

UNITED STATES PATENT OFFICE.

EARNSHAW BRADLEY, OF SAINT LEONARD, PROVINCE OF QUEBEC, CANADA.

IMPROVEMENT IN BLEACHING EXTRACT OF HEMLOCK BARK.

Specification forming part of Letters Patent No. **174,110**, dated February 29, 1876; application filed December 13, 1875.

To all whom it may concern:

Be it known that I, EARNSHAW BRADLEY, of the village of Saint Leonard, in the county of Nicolet, in the Province of Quebec, Canada, have invented certain new and useful improvements in the Manufacture of Extract of Hemlock Bark; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention consists in the bleaching of the ooze or the liquor of the bark, by bringing it into intimate contact with sulphurous acid. This may be done in many ways in which I claim no invention. But for the purpose of enabling persons to use my invention, I will describe one or two methods by which the same may be carried into effect.

The sulphurous acid will be generated in any suitable air-tight vessel, in the ordinary manner, into which vessel the air will be forced by any suitable means, such as a force-pump, &c. The vessel will also be provided with an exit-pipe placed opposite to the pipe through which the air enters from the pump, for the purpose of impregnating the air, as far as possible, with sulphurous acid. Or the inlet-pipe from the pumps may be attached at the bottom of the air-tight vessel, and the air caused to ascend through the chemicals, &c., from which the sulphurous acid is generated, the outlet-pipe being attached to the top of the vessel. This outlet-pipe will be carried to the bottom of the vat, situated in a suitably close locality or position, and filled with the ooze, where it will escape through a rose-head,

or similar contrivance, to divide it into small bubbles, and thus bring it into intimate contact with the liquor, through which the small bubbles will ascend, it being well understood that the parts of the apparatus will be formed of such materials as have no chemical affinity for the sulphurous acid, or for the tannic acid, contained in the ooze. Another plan would be to form the sulphurous acid in the vessel as above described, but, instead of using a force-pump, I provide it with an inlet-opening or pipe, and attach the outlet-pipe to the bottom of the vacuum-pan, there being a rose-head, &c., at the end, as before described. After the pan is filled with the liquor or ooze, the pump for forming a vacuum being set to work, the sulphurous acid may be drawn into the ooze, instead of being forced into it, as hereinbefore described. As soon as the liquor is sufficiently bleached, which will be ascertained by taking samples from the vat or vacuum-pan, as the case may be, the process of evaporation may at once be proceeded with in the ordinary manner if the ooze is to be concentrated.

What I claim is as follows:

As an improvement in the manufacture of extract of hemlock bark, bleaching the same by bringing the ooze or liquor of the bark into intimate contact with sulphurous acid, substantially as described.

EARNSHAW BRADLEY.

Witnesses:

O. G. C. SIMPSON,
E. L. STILWELL.