

UNITED STATES PATENT OFFICE.

ANDREW DIETZ, OF NEW YORK, N. Y.

IMPROVEMENT IN TANNING.

Specification forming part of Letters Patent No. 30,392, dated October 16, 1860.

To all whom it may concern:

Be it known that I, ANDREW DIETZ, of the city and State of New York, have invented or discovered a new and useful Process or Method of Tanning Skins, Hides, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof and of its mode of operation.

The distinguishing features of my invention consist in swelling the tissues of the skin previous to and during the process of tanning by the use of saline liquors, so as to fit the skin to receive the tannic material, and in using, in connection with the substances employed to swell the tissues, tannic liquors of different and increasing strengths, whereby the center or inner parts of the skin are tanned as quickly, or nearly so, as the outer surfaces and the whole tanned in much shorter time than by the ordinary methods. The skin to be tanned is first unhaired and prepared for tanning in any of the usual methods. The process of tanning is then as follows: With any tannic substance I make a weak liquor—say from 5° to 10° strong as measured by the barkometer—and in such liquor I put salt and alum, in about the proportion of two ounces to the gallon, and stir and mix the whole well together. In this liquor the skin is first immersed and frequently handled or stirred. The strength of the tannic properties of such liquor is, however, to be increased from 3° to 4° per day, (as measured by the barkometer,) such increase to be made at three or four different times and in proportional degrees or parts, and as often as so increased the skin is to be well stirred and handled.

The length of time during which the skins are to be continued in such liquors will of course vary according to their thickness. Ordinary sheep-skins will be tanned in two or three days, while calf-skins will require about eight days. For heavy leather—such as harness-leather, cowhide, &c.—thirty to thirty-five days will be necessary, and for sole-leather from forty to forty-five days will be required. For the heavier skins, also, the strength of the tannic liquors may be somewhat greater, and for such skins the strength of the tannic liquor need not be increased so frequently during the day; but such increase need be made but once a day. The effect of the saline substances or

liquors is to swell the tissues of the skin and cause them to retain their loose and spongy nature, and thus fit them to best and quickest receive the tannic material or acid, which will penetrate the skin more readily than if its pores and interstices were occupied by mere water. By using, also in connection or combination with such saline substances, a weaker tannic liquor at the beginning of the process of tanning and then stronger and stronger liquors, the outer surfaces of the skin are not, as in the ordinary methods of tanning, tanned most rapidly, and thereby the pores partially or mostly closed before the inner parts of the skin are changed into leather; but the inner parts of the skin are reached by each liquor, such liquors appearing to act upon the principle of displacement, and are charged with the tannic acid, and thus tanned as rapidly, or nearly so, as the outer surfaces.

It is a well-recognized fact that liquids of different densities have a strong tendency to mix with and diffuse themselves through each other, and by reason of this tendency there is, so to speak, a continued current or movement of the different liquids through the skin, thereby not only tanning the inner parts of the skin as fast, or nearly so, as the outer surfaces, but also rendering more rapid the whole process or operation of tanning and making it more complete and perfect.

I prefer to use the salts above named, which also may be used separately.

By this improved process of tanning, as above described, I therefore prepare the skins by the use of the saline solutions so that they will best receive the tannic acid, and then, by the use of weaker and afterward stronger and stronger tannic liquors I both hasten the process of tanning and also cause the process to take place in the inner parts as fast, or nearly so, as in the outer surfaces.

What I claim as my invention, and desire to secure by Letters Patent, is—

Tanning leather by the use of saline solutions, as set forth, when used in combination with tannic liquors of different and increasing strengths, for the purposes set forth.

A. DIETZ.

Witnesses:

S. D. LAW,
HOWARD BIRD.