

UNITED STATES PATENT OFFICE.

GEORGES LOUIS FLUSIN, OF GRENOBLE, FRANCE.

PROCESS OF MANUFACTURING SMOKERS' ARTICLES.

SPECIFICATION forming part of Letters Patent No. 714,887, dated December 2, 1902.

Application filed August 21, 1902. Serial No. 120,580. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGES LOUIS FLUSIN, chemist, a citizen of the Republic of France, and a resident of No. 22 Cours Berriat, Grenoble, in the Republic of France, have invented a certain new and useful Improved Process for the Manufacture of Smokers' Articles, such as Pipes, Cigar-Holders, and other Articles, of which the following is a specification.

10 This invention relates to a new process for the manufacture of smokers' articles—such as pipes, cigar-holders, pipe and cigar cases, and the like—based on the use of brier-wood sawdust produced either directly in the ordinary manufacture of brier pipes or in the grinding of the waste wood resulting from this manufacture.

The process is as follows: A thorough mixture of the following substances is made: One hundred parts, by weight, of brier-wood sawdust with thirty-three parts, by weight, of powdered gelatin or glue; 12.5 parts, by weight, of porcelain-clay or silicate of alumina; four parts, by weight, of bauxite, (alumina and iron oxid;) twenty-five parts, by weight, of liquid alkaline silicate, (silicate of potash or soda;) thirty-three parts, by weight, of water.

The above are the preferred proportions; but a good manufacture can also be obtained by mixing one hundred parts, by weight, of brier-wood sawdust in the proportions, by weight, of the other substances, varying from twenty-five to forty parts of powdered gelatin, ten to twenty-five parts of porcelain-clay, three to seven parts of bauxite, twenty to forty parts of alkaline silicate, and twenty-five to forty parts of water.

The mixture is produced as follows: The porcelain-clay and bauxite are placed in a mixing apparatus and stirred until the mass has a uniform color, whereupon the powdered glue and sawdust are added and the stirring continued in order to form a thorough mixture of the four substances. The alkaline silicate and water are separately mixed in order to obtain the silicate in a liquid state instead of in its ordinary syrupy state. The liquid is poured into the mixing apparatus in which are the other substances and stirring is again proceeded with. The liquid is absorbed, and the mass finally receives the form of wet sawdust. This homogeneous mixture is then

placed in a suitable mold the shape of which corresponds to the article to be produced and is compressed while cold under a press at a pressure of about nine hundred kilograms per square centimeter. The piston of the mold is then fixed in order to maintain the compression, and the mold is subsequently heated to a temperature varying from 80° to 120° and then cooled, either by exposing it to the open air or subjecting it to the action of a current of air or water. When the mold is cold, the removal may be proceeded with. The article produced is then dried, either in the open air or in drying-chambers, and then, if necessary, subjected to the finishing operations—such as polishing, varnishing, and the like—before being put on the market.

In the present process of manufacture the object of the glue is to combine the different particles of the mass under the action of the heat when the mold is heated, this operation being combined with that of the pressure which brings the different particles into close contact with each other with a view to obtaining a suitable cohesion.

The silicate of potash or soda reacts on the porcelain-clay and bauxite by forming a very hard cement, which being uniformly distributed in the mass gives the latter the required hardness and incombustibility.

The water has the double object of facilitating the uniform distribution of the silicate in the mass by rendering it sufficiently liquid and, further, of acting on the glue by developing the adhesive qualities of the latter.

In carrying out the present process I may replace the gelatin either by dextrine, grape-sugar, gluten, or other similar substances, or I may use a mixture of the said substances with the gelatin. Further, without changing the result the porcelain-clay may be replaced by the other natural or artificial magnesia or alumina silicates, as also the bauxite, by the analogous oxids, magnesia, and the like.

Before introducing the sawdust into the mixing apparatus it can previously be mixed with the liquid glue and then dried, so as to present the form of particles separately inclosed in the glue on being introduced into said mixing apparatus. The mixture can also be compressed in the previously-heated mold. Further, I may add to the mixture during the

stirring, while cold, any suitable coloring-matter for the sole purpose of giving the mass the desired coloring, and, finally, I may replace the whole or part of the brier-wood sawdust
5 by fir, box, or other suitable sawdust.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be preformed, I declare that what I claim is—

10 A process for the manufacture of smokers' articles such as pipes, cigar-holders, pipe and cigar cases and the like, consisting essentially in mixing thoroughly in a cold state brier-wood sawdust with a suitable proportion of
15 powdered gelatin or glue, porcelain-clay or

silicate of alumina, bauxite, and alkaline silicate diluted in water so as to be fluid, in placing then said mixture in a suitable mold, in compressing it while cold at a sufficient pressure, and finally in heating the mold to a temperature varying from 80° to 120° and then
20 letting it dry in order to remove the article obtained from said mold, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my
25 hand in presence of two witnesses.

GEORGES LOUIS FLUSIN.

Witnesses:

PAUL D'AIGUEBELLE,
T. W. MUETON.