July 30, 1940. T. F. ANDERSON 2,209,375

WALL SHEATHING

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Fig. 2

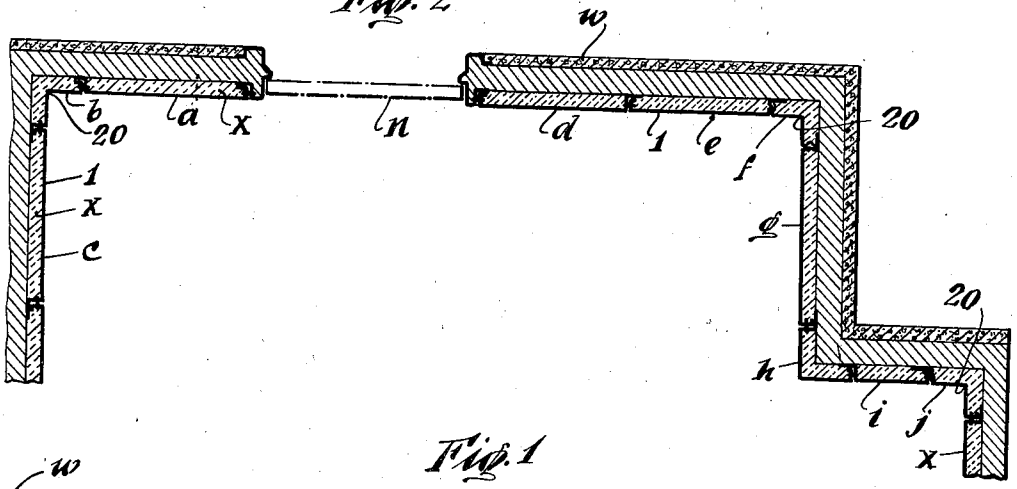


Fig. 1

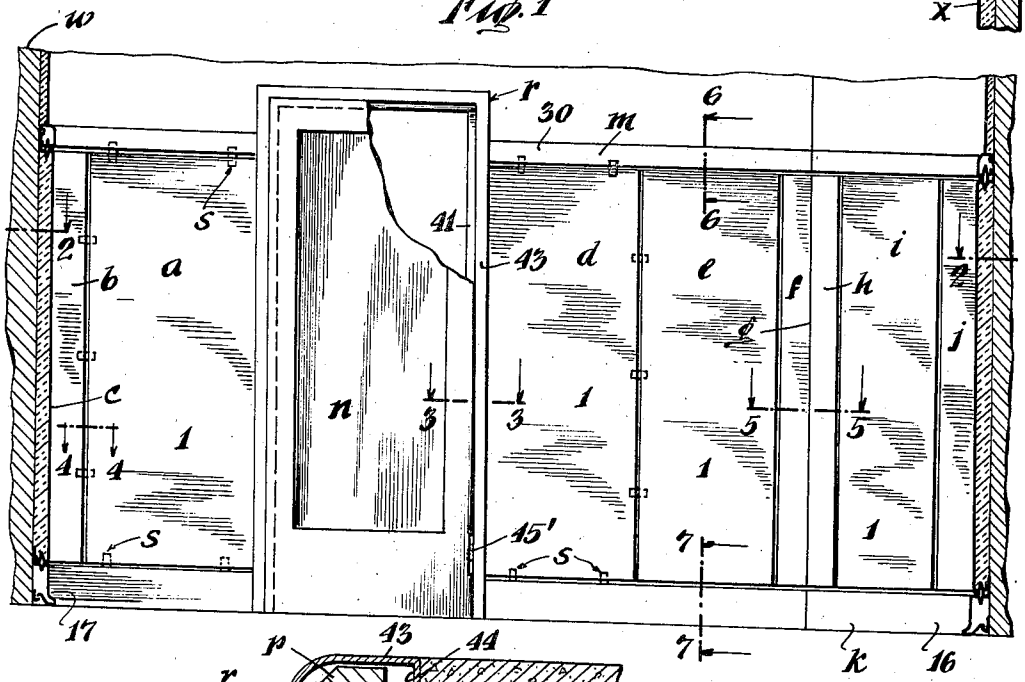
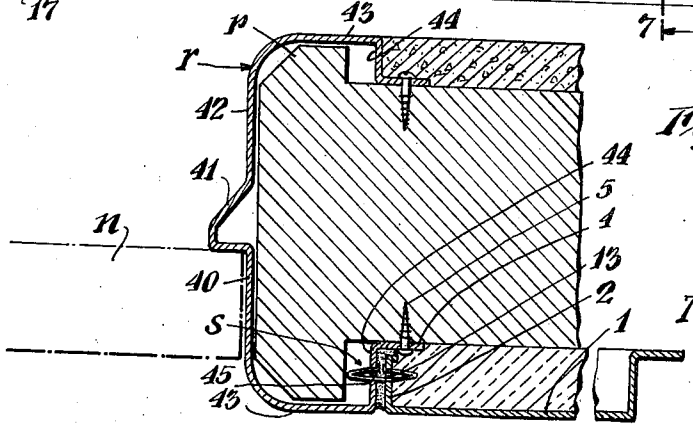


Fig. 3



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Fig. 4

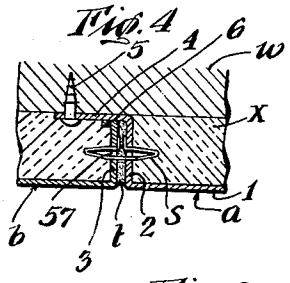


Fig. 5

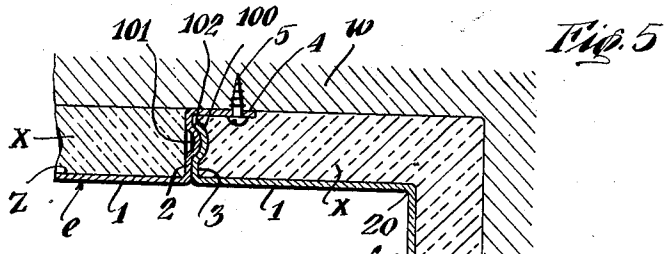


Fig. 6

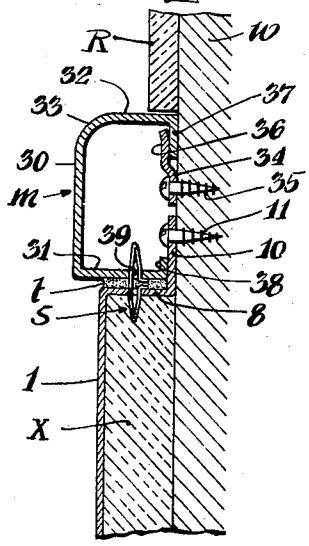


Fig. 7

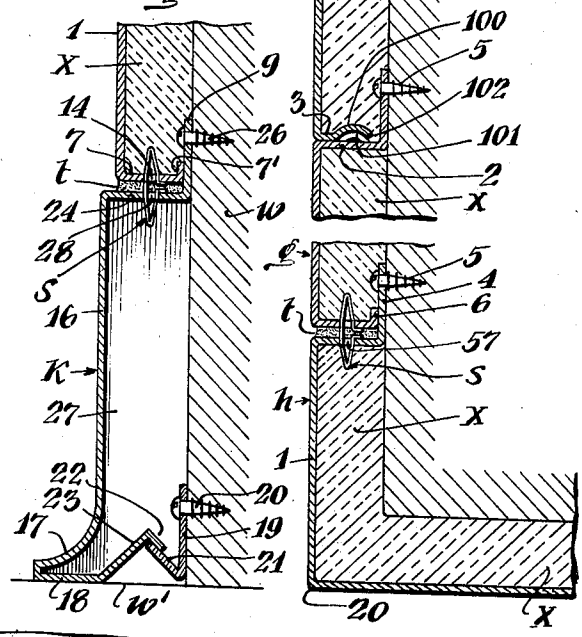
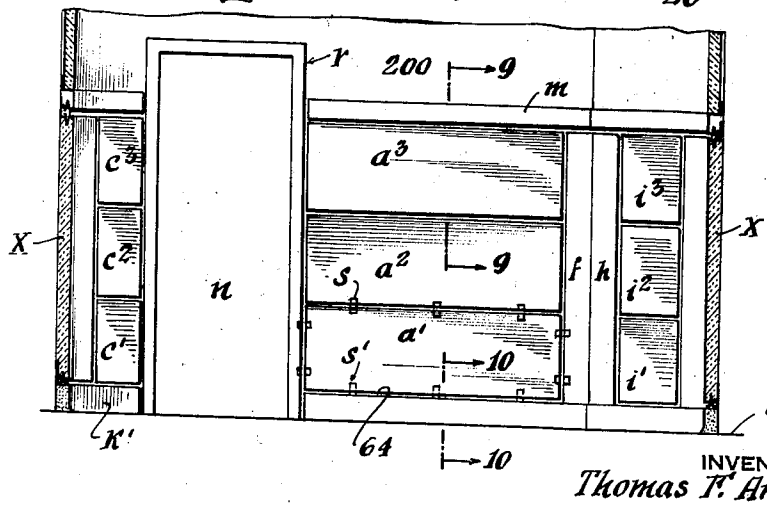


Fig. 8



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WALL SHEATHING

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Fig. 9

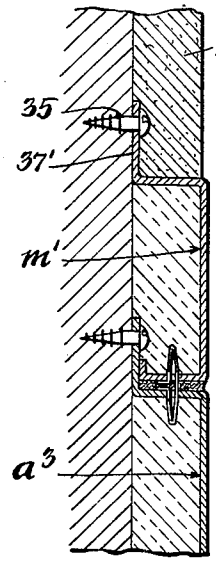
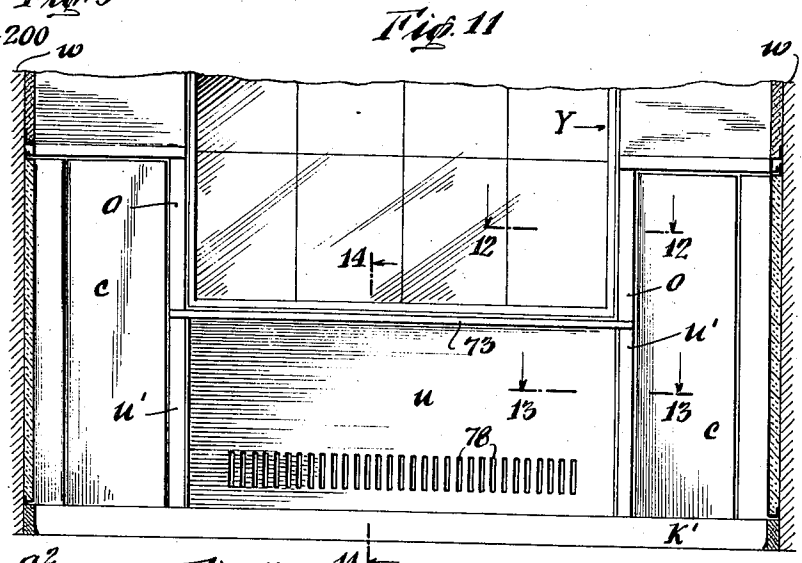


Fig. 11



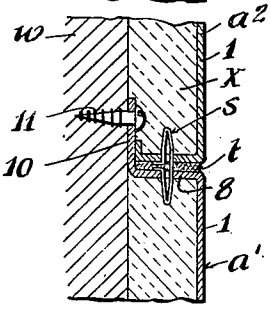


Fig. 13

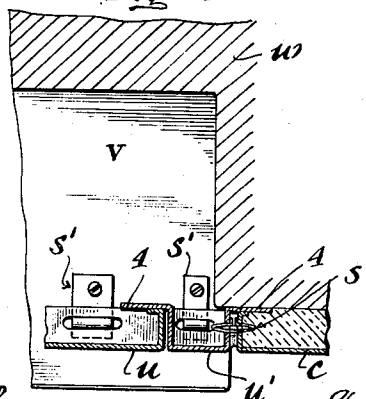


Fig. 12

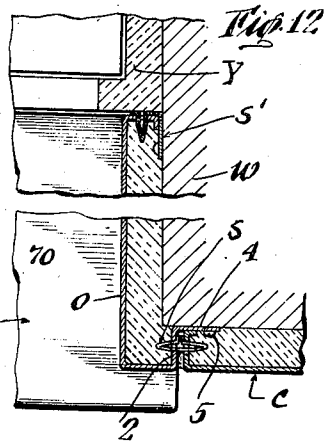


Fig. 10

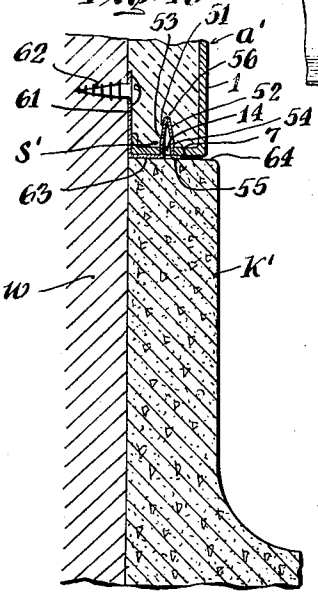
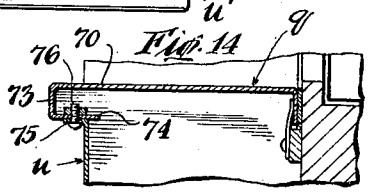


Fig. 14



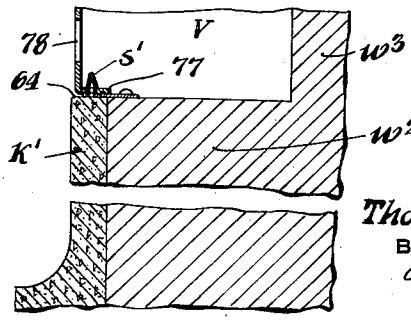
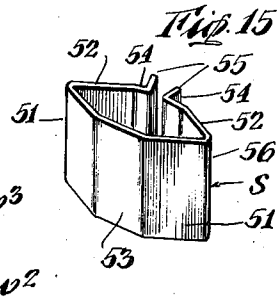


Fig. 15



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WALL SHEATHING

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Fig. 16

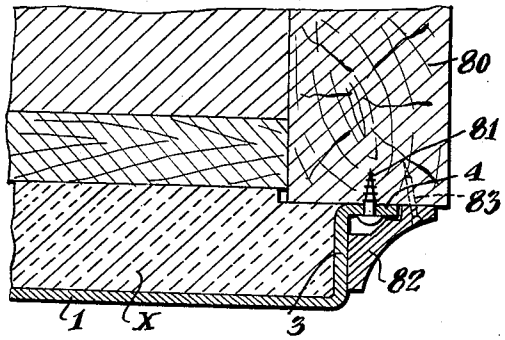


Fig. 17

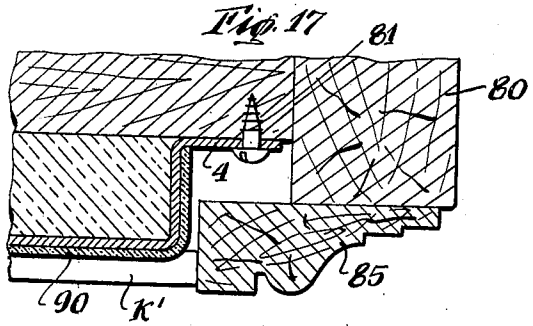


Fig. 18

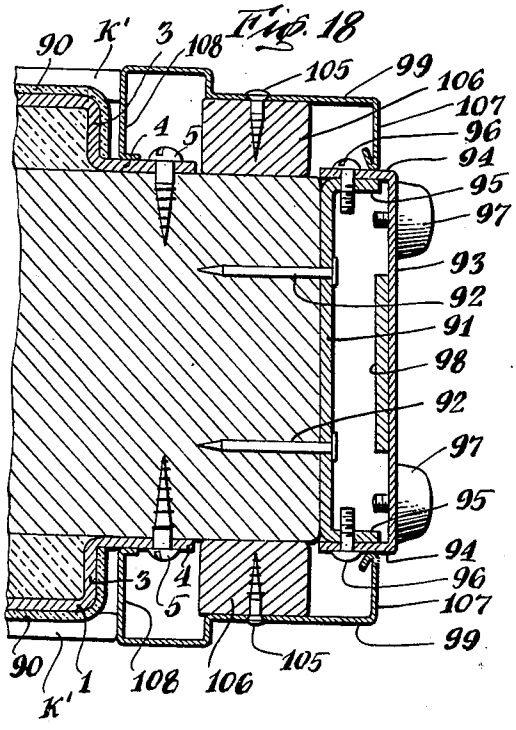


Fig. 19

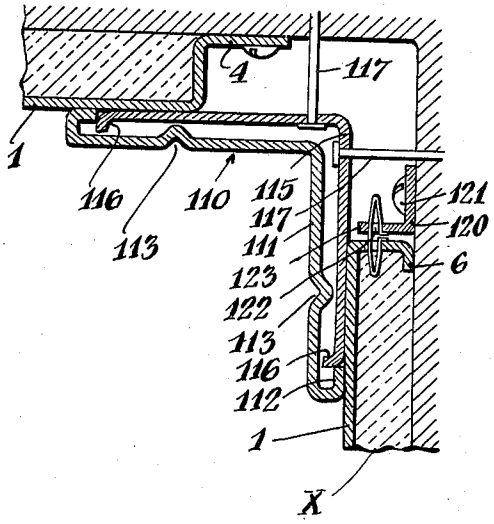
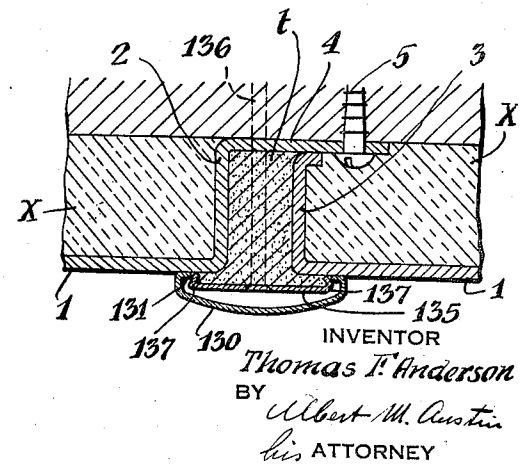


Fig. 20



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Patented July 30, 1940 2,209,375

UNITED STATES PATENT OFFICE

2,209,375

WALL SHEATHING

Thomas F. Anderson, Cleveland, Ohio, assignor to The Sanymetal Products Co., Inc., Cleveland, Ohio, a corporation of Ohio

Application November 4, 1938, Serial No. 238,744

11 Claims. (Cl. 189—36)

This invention relates to wall sheathing and more particularly to metallic sheathing for facing the surfaces of exterior and interior building walls.

In accordance with this invention, an improved wall sheathing is provided which is assembled on the building wall as separate panel units formed from sheet metal and which may be applied to the surface of a wall or wall frame comprising wood or metal studding, brick, concrete, cinder block, hollow tile or wall structures made of other materials. Each panel comprises a relatively flat wall-forming portion preferably of rectangular shape, having spacing flanges extending substantially at right angles to the wall-forming portion and along each side edge thereof. To provide means for securing the panels to the building wall, there is provided a foot portion extending outwardly from and substantially at right angles to one or preferably two adjacent spacing flanges, which foot portion is adapted to receive securing screws, nails, or other attaching means whereby the panel unit may be directly secured to the building wall. The foot portion extending outwardly from one panel unit is overlapped and concealed by the adjacent panel unit, the adjacent edges of adjacent panel units being secured together by a plurality of dowels formed from spring steel which is attached along the side edges of the panel units during erection. Thus there are no exposed securing elements, screw heads or other securing devices visible when the sheathing has been put in place.

My improved wall sheathing may be stamped and formed by metal stamping presses economically and at a high production rate. The sheathing after stamping may be suitably coated with a lacquer or porcelain enamel or other desired coating, depending upon the use to which it is to be put and the finish desired. For example, my improved wall sheathing may be surfaced with a poreclain enamel coating which may be fused onto the metal so that it does not chip off, producing a highly sanitary wall sheathing especially attractive for lining or surfacing the walls of hospitals, restaurants and lunchrooms, barber shops, corridors, bathrooms, lavatories, and other rooms where an attractive appearing highly sanitary wall surface is desired. This improved wall sheathing also lends itself for use as a covering for exterior walls of buildings and, if desired, can be applied directly to the studding or framework of the building wall.

The metallic panel preferably has secured to the rear face thereof a layer of insulating material which insulates the panel unit to heat and cold and also insulates the panel unit to the passage of sound and vibrations therethrough. The insulating material may comprise a rigid fiber core which is solid throughout and substantially the thickness of the spacing flanges of the panel sheet so that it will normally rest directly against the building wall to which the panel unit is applied.

This invention also embodies an improved metallic baseboard and trim cap which may be associated with the panel units to provide wainscoting for interior walls. In erecting the wainscoting the improved metallic baseboard is first attached to the building wall and the insulated panel units are then erected in succession, being connected to the baseboard and to each other by concealed fastening dowels, and finally the trim cap is connected to the upper edge of the panel units and fastened to the building wall. Provision is also made for covering and concealing radiators and framing windows with my improved wainscoting.

The improved wall sheathing can be economically manufactured and quickly assembled to the building wall with a minimum of labor. It also can be quickly and easily taken down and removed, can be stored in relatively small space and re-erected at other locations as desired, thus possessing marked utility for building uses in satisfying tenant and occupant requirements.

An object of this invention is to provide an improved wall sheathing which may be applied to either exterior or interior building walls, which is free from visible securing means, which can be manufactured at low cost and quickly applied as well as removed from the building wall, which may be made free from dust and dirt collecting projections and cavities, which is highly sanitary and serviceable in use and possesses an attractive and inviting appearance.

Another object of this invention is to provide an improved, highly sanitary and attractive wainscoting for surfacing interior walls comprising separately erectable panel units with accompanying baseboard and trim cap made from formed metal sheets which may be manufactured and erected at relatively low cost.

Another object of this invention is to provide sheet metal panel units having means for securing them to a building wall and to each other whereby the securing means are concealed from exterior view when the panel units are assembled in secured position to the building wall.

Still another object of this invention is to

provide an improved resilient dowel element which may be quickly applied to the panel units to secure them in rigidly connected and fixed relationship.

Other objects, features and advantages of the present invention will in part be pointed out and in part become apparent in connection with the following detailed description of certain illustrative forms of construction, reference being had to the accompanying drawings, wherein,

Fig. 1 is an elevational view of the improved wainscoting as applied to a building wall having a door therein;

Fig. 2 is a horizontal cross-sectional view through the building wall and wainscoting applied thereto, this view being taken along line 2—2 of Fig. 1;

Fig. 3 is an enlarged horizontal cross-sectional view through the door jamb, this view being taken on line 3—3 of Fig. 1;

Fig. 4 is an enlarged horizontal cross-sectional view through a section of the building wall, this view illustrating particularly the means employed for securing the wainscoting panels to each other and to the building wall, this view being taken on line 4—4 of Fig. 1;

Fig. 5 is an enlarged horizontal cross-sectional view through a section of the building wall and associated wainscoting, this view being taken along 5—5 of Fig. 1;

Fig. 6 is an enlarged vertical cross-sectional view showing the wainscoting cap secured to the building wall and to the adjacent wainscoting panel; this view being taken on line 6—6 of Fig. 1;

Fig. 7 is an enlarged vertical cross-sectional view through the baseboard and adjacent wainscoting panel, this view showing the means employed to secure the baseboard and wainscoting panel to the building wall and to each other, this view being taken on line 7—7 of Fig. 1;

Fig. 8 is a front elevational view of a building wall having the contour of the building wall shown in Fig. 2, the wainscoting panels being here shown as arranged in a superimposed relationship defining horizontally extending dividing lines therebetween;

Fig. 9 is an enlarged vertical cross-sectional view through the wainscoting applied to the wall as shown in Fig. 8, this view being taken on line 9—9 of Fig. 8;

Fig. 10 is an enlarged vertical cross-sectional view through a portion of the lowermost wainscoting panel positioned over a tile, concrete or composition baseboard, this view being taken along line 10—10 of Fig. 8;

Fig. 11 is an elevational view through the wainscoting positioned around a casement window and a radiator recess;

Fig. 12 is an enlarged horizontal cross-sectional view through adjacent wainscoting panels and the casement window, this view being taken on line 12—12 of Fig. 11;

Fig. 13 is an enlarged horizontal cross-sectional view taken through the wainscoting panel concealing the radiator recess, this view being taken on line 13—13 of Fig. 11;

Fig. 14 is an enlarged vertical cross-sectional view through the radiator concealing wainscoting and the adjacent wall base, this view being taken along line 14—14 of Fig. 11;

Fig. 15 is a perspective view of a resilient clip element used to secure together the adjacent edges of adjacent wainscoting panels;

Fig. 16 is a cross-sectional view of the wall sheathing showing its application adjacent a wooden door jamb or door opening;

Fig. 17 is a cross-section showing the wall sheathing applied to a building wall adjacent another door jamb or door opening;

Fig. 18 is a cross-sectional view showing the wall sheathing applied to a building wall adjacent a metal door jamb;

Fig. 19 is a cross-sectional view of the wainscoting applied at a corner of a room, having associated therewith a decorative cover strip; and

Fig. 20 is a cross-sectional view through adjacent sheathing sheets having a decorative strip concealing the joint therebetween.

Similar reference characters refer to similar parts through the several views of the drawings and the specification.

In order that this invention may be more clearly comprehended, an elevational view of a typical partition or building wall having the improved wainscoting applied thereto, is illustrated in Figs. 1 and 2. This improved wainscoting may be applied as a facing surface to any building wall and may be formed to fit and neatly cover not only straight wall surfaces but also the inturned and outturned corners of the building wall, rounded surfaces, door jambs, window frames and other openings often present in a building wall. The wainscoting may be applied to building wall surfaces *w* of brick, concrete, cinder block, tile, wood framing, plaster or any other exterior or interior building wall surface. The wainscoting may extend to any desired height and, if desired, may extend to the ceiling of the room.

Referring more particularly to Figs. 1 to 7 inclusive, there is illustrated a series of wainscoting panels *a*, *b*, *c*, *d*, *e*, *f*, *g*, *h*, *i* and *j* fitting around the walls *w* of a room. Extending along the bottom of these panels is a continuous baseboard *k* and extending along the top of these panels is a trim cap *m*. These panels are each stamped from a blank of sheet metal and when formed present a panel portion *l* of generally rectangular form extending from the baseboard *k* to the cap member *m*. Wall panels *a*, *c*, *d*, *e*, *g* and *i* as illustrated have a panel portion *l* which lies substantially in a uniform plane so as to cover a flat wall surface. Where the panel unit is to extend around an inturned corner of the building wall, such as panel units *b*, *f* and *j*, or around an outturned corner of a building wall such as panel unit *h*, the panel portion *l* of each of said panel units is bent or folded as at 20 so as to provide a seamless corner for the room. The panel portion *l* of each panel unit is preferably backed by a suitable layer of sound-insulating material *x*, such as fiberboard, cork or other composition material, which has sound-insulating qualities. The insulating board *x* is preferably secured to the inside face of the panel portion *l* by a suitable adhesive *z*. When the panel units are mounted upon the building wall, a substantially flush wall surface is presented.

Panel units, *a*, *b*, *c*, *d*, *e*, *g*, *h*, *i* and *j* are provided with inwardly extending flange portions 2 and 3 along the respective vertical side edges thereof. The flange portion 2 along one side edge of the panel is provided with an outwardly extending foot portion 4 which is so shaped as to seat snugly against the building wall *w* and is secured thereto as by spaced screws 5 extending through the foot portion 4 and into the building wall *w*, although other securing means, such as nails, bolts, or suitable clips, may

be used. The flange portion 2 along the other vertical side edge of these panels is preferably provided with an inturned foot portion 6, which is so shaped and designed as to seat against the outturned foot portion 4 of the adjacent panel. The wall portion 1 of these panel units is also provided with an inturned flange portion 7 along the lower edge and an inturned flange portion 8 along the upper edge thereof. The inturned flange portion 7 at the lower edge of the panel unit may be provided with an inturned foot portion 7' adapted to seat against the upturned foot portion 9 of the metallic baseboard member *k*, which will be presently described. The inturned flange portion 8 at the upper edge of each panel unit may be provided with an upturned or outturned foot portion 10 which may be suitably secured to the wall *w* by spaced screws 11 or equivalent securing means.

It will thus be seen that all of the panel units *a*, *b*, *c*, *d*, *e*, *g*, *h*, *i* and *j* comprise generally a stamped sheet metal member presenting a wall portion 1 of generally rectangular form having an inturned flange along each side edge thereof which serves to space the wall portion 1 a predetermined distance from the building wall *w*, and the vertical side edges of the wall forming portion 1 is provided with vertical flanges 2 and 3 extending inwardly substantially at right angles to the wall portion 1, one of said vertical flanges being provided with an outturned lip or foot portion 4 which seats under the adjacent panel unit, providing a support for the inturned foot or lip portion 6 of the adjacent panel. Likewise, the horizontal side edges of the panel portion 1 are each provided with inturned flange portions 7 and 8 which serve to space the upper and lower horizontal side edges of the panel unit from the wall *w*, one of said horizontally extending flanges being provided with an outturned lip or foot portion 10 which is directly secured to the building wall as by spaced screws 11, and the opposite horizontal edge of the panel portion 1 being provided with an inturned lip or foot portion 7' adapted to seat against the outturned flange 9 of the baseboard or other member.

Where the panel unit extends completely around the room, or under certain other conditions, it may be found that the last or final panel, here designated as *f*, must be positioned at a location where the adjacent panels *e* and *g* both present adjacent outturned foot portions 4, which would make it necessary to eliminate the outturned foot portion from the last inserted panel *f*. Proper flush insertion of the final panel *f* may be accomplished by providing the inturned flanges 2 and 3 thereof, as more particularly illustrated in Fig. 5, with a plurality of spaced female recesses 100 which receive the outwardly extending male bosses 101 formed on the adjacent flanges 2 of the adjacent panel units. The male bosses 101 may be easily and quickly struck out by an embossing tool and the same or similar embossing tool may be used to form the female recesses 100 in corresponding spaced relation. The inturned flanges 2 and 3 of the last inserted panel unit *f* have the ends 102 thereof terminating short of the outwardly extending foot portions 4 of the adjacent panel units. The inturned flanges 2 and 3 of the final panel *f* possess an inherent resiliency which permits them to spring inwardly when this panel unit *f* is forced into position, the flange portions 2 and 3 then automatically springing outwardly when the male boss portions 101 slip into the female recesses 100. Thus the last inserted panel unit *f* may be rigidly and fixedly held in position with the panel portion 1 thereof lying substantially flush with the panel portion 1 of the adjacent panel units *e* and *g*. The last inserted panel unit *f* may obviously be provided with an inturned flange portion 7 and inturned lip 7' along the lower horizontal edge thereof and also an inturned flange portion 8 and outturned foot portion 10 along the upper horizontal edge thereof. It is understood that the last inserted panel need not necessarily be a corner panel *f*, but may be a panel unit extending along a flat wall surface, the corner panel unit *f* shown in Fig. 5 serving to illustrate the means used for securing in position the last inserted panel unit.

A metal baseboard member *k* extending around the bottom of the building wall and seating against the floor *w'*, as shown in Figs. 1 and 7, may also be provided. The baseboard may be formed from stamped sheet metal having a facing portion 16, a molded portion 17 which seats adjacent the floor, and an inturned portion 18 which seats against the floor surface *w'*. A hook-shaped clip 19 secured to the building wall *w* as by spaced screws 20 operates to hold the lower end of the baseboard *k* in fixed position. The hook-shaped clip element 19 may be provided with an upturned lip 21 over which a cooperating lip 22 associated with the baseboard member *k* overlaps, the cooperating lip 22 extending from the end of a riser flange 23 extending from the inturned floor-contacting portion 18 of the baseboard member. The upper edge of the surface portion 16 of the baseboard may be provided with an inturned flange 24 which terminates in an outwardly extending foot portion 9 which is fixed to the building wall *w* as by spaced screws 26. The interior space 27 between the facing portion 16 of the baseboard and the building wall provides a convenient space for conduits and wiring, or this space may be partially or wholly packed with insulating material. The lower edges of the panel units are secured to the inturned flange portion 24 of the baseboard by resilient clips *s*, which will be more fully described in connection with the erection and application of the wainscoting to a building wall.

As shown more particularly in Figs. 1 and 6, a trim or top cap *m* may be positioned along the top edge of the panel unit. The trim cap *m* is provided with a facing portion 30, which may be of any desired artistic contour, which terminates along the lower edge in an inturned spacing flange 31 and at the upper edge in an inturned spacing flange 32, which may merge together in rounded corner areas 33. The trim cap *m* is secured to the building wall *w* by a plurality of securing clips 34 secured to the building wall *w* by screws 35, the clips 34 being provided with an offset portion 36 with which an inturned lip 37 extending from the upper spacing flange 32 of the trim cap is adapted to seat. The lower spacing flange 31 of the trim cap is secured to the inturned spacing flange 8 of the respective panel units by means of a resilient clip *s*. The spacing flange 31 of the trim cap is provided with a foot portion 38 which is adapted to seat against the outturned foot portions 10 extending along the upper edge of the panel units. The trim cap *m* may be made continuous over a series or plurality of panel units.

My improved wall structure encompasses the provision of door frames and doors. As shown more particularly in Figs. 1, 2 and 3, a door frame *r* is provided which may be formed from a single

piece of sheet metal strip suitably shaped. The door frame *r*, as shown in Fig. 3, comprises a jamb portion 40 which receives the door *n*, an abutment portion 41 being provided against which the door *n* abuts and which merges into a face portion 42 which may be generally coplanar with the jamb portion 40. Outturned reenforcing flanges 43 extend over the ribs *p* projecting laterally from the building wall *w* adjacent the door opening, the flanges 43 of the door frame being provided with inturned lips 44 which are adapted to spring over the projections *p* when the door frame is placed in position. The flange portion 43 of the door frame is so designed as to lie substantially flush with the wall portion 1 of the adjacent panel unit, so as to provide a substantially flush construction throughout. The door *n* may be hingedly supported along one edge thereof by suitable hinges 45' secured to the jamb portion 40 of the frame and adjacent edge of the door.

The adjacent edges of the panel unit are secured together by a novel spring clip *s*, which may be formed from a single strip of spring steel bent into the general form shown in Fig. 15. As formed and ready for use the clip *s* comprises a base portion 53 from which extends wedge-forming insert portions 51 and 52, which merge together into an apex portion 56. Base portions 54 extend from the ends of the insert portions 52 and these parts terminate in outwardly flared lips 55. The clip is so formed that prior to its application to the panel units the lip portions 55 will be normally spaced as illustrated in Fig. 15, but when the base portions 53 and 54 are compressed together the lip portions 55 will lie substantially in abutment.

A series of spaced apertures are cut in the adjacent flanges 3 and 4 of adjacent panel units which may comprise elongated slots 57 of less over-all width than the expanded clip *s*. The apex portion 56 of the clip is adapted to be inserted into the elongated slot 57 in one panel flange and forced inward so that the edges of the slot will compress the base portions 53 and 54 of the clip together, as more particularly shown in Figs. 4 and 5, so that the side edges of the slot in the panel flange seat against the adjacent base portions 53 and 54 of the clip. The next adjacent panel is then slid into position by telescoping the corresponding aligned slots 57 therein over the corresponding wedge portions of the clip so that the side edges of its slot also seat over the base portions 53 and 54 of the clip. By providing similar slots in the top flange 24 of the baseboard *k* and the bottom flange 7 of the panel unit similar clips *s* may be inserted in such slots to rigidly hold the bottom end of the panel unit to the top of the baseboard *k*. Likewise, clips *s* may be inserted into corresponding spaced slots in the top flange 8 of each panel unit and the lower flange 31 of the cap member *m* to hold these parts together. The clips *s* when in position are concealed within the facing portions 1 of the panel units.

In applying the wainscoting to a building wall *w*, as illustrated in Figs. 1 to 7 inclusive, the hook-shaped hanger strip 19 to which the baseboard *k* is attached is applied to the building wall *w*. The hook element 19 may take the form of a continuous strip secured along the building wall *w* by spaced screws 20, or may comprise relatively short segments. The baseboard *k* is then placed in position so that the inturned flange portion 18 thereof rests against the floor surface *w'* and the lip portion 22 thereof overhangs the upturned leg 21 of the hook clips 19. Wiring or other conduits may be positioned within the baseboard *k* before it is hooked over the upturned leg 21 of the hook clip 19. The outwardly turned foot portion 9 of the baseboard *k* is then secured to the building wall *w* by the spaced screws 26.

After the baseboard *k* has been placed in position, the panel units are applied. The panel units are applied in succession around the building wall, progressing in the direction of the outturned foot portion 4 of the panel unit. As shown in Fig. 2, the panel unit *d* may be applied by first inserting a resilient clip *s* in each of the spaced receiving slots 57 cut through the inturned flange portion 24 of the baseboard *k*. The panel unit *d* is then placed in position over the baseboard *k* with the apertures 14 along the lower edge generally oppositely disposed to the slots 28 of the baseboard so as to receive the resilient leg of the clip *s*. In the same manner, clip *s* is inserted in each of the spaced slots 45 cut in the inturned portions 44 of the door frame, which apertures are spaced to align with the slots 13 cut through the inturned spacing flange 2 of the panel unit *d*. The outturned foot portion 4 is then secured to the building wall *w*, as by the spaced screws 5 after the panel unit has been properly positioned in proper aligned relationship with respect to the door frame *n* and the baseboard *k*. The outturned foot portion 10 extending outwardly from the upper edge of the panel unit *d* is then secured to the building wall *w*, as by the spaced screws 11.

Panel unit *e* may then be applied to the building wall in the same manner as that employed in securing the panel unit *d* to the building wall. The panel unit *a* may be applied to the building wall and secured to the door frame *r* in the same manner as panel unit *d* and thereafter the successive panels *b*, *c*, and further panels including panels *j*, *i*, *h* and *g*, until the desired area has been covered with the desired wainscoting, and to this the final panel *f*, previously described, is inserted into position.

The top cap of trim strip *m*, which may extend continuously over the several panel units, may then be applied by inserting resilient clips *s* into each of the slots 15 extending through the inturned flange 8 at the upper edge of each panel unit. The projecting leg of the clip *s* is projected into the corresponding spaced slot 39 provided in the inturned spacing flange 31 of the cap member *m*. This is accomplished by first aligning the slots 39 with the upwardly projecting leg of the respective clips *s* and then driving the cap member *m* downwardly so that the inturned lip 37 thereof seats behind the clips 34 which have been previously secured to the building wall *w*. It will be appreciated that when the inturned spacing flange 31 of the cap member *m* has been brought into the proper spaced relationship with respect to the inturned spacing flange 8 of the respective panel unit, the clips *s* firmly secure the adjacent edges of the panel unit and the cap member in fixed immovable position. The building wall *w* above the cap member *m* can be provided with a plaster coating R which extends down to the top of the cap member.

As the final operation, the space or cracks between the baseboard *k* and the lower end of the adjacent panel units, the spacing cracks between adjacent panel units and the spacing cracks between the upper edge of the panel units and the cap member *m* may be filled with a caulking

plastic *t* with a caulking gun, the caulking material used being preferably a plastic which can be projected out of the gun under pressure so as to fill the seam or crack therewith. The excess caulking plastic projecting beyond the wall faces 1 of the panel units can be scraped off so as to provide a fully filled crack or joint whose outer surfaces are substantially flush with the wall surface 1 of the panel units.

It will be appreciated that the panel units as illustrated in Figs. 1 and 2, may be of any desired height or length and any desired width, and each panel unit may be provided with an outturned foot portion 4 along either the right hand or the left hand side edge of the panel unit, the opposite side edge having an inturned foot portion 6, the adjacent edges of the panel units being secured together by the resilient clips *s*. Likewise either the lower or the upper edge of each panel unit may be provided with an outturned foot portion 10, as structural conditions may require, the opposite edge then preferably being provided with an inturned foot portion 6. It will also be appreciated that the outside face 16 of the baseboard *k* and the wall face 30 of the cap member *m* may be so made as to lie substantially flush with the wall face 1 of the respective panel units. The wall face 1 of the panel units may also be made flush with the wall face of the door frame *r*. As heretofore indicated, the panel units and also the baseboard *k* and cap member *m* during manufacture may be coated with porcelain or baked enamel of the desired color so as to provide a highly sanitary wall free of cracks and crevices where dirt and other foreign matter might otherwise cling.

These improved panel units may also be so formed and constructed as to permit erection in horizontal superimposed tiers, as illustrated in Fig. 8. They are also adapted to be associated with a built-in baseboard *k'*, as illustrated in Fig. 10. Referring more particularly to Figs. 8, 9 and 10, there is shown a wainscoted wall structure having the door frame *r* therein which receives the door *n*. Where a concrete baseboard *k'* is used, a modified securing clip *s'* may be provided, which is provided with a leg portion 61 which may be secured to the building wall *w* by the screws 62, the clip *s'* being provided with an outturned portion 63 which normally seats against the top surface 64 of the baseboard *k'*. This clip also is provided with an upwardly projecting resilient leg preformed from the spring metal strip forming the clip. The leg portion of the clip *s'* is substantially similar to one of the leg portions of the clip *s* shown in Fig. 15, having tapered portions 51 and 52 joined at the apex 56 and terminating in relatively flat gripping portions 53 and 54 respectively. Gripping portion 54 terminates in an outwardly extending lip 55.

In erecting the wainscoting comprising horizontally extending superimposed panels, the clips *s'* are first secured to the building wall *w* along the baseboard *k'* in proper spaced relationship. The lowermost horizontal panel *a'* is then placed in position so that the upwardly projecting legs of each of the clips *s'* project through the respective apertures 14 provided in the inturned spacing flange 7 along the lower edge of the panel unit *a'*. Clips *s*, previously having been inserted into the apertures 45 provided in the flange 44 of the door frame, are inserted into the corresponding openings 13 in the spacing flange 2 of the panel unit *a'*, by shoving the panel unit *a'* to the left, as shown in Fig. 8. As shown more particularly in Figs. 8 and 9, the metal screws 11 are then inserted through the outturned foot portion 10 along the top edge of the panel unit *a'* and through the outturned foot portion 4 along the vertical edge of the panel unit. Panel unit a^2 is then superimposed and positioned over panel unit *a'*, being secured along two adjacent edges by spring clips *s* and along the other two edges by screws 11. Panel unit a^3 is secured in a similar manner.

It will thus be appreciated that horizontally extending panel units can be provided to extend completely around the wall, some of such panel units being diagrammatically illustrated in Fig. 8, such as superimposed panels *c'*, c^2 and c^3 and superimposed panels *i'*, i^2 and i^3. The final inserted panel may extend continuously from the base *k'* to the cap member *m* or the same may be formed in vertical superimposed sections. The side flanges 2 and 3 of this last applied panel are provided with female recesses 100 which receive the corresponding male bosses 101. The cap member *m* as shown in Fig. 9 may be made substantially flush with the panel facing 1 and where plaster 200 is applied thereabove the same may be provided with an outturned foot portion 37' held in place by screw 35. Caulking plastic is injected between adjacent flanges to seal the joint. Thus it will be appreciated that the wall sheathing may be arranged to present either vertically extending panel units or horizontally extending panel units, with seams therebetween extending vertically, horizontally, both vertically and horizontally or at any desired angle. Thus it will be appreciated that the panelling may be arranged on the building wall so as to present any desired geometric arrangement of seaming. It will also be appreciated that certain of the panel units, the baseboard *k* or the trim cap *m*, may be coated or enamelled in different colors before erection at little or no additional cost, which can be then assembled on the walls so as to provide highly artistic and pleasing color effects.

This wall sheathing may be applied to substantially any shape building wall, can be made to fit smoothly and artistically around window casements *y* and room radiators, as illustrated in Figs. 11 to 14 inclusive. Assuming that the window casement *y*, shown in Figs. 11 and 12, is inset from the wall surface *w*, a metal sheathing panel *o* may be provided which is connected to the building wall by an outturned foot portion 4 extending along one vertical edge thereof, which is secured to the building wall by the metal screw 5. The adjacent panel *c* is connected to the flange 2 of panel *o* by the resilient metal clip *s*. Resilient metal clip *s'* previously described secures the opposite vertical edge of the panel *o* in abutting relation to the window casement *y*.

Assuming that a radiator space *v*, as shown in Figs. 11, 13 and 14 is provided below the window so that the radiator rests upon the floor portion w^2 and adjacent the wall portion w^3 below the window, the radiator space *v* may also be attractively enclosed with metal sheathing comprising a top panel *q* and a front panel *u*. The top panel *q* may provide an attractive window seat by the provision of a flat panel portion 70 having an inturned flange portion 71 which seats behind the metal clip 72 fixed to the building wall portion w^3. The cover panel *q* is provided with a rounded front flange 73 to provide a rounded

edge for the window seat and an inturned flange 74 which is secured to the flange 75 of the facing panel *u* as by metal screws 76. The lower edge of the facing panel *u* is provided with an inturned flange 77 secured to the baseboard *k'* as by a metal clip *s'*. The facing panel *u* of the radiator cover may be provided with suitable louvre openings 78 of decorative design. The space between the wall panel *c* and the radiator facing panel *u*, as shown in Figs. 11 and 13, may be occupied by a trim panel *u'* provided with outturned foot portions 4 along each side edge thereof to which the adjacent flanges of the adjacent panel *c* and the panel unit *u* may be secured as by the resilient clip *s*. It is appreciated that by following out the principles of the invention herein disclosed various modifications and arrangements of the panel units may be made to cover substantially any shape wall surface, since the panel units may be made in different sizes, shapes and contours as wall conditions require.

This improved wall sheathing thus may be positioned upon any type of wall and present a finished appearance under substantially all conditions. Where a wood window frame or door frame opening, for example, is encountered, as shown in Fig. 16, the outturned foot portion 4 of the panel unit may be secured to the wood window frame or door buck 80 by means of wood screws 81, and the projecting foot portion 4 of the panel unit may be concealed and covered by a wood molding strip 82 secured to the door buck by means of the usual headless nails 83 used in carpentry.

Where the door buck 80 is to be covered by a decorative framing element 85, this framing element 85 may be positioned over the outturned foot portion 4 of the panel, the outturned foot portion 4 being secured to the building wall by suitable screws 81, as shown in Fig. 17. The baseboard *k'* is shown positioned below the panel unit. The metal panel is shown in Fig. 17 having a porcelain enamel coating 90 thereon, although any desired finish may be given to the metal panel sheeting.

There is shown in Fig. 18 a built-up metal door frame construction which abuts the panel units. In the construction here shown a relatively heavy reinforcing panel 91 is secured to the building wall *w* by means of suitable securing elements 92 setting into the same. A channel-shaped facing member 93 is provided with inturned flanges 94 which extend over the outturned flanges 95 of the reinforcing member 91 and are secured thereto by metal screws 96. The facing member 93 may be provided with door bumpers 97 thereon and may be further stiffened and reinforced by a stiffening plate 98. Metal trim members 99 may be secured in position as by screws 105 extending into wall portions 106. The metal trim members 99 are each provided with an inturned flange 107 which seat against the adjacent flange 94 of the facing member 93, each trim member 99 also being provided with inturned flange 108 which seats against the foot portion 4 of the adjacent panel unit, the foot portion 4 of each panel unit being secured to the building wall *w* as by screws 5. Thus it is seen that any wall condition, window condition, recess or door opening condition may be attractively satisfied.

In certain instances it may be desirable to cover the seams or spaces between adjacent panel units by decorative trim strips or caps. There is shown in Fig. 19 a decorative trim strip 110 shaped to fit the corner of the room. The facing portion 111 of the trim strip may be provided with inturned edge portions 112 which seat against the panel portions 1 of the panel unit. The trim cap 110 may be provided with suitable flutes or bosses 113 to give the same a decorative appearance. The trim cap 110 may be secured in position by a suitable spaced clip 115 having an angle-shaped cross section with rounded outturned edges 116 adapted to resiliently engage the inturned edges 112 of the trim cap 110, securely holding the trim cap in position. Suitable nails or other wall fastening means 117 may be used to hold the clips 115 to the building wall.

In the event the adjacent panel unit presents a vertical edge having an inturned lip 6, an angle-shaped securing member 120 may be provided for securing this vertical edge of the adjacent panel unit to the building wall. Angle member 120 is secured to the building wall as by screws 121. Suitable slots 122 are provided in the outturned leg 123 of the angle 120 through which the resilient panel unit securing clips *s* extend. Where the adjacent vertical edge of the panel unit presents an outturned foot portion, it is obvious that the securing angle 120 need not be used.

Fig. 20 illustrates the application of a decorative trim strip 130 over the joint between adjacent panels. Where such a trim strip 130 is used, the adjacent flanges 2 and 3 of the panel units may be spaced further apart, the space therebetween being filled with caulking plastic *t*. One or more clip elements 135 may be secured to the building wall by a suitable nail 136 or other securing means, the clip 135 being provided with rebent edge portions 137 with which the inturned edges 131 of the cap 130 may resiliently engage. The cap 130 may be given a chromium or nickel finish to contrast with the color of the panel unit or the trim cap 130 may be painted or enamelled either to harmonize or contrast with the finished panel units. The trim cap 130 is made of metal, and can be sprung over the clips 135 to resiliently engage the same and thus hold the trim strip securely to the building wall. Both the trim caps 110 and 130 can also be removed when it is desired to remove the sheathing from the building wall.

It is now seen that this improved metal sheathing when applied presents a substantially flush wall throughout, free from projecting edges and cavities whereby a highly sanitary wall surface or wainscoting is provided which can be easily cleaned and washed. Most attractive artistic and decorative designs may be achieved by painting, lacquering or enamelling the exposed surfaces of the panel unit, baseboard and trim cap in different colors, which can be done substantially without additional cost. Where the panel units are given a porcelain enamel coating, a finish is provided which is resistant to scratching and marring. The beauty of the gleaming surfaces and the original luster of the porcelain enamel finish is not destroyed or dimmed by frequent scouring and scrubbing which walls should receive in well-kept hospitals, corridors, restaurants, washrooms, lavatories, mercantile and service establishments.

The improved resilient clips or dowels for securing the panel units together are so constructed as to provide for the usual inequalities of manufacture and are completely concealed from view when the panels which they secure are erected. The improved dowels firmly hold the panel units

together in fixed assembled relationship but at the same time permit quick assembly and removal of the panel units from the building walls when desired.

While certain novel features of the invention have been disclosed herein, and are pointed out in the annexed claims, it will be understood that various omissions, substitutions and changes may be made by those skilled in the art without departing from the spirit of the invention.

What I claim is:

1. Building wall sheathing including, sheet metal panel units adapted to be arranged along a building wall in adjacent substantially flush relationship, each of said panel units having a wall surface portion and inturned spacing flanges extending from said wall surface portion, one of said inturned flanges having an outturned foot portion adapted to seat against the building wall, means extending through said outturned foot portion for securing said panel unit to the building wall, another of said inturned flanges of said panel unit having a depth substantially equal to the flange having the foot portion minus the thickness of the metal of said foot portion, and a clip element extending through aligned openings in the adjacent flanges of adjacent panel units, said clip element having a base portion and a return bend portion extending from each end of said base portion through the flange opening, each bend portion having the free end thereof terminating in the space between said flanges and between the exterior and interior edge confines thereof.

2. Building wall sheathing including in combination, sheet metal panel units adapted to be arranged along a building wall in adjacent substantially flush relationship, each of said panel units having a wall surface portion and inturned spacing flanges extending from said wall surface portion, the inturned flange of one of said sheet metal panel units having an outturned foot portion adapted to seat against the building wall and extend under the adjacent inturned flange of the adjacent panel unit, means engaging said foot portion to secure the panel unit to the building wall, and means engaging the adjacent flanges of adjacent panel units and normally concealed from exterior view for securing said panel units together, said flange-engaging means including a clip element extending through aligned openings in said adjacent flanges, said clip element having a base portion, and a return bend portion extending from each end of said base portion through the flange opening, each bend portion having the free end thereof terminating in the space between said flanges and between the exterior and interior edge confines thereof.

3. Building wall sheathing including in combination, sheet metal panel units adapted to be arranged along a building in adjacent interfitting relationship, each of said panel units having a substantially rectangular wall surface portion and inturned spacing flanges extending inwardly toward the building wall, two of the inturned flanges of each panel unit having outturned foot portions adapted to seat against and be secured to the building wall, the outturned foot portions of one panel unit extending under the adjacent flanges of the adjacent panel unit providing a seat for said last named flanges, and means normally concealed from exterior view engaging the adjacent flanges of adjacent panel units for securing said panels together in assembled wall-forming relationship, said flange-engaging means including a clip element extending through aligned openings in said adjacent flanges, said clip element having a base portion, and a return bend portion extending from each end of said base portion through the flange opening, each bend portion having the free end thereof terminating in the space between said flanges and between the exterior and interior edge confines thereof.

4. Building wall sheathing including, a plurality of panel units adapted to be arranged along a building wall in adjacent relationship, each of said panel units comprising an integrally formed sheet metal member having a generally rectangular wall surface portion, inturned spacing flanges extending substantially at right angles to said wall surface portion, sound insulation filling positioned within said flanges and along the inside face of said wall surface portion, means for securing certain of said flanges to said building wall, and a plurality of spaced clip elements for securing adjacent flanges of adjacent panel units in fixed wall forming relation, each of said clip elements extending through aligned openings in adjacent flanges of adjacent panel units, each clip element having a base portion and a return bend portion extending from each end of said base portion through the flange opening, each bend portion having the free end thereof terminating in a space between said flanges and between the exterior and interior edge confines thereof.

5. In wall sheathing construction, sheet metal panel units adapted to be arranged along a building wall in adjacent relationship, each of said panel units having a wall surface portion and inturned spacing flanges extending from said wall surface portion, and a plurality of spaced clip elements for securing adjacent flanges of adjacent panel units in fixed wall forming relation, each of said clip elements extending through aligned openings in adjacent flanges of adjacent panel units, each clip element having a base portion and a return bend portion extending from each end of said base portion through the flange opening, each bend portion having the free end thereof terminating in a space between said flanges and between the exterior and interior edge confines thereof.

6. In wall sheathing construction, a sheet metal panel adapted to be arranged along a building wall having an inturned flange extending along the side edge thereof, and a resilient clip for securing the panel unit to the building wall, said clip including a foot portion for securing said clip to a fixed portion of the building wall, and a resilient wedge-shaped leg portion projecting through a slot in said flange, said leg portion having a free edge terminating exterior to said flange and between the exterior and interior edge confines thereof.

7. In wall sheathing construction, a sheet metal panel unit adapted to be arranged along a building wall having a substantially flush wall surface portion and a flange extending inwardly from said wall surface portion, and a resilient clip for securing the panel unit to the building wall, said clip having a foot portion, means for fixedly securing said foot portion to a fixed portion of the building wall, and a resilient wedge-shaped leg portion extending through a slot in said flange, said leg portion having a free edge terminating exterior to said flange and between the exterior and interior edge confines thereof.

8. In wall sheathing construction, sheet metal panel units adapted to be arranged along a build-

ing wall in adjacent relationship, each of said panel units having a wall surface portion and inturned spacing flanges extending from the wall surface portion, corresponding aligned slots in adjacent flanges of adjacent panel units, and a resilient clip for securing said panel units together, said clip comprising resilient wedge-shaped leg portions extending between the flanges of adjacent panel units and through said aligned slots, said leg portions each having a free edge terminating exterior to said flanges and between the exterior and interior edge confines thereof.

9. A resilient clip for securing together metal sheets having adjacent inturned flanges, said clip being formed from a single strip of metal comprising resilient leg portions extending between the flanges of adjacent metal sheets and through aligned slots therein, each of said leg portions comprising spaced walls terminating in a wedge-shaped apex, one of the walls of each of said leg portions being integrally connected by a relatively flat base portion, the other of said walls being unconnected and each terminating in an outwardly extending lipped edge.

10. In building wall sheathing including, sheet metal panel units adapted to be arranged along a building wall, an intermediate panel unit adapted to be arranged along the building wall between said first-named panel units, said panel units each having a wall surface portion and inturned vertically extending spacing flanges, each pair of adjacent flanges of said panel units having spaced cooperating female recesses and male bosses for securing the intermediate panel unit to the first-named panel units so as to present a substantially flush wall surface, said first-named panel units having outturned foot portions extending from the flanges thereof which lie underneath the adjacent flanges of said intermediate panel unit, and means for securing said foot portions to the building wall.

11. An improved wainscoting for interior building walls including in combination, a sheet metal baseboard having a facing portion and a substantially flat water-shedding inwardly extending flange portion terminating in an upturned foot portion seating against the building wall, means securing said upturned foot portion to the building wall, and sheet metal panel units adapted to be arranged along said building wall positioned above said baseboard, each of said panel units having a generally rectangular wall surface portion and inturned spacing flanges extending from said wall surface portion, the lower flange of each of said panel units being positioned adjacent the inturned flange of said baseboard and terminating in an upturned lip portion normally seating against the upturned foot portion of said baseboard when in assembled position, means normally concealed from exterior view engaging the adjacent flanges of adjacent panel units for securing said panel units together in assembled wall forming relationship, and spaced resilient clip elements extending through aligned openings in the adjacent flanges of said baseboard and panel units normally concealed from exterior view securing the baseboard to the adjacent superimposed panel units.

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