

UNITED STATES PATENT OFFICE.

WILLIAM HOLMES TEAS, OF RIDGWAY, PENNSYLVANIA.

METHOD OF TREATING PARTIALLY-TANNED LEATHER.

No. 916,057.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed January 27, 1908. Serial No. 412,882.

To all whom it may concern:

Be it known that I, WILLIAM H. TEAS, a citizen of the United States, residing at Ridgway, in the county of Elk and State of Pennsylvania, have invented a new and useful Method of Treating Partially-Tanned Leather, of which the following is a specification.

This invention relates to a method of treating partially tanned leather.

The modern method of tanning heavy leather is to tan the hides in vats with an active tanning material and, after the hides are colored through, to place them in a revolving wheel with a concentrated tanning extract in order to assist in the mechanical absorption of the extract by the partially tanned leather to increase its weight and also to complete the tanning operation. This procedure is commonly practiced, but that which differentiates the present method from that above outlined is that after the hides have been subjected to any active tanning material and have been "struck through", or colored from surface to surface by the tanning solution, the now partially tanned leather is removed to the revolving drum or wheel and is subjected, while undergoing agitation, to the action of an agent consisting of an extract derived from the waste sulfite liquors coming from sulfite wood-pulp factories, and having a specific gravity from 1.10 to 1.35. This range in the specific gravity has been found to meet all requirements that arise including different kinds of partially tanned leather. It has been ascertained that if the specific gravity be below the minimum stated, there will not be sufficient weight in the concentrate to make the filling operation pay, and the concentrate will be too thin, while if above the maximum limit prescribed, the concentrate will be too thick to enter the pores of the partially tanned leather. The revolution of the wheel causes the hides to absorb the extract and thus materially increase their solidity and weight. After a sufficient quantity of the extract has been absorbed, the leather is removed from the wheel, and is finished and dried in the usual manner.

With the above objects in view, the invention consists, generally stated, in impregnating partially tanned leather with an extract coming from waste sulfite liquors from sulfite

wood-pulp factories, or with an extract containing inert matter derived from waste sulfite liquors, having a specific gravity of from 1.10 to 1.35.

In carrying out the procedure, the hides are prepared for tanning in the usual manner and treated in vats or drums by any of the accepted commercial methods with an active tanning material until the hides have been "struck through", or colored from surface to surface, by the action of the tanning agent. The procedure, thus far, is not new, as it is daily practiced in the tanning industry. The hides, or now partially tanned leather, are removed to a revolving drum or wheel and an extract derived from the waste sulfite liquors coming from sulfite wood-pulp factories is pumped into the drum or wheel as the latter is revolved, and the mechanical agitation to which the hides are subjected causes them rapidly to absorb the extract, the result being that the solidity and weight of the leather are materially enhanced. After the leather has absorbed the proper amount of extract, it is removed from the wheel and finished and dried in the usual manner.

The constituents of the sulfite extract used, from a tanner's standpoint, are about as follows: total solids forty-eight per cent.; insoluble matter, one per cent.; tannin, or matters that will combine with rawhide, from eighteen to twenty-two per cent.; and non-tannins, from twenty-five to twenty-nine per cent. The non-tannins in this case consist of the sap and sugars of the wood, which have been treated with the sulfite liquor in the manufacture of the pulp, and will also contain sulfur compounds of these organic matters, and the small amounts of lime and free sulfurous acid which have not been removed by the process of clarification to which the liquor has been subjected before being made into extract, and before it reaches the tannery.

The advantage in employing purified concentrated waste sulfite liquor for filling leather is that it is cheap, being practically a waste product, and, further, its action is rapid, and thereby materially reduces the cost of the procedure.

I claim:—

1. The herein described method of filling

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leather, which consists in subjecting the partially tanned product to the action of waste sulfite liquors coming from sulfite wood-pulp factories and having a specific gravity of from 1.10 to 1.35.

2. The herein described method of filling leather, which consists in subjecting the partially tanned product to agitation and to the action of waste sulfite liquors coming from sulfite wood-pulp factories and having a specific gravity of from 1.10 to 1.35.

3. The herein described method of filling leather, which consists in subjecting the partially tanned product to the action of concentrated waste sulfite liquors coming from

sulfite wood-pulp factories and having a specific gravity of from 1.10 to 1.35.

4. The herein described method of filling leather, which consists in subjecting the partially tanned product to agitation and to the action of concentrated waste sulfite liquors coming from sulfite wood-pulp factories and having a specific gravity of from 1.10 to 1.35.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM HOLMES TEAS.

Witnesses:

M. J. GARRITT,
J. F. SISLEY.