

UNITED STATES PATENT OFFICE.

CARL OTTO NATUSCH, OF HAMBURG, GERMANY.

PROCESS OF TANNING.

SPECIFICATION forming part of Letters Patent No. 662,804, dated November 27, 1900.

Application filed July 21, 1899. Serial No. 724,710. (No specimens.)

To all whom it may concern:

Be it known that I, CARL OTTO NATUSCH, a citizen of the Empire of Germany, residing at Hamburg, Germany, have invented certain new and useful Improvements in Processes of Tanning, of which the following is a specification.

Almost all the processes of quick tanning hitherto known furnish leather of inferior quality which is often made very heavy with chemical substances, such as metallic salts or the like. My new process, which may be easily and readily carried into effect without special apparatus, may be advantageously substituted for the usual tanning process which causes great loss of time and much trouble, and it produces a clear and soft leather of any kind and for any purposes equivalent to leather produced by slow-tanning processes. The process may be employed for producing any kind of thin or thick leather for manufacturing boots and shoes, belts, &c., and for all technical purposes. Thin hides for manufacturing, for instance, uppers of shoes may be perfectly tanned in three to ten days and thick cowhides in about twenty-one days.

Vegetable matter containing tannin—such as catechu, divi-divi, myrobalan, or the like—is submitted to decoction till a liquor of at least 4° (four degrees) Baumé is obtained, which liquor will be employed at a temperature of 36° to 42° Celsius. The proportions in which these substances are employed cannot be determined, as they are varied in accordance with the quality thereof; but the resultant liquor must be of a strength of at least 4° (four degrees) Baumé. Said liquor at 36° to 42° Celsius is poured into wooden vessels, and the prepared hides are then hung or laid therein, and the liquor is allowed to cool (to about 12° to 18° Celsius) and afterward heated again to 42° Celsius by leading steam or pouring fresh hot liquor into the vessels. After restoring the temperature and again cooling a solution in about two cubic meters of water of one kilogram potassium dichromate is added to each one thousand to fifteen hun-

dred liters of the liquor, and the whole then left until a perfect tanning is obtained—that is, during three to twenty-one days, as afore-stated.

The alternate heating and cooling of the liquor enables one to produce fine, soft, and smooth leather which could not be produced if the liquor were maintained at a temperature of 42° Celsius, in which case hard breakable leather is obtained. The length of the immersion is determined approximately, the complete tanning being ordinarily obtained in one to three days, in accordance with the thickness of the hides.

Thin hides serving to produce leather for fine uppers of shoes or boots are dipped without further addition into the liquor which remains after the execution of the process above described, said liquor is heated two or three times, and a complete tanning will be obtained in three to ten days. This is not covered by any claim.

By the above process a considerable saving of tannin containing materials, time, and work will be obtained, and a high-grade leather produced which is almost equal to that produced by slow-tanning processes. The foregoing process enables one to produce any kind of light-colored, soft, and flexible leather, as well as hard rigid leather, for any purposes.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The process of quick tanning which consists in immersing the hides in a decoction of tanning containing materials at a temperature of 36° to 42° Celsius, of about the strength specified; cooling the same; restoring the temperature and again cooling; adding a solution of potassium dichromate to the said liquor and allowing the hides to remain in the resulting solution till the hides are completely tanned, substantially as described.

CARL OTTO NATUSCH.

Witnesses:

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GEO. LENDRÉ.