

# United States Patent Office.

CHARLES F. PANKNIN, OF CHARLESTON, SOUTH CAROLINA.

Letters Patent No. 107,713, dated September 27, 1870.

## IMPROVEMENT IN TANNING.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, CHARLES F. PANKNIN, of Charleston, in the district of Charleston and State of South Carolina, have invented a new and improved Mode of Tanning; and I do hereby declare that the following is a full, clear, and exact description thereof.

The nature of my invention consists in the use of carbolic acid, combined with alum in suitable proportions hereinafter mentioned, in the process of tanning hides.

After the hides have been depilated by the usual well-known process, I treat them with a solution composed of carbolic acid and alum. I prefer to employ, say, ten (10) parts of alum and one-half ( $\frac{1}{2}$ ) part of carbolic acid, although I do not confine myself to these exact proportions, as a greater or lesser quantity of the carbolic acid may be used, according to circumstances.

For kid and other light skins, twenty-four hours' immersion in the solution above named will effectually tan them, but for heavy hides, a somewhat longer time will be required, according to the degree of thickness, firmness, and other conditions of such hides.

By the use of the solution of carbolic acid and alum for tanning, no change of color will be produced in the hides; hence the adaptability and value of such solution in the manufacture of leather, which is afterward required to be bleached, or to be artificially colored.

The improved solution will operate to loosen the fibers of the hides, and thus allow them to be permeated freely and quickly, and it will also increase the weight of the leather produced, without impairing its quality in the least degree.

Owing to the exceedingly small percentage of carbolic acid required in a given quantity of the solution, the expense of conducting the process will not be greater, if as great, as the expense of material and

time required under the old process. I use water as the solvent of the carbolic or phenic acid.

Some of the advantages attending the use of this compound are—

First, alum, with carbolic acid, will impart to the tanning-liquid greater density, and, hence, the more rapid infiltration.

Second, alum, with carbolic acid, has the property of loosening the fibers of the skin, and the gelatinous fibers become more thoroughly impregnated with the tanning-liquid.

Third, skins which are tanned with alum and carbolic acid are not changed in their color, nor does this liquid in any manner prevent the subsequent artificial coloring of the leather.

Fourth, in using alum with carbolic acid, a decomposition of the alum takes place, the base of the latter (the sulphate of alumina) uniting with the fiber, and the sulphate of potash remaining from the decomposition of the alum does not injuriously affect the fiber, which injury is apparent in leather made with metallic astringents, as, in this case, acid is liberated.

Fifth, leather made with carbolic acid and alum is light, and the surface presents, after finishing, a smooth and even appearance.

Sixth, and alum is far more economical than any other mineral astringent.

Having thus described my invention,

What I claim as new, and desire to secure by Letter Patent, is—

The use of carbolic acid in the process of tanning, substantially as described.

CHARLES F. PANKNIN.

Witnesses:

J. S. CAMPBELL,  
EDM. F. BROWN.