

UNITED STATES PATENT OFFICE.

RUDOLPH WAGER, OF LANCASTER, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND GUSTAVUS GROEZINGER, OF SAME PLACE.

IMPROVED LIQUID COMPOSITION FOR BATING SKINS AND HIDES.

Specification forming part of Letters Patent No. **38,267**, dated April 21, 1863.

To all whom it may concern:

Be it known that I, RUDOLPH WAGER, of Lancaster, in the county of Lancaster and State of Pennsylvania, have invented a new and improved mode for bating skins or hides after being limed preparatory to being tanned into leather; and I do hereby declare that the following is a full and exact description thereof, and consists mainly in the materials employed and degree of the strength of the solution in the bating tub or vat.

The skins or hides are first freed from the hair, flesh, and other extraneous appendages in the lime-vat in the ordinary manner, (taking care not to waste the gluten in that delicate process.) After the hides are thus limed it is customary in most tanneries to soak the skins from four to six days in water mixed with chicken-dung, a filthy and protracted process for removing the lime, endangering also the quality of the leather by excessive soaking. This process I perform in fifteen to twenty minutes by immersing the skins in the bate or liquor prepared as follows: For a batch of fifty sides or heavy hides for harness-leather I prepare a liquor thus: Take eight pounds of muriatic acid, (*Salzsäure*, Germ.,) the hydrochloric acid of commerce; eight pounds of aquafortis, commercial nitric acid, (*Salpetersäure*, Germ.,) and three pounds of common salt, muriate of soda, (*Kochsalz*, Germ.) These acids and salt are separately added to the water, and more water added until the liquid will indicate the specific density of 36° Baumé's hydrometer. Heavy hides immersed in this liquor for fifteen minutes, (though twenty minutes will do no damage.) The lime will be found expunged and the texture of the hide restored nearly to its condition prior to being limed and ready for being introduced to the tannin and the ordinary handling, the be-

ginning of the actual tanning. For kip and upper leather the bate is reduced to thirty degrees. For calf-skins the bate is still further reduced by water to twenty degrees. These data will suffice to enable any one skilled in the art of tanning to adapt the strength to the condition of the skins of various animals or qualities of weight. The same bating-liquor will answer for six successive batches of skins, or a proportionate trifling addition of the materials added will restore the specific gravity desired. The long bating is apt to induce fermentation, and a corresponding waste of gluten, which prevents the gain of nearly an equal weight of tannin which would otherwise have combined with the gluten and added to the specimen a firmer and closer texture, more solid, less pervious, vastly greater weight, and far more durable in the wear. Thus time is saved by accomplishing in fifteen minutes, by a clean, inoffensive liquid, at a trifling cost, what it usually takes from four to six days to effect amid stench and labor and producing better results, the value of which abundantly overpays the cost. Besides the skins are better fitted for the tan or ooze to be absorbed.

I am aware that chloride of lime and soda have been employed in the process of treating hides often without a proper knowledge and proportion.

What I claim as my invention, and desire to secure by Letters Patent, is—

The materials added to water in the formation of the bate in the manner substantially as set forth in the process of treating skins or hides for the purpose specified.

RUDOLPH WAGER.

Witnesses:

CHAS. R. FRAILEY,
JACOB STAUFFER.