

UNITED STATES PATENT OFFICE.

GEORGE PILE, OF BLOUNTVILLE, TENNESSEE, ASSIGNOR OF TWO-TWELFTHS OF HIS RIGHT TO W. D. HAYNES, OF SAME PLACE.

IMPROVEMENT IN TANNING.

Specification forming part of Letters Patent No. 114,596, dated May 9, 1871.

To all whom it may concern:

Be it known that I, GEORGE PILE, of Blountville, in the county of Sullivan and State of Tennessee, have made a new and useful Improvement in Tanning; and I hereby declare the following to be a full, clear, and exact description of the same.

Take the hides or skins and prepare them for the lime by breaking or flushing and soaking as in the ordinary mode, with this exception, that all the water is to be extracted therefrom by the use of the tanner's knife or by any machinery appropriate for the purpose, and in this condition put them into strong lime-water, and, the pores being entirely empty, they absorb the lime-water very rapidly; and they must be hauled out or stirred frequently. When sufficiently limed, unhair and flesh, by which process the water is again extracted from the pores, and in this condition put them into the bate and work in the ordinary mode till sufficiently bated; then take them out and work them on a tanner's beam or table on both sides with a tanner's knife, or by any machinery appropriate for the purpose, until all the water, with all other foreign substances, is entirely extracted from the pores of the skins or hides, and in this condition, with the pores perfectly open and empty, work them into the handler of strong tan-ooze, which is very rapidly absorbed by the empty pores; and for this reason the po-

sition of the skins or hides should be frequently changed by stirring and handling.

By this process the lime-water, the bate, and the tan-ooze more especially, are readily and rapidly absorbed into and permeate the pores and fibers of the skins or hides, and these processes of liming, bating, and more especially that of tanning, are performed in from one-fourth to one-tenth the usual time. Less material is used, less labor expended, and the quality of the leather is improved.

By my process, without the use of any chemicals or materials other than those used in an ordinary old-fashioned tan-yard, I can tan good sole-leather in from thirty to forty days, upper leather in ten to twenty days, calf-skin in ten to fifteen days, and sheep and other light skins in four to six days.

I claim as my invention or discovery and wish to secure by Letters Patent—

The mechanical process of working the hides and skins into the lime, the bate, and the tan-ooze, after having extracted all the water and other foreign substances from the pores thereof, substantially as and for the purpose hereinbefore set forth.

April 17, 1871.

Witnesses:

FRANKLIN GAINES,
F. H. MATTHEWS.

GEORGE PILE.