

UNITED STATES PATENT OFFICE.

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PROCESS OF REMOVING HAIR FROM HIDES OR SKINS.

No Drawing.

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In unhairing hides or skins the process usually followed entails the use of lime or other substances in such form as to have the effect either of partly destroying or of so damaging the hair which is removed, that its value is diminished.

Our present invention consists in following or carrying out such a process as will enable us to make use of substances in such a form as will not damage either the hair or the hides or skins, thus said hair when removed will retain its natural properties so that its future or subsequent treatment is not in anyway interfered with and this we have found to be of great importance and value with respect to wool removed from the skins of sheep as well as with mohair and the like.

In carrying out our process we make use of the known active principles of a substance called "thrombase" (which is normally present in or within all dead skins or hides) in conjunction with means for controlling the actions of putrefactive bacteria which are normally present on the outside of said hides or skins.

We employ any of the well known kind of unhairing pits or tanks with steam pipe or other suitable apparatus for heating the contents of same and maintaining said contents at the desired temperature hereinafter given.

It is desirable that the pits or tanks should be provided with removable covers although the use of same is not absolutely essential.

The hides or skins are placed directly into the unhairing pit prior or subsequent to the placing therein of the liquor for treating same. Each hide or skin when placed in the pit ought to be suspended therein, by any well known means, so that the liquor in the pit may have access to all the outer surface thereof.

To prepare the liquor we add to each fifteen pounds of flowers of sulphur (or other form of sulphur in fine powder) ten gallons of boiling water and to this mixture we add fifteen pounds of quicklime (or its equivalent in slaked lime) and boil the whole for one hour. We allow the heavier matter to settle and then we run off the clear liquor which is of a deep orange colour and

should have a specific gravity of about 1.120 when cold.

If the gravity is higher, we add cold water, if it is lower we take less water in the first place or we reduce the water by boiling.

To each thousand gallons of water placed in the unhairing pit we add from one to ten gallons of the orange coloured liquor (prepared as above explained) according to the characteristics or condition of the skins, hides or tails to be treated as the "thrombase" varies in amount as will be found in practice. To this mixture we add from five to fifteen gallons of ordinary commercial liquor ammonia of a specific gravity of about .9 according to the conditions of putrefactive infection and temperature.

The quantity of ammonia used depends on the temperature at which the unhairing is carried out and this temperature may range from about 45 degrees centigrade down to about 10 degrees according to the result required, the higher the temperature the quicker is the result attained. As the ammonia plays no part in the actual unhairing, but preserves the hides from the actions of the putrefactive bacteria, it is obvious that the amount of said ammonia depends on the temperature of the compounded liquor, the higher the temperature the more will be the added ammonia.

We are aware that it is possible to produce in other ways a compound or mixture of sulphur calcium and ammonium but we prefer the method stated. The skins may be subjected to the above treatment until they are in the desired condition for pulling or unhairing which may be from about six hours to two or three days depending on the amount of thrombase in the skin.

The substances used and compounded as hereinbefore described have given desirable results at the approximate temperatures and within the time or duration of treatment stated, but we are aware that the said proportions and the period of treatment may be considerably varied without departing from the nature of our invention.

By following our process in the treatment of sheep skins we have found the wool to be removable without damage to the grain and without that deterioration of the

wool which takes place in the ordinary process of fellmongering with powerful caustics.

Such being the nature and object of our said invention what we claim is:—

5 1. The process of removing hair from hides or skins consisting in subjecting same to the actions of a liquor consisting of water, sulphur, lime and ammonia, substantially as described.

10 2. The process of removing hair from hides or skins, consisting in immersing the same in a liquid bath consisting of a water dilution of a boiled solution of powdered sulphur, water, and quicklime, and main- 15 taining the bath at a predetermined temperature.

20 3. The process of removing hair from and treating hides or skins, consisting in immersing the same in a liquid bath consisting of a boiled solution of powdered sulphur, water, and quicklime, to which water and ammonia have been added, and main- 25 taining the bath at a predetermined temperature.

4. A bath for removing hair from hides and skins, consisting of a liquor derived from powdered sulphur, boiling water, and quicklime, boiled and diluted with water.

5. A bath for removing hair from and 30 treating hides and skins, consisting of a liquor derived from powdered sulphur, boiling water, and quicklime, boiled and ad- mixed with water and ammonia.

6. A bath for removing hair from and 35 treating hides and skins, consisting of powdered sulphur, water, quicklime, and ammonia.

7. A bath for removing hair from hides and skins, consisting of the following in- 40 gredients in substantially the proportions named; 15 pounds of powdered sulphur, 10 gallons of boiling water, and 15 pounds of quicklime, the resultant liquor being added to water in the proportion of from 45 1 to 10 gallons to 1000 gallons.

8. A bath for removing hair from and treating hides and skins, consisting of the following ingredients in substantially the 50 proportions named; 15 pounds of powdered sulphur, 10 gallons of boiling water, and 15 pounds of quicklime, the resultant liquor being added to water in the propor- 55 tion of from 1 to 10 gallons to 1000 gallons, and from 5 to 15 gallons of ammonia being added to the whole.

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