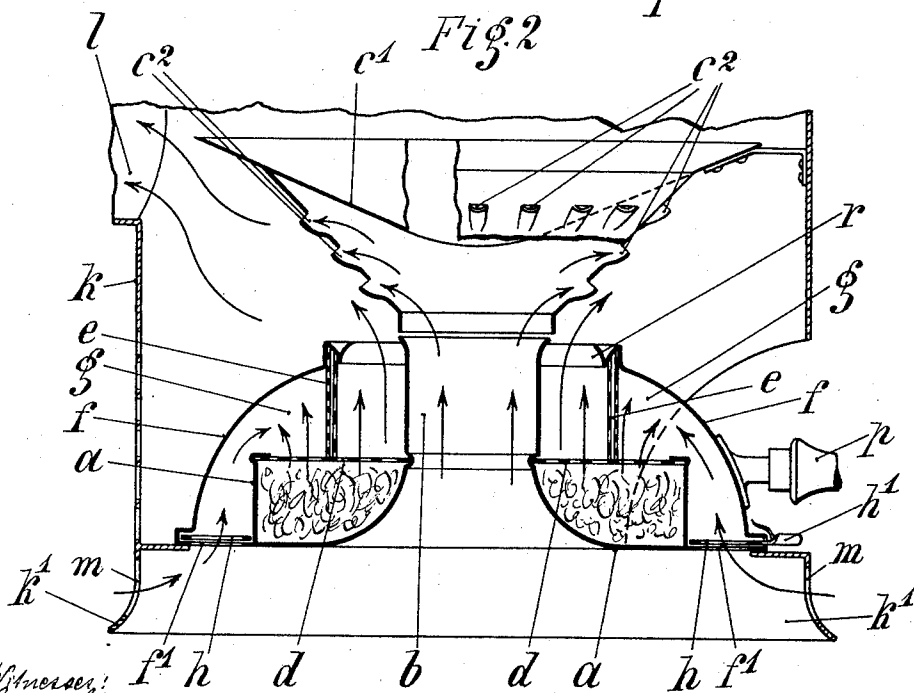
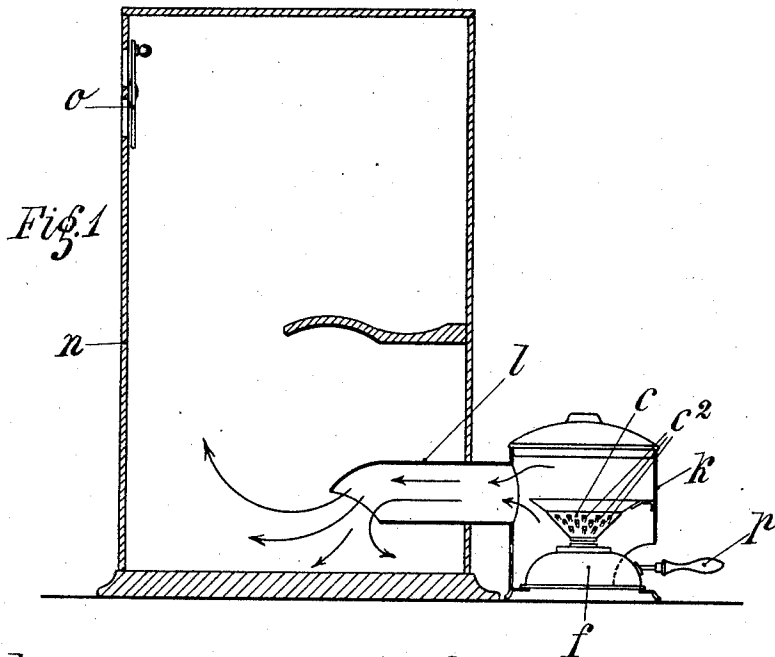


A. KLOTZ.  
HOT AIR BATH.  
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1,039,962.

Patented Oct. 1, 1912.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

ALFRED KLOTZ, OF MUNICH, GERMANY.

HOT-AIR BATH.

1,039,962.

Specification of Letters Patent.

Patented Oct. 1, 1912.

Application filed December 4, 1911. Serial No. 663,887.

*To all whom it may concern:*

Be it known that I, ALFRED KLOTZ, a subject of the German Emperor, and residing at Munich, Germany, have invented certain new and useful Improvements in Hot-Air Baths, of which the following is a specification.

The present invention relates to improvements in apparatus for use in hot air baths, and its object is to provide means for generating odorless hot air in an explosion-proof burner and for controlling this generation in effective yet simple manner, for supplying the hot air in an even current to the lower part of the sweating chamber, and for readily controlling this air supply and thus the active heat within the chamber by the patient himself.

In order to make the invention more readily understood, I will now describe it with reference to the accompanying drawings, in which—

Figure 1 represents a vertical section through the entire apparatus, and Fig. 2 a similar section through the burner part proper.

The annular fuel reservoir *a* is provided with a central air tube *b* and in use is supported on, but readily removable from, the hollow base *k*<sup>1</sup> of the drum *k*. In the circumferential wall of the base are provided air inlet ports *m*, through which the fresh air to be heated can enter into the burner. The top of the fuel reservoir is formed by a perforated plate or wire sieve *d*, and a cylindrical sieve *e*, which may be single, or double as shown, is arranged on this horizontal sieve at about its middle zone. A dome-shaped cooling and protecting hood *f* partly incloses the fuel reservoir and attaches above to the upper edge of the vertical sieve *e* and below to the bottom of the reservoir *a*, so that a closed chamber *g* is formed. The annular bottom of this chamber is perforated as at *f*<sup>1</sup>, and a likewise perforated annular slide *h* can be displaced on it by means of the handle *h*<sup>1</sup>, for the purpose of bringing the respective perforations more or less into or out of register.

In order to obtain a low flame-generation and consequent low construction of generator, necessary for introducing the air low down into the sweating chamber *n* and for insuring strong draft through the device, there is arranged above the burner proper a cone-shaped air distributor and flame de-

flector *c*, in register and communicating with the burner tube *b* and suitably secured to the drum *k* and closed above by the dished plate *c*<sup>1</sup>. In the wall of this distributor *c* are provided series of openings *c*<sup>2</sup> through which the air is evenly distributed and passed over the annular flame. These air ports are funnel-shaped and upwardly directed to prevent the gases of combustion from flashing-back. The air is supplied absolutely automatically and uniformly by reason of the rise of the heated air within the cone, as well as by the suction caused by the heating gases burned without.

The burner, provided with a handle *p*, is placed into the drum *k*, which latter communicates with the hot air chamber *n*, in which the patient is seated, through the tube 1.

The arrows indicate the direction of flow of the several air and heating-gas currents.

The operation of the described apparatus is as follows:—Fresh air passes through the apertures *m* and *f*<sup>1</sup> into the chamber *g* and is mixed with the fuel gases issuing through the cover sieve *d*, and this mixture then issues through the sieve cylinder *e* and serves to maintain a brisk, though relatively low flame at the mouth of the annular flame chamber *r*. Owing to the air ports *f*<sup>1</sup> being arranged at the bottom of the burner, there is obtained a relatively great distance between air entrance at *f*<sup>1</sup> and flame zone at the mouth of the annular flame chamber *r*, whereby an enhanced draft action is obtained. The brisk combustion induces a strong sucking action of the flame, which latter constantly sucks inflammable mixture out of the chamber *g*, and fresh air through the central tube *b* into and out of the distributor *c*. By reducing the pre-gasification by manipulation of the annular slide *h*, the suction is correspondingly lowered, and the generation of hot air is thereby effectively controlled. This may also be effected by the patient in the sweating chamber opening more or less the slide *o*, provided in the upper part of the chamber, when the relatively great distance between the ingress of fresh air at *f*<sup>1</sup> and the egress of the hot air at *o* is made use of to control the draft through the entire apparatus, acting in the manner of a chimney.

A further advantage of the closing-in of the burner is that the cold air entering through the bottom apertures *f*<sup>1</sup> cools the

fuel tank, with the effect that the temperature of the fuel remains constant, and an undue, dangerous overheating of the parts and the fuel is prevented. This feature, obviously, is of great practical value, since there can be no overproduction of inflammable gases and no explosion, and the patient, after having started the burner, need have no fear that he may have to leave the sweating chamber again to regulate the burner.

By arranging the air ports  $f^1$  at the bottom of the drum, instead of at the sides, the flame cannot flash-back into the mixing chamber  $g$ , even though there is no sieve protection, so that explosion is excluded and the manufacture of the apparatus is cheapened.

What I claim is:—

1. In a hot air bath, in combination with a burner having a central air tube, a hollow cone-shaped air distributor and flame deflector above said burner, communicating with said central air tube and having series of upwardly directed, funnel-shaped air passages, substantially as and for the purpose set forth.
2. In a hot air bath, a burner, comprising

a support having air inlet ports; a fuel reservoir; an air tube through the center of said reservoir; a sieve cover on the latter; a vertical annular sieve on said sieve cover, surrounding the projecting part of said central air tube; a dome-shaped wall, partly enclosing said fuel reservoir and secured to the upper edge of said vertical sieve; means for controlling the ingress of fresh air between said dome-shaped wall and said fuel receptacle; a cone-shaped air distributor, having air outlets, above said central air tube and communicating with it; a housing for said burner; in combination with a sweating chamber; means for conducting the hot air generated by said burner into the lower part of said sweating chamber; and means within the latter for controlling the draft through the entire apparatus and thereby the combustion and the generation of hot air, substantially as and for the purposes set forth.

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

ALFRED KLOTZ.

Witnesses:

ARTHUR V. W. COX, Jr.,  
MATHILDE K. HELD.

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