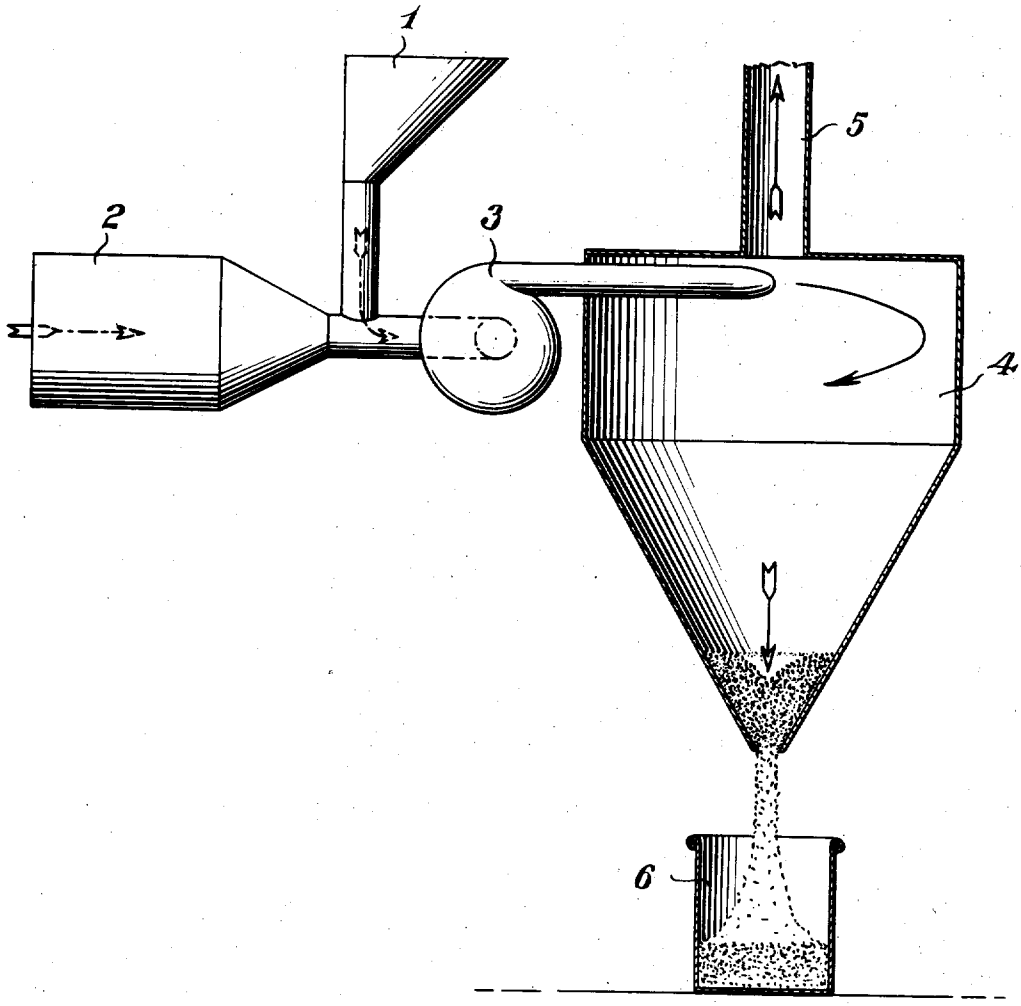
Aug. 22, 1933. M. JAEGER 1,923,210

PROCESS FOR PRODUCING HIGHLY STORAGEPROOF BLEACHING POWDER

Filed Oct. 21, 1930



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Patented Aug. 22, 1933 1,923,210

UNITED STATES PATENT OFFICE

1,923,210

PROCESS FOR PRODUCING HIGHLY STORAGEPROOF BLEACHING POWDER

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Application October 21, 1930, Serial No. 490,322, and in Germany October 26, 1929

3 Claims. (Cl. 23—86)

The present invention relates to a process of producing highly storage-proof bleaching powder.

It is generally acknowledged that the storing qualities of bleaching powder are greatly influenced by its water content, i. e. the lower the latter the better the bleaching powder will be capable of prolonged storing without an appreciable loss of available chlorine. In order to produce bleaching powder containing a minimum of moisture, methods are employed on the one hand consisting in drying the finished bleaching powder whereas other methods aim at eliminating the water resulting from the chlorinating reaction in the course of the reaction itself.

Thus it has been proposed, for example, to dry the finished bleaching powder by spreading it on trays or moving it through tubes by means of spiral blades or worm-conveyors and simultaneously subjecting the product to a countercurrent of heated air whose temperature may be raised to between 105° and 115° C. These processes, however, involve the drawback that the dehydration of the bleaching powder remains more or less incomplete whereas at the same time a somewhat extensive decomposition of the bleaching powder takes place. This is due to the fact that in all these procedures the heated air is caused to act upon a layer of bleaching powder which has an appreciable depth and that the water content of the layer is to a certain degree only displaced within, but not entirely removed from, the entire layer. The result of these drying processes therefore consists largely in a local concentration of the water content which promotes decomposition in the affected parts of the layer the more, the longer it is subjected to the action of heat.

An object of the present invention, therefore, is to dehydrate bleaching powder by means of a method which obviates the above difficulties, and, therefore, results in an efficient drying of the bleaching powder with a minimum decomposition of the latter.

I have observed that the decomposition of bleaching powder, when subjected to heating, is decidedly a function of the time and that, when dehydration of the bleaching powder molecule is extremely accelerated, decomposition accordingly approaches a minimum. According to the present invention, therefore, bleaching powder produced by any of the known methods is, in a state of extremely fine subdivision, momentarily exposed to a current of air passing in the same direction, said current of air being heated to temperatures of at least about 150° C. and preferably between 160–180° C.

In carrying out the present invention it is essential that the bleaching powder should be brought into sudden contact with the heated air in a state of high dispersion and should be separated from the drying air after a period of time amounting to, at the most a few seconds. Generally, even fractions of a second will be sufficient to effect drying of the bleaching powder to the desired degree. The efficiency of this method of drying is probably due to the fact that all the particles of the bleaching powder are individually and simultaneously enveloped by the highly heated air which thus abruptly withdraws the moisture contained in the bleaching powder—be it sensible moisture or water of crystallization—while becoming more or less saturated with moisture itself. In consequence, it is advisable to employ a large excess of dried heated air free from carbon dioxide for the present purpose. The amount of bleaching powder introduced into the drying apparatus and the velocity of air supplied thereto respectively are preferably regulated in such a manner that the dried bleaching powder issues from the drying device at a temperature below 100° C. So as to obviate any subsequent reaction, the bleaching powder, after being separated from the heated air, is preferably rapidly cooled down to ordinary temperatures.

For carrying out the present invention the various known apparatuses employed for drying moist salts in a heated current of air may be made use of. The accompanying drawing which is purely diagrammatic shows by way of example, a preferable arrangement of units adapted for carrying out the invention.

The undried bleaching powder is charged into the device by the hopper 1 and is immediately taken up by a current of air heated to the temperature as described above and issuing from the heater 2. The suspension then passes through a fan 3 tangentially into the drying chamber 4. After a few revolutions in its upper part, i. e. after a very short period, the carrying capacity of the current of air is exhausted, whereupon the particles of dried salt sink to the conical bottom of chamber 4, and the air which has taken up practically all the moisture contained in the salt, issues by means of the central funnel 5. The settled particles of salt then fall into drum 6, which is emptied from time to time.

Example

10 parts of bleaching powder containing 36

percent of available chlorine and about 9 percent of water are subjected to the process as described while applying a current of air heated to a temperature averaging about 170° C. 9 parts of dried bleaching powder containing from 37 to 38 percent of available chlorine and about 1 percent of water are obtained.

I claim:

1. A process for producing highly storage-proof bleaching powder which comprises suddenly contacting undried finely divided bleaching powder in a state of high dispersion with a current of air heated to at least about 150° C., and thereby suspending the powder in the air and after a period not exceeding a few seconds separating the bleaching powder from said heated air.

2. A process for producing highly storage-proof bleaching powder which comprises suddenly contacting undried finely divided bleaching powder in a state of high dispersion with a current of air traveling in the same direction and heated to at least about 150° C., and after a period not exceeding a few seconds separating the bleaching powder from said heated air.

3. A process for producing highly storage-proof bleaching powder which comprises suddenly contacting undried finely divided bleaching powder in a state of high dispersion with a current of air traveling in the same direction and heated to between about 160–180° C., and after a period not exceeding a few seconds separating the bleaching powder from said heated air.

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