

UNITED STATES PATENT OFFICE.

LÉON LOUIS JOSEPH PARANT AND ALPHONSE PETRUS PICHON, OF GENEVA, SWITZERLAND.

PROCESS OF DECOLORING TOBACCO-LEAVES.

No. 891,001.

Specification of Letters Patent.

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Application filed September 12, 1907. Serial No. 392,491.

To all whom it may concern:

Be it known that we, LÉON LOUIS JOSEPH PARANT, and ALPHONSE PETRUS PICHON, both of Geneva, Switzerland, manufacturers, have invented certain new and useful Improvements in and Relating to Processes of Decoloring Tobacco-Leaves, of which the following is a specification.

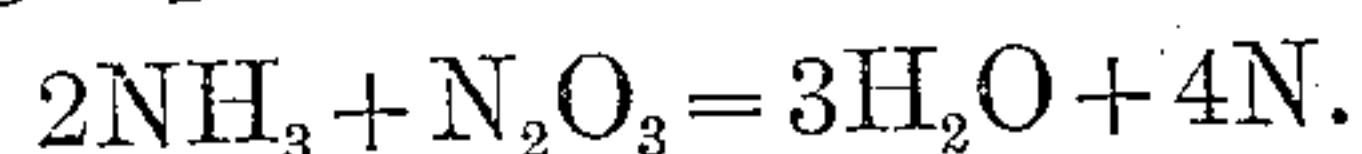
In decoloring tobacco leaves, chemical agents such as chlorin, sulfurous acid, ozone and the like, have already been used; but these agents all have a disadvantage in that they either damage the fragile tobacco leaves or spoil the aroma of the leaves with their own distinctive odors, or the processes in which they are employed are slow and expensive. As a decoloring agent also, diluted nitric acid may be considered. Where tobacco leaves are treated without or with this acid they are decolored, but the treatments are so long that the fragile leaves cannot resist the destructive effect of the nitric acid, and moreover the nitrates produced in the leaves in this treatment, render the tobacco injurious and consequently unfit to smoke.

Now the inventors of the process herein described have thereby succeeded in reducing the time of the treatment of tobacco leaves with nitric acid to a minimum, thus avoiding the destructive effect of the acid upon the fragile leaves by previously extracting by means of water the soluble matters of the tobacco, then treating the tobacco with the acid solution to effect the decoloration, and then restoring the soluble substances to the tobacco by a subsequent treatment as hereinafter described.

The tobacco leaves to be decolored are first immersed in water so that the soluble substances (salts) which are contained in the cells of the leaves, are extracted as far as possible. The tobacco juice obtained in this way is separated from the leaves by means of a centrifugal machine and kept for a later use. The leaves free of the liquid and of their soluble salts are now immersed in a bath which consists of pure nitric acid, without chlorin, preferably diluted with water and a part of the above cited tobacco juice. For this purpose advantageously nitric acid of 40° Baumé (density 1.3833) is diluted with 75 to 80% of its volume of water and tobacco juice. The addition of tobacco juice avoids the forming of a reddish color in the leaves,

which is produced when the extracted leaves are immersed only in dilute nitric acid without tobacco juice.

In treating the tobacco leaves with nitric acid, nitrous anhydrid N_2O_3 is formed, which produces nitro and nitroso products, which are detrimental to the tobacco and make it a poor color, so this formation of N_2O_3 must be avoided. The best way to accomplish this is the addition of nitrate of ammonia to the acid bath. The addition of a quantity of nitrate of ammonia equal to 15 per cent. of the acid employed, has been found to be the best proportion. The nitrate of ammonia destroys the N_2O_3 according to the following equation:—



The bath having the aforesaid composition is now heated to a temperature of 20° to 25° C. After four to six hours the tobacco leaves are suitably decolored, depending upon their thickness and natural color and they retain the color which was designed for them after having been taken out of the bath. This color may vary from light gray to brown. After being taken out of the acid bath the tobacco leaves are washed with water so as to take off any trace of free nitric acid and the liquid is drawn away by means of a centrifugal machine. In order to restore their aroma and soluble substances (salts) to the leaves, they must be immersed in the tobacco juice prepared before the decoloration. In this juice the cells of the leaves are filled again with the substances which are necessary for the combustion and the use of the tobacco leaves in the manufacture of cigars. But only the crystalloid bodies contained in the tobacco juice dialyze through the walls of the cells while the colloid bodies, which include the substances producing the brown color of the juice, only settle down on the surface of the leaves. When the leaves are fully saturated with the salts of the juice, they are again withdrawn from the liquid or the liquid drawn off by means of the centrifugal machine, whereupon the desired color of the leaves is obtained. Instead of using the juice of said tobacco leaves, the decolored leaves may be saturated by a juice made from the leaf stalks, which is less colored and has more aroma, or the tobacco juice originally ob-

tained may be decolored by any suitable means before the decolored leaves are treated therein.

The leaves which are decolored by the present process and which are still damp, are used in a day or two as cigar wrappers. By means of this process, nothing injurious is left in the leaves and a natural shade is imparted to the decolored leaves, while it does not at all deteriorate their structure, but on the contrary it tends to consolidate them,

We claim as our invention:

1. The hereinbefore described process of decoloring tobacco leaves, consisting in first immersing the tobacco leaves in water, then treating the tobacco leaves with a solution of nitric acid, water and tobacco juice, then draining and washing the tobacco leaves, and then immersing the tobacco leaves in a solution of decolored tobacco juice which

restores to them their aroma and properties of combustion.

2. The hereinbefore described process of decoloring tobacco leaves, consisting in first immersing the tobacco leaves in water, then treating the tobacco leaves with a solution of nitric acid, water, nitrate of ammonia, and tobacco juice, then draining and washing the tobacco leaves, and then immersing the tobacco leaves in a solution of decolored tobacco juice which restores to them their aroma and properties of combustion.

In testimony whereof we have affixed our signatures in presence of two witnesses.

LÉON LOUIS JOSEPH PARANT.
ALPHONSE PETRUS PICHON.

Witnesses:

FRANCIS B. KEENE,
L. H. MUNIER.