May 21, 1929. C. H. RAYNER 1,714,240

COMPOSITE WATERPROOF SHEET AND PROCESS OF MAKING THE SAME

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The invention relates to composite waterproof sheets, and the process of making the same, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially of the novel features of construction pointed out broadly and specifically in the claim for novelty following a description containing an explanation in detail of an acceptable form of the invention.

The objects of the invention are to produce sheets of insulation that will prove an effectual barrier to the passage of air through the wall into an enclosure or the reverse and at the same time liven the insulation to permit a limited aeration and thus avoid the deadness of close grained or pressed fillers, such as felt cloth and felt paper, which are liable to retain the hot or cold air or moisture for a considerable period of time; to remedy by affording ventilation through the looseness of the filler material whereby the floating globules of air may come and vanish and be replaced from time to time thus creating a local air circulation; to furnish to the public effective coverings for various purposes, such as tops for closed motor cars, seat covers and interiors; to reduce the cost of production of linings, interlinings and coverings and still maintain the efficiency of the product; and generally to provide an economical, durable and serviceable insulation sheet.

In the drawings, Figure 1 is a cross sectional view of the composite sheet, showing the filler of loose hair on the one side of a backing and binding sheet, and the surfacing of artificial leather or other material.

Figure 2 is a cross sectional view showing the filler with bats of hair on both sides of the backing or binding sheet.

Figure 3 is a sectional view showing the invention as applied to the wall insulation.

Figure 4 is an outline view showing diagrammatically the manner employed for interlocking the hair with the backing.

Figure 5 is a diagrammatic view showing the means employed for making the wall insulation.

Figure 6 is a detail in section of the filler showing another means of reinforcing the paper.

Figure 7 is a diagrammatic view showing a particular manner of using the filler for artificial leather.

Like numerals of reference indicate corresponding parts in the various figures.

The binding sheet 10 is made up of the felt paper 11 and gauze 24 stuck to said paper, or it may be a paper reinforced by string as indicated by the numeral 12 in Figure 6, though the construction shown in Figure 1 is preferable.

The loose hair or fiber is spread over the sheet 10 and passed through rolls 13 and into a loom 16 where the barbed points 15 carry the hair in looped strands beyond the gauze 24.

The loops or ends of hair projecting are then passed through hot rolls and singed. Following the singeing a layer of asphaltum is spread over the singed hair and then the back of the binding sheet is ready for the artificial leather compound which is spread thereover thus completing the composite waterproof sheet.

What I claim is:

The process as herein described consisting in spreading loose hair on a reinforced paper sheet backing or binding sheet, then punching through the hair and paper with barbed points and carrying loops and ends of hair strands therethrough, then singeing the loops and ends of hair projecting through the sheet by the points, covering the sheet by the points, covering singed hair and back with asphaltum, and applying an artificial leather compound on said asphaltum.

Signed at Montreal this 25th day of February, 1926.

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