3. BLEACHING & DYEING; FLUID TREATMENT & CHEMICAL MODIFICATION OF TEXTILES & FIBERS,
94.27

UNITED STATES PATENT OFFICE.

ANTHONY J. PILAR, OF PHILADELPHIA, PENNSYLVANIA.

ART OF TANNING SKINS OR HIDES.

SPECIFICATION forming part of Letters Patent No. 715,139, dated December 2, 1902.

Application filed August 4, 1899. Serial No. 726,129. (No specimens.)

To all whom it may concern:

Be it known that I, ANTHONY J. PILAR, a subject of the Emperor of Austria-Hungary, residing at Frankford, Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in the Art of Tanning Skins or Hides; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the art of tanning skins and hides after the manner of chrome-tanning; and it consists in subjecting said skins and hides to the action of a compound of such a character that the tanning may be accomplished at a single operation, such method constituting what is known to the trade as a "one-bath" process.

The improved tanning compound used in carrying out my invention consists of the following ingredients in about the proportions named: bichromate of potash, one pound; hydrochloric acid, two pounds four ounces to three pounds; hyposulfite of soda, two pounds eight ounces to three pounds; water, one gallon.

The hydrochloric acid used is of the usual commercial strength, about 21° Baumé. The hyposulfite of soda $Na_2S_2O_3 5H_2O$ is in a crystalline state, and if it is dissolved before being added to the other ingredients the quantity of water used for such solution should be deducted from the amount noted above.

A liquor made in accordance with the foregoing formula constitutes what I term the "stock" solution, which is necessarily of too great a strength for the proper carrying out of the tanning operation.

To make a tanning-bath of the proper strength according to my improved process, I take one gallon of the stock solution made as above set forth and dilute the same with about five gallons of water.

I have discovered that I can produce better leather by the use of a liquor made as above described than has hitherto been produced by the use of any one of the ingredients forming my improved compound.

The reaction of the ingredients used in my improved tanning liquor produces chromium chlorid and chromium hyposulfite, the latter, however, being present in a comparatively small proportion. The changing into leather of the skins and hides is the result of the combined action of these two tanning agents upon such skins and hides, such action producing a better leather than has hitherto been possible to obtain with the known chrome-tanning processes.

My improved tanning process is mainly intended for use in connection with the manufacture of calfskin.

When tanning skins or hides of a fine or delicate quality, such as used for making glove-leather, it is preferable to reduce the strength of the hydrochloric acid. This may be done by adding to it eight ounces of water in which one ounce of bicarbonate of soda has been dissolved, or another way is to dissolve one ounce of bicarbonate of soda in eight ounces of water and add this to one gallon of the stock solution, which may afterward be diluted by the addition of five gallons of water to form the tanning liquor.

Chrome-tanning liquors being now well known in the art, it will be unnecessary to detail the action of such liquors upon the tissue of the skins and hides operated upon.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The art of tanning skins and hides by the combined action upon the same of chromium chlorid and chromium hyposulfite.

2. The art of tanning hides and skins by the combined action upon the same of chromium chlorid and chromium hyposulfite, such elements being formed by the reaction of an aqueous solution of bichromate of potash, hydrochloric acid and hyposulfite of soda.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ANTHONY J. PILAR.

Witnesses:
ERNEST SEYLER,
JOHN REIDIHOLD.