

T. C. TAYLOR.

Putting up and Preserving Caustic Potassa and Soda.

No. 52,466.

Patented Feb. 6, 1866.

Fig. 1.

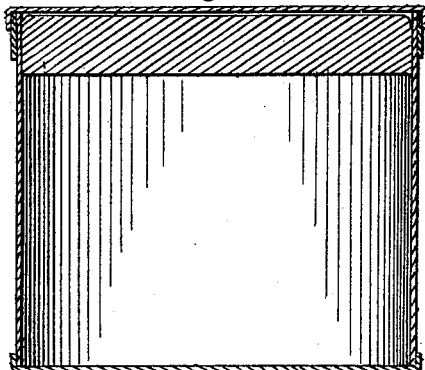


Fig. 3.

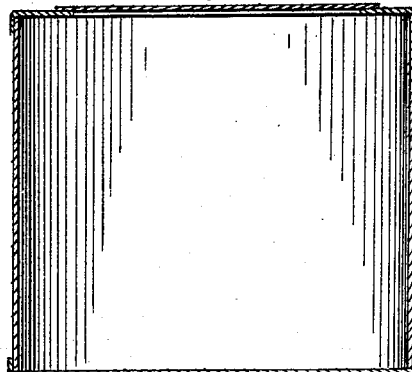


Fig. 2.

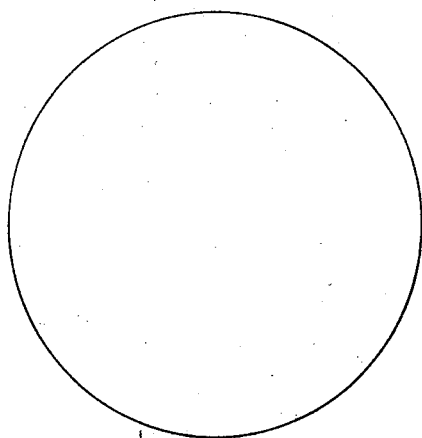
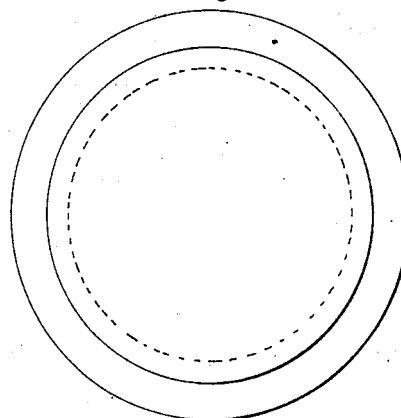


Fig. 4.



Inventor.

Witnesses
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UNITED STATES PATENT OFFICE.

T. CHALKLEY TAYLOR, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PUTTING UP AND PRESERVING CAUSTIC POTASSA AND SODA.

Specification forming part of Letters Patent No. 52,466, dated February 6, 1866; antedated January 26, 1866.

To all whom it may concern:

Be it known that I, T. CHALKLEY TAYLOR, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a new and useful Method of Putting Up Caustic Soda or Potassa in Small Packages for Use; and I do hereby declare the following to be a full, clear, and exact description of my invention, which will be better understood by reference to the accompanying drawings, in which—

Figure 1 represents a vertical section, and Fig. 2 a cross-section, of the case in which the soda is to be kept.

It is well known that caustic potassa or soda rapidly attracts moisture from the atmosphere and becomes deliquescent, in which condition it is dangerous to handle, and has a powerful chemical action upon the cases in which it is contained. It should be poured into the receptacles while in a molten state. This requires a heat sufficient to cause it to melt any solder which is ordinarily used in fastening seams or joints when it is poured at once into the receptacles.

I prepare my cases with a bottom and with side seams soldered in the usual way. The top is left open, intended to be covered with a common lid.

To prevent the melting of the solder which holds the bottom to the case, I in the first place pour in a small quantity of the alkali in a melted state, not sufficient to melt the solder. This quantity must be determined by experiment, depending upon the degree of heat of the alkali. When this has cooled sufficiently it will protect the solder at the bottom from the danger of being melted by the heated alkali which is afterward poured into the case.

By filling the case afterward by little and little the solder upon the side seam will not be melted; or this side seam may be made with a lap-point, so that if the solder were to melt no injury would result. The small quantity of air which would penetrate through the joint would form a carbonate of the alkali with which it first comes in contact. This would serve as a cement and solder, which would protect the remainder of the alkali.

When the case is filled to within a half or three-quarters of an inch of the top the

alkali is allowed to cool, and the remaining space is filled with a cement which will effectually exclude air and moisture. For this purpose I sometimes use the solidified coal-tar of commerce, such as is adapted to the roofing of houses. This answers well. Rosin also makes a good cement for this purpose, either in its hard state or when softened with oil. Other substances may also be used. Even hard grease will answer.

In practice I usually place a thousand boxes or more at a time in a condition to be filled. I then commence pouring in the soda to the depth of about a quarter of an inch in each. By the time this is done to the whole the alkali first poured will have cooled and hardened, when the like course is repeated. Three or four such courses will be sufficient to fill with safety a series of one-pound boxes. But if the alkali is nearly or quite anhydrous the degree of heat necessary to melt it is such that it is rendered very difficult to prevent the solder from melting. Ordinarily, therefore, I prefer to use a hydrate of soda or potassa, which for most uses is as good as though the alkali were anhydrous. It is often, therefore, advisable to mingle water with the anhydrous alkali before it is melted. The more water is thus incorporated the lower the temperature at which it melts until it is saturated so far as a chemical combination can be effected.

When the alkali is intended for making soap I prefer the use of rosin as a cement, either in its hard or softened state, as the whole contents of the case can in that event be allowed to go in together, as they all form ingredients, the purpose for making soap. The caustic alkali will not act chemically upon oil or rosin without the presence of water, which is not chemically combined with the soda or potassa.

Instead of filling in the top of the case with cement, I sometimes solder on the top of the case, leaving an aperture sufficient to enable me to pour in the alkali. After the case is filled I then solder in a suitable piece of tin, and the whole is complete.

I do not in this application lay claim either to the method of filling up the top of the case with cement or to close it by means of soldering in a piece of sheet metal, as above described. My

purpose is merely to provide a method by which a box or case of sheet metal may be filled with molten alkali, in such a way as not to unsolder the case, by the simple process above described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The above-described method of filling a case

with caustic soda or potassa, in such a manner as to avoid the danger of melting the solder which holds the case together, and thus securing the box from injury.

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Witnesses:

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