

UNITED STATES PATENT OFFICE.

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TREATMENT OF CORK.

1,155,057.

Specification of Letters Patent.

Patented Sept. 28, 1915.

No Drawing.

Application filed June 30, 1915. Serial No. 37,363.

To all whom it may concern:

Be it known that I, MAX GRUNZWEIG, Dr. Ing., citizen of the German Empire, and resident of Ludwigshafen-on-the-Rhine, Germany, have invented new and useful Improvements in the Treatment of Cork, of which the following is a specification.

Applicant has shown in his prior Patent No. 997056 that cork may be expanded by heating it to high temperatures, preferably above 200° C. It has been found that the expansion of cork may be obtained not only by raising its temperature considerably, but by utilizing other agents at the same time.

If cork contains a certain degree of moisture, as the cork of the trade always does, the evaporation of the water contained in the cork cellules tends to expand the same. The energy of expansion is increased if the cork is heated as rapidly as possible, approaching the point where the evaporation is effected in the manner of an explosion.

The apparatus used hitherto for heating cork, such as revolving furnaces, and the like, retain the cork for a relatively extended length of time; and the desired maximum temperature is reached in a moderately quick way. That is the reason why the pressure inside the cellules of the cork is weak and the expansion is not carried to its maximum. If however, the heating lasts only a half a minute to five minutes and the cork is moist enough, a considerable increase of volume may be attained at a temperature little above the ebullition point of water, an expansion which was hitherto possible only at temperatures above 200° C. because the pressure of steam is considerable at temperatures between 100° C. and 150° C. In order to heat

the cork in so short a time up to a temperature of from 100° C. upward, the heat must be imparted to the cork particles very energetically. This may be done by using an atmosphere of very considerable temperature; for example the cork may be brought into a chamber of a temperature of 1000° C. and be removed again at once. In order that the cork is not carbonized or ignited it should be agitated; the more vigorous the agitation the better the result.

The cork may of course be heated up to the permissible maximum of about 400° C. The cork thus expanded may be used in known way to form cork stone with or without a cement, as loose filling material and the like.

Now what I claim and desire to secure by Letters Patent is the following:

1. A method to increase suddenly the volume of cork particles at temperatures above 100° C. which consists in heating the cork suddenly to the said temperatures.

2. A method to increase suddenly the volume of cork particles at temperatures above 100° C. which consists in placing sufficiently moist cork particles in a chamber previously highly heated and agitating the cork.

3. The method of expanding cork particles which consists in suddenly heating them to a temperature below 200° C.

That I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this seventh day of June A. D. 1915.

MAX GRUNZWEIG.

Witnesses:

CARL MYSER,
C. INNERS BROWN.