

UNITED STATES PATENT OFFICE.

JOHN BARRON, OF CINCINNATI, OHIO.

IMPROVEMENT IN PROCESSES FOR SOFTENING DRY HIDES.

Specification forming part of Letters Patent No. 127,947, dated June 18, 1872.

SPECIFICATION.

I, JOHN BARRON, of the city of Cincinnati, Hamilton county, and State of Ohio, have discovered an Improved Process of Softening Dry Hides, &c.

Nature and Objects of my Invention.

The following described process applies to hides, skins, and peltries.

It is known to tanners that serious inconvenience exists in all the processes heretofore known or used for the purpose of softening dry hides, &c. The process of softening hides most commonly in use consists in immersing them in a bath of water, together with various subsidiary aids, such as scraping, beating, &c., all well known to tanners.

The most serious inconveniences experienced in this mode is the well-known liability of the hides, &c., to putrify before they are sufficiently softened to be ready for the lime process. In my process this inconvenience is remedied by the use of antiseptics. Another serious objection to the use of this process is that in cold weather the amount of time required for the softening process is so great as to be a serious loss to tanners. This is remedied in my process by the use of an alkaline solution for removing the dry fatty matters adhering to the hides, and thereby permitting free access of the softening agents to the hides, &c. In the use of this, too, it was necessary that the hides, &c., should be "worked" or "scraped" by manual labor. In my process this is entirely dispensed with.

Another advantage of my process, as compared with the above, is that there was very great risk in utterly destroying hides, &c., if attempt was made to soften them during very warm weather; and tanners always assumed, from their experience of it, that with the greatest care a certain proportion of the hides, &c., would be rendered useless, while, upon the other hand, with my process hides may be softened with impunity in any weather, and, if they be intelligently handled, without danger of injuring a single hide or part of a hide that was sound when the process commenced.

The only process other than the above known to me to have been heretofore used was the addition of a strong alkaline solution, but this

was never in general use, because it injured the fiber of the hide, which defect is entirely obviated in mine by using a weaker alkaline solution in combination with antiseptics.

Description of Process.

The agents that I have discovered to be the most effectual in accomplishing the above results are: Waste gas-water—the refuse liquid of gas-works in the refining process—either alone or slightly diluted with water; gasoline, diluted with water in about the proportion of one part gasoline to twenty parts water, (exactly the best proportion cannot be definitely stated, inasmuch as the proportion will vary according to circumstances, such as the character of the hides and the state of the weather, &c. The above proportions will generally answer, but may with safety be somewhat varied by making it slightly less diluted in winter and more diluted in summer;) and coal-tar or dead oil. This substance, however, will not answer when taken alone, nor is it sufficiently soluble in water to be made available with water only. To be used effectively it must, by the aid of an alkali, be dissolved in water. Caustic soda will answer as the alkali for the above purpose; and the following proportions will give beneficial results, but may be varied, as above described, with reference to gasoline—to wit: five gallons coal-tar oil, three pounds caustic soda, and one hundred gallons of water.

Each of the above mixtures contains substantially similar active agents—to wit, water, alkaline matter, and antiseptics. The alkalies of the above are mainly ammoniacal salts in solution. The antiseptics consist principally of carbolate and cresylate of soda.

The action of the above is as follows: The water is the principal softening agent; the alkalies remove the fatty parts of the hide, removing shell, and have a peculiar softening effect upon the hide, and, when taken in connection with the action of the antiseptics, have no injurious effect upon their tissue. The antiseptics preserve the hides, &c., from putrefaction while undergoing the above process, and by being to some extent incorporated into the tissue of the hides preserve them from putrefaction for a greater length of time after they have been softened—in case it does not

go immediately into the lime—than any process heretofore known.

When the liquor has been mixed in the vat, as above substantially described, the hides are immersed therein, and are to receive substantially the same treatment, as regards stirring, mixing, &c., that they would receive under the old processes, and to remain therein until they are sufficiently softened. The time required for softening will vary in the same manner, though not to so great an extent as in the old processes, and will, the year round, require on an average not more than one-half of the time required by the process above described and now in general use.

In addition to the advantages heretofore stated, arising by virtue of the use of my process, it may be stated that hides softened as above require less time for the subsequent stages of tanning, and it is believed make bet-

ter leather than when softened by the processes heretofore known.

I am aware that refuse gas-lime has been used for depilating hides; but this material is not the same in its nature or effect as that employed by me. The object of my invention is to soften the hides preparatory to their being subjected to any depilating process. I, therefore, do not claim refuse gas-lime or other materials used in that process; but

Claim.

I claim—

As an improvement in the art, the use of the above-described materials or their equivalents, substantially as and for the purpose described.

Witnesses:

JOHN BARRON.

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