PROCESS OF CLEANING DRAIN PIPES WITH CAUSTIC ALKALI PELLETS

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My present invention relates to pellets formed from caustic alkali and adapted to be used for domestic and other purposes. An object of my invention is to provide caustic alkali in such a form that it may be removed from the container, handled and used conveniently and without danger. A further object of my invention is to provide a form of caustic alkali which is better adapted for certain purposes than any form heretofore known. Other objects and advantages will be apparent from the description that follows.

Caustic alkali is available on the market in the solid, flaked and powdered form, each of which is more or less dangerous to handle even by the most skilled person. The solid cakes are contained in steel drums which frequently must be cut open in order to remove the caustic therefrom. The dust which arises during the operation of cutting open the drum, removing the caustic and breaking the cake into smaller pieces for use, frequently causes injury to persons and property in the vicinity. The powdered and flaked forms of caustic are open to the same objection. There are also further disadvantages to these forms, which are the usual forms in which the caustic is prepared for domestic purposes. Frequently it is desirable to dissolve the caustic in water, but because of the large surface coming into contact with the water, there is a violent spattering which last for a short period and which places the person preparing the solution in danger of being splattered with the caustic.

The usual method of applying caustic for cleaning clogged drain pipes is to place the dry caustic in the drain and permit water to flow over it. After the first reaction, the caustic, which is now wet, forms into a pasty mass which offers resistance to the flow of water and retards the entire operation.

According to the present invention, I have provided a form of caustic alkali which may be conveniently and safely handled and which is more rapid in its action than any heretofore in use.

In the accompanying drawing—

- Figure 1 illustrates one form of my invention drawn full size.
- Figures 2 to 4 inclusive illustrate various methods in which my invention may be used.

Referring to Figure 1, numeral 10 designates a pellet formed from a mixture of caustic alkali and pure aluminum in the form of finely divided particles. The aluminum content is approximately 2% of the whole. The pellet is formed in a mold of any suitable type, such as the ordinary pill-making machine. During the molding the mixture is compressed from one-half to two-thirds its original volume. The caustic used may be either caustic soda or caustic potash. I have found both to be satisfactory.

In Figure 2 I have illustrated one method of using my invention. A drain pipe, indicated by the numeral 11, extends downwardly from sink 12. The drain pipe is illustrated as being clogged with sediment 13, and I have shown a plurality of pellets 10 which have been placed in the drain for the purpose of removing the sediment therefrom. The water 14 which has been poured into the drain, can easily flow through the spaces between pellets 10, into contact with sediment 13, dissolving some of the caustic as it passes over the pellets. There is no possibility that the pellets will materially retard the flow thereof, as 75 in the case of caustic in the flaked or powdered form.

In Figure 3, a plurality of pellets 10 have been placed over the top of the drain and water poured over them. This method may be employed when 80 the pellets may not be conveniently placed within the drain. Obviously, such a method could not be employed using powdered or flaked caustic.

Figure 4 illustrates a third method of using my invention. In this instance the pellets have first been dissolved in water and the solution then poured down the drain. Such a method may be safely carried out using the pellets as, due to the limited surface of caustic which contacts with the water at any given time, the reaction therebetween is very mild and there is no danger from spattering of the caustic.

The aluminum which is mixed with the caustic serves a two-fold purpose. It acts as a lubricant in freeing the pellets from the mold, and also, during the reaction it aids in the liberation of hydrogen, thereby rendering the reaction more effective. I have found that when the above-described mixture is molded, no binder such as has been heretofore proposed is necessary to cause the particles of caustic to adhere in a compact mass. The pellets may be removed from the mold more readily and the particles adhere together more firmly than when a binder such as soap is used.

From the above it will be seen that I have provided a form of caustic alkali which may be used with greater safety and to a greater advantage than any heretofore known.
What I claim as new and desire to secure by Letters Patent of the United States is:

1. The method of cleaning drain pipes of accumulated greasy deposits, which comprises inserting in a drain pipe a mass of spherical molded pellets of caustic alkali containing a small quantity of aluminum with respect to the whole, and of such a size that they may be readily inserted in an ordinary drain pipe but when inserted will form interstices of such area as to allow a free passage of water through the drain pipe.

2. The method of cleaning drain pipes of accumulated greasy deposits, which comprises inserting in the drain pipe a mass of spherical molded pellets of caustic potash containing substantially two percent of finely divided aluminum, and of such a size that they may be readily inserted in an ordinary drain pipe but when inserted will form interstices of such area as to allow a free passage of water through the drain pipe.

3. The method of cleaning drain pipes of accumulated greasy deposits, which comprises inserting in a drain pipe a mass of spherical molded pellets of caustic soda containing substantially two percent of finely divided aluminum, and of such a size that they may be readily inserted in an ordinary drain pipe but when inserted will form interstices of such area as to allow a free passage of water through the drain pipe.

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