

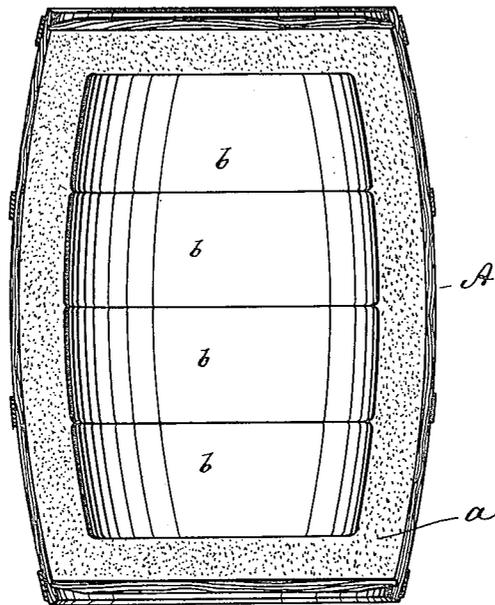
No. 624,972.

Patented May 16, 1899.

H. PRECHT.  
PROCESS OF PACKING CAUSTIC ALKALIES.

(Application filed June 11, 1898.)

(No Model.)



Witnesses:  
John Becker.  
William Miller.

Inventor:  
Heinrich Precht  
by his attorneys  
Roeder & Briesen

# UNITED STATES PATENT OFFICE.

HEINRICH PRECHT, OF NEUSTASSFURT, GERMANY, ASSIGNOR TO THE  
SALZBERGWERK NEUSTASSFURT, OF SAME PLACE.

## PROCESS OF PACKING CAUSTIC ALKALIES.

SPECIFICATION forming part of Letters Patent No. 624,972, dated May 16, 1899.

Application filed June 11, 1898. Serial No. 683,177. (No specimens.)

*To all whom it may concern:*

Be it known that I, HEINRICH PRECHT, a subject of the King of Prussia, Emperor of Germany, residing at Neustassfurt, near Stassfurt, Prussia, Germany, have invented certain new and useful Improvements in Packing Caustic Alkalies in Wooden Casks, of which the following is a specification.

Alkaline hydrates, such as hydrate of potash ( $2KHO$ ) and hydrate of soda, ( $2NaHO$ ), have a marked corrosive effect on organic substances and destroy wood which has been exposed some time to their influence. This is more especially noticeable in the case of alkaline hydrates which are kept and despatched in wooden casks, because these substances absorb moisture from the atmosphere and become deliquescent.

I have found a new process for protecting wood against the deliquiating action of the alkaline hydrates. This process consists in surrounding the latter with a body which does not attack wood and exercises no detrimental action on them. I use for this purpose potash, ( $K_2CO_3$ ), potassium-bi-carbonate, ( $KHCO_3$ ), soda, ( $Na_2CO_3$ ), and sodium-bi-carbonate ( $NaHCO_3$ ) either separately or mixed in any desired way.

The accompanying drawing represents a longitudinal section, partly in elevation, of a caustic-alkali package embodying my invention.

In carrying out my invention I spread at the bottom of the barrel A a layer of the aforesaid materials *a*, upon which I place alkaline hydrate which has been melted and cast in blocks *b* of circular or semicircular shape. Thereupon I ram in the protecting materials firmly between the wood and the alkaline hydrate. When the barrel or receptacle has been filled up with successive layers of alkaline hydrate, the protecting materials are spread on the top and firmly rammed or pressed in. The cover is then put on and the barrel closed.

The thickness of the layers of protecting materials depends upon their density and also upon the amount thereof which, through the absorption of moisture, will effect an air-tight envelop or casing.

Potash ( $K_2CO_3$ ) and soda ( $Na_2CO_3$ ) which

have been deprived of water answer the purpose admirably, because they absorb the moisture which penetrates through the wood, expand, and form a solid coating enveloping the alkaline hydrate.

The alkaline-bi-carbonates—viz.,  $KHCO_3$  and  $NaHCO_3$ —present the great advantage that they give off carbonic acid ( $CO_2$ ) and transform the surface of the alkaline hydrate into a crust of alkaline carbonate.

It is to be understood that the protecting materials can be used either mixed together or each one separately by itself.

The thickness of the protecting-envelop depends also upon the proportions in which the packed materials are to be consumed. If the goods are to be used for the manufacture of soap, the protecting-envelop should not form more than twenty to thirty per cent. of the total contents, as such a proportion of alkaline carbonates or bi-carbonates is used in connection with the alkaline hydrates. If the goods are to be used for the purification of water the alkaline hydrate can be enclosed in a larger mass of protecting materials.

Through the adoption of my process the iron barrels and drums which were hitherto used for the storing and transport of alkaline hydrates can be dispensed with. On the other hand, the packing-barrels which have been used in accordance with my invention can be further utilized for other purposes—a point of especial importance in the manufacture of soap.

A mixture of gypsum and rye-flour with a coating of resin, as has been proposed and applied for coating the outside of casks and the like, has not given the expected results, because gypsum, rye-flour, and resin are attacked and decomposed by caustic alkalies.

According to my invention the alkaline hydrates are surrounded by protecting materials which consist of alkaline carbonates or bi-carbonates, which consequently cannot exercise an injurious action on the alkaline hydrates. Apart from this protecting-envelops of alkaline carbonates or bi-carbonates possess also the advantage that they can be used along with the alkaline hydrates.

What I claim is—

The method of packing caustic alkalies in

which consists in casting caustic alkali blocks, placing such blocks within contact with the walls thereof, disposing between such walls and the blocks an additional body of an carbonate, substantially as specified. In witness whereof I have hereunto signed

my name in the presence of two subscribing witnesses.

HEINRICH PRECHT.

Witnesses:

C. MINGAND,  
HENRY W. DIEDERICH.