UNITED STATES PATENT OFFICE.

CHRISTIAN FRIEDRICH GLOYSTEIN, OF HENDERSON, KENTUCKY, ASSIGNOR TO AMERICAN NICOTINE COMPANY, OF HENDERSON, KENTUCKY, A CORPORATION OF KENTUCKY.

PROCESS OF TREATING TOBACCO-SCRAP.

1,078,427. Specification of Letters Patent. Patented Nov. 11, 1913.

No Drawing. Application filed April 8, 1912. Serial No. 689,414.

To all whom it may concern:

Be it known that I, CHRISTIAN FRIEDRICH GLOYSTEIN, a subject of the German Empire, and residing at Henderson, in the county of Henderson and State of Kentucky, have invented a certain new and Improved Process of Treating Tobacco-Scrap, of which the following is a specification.

My invention relates to a process of treating tobacco scrap, such as tobacco stalks, stems, low grade leaves, sweepings, etc., and the object of my process is not only to obtain nicotin directly from this scrap, but also to accomplish this without depriving the latter of its various valuable fertilizer properties, so that the latter are retained substantially in their original quantity by the tobacco scrap after it has yielded its nicotin in the process.

According to my present process, the raw tobacco scrap, viz., tobacco stalks, stems, low grade leaves, sweepings, etc., are preferably first put through a cutter or chopper and reduced to finely divided condition to facilitate and expedite the chemical reactions of the process. The material thus finely divided is then mixed to saturation, with an aqueous solution of soda in the proportions, say of 150 lbs. of the solution to 100 lbs. of tobacco material.

After standing a short time, to insure the complete penetration of the material by the solution, the mixture is placed in a vacuum drier and evaporated. The nicotin which has been freed by the soda and entered into the solution, is carried off with the vapors and recovered in a condenser, while the tobacco material freed of its nicotin and perhaps a small proportion of ammonia is restored to its original dry condition. The potash, most of the ammonia, the various albumins and all the cell tissue which form the valuable fertilizer elements of the tobacco,—remain in the drier after the solution has been evaporated and may be ground and used as a fertilizer in precisely the same way as untreated raw material and possessing substantially the same fertilizer value.

The proportions of solution and raw material may be varied, but it is highly desirable that only enough of the soda solution be used to saturate the tobacco material, since a further quantity serves merely to dilute the nicotin and delay the extraction without in any way furthering the process. The strength of the soda solution varies with the percentage of nicotin in the raw material. For treating stems and stalks, a 1½ per cent. to 2 per cent. solution of sodium hydroxid is sufficient under ordinary conditions. The temperature at which the process may be carried out is not restricted so long as the tobacco material is not injured by too high a heat.

I am well aware that alkali of one sort or another has been used to free nicotin from aqueous tobacco extracts; I am also aware that it is common to dry tobacco scrap to prepare it for grinding. So far as I am aware however, I am the first to directly moisten the scrap with a soda solution to a point of substantial saturation and to dry the thus moistened scrap in which the nicotin has been freed by the soda solution, leading the vapors to a condenser so that simultaneously with the recovery of the nicotin, the scrap is dried ready for the grinders and still possessing substantially all its valuable fertilizer properties.

I claim as my invention:—

1. The process of treating tobacco scrap which consists in mixing therewith a soda solution, evaporating the solution from the wet material in a vacuum drier and condensing the vapors to permit the recovery of the nicotin contained therein, whereby the tobacco material while yielding its nicotin, is recovered dry and in substantially its original condition as to its valuable fertilizer properties, substantially as described.

2. The process of treating tobacco scrap which consists in mixing therewith to a point not materially in excess of saturation, a soda solution, evaporating the solution from the wet material and condensing the vapors to permit the recovery of the nicotin contained therein, whereby the tobacco material, while yielding its nicotin, is recovered dry and in substantially its original condition as to its valuable fertilizer properties, substantially as described.

3. The process of treating tobacco scrap which consists in mixing therewith to a point not materially in excess of saturation, a soda solution in the proportions of about 3 parts by weight of solution to 2 parts by weight of scrap, drying the mixture and condensing the vapors given off

during drying so that the nicotin carried off therewith may be recovered, while the tobacco material is recovered in substantially its original condition as to its valuable fertilizer properties, as described.

4. The process of treating tobacco scrap which consists in mixing therewith to a point not materially in excess of saturation, a 1½% to 2% soda solution in the proportions of about 3 parts by weight of solution to 2 parts by weight of scrap, drying the mixture and condensing the vapors given off during drying so that the nicotin carried off therewith may be recovered, while the tobacco material is recovered in substantially its original condition as to its valuable fertilizer properties, as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

CHRISTIAN FRIEDRICH GLOYSTEIN.

Witnesses:

H. H. BEHNKEN,

C. GRAUNSY.