

## UNITED STATES PATENT OFFICE

ANTONIO FERRETTI, OF MILAN, ITALY, ASSIGNOR TO SOCIETÀ INVENZIONI BREVETTI  
ANONIMA TORINO, OF TURIN, ITALY

## 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. 468,124.

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 untanned hides and scraps and cuttings therefrom, 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 apparent 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 untanned 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, a fiber lubricant and a suitable binding material containing a water insoluble binder, the binding material being miscible with water prior to the coagulation of the binder, for example indiarubber latex, gutta percha latex, balata latex, or the like, as obtained from 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.

When latex is used as a binding material I avoid the vulcanizing treatment otherwise required for preserving the latex by adding a vegetable tannin such as those of the pyrogalllic series, more particularly sumac, to the slurry, this it being understood in addition to the mineral tanning agent above mentioned. As a mineral tanning agent or material I can employ particularly those containing chromium.

A suitable fiber lubricant, i. e., a grease emulsifiable in water is added to the slurry either before, during or after the addition of the tanning agent and always before adding the binding material.

Upon the addition of the binding material to the slurry the binder thereof is precipitated upon the fibers being treated.

Inasmuch as the liquid of the slurry must be abstracted, in the further practice of my process I may add to the slurry a material such as ammonium chloride or the like, the addition of this material promoting the extracting of the liquid of the slurry and being of material advantage in the making of sheets of substantial thickness. In other words, the addition of ammonium chloride directly after the latex and before abstracting the liquid of the slurry improves the process and the product.

The slurry is then caused to flow upon a perforated support such as a wire gauze and the liquid of the slurry abstracted so that a sheet of fibers is obtained. This material 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 ammonium chloride employed will vary depending upon the material being treated and also depending upon the separation or 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 so as 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. As 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.

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What I claim is:—

1. The process which comprises adding a mineral tanning agent and a grease to a flowing aqueous slurry containing the fibrous portions of untanned animal skin products in suspension, adding ammonium chloride, a water insoluble binder and a preservative therefor to the slurry, and abstracting the liquid of the slurry.

2. The process which comprises adding a mineral tanning agent and a grease to a flowing aqueous slurry containing the fibrous portions of untanned animal skin products in suspension, adding ammonium chloride, rubber latex and a preservative for the rubber of the latex to the slurry, and abstracting the liquid of the slurry.

3. The process which comprises adding a mineral tanning agent and a grease to a flowing aqueous slurry containing the fibrous portions of untanned animal skin products in suspension, adding ammonium chloride and thereupon a water insoluble binder and a preservative therefor to the slurry, and abstracting the liquid of the slurry.

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

ANTONIO FERRETTI.

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