Sept. 11, 1956 A. JANOWS 2,762,675

COUNTERBALANCED CABINET DOOR ASSEMBLY

Filed June 19, 1953

Fig. 1

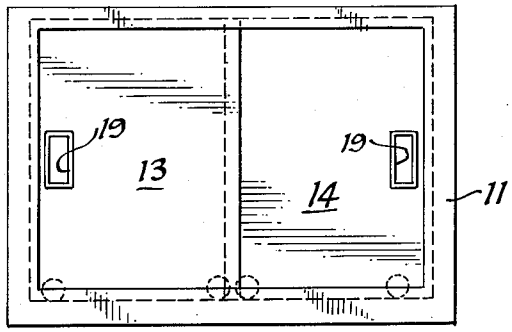


Fig. 3

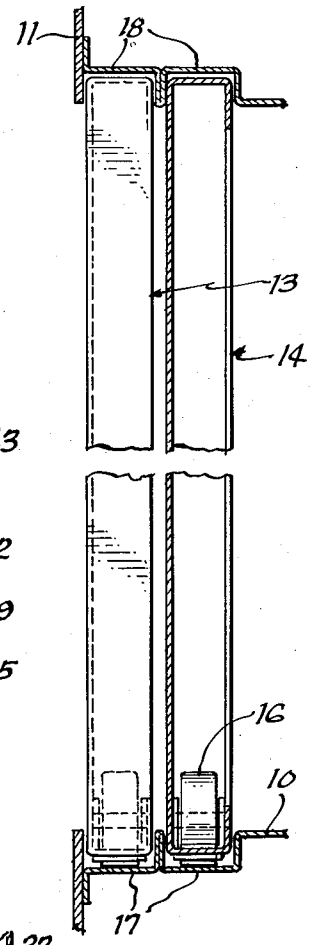
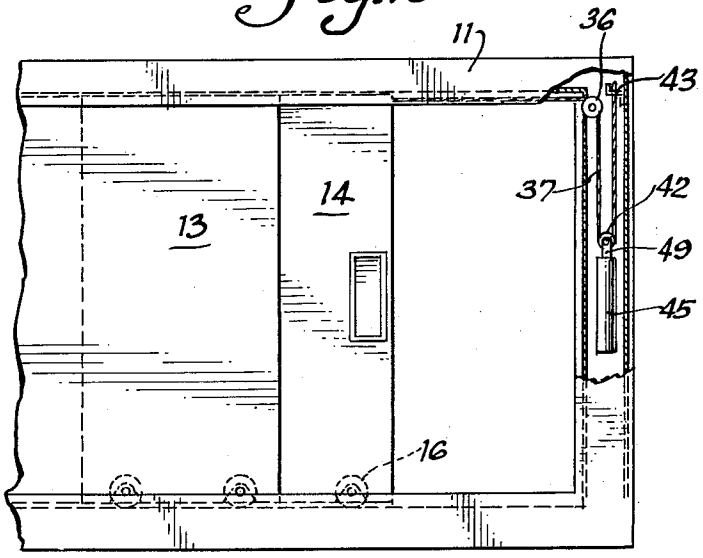


Fig. 2



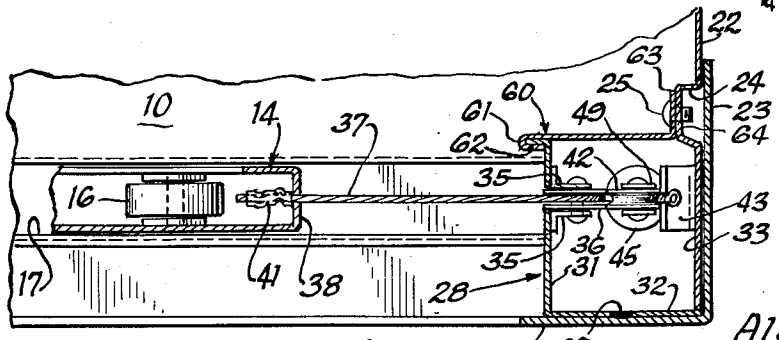


Fig. 4

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COUNTERBALANCED CABINET DOOR ASSEMBLY

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Application June 19, 1953, Serial No. 362,912

1 Claim. (Cl. 312—319)

This invention relates to a cabinet construction, and more specifically to one including sliding or rolling doors and means for facilitating the closing thereof.

A principal object is to provide a compactly arranged counterbalancing means for a sliding or rolling door which may be accommodated within a hollow corner post of the cabinet while preserving to the greatest extent the customary dimensions of the post.

Another object resides in accomplishing the foregoing objective by the use of a corner post for the cabinet including a removable panel which not only permits easy initial assembly of the counterbalancing means, but which is thereafter just as readily accessible and convenient for maintenance purposes.

Broadly regarded, the invention contemplates the provision, in combination with a cabinet having sliding or rolling doors, which doors may be mounted vertically, horizontally or at some angle, of means for facilitating the closing of the door comprising a double-purchase sheave and a counterweight mounted interiorly of a hollow corner member of the cabinet. The construction and arrangement of the corner member is such as to carry out the normal function thereof, both mechanically and esthetically, but there is provided a detachably securable panel for permitting initial assembly of the counterbalancing means therewithin and later access thereto for maintenance and repair. An arrangement in accordance with the foregoing finds many applications. For example, in connection with refrigerated cabinets, as used in restaurants, where a careless or indolent employee may not be too attentive to his duties, a door negligently left only slightly ajar may add considerably to the cost of power used for refrigeration.

In the drawing, which shows one preferred form of carrying the invention into practice:

Fig. 1 is a front elevation of a cabinet embodying the invention, and showing the doors closed;

Fig. 2 shows a view similar to that of Fig. 1, and partly sectioned to reveal the counterweight arrangement;

Fig. 3 shows a typical, vertical, transverse cross section through the pair of doors; and

Fig. 4 is a cross section, somewhat enlarged, and taken on a horizontal plane to show details of the corner post construction.

Turning now to the drawing there is shown a cabinet of a type frequently employed in restaurants and which includes a storage space **10** and a front panel in the form of a frame **11**. Ordinarily such cabinets are of sheet metal, and the invention will be described with such construction in contemplation although, as will appear, the elements of the cabinet may be fabricated from other, equivalent materials.

By way of example a pair of laterally-shiftable, vertical doors **13** and **14** is shown, each being of customary hollow construction and provided with rollers **16** riding in channels **17—17**, as will be understood, while at their upper margins the doors are guided in similar channels **18—18**. Insofar as concerns the instant invention the

rollers **16** may be omitted and the doors allowed to slide in the channels. Each door is provided with a pull **19**.

Referring in particular to Figs. 2 and 4, the right hand vertical member of the frame **11** is carried around the adjacent end face **22** of the cabinet, as indicated at **23**, and serves to conceal the vertical channel **24** into which the shanks of the several screws **25** extend and the function of which will appear. Spot welded, as at **27**, or otherwise secured to the member **11** is a box-like post **28** comprising three permanent walls **31**, **32** and **33**, the latter of which may be a portion of the end wall **22** of the cabinet.

Concealed within the post **28** and supported thereby is pair of brackets **35—35** between which a sheave **36** is rotatably mounted. One end of a flexible cable **37** is threaded through an aperture in a vertical edge **38** of the door, e. g. **14**, and a clamp **41** is applied to secure the cable against detachment. Obviously the cable may be attached to the door in other ways. The cable is passed through a hole in the wall **31**, over the sheave **36**, reeved around another sheave **42**, and thence passed upwardly for securement of its other end to a bracket **43** on the interior of the post **28**. Sheave **42** is retained between cheeks **49—49** forming an upward extension of a counterweight **45**.

The means just described constitutes a concealed, simple, effective arrangement for facilitating closure of the door, and may be arranged for left- or right-handed installations without the need for oppositely-constituted parts and the manufacturing and stocking problems attendant thereupon. By the addition of another sheave below the sheave **36** the cable **37** may be secured near the bottom margin of the door in the event that movement of the latter may be found to be facilitated to a better degree by counterbalancing thereof at that position. Moreover a spring may be substituted for the weight **45** and secured between the cheeks **49—49** and a hook at the lower end of the post **28**. Moreover such hook may be anchored at its fixed end to an eye bolt which may be arranged with a nut for axial adjustment for varying the tension in the spring, and therefore its biasing action on the door.

One of the distinct advantages of the inventive organization resides in the construction of the corner post **28** whereby the counterbalance mechanism is concealed from view, yet is conveniently accessible for servicing. To this end I provide a panel **60** for enclosing the rear of the post **28** including a bent-over or hook-shaped margin **61** adapted to engage a flange **62** extending outwardly from the wall **31**, and a flange **63** abutting the web **64** of the channel **24** whereto it is secured by the plurality of screws **25**. It will be noted that by removing the screws **25**, which are readily approached from within the cabinet, the panel **60** may be unhooked from the post proper to expose the parts within for repair or maintenance.

The provision of the channel **24** and its concealment from without by the corner piece **23** permits the use of the screws **25**, while maintaining the exterior aspect esthetic in appearance. If desired a plurality of depressions may be substituted for the channel **24**.

While I have shown a particular embodiment of my invention, it will be understood, of course, that I do not wish to be limited thereto since many modifications may be made, and I therefore contemplate by the appended claim to cover any such modifications as fall within the true spirit and scope of my invention.

I claim:

A door assembly for a cabinet wherein the door is arranged for lateral shifting movement from closed to open position and vice versa comprising a door, a guideway for said door, a vertical, hollow post of rectangular transverse cross section at one end of said guideway, a sheave

fixedly mounted within said post, a counterweight movable vertically within said post and having a sheave, a cable fixed at its end to said door and post respectively and reeved over said sheaves whereby said counterweight is effective to bias said door to closed position, said post comprising three permanent walls and one detachably securable wall, tongue and groove means common to respective edges of one of said permanent walls and said detachable wall for frictionally locking at least those edges when the detachable wall is assembled, said detachable wall having at its opposite edge a marginal flange directed inwardly of the cabinet for concealment therewithin, the permanent wall opposite said last permanent wall having a marginal flange juxtaposed to said outturned marginal flange and offset inwardly of the cabinet to

define a space exteriorly thereof, removable fastening means joining said juxtaposed flanges, the position of the flanges being such that any portion of the fastening means protruding through the flanges lies entirely within said space and within the exterior surface of said cabinet, and an exterior panel overlying said post and fastening means to conceal the same from view without.

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