

# UNITED STATES PATENT OFFICE.

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

## IMPROVEMENT IN MANUFACTURING FULLED RAWHIDE.

Specification forming part of Letters Patent No. **187,492**, dated February 20, 1877; application filed July 11, 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 Fulled Leather, of which the following is a full, clear, and exact description.

The present invention is an improvement in the method of manufacturing what I term fulled leather.

I first soak the hides in clear water, as usual. They are then soaked in lime-water and un-haired. They are then bated, and, if the product is intended for lacing, very thoroughly, but if intended for belting they are bated but little, and, preferably, in cold water. I then, preferably, dip the hides in a weak solution of alum and sulphuric acid, (which aids in more thoroughly neutralizing the lime and foreign substances that may be present,) after which the hides are hung up and thoroughly dried. They are then fulled and stuffed, and, preferably, with tallow and tar, when they are ready for use. The fulling is, preferably, done in a special machine designed for the purpose, and described in Letters Patent No. 177,576, granted me May 16, 1876. The dried greased hides are worked in the machine until the fiber of the hide is thoroughly broken, and the hides made soft and pliable.

Several important advantages accrue from the above-described method. By using lime

to remove the hair the weight of the hide is not reduced as it is when the hair is removed by sweating. The product, therefore, is comparatively heavier, and more durable than that from sweated hides. An effect, also, of the liming is to distend the hide, and from having been once distended the fulling and stuffing can afterward be accomplished more readily and effectually. Further, that loss arising from the frequent spoiling of the hides during the sweating process is obviated. The product, finally, is more in substance like ordinary tanned leather. The process pursued, however, is, on the other hand, materially unlike ordinary tanning. After liming, the hides in the present process are thoroughly dried, as otherwise it would be impracticable to full them, as above described, and the fulling and stuffing of the present improvement are substantially in lieu of the tanning in making ordinary leather. Compared, therefore, with the latter the present process is much cheaper, and its product is much stronger.

What I claim is—

The improved process in preparing fulled rawhide, consisting of liming, bating, and drying the hides, and then fulling and stuffing them, all as set forth.

JOHN A. J. SHULTZ.

Witnesses:

CHAS. D. MOODY,  
W. H. ARENDT.