(No Model.)

J. T. SMITH.

PROCESS OF TREATING CORK.

No. 456,068. Patented July 14, 1891.

Fig. 1.

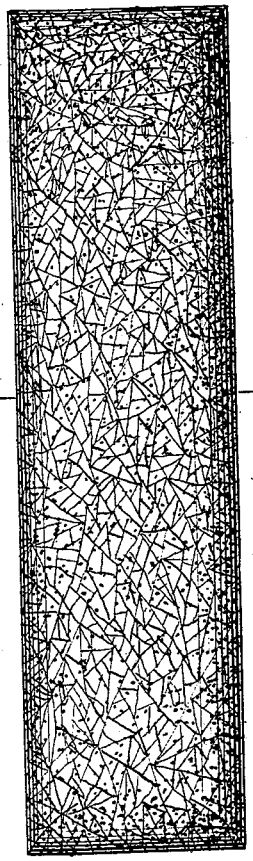


Fig. 3.

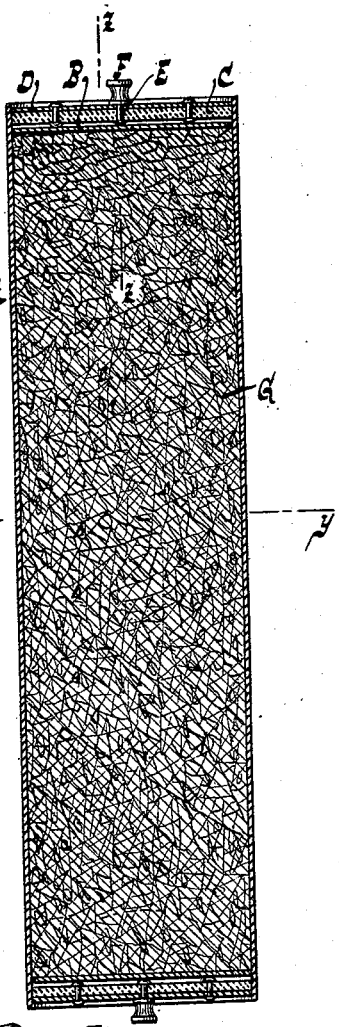


Fig. 6.

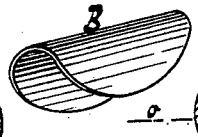


Fig. 2.

Fig. 4.

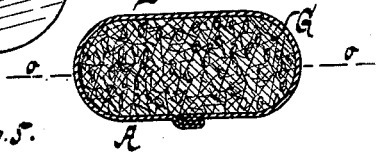
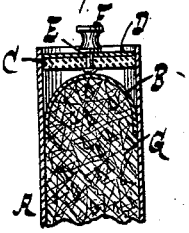


Fig. 5.



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PROCESS OF TREATING CORK.

SPECIFICATION forming part of Letters Patent No. 456,068, dated July 14, 1891.

Application filed September 25, 1890. Serial No. 366,135. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. SMITH, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Processes of Treating Cork, of which the following is a specification.

This invention relates to the treatment of cork; and it consists in subjecting cork in a more or less fine state in a closed vessel to heat, so as to melt and volatilize the resinous matter contained in it, permitting some of the vapor to escape from the vessel, and cementing the cork particles together by the condensation of the remaining vaporized resinous matter.

Figure 1 is a top view of a mass of broken cork which has been subjected to heat according to my method. Fig. 2 is a cross-section taken on the line *x x* of Fig. 1. Fig. 3 is a horizontal section on the line *o o* of Fig. 4 of a hollow vessel in which the cork is placed for undergoing the treatment. Fig. 4 is a cross-section on the line *y y* of Fig. 3. Fig. 5 is a section on the line *z z* of Fig. 3. Fig. 6 is a perspective of a stopper.

In carrying out my invention I employ a hollow vessel A, made of sheet-iron or other suitable metal, open at its ends, so that it may be filled up with the cork from either end. The vessel is preferably made oblong in form and flattened, forming a flattened tube, as represented in the drawings. The ends are provided with stoppers B, one of which is shown in cross-section in Fig. 5, and in Fig. 3 both are indicated in the ends of the vessel by dotted lines, while Fig. 6 shows the stopper in perspective and detached.

It will be understood from the drawings that the stoppers B are of such a length and breadth that they extend across the interior of the vessel, two of their opposite sides being bent toward each other in the direction of their shortest diameter, as is most clearly shown in Figs. 5 and 6.

The stopper B having been placed within one end of the vessel, as seen in Figs. 3 and 5, it is confined there by a plug C, composed of asbestus or of several layers of fabric composed of asbestus and textile material combined with an outer plate D of sheet-iron or other metal, which is secured to the asbestus by means of a rivet E, one or more, whose outer end is provided with a head F, that constitutes a handle, by means of which the plug C is inserted in or removed from the vessel. The plug is of such a length and breadth that it will snugly fit into the end of the vessel, the layers of asbestus being a little longer and wider than the metal plate, so that the edges of the asbestus will tend to occupy any openings which might occur between the edges of the plate D and the sides of the vessel, and thus make the plug tolerably tight. One end of the vessel having been thus closed, the vessel is next filled through its other end with particles of cork G, which are rammed down sufficiently to bring them as compactly together as may be desired. This having been done, the said other end of the vessel is also closed by means of a stopper B and a plug C, as already described, for the end first closed. The vessel having been thus filled with the cork is submitted to the action of the heat in such a manner as not to burn the cork. This is accomplished by placing the vessel in a heated chamber or oven, the temperature of which is gradually raised to about 300° to 500° Fahrenheit until the resinous matter contained in the cork is vaporized, the resinous vapor permeating the mass of cork and occupying the interstices between the several particles, the excess of vapor escaping with more or less freedom through the ends of the vessel into the surrounding air. The cork is kept thus exposed to the action of heat until it is baked into a mass having the shape of the interior of the vessel, the particles of cork adhering to each other in consequence of the resinous character of the vapor generated by the heat and which on condensing forms a cement between the particles of cork, thus forming a coherent mass, as represented in Fig. 1, which shows the body of the cork after it has been treated with heat and removed from the vessel. The time during which the cork is subjected to the action of the heat varies from twenty minutes to four or five hours, according to the character and condition of the cork and the degree of heat employed. The cork can be removed from the vessels as soon as the latter are cool enough to handle. Cork thus treated can be used with good results, and successfully in

life-preservers, the weight or specific gravity of the cork being much reduced, so that a smaller body of cork serves for a life-preserver as compared with cork in its natural state. Cork thus treated is thereby made measurably water-proof, so that its condition is not changed by immersion in water. Furthermore, after the cork has been treated as above described it can be granulated or ground with greater ease than when in its natural state.

The vessel in which the cork is treated may be of any desired size or shape, and the masses of cork treated in said vessels will take on the form or shape of the vessels in which the same have been treated, as aforesaid, and will retain the forms thus given to them.

What I claim as new, and desire to secure by Letters Patent, is—

1. The process herein described of treating cork, which consists in vaporizing the resinous matter contained in the cork by heating the latter in a closed vessel and cementing the cork particles together by the condensation of the vaporized resinous matter, substantially as set forth.

2. The process herein described of treating cork, which consists in vaporizing the resinous matter contained in the cork by heating the latter in a closed vessel, relieving internal pressure in the vessel by discharging therefrom some of the nascent vapor, and cementing the cork particles together by the condensation of the remaining vaporized resinous matter, substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN T. SMITH.

Witnesses:
WM. C. HAUFF,
E. F. KASTENHUBER.