Oct. 12, 1943. A. E. SYMINGTON 2,331,745

PARTITION CONSTRUCTION

Filed June 8, 1939 2 Sheets-Sheet 1

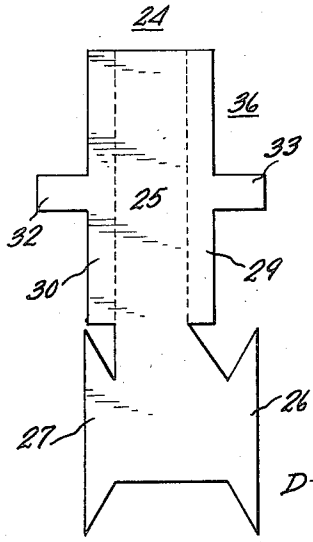


Fig. 6.

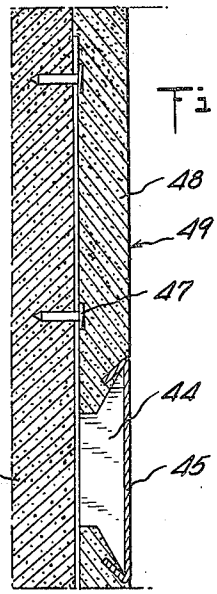


Fig. 4.

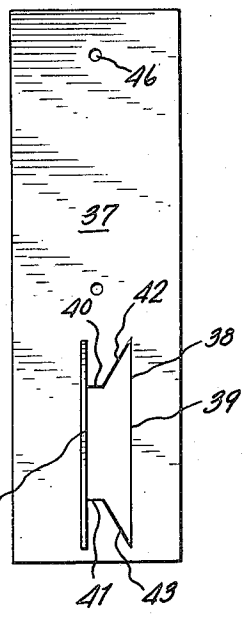


Fig. 5.

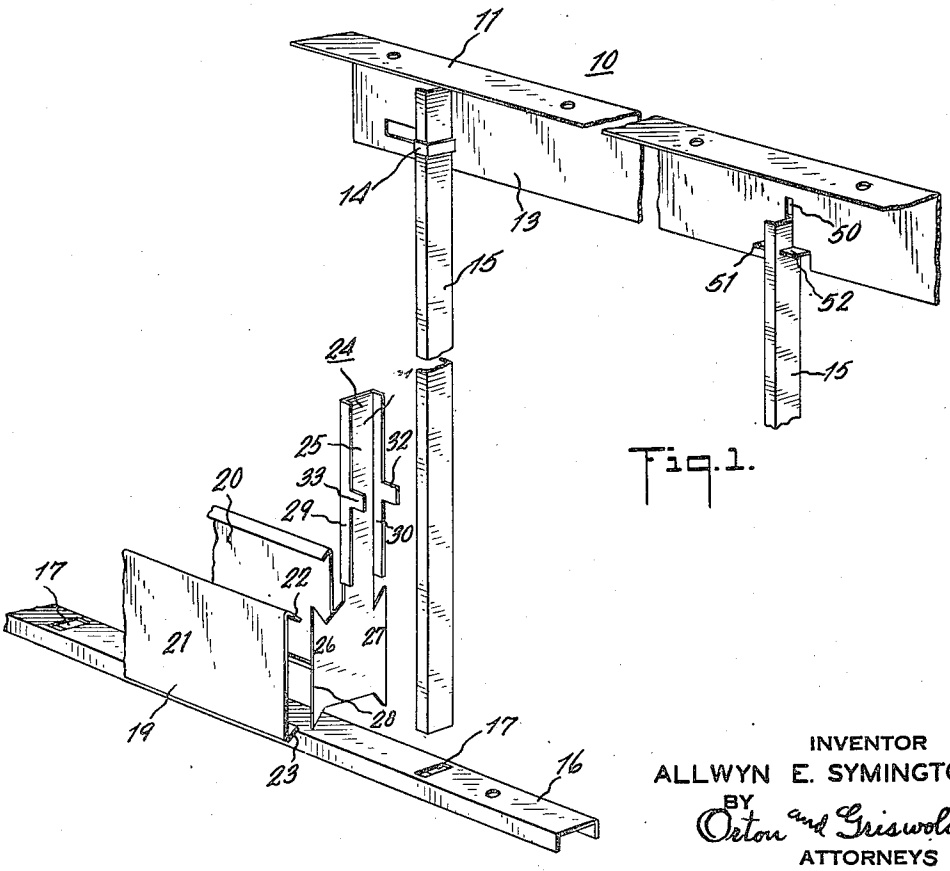


Fig. 1.

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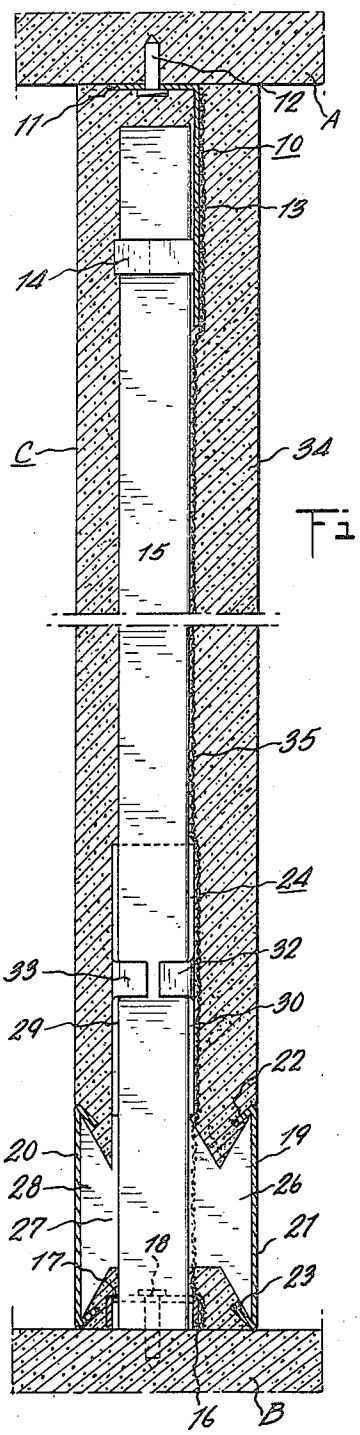


Fig. 2.

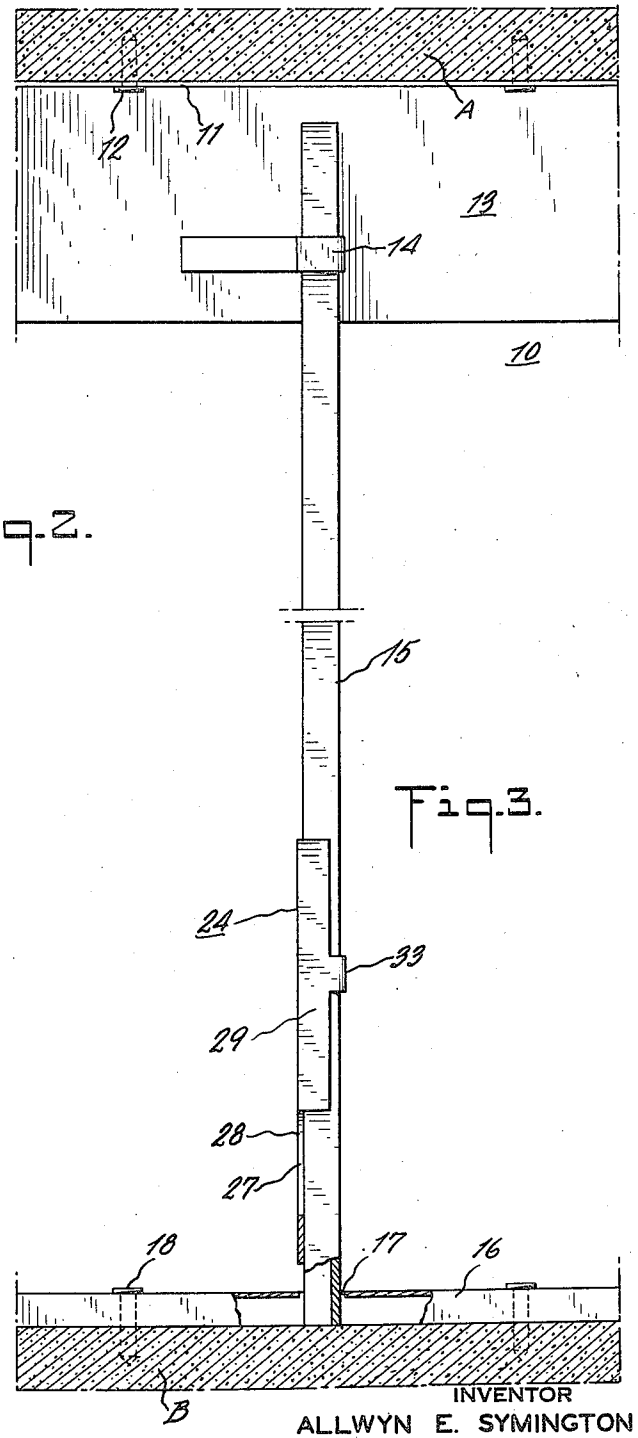


Fig. 3.

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PARTITION CONSTRUCTION

Allwyn E. Symington, Woodside, N. Y.

Application June 8, 1939, Serial No. 278,068

9 Claims. (Cl. 72—46)

The invention relates in general to a method of and means for constructing building partitions, and, specifically, relates to a method of fabricating the metal reinforcing elements of an improved form of construction and which includes one or more base rails connected to and thus forming a part of the metallic reinforcing structure. More specifically identified, the invention relates to an improved form of mounting for base rails on one or opposite sides of a partition and in securing it or them to a completely formed metal reinforcing frame.

In the following description and claims, the several expressions are to be broadly interpreted. For instance, the expression "partition" includes walls, sheathing and similar upright building structures; "top structure" includes ceiling, arches, girders, beams and like overhead structures; "uprights" include studs, posts and columns and like load carrying elements; "support" includes floors and foundations; and base rail" includes all facing plates irrespective as to whether they form base boards, conduits, moldings, chair or plate rails or the like.

The primary object of the invention is to provide a simple form of metallic partition reinforcing frame work which can be formed largely of standardized component parts and which parts can be easily and conveniently fabricated in situ, and on which may be assembled one or more base rails accurately located in any desired position. The disclosure particularly features a structure which can be easily assembled, substantially without necessity of using any fastening means and, in general, to provide an improved form of completed partition which can be formed with considerable saving in time and labor over known methods.

Various other objects and advantages of the invention will be in part obvious from a consideration of the method features of the disclosure and from an inspection of the accompanying drawings and in part will be more fully set forth in the following particular description of one method of practicing the invention, and the invention also consists in certain new and novel modifications of the preferred method and other features of construction and combination of parts hereinafter set forth and claimed.

In the drawings:

Fig. 1 is an exploded view of the several component parts of the metal reinforcement of a partition, forming a preferred embodiment of the reinforcing features of the invention, showing an associated base rail assembly about to be formed and attached to the reinforcement, and illustrating a preliminary step in the method of fabricating the reinforcing elements of the disclosure;

Fig. 2 is a vertical, transverse sectional view through a completed partition showing the parts of Fig. 1 in their finally assembled position;

Fig. 3 is a view in side elevation of the reinforcing parts shown in Fig. 2 with the cementitious material and the base rail elements of the base rail assembly removed;

Fig. 4 is a view similar to the lower portion of Fig. 2 showing a single base rail secured to a wall by means of spacer plate constituting a modification of the double spacer plate shown in the preceding figures;

Fig. 5 is a plan or face view of the spacer plate of the modified form shown in Fig. 4; and

Fig. 6 is a plan view of a flat metal blank from which the form of spacer plate shown in Fig. 1 is formed.

Referring first to the showings in Figs. 2 and 3, there are disclosed ceiling A, support B between which is fitted a partition C, the metallic elements of which particularly form the subject matter of this disclosure. Secured to the ceiling A is a top rail 10, more particularly defined in my copending application Serial No. 278,067, now Patent Number 2,262,263, filed under even date, entitled "Top rail." The top rail is of L-shaped form with a horizontally extending flange 11 secured to the ceiling by nails 12. The depending flange 13 is provided along its length and equidistantly spaced apart with anchoring means each adopted to receive the upper end of an upright 15. These anchors may be either of the hook-like form shown at 14 or of the form which includes a slot 50 for receiving the web of the uprights and ears 51 and 52 for securing the upright against rotation. In the illustrated embodiment of the invention, the upright is a channel member having a length less than the distance between the ceiling and support by an amount at least as great as the depth of a base plate 16 positioned below and extending parallel to the top rail. The base plate 16 is shown to be an inverted channel provided with upwardly facing socket forming openings 17 spaced apart longitudinally thereof the same distance that the tongues 14 are spaced apart in the top rail.

In assembling the structure thus far described, the base rail is adjusted longitudinally to bring its openings 17 in vertical alignment with the tongues 14, as by means of a plumb line, after which the base plate is secured in position as by nails 18 driven therethrough and into the support B. The uprights are located in position in numbers as may be desired by hooking each upright into one of the tongues 14 as illustrated to the right of Fig. 1 and as more particularly defined in the copending application. With the upright in this position, the flange 13 acts as a vertical guide against which the adjacent side of the upright abuts and at this time the lower end of the upright is disposed approximately over its

associated opening 17. The uprights are each then simply lowered in position in the direction of their lengths until their lower ends engage and rest on the support B as shown in Figs. 2 and 3.

Assuming that base rails are to be located on both sides of the finished partition as shown in Fig. 2, two base rails 19 and 20 are assembled on opposite sides of the line of uprights. In the form of the base rails herein illustrated, they each consist of an upstanding face plate 21, the top and bottom edges of which are bent inwardly to form an upper groove 22 and a lower groove 23. It is a feature of this disclosure that these base rails are not provided with any fastening means.

The base rails are maintained in their spaced apart relation by two or more spacer plates 24, preferably one spacer plate for each upright. The spacer plates consist essentially of a long upstanding central strip 25 adapted to engage and be fastened to its associated upright and a wider flat portion forming two wings 26 and 27, extending beyond the central strip and having their outer edges fashioned in a fish tail end 28 designed to fit in between the grooves 22 and 23 in abutting relation to the rear side of the face plate 21. It is a feature of this disclosure that the spacer plate is slidably adjusted relative to the base rails, or, perhaps, more accurately expressed, the base rails are longitudinally shiftable on the spacer plates when the spacer plates have each located themselves in abutting relation to their associated uprights. It is suggested that a simple form of structure have a spacer plate which is an unbent sheet of metal, cut to the desired shape including the strip 25 and the two wings 26 and 27 and secured to its associated upright simply by a wire passing around the strip 25 and the upright. In the showing in the preferred embodiment of the invention, the spacer plate 24 is of a little more complicated showing in that the upper portion which is intended to embrace the upright is bent to provide side flanges 29 and 30 coacting with its web 31 therebetween to form three sides for engaging three of the four sides of the uprights. The side flanges 29 and 30 are provided intermediate their lengths with extensions forming ears 32 and 33, which are designed to be bent inwardly towards each other to lap the fourth side of the upright as particularly shown in Fig. 2. From this construction it is obvious that the spacer plates may be located in any desired position vertically on the uprights, necessary to bring their associated base rails at any desired position elevated from the low base rail position shown in Fig. 2. In those situations where only one base rail is to be utilized, it will be understood that a form of spacer plate will be provided which has one of its wings omitted and in such a case the base rail assembly will consist of a half or single spacer plate with its single base rail. In either case with the spacer plate secured to the upright, the base rail or base rails as the case may be can be shifted on the two or more spacer plate plates on which it is hung until the base rail or rails are in the desired horizontally adjusted position.

Where it is desired to connect any base rail with a horizontally adjacent base rail, a spicer plate having the same form as the base rail may be fitted to extend between the grooves 22 and 23 and across the joint formed by the adjacent end of the base rails so spliced together.

With one form of the invention, the metallic frame work as thus far described is complete and the partitions may be finished with plaster, concrete or other cementitious material 34. It is also suggested that a metal lath 35 be stretched between the several uprights considered horizontally and between the top rail and the base B considered vertically, with the material 34 applied to the lath following conventional practices in this respect.

In those cases where the metal lath is used, it is suggested that the adjacent wing 26 be formed of greater width than its associated wing 27 by an amount equal to the space taken up by the thickness of the lath. It is noted from the showing in Fig. 2 that wing 26 is wider than wing 27 or, differently expressed, the central strip 25 is off-centered from the midwidth of the lower wing forming portion of the spacer plate.

For the purpose of showing one way in which the spacer plate may be formed, reference is made to the blank 36 shown in Fig. 6 which shows a flat piece of sheet metal before the side flanges are bent along the dotted line to form the showing in Fig. 1 and from which the finally completed form with the bent-in ears is finished as shown in Fig. 2.

In those cases where it is desired to mount a base rail supported in spaced relation from a wall, post or similar form of upright, the form of spacer illustrated in Figs. 4 and 5 may be utilized in place of the flat or substantially flat form suggested as the preferred form.

In the form of spacer plate illustrated in Fig. 5, there is disclosed a flat plate 37 provided with a slit 38 which extends therethrough. This slit includes a long midportion 39, two short parallel portions 40 and 41, and two angularly disposed portions 42 and 43, each connecting one end of the long portion with the adjacent end of one of the parallel portions. The material of the plate outlining the slit is bent out of the plane of the plate to form a fish tail form of projection 44 which extends perpendicular to the plane of the plate. The outer edge of the projection 44 functions as does the similar outer edge of the wings 26 and 27 to form a fastening element for engaging the rear sides of a base rail 45. The unbent portion of the plate is provided with apertures 46 through which may be driven nails 47 for securing the spacer thus formed to a wall as shown in Fig. 4.

In forming the structure shown in Figs. 4 and 5, it will be understood that the base rail 45 is adjusted on the projection 44 and the spacer is then nailed to the wall. The wall is then finished with plaster 48, or similar finishing material which embeds the several projections 44 and in the illustrated form of the invention has its outer face 49 flush with the outer face of the base rail.

While the structure illustrated is shown formed of straight elements, particularly referring to the top rail, base plate and base rails, it is understood that it is within the scope of the disclosure to preform these parts as angled corners, curved elements and the like, before the parts are taken to the place where they are to be erected. The accurate spacing of the hook-like anchors in the top rail and the sockets in the base plate insures the subsequent accurate locating of the uprights so that the base rail assembly can be fitted to the main framework with a freedom of construction which allows for meeting discrepancies between the plan and field conditions as actually met. It is particularly noted that the metal frame work is free of fastening elements and does not require any welding, riveting or similar

fastening operations at the time the parts are constructed. The partition is anchored in place firmly secured to the ceiling and to the support, free from interference from the base rails which are subsequently applied in position following the method herein suggested.

Only one type of base need be carried in stock for the base rail herein disclosed is suitable for the usual conditions met and is equally applicable to solid plaster partitions, masonry partitions, metal or wood furred walls, or masonry walls. The form of spacer plate herein disclosed depends primarily for its rigidity upon the more rugged uprights thus economizing in the amount of material necessary to put in the spacer plates and at the same time there is provided a rugged support from top to bottom of the base rail which tends to resist the base rail being bent in at the top as is apt to happen with known forms of such base rail mountings.

In the device disclosed, the securing of the base rails in position is dependent upon the ruggedness of the partition reinforcement as a whole and is not dependent upon the rigidity of the base anchorage. Any abuse given the base is transferred directly to the partition uprights and there has been eliminated the possibility of shocks on the base rail resulting in a shearing of the adjacent nail or nails used for securing the base to the support. In the form of construction herein disclosed, strains localized in any one part of the partition tend to become absorbed in the entire metallic structure, thus resulting in an improved rigid form of partition.

While there have been shown, described and pointed out in the annexed claims, certain novel features of the invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

I claim:

1. A double metal base for use on the opposite sides of a partition comprising a pair of face plates having inwardly inturned marginal flanges along their upper and lower edges, coacting with the face plates to provide grooves facing each other, and a flat spacing plate extending solidly between the base plates having fish-tail shaped outer edges receivable in said grooves fitting between the grooves, and in edgewise abutting relation to the inner faces of the face plates and thus acting to maintain the face plates in proper spaced apart relation.

2. A one-piece bent metal spacer for securing a base rail to an upright, one portion of the spacer forming a flat unbent spacing plate having at least one vertical exposed edge fashioned dove tail shaped to engage between horizontal channels on a base rail, and another upstanding portion fashioned channel shaped with bendable ears to form an upright embracing part.

3. In a device of the class described, the combination of an upright, a base rail including an upright face plate having its upper and lower edges inturned to form upper and lower grooves, a vertically extending spacer plate secured to the upright, extending perpendicular to the face plate and having its outer edge contacting the face plate to reinforce the same for its entire height, and said outer edge fitting into the upper and lower grooves to resist relative vertical movement between the base rail and the spacer plate.

4. In a device of the class described, the combination of a wall, a one-piece slit initially flat plate and the part within the slits bent at right angles to the plane of the plate to form a spacer for locating a base rail in prefixed spaced relation to the wall, means for securing the unbent flat portion of the plate to the wall with the spacer extending at right angles thereto, a base rail carried by the spacer at its outer edge and a facing of cementitious material for the wall leaving the base rail exposed through the facing.

5. A combined base rail support and spacer comprising a one-piece initially flat metallic plate provided with a slit therethrough, said slit including a long portion, two parallel portions at right angles thereto and two angularly disposed portions each connecting one end of the long portion with the adjacent end of one of the parallel portions, the material of the plate outlined by said slit bent out of the plane of the plate to form a fish-tail form of projection extending perpendicular to the plane of the plate and adapted to form a fastening element for engaging a base rail and the unbent portion of the plate provided with means for securing the same to a support.

6. Means forming a metal framework for a partition including an upright, a pair of face plates extending parallel to each other on opposite sides of the upright, each face plate having its upper and lower edges inbent to form an upper and a lower groove, a spacer plate, flat in the portion thereof between the face plates, extending at right angles to the face plates and having its opposite edges of dovetail form embraced by the face plates and means integral with the spacer plate for securing the same to the upright.

7. A metal framework for a partition including a base plate, an upright having its lower end fitted in the base plate, a face plate having inturned upper and lower edges forming grooves, a spacer plate having a flat portion straddling the base plate in edgewise engagement with the face plate shiftable along the same until it engages the upright and provided with integral means for securing the spacer plate to the upright, the edge of said flat portion which engages the face plate contoured to fit into the grooves and thus provide an interlocking engagement between the face plate and the spacer plate.

8. In a partition, a metal frame work including a pair of parallel face plates, a spacer plate having a flat portion extending in a single transverse plane between the face plates, the outer edges of said spacer plate being of dovetail form abutting the inner face of the face plates and extending at right angles thereto and the upper and lower edges of the face plates being inturned to embrace said dovetail edges.

9. In a device of the class described, the combination of an upright, a one-piece metal plate having integral portions bent to embrace the upright and having another portion including two flat wings, each of dovetail form and a pair of base rails on opposite sides of the upright, each having inturned edges embracing the adjacent dovetail wing.

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