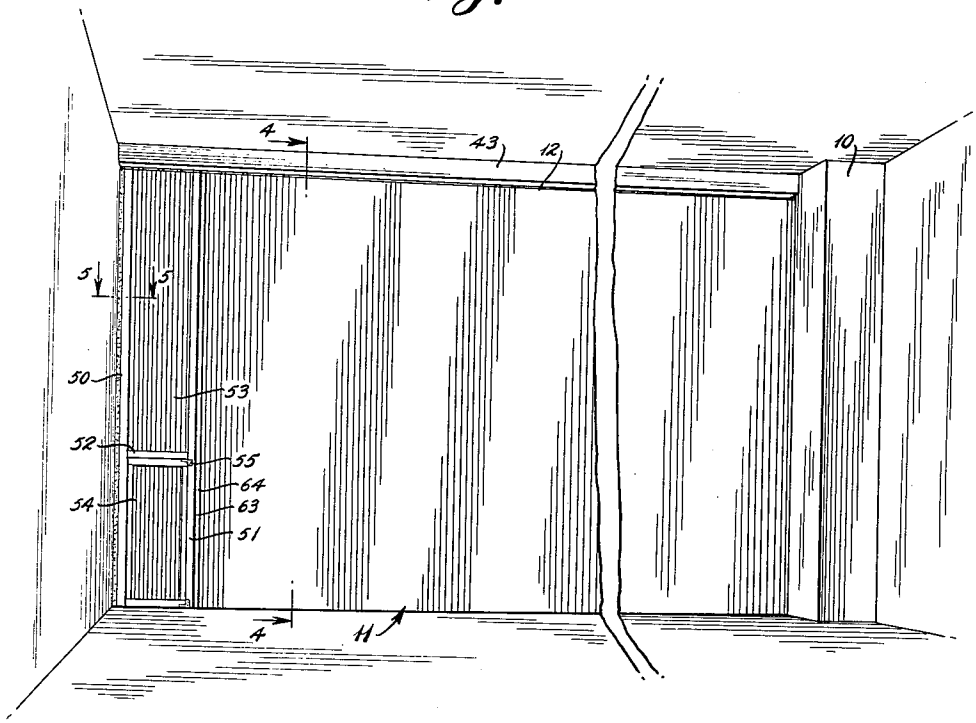
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COILABLE PARTITION WITH DOORS

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Fig. 1



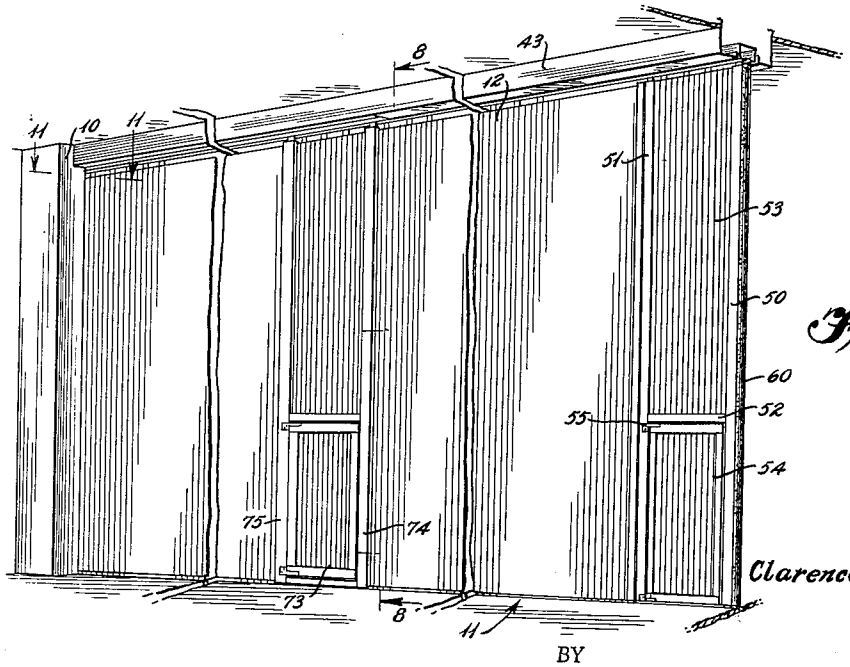


Fig. 2

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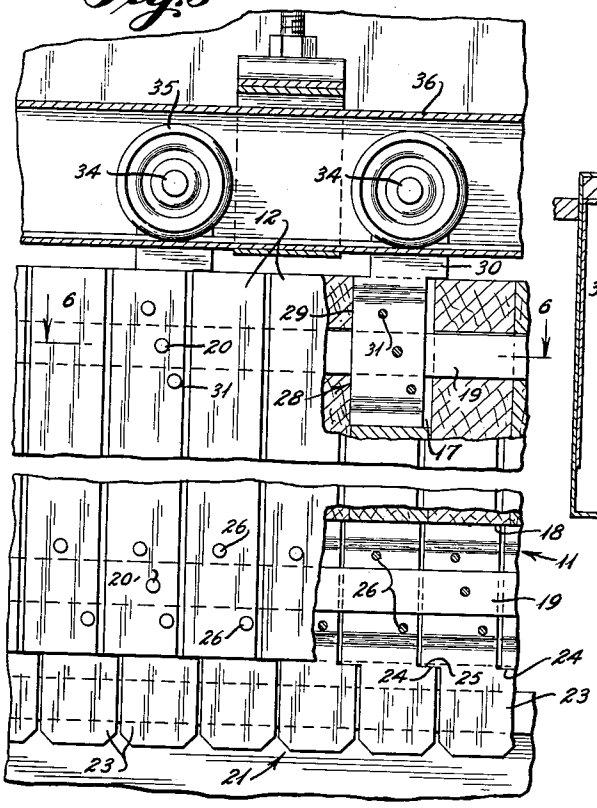
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COILABLE PARTITION WITH DOORS

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Fig. 3



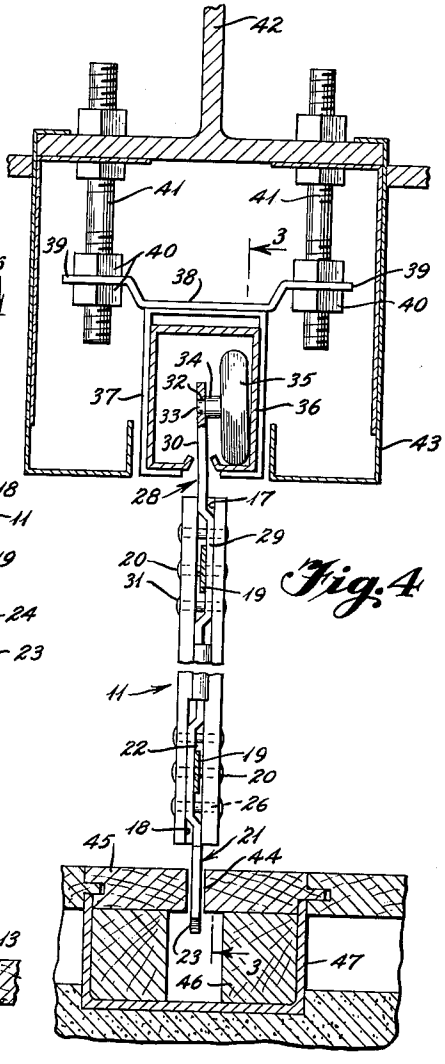


Fig. 4

Fig. 5

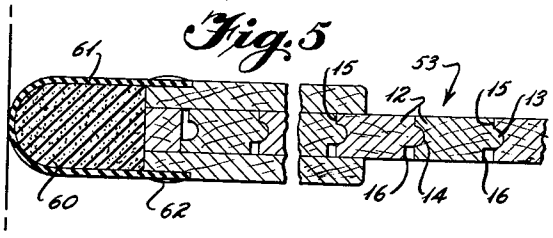
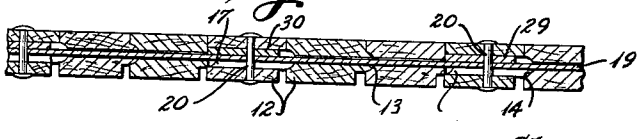


Fig. 6



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COILABLE PARTITION WITH DOORS

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Fig. 7

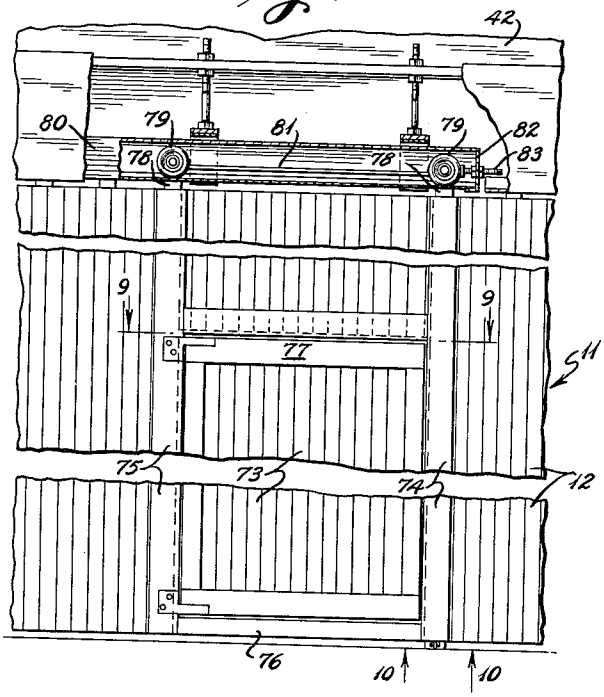


Fig. 8

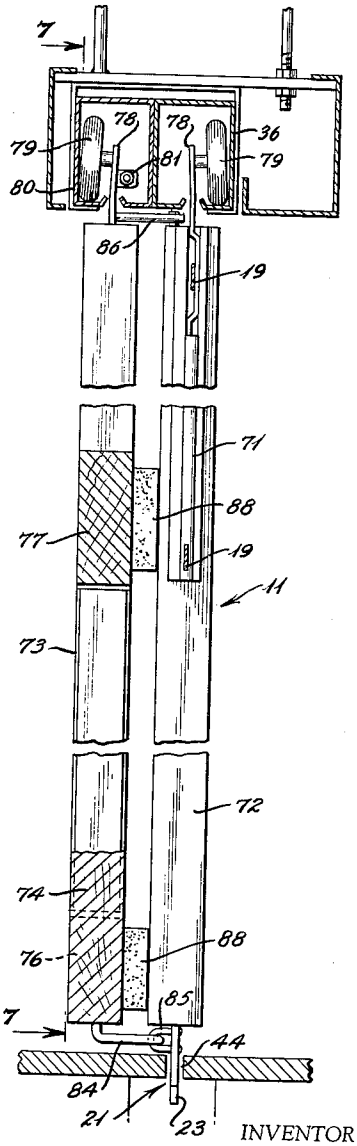


Fig. 9

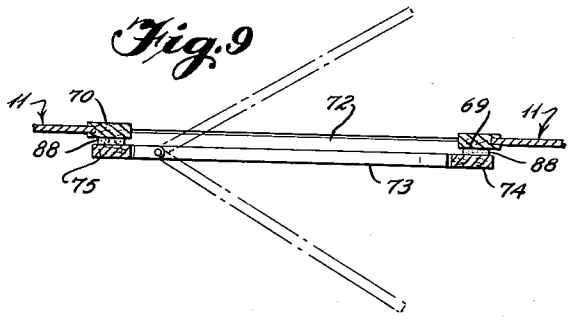
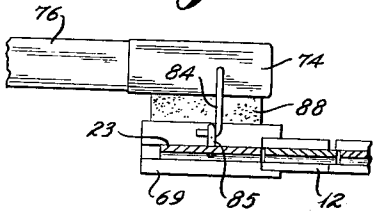


Fig. 10



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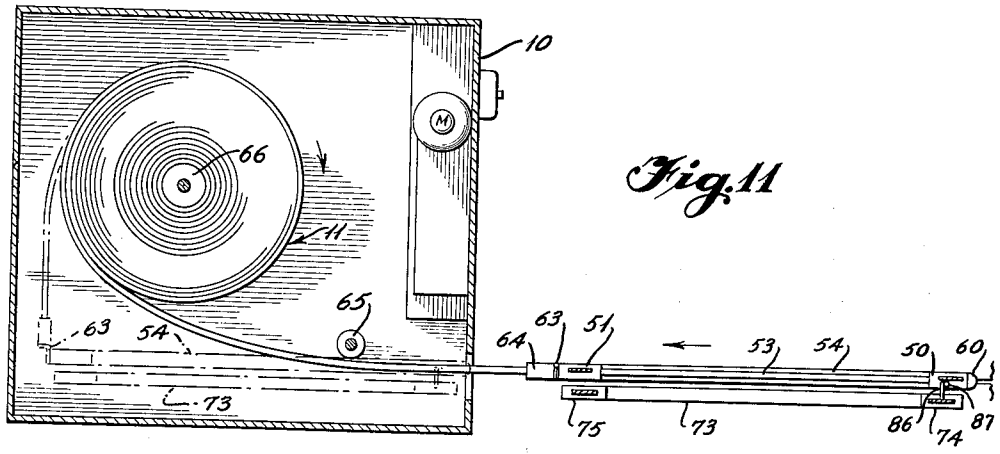


Fig. 11

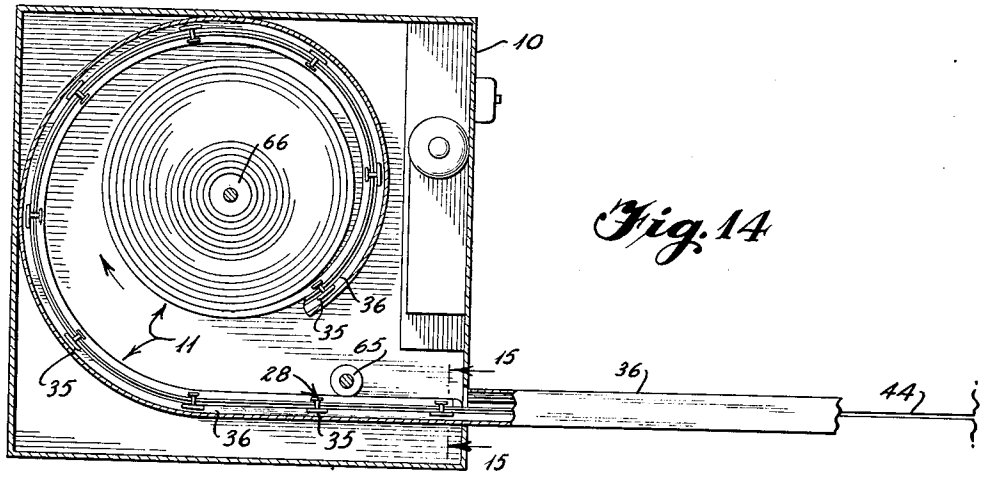


Fig. 14

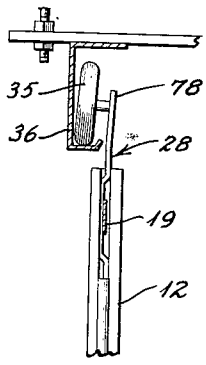


Fig. 15

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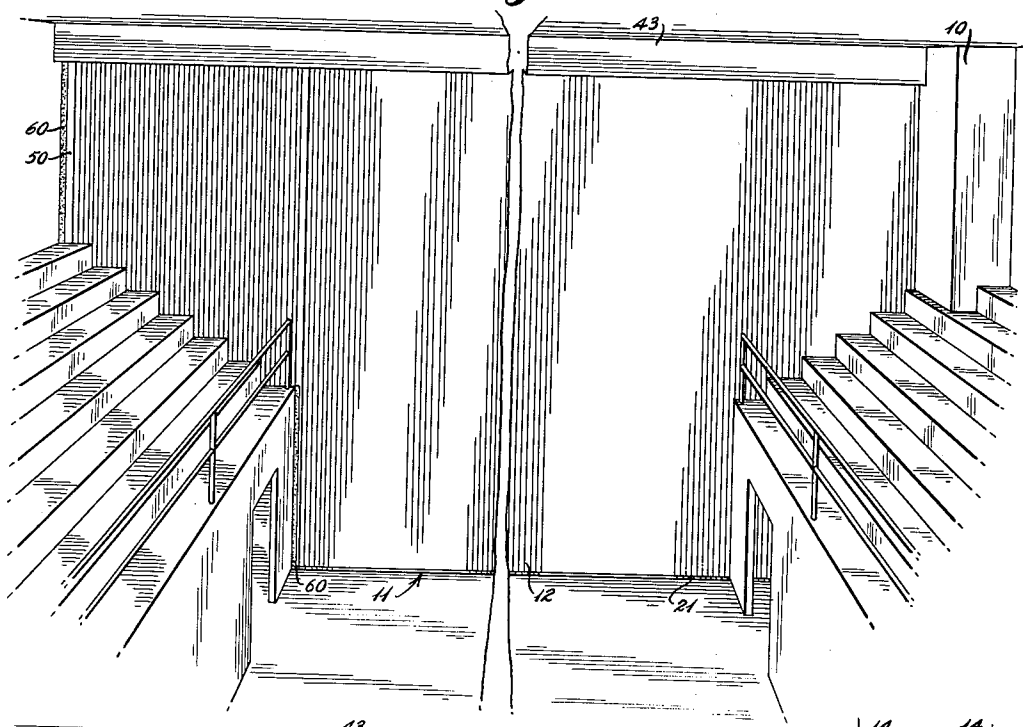
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COILABLE PARTITION WITH DOORS

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Fig. 12



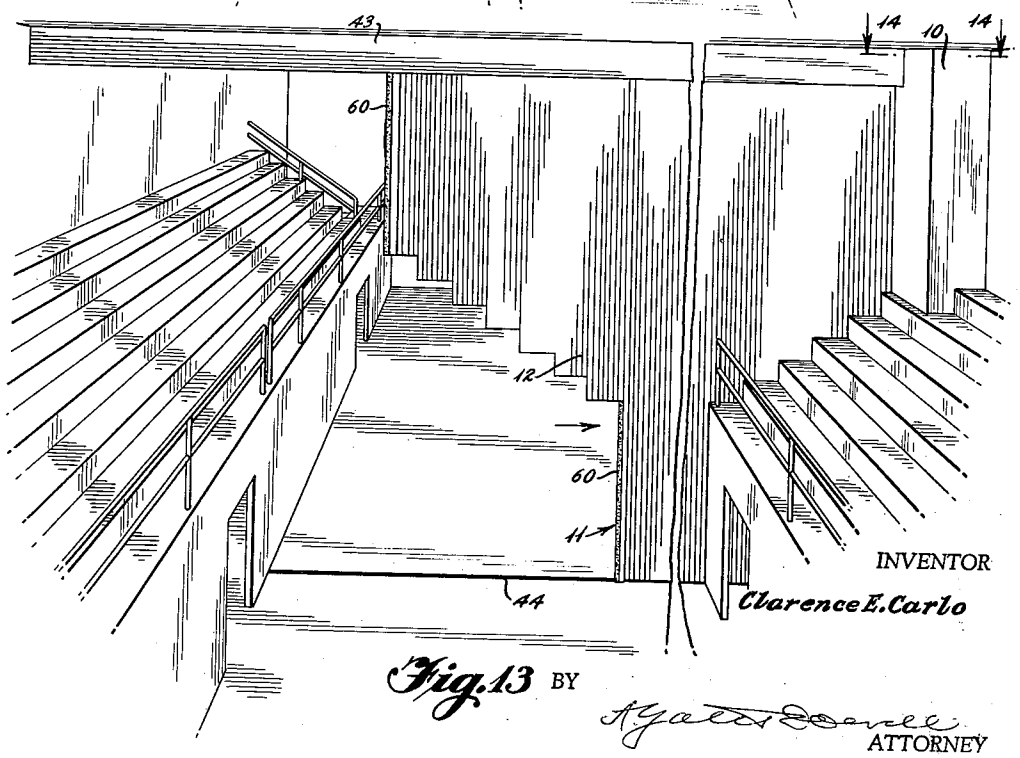


Fig. 13

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United States Patent Office 3,090,424 Patented May 21, 1963

3,090,424

COILABLE PARTITION WITH DOORS

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Filed Dec. 16, 1960, Ser. No. 76,212
6 Claims. (Cl. 160—23)

This invention relates to buildings and to the construction of the same including the arrangement of the walls which subdivide the interior into rooms or areas, and of an appropriate size for the desired use or accommodation.

The invention relates particularly to buildings having walls or partitions which, in a minimum of time and effort, may be modified and after the need for the same has been ended the building can be restored to its original condition.

Buildings of many sizes have been provided with movable walls or partitions; however, these movable walls have been massive, heavy, and unwieldly, as well as unsatisfactory and expensive, have not provided a solid or satisfactory barrier and their use has been difficult and has involved too much time and effort.

It is an object of the invention to overcome the difficulties enumerated and to provide a simple practical and relatively inexpensive wall or partition, which can be easily manufactured, at relatively small cost, readily installed, used and removed in a minimum of time and with a minimum of effort and expense.

Another object of the invention is to provide a movable wall or partition which when not in use can be contained in a relatively small space from which it can be readily withdrawn and into which it may be readily disposed with mechanical means by which the movement of the wall structure may be put into use or withdrawn therefrom.

A further object of the invention is to provide a coilable partition, a holder therefor and operating means including a coil box or holder and power means for coiling and uncoiling said partition.

Other objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawing wherein:

FIG. 1 is a perspective illustrating one application of the invention;

FIG. 2, a perspective of a modified form of the invention;

FIG. 3, an enlarged fragmentary detail section of the partition and operating structure therefor on the line 3—3 of FIG. 4;

FIG. 4, an enlarged fragmentary section on the line 4—4 of FIG. 1;

FIG. 5, an enlarged section on the line 5—5 of FIG. 1;

FIG. 6, a section on the line 6—6 of FIG. 3;

FIG. 7, a reduced fragmentary section on the line 7—7 of FIG. 8;

FIG. 8, an enlarged section on the line 8—8 of FIG. 2;

FIG. 9, a section on the line 9—9 of FIG. 7;

FIG. 10, an enlarged fragmentary section on the line 10—10 of FIG. 7;

FIG. 11, an enlarged section on the line 11—11 of FIG. 2;

FIG. 12, a perspective of a further modified form of the invention;

FIG. 13, a perspective illustrating the partition of FIG. 12 partially open;

FIG. 14, an enlarged section on the line 14—14 of FIG. 13;

FIG. 15, an enlarged fragmentary detail section on the line 15—15 of FIG. 14.

Briefly stated the present invention comprises a coilable partition having one or more non-coiling doors providing access from one side of the partition to the other, means for supporting the coilable partition, and means whereby a portion of the free end is removed to accommodate a projection and with the remaining portion of the free end coilable within the coil box. In the first modification of the invention the free end of the partition has a piano type hinge mounting a non-coiling portion of the partition which has a passageway or door located in its lower portion and means for maintaining the non-coiling portion of the partition within the coil box when the partition is retracted and coiled. In a modified form of the invention an opening is provided intermediate the ends of the partition and such opening is adapted to be closed by a door suspended from a track adjacent the partition and such door is adapted to be received within the coil box when the partition is retracted and to be extended by the partition when the partition is extended. A further modified form is provided so that the lower portion of the free end of the partition can be cut away to accommodate an obstacle such as a grandstand and supporting means is provided for the free end of the partition in the coil box. The partition is suspended from an overhead track and is provided along its lower edge with restraining means to prevent lateral movement and to support the individual slat like members of such partition.

With continued reference to the drawings, a coil box or holder 10 is provided in which a coilable partition 11 is adapted to be mounted for projection and retraction by mechanism such as that disclosed by copending application 783,295.

The partition 11 includes a series of interfitting strips or slats or slat like members 12 of wood or other material having a tongue 13 along one edge and a recessed tongue receiving groove 14 along its opposite edge. Each slat has a shoulder 15 adjacent to the tongue 13 along one side thereof and an offset shoulder 16 along the opposite side so that the partition can be coiled in one direction but cannot be coiled in the opposite direction while the tongue and groove remain in cooperative engagement.

Each of the slats has a recess 17 in its upper edge and a recess 18 in its lower edge with a flexible tape 19 retained within such recesses and fastened to some of the slats by a rivet or other fastener 20 to maintain such members in close interfitting relation. The tape 19 is preferably fastened to approximately every 9th slat with the intermediate slats loosely held to allow for expansion and contraction of the slats without binding and without spaces between them.

A slidable member or shoe 21 has a transverse offset recess forming portion 22 in its upper portion and the lower portion 23 is longitudinally offset to provide a shoulder 24 at one side and a notch 25 at its opposite side. The shoe 21 is fixed in the lower recess 18 of each slot by rivets 26 or other fastening means and by the rivets 20 which fasten the tapes 19 to some of the slats, the tape 19 being disposed within the recessed portion 22.

A series of hangers 28, similar in construction to the shoes 21, are selectively located in the upper recesses 17 of some of the slats. The hangers 28 have transverse recessed portions 29 and longitudinally offset portions 30 and are secured within the upper recess 17 of selected slats by rivets or other fasteners 31 with the tape 19 disposed in the recessed portion 29. The offset portion 30 has an opening 32 in which the reduced portion 33 of a shaft 34 is attached and a roller 35 is mounted on the opposite end of the shaft 34 and such roller is located within a generally U-shaped track 36 from which the coilable partition is suspended. It is noted that the hangers 28 are equally spaced along the top of the parti-

tion and the intermediate slats are supported by the offset portion of the shoes **21**. This is accomplished by the notch **25** of one shoe resting on the shoulder **24** of the adjacent shoe and the shoe which is thus supported will provide a support for the next shoe.

The U-shaped track **36** is mounted in a frame **37** on the top of which is secured a bracket **38** having outwardly extending wings or projections **39** and such wings are adjustably supported by lock nuts **40** and bolts **41** which in turn are supported by a structural member **42** which forms part of the building. If desired the supporting structure may be enclosed within a housing **43** which projects downwardly below the level of the ceiling to cover the supporting structure.

In order to prevent the partition from being moved transversely the shoes **21** are retained within a slot **44** formed by a pair of strips **45** supported on brackets **46** within a U-shaped channel **47** recessed within the floor. The strips **45** preferably are located in substantially the same plane as the floor of the building.

The free end of the partition **11** terminates in a retractable non-coiling door including a pair of jamb forming strips **50** and **51** separated by a lintel **52**. The area above the lintel **52** is closed by interfitting slots **53** similar to but somewhat shorter than the slats **12** and the area below the lintel is adapted to be closed by a passage closure or door **54** connected by hinges **55** to the strip **51**. If desired, the door **54** may have a conventional operating latch and lock (not shown) or may be freely swingable.

The leading edge of the strip **50** is provided with a flexible bumper **60** having a resilient covering **61** covering the same and being attached to the strip in any desired manner as for example by fasteners **62**. The non-coiling door partition is mounted on the coilable partition by a piano-type hinge **63** connecting the strip **51** to a similar strip **64** on the coilable partition.

The track **36** which supports the coilable partition also supports the non-coiling door partition. In order to do this the track is provided with a double rail and the supporting rollers **35** of the coilable partition engage the track in the direction the partition is coiled. The portion of the track which supports the partition is omitted inside of the coil box **10** and the partition passes a guide roller **65** (FIG. 11) mounted in any convenient manner on the coil box structure and is coiled about a post **66**. The portion of the track which supports the non-coiling door partition continues through the coil box **10** and such door partition has hangers **28** and associated rollers **35** located at the top thereof and facing the direction opposite the rollers of the partition. When the partition and door are retracted, the partition will be removed from the supporting track and coiled about the post **66** while the door partition will remain on the track and be retracted within the coil box **10**.

With reference to FIGS. 2 and 7–11, a traveling door is illustrated which provides a passage through the central portion of the coilable partition. Such traveling door includes a pair of enlarged spaced vertical posts **69** and **70** interposed in the coilable partition **11** with the intermediate slats **71** being shortened to provide a doorway or opening **72** in the bottom thereof. The opening **72** is adapted to be closed by a door **73** located between spaced posts **74** and **75** corresponding in width to the posts **69** and **70**. The posts **74** and **75** are connected by a sill **76** and a lintel **77** to provide a frame for the door and such posts are supported by hangers **78** and rollers **79** operable within a track **80** located adjacent to the track **36**. The posts **74** and **75** are maintained in predetermined spaced relation by an adjustable connecting link **81** intermediate the hangers **78**. The track **80** terminates a predetermined distance from the coil box and the end thereof is closed by a cap **82** in which an adjustable bumper or stop **83** is located to limit the outward movement of the door posts **74** and **75**.

When the coiled partition is retracted within the coil box **10** the door **73** is automatically retracted by the partition and when the partition is extended the door is automatically extended therewith. This is accomplished by providing the lower portion of the post **74** with a hook **84**, the free end of which extends in the direction of inward travel, and providing the post **69** with a cooperating eye **85** so that as the partition is extended the hook **84** on the post **74** will engage the eye on the post **69** and carry it outwardly until the bumper **60** contacts the opposite wall and one of the rollers **79** simultaneously contacts the stop **83**.

In order to retract the door **73** to its initial position within the coil box **10**, the outermost hanger **78** has a pin **86** welded or otherwise attached thereto and such pin projects laterally and terminates above the coilable partition. A pin **87** is mounted on the top of the strip **50** in a position to engage the pin **86** when the partition is retracted. During the initial retraction of the partition the hook **84** is withdrawn from the eye **85** and the door remains stationary as the partition is coiled within the box **10**.

When the free end of the partition reaches a position substantially adjacent to the traveling door, the pin **86** will engage the pin **87** and retract the traveling door into the coil box. If desired, the frame of the traveling door may have a buffer **88** encircling the door area so that the door will fit snugly against posts **70** and **71**. The hook **84** and the cooperating eye **85** prevent lateral movement of the posts **74** and **75** and such hook and eye in conjunction with the stop **83** prevent longitudinal movement of the traveling door. The traveling door **73** may be provided with a conventional operating latch and lock (not shown) or may be freely swingable.

With reference to FIGS. 12–15, a modified form of the invention is illustrated, in which the free end of the coilable partition is not provided with a door but, instead, the lower portion of the partition is cut away to form a contour-fitting lower edge which conforms to an obstruction such as a grandstand. When the coilable partition is coiled within the coil box the partition rests on the shoes **21** at the bottom thereof. In order to support the free end of the partition when it is coiled within the box **10**, the hangers **28** on the free end of the partition are reversed to face the direction opposite the hangers on the coilable partition and the rollers **35** mounted on such hangers engage the opposite side of the track **36**. Within the coil box one side of the track is omitted, as previously described, to facilitate the coiling of the major portion of the partition and the rollers which face the direction of the omitted portion are free to leave the track inside the coil box. The other portion of the track is spirally arranged so that the free, unsupported end of the partition will remain on the track and be suspended therefrom.

It will be obvious to one skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore the invention is not limited by that which is illustrated in the drawing and described in the specification, but only as indicated in the accompanying claims.

What is claimed is:

1. A coilable partition for installation within a building, said partition comprising a coil box, a series of slat-like members connected in manner to provide a coilable wall structure having one end mounted in said coil box, slidable members connected to lower portions of each of said slat-like members, said slidable members being adapted to be received in a guiding recess by which movement of such sliding members is restricted, a series of hangers secured in spaced relation to the upper portions of certain said slat-like members, roller means carried by said hangers, track means for receiving said roller means and supporting said partition, said series of slat-like members having interfitting edges, each of said slidable members having a longitudinal offset providing a shoulder at

one side and a notch at the opposite side whereby the shoulder of one slidable member engages the notch of the adjacent slidable member, a retractable door hinged to the free end portion of said partition, a pair of jamb strips and a separating lintel for said door, a series of slat-like members located above said lintel and between said jamb strips, said door being hinged below said lintel to one of said jamb strips.

2. The structure of claim 1 in which the lower portion of the free end of said coilable partition is cut away to accommodate an obstacle in the path of said partition.

3. The structure of claim 2 having means in said coil box for suspending the free end of said partition.

4. The structure of claim 1 in which said partition has an opening in its lower portion intermediate its ends, a pair of posts suspended adjacent to said opening, a lintel connecting said posts, a door hinged to one of said posts and adapted to close said opening, a series of hangers secured in spaced relation to said posts, roller means carried by said post hangers, track means for receiving said post hanger roller means, and means carried by said partition for projecting and retracting said posts and said door.

5. A coilable wall for selectively dividing a larger area of a building into a plurality of smaller areas comprising a coil box, a reel rotatably mounted in said coil box, a partition including a series of connected slat-like members attached at one end to said reel, means for moving said partition into and out of said coil box, means supporting said partition for lateral movement, said partition having an opening in its lower portion intermediate its ends, a pair of posts located adjacent to said partition, roller means supporting said posts for lateral movement, a lintel connecting said posts, a door hinged to one of said posts and being of a size to close the opening in said partition, and means on said partition for projecting and retracting said posts and said door in relation to the opening in said partition when said partition is moved.

6. In a coilable partition for use in a building having a ceiling and a floor, a series of relatively thin slat-like members having interfitting edges, flexible means connecting said members in assembled relation, a recess in the upper and lower edge of each of said members, a shoe mounted substantially vertically within the lower recess of each of said members, each of said shoes having an upper portion of a width substantially equal to the width of said members and a longitudinally offset lower portion of substantially the same width providing a shoulder at one side and a notch at the opposite side, the shoulder of one shoe being received in and supporting the notch of an adjacent shoe, a series of hangers selectively located within the upper recess of certain of said members, roller means carried by each of said hangers, track means attached to the ceiling of the building for receiving said roller means and supporting said partition, the floor of the building having a slot for receiving and guiding the lower portion of each of said shoes whereby certain of said slat-like members will be directly supported by said track and the intermediate members will be supported by the shoes in the lower recesses of the track supported members.

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