UNITED STATES PATENT OFFICE.

JOHN W. SCOTT, OF ALBIONVILLE, QUEENSLAND.

PROCESS OF CURING HIDES OR SKINS FOR TRANSPORT.

SPECIFICATION forming part of Letters Patent No. 602,476, dated April 19, 1898.

Application filed April 13, 1897. Serial No. 632,015. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN WILLIAM SCOTT, of Albionville, Burnett River, in the Colony of Queensland, have invented a certain new and useful Improvement in Processes of Curing or Preserving Hides or Skins for Transport, as a Preliminary to Tanning, or for Manufacture, of which the following is a specification.

The invention relates to a certain new or improved process for curing or preserving hides or skins, and is applicable for (*a*) transportation of fur-skins, nats, &c., (*b*) tanning purposes, and (*c*) the manufacture of belting and belt-laces, &c.

The object of the invention is the curing of hides or skins in a cheap and effective manner; and it consists in steeping the hides or skins in a mixture of molasses and water.

(*a*) For the treatment of hides for transportation, instead of salting them, as is the general practice, I put the fresh hides (after cleaning them by removing the blood, loose bits of skin, &c.) into pits or vessels containing a solution of molasses and water. This mixture may vary in strength from, say, one per cent. to thirty per cent., according to the rapidity with which it is desired to treat the skins; but with a ten-per-cent. mixture it will be found that the skins are cured in about seven days. While in the liquor the skins should be turned over at least twice a day and kept under the liquor. Fermentation sets up about the third day (but is dependent upon the condition of the hides or skins) and continues for two or three days, at the end of which period the skins may be removed and hung up to dry. When dry, they may be folded up, tied in bundles, and shipped. None of the insects that attack salted hides will be found to touch the skins treated by my process.

In the case of fur-skins they may be treated as ordinary skins. All that is necessary after removing them from the mixture of molasses and water is to clean the fur by any suitable method.

(*b*) When my process is used as a preliminary to tanning, it will be found that the tanning process is greatly accelerated and the consumption of tanning liquor greatly reduced.

In carrying out my process for the purpose of tanning the skins should be limed and bated in the usual way, after which they should be treated in a suitable mixture of molasses and water, as before described, the time occupied by this treatment being dependent on the strength of the mixture of molasses and water. When fermentation has stopped, the hides may be removed and subsequently put in the tan-pits, when it will be found they readily take the tan liquor and are completely tanned in a very short period. After removal from the tan-pits the hides may be dressed and finished by any known processes.

(*c*) In carrying out my invention for the purpose of manufacturing certain classes of leather, such as belting or laces, &c., the hides or skins are first limed and bated in the usual manner, or may be dehaired or prepared in any approved way, and afterward treated with the solution of molasses and water mixed in the proportion of one part of molasses to ten parts of water. For the first few days the liquor should be kept at a density of about 19° on a saccharometer (Baumé.) After two or three days fermentation sets up and continues for two or three days, and when it subsides the density of the liquor may be allowed to go to 10.5° or 11°. At this stage the hides may be removed and dried. For use as belt-laces, &c., all that is now necessary is to rub the hides well with grease or oil. For other work they may be treated as desired.

Throughout this specification the term "molasses" is used as referring to the waste products of sugar mills or refineries, or to synthetically or artificially prepared molasses, or to mixtures of one, two, three, or four of the constituent organic bodies present in molasses, or any other inverted or invert sugar or sugars which will undergo lacteous or butyrous fermentation in presence of animal membranes—viz., hides, fur-skins, &c.

It will of course be understood that the ingredients may be varied in accordance as it is desired to accelerate or retard the process of curing or preserving.

In order that my process may be clearly understood, I may say that the chemical or fermentative action which takes place between

the hide or fur-skin and the solution (molasses and water) is a lacteous or butyrous fermentation which when completed no putrescent medium is present in the hide or fur-skin, the same having been replaced by alcohol, butyric acid, ethyl butyrate, &c., throughout the pores.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. The process of curing hides, skins or furs, whereby the fermentable matter present therein acts upon invert sugar to convert the latter into lactic or butyric acid by fermentation, and drying the hides, skins or furs, after fermentation ceases.

2. The process of curing hides, skins or furs, whereby the fermentable matter present therein acts, at normal temperature, upon invert sugar to convert the latter into lactic and butyric acid by fermentation, and drying the hides, skins or furs after fermentation ceases.

3. The process of curing hides, skins or furs, which consists in first freeing the same from blood and loose bits of skin, immersing them in a solution of a carbohydrate whereby the fermentable matter present in the hides, skins or furs acts upon such carbohydrate to convert it into lactic and butyric acid by fermentation, turning the hides or skins periodically in the liquor until fermentation ceases, and then drying them.

4. The process of curing hides or skins, which consists in first freeing the same from blood and loose bits of skin, immersing them in a solution of a carbohydrate whereby the fermentable matter present in the hides or skins acts upon such carbohydrate to convert it into lactic and butyric acid by fermentation, turning the hides or skins periodically in the liquor until fermentation ceases, then drying the same and treating the dried hides or skins with an oleaginous or fatty substance, substantially as and for the purpose set forth.

Signed at Brisbane, in the Colony of Queensland, this 16th day of February, 1897.

J. W. SCOTT.

Witnesses:
ALEX CORRIE,
CHARLES E. BERNAYS.