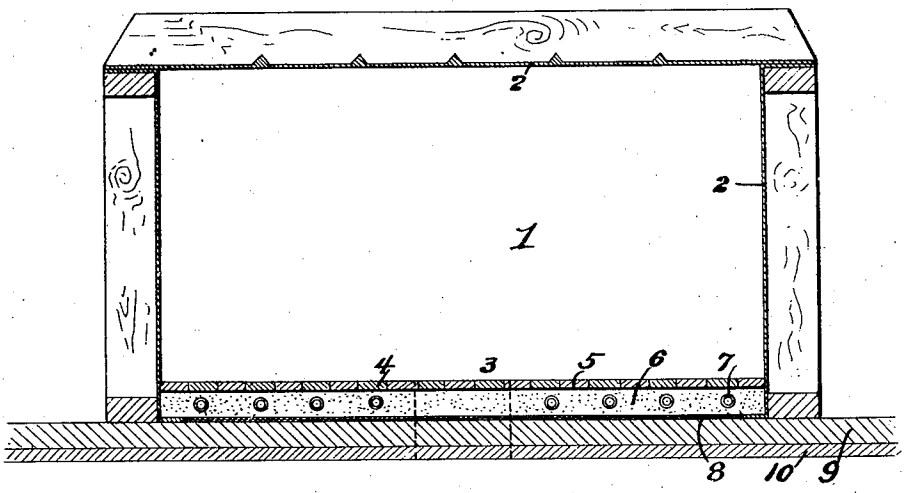
No. 865,651. PATENTED SEPT. 10, 1907.

M. MAURAN.

BLEACHING POWDER CHAMBER.

APPLICATION FILED SEPT. 12, 1906.

Fig. 1.



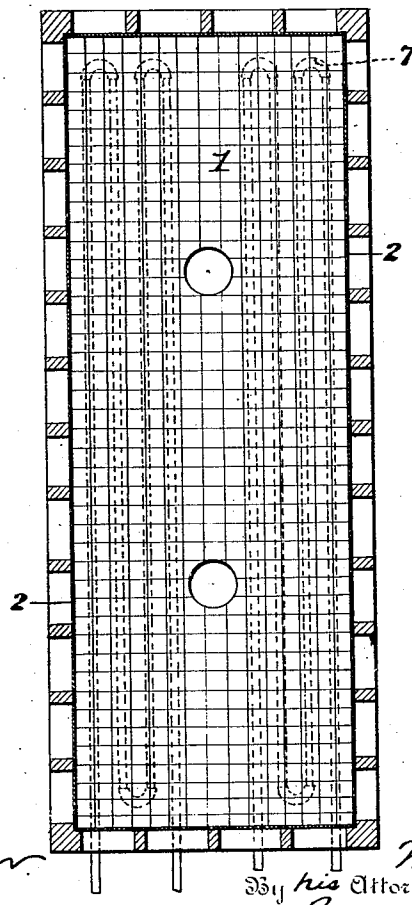




Fig. 2.

Witnesses
Frank S. Ober
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Max Mauran
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# UNITED STATES PATENT OFFICE.

MAX MAURAN, OF NIAGARA FALLS, NEW YORK, ASSIGNOR TO CASTNER ELECTROLYTIC ALKALI CO., A CORPORATION OF VIRGINIA.

## BLEACHING-POWDER CHAMBER.

No. 865,651. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed September 12, 1906. Serial No. 334,205.

*To all whom it may concern:*

Be it known that I, MAX MAURAN, a citizen of the United States, residing at Niagara Falls, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Bleaching-Powder Chambers, of which the following is a full, clear, and exact description.

My invention relates to the apparatus used in the making of bleaching powder, particularly that type of apparatus commonly known as a bleach chamber, the invention lying in the novel construction of the bottom, or floor, of the chamber.

The object of the invention is to provide a bleach chamber in which the floor and other interior parts are capable of withstanding the action of the chemicals used therein, and in which means are provided for cooling the floor.

Other objects of the invention will hereinafter appear, and the novel features thereof will be set forth in the claims.

In the drawing: Figure 1 is a sectional view of a bleach chamber embodying the principles of my invention, and Fig. 2 is a horizontal sectional view of the same.

Like reference numerals indicate like parts in the two views.

It is well known that in the manufacture of bleaching powder temperature plays a very important part, both as to the quality and stability of the product. Certain chemical reactions take place if the temperature cannot be controlled, resulting in the loss of available chlorin, which is the valuable portion of bleaching powder. If the temperature is too high it is found that lime will not absorb the chlorin readily. This is of course detrimental, lowering the efficiency of the process, with the consequent result of a higher cost of manufacture. By my invention I am able to control the temperature within definite limits at all times, thereby producing a bleaching powder of definite strength and quality the year around in climates of variable temperatures, a result that has heretofore never been accomplished. I am able to do this by providing means for introducing the temperature regulating medium at a point where it is most needed. It is customary to construct bleach chambers so that water can be sprinkled over the top and sides of them, also to so design the buildings, or arrange the chambers, so that a good circulation of air may be obtained, the object being to keep the lime contained in the chambers at a low temperature while it is being subjected to the action of the chlorin gas. All such arrangements are most inefficient on account of the cooling medium being so remote from the place where it is wanted. Whereas, as stated in my invention, the lime is in direct contact with a cooled surface.

It is known that bleaching powder made under low temperature is superior to that made under high temperature. In carrying out my invention therefore I embed refrigerating pipes or form ducts in a slab placed under the floor of the chamber so as to directly cool the said floor. In extremely cold climates it is feasible to use these pipes or ducts for heating purposes by passing warm water or air through them. These pipes or coils are inlaid in such a way that they are protected from the chemicals, and the chemicals from the pipes, the arrangement being such as to permit a maximum cooling effect of the pipes upon the floor surface.

Referring to the drawing, 1 indicates a bleach chamber, the top and side walls of which are of lead, as shown at 2. The bottom 3 of the chamber is constructed in several superposed layers in order to secure the features of my invention. The top layer or floor 4 is of tiling, preferably vitreous, the same being closely fitted together, being not liable to chemical corrosion, and being a good conductor of heat. The tiles of the layer 4 are set in a thin bed 5 of asphalt which serves to make the floor completely gas and moisture proof under all circumstances.

The nature of the asphalt is such that moderate expansion or contraction may take place without destroying its waterproof characteristic. Beneath the asphalt 5 is a monolithic slab 6 of cement which has ducts or passages to convey the refrigerating element. These passages may be molded, or refrigerating pipes 7 of any desired character may be embedded so as to convey cooled brine of an ammonia plant, or cooled air from an air cooling plant as desired. The slab rests on a layer of insulating paper 8, which prevents loss of efficiency by heat entering from this side.

9 indicates the ordinary floor of the building and 10 denotes an additional heat insulating layer which may be in the form of blocks secured to the under side of such building floor or support.

The operation will be clear from the preceding description. Dry lime is introduced into the chamber and spread into an even layer upon the floor 3 thereof. Chlorin gas is now admitted and fills the chamber above the layer of lime. The refrigerating system being put in operation, it is evident that the floor 3 and the lime thereon will be uniformly cooled throughout the entire expanse or area, and such of the chlorin gas as comes into immediate contact therewith will also be cooled. So the two elements are kept cool at their point of contact and the combination takes place advantageously. No efficiency is lost by the application of the refrigerating forces except where they are required, and by virtue of the particular construction of flooring a good conducting medium is provided through which the heat may be absorbed, while at the same

time any deleterious or corrosive action on any of the parts is prevented.

What I claim, is:—

1. A bleaching powder chamber having a heat-conducting floor, a layer of moisture-proof material upon which said floor rests and a monolithic slab beneath said layer and provided with circulatory passages for temperature controlling medium.

2. In a bleach chamber having the usual top and walls, a floor having heat conducting and impervious surface, an asphalt layer beneath said surface, a bed beneath said asphalt layer, refrigerating means inlaid in said bed, and a support for said bed.

In witness whereof, I subscribe my signature, in the presence of two witnesses.

MAX MAURAN.

Witnesses:

FRANCES G. SMITH,

JAMES H. MACMAHON.