

May 7, 1935.

F. A. MANSKE

2,000,243

WALL CONSTRUCTION

Filed June 20, 1932

3 Sheets-Sheet 1

Fig. 1

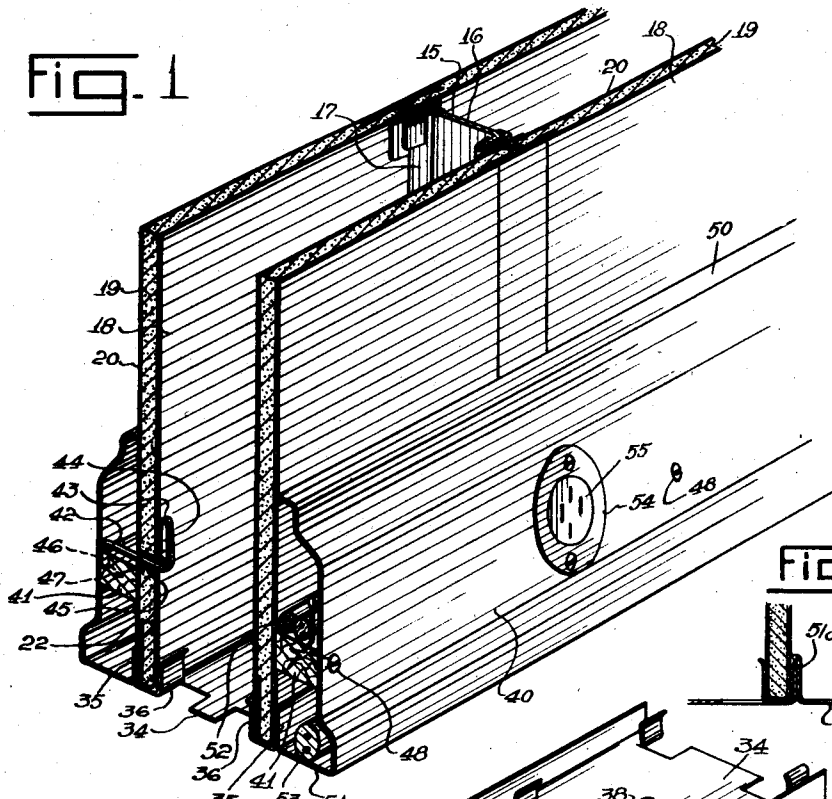


Fig. 6

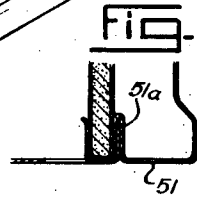


Fig. 2

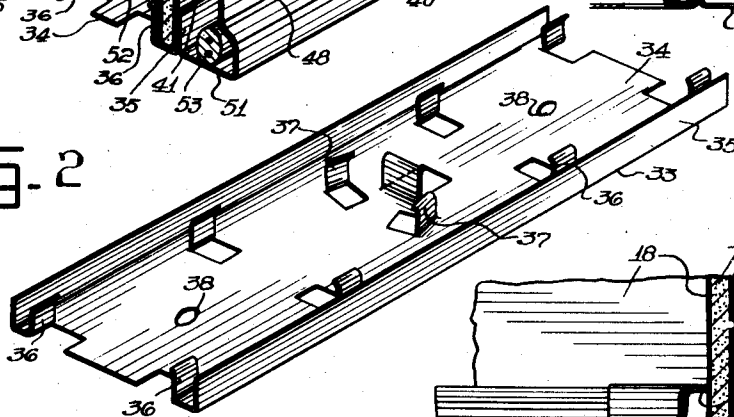


Fig. 4

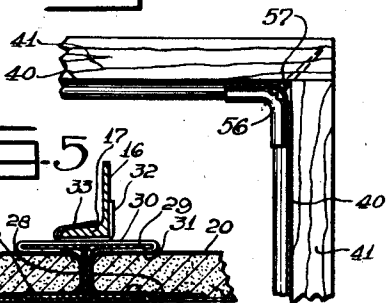


Fig. 5

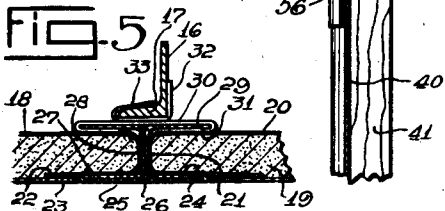
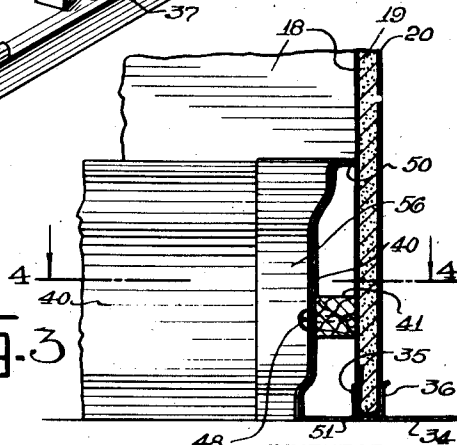


Fig. 3



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FIG. 7

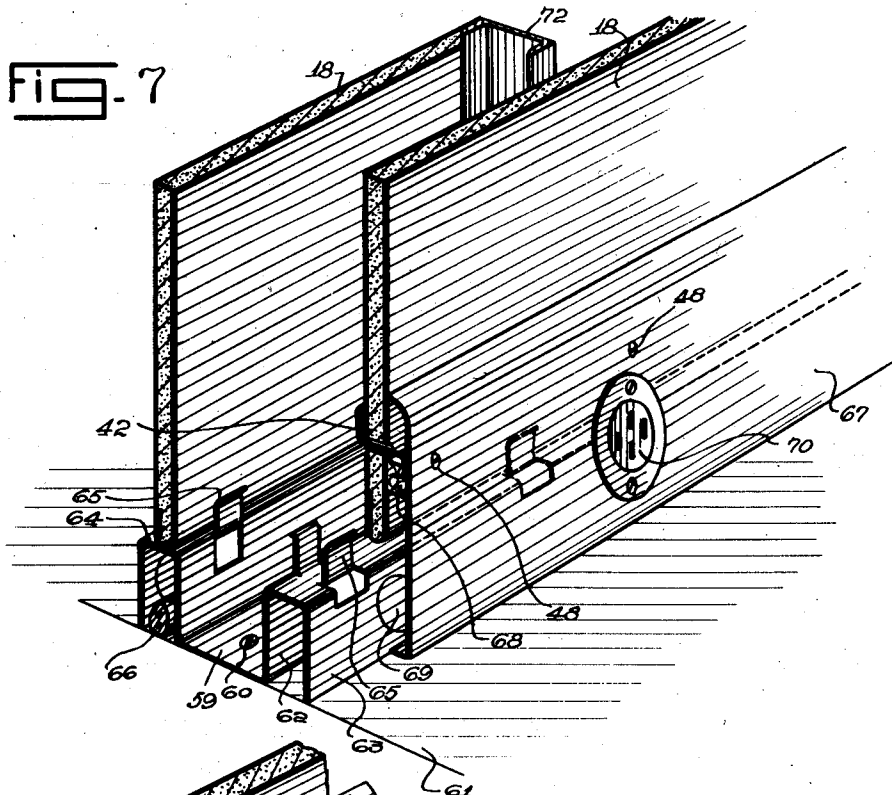


FIG. 9

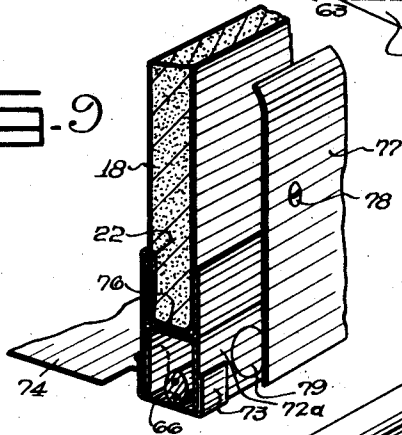
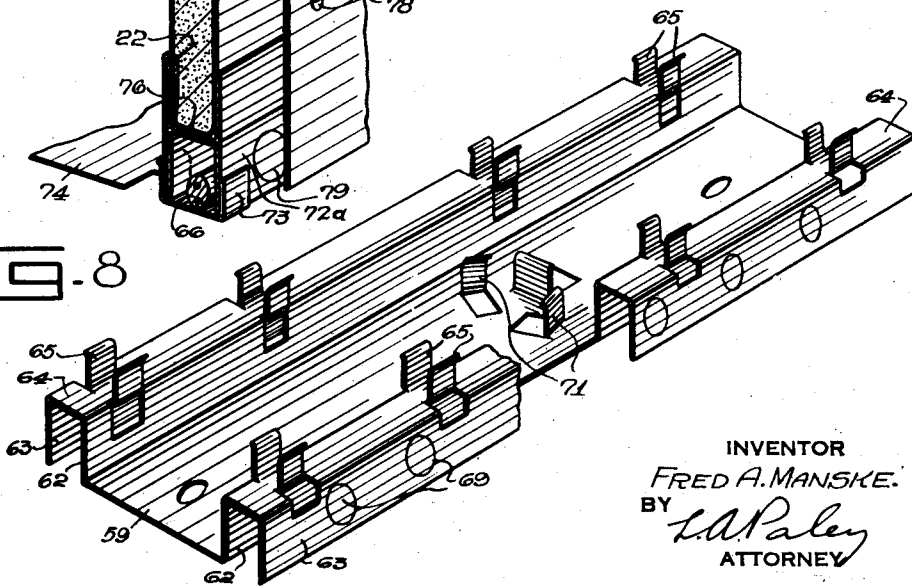


FIG. 8



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FIG. 10

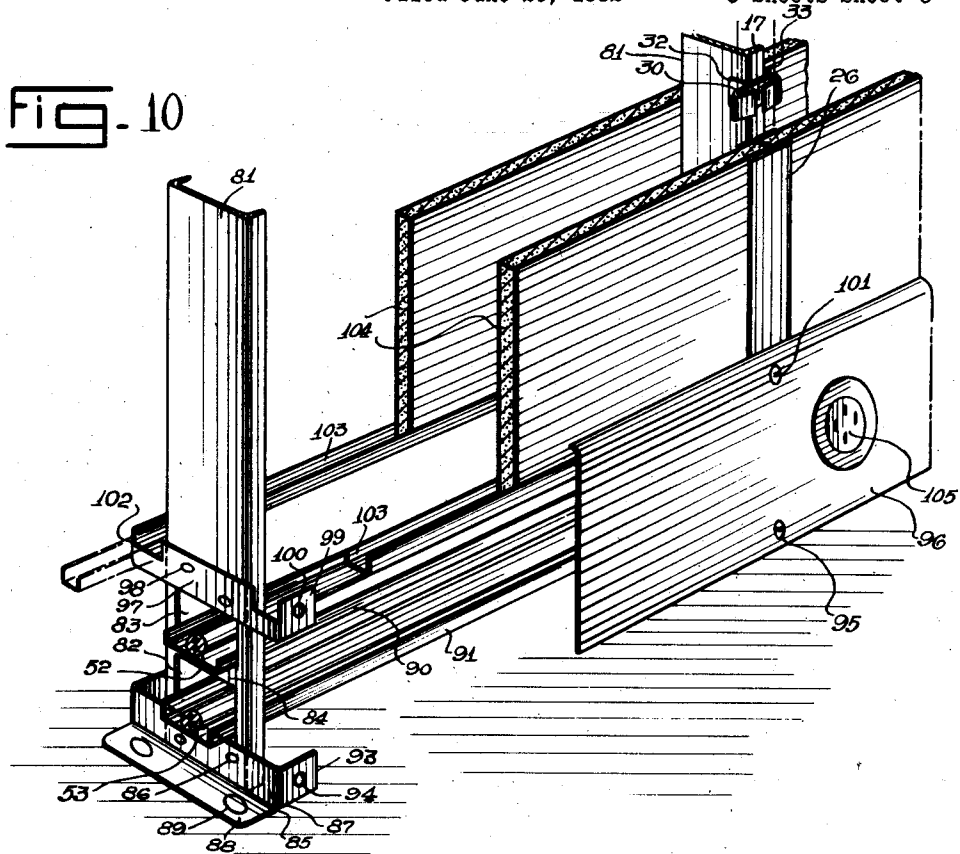


FIG. 11

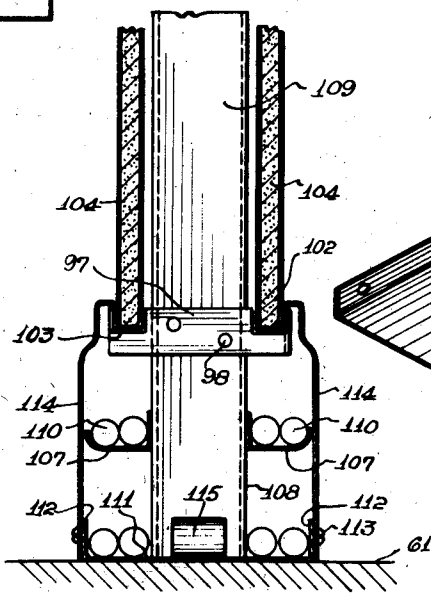
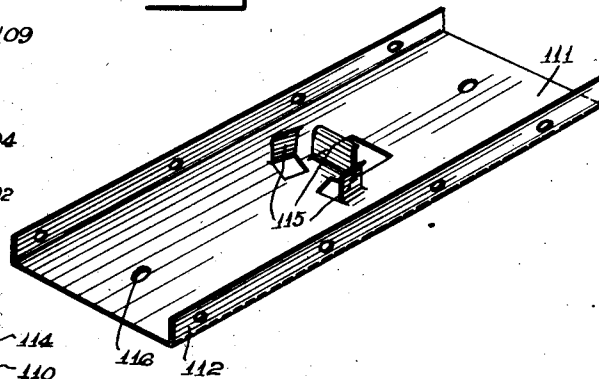


FIG. 12



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2,000,243

WALL CONSTRUCTION

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Application June 20, 1932, Serial No. 618,149

27 Claims. (Cl. 72-46)

This invention relates to building constructions, and has reference more particularly to wall and partition constructions in which pre-formed building panels are secured to studding and are arranged to cooperate with metal mopboards in which electrical wiring is contained.

In the construction of modern houses, electrical fixtures in the center of the room and on the side walls are not generally used. The electrical wires are usually passed through hollow metal mopboards along the bottoms of the walls, and several electric light outlets for the room are provided for on this metal mopboard for connection with floor lamps. It is desirable to have a form of wall construction utilizing a metal mopboard which will be cheap to construct and yet will be convenient and readily adapted to be attached to gypsum wall boards or other forms of pre-formed building panels. It is also desirable that the interior surface of the building panels be so connected to the studding that the surface thereof presents a smooth, even appearance for the reception of plastic paint, wallpaper or the like.

An object of this invention, therefore, is to provide a wall construction in which a metal mopboard of low cost is conveniently attached to pre-formed wall boards and is provided with any desired number of electrical outlets.

Another object of the invention is to provide a wall construction in which metal runners are so joined to pre-formed building panels such as plaster or wall boards, that the interior face of the finished construction presents a smooth, even appearance for the reception of a decorative material; also to improve building constructions in other respects hereinafter specified and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which

Fig. 1 is a perspective, sectional elevation showing my improved wall construction,

Fig. 2 is a perspective view of a section of the base plate upon which the wall is supported,

Fig. 3 is a sectional elevation through the wall construction,

Fig. 4 is a sectional plan view through the corner of the wall construction taken on line 4-4 of Fig. 3,

Fig. 5 is a sectional, plan view taken through a joint adjacent the abutting edges of the building panels,

Fig. 6 is a fragmentary sectional elevation of a modified form of mopboard,

Fig. 7 is a perspective, sectional elevation showing a modified form of my wall construction,

Fig. 8 is a fragmentary, perspective view of the base plate used for supporting the wall shown in Fig. 7,

Fig. 9 is a sectional, perspective elevation showing a modified form of wall supporting construction,

Fig. 10 is a sectional, perspective view showing a further modified form of wall construction,

Fig. 11 is a sectional elevation of a further modified form of wall construction, and

Fig. 12 is a perspective view of the base plate used in the construction shown in Fig. 11.

The wall construction is preferably fireproof in nature and is composed of vertical channel-shaped, steel studs 15 which are composed of webs 16 having outstanding flanges 17 along the longitudinal edges thereof. Wall boards 18 are secured to the channel flanges 17 by suitable runners and clips to be hereinafter described. The wall boards 18 are preferably composed of a cementitious core material 19, usually of gypsum, said core being provided with heavy paper cover sheets 20 on each surface thereof, one of said cover sheets being provided with folds 21 and 22 on the edge thereof, the fold 22 underlying the outer edge 23 of one of the cover sheets, and the edge 23 terminating considerably short of the extreme edge of the board so as to form a recess 24 which is of a depth substantially equal to the thickness of the edge 23 of the cover sheet.

An H-shaped runner 25 is preferably folded from sheet metal and is provided with a base section 26, the edges of which are folded back tightly upon said section to form flanges 27. The flanges 27 are bent outwardly so as to form closely abutting flanges 28, which in turn are bent outwardly to form flanges 29, thus forming oppositely disposed board receiving channels between the flanges 27 and 29. The thickness of the metal section 26 added to the thickness of a flange 27 is preferably substantially equal to thickness of the cover sheet edge 23 so that the outer surface of the metal section 26 is flush with the outer surface of the paper cover sheet edge 23, thus making a smooth wall for the reception of plastic paint, wall paper, etc. Where the thickness of section 26 plus a flange 27 is greater than that of cover sheet 20, recess 24 may be artificially depressed by grinding with

an emery wheel, or the like, to permit section 26 to lie flush with the surface of board 18.

An attaching clip 30 is provided with inturned flanges 31 which are spaced apart from the clip 30 so as to embrace the flanges 29 of the wall board runner 25. Preferably integral flanges 32 and 33 are formed on the clip 30 and are bent into L-shaped form to embrace one of the stud flanges 17, as best seen in Fig. 5. It will be noted that the clip 30 may be moved longitudinally along the stud flange 17, but the channels between runner flanges 27 and the clip flanges 31 are so proportioned as to be substantially equal to the thickness of the outer edge of the wall boards 18 so that said wall boards lock the clip flanges 31 firmly in place relative to the stud 15.

A channel shaped base plate 33a is formed of sheet metal with a web 34 and upstanding edge flanges 35. Integral tongues 36 are struck upwardly from the web 34 so as to lie in a plane parallel to the flanges 35 and form channels for the reception of the lower edges of the wall boards 18. Integral tongues 37 are struck upwardly from the web 34 for engaging the bottom end of the stud 15. Suitable apertures 38 are provided in the web 34 for receiving nails, screws, etc., so that the base plate 33a may be securely attached to a floor prior to the erection of a partition. It should be understood that fiber boards or other suitable types of wall panels may be used instead of the composition wall boards 18, in which case it is preferable to recess the edges of the building panel or board in order to receive runner 26 and make a flush surface.

One of the salient features of the present invention comprises the metal trim or mop plate used for finishing the bottom of the wall along the inside of a room. This metal trim consists of an elongated strip of metal 40 which is arranged to extend in a vertical plane spaced apart from and parallel to the wall boards 18. A nailing strip 41 is attached to the wall boards 18 by means of a hook-shaped attaching clip 42 having one end 43 bent at right angles to the clip 42 and having a return bent resilient section 44, the flange 43 being adapted to be thrust through a punched hole 45 formed in the wall board 18. A flange 46 extends inwardly from the outer end of clip 42 and has an inwardly extending prong or point 47 which is arranged to be driven into the nailing strip 41 so as to fasten said nailing strip securely and resiliently to the outer face of the wall boards 18. Screws 48 may then be passed through the metal trim plate 40 into the nailing strip 41 for attaching said metal trim plate 40 to the lower part of the wall.

The upper edge of the metal trim 40 is bent inwardly following a neat contour in the form of a molding, so as to form a flange 50, said flange preferably extending at right angles to the plate 40 and having its inner edge bearing against the wall boards 18. The lower edge of the plate 40 is also formed into a neat contour and then bent inwardly at right angles to form a flange 51, the inner edge of which bears against the lower outer edge of the base plate 34. It will be seen from an inspection of Fig. 1, that the wooden nailing strip 41 divides the space between the plate 40 and the wall boards 18 into two compartments, which may be utilized for supporting wires 52 and 53 for telephone, electric light, etc. The wooden nailing

strip acts as an insulating spacer between the respective wires so as to aid in preventing short circuits. Suitable outlet sockets 54 are provided in the plate 40 so that base plugs 55 may be used for connecting to various electrical lamps or other fixtures. At the corner of the room (Fig. 4) an angle shaped plate 56, having two wings which are formed into the shape of the metal trim, is placed flush out over the two adjoining ends of the metal trim plate, being secured thereto by means of a screw 57 which engages one of the nailing strips 41. If desired, the trim plate flange 51 (Fig. 6) may have an upstanding reverse bent flange 51A which is hooked over the base plate flange 35.

In the modified form of the construction shown in Figs. 7 and 8, a base plate 59 is secured by screws 60 to the floor 61, and is provided along its longitudinal edges by upstanding channels formed by legs 62 and 63 which are connected at their upper edges by a web 64. Upstanding, integral tongues 65 are struck from the web 64 so as to receive the lower edges of wall boards 18 and support said wall boards on said web 64. Electric wires 66 may pass through the channels formed between legs 62 and 63. A metal trim or mop plate 67, resembling the plate 40, is provided at the inside lower part of each wall or partition, a nailing strip 68 being secured to the wall boards 18 by a hook clip 42, and a screw 48 serving to attach the trim plate 67 to said nailing strip 68. Knock-outs 69 are provided in the channel legs 63 so that electric wires may be led out through said knock-outs to connect to an electric plug or socket 70 secured to the mop plate 67. Suitable upstanding integral tongues 71 are struck from the base plate 59 for receiving the lower ends of channel stud 72.

In the form of construction shown in Fig. 9, an H-shaped runner 72a similar to the runner 25 shown in Fig. 5, is supported between upstanding integral tongues 73 struck from a base plate 74. The bottom edge of the wall board 18 is then received in the upper channel 76 of the runner 72a, and a trim plate 77 may be attached directly to the wall board 18 by means of screws 78. The electric wire 66 may be run through the lower compartment of the H-shaped runner 72a, a knock-out 79 being provided in the flange of the runner for the purpose of taking out electric branch lines.

In the form of construction shown in Fig. 10, vertical, channel-shaped, steel studs 81 are provided near the lower end thereof with a lower aperture 82 and an upper aperture 83 which are separated by an integral strut 84. An angle connecting member 85 is secured to the lower end of the stud 81 by rivets or spot welds 86 which connect a leg 87 of said angle to the web of the channel stud 81. A second leg 88 of the angle 85 is provided with apertures 89 for receiving nails or screws which are used to secure the angle 85 to the floor. A channel 90 passes through the aperture 83 and is supported upon the strut 84, and a channel 91 passes through the aperture 82, being supported upon the angle leg 87. The electric wires are carried in the channels 90 and 91, the telephone wires 52 being conveniently separated from the electric light wires 53 to prevent short circuits. An ear 93 is provided on each end of the angle leg 87, said ear extending at right angles thereto and being provided with a hole 94 for receiving a screw 95 to attach the metal trim plate 96 to the wall

structure. A bar 97 is secured transversely to the web of the channel 81 above the aperture 83 by means of rivets or spot welding 98, and the outer ends of the bar 97 are provided with transversely extending ears 99 which are provided with holes 100 for the reception of screws 101 which also serve to attach the metal trim plate 96 to the wall structure. Where the bar 97 extends beyond the studs 81, a recess 102 is provided for receiving a pair of longitudinal channels 103 which are comparatively small in cross section and serve to receive the lower edges of wall boards 104. The wall boards 104 are secured to the studs 81 by runners 26 and clips 30 as hereinabove described. The mop plate 96 is provided with the usual outlet socket 105 for connection with the electric floor lamps and accessories.

A form of construction shown in Figs. 11 and 12 employs L shaped strip shelves or brackets 107 which are spot welded to the flanges 108 of channel studs 109 for supporting electric wires 110. A base plate 111 has upstanding flanges 112 along each edge thereof which can be connected by screws 113 to a metal trim plate 114. Integral, upstanding, struck-out tongues 115 are provided on base plate 111 for receiving the lower ends of the channel studs 109. Holes 116 are provided in the web of the base plate 111 for attachment of said plate to the floor 61.

It will be readily apparent that my invention provides means for rapidly and economically constructing finished walls for buildings, since the component elements are all pre-formed and may be easily assembled without special skill. Each element of the combination has a specific function which is ascertainable by simple inspection of the element, and the parts are quickly fitted together to produce a substantially complete wall structure unit ready for decoration such as paint, wallpaper, etc., where such decoration is desired. In this construction it is unnecessary to use nails for fastening, as the elements are clipped or screwed together into a unit. Consequently, the construction may be readily dismantled without damage to the parts, and walls for temporary purposes may be quickly taken down and the materials reused. After erection, ready access is permitted to electric wiring, and the construction whether for temporary or permanent purposes is substantial, fireproof, and durable, each of the elements contributing to the end result of a substantially complete wall structure, without elaborate preparation, or peculiar skill required for any part of the construction.

I would state in conclusion that while the construction shown in Fig. 1 is preferred by me, the other illustrated examples constitute practical embodiments of my invention and I do not wish to limit myself precisely to any of these details, since manifestly, the same may be considerably varied without departing from the spirit of the invention as defined in the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. In a wall construction, a vertically extending metallic stud, wall boards, means for securing said wall boards to said stud, means adjacent the lower part of said stud for supporting said boards, a mop plate secured adjacent the bottom edge of said boards and serving as a finishing trim, and means for forming a plurality of compartments at the bottom of the

wall concealed by said plate for the reception of electric wires.

2. In a wall construction, a vertically extending stud, wall boards, means for securing said wall boards to said stud, a base member for supporting the lower end of said stud on a floor, channel means associated with said base member for supporting the lower edge of said boards, a metallic mop plate secured to the bottom of the resulting wall structure and serving as a finishing trim, and means concealed by said mop plate for supporting electric wiring.

3. In a wall construction, a vertically extending stud, preformed wall boards secured to said stud, a base member for maintaining the lower end of said stud in position on a floor, a metallic mop plate secured to the bottom of the resulting wall structure and serving as a finishing trim, an inturned longitudinal flange formed on the upper edge of said mop plate and contacting with said boards, and means concealed by said mop plate for supporting electric wiring.

4. In a wall construction, a vertically extending stud, an H-shaped runner secured to said stud, said runner presenting opposed channels, and preformed gypsum wall boards supported by said runners and having paper cover sheets, one of said cover sheets being folded about the edge of a board and being adhesively attached to the edge of the opposite cover sheet with the edge of said opposite sheet spaced apart from the edge of the board forming a recess for a flange of said runner, so as to position the outer face of said cover sheet in substantially the same plane as the outer surface of said runner.

5. In a wall construction, vertically extending studs, preformed wall boards secured to said studs, a base plate for supporting the lower edges of said wall boards and said studs, a wooden strip secured to said boards, a mop plate secured to said strip and serving as a trim for the bottom of the wall structure, and inturned edges formed on said mop plate and forming with said nailing strip a compartment for electric wiring.

6. In a building construction, vertically extending studs, preformed wall boards secured to said studs, means for supporting the lower edges of said boards, a mop plate adjacent the lower edges of said boards, attaching means extending outwardly from said boards and arranged for attachment to said mop plate for spacing said plate in spaced, parallel relation to said boards, and electric wires in the space behind said mop plate.

7. In a wall construction, vertically extending studs, preformed wall boards secured to said studs, a base plate for supporting the lower ends of said studs on a floor, upstanding integral channels formed on said base plate having spaced legs and a connecting web, said web being adapted to support the lower edge of said boards, and means for fixing the position of the lower edges of said boards relative to one of said channels.

8. In a wall construction, vertically extending studs, preformed wall boards secured to said studs, a base plate for supporting the lower ends of said studs on a floor, upstanding integral channels formed on said base plate and arranged to support the lower edges of said boards, and a metallic mop plate secured to the bottom of the resulting wall structure and serving as a finishing trim.

9. In a wall construction, vertically extending

studs, preformed wall boards secured to said studs, a base plate for supporting the lower ends of said studs, upstanding, integral channels formed on said base plate and arranged to support the lower edges of said boards, electric wires extending within said channels, and a metallic mop plate secured to the bottom of the resulting wall structure and serving as a finishing trim.

10. In a wall construction, a plurality of vertically extending metallic studs, said studs being channel-shaped in cross section and having an aperture formed in the web thereof, a horizontally extending channel passing through the apertures of the successive studs and arranged to support an electric wire, means for securing the bottom of said studs to a floor, a cross bar secured to each of said studs, the outstanding ends of said cross bars being recessed for receiving a horizontally extending channel, preformed wall boards secured to said studs and having the lower edges thereof supported in said last mentioned channel, and a metallic mop plate secured adjacent the lower part of the resulting wall structure and serving as a finishing trim.

11. In a wall construction, a plurality of upstanding, channel-shaped metallic studs, horizontally extending channels supported by said studs, preformed wall boards secured to said studs and having the lower edges thereof supported by said channels, a metal mop plate secured to the lower part of the resulting wall structure and serving as a finishing trim, and means for supporting electric wires behind said mop plate.

12. In a wall construction, a plurality of upstanding, metallic channels having webs, said webs being provided with apertures, horizontally extending channels received in the apertures of successive studs, electric wires carried in said channels, preformed wall boards, means for supporting said preformed wall boards on said studs, a metallic mop plate secured adjacent the bottom of said wall structure and serving as a finishing trim, and an outlet plug in said mop plate connecting with said electric wires.

13. In a building construction, a plurality of upstanding, channel-shaped studs, means for securing the lower ends of said studs to a floor, a metallic mop plate positioned adjacent said studs and serving as a finishing trim, and preformed wall boards extending between said studs and said mop plate, said studs, mop plate and wall boards being interconnected to form a wall.

14. In a hollow wall construction, a metallic base plate, a stud perpendicular to said base plate and engaged by means on said base plate, a wallboard connected to said stud and engaging at one edge in means provided on said base plate, a metallic mop plate positioned adjacent said base plate, and a wooden strip secured to said wallboard, said mop plate being secured to said wooden strip in assembled relation in said wall.

15. In a hollow wall construction, a metallic base plate, a stud perpendicular to said base plate, up-standing tongues on said base plate engaging with and retaining in position the lower end of said stud, a wallboard connected to said stud and in engagement at one edge with other up-standing tongues on said base plate, a metallic mop plate positioned adjacent said base plate, and a relatively narrow wooden strip secured to the outside face of said wall-

board intermediate the upper and lower edges of said mop plate, said mop plate being secured to said wooden strip and providing a plurality of compartments for electric wires or the like.

16. In a hollow wall construction, a metallic base plate, a stud perpendicular to said base plate, up-standing tongues on said base plate engaging with and retaining in position the lower end of said stud, a wallboard connected to said stud and in engagement at one edge with other up-standing tongues on said base plate, a metallic mop plate positioned adjacent said base plate, a relatively narrow wooden strip secured to the outside face of said wallboard intermediate the upper and lower edges of said mop plate, said mop plate being secured to said wooden strip and providing a plurality of compartments for electric wires or the like, and outlets in said mop plate providing lead-outs for said wires.

17. In a building construction, a pair of wall members adjoining at an angle, attaching means secured to said members, mop plates secured to said attaching means, and an angular metallic member having a pair of wings corresponding in shape to the contours of said mop plates secured over the adjacent ends of said mop plates to provide a finished corner.

18. In a building construction, a pair of wall boards adjoining at an angle, wooden strips secured adjacent the lower edges of said boards, mop plates secured to said wooden strips, an angular metallic member having a pair of wings corresponding in shape to the contours of said mop plates positioned over the adjacent ends of said mop plates to provide a finished corner, and a screw passing through said angular member and into one of said wooden strips for securing said member in place.

19. In a wall construction, a metallic base plate, an edge of said plate being turned up to form an angular flange, resilient members on said base plate adjacent said flange, the edge of a wallboard being engaged between said flange and said resilient members, a metallic mop plate positioned adjacent said base plate and wallboard, and a reverse bent flange on said mop plate, said reverse bent flange engaging between said wallboard and said base plate flange, whereby said mop plate is held in place.

20. In a wall construction, a metallic base plate held in place on a floor, a stud, means on said base plate for defining the position of said stud, a wallboard forming the facing for said wall and being connected to said stud, and a channel member at the edge of said base plate, said channel providing a compartment for the reception of electric wiring in one part and means for engaging and maintaining in place the edge of said wallboard in another part.

21. In a wall construction, a metallic base plate held in place on a floor, a stud, means on said base plate for defining the position of said stud, a wallboard forming the facing for said wall and being connected to said stud, a channel member at the edge of said base plate, said channel providing a compartment for the reception of electric wiring and means for maintaining the edge of said wallboard in place above said compartment, a mop plate secured to the base of the resulting wall structure and serving to hide the structural details adjacent said floor, and means in said mop plate and

said compartment for lead-outs to said electric wires.

22. In a wall construction, a base plate, studs positioned vertically on said base plate, means 5 on said base plate for engaging the ends of said studs and defining the position thereof, wall boards secured to said studs, an upstanding channel member at the edge of said base plate and arranged to provide an electric wiring conduit adjacent the floor and arranged to support 10 the lower edge of said boards above said conduit, a metallic mop plate positioned at the bottom of the resulting structure and serving as a finishing trim, and means for attaching said 15 mop plate to said wallboards.

23. A base plate for wall construction, comprising a member for attachment to a floor, means for defining the position of a wall stud, an integral, upstanding channel formed at the 20 edge of said member and providing means for supporting the edge of a wallboard in spaced relation to said floor, said channel providing a conduit for electric wiring or the like, and a knock-out in a leg of said channel for access 25 to said wiring or the like.

24. In a wall construction, vertically extending studs, wallboards secured to said studs and forming the face of said wall, means associated with said studs for supporting the lower edge 30 of said wallboards to maintain said edge in substantially spaced relation to a floor, a mop plate secured to the lower part of said structure and serving as a finishing trim to enclose that part of the structure wherein the wallboards are 35 supported above said floor, and electric wires or the like in at least a part of the structure enclosed by said mop plate.

25. In a wall construction, a vertically extending stud, means for maintaining said stud in position on a floor, wallboard secured to said stud and forming the face of said wall, means 5 associated with said stud for supporting the lower edge of said wallboard substantially above said floor, and a mop plate attached adjacent said lower edge supporting means, said mop plate serving to hide the structural details below said wallboard edge so that said wall will present a 10 finished appearance.

26. In a wall construction, vertically extending studs, means for maintaining said studs in position on a floor, wallboards secured to said studs and forming the face of said wall, means 15 associated with said studs for supporting the lower edges of said wallboards substantially above said floor, and a mop plate attached to said wallboard edge supporting means and said position maintaining means and serving as a finishing trim to inclose the space below said wallboards. 20

27. In a wall construction, vertically extending studs, means for maintaining said studs in position 25 on a floor, wallboards secured to said studs and forming the face of said wall, means associated with said studs for supporting the lower edges of said wallboards substantially above said floor, a mop plate attached to said wallboard 30 edge supporting means and said position maintaining means and serving as a finishing trim to enclose the space below said wallboards, and means within said space for supporting electric wiring or the like. 35

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