

May 10, 1955

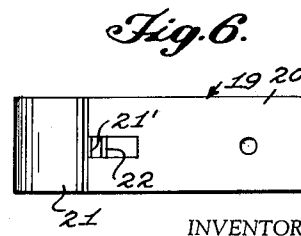
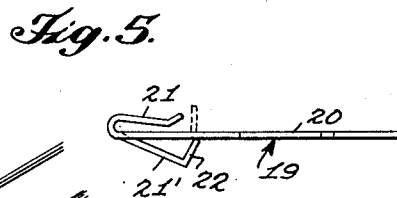
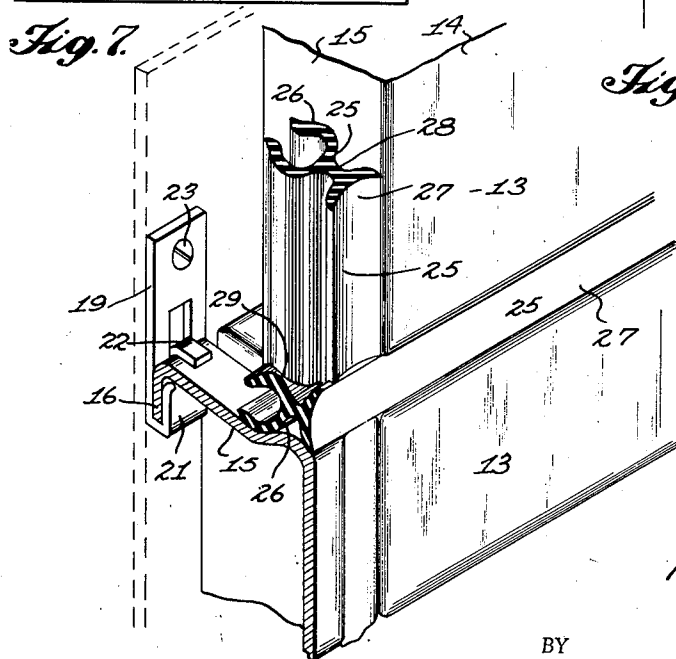
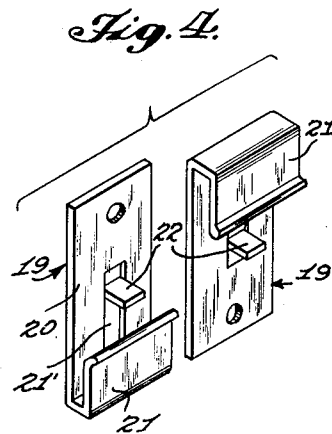
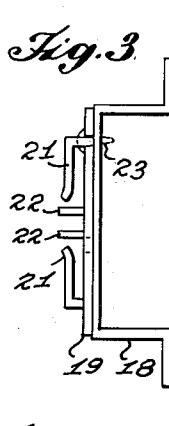
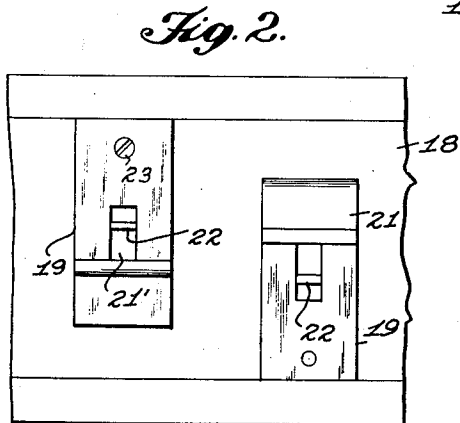
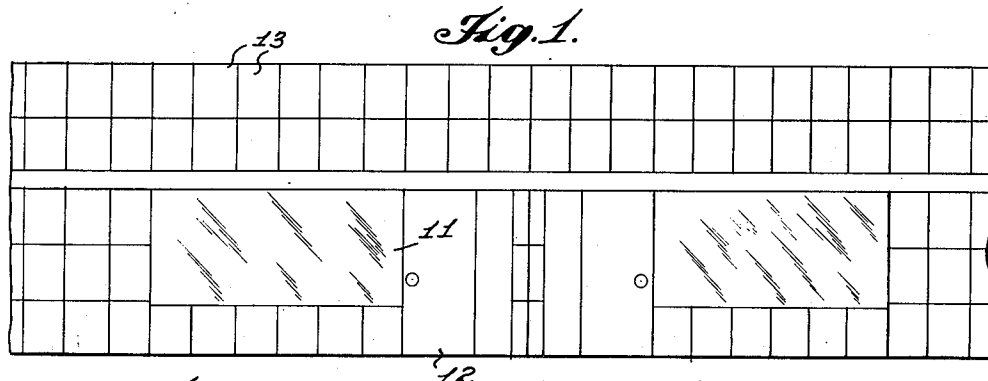
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2,708,016

GASKET FOR ARCHITECTURAL PORCELAIN PANELS

Filed Oct. 16, 1951

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

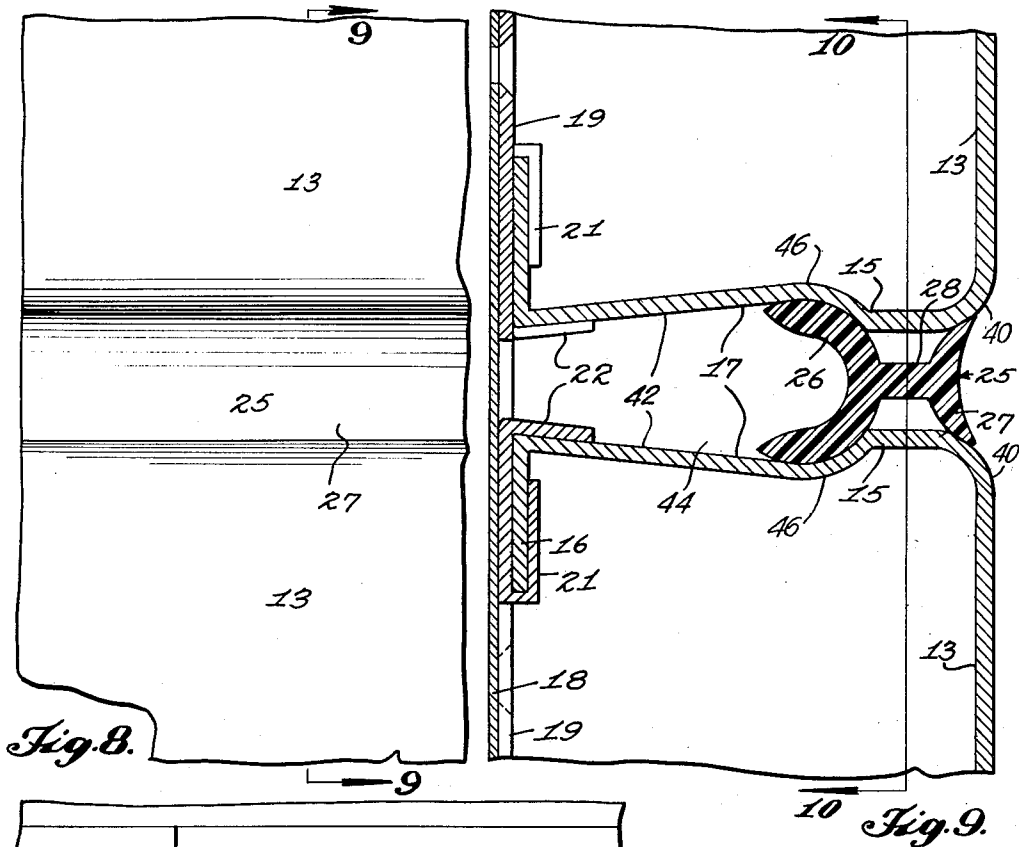


Fig. 8.

Fig. 9.

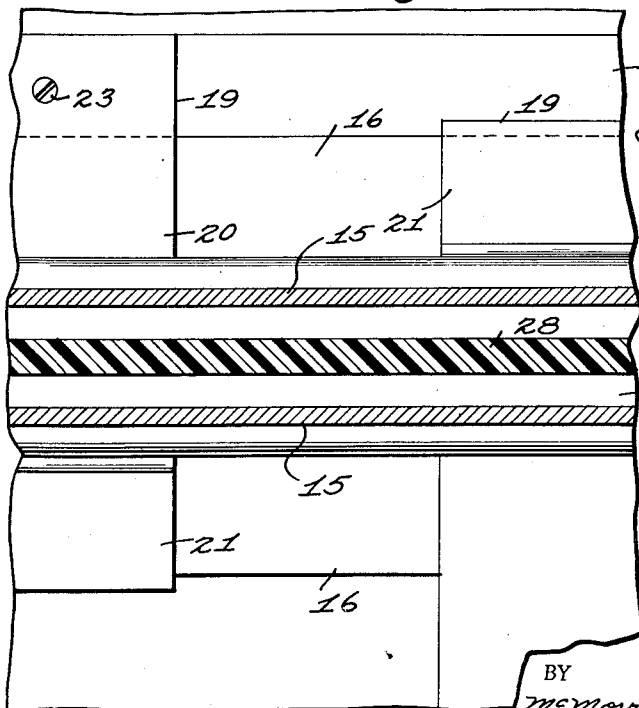


Fig. 10.

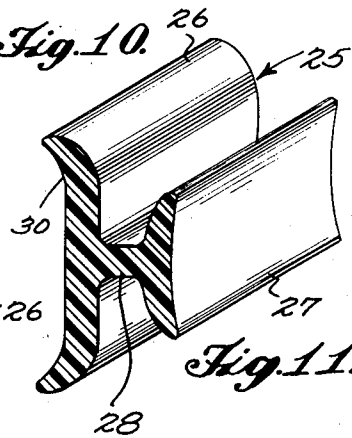


Fig. 11.

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## GASKET FOR ARCHITECTURAL PORCELAIN PANELS

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3 Claims. (Cl. 189—85)

This invention relates to metal wall panel structure, and more particularly to fastening means for securing large enameled sheet metal panels to the walls of buildings and gasket means for sealing the spaces between adjacent metal panels.

A main object of the invention is to provide a novel and improved securing arrangement for architectural sheet metal panels of the porcelain-covered type, the arrangement involving relatively simple parts, providing easy installation of the panels, and providing waterproof joints between adjacent panels.

A further object of the invention is to provide an improved securing and sealing arrangement for decorative sheet metal panels of the porcelain-covered type, the arrangement involving relatively simple parts, providing easy installation of the panels, and providing waterproof joints between adjacent panels.

A further object of the invention is to provide an improved securing and sealing arrangement for decorative sheet metal panels of the porcelain-covered type, the arrangement involving inexpensive components, providing neat and waterproof joints between adjacent panels, providing an installation of considerable durability as well as attractive appearance, and maintaining the panels in permanent alignment after installation.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is an elevational view of a building front employing porcelain-covered panels as a facing thereof;

Figure 2 is an enlarged fragmentary top plan view of a portion of a metal stud provided with a pair of anchoring clips for engaging flanges of adjacent facing panels according to the present invention;

Figure 3 is an end elevational view of the stud and clips of Figure 2;

Figure 4 is a perspective view showing a pair of opposed anchoring clips in side by side relation, as illustrated in Figures 2 and 3;

Figure 5 is a side elevational detail view of a panel anchoring strip according to the present invention;

Figure 6 is a top plan view of the clip of Figure 5;

Figure 7 is a perspective cross sectional view illustrating the construction at intersecting vertical and horizontal joints according to the present invention;

Figure 8 is a fragmentary front elevational view of adjacent portions of two panels according to the present invention forming the part of the building front and provided with improved sealing gasket means according to this invention;

Figure 9 is a cross sectional view taken on the line 9—9 of Figure 8;

Figure 10 is a cross sectional view taken on the line 10—10 of Figure 9; and

Figure 11 is an enlarged fragmentary perspective view of a portion of the sealing gasket employed between adjacent panels in accordance with the present invention.

Referring to the drawings, and more particularly to Figure 1, a typical installation employing porcelain-covered metal wall panels is illustrated, the building front including for example, store windows 11, door 12, and a front wall surrounding the windows 11 and door 12, the front wall consisting of a plurality of upstanding rectangular panels 13 arranged in edge to edge spaced relation and connected together along the facing edges. Each panel 13 comprises a porcelain front surface 14 and

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is provided with flanges 15 extending inwardly from and along each of its marginal edges, each flange having one end secured to the panel. Arranged adjacent to and connected to the other end of each flange 15 is an anchoring finger 16, the finger extending parallel to the back face of the panel. Each flange is provided intermediate its ends with an inwardly bowed portion 17. As shown in Figure 9, when a pair of panels are disposed in edge to edge spaced relation, the bowed portions 17 of the respective panels 13 face each other and together form an inwardly tapering cavity.

The panels are mounted on suitable supporting means, such as furring or stud elements, for example, on channel-shaped, horizontally extending metal studs designated at 18, and the panels are secured to the studs by suitable clips 19 engaging the fingers 16 of the panels in the manner shown in Figures 7 and 9. Each clip 19 comprises a generally rectangular, flat body 20 formed at one end with a hook-shaped, reversely bent flange 21 adapted to engage on a finger 16 of a panel 13. The body 20 is formed with an outwardly bendable, longitudinal lug 21' which is struck from the body, said lug being formed with the right-angled inwardly extending end portion 22. The inwardly extending lug element 22 is adapted to engage around the corner portion of a flange 15 in opposition to the hook-shaped flange 21 of the clip when the clip is engaged with the flange 15 of the panel 13 in the manner shown in Figure 7.

In anchoring the adjacent margins of a pair of panels to a stud 18, a first clip 19 is first engaged with the flange of one panel, as for example, a lower panel, and the clip is secured to the stud 18 by a sheet metal screw 23, as shown at the left side of Figure 2. A second clip is then engaged on the lower flange of the panel which is to be installed above the first panel and the flat body 20 of the second clip is slipped downwardly between the stud 18 and the top flange of the lower panel which has previously been secured to the stud.

Disposed between the flanges 15 of adjacent panel sections 13 is a sealing strip 25. Said sealing strip or gasket comprises an elongated body of resilient deformable material having a generally I-shaped cross section and consisting of a foot portion 26, a head portion 27, and a web 28 connecting the foot and head portions 26 and 27. As shown in Figure 11, the sealing strip, when in normal condition, prior to being inserted between the flanges 15 of a pair of adjacent panel sections has a configuration wherein the outer face of the foot portion 26 defines a shallow trough or channel 30 and the outer face of the head portion 27 is concaved outwardly. In inserting the sealing strip or gasket 25, the foot portion 26 is squeezed together sufficiently to pass between the adjacent portions of the flanges 15 of the panels 13 and received in the opposing bowed portions 17, 17 of said flanges in the manner clearly shown in Figure 9, wherein the foot portion 26 is curled and partly engages in the respective opposing bowed portions 17, 17. At the same time, the head portion 27 is tightly engaged against the portions of the flanges 15 of the adjacent panels 13, 13 in the manner shown in Figure 9, and the depth of the concavity of the head portion 27 is increased as over its normal depth, due to the squeezing pressure exerted on the edges of the head portion 27 when engaged with the corner portions of the adjacent panel sections. It will be readily apparent that the edges of the head portion 27 sealingly engage the portions of the flanges 15 of the adjacent panels, and at the same time the opposing surfaces of the curled foot portion 26 sealingly engage the opposing bowed portions 17, 17 thereby providing a substantially moisture proof joint between the adjacent panel sections 13, 13.

Thus, from the foregoing, it will be seen that in each

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of the upstanding panels 13, the flange 15 is adjoined thereto and extends inwardly therefrom along adjacent facing edges when the panels are arranged in edge-to-edge spaced relation, with a rounded retaining shoulder 40 formed at the juncture of the flange and its associated panel. The flanges are provided with the opposed inwardly bowed portions 17 intermediate their ends with confronting flange faces 42 converging as they recede from the bowed portions 17 toward the clips 19 and anchoring fingers 16 to define a tapering cavity 44 and retaining shoulders 46 adjacent the ends of the bowed portions remote from the converging flange faces 42. The separately formed deformable gasket or sealing strip 25 is positioned in the space between the flanges 15 with the gasket having a portion 26 conformably received within the cavity 44 and engaging the retaining shoulders 46 and a further portion 27 engaging the retaining shoulders 40 to retain the gasket 25 between the shoulders 40 and 46 and bridge the space between adjacent flange faces. The portion of the gasket conformably engaging the retaining shoulders 46 being in the form of a foot 26 of a size larger than the space of the cavity 44 between the shoulders 46 and deformably engaging these shoulders so as to force the foot into sealing contact with the shoulders 46. The further gasket portion referred to being in the form of a head 27 of a width greater than the space between the shoulders 40 and deformably engaging these shoulders to force the head 27 into sealing contact with the shoulders 40, and a web 28 extends between and connects the foot 26 and head 27 so that the gasket is clampingly retained between respective shoulders 40 and 46. The web 28 is spaced from the portions of the flanges 15 at an intermediate location thereof between the shoulders 40 and 46.

As shown in Figure 7, the same arrangement is employed at vertical joints as is employed at horizontal joints, the end edges of the sealing gaskets being suitably notched, as shown at 29, to receive the contour of the horizontal gaskets, whereby the sealing gaskets completely fill the gaps between the flanges 15 of the panels of the intersections between the vertical and horizontal joints.

The sealing gaskets 25 may be formed of any suitable resilient deformable material, such as extruded vinyl plastic material or other suitable weather-resistant material having the necessary resiliency and deformability.

While a specific arrangement for anchoring porcelain-covered metal panels to building walls and for sealing the joints between adjacent panels has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. In a covering for a wall, at least two upstanding panels arranged in edge-to-edge spaced relation, a flange joined to each panel and extending inwardly therefrom along adjacent facing edges with a rounded retaining shoulder formed at the juncture of a flange and the associated panel, means carried by each flange at the ends thereof remote from said shoulders for anchoring respective panels to a wall, said flanges being provided with opposed inwardly bowed portions intermediate their ends with confronting flange faces converging as they recede from said bowed portions toward said means to define a tapering cavity and retaining shoulders adjacent the ends of the bowed portions remote from said converging flange faces, and a separately formed deformable gasket positioned between said flanges, said gasket having a portion conformably received within said cavity and engaging said second-mentioned retaining shoulders and a further portion engaging said first-mentioned retaining shoulders to retain the gasket between said first and second-mentioned shoulders and bridge the space between adjacent flange faces.

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2. In a covering for a wall, at least two upstanding panels arranged in edge-to-edge spaced relation, a flange joined to each panel and extending inwardly therefrom along adjacent facing edges with a rounded retaining shoulder formed at the juncture of a flange and the associated panel, means carried by each flange at the ends thereof remote from said shoulders for anchoring respective panels to a wall, said flanges being provided with opposed inwardly bowed portions intermediate their ends with confronting flange faces converging as they recede from said bowed portions toward said means to define a tapering cavity and retaining shoulders adjacent the ends of the bowed portions remote from said converging flange faces, and a separately formed deformable gasket positioned between said flanges, said gasket having a portion conformably received within said cavity and engaging said second-mentioned retaining shoulders and a further portion engaging said first-mentioned retaining shoulders to retain the gasket between said first and second-mentioned shoulders and bridge the space between adjacent flange faces, said first-named gasket portion being in the form of a foot of a size larger than the space of said cavity between said second-named shoulders to force said foot into sealing contact with said last-mentioned shoulders, said further gasket portion being in the form of a head of a width greater than the space between said first-named shoulders and deformably engaging said first-named shoulders to force said head into sealing contact with the first-mentioned shoulders, and a web extending between and connecting said foot and head so that said gasket is clampingly retained between said first and second-named shoulders.

3. In a covering for a wall, at least two upstanding panels arranged in edge-to-edge spaced relation, a flange joined to each panel and extending inwardly therefrom along adjacent facing edges with a rounded retaining shoulder formed at the juncture of a flange and the associated panel, means carried by each flange at the ends thereof remote from said shoulders for anchoring respective panels to a wall, said flanges being provided with opposed inwardly bowed portions intermediate their ends with confronting flange faces converging as they recede from said bowed portions toward said means to define a tapering cavity and retaining shoulders adjacent the ends of the bowed portions remote from said converging flange faces, and a separately formed deformable gasket positioned between said flanges, said gasket having a portion conformably received within said cavity and engaging said second-mentioned retaining shoulders and a further portion engaging said first-mentioned retaining shoulders to retain the gasket between said first and second-mentioned shoulders and bridge the space between adjacent flange faces, said first-named gasket portion being in the form of a foot of a size larger than the space of said cavity between said second-named shoulders and deformably engaging said second-named shoulders to force said foot into sealing contact with said last-mentioned shoulders, said further gasket portion being in the form of a head of a width greater than the space between said first-named shoulders and deformably engaging said first-named shoulders to force said head into sealing contact with the first-mentioned shoulders, and a web extending between and connecting said foot and head so that said gasket is clampingly retained between said first and second-named shoulders, said web being spaced from the portions of said flanges intermediate said first and second-named shoulders.

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