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PROCESS OF TREATING HIDES AND SKINS

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4 Claims. (Cl. 149—2)

The present invention relates to a process of treating hides and skins.

This application is a division of application Ser. No. 54,944, filed December 17, 1935, in the name of Christoph Thomsen et al.

We have found that hides and skins are improved by a treatment with basic compounds containing nitrogen and having a straight or branched, saturated or unsaturated carbon chain of at least 5 carbon atoms, or a cycloaliphatic ring containing at least 5 members, in the form of their addition salts. The carbon chain may be interrupted by other atoms or atom groups such as, for instance, by O, S, N, CO, CONH, but at least 5 carbon atoms must directly be connected with each other. The substitution products and derivatives of these bodies may also be used.

As such compounds there may, for instance, be named: primary, secondary and tertiary amines, amino-oxides, imidazoles, imidazolines, pyrimidines; furthermore imido-ethers, imido-thioethers and amidines, the last three obtainable, for instance, according to the copending applications Ser. Nos. 751,252 and 751,253, filed November 2, 1934, in the name of Alfred Eckelmann and Ernst Koch, furthermore substituted ureas, thioureas, guanidines and carbaminic acid esters.

There may be used, for instance, the addition salts of the following bodies: octylamine, dodecylamine, stearylamine, the technical fatty amines such as, for instance, mixtures of amines prepared from coco-nut oil fatty acid, palm nut oil fatty acid or from technical stearic acid, the amines made from technical montanic acid or naphthenic acid, abietylamine, para-octylaniline monomethyl-stearylamine, octylglucamine, monooleylhydroxy-propylene-diamine, stearoyl-diethyl-ethylenediamine, decylhexahydrophenylamine, N-octylaniline, N-stearyl-para-phenylene-diamine, N-dodecylnaphthylamine, dodecylfurfurylamine, dimethyldodecylamine, dodecylmethylglucamine, asymmetric ethyloctyl-ethylenediamine, N-dioctylaniline, dimethyldodecylamine oxide; furthermore N-methylstearbenzimidazole, N-dodecylacetbenzimidazole, N-stearoylhydroxy-ethylacetbenzimidazole, laurimidazoline, N-dodecylpyrimidine, stearimidomethylether, laurimidobutylether, the imidoisobutylether of coconut oil fatty acid, benzimidodecylether, acetimidostearylether, stearimidomethylthioether, stearamidine, the amidine of palm nut oil fatty acid, symmetrical and asymmetrical steardiethylamidine, steardiethylaminoethylamidine, stearethylamidine, monostearylurea, asymmetrical dodecylaminoethylurea, asymmetrical decylmethylolurea, N-stearyl-N'-diethylaminoethylurea, dodecylthiourea, symmetrical dioctylguanidine, diethylaminoethylcarbaminic acid stearylester, N-dodecylpiperidine, beta-stearylaminopyridine. As salts there may be used, for instance, the chlorides, sulfates, formates or acetates of these bodies.

There may also be used the mixtures of these products with each other or with other products, for instance: mixtures of stearimidomethyl ether hydrochloride and stearamidine hydrochloride or stearimidazoline hydrochloride, or mixtures of dodecylurea with steardiethylamidine hydrochloride, of stearic acid diethylamide with stearamidine hydrochloride.

Insofar as these bodies are liquid, they may be used without application of solvents, otherwise they may suitably be used in the form of an aqueous solution, or in case they are not sufficiently soluble in water in the form of an emulsion. If necessary, they may be applied in conjunction with organic solvents, oils and the like or with dispersing agents.

The said products are well absorbed by hides and skins. They may be applied before or during the tanning process. The leathers and furs which have been prepared from hides and skins either pre-treated with the said products or in the presence of the said products, have an agreeable soft feel. The tanning process takes place more uniformly and more rapidly. The products, furthermore, prevent in many cases deleterious influences on the fiber, and, with the aid of these products, there may be obtained leathers of very good resistance to tearing. Since many of these products are fast to light, they may be used with great advantage for the manufacture of leathers fast to light, especially white leathers. The products may also be used for treating hides and skins which are not intended to be worked up immediately, for instance, by tanning. The products have a preserving action and protect the fiber from detrimental influences; furthermore it has proved in many cases that the skins

or hides thus treated may again very easily be soaked, if necessary, with addition of other soaking agents.

The following examples serve to illustrate the invention, but they are not intended to limit it thereto; the parts are by weight:

(1) 100 parts of goat skin are shaken for 20 hours with a solution of 20 parts of diethylaminoethylcarbaminic acid stearyl ester hydorchloride in 300 parts of water; 9 parts of a formaldehyde sclution of 30 per cent. strength are then added and shaking is continued for a further day. A feebly yellow, somewhat fatty leather of very good resistance to tearing is obtained.

(2) 80 parts of calf-skin are first pre-treated with a solution of 8.5 parts of steardiethylamidine hydrochloride and 3.5 parts of dodecyl urea in 250 parts of water. Subsequently, 3 parts of acetaldehyde are added to this liquor and the skin is then after-drummed for a short time. A soft, feebly yellow leather of very good resistance to tearing is obtained.

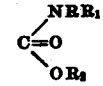
We claim:

1. The process which comprises treating untanned hides and skins with the salts of basic compounds having the general formula:



wherein X stands for OR_3,NR_2R_3, Y stands for O, S, NH, NR_4; R, R_1, R_2, R_3, R_4 being members of the group consisting of hydrogen, aliphatic radicals with a straight chain, aliphatic radicals with a branched chain and radicals having a cycloaliphatic ring, at least one of the substituent radicals in said basic compound having at least 5 carbon atoms.

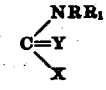
2. The process which comprises treating untanned hides and skins with the salts of carbaminic esters of the general formula:



wherein R, R_1, R_2 stand for members of the group consisting of hydrogen, aliphatic radicals with a straight chain, aliphatic radicals with a branched chain and radicals having a cycloaliphatic ring, at least one of them having at least 5 carbon atoms.

3. The process which comprises treating untanned hides and skins with diethylaminoethylcarbaminic acid stearyl-ester hydrochloride.

4. Hides and skins, which have been improved by treating the untanned materials with the salts of basic compounds having the general formula:



wherein X stands for OR_3, NR_2R_3, Y stands for O, S, NH, NR_4; R, R_1, R_2, R_3, R_4 being members of the group consisting of hydrogen, aliphatic radicals with a straight chain, aliphatic radicals with a branched chain and radicals having a cyclo-aliphatic ring, at least one of the substituent radicals in said basic compound having at least 5 carbon atoms.

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