

UNITED STATES PATENT OFFICE.

JOHN B. BOLLMAN, OF DAYTON, OHIO, ASSIGNOR OF ONE-HALF TO
THEODOR H. HUEWE, OF SAME PLACE.

METHOD OF AND SOLUTION FOR TANNING.

SPECIFICATION forming part of Letters Patent No. 262,924, dated August 22, 1882.

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To all whom it may concern:

Be it known that I, JOHN B. BOLLMAN, of Dayton, in the county of Montgomery and State of Ohio, have invented certain Improve-
5 ments in Methods of Tanning, of which the following is a specification.

My invention relates to a method of and solution or compound for tanning; and the essential feature of the invention consists in retaining the blood on the skins or restoring it
10 thereto if removed by any step of the process.

Hitherto it has been the practice in tanning to first wash or soak the hide or skin in water for the purpose of removing the blood therefrom,
15 then draining off the water and blood, and subsequently placing the skins or hides in a vat containing lime and water for the purpose of removing the hair. By the removal of the blood and the treatment in the lime-vat the
20 life of the skins or hides is destroyed in a great degree, and as a consequence it is difficult to produce a tough, pliable leather, or to secure a firm, smooth surface. By my plan, however, the life of the leather is preserved,
25 and as a consequence a tough leather, soft and pliable, yet possessing a firm, smooth surface, is produced.

In carrying out my invention I prefer to soak the skins or hides in water, as heretofore,
30 as I find that when this is done in connection with other steps of my process a finer article is produced than when the washing is omitted, as I propose in some cases.

The preferred manner of carrying out my plan may therefore be described as follows:
35 The hides or skins are first soaked in water to remove the blood and like adhering matter, after which they are removed from the water and drained off. The skins are then placed in
40 a vat containing water, lime, and blood in about the proportions of one bushel of lime and one and a half gallon of blood to fifteen barrels of water for the first supply or charging of the vat. As the water, lime, and blood
45 are absorbed, to a greater or less extent, it becomes necessary or desirable to replenish them after each stock of hides is removed, or, in other words, to maintain about the relative proportions stated.

50 It will be understood that the proportions of water, lime, and blood may be considerably

varied; but the formula given is preferred, being found in practice to give excellent results.

In some cases the first washing may be dispensed with and the skins placed at once into
55 the lime-vat, in which case, the skins already containing a considerable quantity of blood, the amount separately added to the water of the lime-vat may be materially lessened. While
60 so far as it goes I consider this plan the equivalent of the first, and as included within the limits of my invention, I do not deem it the full equivalent of the first-described method, because I find by actual experience that it does
65 not produce as fine a quality of leather. I have also found in practice that hides or skins treated in this way require a much less prolonged soaking in the tan-bark solution than hides treated in the old way, the difference in time
70 being as one and three, and from that to one and ten.

Leather prepared in accordance with my method is soft and pliable, yet tough and firm, and will not become rough with use or wear, and will shed or exclude water far more perfectly than leather prepared by other plans.
75 Again, I am enabled to accomplish the tanning operation with a far less quantity of bark than is required by other plans, from one-half to one-quarter the usual quantity being sufficient.

Under the ordinary plan of treatment the skins have to be taken from the lime-vat, worked or treated in one way and another, and replaced several times; and as very commonly
85 carried out the existing plans require the skins to be immersed and soaked for several days in a mixture or solution containing manure. Under my plan, however, the skins, when taken from the lime-vat, have the hair removed, and
90 are rinsed off and placed at once into the bark-liquor, from which they can be removed, completely tanned, after a few days, as against a long soaking and frequent handling under former methods. In other words, the presence
95 of the blood causes the hide to come from the lime-vat perfectly soft and flexible, without being worked, handled, or treated in any other way than mentioned. Besides decreasing the expense by reducing the required
100 quantity of bark and shortening the necessary period of immersion in the bark solution,

thus permitting other hides to be immersed therein, I also save a great amount of labor formerly required in handling the hides in the lime and bark-liquor vats.

5 I am aware that a bating mixture has been proposed, in which blood and ammonia were to be used (with or without sawdust and urine) with water; and I am likewise aware that it has been proposed to apply blood "at its stage
10 of separation from the *serum*" to skins or hides, and therefore I do not claim broadly the use of blood. My invention differs from the first of these plans in that, instead of being a bating solution, it is a depilating mixture designed to
15 render a bating solution unnecessary, by leaving the hides in a soft, pliable, and desirable condition, ready to be placed in the tan-vat. It differs from the second plan in that by the
20 use of lime the depilating action is materially hastened, while the presence of the blood prevents the injurious effects which would otherwise be occasioned by the lime.

Having thus described my invention, what I claim is—

1. The herein-described method of treating 25 skins, consisting in introducing them with blood into a vat containing lime and water, substantially as explained.

2. The herein-described method of treating skins, consisting in subjecting them to the ac- 30 tion of water, lime, and blood simultaneously, as explained.

3. The method herein described of treating skins, consisting in first soaking or washing them in water, and then immersing them in a 35 mixture of water, lime, and blood, in substantially the proportions stated.

4. A mixture or solution for the treatment of skins, consisting of water, lime, and blood, in about the proportions of fifteen barrels of 40 water to one bushel of lime and one and a half gallon of blood.

JOHN B. BOLLMAN.

Witnesses:

WILLIAM W. DODGE,
THEODOR H. HUEWE.