Patented Mar. 22, 1927. 1,621,612

UNITED STATES PATENT OFFICE.

JOHN K. TULLIS, OF NEW YORK, N. Y.

PROCESS OF TANNING.

No Drawing. Application filed October 3, 1923. Serial No. 666,250.

Heretofore in certain tannage processes, especially those carried on by the use of vegetable tanning extracts, the operation is slow requiring several months for its completion. Besides, it is found that after the hides have remained in the tanning liquors for some time a sludge is formed resulting in a considerable waste of material. It is well known that the first part or about the first half of the tanning process gives far less trouble than the latter part of the process. The hides are first treated with a weak or dilute tanning liquor then with a stronger one and so on progressively until they are finally subjected to the liquor of the desired strength or concentration.

By my process I am enabled to utilize the preliminary or first part of the tanning operation with weak liquors, which is the least troublesome, and then by a simple change or improvement I save much of the time heretofore required for the remainder of the operation and avoid the difficulties that have been encountered and the loss of materials that has been experienced, and at the same time I obtain a very plump leather of good quality in a very much shorter time than the former process required.

In carrying out my process I first subject the hides prepared in the usual way to a mild tannage in weak tanning liquors of from about 15° BKr to 45° BKr, more or less, until they become partially tanned and I may continue this until the tanning operation is about half finished. The liquors used for this purpose may be those of the well known sorts such as vegetable tanning extracts.

After this partial tanning operation has progressed to the desired extent the hides are drained and then dried in any convenient manner until they reach what is familiarly known as a bone dry condition. Some partially tanned hides, in what is known as the bone dry condition, may still contain as much as about 8% of water by weight.

After having been dried the leather or partially tanned hides are placed in a wheel or drum, such as is ordinarily used in tanning leather, with about 50% of its weight of warm strong tanning extract say of about 20° Bé., more or less. For this purpose I may use concentrated vegetable extracts such as chestnut, quebracho, mangrove, oak bark treated sulphite cellulose or any of the tanning liquors usually employed for tanning purposes. The leather is treated in the rotating wheel or drum with the concentrated tanning liquor until the tanning liquor becomes absorbed by the leather which usually requires about one or two hours depending upon the sort of leather being treated and the extent of the preliminary tanning operation. In this way a saving of about two months' time in the tanning process is effected and the formation of sludge and the waste of materials in the tanning liquor is avoided. At the same time the leather is found to be much more firm and plump than when the regular tanning process is followed. I prefer to introduce the leather into the warm concentrated tanning liquor in the drum while the leather itself is still warm from the drying operation.

The immediate step of thoroughly drying after the partial tanning operation appears to facilitate the process and cause the advantageous results above enumerated.

I claim:

1. The process which comprises partially tanning hides in a weak tanning liquor until they are about half tanned, drying to a bone dry condition, and then completing the tanning in strong tanning liquor.

2. The process which comprises partially tanning hides in a tanning liquor of about 15° BKr to 45° BKr, drying to a bone dry condition, and then completing the tanning in a more concentrated liquor.

3. The process which comprises partially tanning hides in a weak tanning liquor, drying to a bone dry condition, and then treating them for about an hour and a half in a drum containing strong tanning liquor.

4. The process which comprises partially tanning hides in a weak tanning liquor, drying to a bone dry condition, and then completing the tanning in about half its weight of strong tanning liquor.

5. The process which comprises partially tanning hides in a weak tanning liquor, drying to a bone dry condition, and then completing the tanning in about half its weight of strong tanning liquor in a rotating drum.

In testimony whereof I affix my signature.

JOHN K. TULLIS.