

## 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. 468,126.

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 vegetable 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 be appreciated that my invention is of great economical value in that it salvages or utilizes material which heretofore generally has been converted into glues or fertilizers or simply thrown away.

In the practice of my invention the vegetable tanned fibers of the material being treated are intimately admixed with an aqueous medium until a thin flowing slurry of the fibers in aqueous suspension is obtained. The proportion of aqueous medium to the material being treated is necessarily large so as to obtain the desired thin flowing mass or slurry.

To this slurry I add a mineral tanning agent having a chrome base such as chromine or other tanning agent containing chromium, followed by the addition of a neutralizing agent such as bicarbonate of soda, borate of sodium, etc., a suitable fiber lubricant or grease such as an oil or grease which is emulsifiable in water, a sulfurated oil for example, a suitable binding material containing a water insoluble binder, the binding material being miscible with water prior to the coagulation of the binder, such as india rubber latex, gutta percha latex, balata latex, or the like, as obtained from the trees or plants 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 which is in suitable condition for incorporation in the slurry may be substituted for the latices above mentioned.

I also add a preservative for the binding material, which preservative may take the form of vegetable tannin. Among the vegetable tannins I preferably employ those of

the pyrogallie series, more particularly sumac.

Inasmuch as the liquid of the slurry must be abstracted in the further practice of my process I add to the slurry a material such as commercial sodium chloride, 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 find also that if sodium chloride is added directly after the latex and before abstracting the liquid, the process and resulting product are materially improved.

After the above steps, the slurry is caused to flow upon a finely perforated support such as a wire gauze and the liquid of the slurry abstracted so that a sheet of fibers is obtained with the fibers disposed in felted relation. The material thus obtained is then rolled and pressed and subjected to the usual finishing operations employed in the finishing of natural leathers.

It is to be understood that the amount of sodium chloride employed will vary depending upon the material being treated and also depending upon the separation or the abstracting of the liquid of the slurry that is desired in the production of a sheet-like fibrous mass.

I find in the practice of my invention that some care must be exercised not to allow coagulation of the binder employed to proceed to a detrimental degree before abstracting the liquid of the slurry, inasmuch as such detrimental coagulation renders further processing and the properties of the finished product unsatisfactory. For example, 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 to the slurry.

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 adding a tanning agent and a grease to a flowing aqueous slurry containing the fibrous portions of vegetable tanned animal skin products in



suspension, adding a water insoluble binder and a preservative therefor, and abstracting the liquid of the slurry.

5 2. The process which comprises adding a grease, a mineral tanning agent and a neutralizing agent to a flowing aqueous slurry containing the fibrous portions of vegetable tanned animal skin products in suspension, adding latex, and abstracting the liquid of the slurry.

10 3. The process which comprises adding a tanning agent and a grease to a flowing aqueous slurry containing the fibrous portions of vegetable tanned animal skin products in suspension, adding a water insoluble binder, 15 a preservative therefor and sodium chloride, and abstracting the liquid of the slurry.

20 4. The process which comprises adding a grease, a mineral tanning agent and a neutralizing agent to a flowing aqueous slurry containing the fibrous portions of vegetable tanned animal skin products in suspension, adding latex and sodium chloride to the slurry, and abstracting the liquid of the 25 slurry.

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

ANTONIO FERRETTI.

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