

# UNITED STATES PATENT OFFICE.

JOHN A. J. SHULTZ, OF ST. LOUIS, MISSOURI.

## IMPROVEMENT IN MANUFACTURING LEATHER.

Specification forming part of Letters Patent No. 180,947, dated August 8, 1876; application filed April 19, 1876.

*To all whom it may concern:*

Be it known that I, JOHN A. J. SHULTZ, a resident of St. Louis, State of Missouri, have invented a new and useful Improvement in the Method of Manufacturing Leather, of which the following is a full, clear, and exact description:

Heretofore, in making leather, it has been customary to thoroughly tan the hide through and through, the hide for this purpose being immersed in tan-liquor for several months, and even years. Prepared in this way, the interior of the hide is tanned uniformly with the surface. The strength, however, of such leather compared with that of the raw hide is diminished.

When, on the other hand, to preserve the original strength of the raw hide the skin is not tanned at all, but is simply fulled, curried, and stuffed, it is made pliable and measurably water-proof. The product, however, is lacking in body and finish, and is not durable.

The present invention relates to an improved method of preparing leather, by means whereof leather is not only produced much quicker and more economically than by the usual process, but the product itself is especially valuable in combining the strength of the raw hide and the durability, pliability, body, and finish of the ordinary tanned leather.

My improved process is as follows: The hides are prepared, in the usual way, by sweating them, or soaking them in lime-water. Having been suitably bated and worked, they are then put in tan-liquor, as if for the regular tanning process, where they are kept and handled until plump, and until any lime or foreign substance is neutralized, and for, say,

eight or ten days, the bath being of the strength generally used in the initial stages of tanning.

The period of immersion varies somewhat according to the weight of the hide and the strength of the liquor; and it can be shortened by employing machinery to agitate the hides during their immersion. This produces a partial tanning of the hide—that is, it is tanned in slightly from its surfaces, while the stratum between the surface-layers of the hide is not tanned, but only brought sufficiently under the influence of the tannin to prevent any tendency to decomposition. This, however, is insufficient to impair the original strength of the hide. This interior stratum can be reduced in thickness by keeping the hide longer in the tan-liquor. After taking the hides from the bath they are dried, and, when dry, they are dampened, fulled, or softened, and stuffed in fulling-stocks, such as are generally used by tanners, or in any machine that will do such work, and are then curried, set out, and dried, as with ordinary leather.

In stuffing I use the usual materials, and, preferably, tallow, tar, and oil. In this manner a very superior article of leather is obtained, and one which, among other uses, is particularly valuable for belting, lace-leather, and harness-leather.

What I claim is—

As a new article of manufacture, leather having tanned surfaces and an interior of pliable raw hide, substantially as described.

JOHN A. J. SHULTZ.

Witnesses:

SAML. S. BOYD,  
CHAS. D. MOODY.