

# UNITED STATES PATENT OFFICE.

EMERY ANDREWS, OF KENNEBUNK, MAINE, ASSIGNOR TO THE LEATHEROID MANUFACTURING COMPANY, OF MAINE.

## COMPOUND FOR PARCHMENTIZING PAPER.

SPECIFICATION forming part of Letters Patent No. 420,615, dated February 4, 1890.

Application filed April 26, 1889. Serial No. 308,742. (No specimens.)

*To all whom it may concern:*

Be it known that I, EMERY ANDREWS, of Kennebunk, in the county of York and State of Maine, have invented a new and useful  
5 Improvement in Compounds for Parchmentizing Paper, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to the manufacture of  
10 parchmentized paper-board, and is an improvement upon the compound used to carry out the process set forth in Letters Patent of the United States No. 198,382, dated December 18, 1877. The manufacture of such board  
15 as heretofore carried on has been chiefly by the process described in the Letters Patent above mentioned, in which sulphuric acid is the active parchmentizing agent, or by the use of chloride of zinc as such agent, the  
20 product in the first case being known to the trade as "leatheroid" and in the second as "vulcanized fiber." The latter process is expensive, owing to the cost of the material, and the former is one by which sheets of  
25 any considerable thickness cannot be made without perforating on account of the formation of gas between the layers of paper composing said sheet.

The object of my invention is to provide an  
30 improved parchmentizing-liquid the use of which will not be attended with the difficulties above mentioned.

In carrying out the process set forth in the patent above mentioned, which consists in  
35 treating paper to a bath of dilute sulphuric acid which has been rendered tractable by the addition of zinc and dextrine or equivalent retarding agents, I have found that by adding to such acid ten to twenty-five per  
40 cent. of its weight of muriatic acid and then proceeding as set forth in said patent a greatly-improved result is obtained; and my invention consists in an improved parchmentizing-liquid consisting of dilute sul-  
45 phuric acid to which has been added muriatic acid and zinc and dextrine or equivalent retarding agents, as set forth in the Letters Patent above mentioned.

In carrying out my invention I dilute  
50 strong commercial sulphuric acid with about an equal amount of water, the quantity varying somewhat with the nature of the paper to be treated and with the hardness desired

in the product. I add to this dilute acid from ten to twenty-five per cent. of its weight  
55 of muriatic acid. Into the mixture thus obtained I put as much zinc as can be dissolved by it, which I find to be much more than when sulphuric acid alone is used. I add to the same after it has cooled a quantity  
60 of dextrine in about the proportions of one pound to from four to six of the acid compound. I then pass paper from a roll of the same continuously through a bath of this liquid and wind it around a forming roll or drum  
65 of suitable size to form the sheet until the desired thickness is obtained, a press-roll lying upon the sheet as it is being formed on the roll serving to unite the layers of paper to each other, and when the desired thickness  
70 is obtained I cut longitudinally through the tube of paper about the forming-roll and flatten it out, thus forming the desired sheet, which is then put into a bath of water or neutralizing-liquid to remove the acid therein.  
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I do not limit my invention to the use of dextrine and zinc as retarding agents in the acid compound above mentioned, but, referring to the aforesaid patent, claim the equivalents therein set forth when used with the  
80 acid compound mentioned above as my discovery for this purpose. If desired, the muriatic acid may have zinc dissolved in it before being added to the sulphuric acid. In place of the dextrine above mentioned, other or-  
85 ganic matters may be used, as the scraps and cuttings of the board thus produced, or paper, blood, or albumen, with good results.

I claim—

1. A compound constituting a parchmentiz-  
90 ing-liquid, composed of dilute sulphuric acid, muriatic acid, zinc, and dextrine, substantially as set forth.

2. A parchmentizing-liquid composed of dilute sulphuric acid, muriatic acid, zinc, and  
95 agents to retard the corrosive action of the said acids, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 16th day of  
100 April, A. D. 1889.

EMERY ANDREWS.

Witnesses:

STEPHEN MOORE,  
JAMES H. WILLIAMS.