

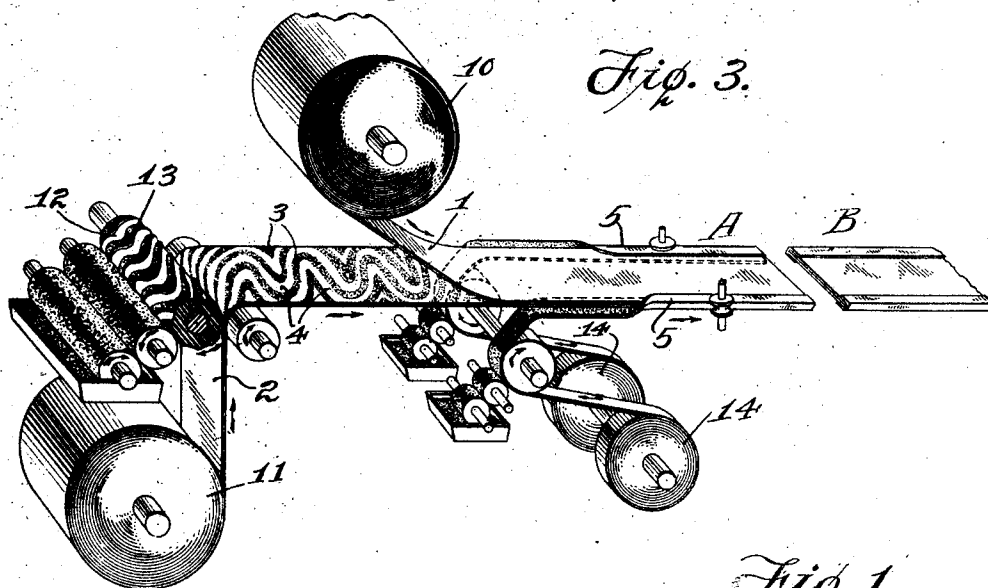
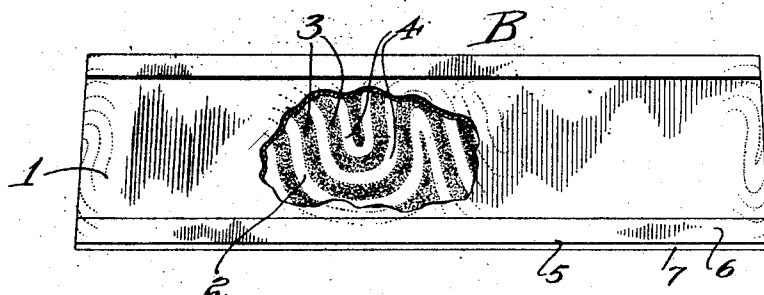
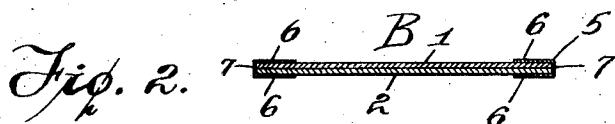
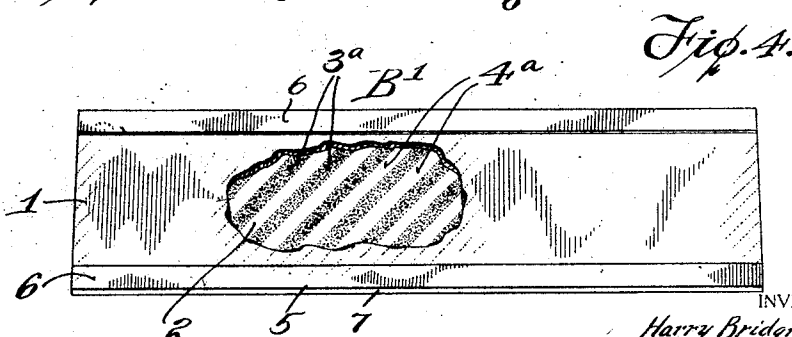
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CLOTH BOARD AND SIMILAR ARTICLE

Original Filed Oct. 18, 1923



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CLOTH BOARD AND SIMILAR ARTICLE.

Application filed October 18, 1923, Serial No. 669,392. Renewed July 25, 1928.

My invention relates to cloth boards and similar articles, and especially to cloth boards of the class commonly known as "lap" boards.

The principal object of the invention is to provide a cloth board or like article consisting of cardboard, strawboard or similar inexpensive sheet material, which is of exceedingly simple construction and is capable of being manufactured by a very rapid and economical method.

A more particular object is to provide a novel two-ply construction for articles of this class in which the plies are adhesively secured together, preferably by strips or stripes of adhesive separated by substantial strips or areas of the material which are uncoated with adhesive, in order to economize adhesive, facilitate the proper drying of the adhesive and avoid warping of the material, and in preferred cases to additionally secure the layers or plies together by longitudinal edge binding.

The characteristics and advantages of the invention are further sufficiently explained in connection with the following detail description of the accompanying drawings, which show certain exemplifying embodiments of the invention, and also sufficiently explain one preferred production method, which does not constitute a part of the present invention but is explained herein to enable the structure of the articles, and their advantages from the standpoint of ease and economy of manufacture, to be more readily understood. After considering the present examples, persons skilled in the art will understand that many variations may be made within the principles of the invention, and I contemplate the employment of any structures that are properly within the scope of the appended claims.

Figure 1 is a plan view of a cloth board or lap board embodying the invention in one form, with one of the component layers broken away for explanatory purposes.

Figure 2 is a transverse section of the same.

Figure 3 is a diagrammatic view sufficiently illustrating one preferred production method.

Figure 4 is a plan view sufficiently illustrating a modified style of gluing, or "glue pattern".

In the representative embodiment shown in Figures 1 and 2, the complete cloth board, lap board or similar article B comprises two

layers or sheets 1 and 2 of suitable fibrous sheet material, such as cardboard or strawboard. These sheets are usually rectangular and the board is usually, although not necessarily, longer than it is wide. The body sheets 1 and 2 are adhesively secured together, and in the broader aspect of the invention the adhesive connection may vary greatly and may include the complete coating of the engaging faces of the sheets; but in a preferred embodiment of the invention as here shown, the glue connection consists of strips or stripes 3 of adhesive which are applied, before contact of the sheets, to a face of one of them. These glue stripes or portions of them, are arranged in approximately transverse or diagonal directions of the completed board, the particular arrangement shown in Figure 1 consisting of glue stripes arranged in wavy or curved lines, portions of these lines running substantially diagonally of the board, and the glue stripes being preferably arranged so that a number of the stripes will be intersected by any straight line drawn parallel to the glued surface in generally longitudinal or transverse directions. An important feature of the glue stripe arrangement is that the stripes 3 are separated by blank or unglued strips 4 the total unglued area being in practical examples, about equal to the glued area. In this way there is not only a great economy in adhesive, but when the two body sheets 1 and 2 are placed together every glue stripe is adjacent to an unglued portion of the material of both sheets, and these unglued bodies of material readily absorb moisture from the glue stripes and dissipate the moisture so that the completed board dries out rapidly, and warpage, which is often experienced when sheets of similar material are adhesively secured over their entire surfaces, is largely or entirely avoided. While it is not necessary in all cases, in preferred examples the longitudinal edges of the board are covered or bound by binding strips 5 of any suitable sheet material, usually paper of suitable thickness and quality, these binding strips including portions 6 overlying and adhesively secured to opposite margins of the body sheets 1 and 2, and integral connecting portions 7 which overlie the edges of the body sheet. These binding strips additionally secure the two body sheets or boards together and they also provide a smooth finish for the longitu-

dinal edges, which avoids injury to even delicate or expensive fabrics which may be wound or lapped upon the board.

Figure 3 shows what I call a continuous method of producing the articles, this or similar production methods being preferred in many cases, because of their great speed and economy. In accordance with this method the body sheet 1 is drawn in the form of a continuous web from a roll 10, and the body sheet 2 is drawn continuously from a roll 11. At a suitable point one of the web, such as 2, had adhesive applied to it in the fashion shown in Figure 1, the adhesive application being sufficiently represented by a glue roll 12 having printing surfaces 13 so disposed as to produce the curved or wavy glue stripes 3 with intermediate unglued surfaces. At a suitable point in the advance of the continuous webs, they are brought together and pressed in adhesive contact, and at a suitable point the binding material 5 is advanced in the form of continuous strips from rolls 14 and adhesively coated as sufficiently indicated by stippling, and applied in any suitable way to the continuous combined webs. In the present instance, one of the strip margins 6 is applied to the lower web 2, leaving the other parts of the binding strips projecting, and then these projecting portions are turned over and adhesively secured to the marginal surface of the upper web. The continuous binding strips may, of course, be initially applied to either of the webs before the latter are brought into assembly contact. The continuous assembly A is now completed and at a convenient point in its further advance it is severed laterally, usually at regular intervals, to produce the individual cloth boards, or lap boards B.

Figure 4 illustrates a modification, especially with reference to the glue stripe arrangement. In this instance the glue is applied in the form of straight diagonal stripes 3^a with intermediate blank surfaces 4^a. This somewhat simpler mode of glue striping provides amply for the adhesive connection of the body sheets and the substantial strengthening and stiffening of them, and also provides for an overlap of glue stripes in any generally transverse or longitudinal direction of the board, also for the proper drying of the glue without warpage, as sufficiently explained above.

The completed articles are very light but sufficiently stiff and strong for the purposes in view, such for instance, as their use as lap boards upon which previously folded lengths

of fabric are wound or lapped; they are very inexpensive both because of the cheap materials which may be employed, and rapid and economical production methods for which they are adapted.

It will be apparent from the drawings and from the description, that the lines of adhesive are so arranged with respect to the webs, that the tendency of the webs to buckle when rolled or folded on any line substantially parallel to the axis on which the board is rolled, will be restrained by lines of adhesive connecting the webs, which lines cross the probable lines of buckle at a number of points between the side edges of the boards. Thus it is impossible for any line of separation transverse to the web between the webs to extend a distance greater than the space between the lines of adhesive. Thus the tendency to buckle is checked within the width of the space between two lines of adhesive.

What I claim is:

1. Cloth, board or the like, composed of superimposed webs connected by lines of adhesive spaced apart from each other a distance corresponding substantially to the width of the individual lines, the lines so arranged with respect to the webs that the tendency of the webs to buckle when rolled or folded on any line substantially parallel to the axis on which the board is rolled will be restrained by connecting lines of adhesive between the webs crossing said probable line of buckle at a number of points between the side edges of the board.

2. Cloth, board or the like, composed of superimposed webs connected by lines of adhesive spaced apart from each other a distance corresponding substantially to the width of the individual lines, the lines so arranged with respect to the webs that the tendency of the webs to buckle when rolled or folded on any line substantially parallel to the axis on which the board is rolled will be restrained by connecting lines of adhesive between the webs crossing said probable line of buckle at a number of points between the side edges of the board, parts of said connecting lines of adhesive extending at substantially right angles to other parts of the lines, so that a part of said lines run substantially longitudinal and other parts substantially transverse to the board, and edging strips for the board.

Signed at Brooklyn, in the county of Kings, and State of New York, this 5th day of October A. D. 1923.

HARRY BRIDGMAN SMITH.