

UNITED STATES PATENT OFFICE.

FELICE GIORDANO, OF GENOA, ITALY.

PROCESS FOR MANUFACTURING TOBACCO-PAPER FROM PURE TOBACCO-STEMS AND PRODUCT RESULTING THEREFROM.

999,986.

Specification of Letters Patent.

Patented Aug. 8, 1911.

No Drawing.

Application filed November 28, 1908. Serial No. 464,840.

To all whom it may concern:

Be it known that I, FELICE GIORDANO, gentleman, a subject to the King of Italy; resident of 26 Via Venti Settembre, Genoa, Italy, have invented a certain new and useful Process for Manufacturing Tobacco-Paper from Pure Tobacco-Stems and Product Resulting Therefrom, of which the following is a specification.

10 The object of my present invention is to provide a process for manufacturing paper from pure tobacco for use with cigars or cigarettes and a further object is to produce an improved product as a result of said process.

15 According to my new process I subject the stems of tobacco leaves to a very fine comminution so as to reduce them to a paste. This is obtained by inserting them into a vessel of hot water where they are completely softened and wetted by leaving them in the said vessels for some hours, whereupon they are reduced to a comparatively fine and homogeneous paste in any suitable apparatus. The said paste is substantially composed of two ingredients, viz. a fibrous light colored part containing cellulose and gummy substances or hydrocarbonates, and a non-fibrous darker colored part containing most of the resinous and incrustating substances. Of the said two parts only the former is adapted to be transformed into paper, while the other must be completely eliminated, which is very simply and rapidly performed by ordinary washing cylinders with wire gauze drums, or in any other suitable manner, the fibrous part settling in the tank of the apparatus while the other is carried off by the water through the wire gauze of the washing drum. In this very important step of my process a material loss is experienced which will be the greater the higher is the degree of comminution given to the paste. On attempting to diminish such loss an inferior product would be obtained, and in the subsequent chemical steps of my process less good paste would be obtained. Practically good results will be obtained by losing about one quarter of the weight of the stems. Only after this first mechanical step of my process the paste is adapted to undergo the chemical treatment. The water will be drained from the cylinder where only the paste is left.

55 The chemical treatment is designed to suc-

cessively refine the paste so as to eliminate therefrom the so-called incrustating substances still remaining therein, leaving the cellulose or fibrous substance and the gummy substances or hydrocarbonates of the tobacco plant, which latter give the paper the required "binding" and many qualities of the original tobacco. The said chemical treatment is performed successively with caustic soda, sulfite or bisulfite of sodium and sulfurous acid. In the said treatment the paste is not subjected to any pressure which would spoil the product. The treatment is preferably carried out in the same cylinder in which the washing has been performed, without transferring the paste, and then it will be covered if necessary. In the said cylinder a solution of caustic soda in water in the proportion of about 1% is introduced and then heated to 70°-80° C. The tobacco stem paste thoroughly mixed with the said solution is left therein for some hours whereupon it is summarily washed and the water is drained off, as the first time. A second solution of about 1% of sulfite or bisulfite of sodium is thereupon poured on the paste, and further a quantity of about 10 volumes of sulfurous acid gas. In this solution the paste is equally left for some hours and slightly heated. After the said second chemical step the paste is thoroughly washed and then subjected to the necessary refinement. The fibrous paste thus obtained is directly transformed into paper by any suitable machine. The paper thus obtained needs no further treatment such as gluing, etc., but is ready to be cut into the required lengths. This paper has a light tobacco color. If desired to obtain white paper, between the first chemical treatment with caustic soda and the second with sulfite, bisulfite or sulfurous acid, a filtered solution of about 1 kg. of calcium chlorid to 30 kg. of water is added to the paste, which is thus left for say 10 hours. The paste thus obtained is converted to paper in the same manner as the other. If on the other hand it is desired to give the paper the exact color and odor of tobacco it may be treated in a bath of a suitable tobacco extract.

Having now fully described my said invention and the manner in which the same is to be performed, what I claim and desire to secure by Letters Patent of the United States of America is:

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1. Process for manufacturing tobacco paper from tobacco stems, comprising the following steps; comminuting the stems so as to reduce them to a paste, eliminating
5 the resinous and incrustating substances therefrom to as great a degree as possible by a mechanical means, eliminating any remaining incrustating substances therefrom by a heated solution of caustic soda, drain-
10 ing off the solution, washing the paste, pouring a solution of sulfite of sodium and sulfurous acid gas on the paste, heating it slightly, washing it again, refining it, and transforming it to paper, substantially as
15 described.

2. Process for manufacturing tobacco paper from tobacco stems, comprising the following steps: comminuting the stems so as to reduce them to a paste, eliminating
20 the resinous and incrustating substances therefrom to as great a degree as possible by a mechanical means, eliminating any remaining incrustating substances therefrom by a heated solution of caustic soda of 1%,
25 draining off the solution, washing the paste, pouring a solution of sulfite of sodium and sulfurous acid gas on the paste, heating it slightly, washing it again, refining it, and transforming it to paper, substantially as
30 described.

3. Process for manufacturing tobacco paper from tobacco stems, comprising the following steps: comminuting the stems so as to reduce them to a paste, eliminating
35 the resinous and incrustating substances therefrom to as great a degree as possible by a mechanical means, eliminating any remaining incrustating substances therefrom by a solution of caustic soda heated to
40 70°-80° C., draining off the solution, washing the paste, pouring a solution of sulfite of sodium and sulfurous acid gas on the paste, heating it slightly and leaving it, washing it again, refining it, and transform-
45 ing it to paper, substantially as described.

4. Process for manufacturing tobacco paper from tobacco stems, comprising the following steps: comminuting the stems so as to reduce them to a paste, eliminating

the resinous and incrustating substances 50 therefrom to as great a degree as possible by a mechanical means, eliminating any remaining incrustating substances therefrom by a 1% solution of caustic soda heated to 70-80° C., draining off the solution, wash- 55 ing the paste, pouring a solution of sulfite of sodium and sulfurous acid gas on the paste, heating it slightly and leaving it, washing it again, refining it, and transforming it to paper, substantially as described. 60

5. Process for manufacturing tobacco paper from tobacco stems, comprising the following steps: comminuting the stems so as to reduce them to a paste, eliminating the resinous and incrustating substances 65 therefrom to as great a degree as possible by a mechanical means, eliminating any remaining incrustating substances therefrom by a heated solution of caustic soda, draining off the solution, washing the paste, pour- 70 ing a 1% solution of sulfite of sodium and sulfurous acid gas on the paste, heating it slightly and leaving it, washing it again, refining it, and transforming it to paper, substantially as described. 75

6. Process for manufacturing white tobacco paper from tobacco stems, comprising the following steps: comminuting the stems so as to reduce them to a paste, eliminating the resinous and incrustating substances 80 therefrom to as great a degree as possible by a mechanical means, eliminating any remaining incrustating substances therefrom by a heated solution of caustic soda, draining off the solution, adding a filtered water 85 solution of calcium chlorid, leaving it, draining off the solution, washing the paste, pouring a solution of sulfite of sodium and sulfurous acid gas on the paste, heating it slightly and leaving it, washing it again, re- 90 fining it, and transforming it to paper, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

FELICE GIORDANO.

Witnesses:

THO. RORASCO,
E. M. BAUER.