

UNITED STATES PATENT OFFICE.

ANDERS JOHN OSTBERG, OF ST. KILDA, VICTORIA, AUSTRALIA.

METHOD OF MANUFACTURING SUBSTITUTES FOR LEATHER-BOARD.

976,827.

Specification of Letters Patent.

Patented Nov. 22, 1910.

No Drawing.

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To all whom it may concern:

Be it known that I, ANDERS JOHN OSTBERG, a subject of the King of Great Britain, residing at No. 10 Balston street, St. Kilda, in the State of Victoria and Commonwealth of Australia, have invented an Improved Method of Manufacturing Substitutes for Leather-Board, of which the following is a specification.

Leather-board as is well known consists of a composition of leather scraps and paper material ground together and rolled out into sheets. It is largely used in the manufacture of the cheaper class of boots and shoes, the insoles, quarters or counters, and the lifts of the heels thereof being composed of the material in question.

My invention has been devised in order to provide a substitute for such leather-board, which while being cheaper to manufacture, possesses many advantages over the material it is intended to supersede.

In carrying my method into effect I take the waste pieces of tanned hides such as the neck and knee portions together with waste scrap leather (hereinafter called "leather waste") from boot-making and similar manufactories and pass same through an ordinary leather splitting machine in order to reduce them to thin slivers about one thirty-sixth of an inch in thickness. The next step is to remove as far as possible the tannic acid from the leather waste and make it more amenable to subsequent treatment. I preferably effect this by soaking it for about 15 minutes in a chlorid of lime solution composed of 1 ounce of chlorid of lime dissolved in 150 ounces of water. While in this solution it is advisable that the leather waste should be occasionally stirred.

The leather waste on removal from the chlorid of lime solution is partly dried and then soaked for from 5 to 10 minutes until saturated, in an adhesive composition compounded as follows:—I take 4 pounds of flour and 2 quarts of cold water and stir well until it is formed into dough. I then add $3\frac{1}{2}$ gallons of boiling water by pouring it slowly on the dough, the mass being kept stirred until it is reduced to a thin paste. I next take four ounces of boracic acid and dissolve same in 1 pint of boiling water. 3 pounds of gelatin and 8 ounces of gum arabic are then dissolved in 4 gallons of boiling

water and added to the solution of boracic acid. This is then intimately admixed with the paste prepared as before described.

The leather waste on removal from the herein described composition is passed between ordinary wringer rollers to squeeze out the superfluous composition and then laid layer upon layer upon a galvanized iron tray, the upper surface of which is covered with canvas. When sufficient material has been placed upon the tray to constitute a sheet of a predetermined size and thickness it is subjected in a hydraulic press to a pressure preferably of 700 pounds to the square inch and allowed to remain under this pressure for not less than 30 minutes. On removal from the press the material which now constitutes a practically solid sheet is placed in drying racks until partly dried, and then passed between heavy calendering rollers, which thoroughly consolidate the pieces of waste leather of which the sheet is composed, and at the same time give to both faces of the sheet a smooth surface.

When the sheet has become thoroughly dry it is preferably coated on both sides with a waterproofing solution composed as follows:—3 pounds of glue are soaked for 24 hours in limewater and then heated to boiling point. 1 gallon of double boiled linseed oil and 4 ounces of boracic acid are then added, and the whole boiled for 10 minutes, the solution being stirred all the time. The solution is applied to both sides of the sheet by means of a brush and in addition to waterproofing it, gives it a finished appearance.

In lieu of making my substitute for leather-board wholly of leather waste, it may be made up of alternate layers of leather waste and leather "skivings." When "skivings" are to be used, they, like the leather waste are first treated in the chlorid of lime solution, partly dried, and subsequently soaked in the adhesive composition prior to being built up into a sheet.

I would have it understood that I do not confine myself to the specific proportions of the ingredients set forth in this specification as they may be varied without departing from the essence of the invention.

What I claim as my invention, and desire to secure by Letters Patent is:—

The improved method of manufacturing

a substitute for leather-board consisting in
reducing leather waste to slivers about one
thirty-sixth of an inch in thickness, remov-
ing the tannic acid therefrom, partly drying
5 said slivers, saturating them with an ad-
hesive composition, extracting the superflu-
ous adhesive composition therefrom, laying
the said slivers layer upon layer to consti-
tute a sheet of a predetermined size, sub-
10 mitting to pressure, partly drying the sheet

produced and subsequently calendering
same.

In testimony whereof I have hereunto set
my hand in presence of two subscribing wit-
nesses.

ANDERS JOHN OSTBERG.

Witnesses:

WALTER S. BAYSTON,
FRANK BAYSTON.