

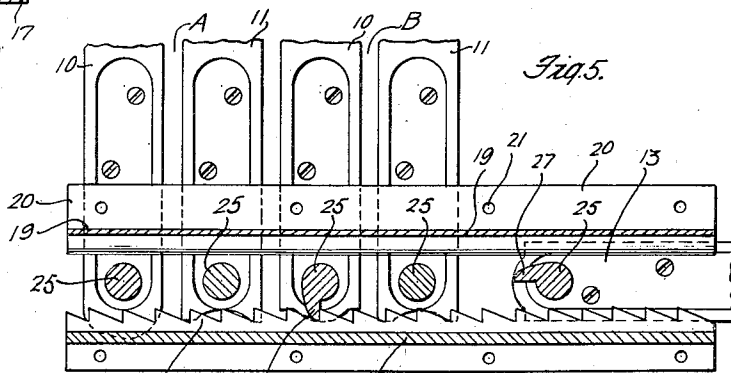
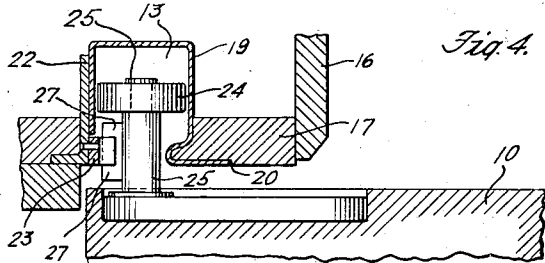
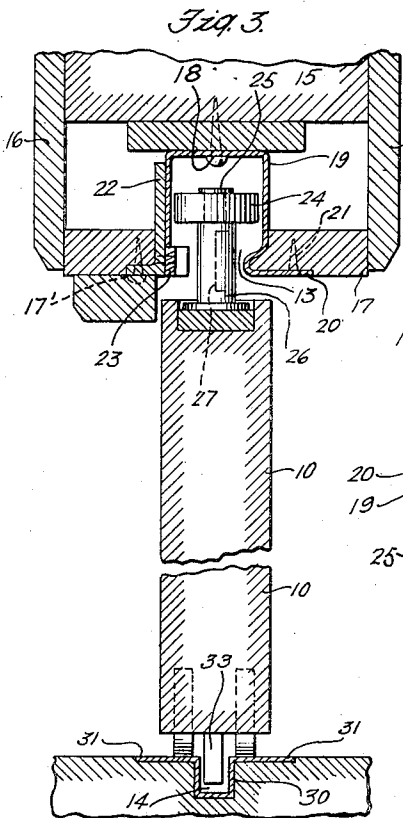
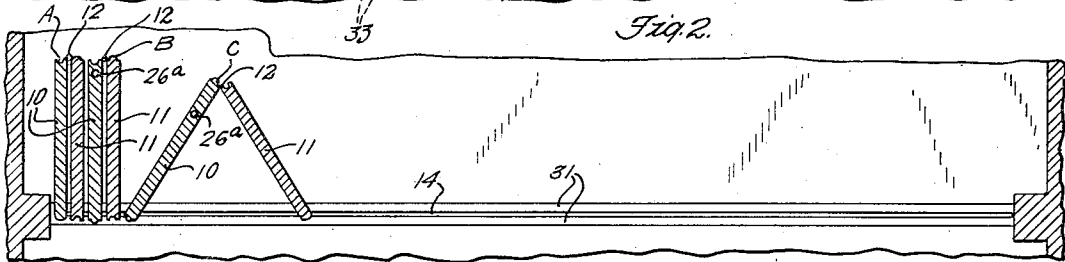
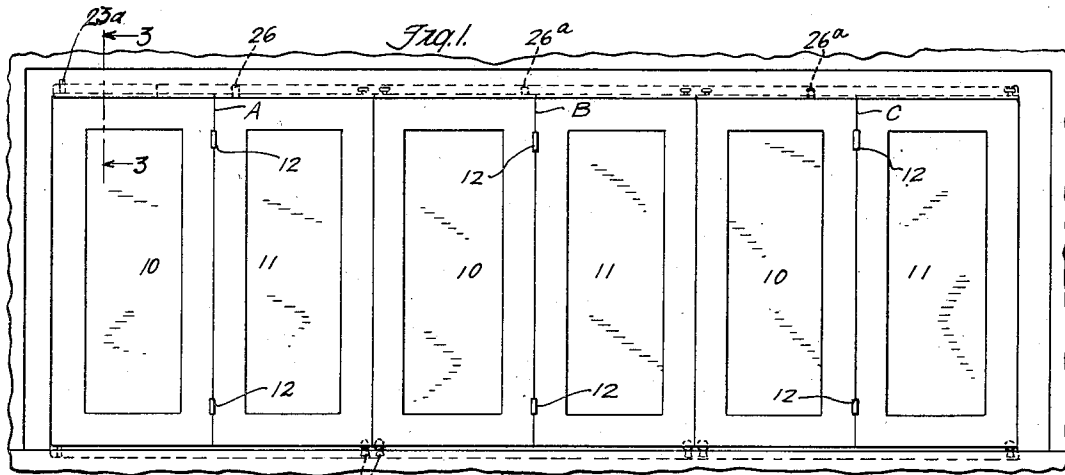
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LOCKING DEVICE FOR FOLDING PARTITIONS

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## LOCKING DEVICE FOR FOLDING PARTITIONS.

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This invention relates to folding partitions.

Folding partitions are made up of doors or units hinged together in pairs, each pair forming a section of the partition. These sections are arranged to slide along upper and lower guideways, and the doors of each section are arranged to pivot or swing transversely of the guideways to locate the sections in folded and unfolded or extended positions, the guiding devices forming pivots for the doors. The guideways for the sections are ordinarily constructed to hold the doors or units of each section in extended positions, except when a section is moved over to a position adjacent one side of the doorway. In folding a partition, the section adjacent this side of the doorway is first folded, and the other sections are moved over into a position adjacent the previously folded section and are then folded in succession.

In order to hold the folded sections in folded positions in a reliable manner, the door of each section nearer that side of the doorway at which the sections are folded is ordinarily provided with a catch for engaging a fixed stop when the door is swung into folded position to prevent movement of said door along the guideway while the door is folded. When this door is swung back into unfolded position, this catch is carried out of engagement with the stop, allowing the section to slide along the guideways when the doors are completely extended.

The means for preventing the sections from being folded, except when moved into a position adjacent one side of the doorway, ordinarily comprises a pin or other element mounted on the door of each section adjacent the side of the doorway at which the sections are folded, and slidably engaging in one of the guideways. To allow the sections to be folded when located in position therefor, the said guideway is provided with a slot through which said element may pass as the door which carries the same swings into folded position.

In order to hold the folded sections in folded positions, the door of each section nearer that side of the doorway at which the sections are folded is provided in the usual construction with a plate-like member or element, forming one of the guiding devices for the door and arranged to engage a should-

der at one side of the guideway when the section is folded. This plate-like member operates in a cut-away portion of the guideway, and the construction creates a great deal of friction during the pivotal movement of the door which carries the same and allows considerable movement of the upper part of the door along the guideway, both during the folding of the section and after the section is folded.

The principal objects of the present invention are to improve the construction and mode of operation of the devices for locking the doors of each section of a folded partition from movement along the guideways while the sections are in folded positions, and to provide devices of this character which will enable the door of each section, nearer that side of the doorway at which the sections are folded, to swing more smoothly and easily during its pivotal movement and to be locked from movement in either direction along the guideway when the section is folded.

With the above and other objects in view, which will appear as the nature of the invention is better understood,

Fig. 1 of the accompanying drawings is a view in elevation of a plurality of foldable partition sections shown in their extended positions to form a partition;

Fig. 2 is a horizontal sectional view showing the manner in which the foldable sections move to folded position;

Fig. 3 is a detail vertical sectional view taken on the line 3—3 of Fig. 1, showing the position of the several parts with the foldable sections in extended position;

Fig. 4 is a similar view showing in elevation the position occupied by the several parts with the foldable sections in their folded position; and

Fig. 5 is a horizontal sectional view showing in plan the position of certain parts when the foldable sections are in their folded position.

The invention is shown in the present application as applied to a folded partition of a type in which there are a plurality of foldable partition sections A, B and C. Each of these foldable sections A, B and C includes preferably two units or doors 10 and 11. To provide for swinging movement of the units 10 and 11 relative to each other, hinges 12 are employed, which hinges are connected

to the meeting edges of the units in each section.

These sections A, B and C when unfolded are arranged to slide along upper and lower guideways 13 and 14, respectively, the sections having guiding means traveling in these guideways. To enable the sections to be folded, each of the doors is arranged to swing in said guiding means into a position at right angles to the doorway.

The upper guideway 13 comprises a suitable housing formed by a top wall 15, side walls 16 and a bottom wall 17. Extending through the bottom wall 17 and preferably secured to the top wall 15 of the housing, as at 18, there is a channel member 19, preferably of substantially inverted U-form. To provide for securing this channel member 19 in position, one of the side walls thereof is formed with a securing flange 20 through which suitable fastening devices 21 pass, and for strengthening the opposite side of this channel member 19 a reinforcing element 22 is employed which is also secured to the bottom wall 17 of the guideway, as at 17'.

The unit 10 of the folding section A is pivoted to swing upon pivot pins 23<sup>a</sup>. Movable through the upper guideway 13 there are plurality of guide rollers 24, there being one of these guide rollers 24 associated with the unit 11 of the folding section A and with each unit in each of the folding sections A, B and C. To provide for free rotation of these rollers 24, a spindle 25 is provided for each roller, and said rollers 24 are freely rotatable on their respective spindles. The spindles on the units 10, and preferably all of the spindles, are rigidly carried by their respective unit in order that each may turn with the unit upon which it is mounted when the units of the sections are moved to their folded positions.

The upper guideway is provided with a transverse slot 26, and each of the units 10 of the sections carries a pin 26<sup>a</sup> which normally engages in the upper guideway, thereby preventing the sections normally from being folded. These pins are located in the respective sections 10 so that when a section has been moved along the guideway into position to be folded, the pin will be positioned opposite the slot 26. This will allow the section to be folded, the pin passing outwardly through the slot during the pivotal movement of the section 10.

When the units of sections B and C are in their folded position, it is desirable to prevent a sliding movement thereof along the guideways, and for this purpose, in the present embodiment of the invention, a locking wing or lug 27 is provided, which wing or lug 27 projects laterally from the spindle of the unit 10 of each of the sections B and C, which unit is nearer the side of the door-

way at which the sections are to be folded. The locking wing is arranged to engage a rack bar 23, this rack bar being rigidly carried by the reinforcing element 22, as more clearly shown in Figs. 3 and 4. Each of the locking wings is located on the corresponding unit, preferably substantially as shown in Fig. 5, so that it will be disengaged from the teeth of the rack bar when the units of a section are in their extended positions. When, however, a section is moved to its folded position, the laterally projecting wing or lug 27 carried by the spindles 25 on the unit 10 of said section will move into engagement with one of the teeth of the rack bar 23, as clearly shown in Fig. 5 of the drawings, and function to prevent sliding movement of the section along the guideways so long as the section remains in folded position.

As shown in Fig. 5, the wing 27 enters between the teeth of the rack bar and prevents sliding movement of the unit 10 along the track, both in a direction toward the adjacent side of the doorway as well as toward the center of the doorway. Thus the units 10 will be held in spaced relation along the guideway when the sections are folded. In folding the sections of a partition, after folding the first section each section is moved over into contact with the preceding folded section, or until the movement thereof is limited by suitable stops, before being folded. Each door 10, as it is folded and locked in position in the manner described, will hold the unit 11 of the preceding section in position.

The above construction obviates the cutting away of the guideway at any point to provide for the turning movement of the parts of the locking mechanism. The sections are therefore guided at all times in a reliable manner by the engagement of the sides of the channel member 19 with the rollers 24. Also during the folding movement of each of the sections, the upper margin of each unit 10 is supported by the engagement of the corresponding roller 24 with the side of the channel member 19, and the unit will turn easily and smoothly with very little friction.

The lower guideway 14 preferably comprises a channel member 30, the side walls of which are extended as at 31 to provide tracks disposed upon opposite sides of the channel member. The several units are supported, preferably by rollers 32 carried thereby, and these rollers travel on the tracks formed by the side walls 31 of the channel member 30. Guiding means to insure proper position of the several units is employed, and in the present embodiment of the invention this guiding means consists of a shoe which travels through the lower guideway 13 and is designated by the numeral 33. Each unit

is pivoted to swing upon a vertical axis with relation to the rollers and shoe to provide for the swinging folding movement of the units.

5 When the sections are arranged to be folded only at one side of the doorway, as in the usual construction, the rack bar 23 is not arranged to extend throughout the width of the doorway but extends only along that  
10 portion of the doorway at which the sections are to be folded. If it is desired to arrange the sections to fold at each side of the doorway, a rack bar is located along the guideway adjacent each side of the door  
15 opening.

It is to be understood that the invention is not limited to the particular construction and arrangement of parts of the illustrated embodiment of the invention, but that the  
20 invention may be embodied in other forms within the scope of the claims

What is claimed as new is:

1. In a folding partition, a guideway, a folding partition section movable in its extended  
25 position along said guideway, the units of said section being capable of movement to folded position, and means for preventing sliding movement of said section along the guideway in either direction when  
30 the section is folded, said means comprising a series of spaced abutments arranged along the guideway and a projection carried by one of the units of the section and arranged to enter between two of said abutments when  
35 the section is folded and to prevent movement of the section along the guideway in either direction by engagement with said abutments.

2. In a folding partition comprising a  
40 guideway, a folding partition section movable in its extended position along said guideway and comprising hingedly connected units, spindles mounted on the respective units, anti-friction devices mounted on the  
45 spindles and engaging in the guideway, a bar having spaced projections extending along the guideway, and a locking device mounted on one of said spindles and arranged to turn with a corresponding unit  
50 for engaging one of said projections on the bar to lock the section from movement along the guideway when in folded position.

3. A folding partition comprising a  
55 guideway, a folding partition section movable in extended position along said guide-

way, the units of said section being capable of movement to folded positions, and means for preventing sliding movement of said section along said guideway in either direction while the section is folded.

4. A folding partition comprising a  
60 guideway having a channel member therein of U-shaped cross-section, a bar having spaced projections attached to one of the sides of said U-shaped channel member with  
65 the projections on said bar extending transversely of the guideway, a partition section movable in its extended position along said guideway and made up of hingedly connected units, guiding devices for said section en-  
70 gaging in said U-shaped channel member, and locking means mounted on one of the units to turn therewith for engaging a projection on said bar when the section is folded to prevent sliding movement of the section  
75 along the guideway.

5. A folding partition construction comprising a guideway, a bar mounted within the throat of the guideway and having  
80 spaced locking projections extending transversely of the guideway, partition sections made up of hingedly connected units, movable in extended position along said guideway, devices mounted on said units and en-  
85 gaging in said guideway to guide the sections, and devices carried by certain of the units and projecting into the throat of the guideway for engaging the respective locking projections on the bar to lock the sections from movement along the guideway  
90 when the sections are folded.

6. A folding partition comprising a  
95 guideway, a folding partition section movable in its extended position along said guideway and comprising hingedly connected units, spindles mounted on the respective units, certain of which are fixed to turn with the corresponding unit as the section is folded, anti-friction devices mounted on the  
100 spindles and engaging in the guideway, a locking device rigidly attached to a fixed spindle, and a locking device mounted along said guideway for engagement with said first locking device to lock the section from  
105 movement along the guideway when in folded position.

Signed at New York this 6th day of July 1925.

ARTHUR H. DODGE.