

UNITED STATES PATENT OFFICE.

ADDISON E. HALEY, OF KENNEBUNK, MAINE, ADMINISTRATOR OF
THOMPSON HANNA, DECEASED.

PROCESS OF MANUFACTURING PARCHMENTIZED PAPER-BOARD.

SPECIFICATION forming part of Letters Patent No. 510,421, dated December 12, 1893.

Application filed April 8, 1893. Serial No. 469,607. (No specimens.)

To all whom it may concern:

Be it known that THOMPSON HANNA, deceased, late a resident of Kennebunk, in the county of York and State of Maine, did invent during his life a new and useful Improvement in Processes of Manufacturing Parchmentized Paper-Board, of which the following is a specification.

This invention relates to the manufacture of parchmentized paper board known to the trade under the names "leatheroid," "vulcanized fiber," and various other coined names, and it consists in the process of forming parchmentized paper-boards by passing paper successively through a plurality of baths of parchmmentizing liquid of gradually diminishing strength, according to the kind or quality of paper being treated, then placing it in a bath of water to remove the chemicals, and then while still wet folding or placing a plurality of layers of said paper upon each other and uniting them by subjecting them to pressure between flat hot plates.

This invention further consists in the process of uniting parchmmentized sheets or layers of paper by placing a plurality of such sheets or layers, after the parchmmentizing chemicals have been removed, or their action neutralized by soaking in water, and while still wet, between sheets or layers of cloth or felt and subjecting the whole to pressure between flat heated plates. It has been found that a very much tougher and harder slab or board can be produced, by removing the chemicals or neutralizing their effects in the thin sheet and then while still wet placing a plurality of such sheets in a pile, one upon the other, by folding or otherwise, and subjecting them to pressure between heated flat plates, and also that a great advantage is obtained by placing said pile or plurality of layers between dry sheets of cloth or felt which absorb the moisture from the parchmmentized sheets and thus very materially assist in the proper compacting and uniting of said sheets in a single homogeneous slab or board.

It is well known that slabs or boards have been formed by winding the paper as it passes out of the parchmmentizing bath upon a heat-

ed roll and beneath another heated roll, but this is done before the chemicals have been removed, or their action neutralized, and if very thick boards were made they were not satisfactory for the reason that it was very difficult to remove the chemicals, or neutralize their action, and the board was injured by the continued action of the parchmmentizing liquid on the center of the board. Another objection to this way of forming the board is that when a thick board is formed by winding the sheet upon a cylinder or roll, thus first forming a tube and then cutting said tube apart, on a line parallel to its axis, and opening it out to form a flat sheet, the board is not easily changed from its curved or tubular form, to a flat sheet, and must necessarily be subjected to a heavy pressure to produce the desired result, and then one side of the board or slab will have a smaller area than the other side, which involves some loss of material.

In carrying out this invention the paper is passed through a plurality of baths of parchmmentizing liquid of varying degrees of strength, commencing with that of greatest strength, and finishing with that of least strength.

By the employment of this improved process these several objections are entirely obviated and a great saving is made in the time required to produce boards of considerable thickness, and a harder and tougher board results therefrom.

It should be understood that in this specification wherever the word "paper" is used, cellulose is meant, whether in the form of paper or otherwise.

What is claimed is—

1. The process of forming parchmmentized paper boards, which consists in passing the paper successively through a plurality of baths of parchmmentizing liquid of varying degrees of strength, first through that of greatest strength and last through that of least strength; then placing it in a bath of water to remove the chemicals, and then, while still wet, folding or placing a plurality of layers of said paper upon each other, and uniting them by pressure and heat.

2. The process of forming parchmmentized

paper board, by passing paper successively
through a plurality of baths of parchementiz-
ing liquid of varying degrees of strength, be-
ginning with the bath of greatest strength
5 and finishing with that of least strength; then
placing it in a bath of water to remove the
chemicals, and then while still wet folding,
or placing a plurality of layers of said paper
between sheets or layers of fibrous material,
10 and subjecting the whole to pressure between
heated flat plates.

In testimony whereof I have signed my
name to this specification, in the presence of
two subscribing witnesses, on this 28th day of
March, A. D. 1893.

ADDISON E. HALEY,

*As Administrator of the estate of Thompson
Hanna.*

Witnesses:

GEORGE BONSER,

FRANK M. BONSER.