

UNITED STATES PATENT OFFICE

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TREATING OF ANIMAL-SKIN PRODUCTS

No Drawing. Original application filed May 24, 1929, Serial No. 365,780, and in Italy July 14, 1928. Divided and this application filed July 15, 1930. Serial No. 468,122.

This invention relates to a process of treating animal skin materials or animal skin products, as distinguished from the treatment of wool, hair, etc., and has for one of its objects the provision of a process adapted for utilizing scraps and cuttings from tanned hides, whereby such materials may be converted into a useful and valuable product which in appearance, fibrous texture and flexibility resembles natural leather.

It will at once be apparent that my invention is of great economical value in that it salvages or utilizes materials which heretofore have generally been converted into glues or fertilizers or simply thrown away.

In the practice of my invention the material to be treated, such as cuttings and scraps from chrome tanned leather for instance, is first subjected to a preliminary neutralization if the acid has not yet been eliminated from the material, by treatment with a neutralizing agent such for example, as an alkaline salt of a weak acid, neutrol for example, a composition two-thirds bicarbonate of soda and one-third sodium sulphate, borate of sodium, sodium hyposulfite, bicarbonate of soda, either separately or combined, at a temperature between 30° and 60° C., for example.

The material is then washed and mechanically and intimately admixed with water until a slurry with the fibers of the material in suspension is obtained.

To this slurry I add a grease or oil of such a nature as to be capable of emulsifying when added to the slurry, an example of a suitable grease or oil being chromine, this material being added at a temperature between 30° and 60° C. In order that the fibers of the material ultimately may be bonded or united to each other I add a suitable binding material containing a water insoluble binder to the slurry, the binding material being miscible with water prior to coagulation of the binder; this binder may be indiarubber latex, gutta percha latex, balata latex or the like as obtained from the trees and which may have been preserved by ammonia or any other suitable alkaline preserving material. A synthetic latex or other binding material

containing a water insoluble binder and in suitable condition for incorporation in the slurry may be substituted for the latices above mentioned.

As a preservative for the latex, when latex is employed as a binder, a vegetable tannage such as sumac is added to the slurry.

The slurry is now deposited upon a suitable perforated support such as a wire gauze and the liquid of the slurry abstracted so that a sheet of fibers is obtained containing a water insoluble binder. The material may then be rolled and pressed and subjected to the usual finishing operations employed in the finishing of natural leathers.

Inasmuch as the liquid of the slurry is finally abstracted, as above pointed out, I may add to the slurry a material such as commercial sodium chloride which contains magnesium and calcium chloride and other impurities, the addition of this material promoting the abstracting of the liquid of the slurry and being of material advantage in the making of sheets of substantial thickness.

I have found also that sodium chloride or an equivalent thereof added directly after the latex and before abstracting the liquid improves the process and the product.

It will be understood that the amount of sodium chloride, or the like, employed will vary depending upon the material being treated and upon the separation or abstracting of the liquid of the slurry that is desired.

I find that in the practice of my invention some care must be exercised so as not to allow coagulation of the binder employed to proceed to a detrimental degree before the liquid of the slurry is abstracted, inasmuch as such detrimental coagulation renders the final steps of the process as well as the properties of the finished product unsatisfactory. When employing latex as a binding material I prefer to abstract the liquid of the slurry within an hour of the addition of the binding material.

This application is a division of my co-pending application Serial No. 365,780, filed May 24, 1929.

What I claim is:—

1. The process which comprises treating

mineral tanned animal skin products with a neutralizing agent, washing, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease and thereupon a water insoluble binder and a preservative therefor, and then abstracting the liquid from the slurry.

2. The process which comprises treating mineral tanned animal skin products with a neutralizing agent, washing, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease, vegetable tannin and latex, and abstracting the liquid of the slurry.

3. The process which comprises treating mineral tanned animal skin products with an alkaline salt of a weak acid, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease, a water insoluble binder and a preservative therefor, and then abstracting the liquid from the slurry.

4. The process which comprises treating mineral tanned animal skin products with a composition $\frac{2}{3}$ bicarbonate of soda and $\frac{1}{3}$ sodium sulphate, washing, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease, a vegetable tannin and latex, and abstracting the liquid of the slurry.

5. The process which comprises treating mineral tanned animal skin products with a neutralizing agent, washing, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease, sodium chloride, a water insoluble binder and a preservative therefor, and abstracting the liquid from the slurry.

6. The process which comprises treating mineral tanned animal skin products with a neutralizing agent, washing, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease, vegetable tannin, latex and sodium chloride to the slurry, and abstracting the liquid of the slurry.

7. The process which comprises treating mineral tanned animal skin products with an alkaline salt of a weak acid, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the ani-

mal skin products in suspension is obtained, adding a grease, a water insoluble binder, a preservative therefor and sodium chloride to the slurry, and abstracting the liquid of the slurry.

8. The process which comprises treating mineral tanned animal skin products with a composition $\frac{2}{3}$ bicarbonate of soda and $\frac{1}{3}$ sodium sulphate, washing, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease, vegetable tannin, latex and sodium chloride to the slurry, and abstracting the liquid of the slurry.

9. The process which comprises treating mineral tanned animal skin products with a neutralizing agent at a temperature between 30 and 60° C., washing, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease, a water insoluble binder and a preservative for the binder, and then abstracting the liquid from the slurry.

10. The process which comprises treating mineral tanned animal skin products with a neutralizing agent, washing, effecting an intimate admixture of the material thus obtained and an aqueous medium until a flowing slurry with the tanned fibers of the animal skin products in suspension is obtained, adding a grease at a temperature between 30 and 60° C. and thereupon a water insoluble binder and a preservative therefor, and then abstracting the liquid from the slurry.

This specification signed this 21st day of June, 1930.

ANTONIO FERRETTI.