

UNITED STATES PATENT OFFICE.

ROBERT F. DOBSON, OF DARLINGTON, WISCONSIN, AND ISAAC DOBSON, OF
LINCOLN, NEBRASKA.

TANNING HIDES.

SPECIFICATION forming part of Letters Patent No. 236,559, dated January 11, 1881.

Application filed July 10, 1880. (No model.)

To all whom it may concern:

Be it known that we, ROBERT F. DOBSON, of Darlington, La Fayette county, Wisconsin, and ISAAC DOBSON, of Lincoln, Lancaster
5 county, Nebraska, have invented a new and useful Improvement in Tanning Hides; and we do hereby declare that the following is a full, clear, and exact description of the same.

Our invention relates to a new process of
10 tanning hides or skins, which involves comparatively little labor, time, and expense, and causes less injury to the fiber of the hides than is usually done by the ordinary tanning process and mode of manipulation, and the leather
15 produced by the process is also stronger and more durable, and at the same time superior in softness and suppleness.

In order to prepare a green hide for the tanning process proper, it is first cleansed and
20 limed for the purpose of removing the hair, then washed, fleshed, and shaved in the usual way. A bath is then prepared to receive the hides. It is formed of a mixture of two liquids, brine and tanning extract—that is to
25 say, to a saturated aqueous solution of common salt we add a strong infusion of oak or hemlock bark in about the proportion of three gallons of the latter to two hundred and forty gallons of the former. This ratio may be
30 varied according to the thickness of the hides or other conditions. The hides are immersed in such bath, and usually allowed to remain about five or ten days, the time being varied somewhat, according to the thickness of the
35 hides. The first day of this period the hides are drawn—*i. e.*, raised and turned or changed in position—two or three times, and about three gallons of fresh tanning extract are added to replenish the strength of the bath. The
40 hides are also drawn two or three times on each of the three following days, and about one-half gallon of the extract is added on each said day. The hides are drawn once a day on each of the following two or six days. The
45 hides are then taken out of the bath and scoured, and hung straight and smooth on poles, bars, or hooks in an air-tight compartment. An iron vessel containing a quantity of

and set on fire, the fumes rising and filling all
50 parts of the vacant space, and passing in contact with both sides of the hides and permeating the pores. The hides are allowed to remain in said compartment and thus immersed in the brimstone fumes from twelve to twenty-
55 four hours, according to the size or thickness of the hides—usually twelve hours will suffice. The hides are then taken from the compartment, placed on a table, and scoured lightly for the purpose of cleansing them. They are
60 then ready to be oiled, stuffed, or dubbed, and finished, which may be done in the usual way.

Skins intended for use as robes, furs, &c., are treated as above described, save that liming and unhairing are obviously dispensed with,
65 and the tanning extract may be left out of the bath, since it would discolor the hair.

If hides or skins are treated with brine alone, or sulphur fumes alone, they become
70 hard, stiff, and wrinkled, and cannot be rendered soft, supple, and otherwise suitable for use in boots, harness, &c., by any process of currying, beating, or rubbing. Moreover, if this result could be attained, even imperfectly—
75 *i. e.*, by mechanical manipulation or beating—the fiber of the hides would be injured and its tensile strength impaired; but when the hides are treated with both brine and sulphur fumes, (owing to some chemical change we are
80 unable to state,) they become entirely changed in character, being rendered extremely soft and supple, and also plump and white, besides better capable of resisting any tendency to decay. This action of the sulphur is, of course,
85 chiefly valuable in producing the desired softness and flexibility without any sort of mechanical manipulation, (rubbing, beating, &c.,) such as is usually relied on for the purpose. Such mechanical treatment not only involves
90 additional and increased expense, but, what is most objectionable, strains, ruptures, or breaks the fibers, so that the firmness, strength, and durability of the hide are considerably impaired. The tan extract increases the solidity and firmness of the leather, and deepens its
95 color, and assists in preventing decay.

The final result of our process may be stated as follows: We produce, with little labor and

at small expense and in a short time, an article of leather which is superior in pliability, strength, and durability.

What we claim is—

- 5 The improved process of tanning hides which consists, first, in immersing them for five or ten days, or thereabout, in a bath formed of strong brine and tanning extract; second, placing them in an air-tight compartment and sub-
10 jecting them to the action of fumes of sulphur

therein for twelve to twenty-four hours, or more, as hereinbefore set forth.

ROBERT F. DOBSON.

ISAAC DOBSON.

Witnesses to signature of Robert F. Dobson:

JAS. H. GRAY,

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Witnesses to signature of Isaac Dobson:

J. P. WALTON,

ADNA DOBSON.