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PROCESS FOR PREPARING WRAPPING AND BUILDING MATERIAL

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Numerous known wrapping materials and building materials of paper or pasteboard consist of paper sheets pasted together with an intermediate layer of threads, which latter may be of metal or of cotton, jute or some other textile material. Frequently only one such textile material is used with a paper sheet pasted to one side thereof. The paper sheet or sheets may further be impregnated or surfacetreated with various substances. It is similarly known to manufacture such building material with a fabric with more or less open meshes inserted therein by feeding forward two coiled paper sheets, on a special machine, in which a suitable quantity of paste substance is applied to the inner sides of the paper sheets, before the fabric is inserted between the paper sheets by means of the same machine.

These building or wrapping materials, however, suffer from various drawbacks, first of all that the textile fabric inserted has another coefficient of expansion than the paper, so that the building material reinforced with textile fabric does not at all utilize the increase in strength produced by the reinforcement, before the paper bursts. Another drawback is that the pasting together with the textile fabric will be incomplete, as the sheets cannot be caused to fit entirely around the individual threads of the fabric, so that the pasting together of the two sheets will merely take at the fabric inserted and, when the width of meshes is sufficient, at the centre of each mesh or, maybe, over a larger or smaller part of the area of the mesh.

In contradistinction to these known wrapping materials, the present invention has for its object to provide a reinforced wrapping and building material, in which a metal or textile fabric with small or large meshes, for instance jute fabric with from one to eight meshes per centimetre ($2\frac{1}{2}$ to 20 meshes per inch), or coarser if required, is first stretched in both directions, so that no more elasticity remains therein than in the paper sheet or sheets to be applied subsequently thereto. If a textile fabric is used, it is preferable to apply some special glue or substance to subsequently prevent the fabric from shrinking. Paper pulp is then deposited in the meshes to a thickness equal to the threads, while at the same time the tendency of the fibres of the paper pulp to deposit themselves in the direction of the meshes is counteracted, a greater strength in the transverse direction being thereby attained. Simultaneously with, or after, the said filling out of the meshes, a layer of paper pulp

is deposited on both sides of the filled metal or textile fabric, which simultaneously with this covering with paper pulp is maintained steadily stretched, if so required.

In this manner the advantage is attained that the surfaces become perfectly plane and smooth, as the inserted fabric will not be visible on the outer surfaces of the paper sheets as in the wrapping materials known heretofore. After the meshes of the fabric have been filled, however, it is also possible to give only one side thereof a coating of paper pulp. According to the present invention it is further possible to use, for the pulp to be deposited in the meshes and for the outer layers, various kinds of paper pulp, all depending on the requirements to be fulfilled by the finished product, and either before or after the pulp is applied, the same may further be dyed, impregnated or given some other special treatment.

The invention may further be combined in such a manner that several layers of fabric are inserted, the said layers being filled separately before being placed together, and a layer of paper pulp may of course be inserted between the individual reinforcing layers, if desired.

The manufacture may be effected as a continuous operation, as the individual processes of the work can be performed simultaneously or directly after one another. First the metal or textile fabric is stretched, and then the same is fed at a suitable speed from the unwinding roller to the winding roller, while at the same time the desired stretching is maintained. During the motion of the fabric, the paper pulp for filling the meshes is first applied, and at the same time or maybe after a previous more or less thorough drying process the paper pulp intended to cover the outer faces of the fabric is applied, after which the material formed in this manner is dried, for instance over heated cylinders or by passing through a heating closet. Before or after the drying, any design, marks, inscription or the like may be imprinted on the smooth surfaces, and similarly one or both of the surfaces may be impregnated or dyed with suitable substances.

It should be noted that instead of the paper pulp for filling the meshes, other substances, for instance bitumen or other suitable filling material may be used.

In the manner described above, a product with a wide field of usefulness is obtained, as the invention makes it possible to combine the properties in respect to great strength of a metal or textile fabric with the properties in respect to

tightness of the paper, without losing nevertheless the ability of the said material for further treatment.

Having now described my invention what I claim as new and desire to secure by Letters Patent is:

1. Process for manufacturing wrapping and building material, which consists in stretching a fabric of suitable size and mesh to bring the fabric meshes under tension in all directions in the plane of said fabric, then wetting said fabric meshes under tension with a wetting agent in order to prevent shrinkage of the fabric, subsequently filling the fabric meshes with a suitable filling material, and finally coating at least one

side of the tensed and filled fabric with paper pulp.

2. Process for manufacturing wrapping and building material, which consists in stretching a fabric of suitable size and mesh to bring the fabric meshes under tension in all directions in the plane of said fabric, then wetting said fabric meshes under tension with a wetting agent consisting of an aqueous solution of glue in order to prevent shrinkage of the fabric, subsequently filling the fabric meshes with a suitable filling material, and finally coating at least one side of the tensed and filled fabric with paper pulp.

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