UNITED STATES PATENT OFFICE.

ALBERT L. CLAPP, OF BRAINTREE, MASSACHUSETTS, ASSIGNOR TO HIDE-ITE LEATHER COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

PROCESS FOR THE PRODUCTION OF LEATHER-BOARD STOCK.

1,021,660. Specification of Letters Patent. Patented Mar. 26, 1912.

No Drawing. Application filed January 4, 1911. Serial No. 600,723.

To all whom it may concern:

Be it known that I, ALBERT L. CLAPP, a citizen of the United States, residing at Braintree, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Processes for the Production of Leather-Board Stock, of which the following is a specification.

My present invention pertains to an improved process for the production of stock to be employed in the manufacture of leather-board, and has for its main object the production of a filler which, when mixed with a mass of fibrous leather, will produce a substantially waterproof leather-board which, in addition to being substantially waterproof, will be firm and pliable and possess a body texturally capable of taking and holding a good finish.

The essence of the present invention resides in the employment of cellulose as a filler, and in treating the cellulose pulp in such a manner as to completely waterproof the finished leather-board of which the treated cellulose forms a constituent.

Any kind or grade of cellulose fiber may be used in carrying out the process, such as sulfate fiber pulp, soda pulp, rag stock or paper stock, beaten out to a fibrous pulp.

Preferably, the process will be carried out as follows: Cellulose, say 500 pounds, is beaten out with a sufficient quantity of water to produce a pulpy mass. This mass is then treated with an emulsion, preferably formed of elements some of which are inherently waterproof in their nature, as for instance: 50 parts of mineral oil, 75 parts of rosin, 50 parts of red oil or stearin, 25 parts of soda ash, together with water to render the emulsion sufficiently fluid. This compound, which forms a fatty emulsion, is preferably heated and prepared in a receptacle independent of the pulpy mass, and after being prepared is added to the cellulose stock, (which has been previously beaten up) and mixed therewith. After being mixed with the cellulose, a suitable precipitant, such as aluminum sulfate, say to the amount of 150 pounds, is to be added, which causes a precipitate to be thrown down from the emulsion, the precipitate covering the fibers of the cellulose, and being insoluble renders said fibers substantially waterproof. When the precipitation is completed, the pulpy mass is then dumped into a beater-load of, say, 1000 pounds of leather fiber. The leather and the cellulose fibers are then thoroughly mixed and afterward formed into board in the usual way.

From the foregoing it will be noted that the precipitation takes place upon the cellulose fibers, and inasmuch as the precipitating agent expends itself upon the emulsion the leather fibers are unaffected and retain their natural properties. It may also be stated that the cellulose fibers are practically unaffected by the chemicals used and retain their elasticity and fibrous properties. The red oil above referred to is the equivalent of elain oil, or as it is sometimes commercially known, saponified red oil.

The finished board may be said to contain waterproof cellulose fibers, mixed with natural leather fibers, the cellulose fibers being sufficiently waterproof to render the entire board substantially waterproof.

Having thus described my invention, what I claim is:

1. The process of producing stock for leather-board, which consists in waterproofing cellulose fibers, and mixing such fibers with fibrous leather.

2. The process of producing stock for leather-board, which consists in precipitating upon the fibers of a mass of cellulose a waterproofing material, and mixing the cellulose thus treated with a mass of leather fibers.

3. The process of producing stock for leather-board, which consists in beating up cellulose, precipitating an insoluble compound upon the fibers of the cellulose stock, and adding the cellulose fibers thus treated to a mass of leather fibers.

4. The process of producing stock for leather-board, which consists in beating up a charge of cellulose, adding thereto a fatty emulsion, precipitating said emulsion, and adding the fibers thus treated to a mass of leather fibers.

5. The process of producing leather-board stock, which consists in beating out a charge of cellulose to produce a fibrous mass, adding to said mass an emulsion containing an inherently waterproofing material, precipitating said emulsion directly upon the fibers of the cellulose, and adding the waterproofed cellulose fibers to a charge of leather fibers.

6. The process of producing stock for leather-board, which consists in beating out a charge of cellulose to produce a fibrous mass, adding thereto an emulsion composed of mineral oil, rosin, red oil and soda ash; precipitating said emulsion upon the fibers by the addition of aluminum sulfate, and adding the fibers thus treated to a mass of fibrous leather.

7. As a new article of manufacture, leather-board comprising a body of fibrous leather having incorporated therewith waterproofed cellulose fibers.

8. As a new article of manufacture, leather-board comprising a body of fibrous leather having incorporated therewith cellulose fibers having deposited thereon a waterproof precipitate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT L. CLAPP.

Witnesses:
JULIA M. ENEGESS,
ALEX D. SALINGER