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A. DOHERTY

2,154,036

CONSTRUCTIONAL FINISH DETAIL ELEMENT

Filed Aug. 25, 1937

FIG. 3.

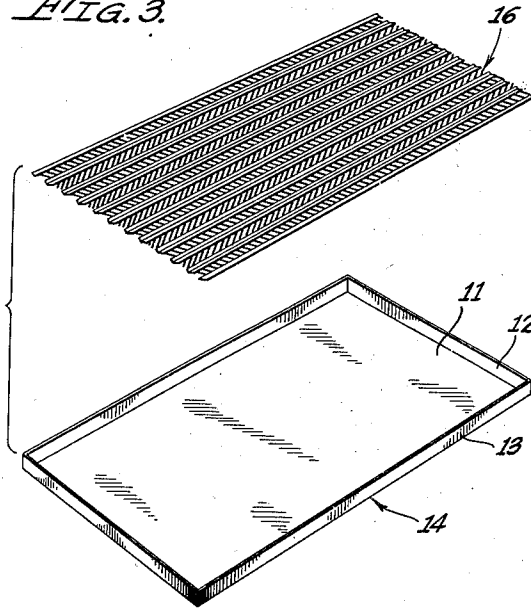


FIG. 4.

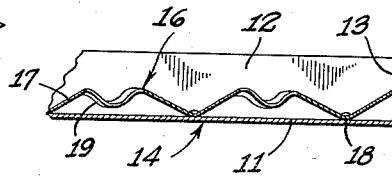


FIG. 5.

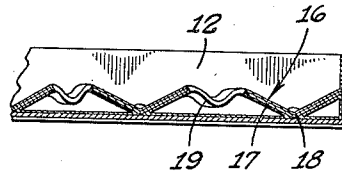


FIG. 1.

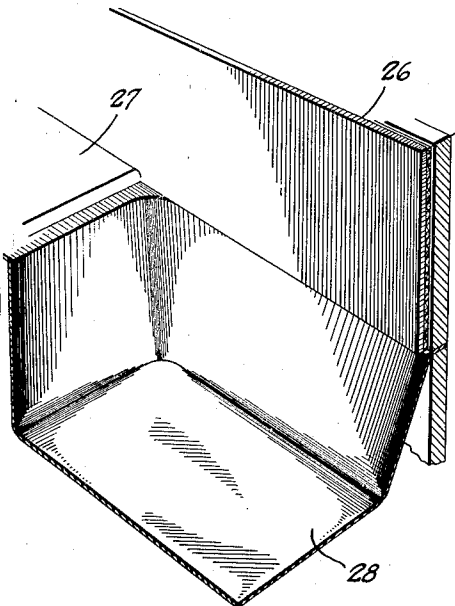


FIG. 6.

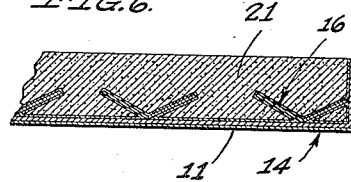
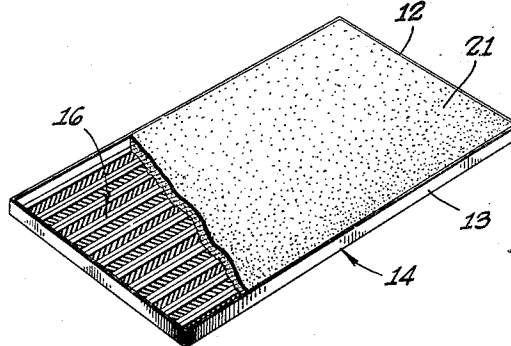


FIG. 2.



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CONSTRUCTIONAL FINISH DETAIL ELEMENT

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4 Claims. (Cl. 72-0.5)

This invention relates to finish detail for building construction, and has for an object the provision of a surfacing panel of novel and highly advantageous design.

5 A more detailed object is to provide a panel susceptible to fabrication in any suitable size and adapted for insulation in the place of drain- and splash-boards, floor, walls, and other surfaces more conventionally constructed of tile, sheet metal, wood, or cementitious material. With this object in view, the present invention comprises a novel, highly-decorative, and thoroughly sanitary drain- and splash-board construction, or a wall or floor construction wherein absolute water-
10 proofing and sanitary protection are desired, as in bathrooms and shower stalls. It becomes apparent, therefore, that I have provided a substitute for the tile, Monel metal, or stainless steel now popularly used for the types of finish installation recited.

15 A further object of the present invention is to provide novel and highly efficient attaching and supporting means for the panel, whereby warping, sagging, and other distortion of the installed panel are effectually prevented, particular attention having been paid to the prevention of the buckling or blistering produced by the application of heat, especially when unevenly applied, which represents one of the most pronounced disadvantages of monel or stainless steel drain-
20 boards.

25 Another object is to provide a construction finish detail element of the general character indicated which is relatively simple and inexpensive to manufacture and install and which is generally superior in efficiency and serviceability.

30 A still further object of the present invention is to provide a novel method of constructing the finish detail element referred to.

35 The invention possesses other objects and advantageous features, some of which, with those enumerated, will be set forth in the following description of the preferred embodiment of my invention illustrated in the drawing accompanying and forming a part of the specification. It is to be understood that I do not limit myself to the showing made by the said drawing and description, as I may adopt variations of the preferred form within the scope of my invention as set forth in the claims.

40 Referring to the drawing:

45 Fig. 1 is a perspective view showing a portion of a conventional household sink and the splash- and drain-boards associated therewith. The splash- and drain-boards are constructed in ac-

cordance with the principles of the present invention.

Fig. 2 is a perspective view of one of the elements viewed from the back, a portion of the figure being broken away the better to disclose
5 the construction of the panel;

Fig. 3 is a perspective view similar to Fig. 2 but slightly enlarged and showing the parts separated from each other;

Fig. 4 is an enlarged transverse sectional view, 10 the plane of section being indicated by the line 4-4 of Fig. 2;

Fig. 5 is a similar view taken on the line 5-5 of Fig. 2; and

Fig. 6 is a similar view taken on the line 6-6 15 of Fig. 2.

In terms of broad inclusion, the present invention comprises a finish detail element for use in construction work, in the form of a panel of any suitable size and shape, which panel is constructed of a sheet of metal to the back face of which
20 a sheet of metal lath is integrally joined at closely spaced points throughout the entire area of the sheets, and suitable cementitious grouting material spread upon the metal lath in such
25 a manner that it either entirely fills the space between the metal lath and the metal sheet or develops a sufficient key between the metal lath and metal sheet to anchor the grouting securely to the assembled sheets. Preferably the metal
30 sheet has all or selected ones of its lateral edges deflected to provide upstanding flanges on the inner face of the sheet, thus providing a pan-like construction within which the metal lath and grouting are accommodated. Upon completion, therefore, the panel of the present
35 invention presents a metal outer face and an inner face of hardened cementitious material such as ordinary keen cement, and inasmuch as the latter unites effectually with a suitable bond such as green cement spread thereon, as a means for causing the panel to adhere to the under structure, when the panel has been mounted in the manner indicated it is as securely disposed as
40 conventional tile. The outer face of the metal sheet may be polished, lacquered or enameled, or any suitable finish may be applied thereto, depending upon the type of installation and the finish of the surrounding portions of the construction with which it is to harmonize.
45

50 More specifically described, the constructional finish detail element of the present invention comprises a sheet 11 of suitable metal, such as stainless steel, or, in the event that such finish as enamel or paint is to be employed, of ordinary
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sheet iron. Flanges 12, 13 are formed about the periphery of the sheet 11 by bending the edges to lie substantially perpendicular to the plane of the sheet, these upstanding flanges 12, 13 being
 5 formed on that face of the sheet 11 which is to be the back, or the inner face thereof. Hence this flanged sheet 11 is in the form of a pan indicated in its entirety at 14.

Within the hollow side of the pan 14, i. e.,
 10 against the inner face and lying between the flanges 12, 13 is a sheet 16 of metal lath, preferably coextensive with that portion of the sheet 11 from which the flanges 12, 13 extend. The metal lath 16 is united integrally with the sheet
 15 11 as by spot welding, such welds occurring at short intervals throughout the entire area of the sheet—say every three or four inches, both longitudinally and laterally.

Whereas metal lath 16 of any suitable design
 20 may be employed, that which I have found most desirable for the present use is of expanded metal and comprises a plurality of longitudinally extending V-shaped troughs 17, the crests 18 of which are in contact with the inner face of the
 25 metal sheet 11. These troughs 17 are separated from each other a material distance but are joined by a large number of spaced webs 19 or ribbons which serve to unite the entire sheet 16 of metal lath in an integral unit but to leave a
 30 large number of apertures therethrough, through which cementitious material can be forced either to embed the metal lath completely therein or to form a suitable key of cementitious material between the metal lath 16 and the metal sheet 11.
 35 This cementitious lath or grouting 21 is applied while in plastic and usually wet form, hence I have found it desirable at least under some circumstances to provide a protective coating upon at least those portions of the element with which
 40 the grouting 21 comes in contact. This is most easily accomplished by dipping the entire assembled and welded sheets 11 and 16 in a bath of enamel, which subsequently hardens and provides a substantially impervious coating to prevent
 45 rusting or corrosion even after the bonding material 21 has been applied.

The flanges 12, 13 serve as guides or stops to determine the quantity of cementitious material 21 to be applied within the pan 14, inasmuch as
 50 in its preferred construction the hollow back side of the panel is completely filled with this cementitious material. When it has hardened, the exposed surface of this cementitious material is altogether suitable to receive bonding material
 55 such as keen cement similar to that used in setting tile, whereby the completed panel can be mounted upon the under structure; it being understood, of course, that that under structure has previously been prepared by being coated with a
 60 suitable sheet of cement or similar material, as when preparing for the reception of ordinary tile.

It becomes apparent, therefore, that the present invention provides a metal panel of any suitable size and shape. It is recognized that it is
 65 not new to employ metal panels as finish detail in many types of construction, viz.: stainless steel and monel splash- and drain-boards and the metal sheath commonly used for decorative effects upon such forms.

Previously, however, it has been possible to support such metal sheets only along their edges. Particularly in the case of sheet metal drain-boards this limitation is definitely disadvantageous because of the tendency for the metal, being
 75 unattached to the supporting structure except

at its edges, to warp, sag or buckle, thus becoming separated from the supporting structure, spoiling the otherwise smooth outer surface and hence becoming definitely unsightly. In the case
 5 of drain-boards, this tendency is especially unfortunate because whenever heat is applied to the panel, as when a hot receptacle is placed thereon, the metal will swell where the heat is applied, thus forming a blister or swelling which
 10 never returns to its original flat condition, even when cooled to its original temperature. This disadvantage is entirely overcome by the present invention by the spot welding by means of which the metal lath is integrally united with the back
 15 face of the metal panel at such short intervals throughout their entire co-extensive area.

Whereas the welding causes discoloration of the outer face of the sheet metal 11, and in some instances actual swelling, this presents no difficulty
 20 inasmuch as the finishing of the outer face is not performed until after the welding has been completed and usually until after all the other steps in the process of manufacture of the panel are finished, thus leaving the outer face of the completed panel perfectly smooth and devoid of any
 25 defect in respect to discoloration. The outer face can be finished in any manner. If a stainless steel or Monel metal drain- or splash-board is being formed, the outer face of the finished panel will be left polished but without any coating.
 30 However, if it is desired to simulate a tile construction, the outer face of the panel can be enameled and preferably then baked to provide the more beautiful and durable surface. Any suitable pigment may be employed in the glaze
 35 when enameling, so that the panel of the present invention can be used in conjunction with any type of construction and caused to harmonize with its surroundings just as satisfactorily as in the case of the more conventional tile.
 40

The panel of the present invention is possessed of a great advantage over tile, however, in that each construction unit such as each drain-board, each splash-board, or each wall of a bathroom
 45 or of a shower stall is of one single piece. Obviously this is a much more desirable construction than conventional tile, in which each element of construction is made up of a large number of tiles bonded together by grouting. This grouting
 50 has the tendency to become chipped, thus not only becoming relatively unsightly but also developing a highly unsanitary condition because of the difficulty of keeping the grooves which develop when the grouting chips out free from accumulated matter.
 55

Fig. 1 illustrates the manner of installation of the constructional finish detail element of the present invention. Here it is illustrated as forming the splash-board 26 and drain-board 27 for a conventional household sink 28. It should be
 60 noted that each of the boards 26, 27 is of one single piece. Each is made of proper size to fit into the desired location and then mounted in operative position in accordance with the description hereinabove. Such assembly yields a thoroughly
 65 waterproof and sanitary construction having all the advantages, both from the standpoint of serviceability and decorative effect, of conventional tile, but none of the disadvantages.

I claim:

1. In a surfacing panel for building construction, a metal sheet, and means for attaching said sheet rigidly to a supporting structure, said attaching means comprising a sheet of metal lath welded to the inner face of said sheet at closely
 75

5 spaced spots throughout the area thereof, and cementitious material applied to said inner face of said metal sheet and embedding said metal lath within said cementitious material, the exposed face of said cementitious material being adapted to receive bonding material for fastening said panel to said supporting structure.

10 2. In a surfacing panel for building construction, a metal sheet, and means for attaching said sheet rigidly to a supporting structure, said attaching means comprising a sheet of metal lath welded to the inner face of said sheet at closely spaced spots throughout the area thereof, and cementitious material applied to said inner face of said metal sheet and embedding said metal lath within said cementitious material, edges of said metal sheet being bent up to present a pan construction within which said cementitious material is confined, and the exposed face of said cementitious material being adapted to receive bonding material for fastening said panel to said supporting structure.

3. In a surfacing panel for building construction,

a metal sheet, means for attaching said sheet rigidly to a supporting structure, said attaching means comprising a sheet of metal lath welded to the inner face of said sheet at closely spaced spots throughout the area thereof, and cementitious material applied to the inner face of said metal sheet and embedding said metal lath within said cementitious material, the exposed face of said cementitious material being adapted to receive bonding material for fastening said panel to said supporting structure, and finish applied to the other face of said metal sheet.

4. In a panel construction of the character described, a metal sheet and means for attaching said sheet rigidly to a supporting structure comprising metal lath fastened to a face of said sheet, a protective coating covering said metal lath and the associated face of said sheet, and cementitious material applied to said face of said sheet and embedding said metal lath therein.

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