

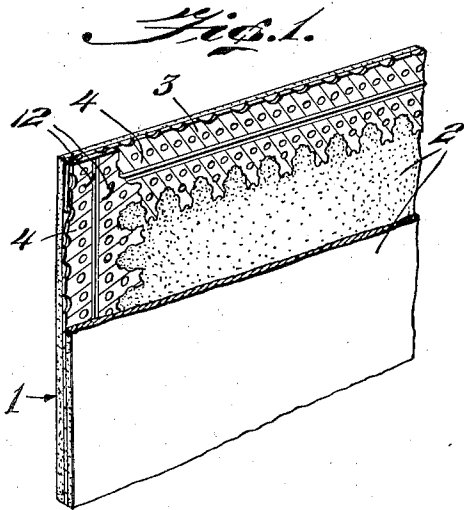
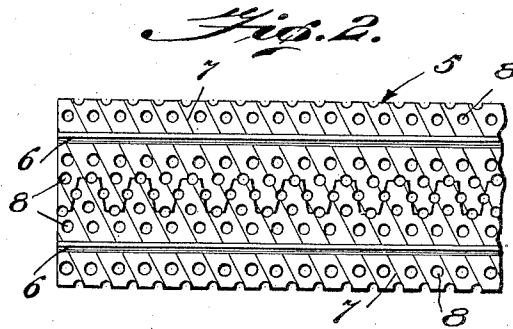
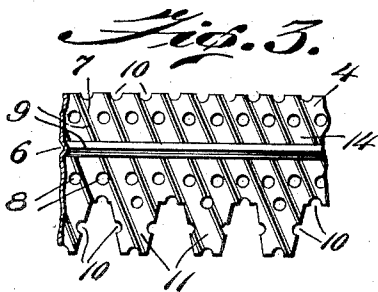
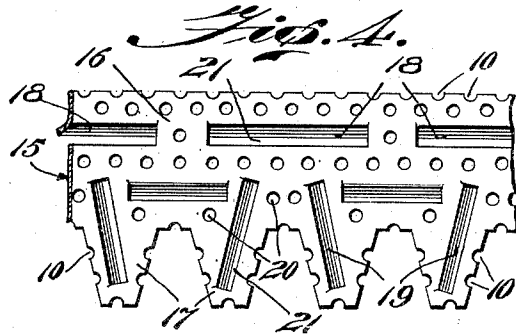
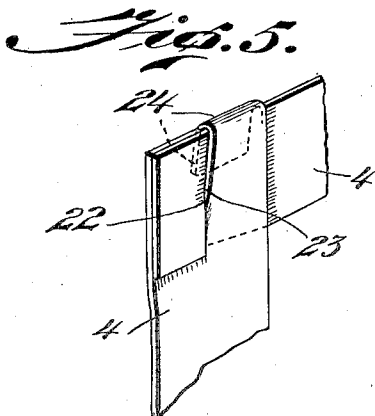
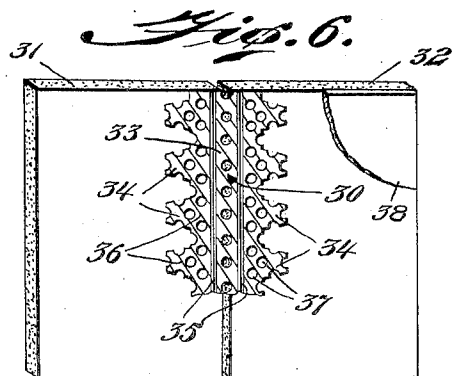
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O. V. KEAN

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PLASTER BOARD CONSTRUCTION

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PLASTER-BOARD CONSTRUCTION

Application filed July 26, 1927. Serial No. 208,444.

This invention relates to an improved plaster board construction and more particularly to an improved metallic border or strip adapted to be embedded within an initially plastic material and serves as a support for the edge portions thereof or as a reinforcement for joints between plaster board sections.

One object of the present invention is the provision of an improved plaster board construction having its edge portions reinforced by a border frame formed of thin metal strips so shaped and arranged as to tend to prevent splitting or chipping of the edges while assisting in holding the nails or other fastening devices used in securing the plaster board to a frame.

A further object of the invention is to provide an improved metal strip so shaped as to impart increased rigidity thereto and adapted to permit the union of initially plastic material therethrough when applied to opposite sides thereof, whereby a firm union is obtained between the plastic material on opposite sides of the strip.

Another object of the invention is to provide an improved metallic border adapted to be embedded within the edge portions of a plaster board section to support the same and prevent splitting or chipping of the plaster board.

Other objects and advantages of the invention relate to improved details of construction and novel methods of forming the improved structure, as will be more fully set forth in the detailed description to follow.

Referring to the accompanying drawings wherein the same reference characters represent corresponding parts throughout the several views:

Fig. 1 is an elevational view of a section of plaster board construction, one layer of the initially plastic material being broken away to show a portion of the metallic border frame and illustrate its position in the plaster board section.

Fig. 2 is a plan view of a sheet of thin metallic material illustrating one manner in which the metal strips may be formed by stamping them from a suitably shaped sheet.

Fig. 3 is a plan view of one form of the completed strip adapted for use in forming a border frame for supporting the edges of a plaster board section.

Fig. 4 is a plan view of a modified form of the completed strip.

Fig. 5 is a detail view illustrating one method of joining the strips to form a border frame, and

Fig. 6 is an elevational view showing a further modified form of metallic strip and illustrating one manner in which it may be employed by applying it in overlapping relation with adjoining plaster board sections whereby it serves as a reinforcement therefor.

In the embodiment of the invention illustrated in Fig. 1 of the drawings there is shown a portion of a plaster board section 1 which is formed from two layers of initially plastic material 2 of any desired composition such as is commonly employed or may be advantageously used in the construction of plaster board sections. A border frame, indicated generally by the reference character 3, is embedded within the initially plastic material, extending throughout the perimeter thereof and is adapted to support the edge portions of the plaster board. The border frame 3 is preferably formed from longitudinal strips 4 connected together at the corners in any suitable or desired manner before being embedded within the plastic material to form a plaster board section.

The strips 4 may be stapled or secured together at the corners by clips or other suitable devices as indicated at 12 in Fig. 1, but in the preferred form of the invention I secure the strips together at the corners by providing special interlocking means integral with the strips whereby certain portions of each strip may be interlocked together and bent to firmly secure the strips against separation.

The metal strips may be advantageously formed by cutting duplicate strips from a narrow sheet of metal 5, as shown in Fig. 2, the sheet 5 having formed therein longitudinal ribs 6 and diagonal ribs 7 for increasing the rigidity of the metal strip and having formed therein a plurality of perforations

8 adapted to permit the initially plastic material upon opposite sides of the strip to extend through the metal strip and effect a union with the plastic material therethrough. The ribs 6 and 7 are preferably formed in the sheet by folding the metal rather than by drawing or stretching it, since the metal being quite thin, preferably from .005 to .015 inch in thickness, excessive drawing or stretching might tend to weaken it unduly. As best shown in Fig. 3, the ribs 6 and 7 are preferably made with sharp bends 9 at the point of greatest depression to produce a maximum of rigidity, although more rounded ribs may be employed without departing from the spirit and scope of my invention. In other words, I prefer to employ very thin stock from which to form the strips 4, and form the ribs with sharp bends 9 in order to give added rigidity to the metal strips. If heavier stock is employed the necessity for making the ribs with sharp bends is less important as is also the preferred method of forming the ribs by bending instead of by drawing or stretching the metal. Each strip 4 is shown as provided with one longitudinal rib 6 and a plurality of diagonal ribs 7, for simplicity of illustration, although I may employ two or more longitudinal ribs as better adapted to impart rigidity to the strip throughout its width, especially when made from thin stock. I prefer to serrate the edges of the strips 4 by forming scallops 10 therein whereby the otherwise straight lines of the edges are broken up and the liability of the plaster board to chip or crack along straight lines is materially diminished. In forming strips 4 for use in plaster board sections of the usual size, such as from two to fourteen feet on a side, I prefer to make about two inches wide and the teeth 11 about one-half to three-fourth inch in length, thus, from a sheet 5 as shown in Fig. 2 of from about three to three and one-half inches in width, two duplicate strips 4 may be formed and that without any waste of metal, except what may be cut away in forming the scallops 10. I form a plurality of openings or perforations in the longitudinal portion 14 and teeth 11 of each strip to permit the initially plastic material on opposite sides of the strip 4 to extend through and unite with the plastic material on the opposite side of the strip whereby the plastic material is so firmly united as to prevent separation from the strip 4. I prefer to make the perforations in the teeth 11 of about one-eighth inch in diameter and those in the longitudinal portion 14 of about one-tenth inch in diameter and to provide a width of web between the perforations of somewhat less than the diameter of the perforations, although my invention is not to be limited to the exact width of strip, length of teeth or size and arrange-

ment of the perforations shown and described, as it is obvious that the dimensions mentioned may be varied considerably dependent upon the size of the plaster board sections and the thickness of the metal sheet from which the strips 4 are formed. I prefer to employ a non-rusting or slow rusting iron, in making the strips 4, such as the iron sold under the trade name of "Armco", as such metal is more or less resistant to rusting. I may, however, employ any soft steel for the purpose, and may protect the same against rusting by coating with zinc, zinc dust, zinc paint or other rust preventative. In any case the metal is largely protected against rusting by the plaster itself after the slight initial rusting due to the application of the wet plaster.

In Fig. 4 of the drawings I have shown a modified form of strip designated by the numeral 15, and comprising a longitudinal portion 16 and teeth 17 similar in size and shape to the corresponding parts of the strip 4. In this form of the invention I strike out certain longitudinal portions 18 and diagonal portions 19 from the longitudinal portion and teeth of the strip. These struck out portions being bent back from the plane of the body portion 16 and the teeth 17 serve as strengthening ribs to impart rigidity to the strip 15. I also provide a plurality of perforations 20 in the longitudinal portion 16 and teeth 17 of the strip. In this form of strip the plaster upon opposite sides of the strip extends through the perforations 20 as well as through the openings 21 formed by striking out the longitudinal portions 18 and diagonal portions 19 of the strip. The width of the struck out portions 18 and 19 may be about .1 inch and each of these struck out portions is preferably bent back so as to lie at approximately right angles to the body of the strip.

In Fig. 5 of the drawings I have shown one form of interlocking connection which I may employ for connecting the end portions of the strips. In the form shown, one of the strips 4 is slit laterally as at 22, while the other strip 4 is slit longitudinally as at 23, and upon the strips being fitted together as shown, the end 24 of the second strip is bent down over the first strip 4 as shown in dotted lines to hold the parts against separation during the application of the plastic material thereto and until the plaster has set.

In Fig. 6 of the drawings there is shown a further modified form of metallic strip 30 and one method of using the same as a reinforcement for plaster board construction after the plaster board sections 31 and 32 have been secured to a frame. The strip 30 comprises a longitudinal portion 33 and oppositely positioned teeth 34 arranged in staggered relation, the strip 30 being provided with two longitudinal ribs 35, although a

greater or less number of ribs may be employed, and a plurality of diagonal ribs 36, both the longitudinal and diagonal ribs being formed as hereinbefore described. A plurality of perforations 37 are formed in the strip 30 to permit the plastic material 38 to enter the perforations and unite with the plaster material of the sections 31 and 32. In the use of this form of strip as shown herewith the plaster board sections 31 and 32 may be first applied to a frame, as the frame members of a room, and when secured thereon the strip is applied so as to overlie the junction of the plaster board sections and is secured thereto as by nails or other suitable fastening devices passed through the strip and the edges of the sections 31 and 32. A layer of plaster 38 is then applied over the sections 31 and 32 and the strip 30 to form a smooth and even surface unbroken by any joint between the plaster board sections.

In the construction of plaster board sections as shown in Fig. 1, by embedding a border frame formed of strips 4 or 15, a layer of plaster or initially plastic material is placed on both sides of the border frame, and the material allowed to set before being used. In attaching the plaster board sections to a frame, nails or other fastening devices are driven through the edges of the plaster board section at such points as to pass through the longitudinal portions of the metal strips whereby the metal strips serve as anchoring means for the nails or the like and prevent chipping or splitting of the material in nailing the sections to a frame.

It will be seen that the present construction is such as to provide a plaster board reinforced at its edges by a metal border frame, formed of metal sufficiently thin to be readily cut in trimming away portions of the plaster board and sufficiently thin not to add appreciable to the weight of the plaster board, while preventing accidental chipping or splitting of the plaster board and serving as an anchoring means for nails or other fastening means passed through the edges of the plaster board sections.

What I claim is:

1. A plaster board section of the character described formed from plaster like material and having embedded therein a thin perforate metallic border member which extends inwardly from the edge of said section throughout the perimeter thereof and provides a support for the edge portions of said plaster board section.

2. A border member adapted to be embedded in the edge of a plaster board section to support the same against chipping and provide an anchorage for fastening devices, which comprises a thin metal plate having strengthening ribs formed therein and provided with a plurality of openings whereby the initially plastic material from which the

plaster board section is formed may extend through the said plate to firmly secure the border member in the plaster board section.

3. A border member adapted to be embedded in the edge of a plaster board section to support the same comprising a metal strip having one side thereof provided with teeth adapted to project inwardly towards the interior of the plaster board section, the edges of said border member being serrated to avoid the presence of straight lines and thus prevent cracking of the plaster board.

4. A border member adapted to be embedded in the edge of a plaster board section to support the same comprising a perforate metal strip provided upon one side thereof with a plurality of projecting teeth extending inwardly towards the interior of the plaster board section, and having a plurality of strengthening ribs formed therein and arranged at varying angles relative to each other.

5. In a structure of the character described, a metal strip provided upon one side thereof with a plurality of projecting teeth, and having a plurality of perforations formed therein, the edges of said strip being serrated, and strengthening ribs formed in said metal strip.

6. A border frame adapted to be embedded within a plaster board section for supporting the edges thereof and comprising thin perforate metal strips provided with strengthening ribs, the end portions of certain of said strips being split for the reception of the end portions of other of said strips, certain of the said end portions being bent over the end portion of the engaging strip to secure the said strips together and form a metal border frame.

7. A border frame adapted to be embedded within a plaster board section for supporting the edges thereof and comprising thin perforate metal strips provided with strengthening ribs, and interlocking means at the ends of said strips for connecting the same together to form a border frame.

8. A metal strip of the character described comprising a longitudinal portion, a plurality of projecting portions integral with said longitudinal portion and extending from one side thereof, and strengthening ribs formed within the longitudinal portion and projecting portions of said strip.

9. A metal strip of the character described comprising a longitudinal portion, a plurality of projecting portions extending outwardly from each side of said longitudinal portion, and strengthening ribs formed within the longitudinal portion and outwardly projecting portions of said strip.

In testimony whereof I have affixed my signature.

OTHO V. KEAN.