

Nov. 11, 1958

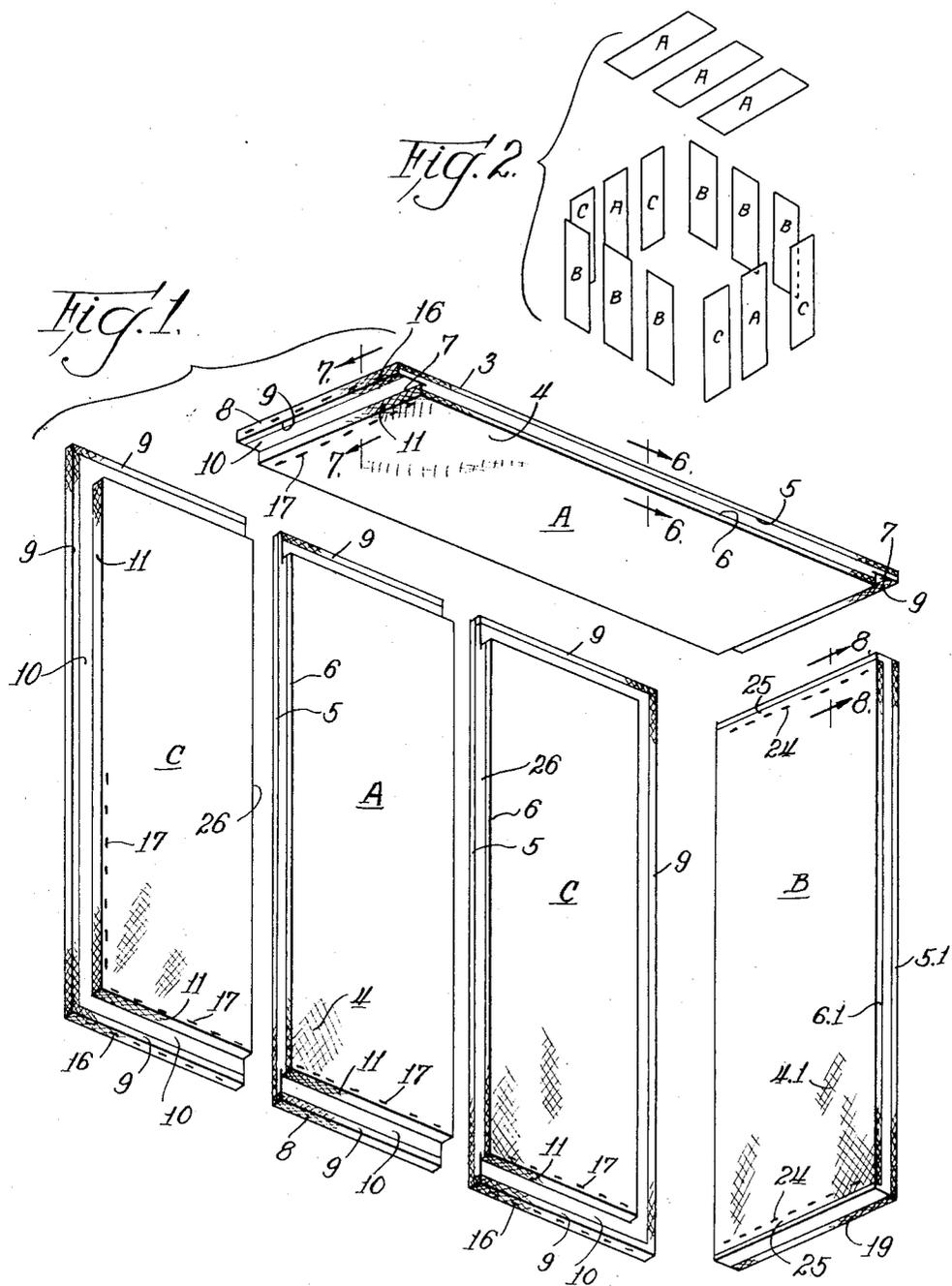
E. A. LINDGREN

2,860,176

SCREEN ROOMS

Filed Nov. 20, 1953

4 Sheets-Sheet 1



INVENTOR.

Erik A. Lindgren

BY

Walter O. Harbaugh
Att'y.

Nov. 11, 1958

E. A. LINDGREN

2,860,176

SCREEN ROOMS

Filed Nov. 20, 1953

4 Sheets-Sheet 2

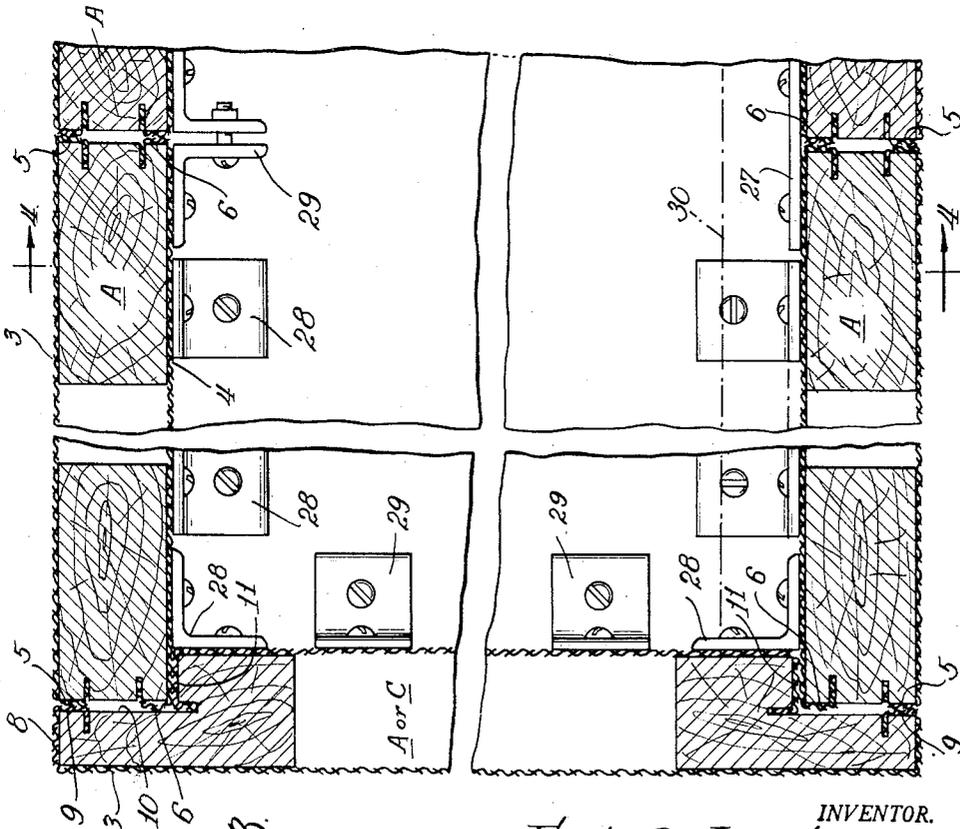
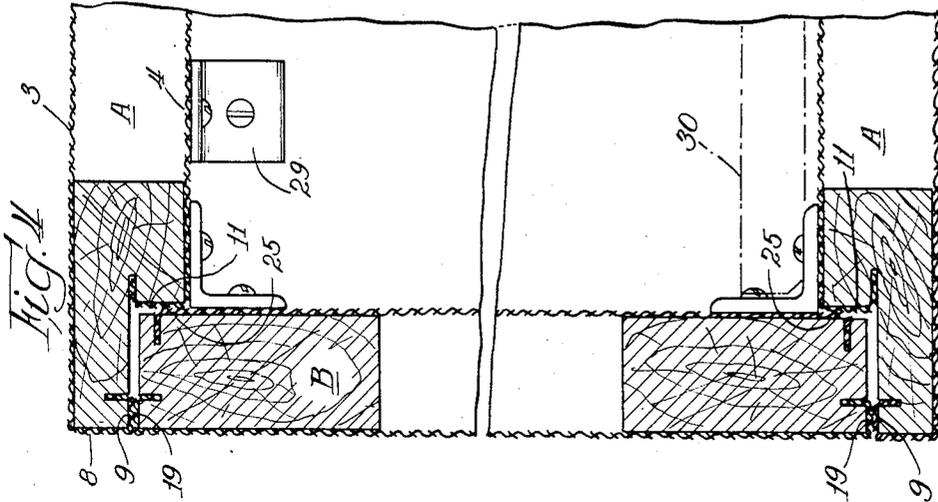


Fig. 3.

INVENTOR.
Erik A. Lindgren
 BY
Walter D. Harbaugh
 Att'y.

Nov. 11, 1958

E. A. LINDGREN

2,860,176

SCREEN ROOMS

Filed Nov. 20, 1953

4 Sheets-Sheet 3

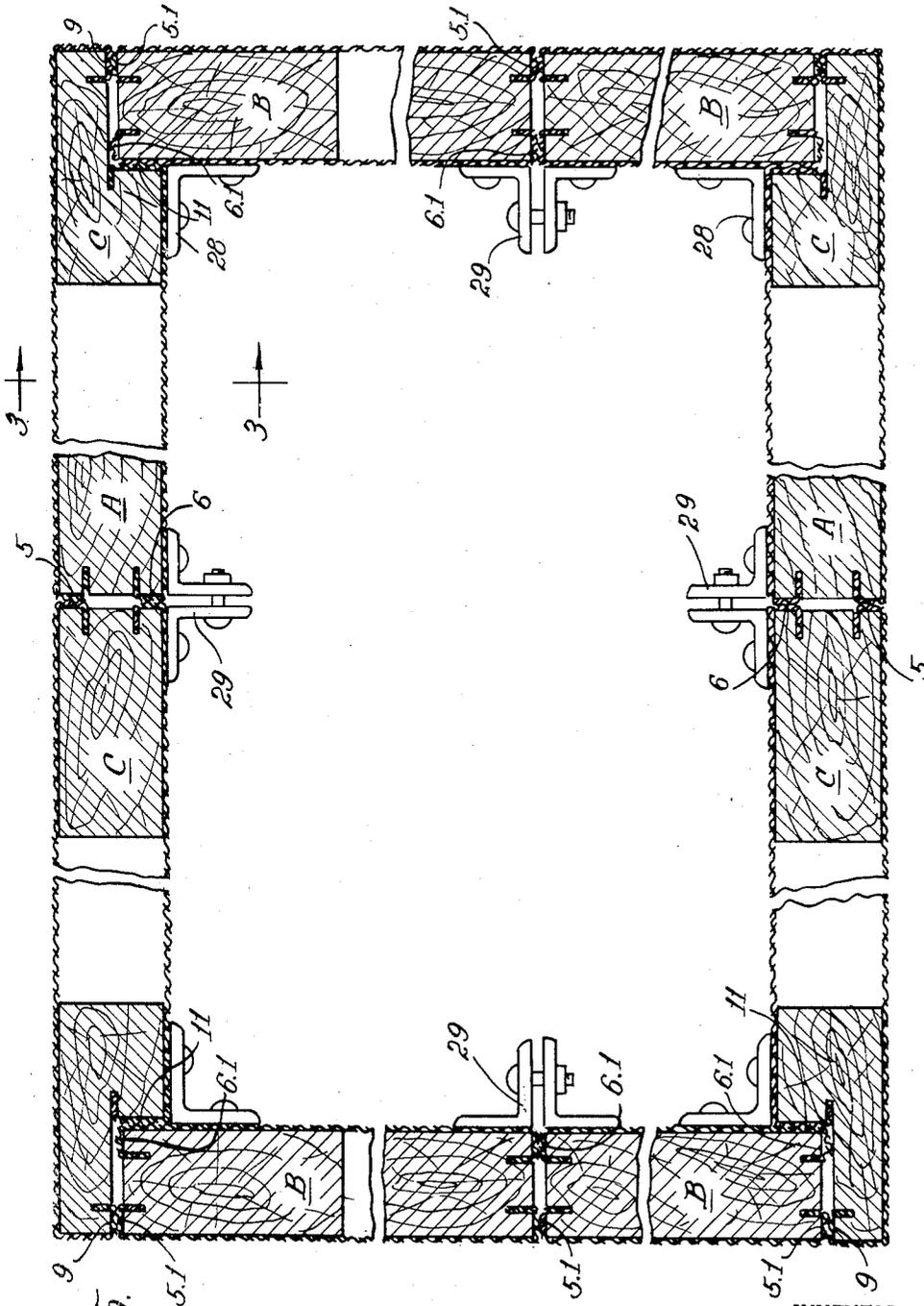


Fig. 5.

INVENTOR.
Erik A. Lindgren
BY
Watson D. Harbaugh
Att'y.

Nov. 11, 1958

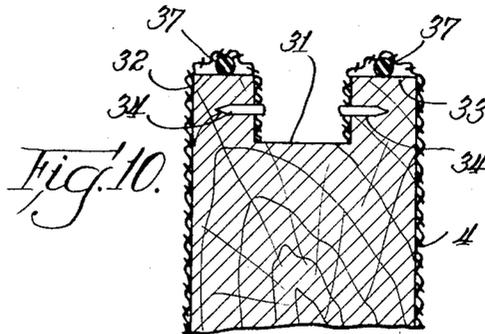
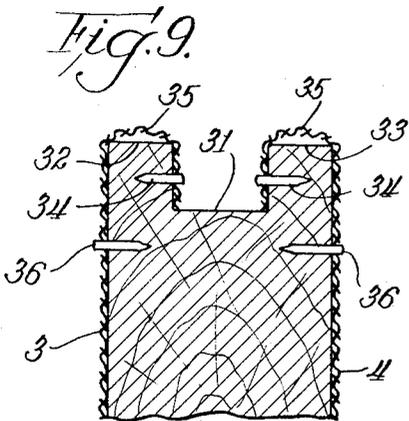
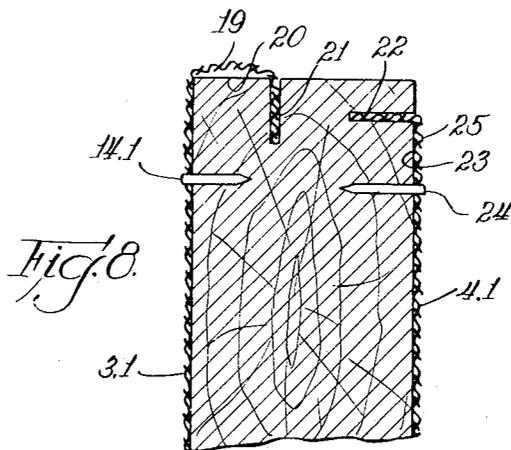
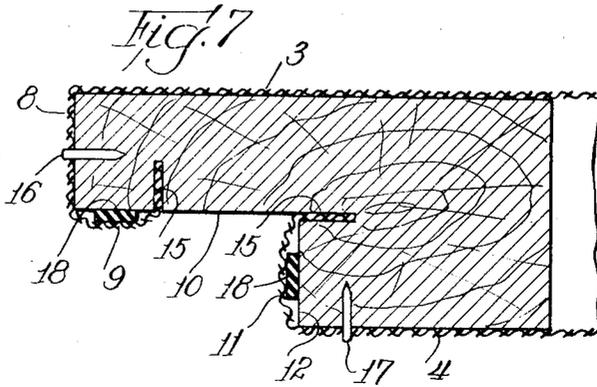
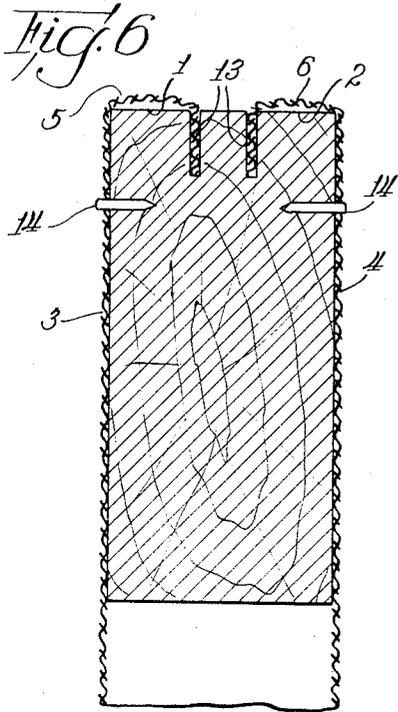
E. A. LINDGREN

2,860,176

SCREEN ROOMS

Filed Nov. 20, 1953

4 Sheets-Sheet 4



INVENTOR.

Erik A. Lindgren

BY

Robert P. Harbaugh

Att'y.

1

2,860,176

SCREEN ROOMS

Erik A. Lindgren, Chicago, Ill.

Application November 20, 1953, Serial No. 393,372

12 Claims. (Cl. 174—35)

This invention relates to improvements in the construction of electrically shielded enclosures, or screen rooms, for protection from high frequency wave emanations and particularly to improvements in portable, prefabricated, screen rooms which can be readily dismantled or knocked down and then reassembled and set up at another location; this application being a continuation-in-part of my copending application Serial No. 308,136, filed September 5, 1952, issued as Patent No. 2,765,362.

Various materials are known to possess shielding characteristics which will serve the purpose of isolating space units against electromagnetic and electrostatic wave penetrations and such materials are usually metallic and planar in form. Shielding efficiency is related to conductivity and nonpermeability and it is known that continuous electrical conductivity between contiguous points in the shielding element affords a pronounced efficiency as a radio wave shield in the intermediate and lower wave bands. However, by utilizing multiple, mutually spaced, shielding enclosures the quality of wave attenuation may be further enhanced and extended over a wider range of frequencies.

In respect to double screen shields, it is recognized that the effectiveness of attenuation is dependent upon establishment of efficient impedance and for this purpose each screen is required to be electrically isolated from the other. Thus, since each screen must completely encompass the space to be shielded, one being entirely within the other, there is presented a unique problem of maintaining continuity of conduction between consecutive sections of the same screen shield and, at the same time, securing electrical isolation of the different screens.

In recognition of these factors it is a principal object of this invention to provide an improved prefabricated, multiple-panel, screen room construction utilizing dual screen shields and in which positive continuity of conduction between the corresponding screen shield elements of contiguous panels is automatically established, as the panels are assembled to each other, while complete electrical isolation of one screen shield from the other is maintained.

Other particular objects of this invention are to provide an improved demountable screen room; to provide such a device having an improved arrangement of panel units for its assembly; to provide an improved panel unit construction for assembling screen room structures; to provide an improved frame type of panel for constructing screen rooms having two complete shielding enclosures, one within the other, electrically independent of each other; to provide an improved panel construction having independent screen elements which will automatically connect with the corresponding screen elements of an adjoining top, bottom, or side panel to provide a completely encompassing, multiple shielded enclosure; to provide an improved panel and shielding material arrangement whereby complete, automatic, electrical connection of the corresponding shielding elements with each other is assured whenever any two panels are fitted together

2

during screen room assembly; and to provide a simple and cheap screen room panel construction whereby screen rooms of various sizes may be made from multiples of but three basic or standard panel units.

5 A specific embodiment of this invention is shown in the accompanying drawings in which:

Fig. 1 is an exploded view, in perspective, showing endwall, top, and side wall screen room panels and illustrating the structure and relationship of the three basic panel types from which the improved screen room may be assembled; the three panel types being designated A, B and C respectively.

Fig. 2 is a diagrammatic view showing the relation of the three panel types in a typical screen room assembly, the floor being the same as the top and therefore omitted.

Fig. 3 is vertical sectional view of an erected screen room, as taken on line 3—3 of Fig. 5, showing the construction and manner of assembly of the endwall, top and floor panels.

Fig. 4 is a fragmentary vertical transverse sectional view of the same, as taken on line 4—4 of Fig. 3, showing the construction and manner of assembly of the sidewall top and floor panes.

Fig. 5 is a horizontal sectional view of the same showing the arrangement of the side and end panels in assembled relation.

Fig. 6 is a sectional view as taken on line 6—6 in Fig. 1, showing the abutting-edge screen terminal arrangement for the adjoining edges of panels lying in a common plane, and for the longitudinal edges of the top, side and floor panels which adjoin the end panels.

Fig. 7 is a sectional view as taken on line 7—7 in Fig. 1 showing the construction and screen terminal arrangement for the end edges of the top, end, and floor panels and for the corner-side edges of the end panels.

Fig. 8 is a sectional view, as taken on line 8—8 of Fig. 1, showing the screen terminal arrangement for the top and bottom end edges of the sidewall panels.

Fig. 9 is a sectional view similar to Fig. 6 but showing a modified construction, and

Fig. 10 is a similar view showing another modified construction.

In the form shown in the drawings the improved prefabricated screen room panels are of three basic types, designated "A," "B" and "C" respectively, from which a rectangular, six-sided cubical or housing may be constructed, as indicated in Fig. 2. The height of the structure is determined by the length of the end corner panels "C," which is preferably a predetermined standard, and the width and length of the structure is determined by the width of the intermediate end panels "A" and the side panels "B," which is preferably a predetermined standard also. Thus, by varying the number of "A" end panels and the number of "B" side panels employed, screen rooms of various sizes can be assembled. The roof and floor panels are of the same type and construction as the intermediate end panels "A" and are of the same width as the "B" panels. Their length, however, will vary according to the number of "A" type end panels used.

Since the purpose of the invention is to provide a prefabricated, multiple-panel screen room having two complete screen shields each wholly encompassing the included space and electrically isolated from the other, the particular features of this invention, for which patent is claimed, reside in the novel disposition and arrangement of the terminal margins of the individual screen elements on each panel, and in the novel construction of the marginal portions of the individual screen room panels which interfit with the mating portions of contiguous panels, whereby electrical isolation of the indi-

vidual screen shields is automatically maintained and complete continuity of electrical conduction between the several screen elements of each shield is accomplished through the use of but three basic panel forms or types and regardless of how individual panel units may be interchanged.

The three basic panel types are illustrated in Fig. 1. Each type may be of solid or frame construction, as desired, and in each case the screening material extends continuously over the entire surface of each face portion of the panel that remains exposed when the screen room is assembled. The type "A" form, used for the roof, floor and intermediate end panels, has parallel longitudinal or side edges and the marginal surfaces of each side edge lie in a common plane, normal to the face surfaces of the panel, as shown at 1 and 2 in Fig. 6. These marginal edge surfaces 1 and 2 function as lands for contact engagement with an adjoining panel as will be described. As shown, the longitudinal margins 6 of the inner shielding screen 4 are turned to overlap the respective lands 1 and 2 of each side edge surface of the panel and are suitably secured as will be hereafter described.

Each end of the type "A" panel is shaped, as shown in Figs. 1 and 7, to provide a shoulder-seat 7 to receive the square end or side edge of an adjoining panel lying in a plane normal to the plane of the "A" panel. The shoulder-seat 7 is formed by cutting away the margin of the inner face of the panel to a depth of one-half the panel thickness and the width of the cut is preferably equal to the thickness of the panel edge to be received. Thus if the panels are all of the same thickness, as is preferable, and such thickness is $1\frac{3}{4}$ ", the inner end-margin of the "A" panel will be cut away to a depth of $\frac{7}{8}$ " and width of $1\frac{1}{4}$ " so that when the edge of the adjoining panel is set snug in the shoulder seat the end of the "A" panel will be flush with the outer surface of the adjoining panel. This relationship of panels adjoining at right angles to each other is shown in Figs. 3, 4 and 5. As shown, each end portion 8 of the shielding screen 3 on the outer side of the "A" panel is extended completely around the outermost end of the panel so that its margin 9 will overlap the opposite surface 10 of the shoulder-seat 7. The end margin 11 of the inner shielding screen 4, however, is turned to overlap the end shoulder 12 in the same manner as at the sides of the panel. Thus, in the shoulder-seat of the panel, the end margins 9 and 11 of the two shielding screens lie in right angular, spaced relation with each other rather than in the same plane as at 5 and 6 on the side edges of the panel.

Referring to Fig. 6 it will be seen that the edges of the screen side margins 5 and 6 are turned at right angles to the plane of the lands 1 and 2 and each is set edgewise into a respective channel 13, cut into the edge of the panel. Preferably the channels 13 are narrow saw cuts, located at a predetermined distance from the adjacent panel face, and define the width of the lands 1 and 2. Also the channels 13 are preferably of such depth that when each edge of the screen is bottomed in its respective channel, after the screen has been stretched taut across the respective panel face and secured, as by the staples 14, a slight amount of surplus screen material will exist so as to cause the marginal portions 5 and 6 to bow outwardly from the surface of the lands 1 and 2, as shown in Fig. 6, and thereby provide a resilient contact surface above each land which will assure continuous conductive engagement with the similarly disposed screen margins of a mating or adjoining panel and throughout the length of the panel-to-panel joint.

As shown in Fig. 7 the screen contact margins at the ends of the "A" panel are treated in a similar manner; i. e., the edges of the screen margins are set into respective saw-cut channels 15 which define the screen contact land areas. Also, as shown in Fig. 7, the ends of the screen 3 and 4 are secured by suitable staples 16 and 17,

so that there can be no strain or pull on the bowed contact margins 9 and 11 and, if desired, resilient fillets 18, of rubber or other suitable material, may be disposed along the length of each land to assure perfect conductive pressure-contact of the screen margins with the mating screen margins of an adjoining screen.

The type "B" panel, used for the side walls of the screen room assembly, has longitudinal side edges formed the same as the side edges of the "A" panel, as shown in Fig. 6, and the outer and inner shielding screens 3.1 and 4.1 have their side margins 5.1 and 6.1, respectively, turned to overlap the panel edges in the same manner (see Fig. 1). The ends of the "B" panels, however, have a particular arrangement necessitated to adapt them for conjunction with the "C" type panels at the screen room corners while maintaining a minimum of panel thickness. This arrangement is illustrated in Fig. 8 and it will be seen that, while the end margin 19 of the outer screen 3.1 is bowed over a panel-end land 20 and its edge is seated in a saw-cut channel 21, just as on the side edges, the inner screen 4.1 terminates short of the panel end edges and the edge of the screen is set into a saw-cut groove 22 formed in the inner face surface of the panel parallel with and just inside of the panel end edge. In this case the contact land 23 is defined by the groove 22 and the line of staples 24 by which the screen 4.1 is held taut over the panel face; and the contact margin 25 of the screen is bowed between the staples 24 and the groove 22 in the same manner as the other screen contact margins. With this arrangement for the inner screen end terminals of the "B" panels, electrical isolation of the inner screen shield from the other screen shield at the top and bottom ends of a "B" panel junction will be assured.

The "C" type panels, which are the end corner panels of the screen room structure, each have one square side edge 26 on which the inner and outer screen terminal margins are constructed and arranged in the same manner as the side edges of the type "A" panel, as shown in Fig. 6. The top, bottom, and opposite side edges of the "C" panels, however, are formed and arranged in the same manner as the ends of the "A" panels and for the sake of illustration the corresponding elements are designated by the same numbers in the drawings.

It will now be seen that when the mating portions of any pair of the improved panels are brought together the adjoining edges will interfit and the contact margins of the respective screen shields will so engage each other that perfect conductivity between the respective shield elements will be had over the entire length of the junction while maintaining complete electrical isolation of the two shields from each other. This is shown in Figs. 3, 4 and 5 wherein the joint relationship of each type of panel with another is illustrated. It will also now be seen that by appropriate combination of the three basic panel types a complete screen room can be assembled in which independent dual shields, each completely encompassing the included space, will be provided. Also it will be apparent that a screen room so constructed may be readily dismantled, for storage or removal to another location, and that there is practically no need for labeling the several panels for relocation since the panels of each of the three types are identical and interchangeable.

In the assembly of a screen room according to this invention the floor panels of the "A" type are first laid and suitably connected together by tie plates 27, as shown in Fig. 3. Then an end wall, comprising two "C" panels and at least one "A" type end panel, is erected, together with a pair of the "B" type side wall panels, and the several panels are suitably clamped together by angle corner brackets 28, at the floor and the "B"- "C" panel junctions, and by angle clips 29 at the edge to edge joints. The first roof panel of the "A" type is then placed and secured to the end and side wall panels by appropriate corner brackets 28, and thereafter the erection of the

structure is completed by setting up the remaining side and roof panels and the opposite end wall, all edge-to-edge joints being clamped together by angle clips 29 as shown. Finally a solid floor, indicated by the line 30 in Figs. 3 and 4, is laid over the inner surface of the floor panels, to permit working within the enclosure without damage to the wire shielding of the floor panels, and the two shielding wire enclosures are connected to a common ground at a single convenient location.

It will be understood that a suitable door will be provided in one of the wall panels for access to the interior of the structure and while a door is not herein illustrated reference may be had to my copending application, Serial Number 308,136, in which a suitable door arrangement is shown and described.

Modifications of the panel edge construction, for edge-to-edge abutting panel joints, are shown in Figs. 9 and 10 and in each of these arrangements a single channel 31 is formed which extends, in width, the entire distance between the coplanar lands 32 and 33. Thus each land is in the form of a rectangular rib which extends the length of the panel edge and the screen margins are turned back upon themselves, over the respective rib and each edge is secured to the inner surface of the rib by means of staples 34. In the form shown in Fig. 9 the bowing of the screen contacting area 35, over the face of the respective rib, is obtained by first securing the screen in taut condition on the face side of the panel by means of marginal staples 36, and then securing the edge of the screen by means of the staples 34 while holding the contact margin in the desired bowed form. In the form shown in Fig. 10 a fillet 37, of suitable elastic material, such as rubber, is first applied lengthwise along each land and then the screen material is stretched tightly over the land and fillet and secured by means of the staples 34. In this arrangement the need for the marginal staples on the face sides of the panel is obviated.

The main advantages of this invention reside in the improved and simplified panel construction whereby a highly efficient screen room may be made from light weight demountable and interchangeable panel units; and in the fact that only types of panel construction are needed to provide a practical range of screen room sizes. Other advantages reside in the improved and simplified panel edge constructions which by their appropriate combination, provide positive isolation of dual screen-shields and complete continuity of conduction between the screen sections comprising each shield; in the improved construction whereby continuous conductive contact between corresponding screens of adjoining panels is automatically established as the panels are joined together; and in the relatively low cost of constructing the improved panels whereby the total cost of screen rooms of substantially any size, is materially reduced without sacrifice of any of the highest attenuation efficiency normally required.

Although several embodiments of this invention are herein shown and described it will be understood that details of the constructions shown may be altered or omitted without departing from the spirit of this invention as defined by the following claims.

I claim:

1. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having margins of predetermined width forming lands extending inwardly from the respective panel faces, a resilient fillet disposed on and extending lengthwise of each of said lands, and the margins of each shielding sheet adjacent said one panel edge being turned over the adjacent land and the fillet thereon and then inset edgewise into the panel below the plane of said lands, the margins of said shielding sheets being spaced and electrically isolated from each other.

2. A space isolating sectional shield for preventing the

passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having marginal lands of predetermined width extending inwardly from the respective panel faces, and the margin of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands and then inset edgewise into the panel and below the edge surface thereof, the margins of said shielding sheets being in spaced relation with and electrically isolated from each other, a second edge normal to the first mentioned edge and a marginal land of predetermined width on said second edge extending inwardly from one face only of the panel, the margin of the shielding sheet material on said one face of the panel and adjacent said second edge being turned over the land on said second edge and then inset edgewise into the same, the other face of said panel having a groove formed therein parallel with said second edge and spaced inwardly therefrom, and the marginal edge of the shielding sheet on said other face adjacent said second panel edge being inset into said groove, the margin of the last mentioned shielding sheet being secured to said other panel face inwardly of said groove.

3. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having a pair of parallel grooves extending lengthwise of the edge surface and each spaced a predetermined distance from a respective panel face to define a land extending inwardly from such panel face, and the margins of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands and inset edgewise into the respective one of said panel edge grooves, a second edge normal to the first mentioned edge and a marginal land of predetermined width on said second edge extending inwardly from one face only of the panel, the margin of the shielding sheet material on said one face of the panel and adjacent said second edge being turned over the land on said second edge and then inset edgewise into the same, the other face of said panel having a groove formed therein parallel with said second edge and spaced inwardly therefrom, and the marginal edge of the shielding sheet on said other face adjacent said second panel edge being inset into said groove, the margin of the last mentioned shielding sheet being secured to said other panel face within said groove.

4. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having marginal lands of predetermined width extending inwardly from the respective panel faces, and the margin of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands and then inset edgewise into the panel and below the edge surface thereof, the margins of said shielding sheets being in spaced relation with and electrically isolated from each other, and a second edge normal to the first mentioned edge and formed to provide a lap joint with another panel, the margin of one face of said panel being relieved along said second edge to a depth of one half the panel thickness to provide a lap portion having an inner end-shoulder normal to said one panel face and spaced inwardly from said second edge a distance substantially equal to the panel thickness, the margin of the shielding material on said one panel face adjacent said shoulder being turned to overlap the same and the edge of said material being inset edgewise into said shoulder, and the adjacent margin of the shielding material on the other panel face being turned to enclose said second edge and marginally overlies the inner surface of said lap portion, the last mentioned shielding material margin being inset edgewise into the inner surface of said lap

portion at a predetermined distance from said second edge.

5. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having marginal lands of predetermined width extending inwardly from the respective panel faces, and the margin of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands and then inset edgewise into the panel and below the edge surface thereof, the margins of said shielding sheets being in spaced relation with and electrically isolated from each other and a second edge normal to the first mentioned edge and formed to provide a lap joint with another panel, the margin of one face of said panel being relieved along said second edge to a depth of one half the panel thickness to provide a lap portion having an inner end-shoulder normal to said one panel face and spaced inwardly from said second edge a distance substantially equal to the panel thickness, the margin of the shielding material on said one panel face adjacent said shoulder being turned to overlap the same in outwardly bowed relation therewith and the edge of said material being inset edwise into said shoulder, and the adjacent margin of the shielding material on the other panel face being turned to enclose said second edge and marginally overlie the inner surface of said lap portion, the last mentioned shielding material margin being inset edgewise into the inner surface of said lap portion at a predetermined distance from said second edge and being bowed outwardly from the overlapped portion of said inner surface.

6. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having marginal lands of predetermined width extending inwardly from the respective panel faces, and the margin of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands and then inset edgewise into the panel and below the edge surface thereof, the margins of said shielding sheets being in spaced relation with and electrically isolated from each other and a second edge normal to the first mentioned edge and formed to provide a lap joint with another panel, the margin of one face of said panel being relieved along said second edge to a depth of one half the panel thickness to provide a lap portion being an inner end-shoulder normal to said one panel face and spaced inwardly from said second edge a distance substantially equal to the panel thickness, a resilient fillet extending along said shoulder, the margin of the shielding material on said one panel face adjacent said shoulder being turned to overlap the fillet thereon and the edge of said material being inset edwise into said shoulder, a resilient fillet extending along the edge margin of the inner surface of said lap portion, and the adjacent margin of the shielding material on the other panel face being turned to enclose said second edge and marginally overlie the fillet on the inner surface of said lap portion, the last mentioned shielding material margin being inset edgewise into the inner surface of said lap portion at a predetermined distance from said second edge.

7. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having marginal lands of predetermined width extending inwardly from the respective panel faces, and the margin of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands and then inset edgewise into the panel and below the edge surface thereof, the margins of said shielding sheets being in spaced relation with and electrically isolated from each

other and a second edge normal to the first mentioned edge and formed to provide a lap joint with another panel, the margin of one face of said panel being relieved along said second edge to a depth of one half the panel thickness to provide a lap portion having an inner end-shoulder normal to said one panel face and spaced inwardly from said second edge a distance substantially equal to the panel thickness, said shoulder having a longitudinal groove formed therein, the margin of the shielding material on said one panel face adjacent said shoulder being turned to overlap the same and the edge of said material being inset into said shoulder groove, a groove in the inner surface of said lap portion extending along and spaced a predetermined distance from said second edge, and the adjacent margin of the shielding material on the other panel face being wrapped around said second edge to overlie the inner surface of said lap portion, the edge of the last mentioned shielding material margin being inset into the last mentioned groove.

8. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having a marginal land of predetermined width extending inwardly from each of the respective panel faces, the margin of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands with that portion of said turned over margin that is adjacent to said land being bowed outwardly away from said land, and means resiliently supporting said bowed portion in bowed position including a channel bordering each land of a width approximately the thickness of said sheet material, the free edge of said turned over margin being loosely retained edgewise in said channel and engaging the bottom of said channel.

9. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having a land of predetermined width extending inwardly from each of the respective panel faces, the margin of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said edge margins and then inset edgewise into the panel and below the edge surface thereof, and resilient means engaging said turned over margins and bowing each of said turned over margins spaced from the surface of the respective panel edge margin, the margins of said shielding sheets being in spaced relation with and electrically isolated from each other.

10. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having a pair of parallel channels, each of the width approximately a narrow saw cut but slightly greater than the thickness of said material and extending lengthwise of the edge surface, each channel being spaced a predetermined distance from a respective panel face to define a land extending inwardly from such panel face toward the other panel face, and the margins of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands and received edgewise loosely in the respective one of said panel edge channels and engaging the bottom thereof in edgewise supported relationship, the margins of said shielding sheets being spaced and electrically isolated from each other.

11. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, a margin of each shielding sheet being turned over the edge of the panel adjacent thereto, means resiliently bowing outwardly away from the panel in spaced relationship with respect thereto a portion of each sheet along its respective edge including

9

spaced channels extending lengthwise of and spaced from said respective edges to define a land beneath each bowed out portion, said channels each receiving edgewise therein the adjacent free edge of the respectively adjacent turned over margins and being of a width restricted to hold said free edge loosely erect in said channel with the free edge thereof engaging the bottom of said channel, each shielding sheet being secured to the face of its respective adjacent panel, the margins of said shielding sheets being spaced and electrically isolated from each other the distance between said spaced grooves.

12. A space isolating sectional shield for preventing the passage of high frequency waves therethrough comprising a rectangular panel having a sheet of metallic shielding material covering each face, at least one edge of said panel having marginal lands of predetermined width extending inwardly from the respective panel faces, and the margin of each shielding sheet adjacent said one panel edge being turned over the adjacent one of said lands and then inset edgewise into the panel and below the edge surface thereof, the margins of said shielding sheets being in spaced relation with and electrically isolated from each other, and a second edge normal to the first mentioned edge and formed to provide a lap joint with another panel, the margin of one face of said panel being relieved along said second edge to a depth substantially one-half

10

the panel thickness to provide a lap portion having an inner end-shoulder normal to said one panel face and spaced inwardly from said second edge a distance substantially equal to the panel thickness, the margin of the shielding material on said one panel face adjacent said shoulder being turned to overlap the same and the edge of said material being turned at right angles to the shoulder at the bottom of the shoulder substantially coplanar with the inner surface of said lap portion, a groove in the inner surface of said lap portion extending along and spaced a predetermined distance from said second edge, and the adjacent margin of the shielding material on the other panel face being wrapped around said second edge to overlie the inner surface of said lap portion, the edge of the last mentioned shielding material margin being inset into the last mentioned groove.

References Cited in the file of this patent

UNITED STATES PATENTS

2,405,987	Arnold	Aug. 20, 1940
2,765,362	Lindgren	Oct. 2, 1956

OTHER REFERENCES

Publication I, N. R. L. Report #3908, November 14, 1951.