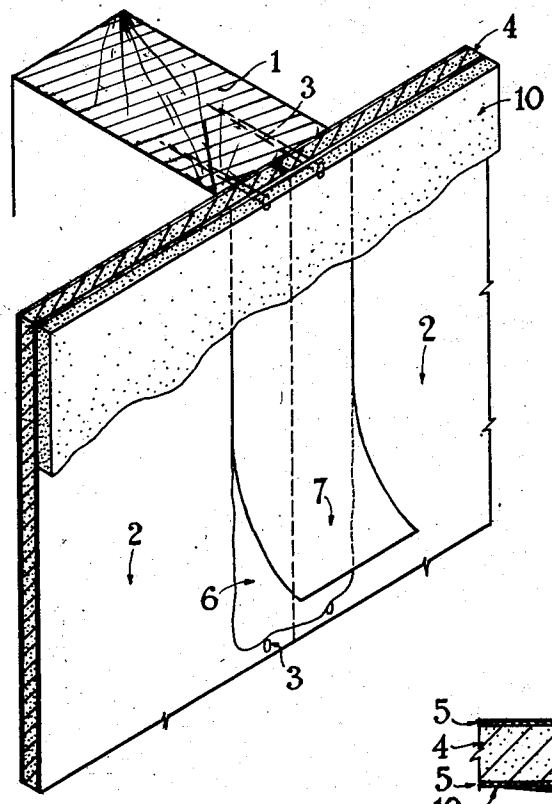
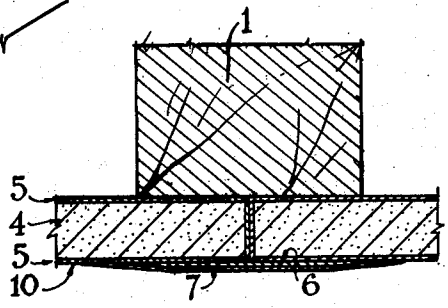
Nov. 28, 1939. F. E. DAVENPORT 2,181,530

JOINT SEALING STRIP

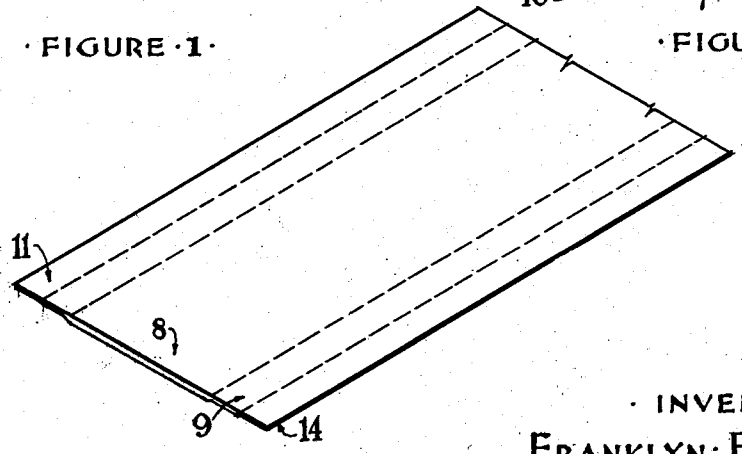
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·FIGURE·1·




·FIGURE·2·




·FIGURE·3·

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## JOINT SEALING STRIP

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6 Claims. (Cl. 72—16)

This invention relates to the manufacture of fibrous sheets or strips having a narrower intermediate portion of greater thickness and marginal side portions gradually tapering from the greater thickness to relatively thin marginal edges.

Sheets or strips of this character are suitable for manufacturing many fibrous products and particularly for joint or sealing strips used for covering joints between adjacent edges of board panels, and more especially fibrous strips for covering the joints between adjacent plaster or fiber boards that are used as wall or ceiling panels to finish or line the interior of building structures, such as the rooms of houses and the like.

More particularly described, the invention pertains to a felted fibrous strip, such as paper or the like, which is of greater thickness medially and then along its marginal longitudinal side edges, is of reduced thickness, thereby providing a medial longitudinal body portion of substantial width overlying a joint seam between adjacent boards and having opposite longitudinal marginal side portions of very thin thickness as compared with the central portion of greater thickness. A joint wall board sealing strip of this construction has been found to be superior in preventing cracks, blisters or other imperfections developing in the cement, plaster, paint or other material that is used as a finish over the joint, and is provided with edges sufficiently thin to substantially merge in the plane of the panel board faces and render, at least when painted, an invisible juncture with the faces of the panel boards.

While the strips are adapted for various uses, they are shown and described, for the purpose of illustrating the invention, for use as joint strips for panel boards for which they are especially suited.

For a better understanding of the invention reference may be made to the accompanying drawing, in which:

Fig. 1 is a perspective view of section of wall construction, embodying the invention;

Fig. 2 is a sectional plan through the wall construction; and

Fig. 3 is a perspective view of a section of the sealing strip, embodying the invention.

Referring specifically to the drawing in which like numerals are used to designate like parts, numeral 1 represents the joists or studs of the framework of a building structure to which wall or panel boards 2 are nailed at 3 along their marginal edges, the boards being ordinarily made in predetermined width to bridge the space between two adjacent joists and overlap half the thickness of the joists upon which they are seated for being nailed.

In the instant case, the boards are typified by what are generally known in the trade as plaster boards, these ordinarily comprising a gypsum plaster core 4 sandwiched between two facing sheets 5 of paper, the edges of which are folded over the edges of the board or embedded in the core. However, it will be understood that these boards may be of fibrous structure throughout such as laminated paper plies adhered together like "Beaver Board," or non-laminated homogeneous fibrous sheets, such as "Insulite," "Celotex," "Masonite" and the like. Or, as is frequently done, the plaster boards are underlaid with the fiber boards to provide increased insulating properties. These various constructions are mentioned to show that the use of the joint sealing strip is not limited to any particular type of panel boards.

The boards are first nailed in place with the side edges abutting or slightly spaced and then a joint filling cement is applied in a plastic condition, smoothed off level with the surfaces of the panel boards and dried. This cement fills up the joint crack between the panels, any irregularities or depressions, covers the nail heads, and smooths the whole joint and marginal areas flush with the panel faces. The joint filling cement may be of any suitable material commonly used in the trade for this purpose. A crack filler cement comprised of casein, lime and borax with a filler of ground mica or marble flour is satisfactory.

When the joint filler cement is dry, a thin layer 6 of suitable adhesive is applied to the adjacent margins of the panels and over the joint crack, and provides an adhesive bond for securing the tape or strip 7 to cover and finish the joint. The tape or strip 7 has a medial or intermediate body portion 8 of any desired thickness, preferably from about three-thousandths (0.003) of an inch or more, with thinner marginal portions 9 gradually tapered or stepped down to thin knife or feather edges. A body portion of about one-hundredth (0.010) of an inch is particularly suitable. When the tape is adhered over a joint with either face exposed, there is a slight taper from the thicker center of the tape to the thin marginal edges that substantially merge with the plane face of the panels and render the juncture of the tape with the face of the panels practically invisible. Thus applied, the exposed face of tape and the panels

may be then finished with a decorative material 10, such as paint, wallpaper, plaster or the like, and the juncture between the tape and the panels is entirely concealed and hidden, whereas thicker marginal edges on the tape would be set off in a higher plane than the face of the panels and would expose the junctures.

While these joint strips or tapes may be of any width they are preferably about two and one-half inches wide, the thicker medial portion being about one to one and one-half inches wide. Then from about one-half to a quarter of an inch in from each longitudinal side edge the margins are progressively tapered or stepped down, terminating in marginal laps that are of minimum thickness.

The joint strip or tape can be made on an all-cylinder paper machine, or on a combination Fourdrinier and cylinder, and follows the usual paper-making process in general. The longitudinal margins, progressively tapered or stepped to reduced thickness, may be referred to as a deckle edge and are obtained by deckling the necessary number of cylinders with tape or other means to provide spaced portions on the cylinder where no fiber will be picked up. A thin backing film 11 of the desired thickness is formed almost simultaneously with the thicker medial portion 8 having the progressively tapered or stepped portions 9 between the thicker medial portion and the marginal sides 14 which are not built up to any greater thickness. Various films of progressively narrow width also may be formed and then felted together in superposed relation with the film of progressively narrower widths disposed medially of the wider film to provide a center portion of desired thickness and thin marginal sides extending from the thicker medial portion. The finished sheet may be made as a plurality of narrow individual strips of the desired widths or as a single solid sheet having alternating bands of thicker and thin portions and then severed apart along the middle of the thinner portions into narrow strips, each of which is of the construction illustrated in Fig. 3. This built-up sheet distinguishes from one made in uniform thickness and then is ground along its margins to thinner thickness.

While the invention has been described in detail and in connection with one particular use of the strips, it will be understood that the same is not thereby limited but there may be various changes in the manufacture of the strip and its uses without departing from the spirit thereof.

Having thus described the invention, it is limited only by the appended claims:

1. A thin flexible elongated strip of substantial width comprising a longitudinal body of greater thickness, marginal sides of very thin thickness, and intermediate deckled portions progressively reduced in thickness from the body portion to the very thin marginal sides.

2. A thin flexible elongated fibrous strip of substantial width comprising a homogeneous non-laminated longitudinal body of greater thickness, marginal sides of very thin thickness, and intermediate deckled portions progressively reduced in thickness from the body portion to the very thin marginal sides.

3. A thin flexible elongated fibrous strip of substantial thickness adapted for sealing joints between adjacent panel boards comprising a longitudinal body of greater thickness, marginal sides of very thin thickness, and intermediate deckled portions progressively reduced in thickness from the very thin marginal sides, said strip being built up into this construction in the formation of the strip.

4. A panel board construction comprising panel boards having their edges attached to supporting members in adjacent relation with a panel joint formed therebetween, and a fibrous strip adhered to cover the joint having a built-up medial portion of greater thickness progressively deckled to terminate in side margins sufficiently thin to lie substantially in the plane of the exposed faces of the panels.

5. A panel board construction comprising panel boards having their edges attached to supporting members in adjacent relation with a panel joint formed therebetween, and a fibrous paper strip adhered to cover the joint having a built-up homogeneous medial portion of greater thickness progressively deckled to terminate in opposite side margins sufficiently thin to lie substantially in the plane of the exposed faces of the panel.

6. A wall board construction as set forth in claim 5 having a decorative covering applied to the faces of the panels and strip.

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