

UNITED STATES PATENT OFFICE.

GEORGE S. PRINCE, OF RICHMOND, VIRGINIA.

IMPROVEMENT IN PROCESSES FOR TREATING TOBACCO.

Specification forming part of Letters Patent No. **162,767**, dated May 4, 1875; application filed February 13, 1875.

To all whom it may concern:

Be it known that I, GEORGE S. PRINCE, of Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Mode of Curing and Brightening Tobacco, of which the following is a specification:

This invention consists in certain new and useful improvements in the treatment of the ordinary leaf-tobacco for the manufacture of smoking and chewing tobacco, the object being to soften and render the leaves pliable and elastic, to facilitate working, and to remove the green or dark colored sap which deteriorates the quality of the tobacco, and to bleach and brighten the color of the leaves, in order to make a superior and more marketable article, as will be hereinafter more fully described.

Heretofore, in the manufacture of tobacco, the leaves have been simply subjected to the action of sulphurous-acid gas, in connection with carbonic-acid gas, produced by burning sulphur and charcoal together, and subjecting the tobacco in a moistened state to the action of the products of combustion arising from the same. This process only partially accomplishes the result, owing to the fact that the leaf-tobacco of commerce is generally received in a dry and hardened condition, and cannot be sufficiently softened by the process of simply moistening it, as usually practiced, preparatory to subjecting it to the action of the sulphurous-acid gas; and further, such tobacco contains a large amount of natural gummy sap, which is not removed by the action of the sulphurous acid, but combines with it, forming insoluble compounds, which it is impossible to remove, and which hold and retain said gas in an uncombined state, rendering a subsequent treatment with alkaline solutions necessary to neutralize the free gas, which forms injurious alkaline salts in the tobacco, and renders it brittle and difficult to work in the remaining operations of the manufacture.

Sulphurous-acid gas has been long and well known as a bleaching agent, and used for bleaching tobacco, as well as other vegetable substances, for many years. Other bleaching agents—such as chlorine—would in a measure answer the purpose, in connection with the other steps of my invention; but I prefer

to employ sulphurous-acid gas, believing it to be better adapted to the work. The sulphurous acid, or other bleaching agent alone, would not accomplish the purpose, owing to the gummy sap which the tobacco contains, which has to be removed.

My invention is designed to overcome these objections; and it consists in steaming the tobacco in any convenient manner for a sufficient length of time to render the leaves pliable and elastic, and soften the gum, and in treating the leaves as thus prepared with a dilute solution of sulphuric acid, which has a strong affinity for and dissolves the natural gummy sap for the purpose of removing the same from the leaves, and toughening the same, as will be fully hereinafter described.

The tobacco thus treated is then thoroughly drained, and while still in a moist condition is subjected to the action of sulphurous acid, generated by burning sulphur in any convenient manner, and conducting the gas through or in close contact with the leaves. The leaves being thoroughly freed from all natural gummy sap by the first operation, are in a condition to be readily and thoroughly bleached by the gas, and are soon brought to a clear golden color, after which they are subjected to the action of heat, preferably by passing the products of combustion of burning charcoal through or in contact with said leaves, in order to dry the same. The latter process removes most of the sulphurous-acid gas; but in order to completely remove all traces of the same, and also any sulphuric acid which may remain from the first treatment, and also to render the leaves perfectly elastic and pliable, so that they can be conveniently worked, they are finally subjected to the action of steam for a suitable length of time, after which they are packed in bulk, when the tobacco is ready for the subsequent operations to prepare it for the market.

In carrying out my invention, the tobacco in leaf, with the stems, is placed in a box of any convenient size, sufficiently large, for instance, to contain, say, one hundred and fifty pounds, and steam is applied beneath or around the same by means of a coil, or in any other convenient manner, for about fifteen or thirty minutes, or until the leaves are perfectly soft-

ened, and rendered pliable. The leaves are then opened, and placed upon sticks, and are then bathed or soaked in a dilute solution of sulphuric acid in water, until thoroughly permeated by the same. The sulphuric acid having a great affinity for the natural sap of the tobacco, effectually removes the same, and by its well-known action upon vegetable fiber, renders the leaves extremely tough and admirably adapted to withstand the subsequent operations in the manufacture.

The leaves are then hung up and allowed to drain, until dripping ceases, after which they are placed in a close room, and subjected to the action of sulphurous-acid gas, generated from burning sulphur, until properly bleached, after which heat is applied, usually by introducing burning charcoal in place of the sulphur, until the leaves are dry. Steam is then let into the room, which removes all traces of sulphuric acid and sulphurous-acid gas, and softens the leaves, bringing them to the proper

condition for repressing; or other usual processes for preparing the tobacco for the market.

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

The method herein described of curing and brightening tobacco in the leaf, for the manufacture of chewing and smoking tobacco, by subjecting it successively to the action of sulphuric acid, for the purpose of removing the sap and toughening the fiber, and to the action of sulphurous-acid gas, for bleaching and brightening it, and then to the action of steam for removing the acids and their compounds, substantially as herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

GEORGE S. PRINCE.

Witnesses:

GEORGE W. CUSHING,
JAMES L. NORRIS.