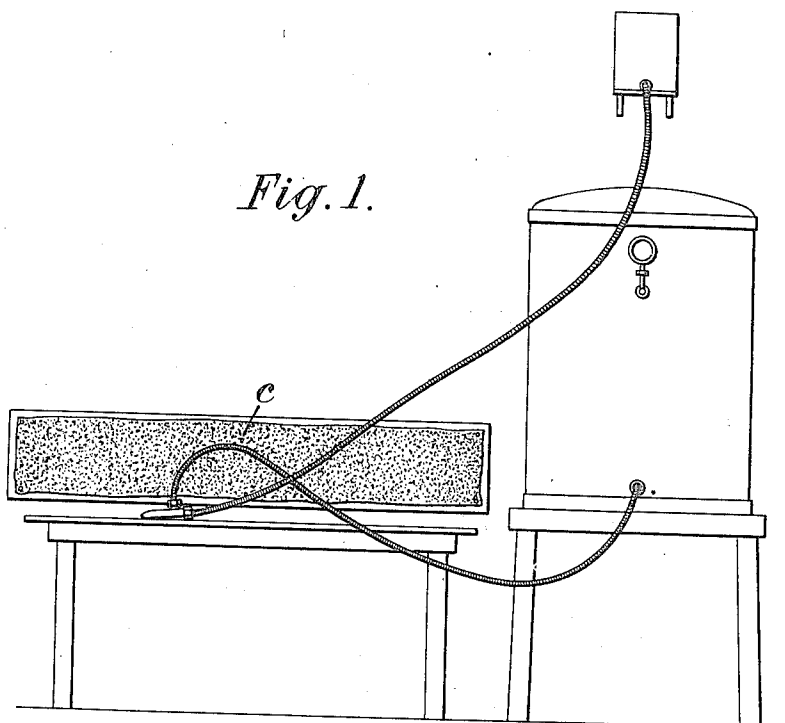
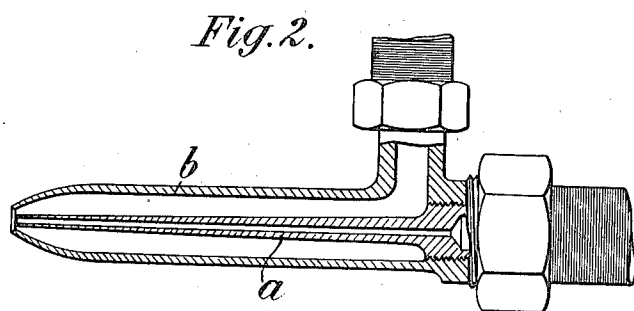


F. STOFFEL.
 PROCESS FOR APPLYING A LAYER OF ADHESIVE MATERIAL TO FABRICS.
 APPLICATION FILED JAN. 21, 1914.

1,170,699.

Patented Feb. 8, 1916.



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UNITED STATES PATENT OFFICE.

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PROCESS FOR APPLYING A LAYER OF ADHESIVE MATERIAL TO FABRICS.

1,170,699.

Specification of Letters Patent.

Patented Feb. 8, 1916.

Application filed January 21, 1914. Serial No. 813,455.

To all whom it may concern:

Be it known that I, FERNAND STOFFEL, a citizen of the Republic of France, residing at Paris, France, have invented certain new and useful Improvements in Processes for Applying a Layer of Adhesive Material to Fabrics, of which the following is a specification.

This invention relates to a process for applying to a fabric, and more particularly to the back or reverse side of a fabric, a layer of adhesive material such as gelatin with the addition, or not, of other materials, without in any way altering the nature of the fabric, that is to say, without causing it to lose any of its qualities such as its appearance, softness, pile, etc.

This process consists essentially in applying the material, previously brought to a condition of paste, or thick liquid, by pulverizing or spraying it by means of a gas under pressure.

The invention is based upon the use of the cold, produced by the expansion of the gas carrying along the material to be sprayed in order to suddenly produce the coagulation and almost complete drying, of the particles of pasty or thick liquid material during their passage from the spraying nozzle to the fabric. These particles adhere to the fabric, not alone owing to their own adhesive property, which is much lessened by reason of their almost dry condition, but also by the effect of the projection which they undergo in consequence of the expansion of the air or other gas under pressure. This spraying can be caused by employing air compressed for example, to 4 kilos, and by using an ordinary sprayer, as illustrated in the annexed drawing, in which sufficiently dense gelatin coming from a receiver enters the central tube *a* and the air under pressure enters the outer tube *b* surrounding the tube *a*. The air carries along the liquid issuing from the tube *a*, and at the same time that it sprays it, sufficiently cools it to coagulate the different particles projected and which strike against the back or reverse side of the fabric *c*.

The particles of adhesive material on reaching the fabric adhere to the said fabric which they cover in a homogeneous manner and become completely dry thereon.

This kind of fabric is more particularly suitable for the application of the process

forming the subject of United States Patent No. 1080731 of the 9th December, 1913, granted to me particularly for forming the brims of hats by molding by suction. For this purpose the brims are formed by means of a primary strip of fabric thus prepared and cut out, upon the back or reverse side of which, after having moistened it, I apply canvas, lino muslin, or other cheap material designed to give body to the shape and which is afterward covered also with a new strip of prepared fabric. The brim in question is then brought thus formed on to the mandrel or hat brim mold, placed upon the perforated casing connected to the air passages, and after having covered it with the india rubber membrane the vacuum is produced for applying it to the mandrel or form and giving it the required shape. The whole thus formed of these two prepared fabrics separated by the said damp muslin, becomes cemented under the pressure of the membrane without having to moisten the said fabrics for that purpose, while allowing the drying to take place very rapidly since the cementing has been effected by simple moistening, and not by means of a cement as in the usual processes.

It is to be understood that this process is applicable for covering all materials, and particularly all fabrics or cloths with a layer of adhesive material whenever it is desired to avoid alteration in any respect of the properties of the material or cloth.

Claims:

1. A process of treating fabric with adhesive material, comprising projecting particles of the adhesive onto the fabric by means of a jet of compressed gas, the adhesive being introduced into the jet of compressed gas at or near the point of issuance of the jet, the particles of adhesive taking part in the expansion of the gas, and being so coagulated by the cold due to the expansion of the gas, and dried to such an extent, and the adhesive being in such a previous pasty condition, that the particles adhere to the fabric without perceptibly moistening the latter.

2. A process of treating fabric with adhesive material, comprising projecting particles of the adhesive onto the fabric by means of a jet of compressed air, the adhesive being introduced into the jet of compressed air at or near the point of issuance of the jet, the

particles of adhesive taking part in the expansion of the air, and being so coagulated by the cold due to the expansion of the air, and dried to such an extent, and the adhesive being in such a previous pasty condition, that the particles adhere to the fabric without perceptibly moistening the latter.

3. A process of treating fabric with adhesive material, comprising projecting particles of the adhesive onto the fabric by means of a jet of compressed gas, the adhesive being introduced into a part of the jet in which the gas is under a substantial degree of compression, the particles of adhesive taking part in the expansion of the gas, and being so coagulated by the cold due to the expansion of the gas, and dried to such an extent, and the adhesive being in such a previous pasty condition, that the particles adhere to the fabric without perceptibly moistening the latter.

4. A process of treating fabric for the purpose of applying upon one face, the back, thereof, a discontinuous and granular layer of adhesive material, comprising projecting an adhesive upon the fabric by a jet of compressed air, the adhesive taking part in the

expansion of the air, and the degree of expansion and the viscosity of the adhesive being such that the drying, and coagulation, due to the cold produced by the expansion of the air, of the particles of the adhesive causes the particles to adhere to the fabric without perceptibly moistening or stiffening the latter.

5. The method of applying adhesives to fabric comprising projecting the adhesive onto the fabric in the form of fine particles.

6. The method of applying adhesives to fabric comprising projecting the adhesive onto the fabric in the form of fine particles, the particles of adhesive on reaching the fabric being in such a state of hydration that they adhere to the fabric without imparting any perceptible moisture to the fabric.

In witness whereof, I have hereunto signed my name in the presence of subscribing witnesses.

FERNAND STOFFEL.

Witnesses:

J. DRIVIÈRE,

PAUL JULIEN-MARIE DRIVIÈRE,

HANSON C. COXE.