Aug. 28, 1962 A. ALVAREZ 3,051,231

ADJUSTABLE SLAT BLIND

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FIG. 1.

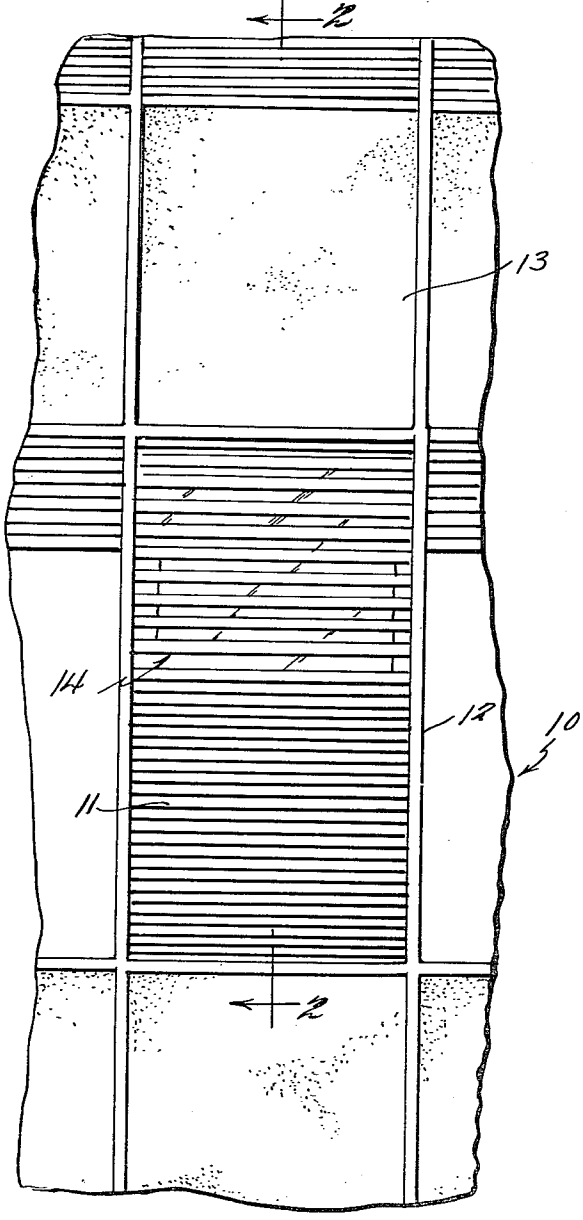
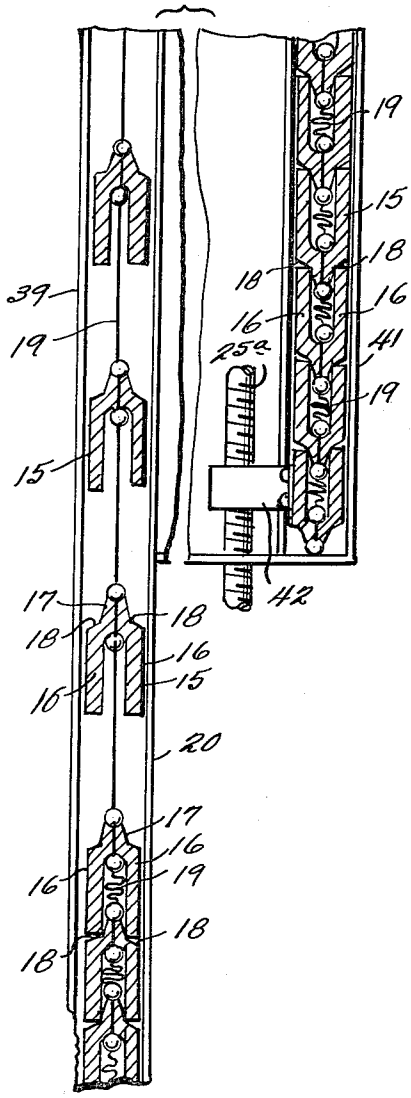


FIG. 6



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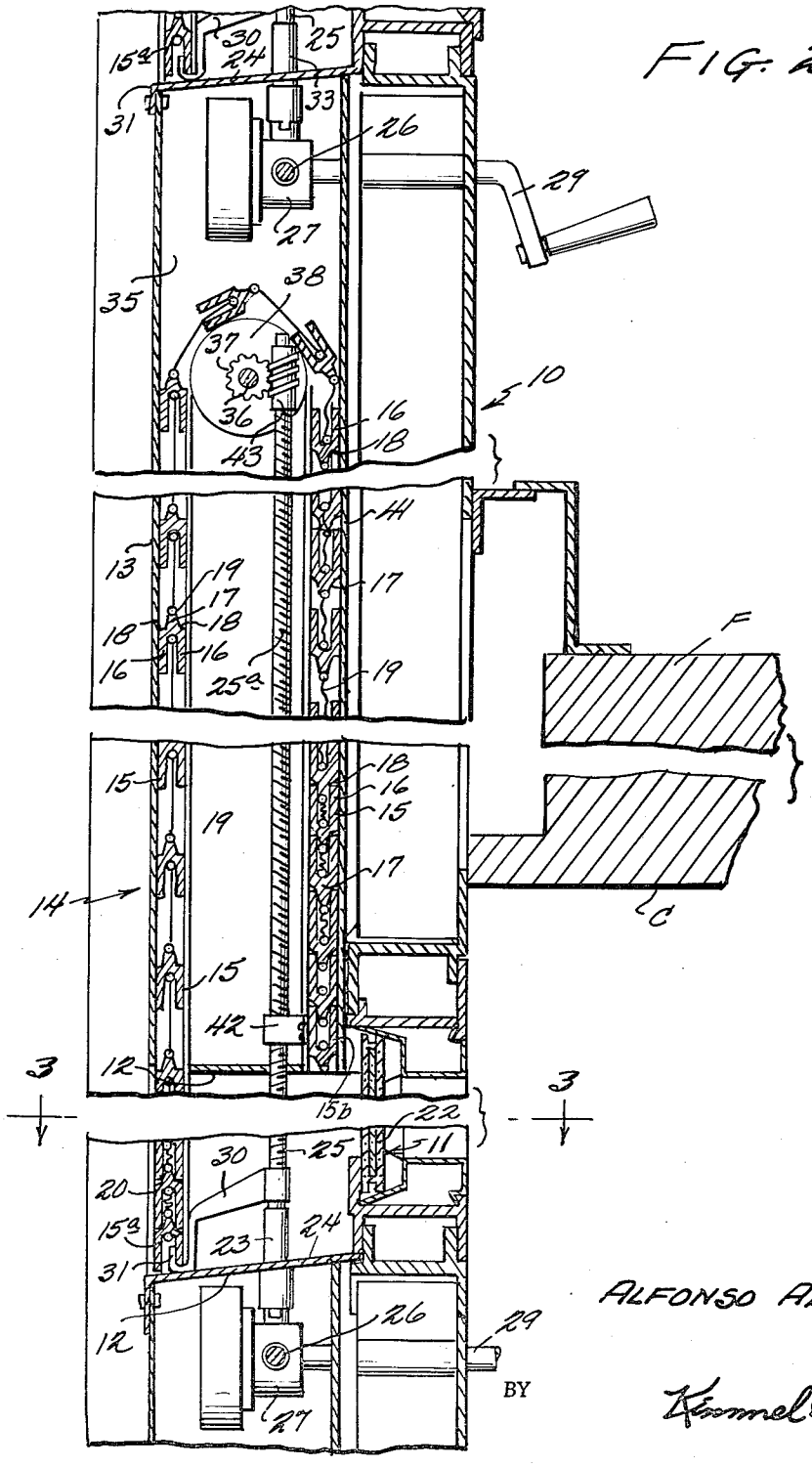
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FIG. 2



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FIG. 3

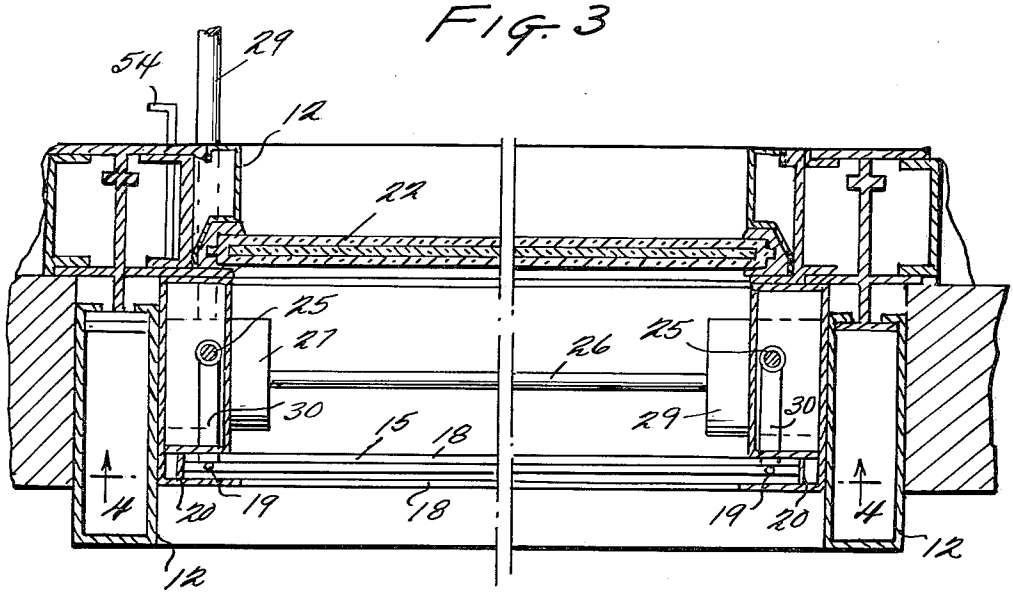
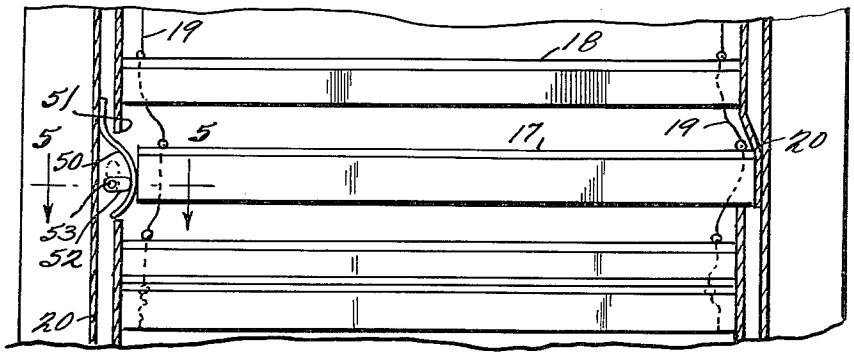


FIG. 4



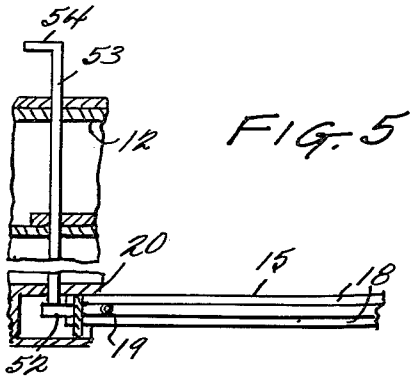


FIG. 5

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3,051,231

ADJUSTABLE SLAT BLIND

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Filed Sept. 23, 1960, Ser. No. 58,014
4 Claims. (Cl. 160—34)

This invention relates to a blind, and more particularly a blind having adjustable slats of that type wherein the slats may be selectively juxtaposed or spaced or alternatively removed entirely from a position in front of a window and constitutes an improvement over my Patent No. 2,921,628 dated January 19, 1960.

A primary object of this invention is the provision of an improved adjustable slat blind construction which is adapted to be stored, when not in use, by housing the slats in a spandrel panel located immediately above the window, as is conventionally used in modern building construction.

A further object of the invention is the provision of a blind of this character wherein the individual slats are of generally U-shaped cross-sectional configuration and provided with external shoulders whereby the individual slats may be nested either in inverted position for storage or in upright position for covering a window or the like in substantially light proof position when in use.

A further object of the invention is the provision of a blind characterized by flexible means connecting adjacent slats so that they may be spaced apart to admit a limited amount of light through the window opening, and which may be moved upwardly into the space interiorly of the adjacent upper spandrel in spaced relation, and by inversion stored in relatively compact nested relation in a relatively small space.

An additional object of the invention resides in the provision of an improved means for moving the slats of the blind into and out of operative position.

Still other objects in the invention reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawings.

Still other objects will in part be obvious and in part be made apparent hereinafter.

In the drawings:

FIGURE 1 is a front elevational view of a fragment of a building showing a window with the blind of the instant invention in position thereon, and showing the adjacent upper spandrel construction adapted for the housing of blind slats when not in use.

FIGURE 2 is an enlarged sectional view partially broken away taken substantially along the line 2—2 of FIG. 1.

FIGURE 3 is a sectional view taken substantially along the line 3—3 of FIG. 2 as viewed in the direction indicated by the arrows.

FIGURE 4 is a sectional view taken substantially along the line 4—4 of FIG. 3 as viewed in the direction indicated by the arrows.

FIGURE 5 is a sectional view taken substantially along the line 5—5 of FIG. 4 as viewed in the direction indicated by the arrows; and

FIGURE 6 is a fragmentary side sectional view similar to FIG. 2 showing a constructional detail.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Having reference now to the drawings in detail, there is generally indicated at **10** a building construction which includes a window **11** and a window frame **12**, the space above the window frame being occupied by a hollow panel **13**, commonly termed "a spandrel" which is conventionally used in the multi-paneled, multi-windowed

present day type of building construction, and extends between the top of the window, adjacent the ceiling C and upwardly to the bottom of the next adjacent window above the floor F.

The blind of the instant invention is generally indicated at **14**, and is comprised of a plurality of slats **15**, each slat being of substantially U-shaped construction and comprising a pair of spaced legs **16** and a bight portion **17**, the bight being cut away exteriorly to form a pair of shoulders **18**. The adjacent slats are connected by a plurality of ball type chains **19**, which are suitably secured in bores or the like extending through the bights of the slat members.

A pair of oppositely disposed guide channels **20** are positioned on the window frame **12** on opposite sides and exteriorly of the window sash **22**, and serve as front guides for the slats which are adapted to move horizontally therein, the slats extending in transverse parallel relation to the guide channels **20**. Interiorly of the window frame there is provided a bushing **23**, which is positioned above the sill **24**, and which carries a threaded rod **25**, the rod being rotated by means of a suitable conventional sprocket contained in a housing **27**, the sprocket in turn being rotated by means of a worm which is operable by means of an external handle **29**. Opposite worms are connected for synchronous movement by a transverse rod **26**.

The rod **25** carries an operating lever **30**, which is provided at one end with a hook **31**, which engages under the lowermost slat **15***a*, and extends adjacent the side of the guide channel **20**. Rotation of the rod **25** will obviously cause raising and lowering of the member **30** to lift the adjacent slat and telescopically by engagement with the next adjacent slat successively to lift all of the slats out of relation with the open face of a window.

The spandrel **13** is provided with a hollow interior **35**, which has mounted thereacross a transverse axle **36**, which carries a gear **37** and a roller **38**. The roller **38** serves as an upper axle over which the shade assembly including the slats **15** and their associated chains **19** are progressively fed, the arrangement thus being such that the upper and lower slats may be raised simultaneously by telescopic action as slat **15***a* moves upwardly. Guide channels **39** which correspond to the channels **20** and extend in alignment therewith serve to guide the slats in their forward position.

A second pair of opposite channels **41** is positioned inside the spandrel **13** to the rear thereof beyond the roller **38** and is adapted to receive the slats in inverted position, the arrangement being such that in inverted position the shoulders **18** rest on the ends of the leg **16** of the next adjacent slat. As best shown in FIG. 2, the slats telescope in inverted relation as they are fed into the channels **41**. The slats may thus be moved completely out of position in the window frame. When it is desired to raise the lowermost slat **15***b* from the bottom of the channels **41**, a lifting member **42** secured to slat **15***b* is threadedly engaged by a shaft **25***a*, which comprises a continuation of the shaft **25**, but which is oppositely threaded with respect thereto. By further rotation in a reverse direction of the handle **29** it will be seen that the member **42** may be lifted to raise the slats out of storage position and permit them to fall over the roller **38** into the channel **39** and thence drop downwardly into the channel to progressively cover the window frame. The upper end of the shaft **25***a* is provided with a worm **43** which is adapted to drive the gear **37** for rotation of the roller **38** in either direction.

Means are provided for locking the slats in any selected position of adjustment and comprises a spring finger **50** which extends outwardly through the side of one of the

channels **20**. The spring finger is adapted to be bowed outwardly by means of a cam **52** which is mounted on a shaft **53**, the shaft extending through the frame and terminating in an operating handle **54**. Obviously, rotation of the cam to the position shown in full lines in FIG. 4 moves one of the slats **15** to a position in abutting relation with the opposite channel frame **20** and so secures the slats against accidental displacement.

From the foregoing it will now be seen that there is herein provided an improved adjustable slat blind construction, which accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative, and not in a limiting sense.

I claim:

1. An adjustable slat blind comprised of a plurality of substantially U-shaped slats having shoulders formed on opposite sides of the exterior thereof, elongated guide means slidably mounting said slats, flexibly foldable connecting means between said slats providing for edge to edge abutment of adjacent slats or for spacing a part of said slats longitudinally of said guide means, roller means mounted above and spaced to one side of the top of said guide means over which said slats and flexible connecting means extend, a storage channel for holding said slats in abutting relation in inverted position on the opposite side of said roller means from said guide means, said slats being adapted to nest within each other when in abutting relation in said storage channel and means for raising and lowering said slats over said roller means.

2. The structure of claim 1 wherein said last-mentioned means comprise an elongated threaded shaft, and a tongue threadedly engaging said shaft and engaging the lowermost of said slats when in operative position.

3. The structure of claim 2 wherein said shaft is provided with an oppositely threaded continuation, and a tongue threadedly engaging said continuation and adapted to engage the lowermost of said slats when in inverted storage position.

4. The structure of claim 2 wherein said shaft is provided with an oppositely threaded continuation, and a tongue threadedly engaging said continuation and secured to the lowermost of said slats when in inverted storage position, said roller means being adapted for mounting in a hollow spandrel above said guide means.

References Cited in the file of this patent

UNITED STATES PATENTS

558,577	Spaulding	Apr. 21, 1896
1,725,750	Brinton	Aug. 27, 1929
1,958,074	Seregi	May 8, 1934
2,921,628	Alvarez	Jan. 19, 1960