

J. E. BRANDENBERGER.
BAND OF CELLULOSIC MATERIAL.
APPLICATION FILED JAN. 25, 1921.

1,406,148.

Patented Feb. 7, 1922.

Fig.1.



Fig.2.

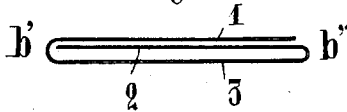


Fig.3.

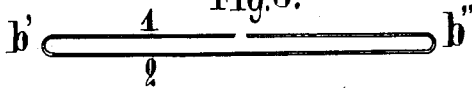
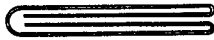


Fig.4.



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BAND OF CELLULOSIC MATERIAL.

1,406,148.

Specification of Letters Patent.

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Application filed January 25, 1921. Serial No. 439,879.

To all whom it may concern:

Be it known that I, JACQUES EDWIN BRANDENBERGER, citizen of the Republic of Switzerland, resident of Bezons, Seine & Oise, France, have invented new and useful Bands of Cellulosic Material, which improvements are fully set forth in the following specification.

The present invention relates to the production of strips and the like of cellulose or the like products.

A band of any cellulosic material, for example, of cellophane (a pure cellulose obtained from sodium xanthate) cellulose acetate and the like, obtained by cutting with an apparatus, even if it is as perfect as possible, always shows on the edges small serrations which may or may not be visible with a microscope, which constitute so many weak points facilitating the breakage of the strip when it is subjected to elongation strains. Moreover, if cellophane which may chiefly be considered, is brought into the shape of a band of uniform thickness, it is always transparent like glass and therefore when decorative effects are in question will not give results similar to those obtained with opaque materials.

The object of the present invention is a process for the production of strips of material, analogous to cellophane but more or less opaque, which process furnishes bands of very great rigidity, and when intended for decorative purposes, giving the full range of the effects obtainable with opaque matt or brilliant substances, whatever may be their colour.

The process consists in cutting cellophane bands (or similar products) to dimensions which depend on the dimensions required for the final product and in folding the resulting cut band on itself so as to obtain two longitudinal edges by the folding operation, which edges are other than the edges obtained by cutting the band.

Reference is made to the accompanying drawing, in which Figure 1 is a diagrammatic cross-section of a cellophane band prior to folding, while Figs. 2 to 4 show, also in diagrammatic section, bands folded in various ways.

As can be seen from Fig. 1 of said drawings, if a band a of cellophane be taken, the two edges a' and a'' resulting from the action

of the knives, will show the serration above referred to. But if the band a be folded as shown in Fig. 2 into three layers or plies 1, 2, and 3, edges b' and b'' are then formed by the folded parts and do not show any serrations tending to facilitate rupture when the material is subjected to elongation stresses. It is evident as shown in Fig. 3 that the strip may be folded so as to give only two layers instead of the three shown in Fig. 2. The two extreme edges b' and b'' , always show the same characteristics. As shown in Fig. 4 it is also possible to form a greater number of folds or layers, the invention being in no way limited to the number of foldings, but consisting simply in producing longitudinal edges resulting from folding.

It should be well understood that no adhesive materials are employed for uniting the different cellophane layers, and that on the contrary layers of air exist between said cellophane layers. This constitutes a second characteristic of the invention which completely modifies the appearances of the products. In reality, the light traversing the different layers of cellophane and the different strata of air, the density of which is not the same as that of cellophane, undergoes several refractions which completely alter the appearance of the product. If a cellophane band is folded in the described manner, the transparency of the resulting bands of cellophane is completely suppressed, so that by superimposing different bands on different fabrics, decorative effects can be obtained which are absolutely unobtainable with a single layer of cellophane, however thick.

It is impossible in the present specification to cite all the applications to which such a band may be put. It may be used singly and employed on any support. Owing to its great strength, it may be used for weaving, embroidering, knitting, and the like in the same way as ordinary bands, which cannot be done with a band of simple cellophane, this latter being unable to stand the stresses essential in weaving, embroidering, knitting or the like.

The bands may, as has been said, be coloured in any way. Evidently they can also be submitted to any mechanical treatment imparting a particular appearance, for example, pressing, printing, iridization, and

the like. It should be understood that these decorative treatments may be applied on one or both faces of the band, and it should be understood that the bands may be of any desired size or thickness.

What I claim and desire to secure by Letters Patent is:—

1. A band of generally non-fibrous, cellulosic material folded longitudinally upon itself to form a multi-ply strip which presents a differently-colored appearance from the original material, and the external or marginal edges of which are produced directly by the folding operation.

2. A band of normally-transparent cellulosic material folded longitudinally upon itself to form a multi-ply strip comprising a plurality of superposed layers with intervening air strata therebetween; said band having its external or marginal edges produced directly by the folding operation and being darkened and rendered somewhat opaque by said operation.

3. A band, as claimed in claim 2, in which the cellulosic material has been colored prior to the folding operation.

4. A band, as claimed in claim 2, in which the cellulosic material consists of cellophane.

5. A method of manufacture, consisting in folding a strip of generally non-fibrous, cellulosic material upon itself; thereby to form a multi-ply band which presents a different appearance from the original material, and the external or marginal edges of which are produced directly by the folding operation.

6. A method of manufacture, consisting in folding a strip of normally-transparent cellulosic material upon itself to form a multi-ply band comprising a plurality of superposed layers with intervening air strata therebetween; thereby to produce the external marginal edges of said band, and to darken the band and render it somewhat opaque.

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

JAKES EDWIN BRANDENBERGER.

Witnesses:

CHARLES LEON LOISEL,
GEORGES PASCAL CARRIERE.