Feb. 18, 1936. W. W. McLAURIN 2,031,275

ADHESIVELY COATED SHEET MATERIAL

Filed May 10, 1933

Fig. 1

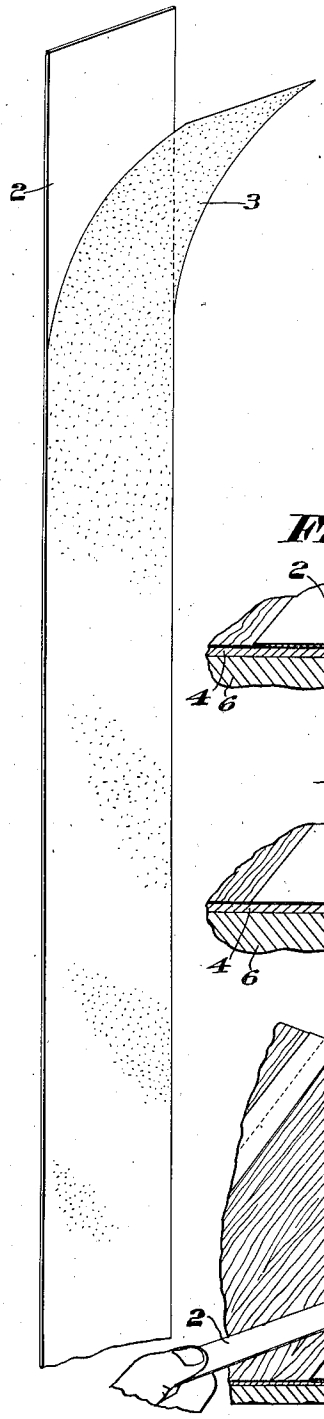


Fig. 2

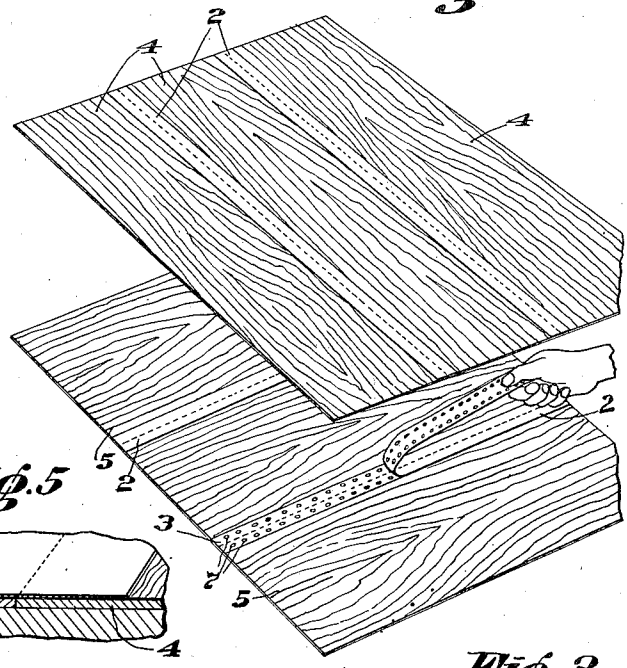


Fig. 5

Fig. 6

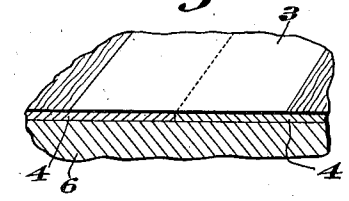


Fig. 3

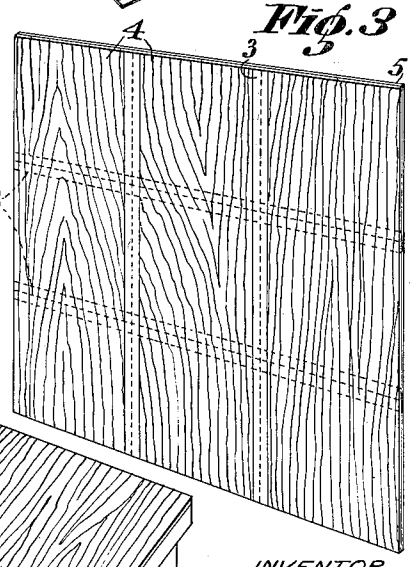
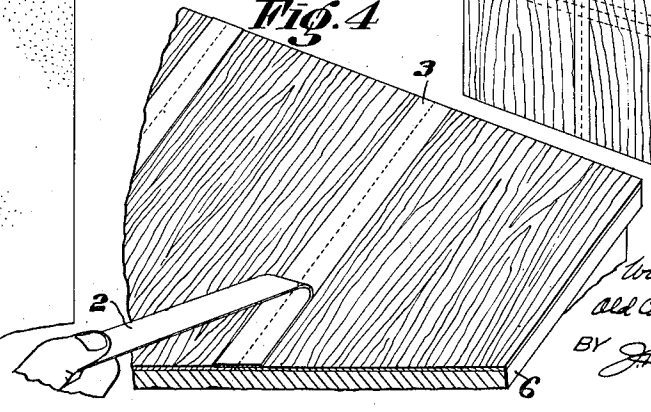


Fig. 4



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2,031,275

ADHESIVELY COATED SHEET MATERIAL

William W. McLaurin, deceased, late of Brookfield, Mass., by Old Colony Trust Company, executor, Boston, Mass.

Application May 10, 1933, Serial No. 670,260

5 Claims. (Cl. 154—43)

This invention relates to gummed sheet materials such, for example, as the gummed tapes used in connection with veneering operations.

It is a common practice in applying veneer to the "core" or main body of an article of furniture, or the like, to abut the edges of adjacent pieces of veneer together and to secure them in this relationship by strips of tape overlapping the margins of the adjoining sections of veneer. The opposite face of the veneer sheet so formed is applied to a core, the surface of which has been covered with glue, and the parts are all clamped together in this position while the glue sets. Later the paper or other sheet material forming the main body of the tape is removed, usually by sanding.

In some kinds of work the tape is secured, as above described, to the inner face of the veneer, or, in other words, to that surface which is to be applied to the core. A perforated tape commonly is used for this purpose because it will be left in the work and the glue can penetrate through the perforations to form the necessary union between the core and the veneer. Such tapes are also used in making plywood from veneer to hold the sections of veneer in abutting relationship while the plies are glued together. Here, also, it is a common practice to leave the tape in the work. This practice, however, cannot be followed satisfactorily in handling very thin veneers, and particularly on work of the better grades or qualities because the tape tends to produce a ridge in the work adjacent to the abutting edges of the veneer sections. On the other hand, the removal of the tape as required by the method first described involves the expenditure of considerable time and labor and therefore effects an objectionable increase in the cost of the cheaper veneer products. In work of the better grades, and in which very thin veneers are used, this method also is open to the objection that unless the sanding required to remove the tape is performed very carefully it will result in making a depression or shallow groove in the work adjacent to the abutting edges of the veneer sheets.

The present invention deals especially with these problems. It aims to improve tapes of the character above described and the sheet materials from which they are made with a view to facilitating the removal of the backing sheet from the work and avoiding the necessity for much of the sanding heretofore required for this purpose. The invention further aims to facilitate the application of veneer to a core body or other article of work and to devise a tape which can be left in the work, when desired, without producing the objectionable effects above described.

The nature of the invention will be readily understood from the following description when read in connection with the accompanying drawing, and the novel features will be particularly pointed out in the appended claims.

In the drawing,

Figure 1 is a perspective view of a strip of tape made in accordance with this invention;

Figs. 2, 3 and 4 are perspective views illustrating steps in the method using this tape; and

Figs. 5 and 6 are detail views, partly in section and partly in perspective, showing the condition of the work at different stages in the veneering process when this tape is used.

Referring first to Fig. 1, the tape there shown comprises a backing strip 2 of sheet material, to one face of which is secured a thin film 3 of sheet material preferably of some cellulosic nature. The outer surface of this film 3 carries a coating of an adhesive, as indicated by the stippling, and the nature of which will vary with the use to be made of this product. For veneer tapes the strip will be coated with a veneer glue.

While the backing sheet 2 and film 3 may be made of various materials, a highly satisfactory veneer tape can be made by using a relatively heavy and strong paper for the backing sheet 2 and a very thin but strong sheet of paper for the film 3. A tissue paper is very satisfactory for this purpose. These two sheets may be combined in an ordinary combining machine by applying a very thin coating of some suitable adhesive such as starch, gutta percha, rubber latex, or the like, to the web of backing paper and then running the tissue web or facing sheet into contact with the backing ply. The important point in combining the two webs is to produce such a union that the sheets can readily be separated from each other when desired, while still uniting them so securely that they can be handled to all ordinary intents and purposes like a single sheet. When an adhesive such as latex or gutta percha is used it is desirable to produce a stronger union between the adhesive and the backing sheet than with the tissue, and this may conveniently be done by applying the liquid adhesive to the backing sheet and allowing it to partially dry or set before it comes in contact with the tissue sheet.

A coating of glue next is applied to the outer surface of the tissue ply 3, the paper is dried, and either before or after the drying operation, as

desired, the web is cut into strips of suitable widths. This product then is wound into rolls and is ready for the market.

In using this tape a plurality of sections 4, Fig. 2, of veneer are placed side by side on a suitable support with their edges in abutting relationship and they are then secured temporarily in this relationship by strips of the tape shown in Fig. 1 simply by moistening the gummed surface of the tape and applying it in suitable lengths, as shown in Fig. 2, to the adjacent margins of abutting sections of veneer. Assuming that the veneer is to be applied to the core 6, Fig. 4, of a table top or the like, the surface of the core is coated with glue, the veneer is properly positioned on it, and it is secured in this position by suitable clamps (not shown) while the glue sets. At the completion of the setting period the clamps are removed, and the backing ply 2 of each tape then can be removed simply by loosening the backing ply from the tissue ply at one end of the tape and pulling off the backing, as illustrated in Fig. 4. This leaves simply the tissue strips on the work. If it is desired to remove the latter strips this can readily be done by moistening them lightly and stripping them off, thus leaving only the glue on the upper side of the veneer. However, the tissue is so thin that it is usually preferable simply to go ahead with the sanding operation after the backing strips have been removed, no moistening whatever being required to separate them from the tissue strips.

A tissue suitable for this purpose may consist of a sized or unsized paper having a thickness of only about a thousandth of an inch. The backing sheet usually is considerably thicker, say for example, five or six thousandths of an inch, or even thicker, and ordinarily carries a normal amount of sizing, although an unsized sheet can be used. The backing strip is relied upon chiefly to give strength to the tape and to provide the necessary resistance to tearing, its union with the tissue sheet being such that it effectively performs this function while still permitting the easy separation of the two sheets when desired and without wetting. Fig. 5 shows the tape after the veneer has been applied to the core 6, and Fig. 6 illustrates the parts after the backing ply 2 has been stripped off.

In making plywood from veneer the sections are secured together in the manner above described and as illustrated in Fig. 2. If only two plies of veneer are to be secured together the faces of the two plies opposite to those to which the tapes are applied may be coated with glue and the plies may then be secured together by pressing them in a veneer press. Later the backing strips 2 may be pulled off, as above described, leaving the wood ready for sanding or other finishing operations. It is a common practice, however, to secure three plies together with the grain in the intermediate ply running transversely to that in each of the two outside plies, and in this event the backing strips 2 on the intermediate veneer ply are removed before the three plies are glued together. The tissue strips, however, are usually left in place since the glue will penetrate them readily and they are so thin that their presence produces no irregularities or ridges in the finished product. Fig. 3 shows the two veneer plies illustrated in Fig. 2 glued together with the tissue strips 2 left in the work between plies.

The fact that the tissue strip which carries the glue is so thin also is frequently an important advantage in securing veneer to a core, since the backing strips can be removed before applying the veneer to the core and the surface of the veneer sheets to which the tissue strips are applied may then be placed on the glued surface of the core, the tissue strips lying between the veneer and the core so that they will be incorporated in the work and no further attention need be paid to them. Penetration of the glue through the paper may be facilitated by perforating the tissue ply, as indicated at 7 in Fig. 2.

An important advantage produced by this invention is the fact that the backing ply can be easily stripped from the tissue facing and removed from the work whenever desired. The tissue ply is so thin that the ordinary surface sanding to which the work is subjected will remove it, and any danger of grooving the work thus is avoided. In addition, the necessity for removing a relatively heavy sheet of paper by the sanding operation is eliminated. The invention thus effects a substantial saving in time and labor involved in veneering operations. It is also contemplated that this produce, whether in sheet or strip form, will find important uses in other fields where considerable strength is required during the initial application of the gummed sheet or strip to the work, the backing later being removed. Consequently, this material is not limited in its use to veneering operations.

It will also be understood that while it has herein shown and described a preferred embodiment of its invention, the invention is, nevertheless, susceptible of embodiment in other forms without departing from the spirit or scope thereof.

The method herein disclosed is not claimed in the present application, but is claimed in a divisional application Serial No. 24,870, filed June 4, 1935.

Having thus described the invention, what it desires to claim as new is:

1. An article of the character described comprising a relatively heavy backing sheet of paper and a tissue sheet combined with said backing sheet by a union which holds them securely together for normal purposes but which permits them to be readily pulled apart while they are in a dry condition, and a coating of adhesive on the outer face of said tissue sheet.

2. A veneer tape comprising a backing sheet of paper, a sheet of tissue paper united to said backing sheet by a union serving to cause the backing sheet to reinforce the tissue sheet and greatly to increase the resistance of the tape to tearing while being readily separable from the tissue sheet while both strips are dry, and a coating of adhesive on the outer face of said tissue sheet.

3. A tape of the character described, comprising a strip of relatively heavy backing paper and a strip of unsized tissue paper combined with said backing strip by an adhesive union which serves to hold the two strips securely together for normal purposes but which permits them to be readily pulled apart while they are in a dry condition, and a coating of adhesive on the outer face of said tissue strip.

4. A tape of the character described, comprising a strip of relatively heavy backing paper and a strip of tissue paper combined with said backing strip by an adhesive union which serves to hold the two strips securely together for normal purposes but which permits them to be readily pulled apart while they are in a dry condition, said tissue strip having numerous perforations therethrough located closely adjacent to each other.

and a coating of adhesive on the outer face of said tissue strip.

5. A tape of the character described, comprising a strip of relatively heavy backing paper, a strip of tissue paper, a coating of an adhesive uniting said tissue paper to said backing paper, with each strip in face to face relationship to the other, said adhesive serving to hold the two strips securely together for normal purposes but having a stronger union with said backing strip than with the tissue strip and thereby permitting the tissue strip to be readily pulled away from the backing strip while both are in a dry condition, and a coating of adhesive on the outer face of said tissue strip.

OLD COLONY TRUST COMPANY,
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By CLARENCE M. GORDON,
Trust Officer.