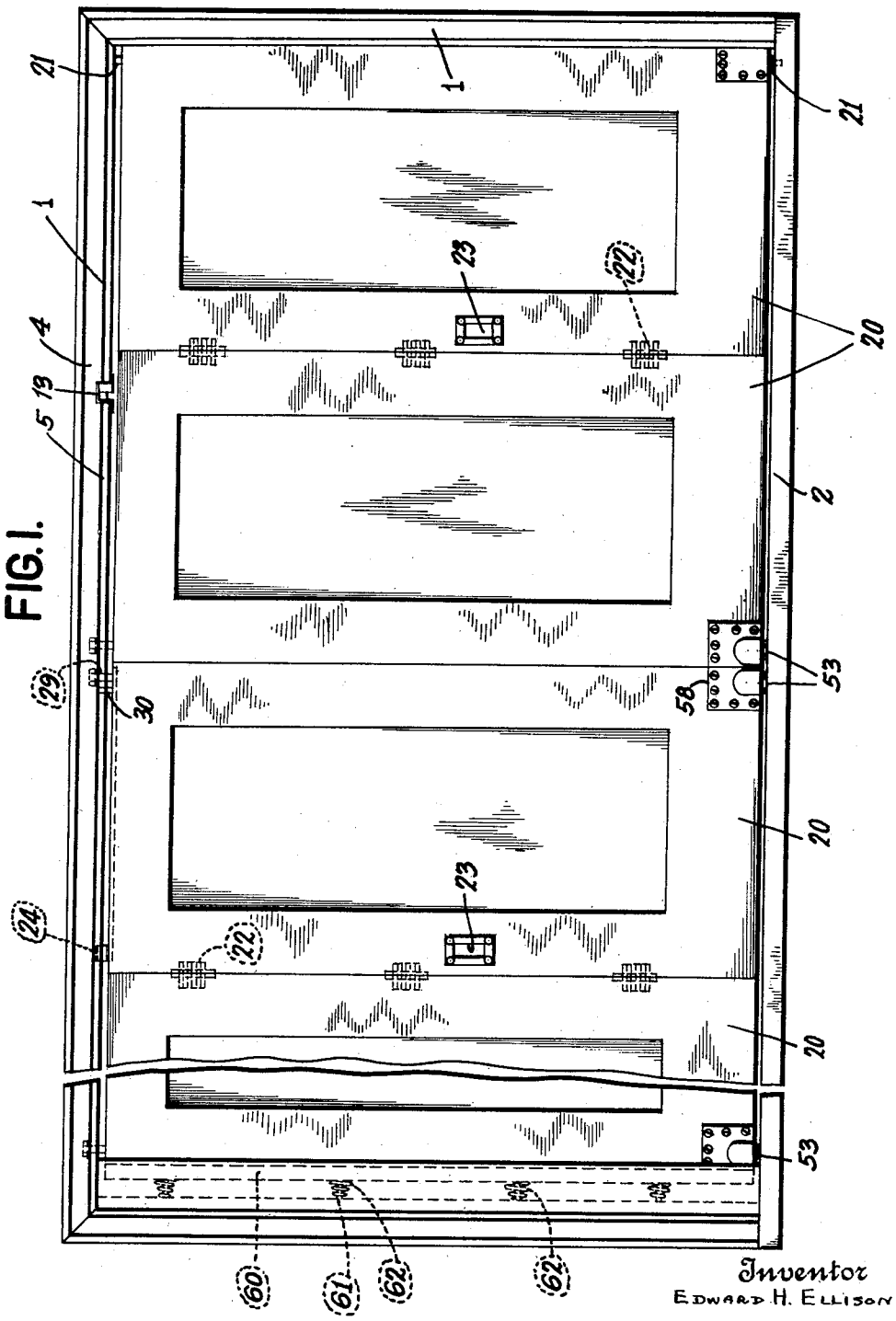
June 26, 1934. E. H. ELLISON 1,964,316

SLIDING AND FOLDING PARTITION

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FIG. I.



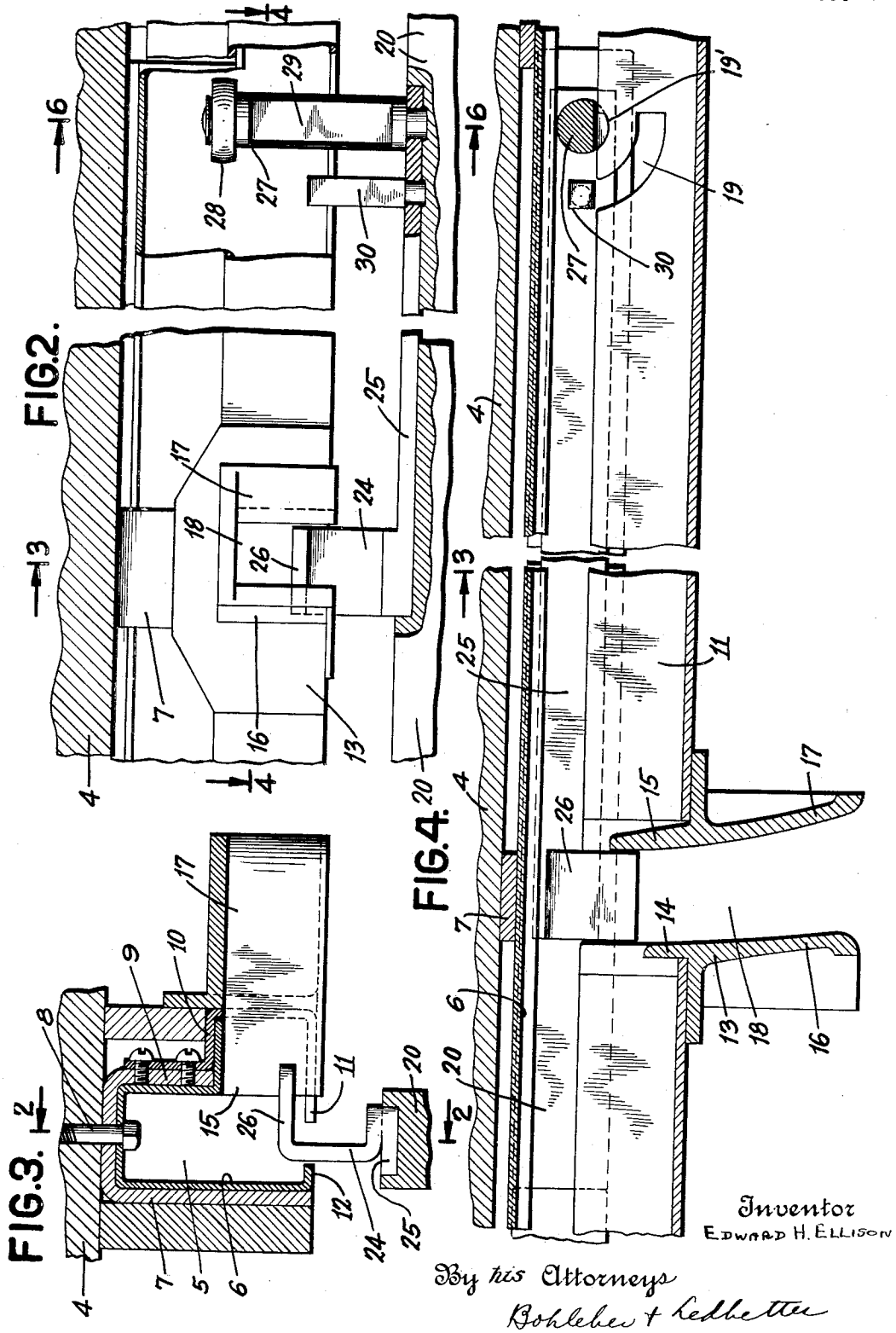
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SLIDING AND FOLDING PARTITION

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SLIDING AND FOLDING PARTITION

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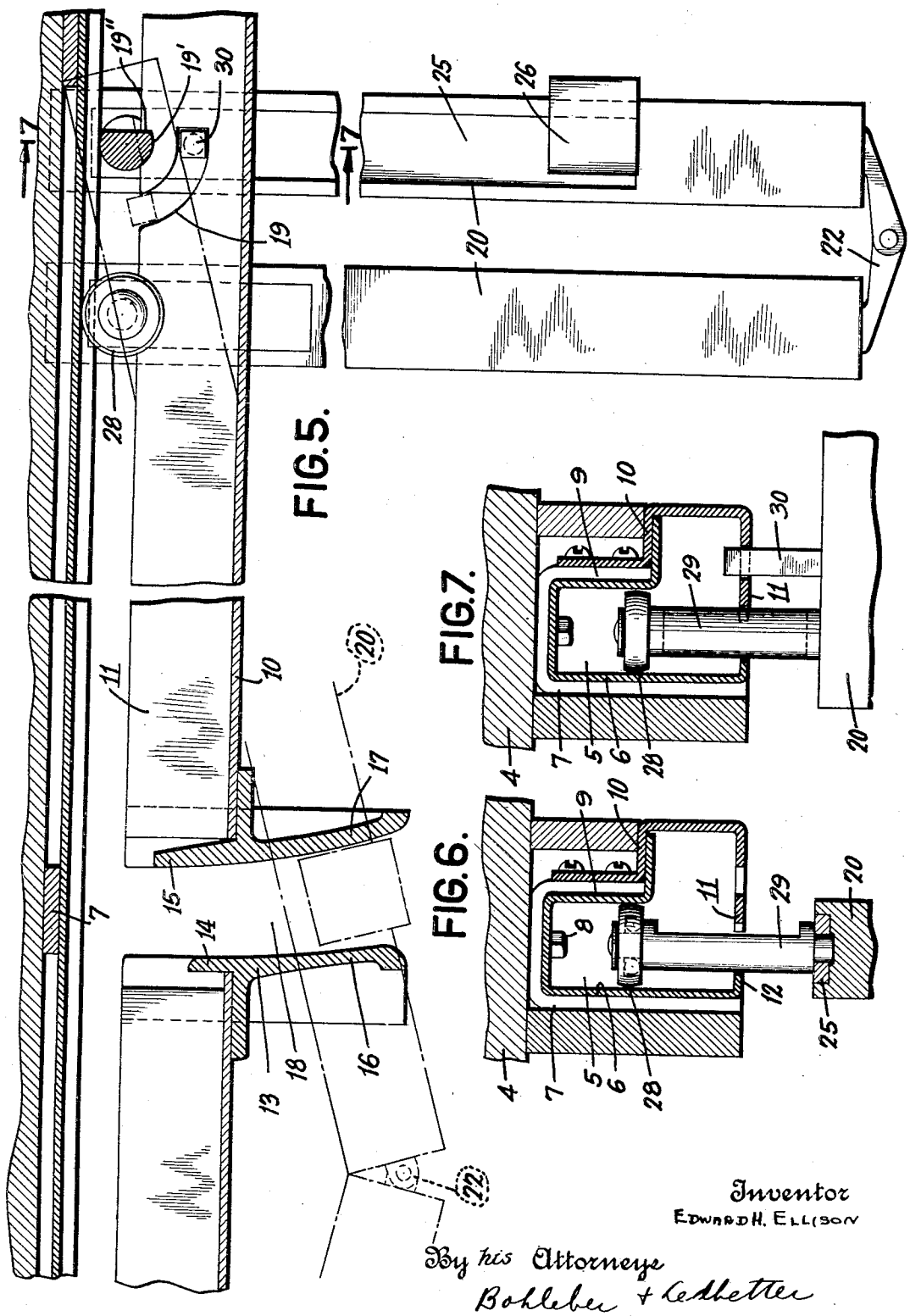


FIG.5.

FIG.7.

FIG.6.

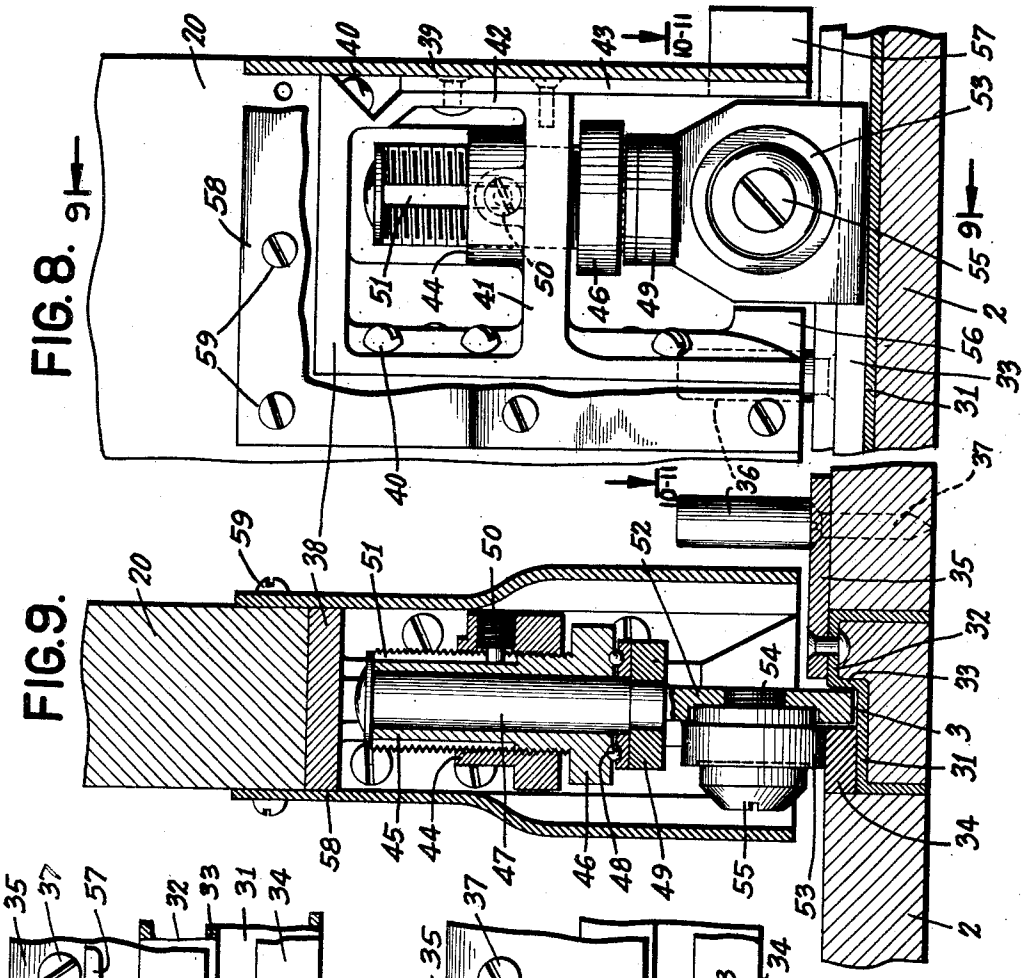
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EDWARD H. ELLISON

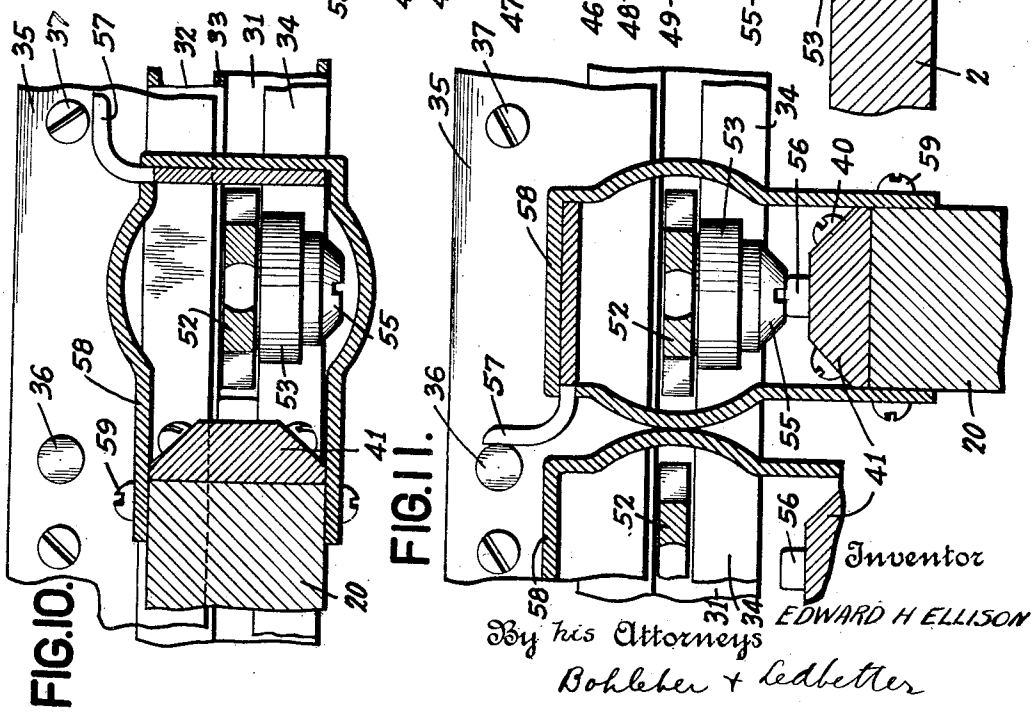
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SLIDING AND FOLDING PARTITION

Filed Jan. 21, 1930 5 Sheets-Sheet 4





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June 26, 1934. E. H. ELLISON 1,964,316

SLIDING AND FOLDING PARTITION

Filed Jan. 21, 1930 5 Sheets-Sheet 5

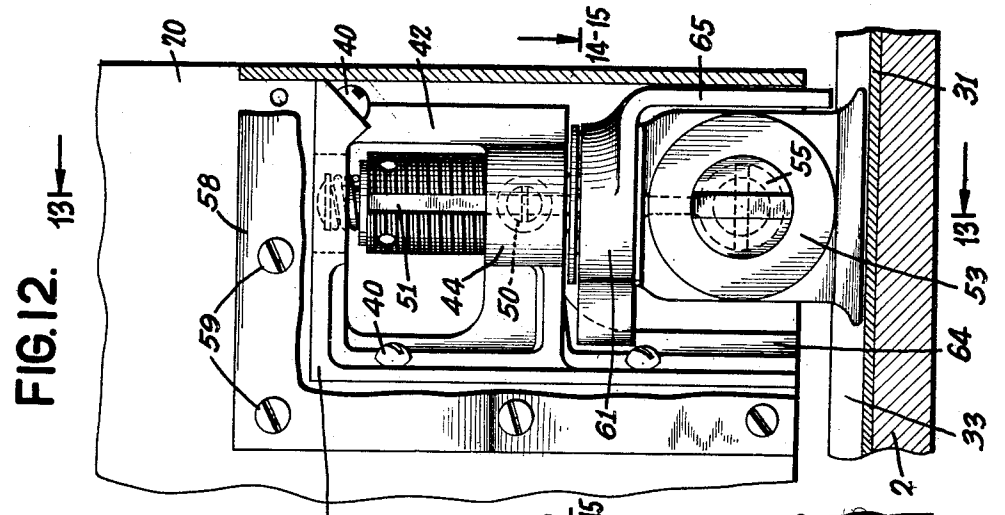


FIG. 12.

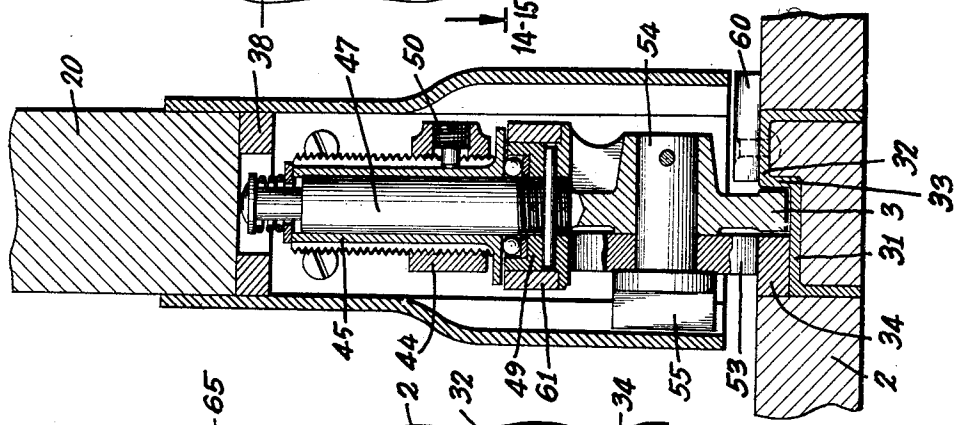


FIG. 13.

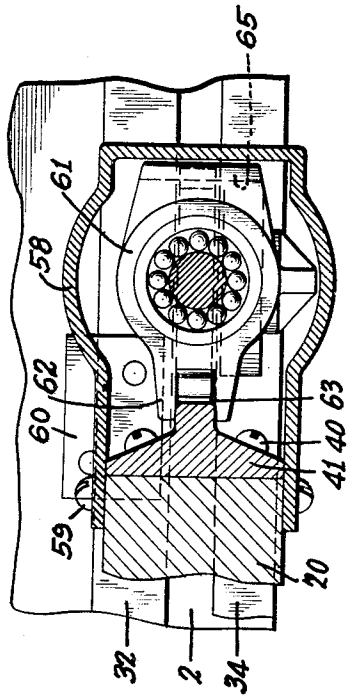


FIG. 14.

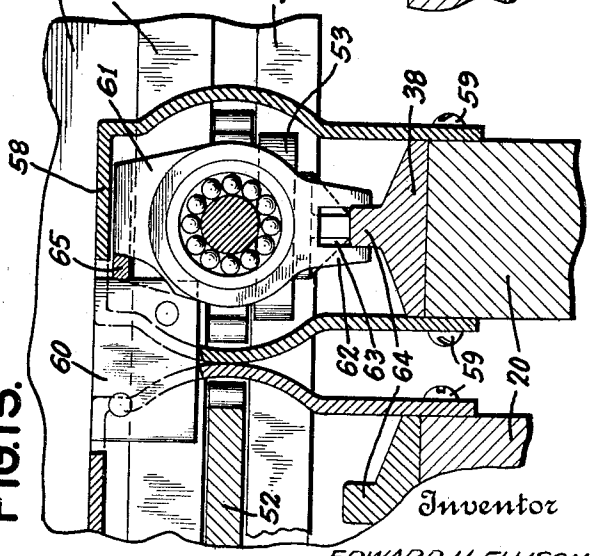


FIG. 15.

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UNITED STATES PATENT OFFICE

1,964,316

SLIDING AND FOLDING PARTITION

Edward H. Ellison, Jamestown, N. Y., assignor, by mesne assignments, to Austral Window Company, New York, N. Y., a corporation of Maine

Application January 21, 1930, Serial No. 422,272

32 Claims. (Cl. 20—20)

The present invention relates to folding doors and embodies, more specifically, an improved door of this character in which is embodied certain features of construction which materially facilitate the operation of the door, strengthen the supporting portions thereof in both open and closed position, and enable the door to be moved readily into open and closed position without jamming or binding between the door supporting bodies and the cooperating portions carried by the door.

At the present time, many forms of folding doors are available, the constructions being such as to enable the door to be moved to and from open and closed positions, it being secured in such positions by automatically operating mechanisms. The very considerable size and weight, as well as, in many instances, the number of folding portions of the door, impose severe strains upon the elements which support the door sections upon the door supporting means which usually comprise tracks in the floor and door casing. The problems confronting the designer will be readily understood since provision for securing the door sections against displacement when in the collapsed position must be afforded, as well as a locking means for each pivot connection to secure the door pivotally until it has been moved into a position in the plane of the supporting grooves.

Existing designs, while providing a form of locking device for securing the door sections pivotally until moved into such position, as well as cooperating guides and supporting members, have failed to provide elements of adequate strength and simplicity of construction to afford a sufficiently reliable structure. Such existing designs furthermore have failed to employ elements which are positively actuated by the movement of the door itself to effect the locking thereof, as well as the proper control of such movements.

With a view to overcoming the above objectionable features, as well as affording a folding door construction, the supporting portions of which are simple of construction and readily manufactured and assembled, the present invention has been designed, the resulting structures not only being of adequate strength, but being of such character that it may be accurately manufactured and finished before shipment to simplify the installation materially.

In accordance with the foregoing, an object of the present invention is to provide a device for supporting the weight of a section of a folding door the elements of which are so formed and related that each always assumes its portion of the load and functions reliably and invariably. The attainment of this object, in the present construction, is realized by the provision of only one supporting roller for each section, such roller engaging a suitable track adjacent the groove in the floor. In this manner, the parts thereof can be so designed that they are of sufficient strength and all of the weight of the door will always be carried by such parts.

A further object of the invention is to provide a positive locking device at both the top and bottom of each door section whereby movement of the door to or from open or closed position will actuate such locking devices positively.

A further object of the invention is to provide a stop or limiting device in one of the tracks to serve as an abutment against which a cooperating stop on the door engages, to permit the door to be moved fully and quickly into such position as is necessary for swinging movement thereof to take place.

A further object of the invention is to provide cooperating means between one of the tracks and the locking mechanism for the doors to lock the doors in position before the stop mechanism carried thereby is free from the guide, thus positively insuring the proper positioning of the doors at the time pivotal movement thereof takes place.

A further object of the invention is to provide a weight supporting member for the door which has cooperating portions for taking the weight reactions of the door in both the folded and extended positions.

A further object of the invention is to provide a means for accurately and readily adjusting the height of the doors above the floor without impairing the strength of the supporting mechanism.

A further object of the invention is to provide a means for mounting the door sections in position after all of the necessary hardware for the door has been applied.

Further objects, not specifically enumerated above, will be apparent as the invention is described in greater detail in connection with the accompanying drawings, wherein:

Figure 1 is a view in front elevation, showing a door way in which a folding door, comprised of a plurality of folding sections, has been mounted.

Figure 2 is a segmental view in elevation, partly broken away and in section, the section being taken on line 2—2 of Figure 3, and looking in the direction of the arrows.

Figure 3 is a view in section, taken on line

3—3 of Figure 2, and looking in the direction of the arrows.

Figure 4 is a view in section, taken on line 4—4 of Figure 2, and looking in the direction of the arrows.

Figure 5 is a view in section, similar to Figure 4, but showing a door section moved partially into its folded position.

Figure 6 is a view in section, taken on line 6—6 of Figure 2, and looking in the direction of the arrows.

Figure 7 is a view in section, taken on line 7—7 of Figure 5, and looking in the direction of the arrows.

Figure 8 is an enlarged segmental view in elevation, partly broken away and in section, showing the lower supporting and pivoting element of a door section.

Figure 9 is a view in section, taken on line 9—9 of Figure 8, and looking in the direction of the arrows.

Figure 10 is a view in section, taken on line 10—10 of Figure 8, and looking in the direction of the arrows.

Figure 11 is a view in section, taken on line 11—11 of Figure 8, and looking in the direction of the arrows, this view being similar to that of Figure 10, but showing the door sections in a folded or collapsed position.

Figures 12, 13, 14 and 15 are views similar to Figures 8, 9, 10 and 11, respectively, showing a modified form of supporting means for the lower portion of the doors.

Referring to the above drawings, a door way is shown at 1, the floor 2 being provided with a track or groove 3 which will be described more fully hereinafter. The top 4 of the door is provided with a track 5 which will also be described more fully hereinafter.

The folding door shown in Figure 1 comprises a plurality of sections 20, in the instance shown, two sections being hingedly connected and adapted to be folded or collapsed upon a desired side of the door way. It will be apparent that the section of the folding door, adjacent the side of the door way against which the sections are to be collapsed, may be permanently hinged in position as, for instance, by means of suitable pins 21. The sections of the door may be hinged together at 22 and suitable hand grips 23 provided to facilitate operation of the doors.

Where the door sections are hinged together in units of two, the outer edges of such units are secured in the top and bottom grooves 3 and 5. In order that the means for securing the units at the respective points may be understood more intelligently, the top units will first be described.

Referring particularly to Figures 1, 2, 3, 4, 5, 6, and 7, the track 5, above referred to, will be seen as formed of a pressed metal channel 6 carried in spaced U-shaped reinforcing members 7 and supported to the top 4 of the door way by means of spaced bolts or screws 8. One of the arms, indicated at 9, of the reinforcing member 7 is shorter than the other and is adapted to receive a keeper plate 10 which provides a horizontal groove cooperating with the vertical groove formed by the channel 6. The lip of the channel 6 adjacent the keeper plate 10 is turned back to form the top wall of such horizontal groove. An inwardly projecting flange 11 is formed on the keeper plate 10 to cooperate with an inwardly projecting flange 12 on the channel 6 to provide a restricted groove within which a guide 24, carried by the door, rides. At a suitable point along the length of the keeper plate 10, a horn 13 is provided. The flange 11 and vertical portion of the keeper plate are interrupted at this point to receive an inwardly projecting arm 14 and an inwardly projecting stop member 15, as clearly shown in Figure 5. Outwardly projecting flanges 16 and 17 serve as continuations of the respective members 14 and 15, thus affording a track or groove 18 within which the arm 24 may ride. To insure proper operation and guard against slight inaccuracies in the elements during manufacture, it is desirable that the flanges 16 and 17 diverge slightly, as shown in Figure 5. An arcuate slot 19 is formed in the flange 11 and is concentric with the pivot point of the right hand door section to be engaged by a suitable stop described more fully hereinafter. A mutilated notch 19′ is formed in the flange 11, the edge thereof also being concentric with such pivot point and terminating in a transverse shoulder 19″, the purpose of which will be described presently.

From the foregoing, it will be apparent that the keeper plate 10, upon which the horn extension 13 has been mounted, may be formed as a unit and is detachably mounted in position in order that the door sections, after having had all of the necessary hardware applied thereto, may be mounted within the tracks.

Upon the top edge of a door section, a plate 25 is mounted. It is desirable that this plate be countersunk and flush with the top of the door and arm 24 may be integral therewith. The arm 24 is formed with a lateral projection 26 which overlies the horizontal flange 11 and abuts against stop member 15 when the top has reached the proper position with respect to the track. After having abutted against such stop, the flange 26 may then be swung in the groove formed by the horn to permit the door section to be moved pivotally into a collapsed position. At the end of the plate 25 distant from arm 24, a cylindrical pivot member 27 is mounted. This pivot member is preferably provided with a roller 28 which rides between the spaced walls of the channel 6 and thus supports the door section in position at its upper extremity. The pivot member is of a greater diameter than the width of the slot between the flanges 11 and 12. In order that it may be moved in such slot, it is formed with a squared portion 29 which reduces the diameter of the pivot member sufficiently in one direction and affords a flat surface for cooperating with the edge of the flange 11. A stop or lock pin 30 is mounted in the plate 25, the pin being squared and of a thickness equal to the width of the arcuate slot 19. This pin is spaced from the axis of the pivot member 27 a distance equal to that of the spacing of slot 19 therefrom, in this manner causing the arcuate path of pin 30, when the door is moved pivotally, to coincide with the slot 19. When arm 26 has engaged stop 15, the pivot member 27 is in the position shown in Figure 4. In this position, the mutilated portion of the member is in proper position with respect to the notch 19′ to permit the cylindrical portion of the member to be moved into the notch. The width of the slot between flanges 11 and 12 plus the depth of the notch 19′ equals the diameter of the pivot member 27 and, in this manner, the door section and pivot member can only be moved pivotally when the door is in the position shown in Figure 4. The stop member 30, when the door is in the above position, is at the imme-

diate entrance to the slot 19 and, having a greater linear movement in an arcuate direction than the periphery of the pivot member 27, immediately engages slot 19 upon initial movement of the door pivotally. In this manner, the effective locking of the door section in a desired position is insured since any pivotal movement of the door prevents the dislodging of the door section from its supporting slots. Several respective positions of the door in its movement to and from a folded to an extended position are illustrated in Figures 4, 5, 6, and 7. In Figure 4, the door section is in extended position preparatory to the being folded back into a collapsed position. Figure 5 represents partial movement of the door to or from a folded position, the door in such position being indicated in dot and dash lines. Figure 6 shows the relative disposition of parts, particularly with respect to the hinge member and guide slot preparatory to pivotal movement from an extended into a collapsed position. Figure 7 shows the relative position of the pivot member and locking pin when the door section has been moved into collapsed position.

The lower supporting members are shown in detail in Figures 8, 9, 10, and 11, reference to such figures for a detailed description of these members now being made. Figure 9 shows the construction of the floor groove, more specifically, such groove being formed by a channel member 31 formed with an upwardly projecting portion 32. One wall 33, of this upwardly projecting portion serves as one side of the groove 3, a track 34 being secured to the upper side of the channel 31 to receive the weight of the door through a roller to be described hereinafter. This track 34 is spaced from the wall 33 and serves as the other side of groove 3. A plate or stop member 35 is secured to the upwardly extending portion 32 and carries a pin or abutment 36 to hold the lower end of the door against displacement when moved into an open position, as described more fully hereinafter, screws 37 serving to hold the plate against the floor.

A frame 38 is set into the lower corner of the door, the lower side of the frame lying flush with the lower side of the door and the outer side thereof being set in sufficiently to permit a cover plate 39 to lie flush with the adjacent vertical edge of the door. The frame 38 may be secured to the door by screws 40 and a horizontally extending arm 41 is formed on the frame to receive a caster element to be described later. A vertically extending arm 42 connects the horizontal arm 41 with the upper portion of the frame 38 and forms a face over which the cover plate 39 is secured to finish the side of the door properly.

An annular shoulder or bushing 44 is formed on the arm 41 and threaded internally to receive a threaded bushing 45 of the caster. The bushing 45 is formed with flange 46 which serves as a thrust bearing, the caster shaft 47 being journaled in the bushing 45 and a step bearing 48 being received between the flange 46 and a cooperating flange 49 on the caster. A set screw 50, carried in the bushing 44, engages a groove 51 in the threaded bushing 45 and permits such bushing to be secured in an adjusted position. By rotating the bushing 45, after backing away the set screw 50, the height of the caster with respect to the door may be varied as desired.

The caster is formed with a downwardly extending flange 52 which engages the groove 3 and is confined between the sides thereof. A roller 53 is journaled on a stub shaft 54, secured in the downwardly extending flange 52 and the outer extremity of shaft 54 is formed with a boss 55 to be engaged by a cooperating boss 56, formed as a web, on the lower extremity of the frame 38. When the door is moved into folded position, boss 56 bears against the boss 55, the latter taking the reaction of the weight of the door and materially strengthening the supporting member.

Upon the web or face 42, a plate 43 is secured, this plate lying between the face 42 and the cover plate 39. Plate 43 extends downwardly and is formed, on its lower extremity, with an arm 57 which curves outwardly and rearwardly, as clearly shown in Figure 10. A cut away portion is formed in the cover plate 39 to receive the arm 57, the latter engaging the pin 36 when the door is turned, to prevent the lower end of the door from being displaced with respect to the groove. This position is clearly illustrated in Figure 11.

Cover plates 58 may be applied to the door and secured thereto by means of screws 59 to conceal the supporting element. It is preferred that these cover plates be integral with the face plate 39, the entire being slipped on and secured in place after the supporting element has been assembled and applied to the door. It will be further seen that arm 57 engaging stop 36 will prevent the outward movement of the lower portion of the door, thus effectively locking the door in its folded position.

Referring again to Figure 1, the side of the door way opposite to the fixed pivots 21 is preferably constructed in such manner that it may yield to pressure exerted by the door. In this manner, irregularities in size and shape of the elements are accommodated and a tight closure afforded. To this end, the side of the door way 60 is supported upon studs 61, coil springs 62, normally urging the side of the door way outwardly. When the door sections are extended, the outer edge of the extreme left hand section, as viewed in Figure 1, engages the yielding side of the door way and effects a tight connection between these elements.

With reference to Figures 12, 13, 14 and 15 a preferred form of locking device is shown in which the stop pin 36 of Figures 8, 9, 10 and 11 is replaced by a stop plate 60 which is secured directly upon the track portion 32. This plate is of sufficient thickness to serve as an abutment but does not project upwardly into the path of the cover plate 58, the latter clearing the plate 60 to permit the door to be slid freely in the groove. Over flange 49 a bracket 61 is secured, it being formed with an extension 62 having a recess 63. Recess 63 engages the webbed tongue 64, formed on the fitting 38 and prevents turning movement of bracket 61 with respect to the fitting 38. It will be seen that the bracket 61 may slide up or down with respect to the web 64, thus permitting ready adjustment of the shaft 47 in the journal.

A downwardly extending stop arm 65 is formed on the bracket 61, lying within the face plate 58 and extending below the lower extremity thereof. This arm moves into engagement with the plate 60 when the door is turned into the position shown in Figure 15, and thus locks the doors in a turned position to prevent movement thereof with respect to the groove.

From the foregoing, it will be seen that all of the weight of each door section is taken by a single roller. It is practically impossible to lay a track in a floor so accurately that double rollers will both carry an equal load. Either one or the other of the rollers is doing all of the work and,

since, in the case of double rollers each is designed to carry half of the weight of the door, a serious strain results upon the mechanism. It has therefore been found highly desirable to provide only one roller which carries all of the load. A roller of this character can be constructed of sufficient strength and the resulting structure is far more serviceable. It will be seen that a positive locking is provided for the door at both the top and bottom thereof when it is in a folded position and a stop in the upper track accordingly facilitates the movement of the door into and out of folded position. The cooperating elements of the doors and tracks are formed as units in such manner that they may be accurately made at the shop and readily installed without the necessity of careful and accurate work during installation. The locking members upon the door and grooves lock the doors in pivoted position before the guide arm 24 is free from the slot, thus insuring proper positioning of the doors at all times. The bottom casters, by providing additional bearing surfaces in the form of bosses 55 and 56 prevent injury to the elements of the supporting members, thus affording a more rugged construction. The above enumeration of advantages and improved elements serves merely to indicate the more important features of the invention and a more careful inspection of the structure will result in further advantages being found. While the invention has been described with specific reference to the construction shown in the accompanying drawings, it is not to be limited, save as defined in the appended claims.

I claim as my invention:

1. An upper guide groove for a door comprising a channel member having sides forming a groove, means to secure the channel to the upper portion of a doorway, an inwardly extending flange on one of the side members of the channel, an outwardly extending flange on the other channel side member, a keeper plate removably secured to the last named channel side member and overlying the outwardly extending flange, an inwardly extending flange on the keeper plate, and a cut away portion in the keeper plate and inwardly extending flange.

2. An upper guide groove for a door comprising a channel member having sides forming a groove, means to secure the channel to the upper portion of a doorway, an inwardly extending flange on one of the side members of the channel, an outwardly extending flange on the other channel side member, a keeper plate removably secured to the last named channel side member and overlying the outwardly extending flange, an inwardly extending flange on the keeper plate, a cut away portion in the keeper plate and inwardly extending flange, and a stop adjacent one side of the cut away portion.

3. An upper guide groove for a door comprising a channel member having sides forming a groove, a stop mounted in one of the sides, a cut away portion adjacent the stop, and guide means formed at the cut away portion.

4. An upper guide groove for a door comprising a channel member having sides forming a groove, a stop mounted in one of the sides, a cut away portion adjacent the stop, and downwardly extending flanges formed adjacent the cut away portion.

5. An upper guide groove for a door comprising a channel member having sides forming a groove, a stop mounted in one of the sides, a cut away portion adjacent the stop, and downwardly extending flanges formed adjacent the cut away portion, one of the flanges being a continuation of one surface of the stop.

6. An upper guide groove for a door comprising a channel member having sides forming a groove, means to secure the channel to the upper portion of a doorway, an inwardly extending flange on one of the side members of the channel, an outwardly extending flange on the other channel side member, a keeper plate removably secured to the last named channel side member and overlying the outwardly extending flange, an inwardly extending flange on the keeper plate, a cut away portion in the keeper plate and inwardly extending flange, a stop adjacent one side of the cut away portion, and guide flanges formed at either side of the cut away portion.

7. An upper guide groove for a door comprising a channel member having sides forming a groove, means to secure the channel to the upper portion of a doorway, an inwardly extending flange on one of the side members of the channel, an outwardly extending flange on the other channel side member, a keeper plate removably secured to the last named channel side member and overlying the outwardly extending flange, an inwardly extending flange on the keeper plate, a cut away portion in the keeper plate and inwardly extending flange, a stop adjacent one side of the cut away portion, and guide flanges formed at either side of the cut away portion, one of the last named guide flanges forming a continuation of the stop and the last named guide flanges diverging outwardly away from the cut away portion.

8. An upper guide groove for a door comprising a channel member having sides forming a groove, a removable portion secured to one of the sides, a door pivoting means carried by the removable portion adjacent one end thereof, and a stop on the removable portion.

9. An upper guide groove for a door comprising a channel member having sides forming a groove, a removable portion secured to one of the sides, a door pivoting means carried by the removable portion adjacent one end thereof, and a stop carried by the removable portion at the other end thereof.

10. An upper guide groove for a door comprising a channel member having sides forming a groove, a removable portion secured to one of the sides, a curved notch in the removable portion adjacent one end thereof, and a stop on the removable portion.

11. An upper guide groove for a door comprising a channel member having sides forming a groove, a removable portion secured to one of the sides, a curved notch in the removable portion adjacent one end thereof, a shoulder in the notch, and a stop on the removable portion at the other end thereof.

12. An upper guide groove for a door comprising a channel member having sides forming a groove, a removable portion secured to one of the sides, a curved notch in the removable portion adjacent one end thereof, a shoulder in the notch, a curved groove concentric with the curvature of the notch, and a stop on the removable portion at the other end thereof.

13. An upper guide groove for a door comprising a channel member having a flange forming one side of a groove, a removable portion secured to the other side of the channel, a flange on the portion cooperating with the first flange to form a groove of a desired width, a curved notch in the last named flange to form a widened portion

in the groove, and a stop carried by the removable portion.

14. An upper guide groove for a door comprising a channel member having a flange forming one side of a groove, a removable portion secured to the other side of the channel, a flange on the portion cooperating with the first flange to form a groove of a desired width, a curved notch in the last named flange to form a widened portion in the groove, a shoulder in the notch and a stop carried by the removable portion.

15. A supporting and guiding mechanism for a door comprising a plate mounted in the top of the door, an upwardly projecting guide arm mounted on the plate at one end thereof proximate one edge of said door, and a pivot member mounted on said plate at the other end thereof proximate the other edge of said door.

16. A supporting and guiding mechanism for a door comprising a plate mounted in the top of the door, an upwardly projecting guide arm mounted on the plate at one end thereof proximate one edge of said door, an upwardly projecting pivot member mounted on the plate at the other end thereof proximate the other edge of said door, and a squared section on the pivot member to cooperate with a guide.

17. A supporting and guiding mechanism for a door comprising a plate mounted in the top of the door, an upwardly projecting guide arm mounted on the plate at one end thereof, an upwardly projecting pivot member mounted on the plate at the other end thereof, a squared section on the pivot member and a lock pin carried by the plate to cooperate with a guide.

18. A supporting and guiding mechanism for a door comprising a plate mounted in the top of the door, an upwardly projecting guide arm mounted on the plate at one end thereof, an upwardly projecting pivot member mounted on the plate at the other end thereof, a squared section on the pivot member and a lock pin carried by the plate and having a rectangular cross section.

19. A door supporting mechanism comprising a guide channel having an inwardly projecting channel, a curved notch in the channel, a door having a pivot member with a reduced squared section adapted to engage the groove, and a curved surface to engage the notch.

20. A door supporting mechanism comprising a guide channel having an inwardly projecting channel, a curved notch in the channel, a curved slot in the channel concentric with the notch and a door having a pivot member with a reduced squared section adapted to engage the groove, a curved surface on the member to engage the notch, and a lock pin on the door to engage the curved slot.

21. A door supporting mechanism comprising a guide channel having an inwardly projecting channel, a curved notch in the channel, a shoulder in the notch, a curved slot in the channel concentric with the notch and a door having a pivot member with a reduced squared section adapted to engage the groove, a curved surface on the member to engage the notch, and a lock pin of rectangular cross section on the door to engage the curved slot.

22. In combination, a plate mounted in the top of a door, a guide arm on one end of the plate, a pivot member on the other end, a flat portion on the pivot member, a lock pin on the plate, a guide groove having a removable portion carrying a stop against which the guide arm engages, a curved notch for the portion of the pivot member adjacent the flat portion to engage, and a groove concentric with the notch for the lock pin to enter.

23. In combination, a plate mounted in the top of a door, a guide arm on one end of the plate, a pivot member on the other end, a flat portion on the pivot member, a lock pin having a rectangular cross section on the plate, a guide groove having a removable portion carrying a stop against which the guide arm engages, a curved notch for the portion of the pivot member adjacent the flat portion to engage, a shoulder in the notch for the flat portion of the pivot member to engage, and a groove concentric with the notch for the lock pin to enter.

24. A door supporting member comprising a frame, a sleeve threaded in the frame, a slot in the sleeve, a set screw in the frame engaging the slot, a shaft journaled in the sleeve, an abutment on the frame in a plane of the door, a door supporting device carried by the frame, and an abutment carried by the shaft transversely of the door to be engaged by the first abutment to support the door when the latter is turned.

25. A door supporting member comprising a frame, a sleeve threaded in the frame, a slot in the sleeve, a set screw in the frame engaging the slot, a shaft journaled in the sleeve, an abutment on the frame in the plane of the door, a door supporting device carried by the shaft, and an abutment on the door supporting device carried by the shaft transversely of the door to be engaged by the first abutment to support the door when the latter is turned.

26. A door supporting member comprising a frame, a sleeve threaded in the frame, a slot in the sleeve, a set screw in the frame engaging the slot, a shaft journaled in the sleeve, an abutment on the frame in the plane of the door, a stub shaft carried by the first named shaft, and an abutment carried by the stub shaft transversely of the door to be engaged by the first abutment when the door is turned.

27. The combination with a sliding and pivoting door of means to mount the same slidably and pivotally, comprising a stationary stop member adjacent the door, and an arm on the door, a portion of which is in the plane of the door, the path of movement of such portion not coinciding with the stop member during sliding movement of the door, but coinciding therewith upon pivotal movement of the door.

28. A sliding and folding partition comprising, the combination with a doorway, an upper guide groove extending from side to side of the doorway and a floor guide groove having a stop proximate one end thereof, a plurality of doors, guiding means carried by the top of the doors to travel in the upper guide groove, cooperating locking means on the top of the door and upper guide groove operable when the door is turned, weight supporting means carried with the bottom of the door and cooperating locking means carried with the bottom of the door and floor guide groove operable simultaneously with the first named locking means when the door is turned.

29. A sliding and folding partition comprising, the combination with a doorway having a stationary side member, a yielding side member, an upper guide groove extending from side to side of the doorway and a floor guide groove having a stop proximate one end thereof, a plurality of doors, guiding means carried by the top of the doors to travel in the upper guide groove, cooperating locking means on the top

of the door and upper guide groove operable when the door is turned, weight supporting means carried with the bottom of the door and cooperating locking means carried with the bottom of the door and floor guide groove operable simultaneously with the first named locking means when the door is turned.

30. A door supporting member comprising a frame, an abutment on the frame in the plane of the door, a door supporting device carried by the frame, and an abutment carried by the supporting device transversely of the door to be engaged by the first mentioned abutment to prevent the door from sagging when said door is turned.

31. A sliding and folding partition door having in combination a frame, means mounting a weight carrying member on the frame, a stop proximate the path of sliding movement of the door, a bracket comprising an arm carried by the weight carrying member, means for varying the position of said bracket with reference to said frame, and relatively slidable interengaging means between said bracket and frame for rotating said arm to and from engagement with said stop when the door is rotated to folding position.

32. A sliding and folding partition door having in combination a frame, means mounting a caster element on the frame, a stop proximate the path of sliding movement of the door, a bracket comprising an arm carried by the caster element, means for adjusting said bracket vertically with reference to said frame, and means between said bracket and frame for rotating said arm to and from engagement with said stop when the door is rotated to folded position, said means comprising a notch in the bracket and a web on the frame adapted to cooperate throughout the range of the bracket adjustment.

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