

[54] **APPARATUS FOR ORNAMENTING WALLS AND CEILINGS**

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264/132, 401/201

[51] Int. Cl. **B41m 3/18**, B41f 31/24, B41k 1/50

[58] Field of Search 401/201; 101/368, 379,
101/327, 399; 264/132, 133; 33/27 C, 174 B,
174 G

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[57] **ABSTRACT**

A method of ornamenting walls and ceilings which includes dipping a base supported resilient plastic foam pattern into a pourable slurry containing solids capable of coalescing into a solid mass, then pressing the pattern against the surface to be ornamented with sufficient force to expell said slurry from the pattern onto the surface, and removing the pattern from the surface to leave a pattern of slurry deposited on the surface. The pattern is guided by chalk lines marked on the surface and by a chain connected at one end to the base and at the other end to the surface to be ornamented.

10 Claims, 14 Drawing Figures

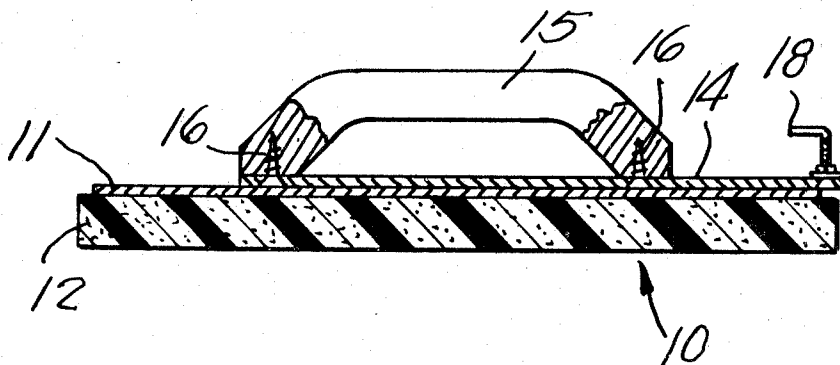


FIG. 1.

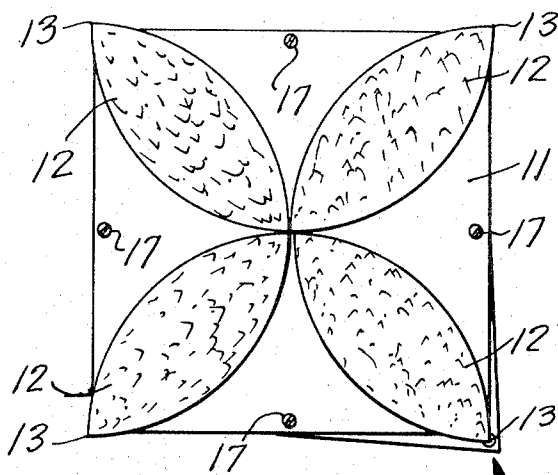


FIG. 2.

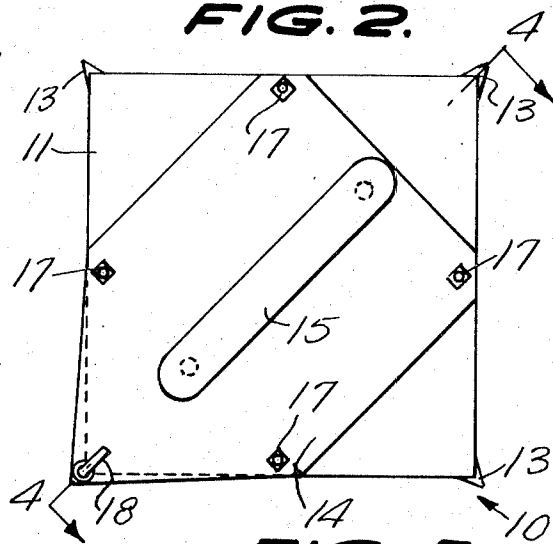


FIG. 3.

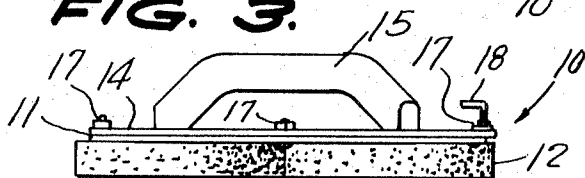


FIG. 5.

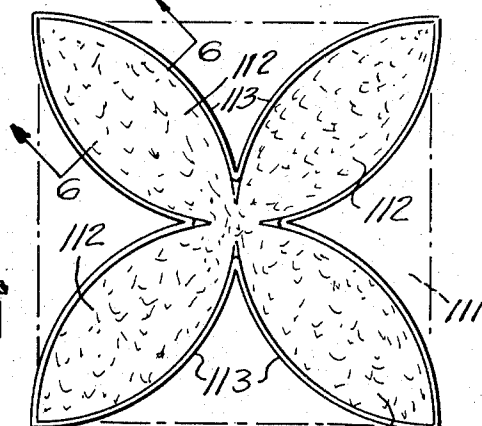


FIG. 4.

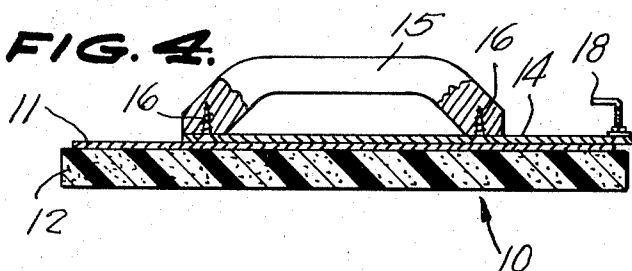


FIG. 9.

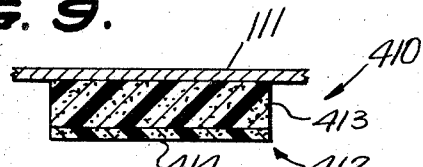


FIG. 6.

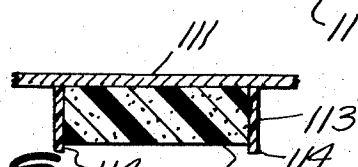


FIG. 10.



FIG. 7.

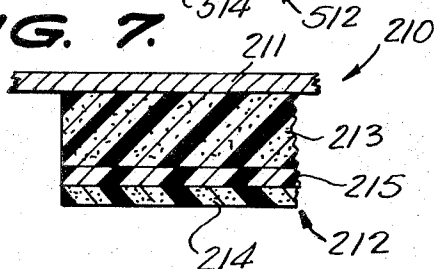


FIG. 8.

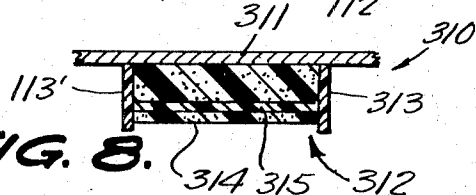


FIG. 11.

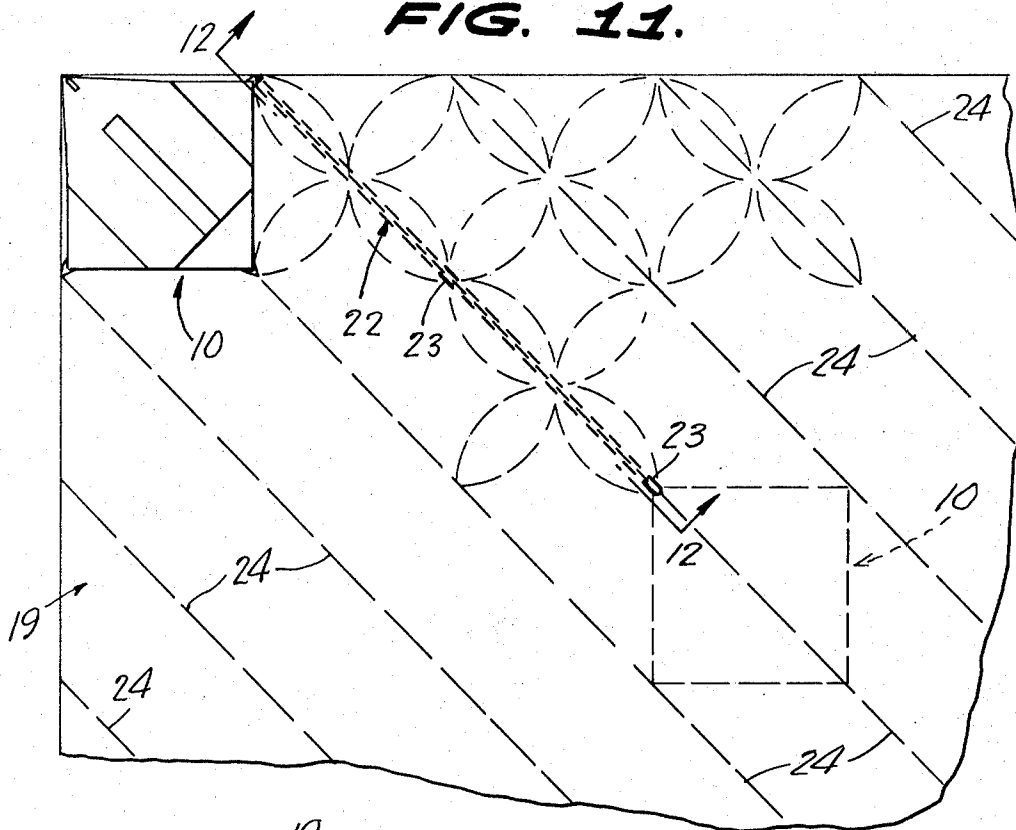
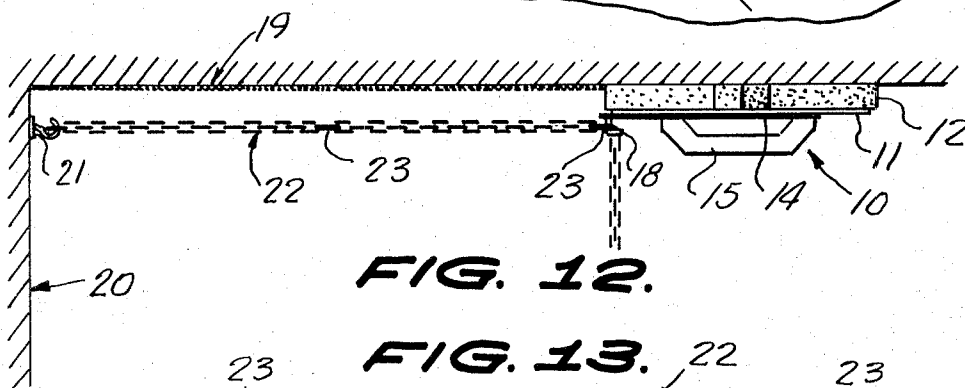
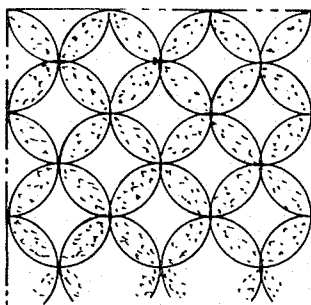


FIG. 12.

FIG. 13.



FIG. 14.



APPARATUS FOR ORNAMENTING WALLS AND CEILINGS

An apparatus for ornamenting walls and ceilings including a handle-carrying backing plate to which is detachably secured a support plate. A plastic foam pattern is secured to the side of said plate opposite said backing plate. The plastic foam pattern is of an open cell construction and consists of a relatively thick single pad. In a modified form of the invention, a border formed of a rubber strip is secured to the peripheral edges of the pattern pad and extends beyond the outer surface of the pattern pad to provide an outline of the pattern on the wall. In another modified pad, a relatively thick impervious flexible resilient pad is secured to the backing plate and a relatively thin resilient plastic foam pad is secured thereto for contact with the work. In another modified pad, the resilient plastic foam pad consists of a relatively thick portion and a relatively thin portion separated by a thin sheet of impervious flexible material. In the latter two forms a border outline element is disclosed as a further modification.

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

The present invention is directed to a method and tool for applying patterned ornamentation to the surfaces of walls and ceilings.

SUMMARY OF THE INVENTION

In the method of the instant invention, a pattern formed of open-cell plastic foam mounted on a support plate carried by a backing plate having a handle, is dipped into a slurry containing solids capable of coalescing into a solid mass and the pad is then pressed firmly against a wall or ceiling to be ornamented to expell a portion of the slurry from the pad which then clings to the wall or ceiling in the form of the pattern. The pad is removed without disturbing the outline of the pattern. The tool is guided by a chalk line marked on the surface and by a chain having one end connected to the surface, and the opposite end portion connected to the tool.

The apparatus other than the chain consists of a tool in which a resilient flexible open-cell plastic foam pad is secured to a support plate which, in turn, is detachably secured to a backing plate carrying a handle. The pad is of relatively thick one-piece construction, may be of two portions separated by an impervious flexible sheet, or may be formed of a relatively thick resilient closed-cell back-up portion with a relatively thin open-cell resilient plastic foam pad secured thereto for contacting the slurry and the work. Each of the pads may also be used with an impervious relatively thin strip of resilient material secured to the peripheral edges of the pad so as to extend outwardly and slightly beyond the over-surface of the pad.

The primary object of the invention is to provide a method and apparatus for ornamenting walls and ceilings which can be used by semi-skilled artisans and by persons with no previous training in the wall decorating art.

Other objects and advantages will become apparent in the following specification when considered in the light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a bottom plan view of the invention;

FIG. 2 is a top plan view of the invention;

FIG. 3 is a side elevation of the invention;

FIG. 4 is a diagonal vertical cross-section taken along the line 4—4 of FIG. 2 looking in the direction of the arrows;

FIG. 5 is bottom plan view of a modified form of the invention;

FIG. 6 is a transverse sectional view taken along the line 6—6 of FIG. 5 looking in the direction of the arrows;

FIG. 7 is a view similar to FIG. 6 of another modified form of the invention;

FIG. 8 is a fragmentary view similar to FIG. 6 of still another modified form of the invention;

FIG. 9 is a view similar to FIG. 6 of another modified form of the invention;

FIG. 10 is a view similar to FIG. 6 of a further modified form of the invention;

FIG. 11 is a fragmentary plan view of a surface illustrating the method used in decorating the surface;

FIG. 12 is a sectional view taken along the line 12—12 of FIG. 11, looking in the direction of the arrows;

FIG. 13 is a fragmentary elevational view of the chain illustrated in FIGS. 11 and 12; and

FIG. 14 is a fragmentary plan view of a surface decorated with the method and apparatus of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures, the reference numeral 10 indicates generally a tool constructed in accordance with the invention.

The tool 10 includes a square flat base plate 11, normally formed from aluminum or magnesium plate stock about one-eighth inch in thickness. The base plate 11 in the form of the invention illustrated in FIG. 1 is a 8 1/2 inches to a side. Obviously, the base plate 11 may be varied in size in accordance with the needs of the particular ornamentation being given the walls.

To one face of the plate 11 are adhered pre-formed pattern-forming pads 12 consisting of flexible, resilient, open-celled, polyurethane foam plastic. Adhesion is by means of any adhesive recommended by the manufacturer of the foam.

Polyurethane foam plastic is available in a number of densities and in the present case a density of about 3 1/2 lbs. per cubic foot has been found to be particularly effective. The pads 12 are cut or stamped on commercially available webs of foam plastic of appropriate size and thickness and the pattern represented by the shape and arrangement of the pads 12 may be of any conceivable form.

It should be particularly noted that the pads 12 when extending toward a corner of the plate 11 have the outer tip ends 13 projecting beyond the corner of the plate 11 a distance sufficient to permit the ready aligning of the corners of the pattern with the corners of adjacent patterns when applied to a wall.

A backing plate 14 is provided with a handle 15 secured thereto by screws 16 passing through the backing

plate 14. The backing plate 14 is detachably secured to the base plate 11 by a plurality of relatively short bolts 17. A hook 18 is secured to one corner of the backing plate 14 projecting slightly beyond one corner of the base plate 11.

Referring now to FIG. 12 the ceiling to be decorated is indicated generally at 19 and one of the side walls is indicated generally at 20. A hook 21 is detachably secured to the side wall 20 or to the edge of the ceiling 19 as desired. A link chain 22 has one end engaged over the hook 21 and has a link engaged over the hook 18 on the tool 10. At regular intervals corresponding to the diagonal length of the tool 10, the chain 22 is provided with colored links 23 to engage the hook 18. The chain 22 thus becomes a measuring gauge for the tool 10 so that the tool 10 can be applied to the ceiling 19 at spaced regular intervals.

In FIGS. 5 and 6 a modified form of the invention is illustrated generally at 110. The tool 110 includes a backing plate 111 having pads 112 secured thereto. An outline strip 113 is secured to the peripheral edge of the pattern pads 112 and at 114 extends beyond the pad 112 slightly to provide a distinct outline for the pattern being applied to the ceiling. The band 113 is of a closed cell construction and is both flexible and resilient. The pad 112 is identical to the pad 12 with the exception of the band 113.

In FIG. 7, another modified form of the invention is illustrated generally at 210 wherein a backing plate 211 has a pad indicated generally at 212 secured thereto. The pad 212 has a relatively thick portion 213 formed of a flexible resilient opencelled polyurethane foam plastic, a relatively thin pad 214 formed of the same material and a panel 215 formed of flexible resilient closed-cell polymeric material. The pads 213, 214 are adhesively secured to opposite sides of the panel 215 by any suitable adhesive. The panel 215 prevents the slurry from being soaked into the pad 213 so that only the quantity of slurry which soaks into the pad 214 is expelled on to the wall or ceiling.

In FIG. 8 another modified form of the invention is illustrated generally at 310 in which the backing plate 311 has a pad generally indicated at 312 adhesively secured thereto. The pad 312 consists of a relatively thick pad portion 313 identical to the pad portion 213, a relatively thin pad portion 314 identical to the relatively thin pad portion 214, and a panel 315 identical to the panel 215. A band 113' identical to the band 113 extends completely around the pad 212 and is secured to the peripheral edges thereof. The band 113' operates in the same manner as the band 113.

In FIG. 9, another modified form of the invention is illustrated generally at 410 wherein a backing plate 111 has a pad generally indicated at 412 secured thereto. The pad 412 includes a relatively thick pad portion 413 formed of a closed-cell flexible resilient polymeric material having a relatively thin pad 414 secured thereto. The pad 414 is identical to the pad 214 and the operation of the tool 410 is identical to that of the tool 210.

In FIG. 10, a further modified form of the invention is illustrated generally at 510 wherein a backing plate 511 has a pad 512 adhesively secured thereto. The pad 512 includes a relatively thick pad portion 513 identical to the pad portion 413 and a relatively thin pad portion 514 adhesively secured thereto and identical to the relatively thin pad portion 414. A thin flexible resilient

band of polymeric material 113'' identical to the band 113 surrounds the peripheral edges of the pad 512 and is adhesively secured thereto. The operation of the modification illustrated in FIG. 10 is identical to that for the modification illustrated in FIG. 8.

In the instances wherein a band 113, 113', or 113'' are used, the respective tools may, in addition to being dipped into the slurry, have the slurry applied thereto by a trowel until it fills the space between the projecting edges of the bands.

In practicing the method of the invention described above, particular reference is made to FIGS. 11 through 13. In FIG. 11, a ceiling generally indicated at 19 has been divided by a plurality of evenly spaced parallel chalk lines 24.

With the ceiling fully marked, a slurry is prepared. A typical slurry, which has been found quite satisfactory, is to mix one and one-half gallons of lime hydrate with one gallon of Keene's cement and the two dry ingredients are then mixed with one and one-half gallons of water. This will make a slurry of a consistency which is easily picked up by the foam portions of the pattern pads, easily expelled from the pads onto the ceiling and which, when in place, will harden to a permanent finish. It may be noted that Keene's cement is simply a modified plaster and is easily available through ordinary sources of supply. No doubt, various changes in proportions and even in selection of the materials will occur to those skilled in the plastering art and the foregoing example is to be taken as expressing recommended guides rather than as being critical to the performance of the process.

When the slurry is made, it is dumped into a broad shallow container, preferably fifteen to eighteen inches wide and four or five inches deep. If water appears on the surface of the slurry, it may be stirred from time to time. The tool 10 is then dipped into the slurry to a depth equal to from one-half to two-thirds of the thickness of the pad. When the tool 10 is removed from the slurry, it is only necessary to hold it vertically over the pan and there will be sufficient drainage to remove any excess of slurry. In the instance when simple drainage is not enough, the tool 10 can be pressed lightly against a mortar board to expell the excess slurry.

It makes little difference how the slurry is applied to the tool. Applicant prefers the dipping method but it may also be applied by troweling or any other desired method.

In applying the tool 10 with slurry thereon to the ceiling 19, it is first applied to one corner of the ceiling 19 with one of the diagonal lines 24 extending through the tool 10. A pattern is applied to the ceiling 19 as indicated above and then the chain 22 is connected by means of one of the color links 23 so that the tool 10 can then be applied to the ceiling 19 at the correct spatial interval along one of the diagonals 24. In this manner the complete ceiling is covered with the pattern.

Preferably, application is perpendicular to the surface of the wall and pressure is applied to the handle 15 sufficiently to compress the pads 12 to about 50 percent of their original thickness. The handle 15 is then used to remove the tool 10 from the wall, leaving, in relief, an imprint of the shape of the pattern pads 12. This operation is repeated (with repeated dippings) until the ceiling is completely patterned as illustrated in FIG. 14. The imprint of the pads 12 depends on the consistency of the slurry and the pressure applied to it, and will be

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left in stippled relief projecting outwardly from the surface of the ceiling from an eighth to as much as three-eighths of an inch beyond the plane thereof.

If desired, base plate 11 and the backing plate 14 may be given a slight curvature with the imprinting then accomplished by a rolling action. This is of particular advantage to the less skilled operator, but in general will not produce quite the fine quality of final workmanship possible with the flat tool.

For patterns which extend to the diagonal corners of the backing plate 11 the pads 12 project slightly beyond said corners of the plate 11 to assure that in applying adjacent patterns, there will be a meeting and a slight overlap between the extremities of adjacent patterns.

Applicant has found that it is possible to substitute for the above-described slurry, a prepared paint of the semi-fluid type, one example of which is sold by DuPont under the trade name "LUCITE." This produces similar stippled effects with almost the same depth of relief on a ceiling. In using materials other than the slurry described above, it may be found necessary to vary the density of the foam to obtain the desired imprinting of the pattern.

Applicant in using tools of a nominal size of 8 1/2 inches square, has found that a pad thickness of from 1 inch to 1 1/4 inches is practical. In the case of the two-part pad the open-cell portion would extend from one-eighth to three-eighths inches in thickness with the closed-cell portion extending from five-eighths to 1 one-eighth inches in thickness. In the case of the three-part pad, the inner open-cell portion would extend from seven-sixteenths to nine-sixteenths inches, the outer open-cell portion would extend from one-eighth to three-eighths inches, and the closed-cell divider panel would be approximately three-sixteenths inches thick.

The two-part and three-part pads permit only a small portion of the total pad from becoming filled with slurry and hence slurry is not expelled on the base plate to drip therefrom in use. The peripheral band secured to the border of the pattern also is effective in preventing excess slurry from lodging on the base plate to drip therefrom in use.

Having thus described the preferred embodiments of the invention, it should be understood that numerous structural modifications as changes in the method, may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. A tool comprising a flat substantially rigid backing plate having at least one corner, a handle secured to a face of said backing plate, a hook secured to said one corner of said backing plate on the face thereof to which said handle is secured, a flexible positioning

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member detachably connected to said hook, a substantially flat generally rigid base plate detachably secured to the other face of said backing plate, a pattern formed of an open-cell flexible resilient foam plastic pad secured to said base plate opposite said backing plate with a portion of said pad extending slightly beyond the edge of said base plate for aligning the tool with a previously imprinted pattern.

2. A device as claimed in claim 1 wherein said base plate is substantially rectangular and said handle extends diagonally across said base plate.

3. A device as claimed in claim 1 wherein said pad has a closed cell flexible resilient band adhesively secured to the peripheral edges thereof with said band extending slightly beyond the lower face of said pad to form an outline of the pattern thereon.

4. A device as claimed in claim 1 wherein said pad includes a relatively thick portion of said open-cell plastic foam and a relatively thin portion of said open-cell plastic foam along with an impervious closed-cell flexible resilient panel adhesively secured between said relatively thick portion and said relatively thin portion of said pad.

5. A device as claimed in claim 4 including a closed-cell flexible resilient band adhesively secured to the peripheral edges of said pad and extending slightly therebelow to form an outline of said pattern.

6. A device as claimed in claim 4 wherein said relatively thick portion has a thickness in the range of from seven-sixteenths to nine-sixteenths inches, said relatively thin portion has a thickness in the range of from one-eighth to three-eighths inches and said panel is approximately three-sixteenths inch thick.

7. A device as claimed in claim 1 wherein said pad includes a relatively thick portion formed of a closed-cell flexible resilient polymeric material and adhesively secured thereto a relatively thin portion of an open-cell flexible resilient plastic foam, with said relatively thick portion lying between said base plate and said relatively thin portion.

8. A device as claimed in claim 7 wherein a band formed of closed-cell flexible resilient polymeric material is secured to the peripheral edge of said pad and extends slightly therebelow to provide an outline of said pattern.

9. A device as claimed in claim 7, wherein said relatively thick portion has a thickness in the range of from five-eighths to 1 1/8 inches and said relatively thin portion has a thickness in the range of from one-eighth to three-eighths inches.

10. The tool of claim 1, and wherein said flexible positioning member comprises a link chain provided at regular intervals with distinctively marked links selectively engageable with said hook.

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