July 9, 1940. R. P. ANDERSON 2,207,393

VENETIAN BLIND

Filed Sept. 25, 1939 2 Sheets-Sheet 1

Fig. 1

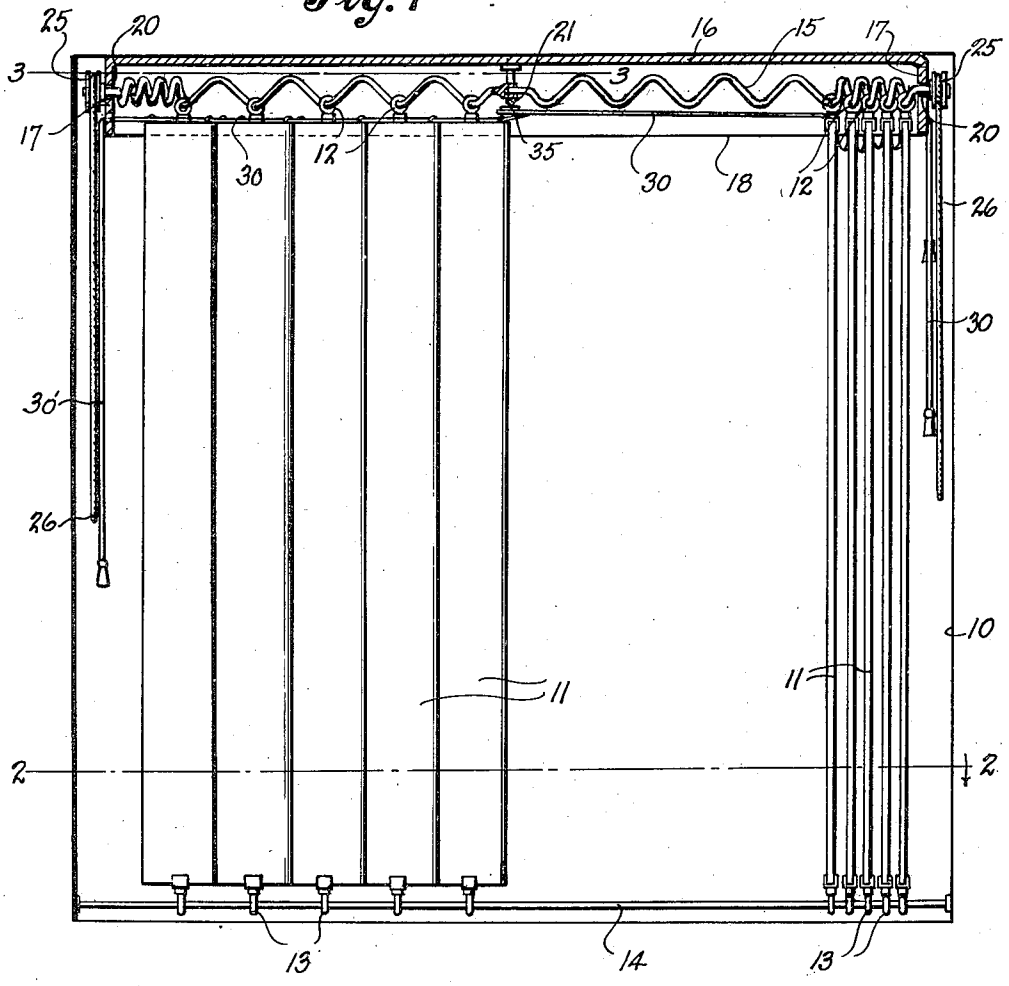
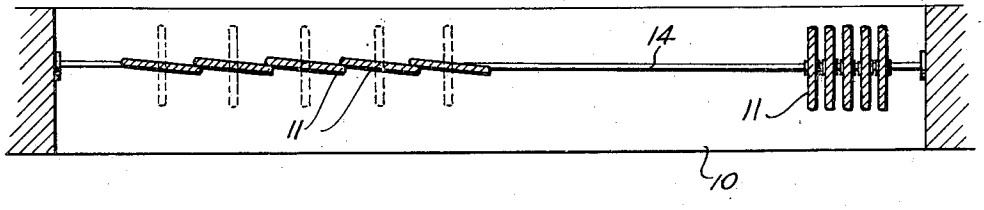


Fig. 2



INVENTOR.
RUSSELL P. ANDERSON

BY Cook & Robinson ATTORNEY.

July 9, 1940. R. P. ANDERSON 2,207,393

VENETIAN BLIND

Filed Sept. 25, 1939 2 Sheets-Sheet 2

Fig. 3

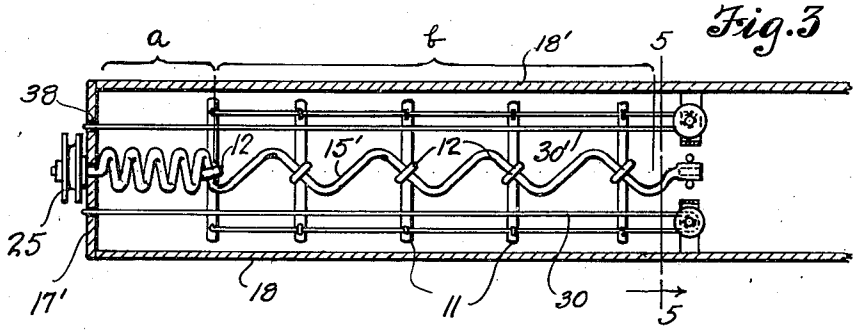


Fig. 4

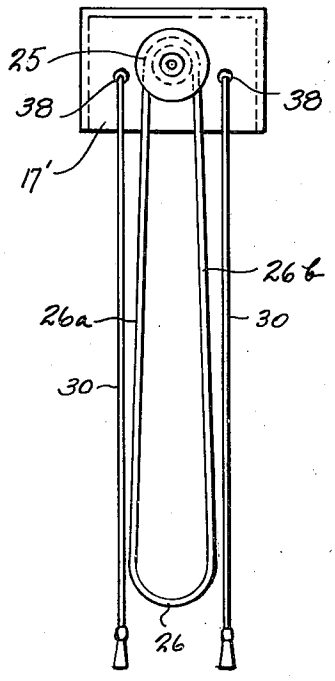


Fig. 5

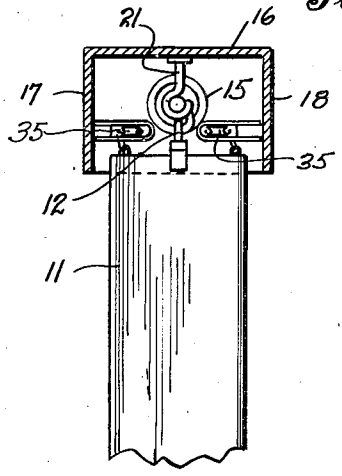
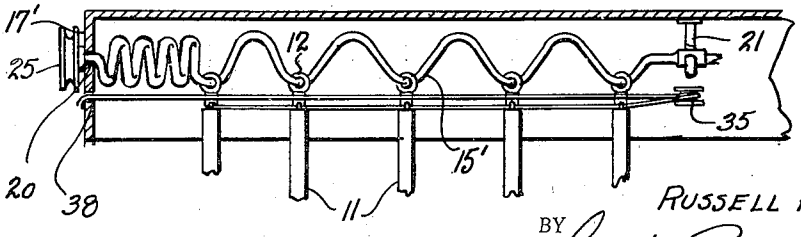


Fig. 6



INVENTOR.
RUSSELL P. ANDERSON
BY Cook & Robinson
ATTORNEY.

Patented July 9, 1940 2,207,393

UNITED STATES PATENT OFFICE

2,207,393

VENETIAN BLIND

Russell P. Anderson, Seattle, Wash.

Application September 25, 1939, Serial No. 296,437

10 Claims. (Cl. 156—17)

This invention relates to window blinds, and it has reference more particularly to improvements in those types of window blinds now generally known as "Venetian blinds"; it being the principal object of this invention to provide a window blind that contains all the desirable features of, and many advantages over the types of Venetian blinds now most generally in use; for example, a blind that may be adjusted to provide better and easier vision through the opening to which it is applied; which affords a more desirable directional control of admission of outside light, without detriment to its other features; which is easier to keep dusted and clean; which, by reason of its manner of suspension, will not sway or move in a breeze passing through the opening to which the blind is applied; which is less bulky when collapsed and is more easily manipulated between open and closed positions than the usual types of blinds.

More specifically stated, the objects and advantages of the present invention reside in the provision of a Venetian type blind wherein the slats which comprise the blind extend vertically of the window opening as differentiated from the usual horizontal position, and wherein the slats are adjustable from a position extended across the window opening, to a collapsed position at one side thereof. Furthermore, the present blind may be made either in single sections, to cover an entire window, or as a pair of sections, each to cover one-half of the opening and adjustable to and from collapsed positions at the side of the opening.

It is also an object of the present invention to provide novel means for mounting or suspending the slats of the blind, and for effecting their lateral adjustment, and whereby they will be retained properly spaced when extended across the opening and whereby they will be automatically brought into close, collapsed relationship when moved to open position at the side of a window opening.

It is a further object of the invention to provide a blind of the kind above stated wherein successive slats in the blind are suspended from and actuated between extended and collapsed positions by means of a helically formed rod; each slat having a swivel eye at its upper end through which the rod extends and which will be actuated along the rod in accordance with rotation of the latter.

Other objects of the present invention reside in the details of construction of the various elements thereof, particularly those for suspending and adjusting the slats between open and closed positions, and in the means for controlling their angular adjustment for admission of more or less light.

Still further objects of the invention reside in the combination of parts and in their mode of operation as will hereinafter be fully described.

In accomplishing these, and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein:

Fig. 1 is a front view of an opening to which a pair of blinds, embodied by the present invention, have been applied; the blind section at one side being shown as adjusted to collapsed position, while that at the other side is shown extended.

Fig. 2 is a horizontal sectional view, taken on the line 2—2 in Fig. 1.

Fig. 3 is an enlarged sectional detail of parts as seen on the horizontal plane of line 3—3 in Fig. 1.

Fig. 4 is an end view of the upper end structure.

Fig. 5 is a vertical cross section on the line 5—5 in Fig. 3.

Fig. 6 is a sectional detail, showing, in elevation, the supporting and adjusting rod for one of the blind sections.

Referring more in detail to the drawings—

It is understood that blinds of the present character may be applied to an opening as a single section, adapted to be adjusted from collapsed position at one side of the opening, to an extended position thereacross, or, as is most generally the case when applied to wide openings, to comprise two sections, adjustable between open positions at opposite sides of the opening, to extended position, meeting midway across the opening. In the present drawings, I have illustrated the blind as comprising two sections applied to an opening which is designated in Fig. 1 by reference numeral 10. The blind sections are each composed of five vertical slats 11. However, it is to be understood that the number of slats employed in any section would be dependent on the horizontal distance to be spanned and the effective width of each slat.

By reference more particularly to Fig. 1, it will be seen that each slat has fixed therein centrally at its upper and lower ends, respectively, swivel eyelets 12 and 13; the eyelets 13 at the lower ends of the slats are mounted on and are slidably movable along a horizontal rod or wire 14 that is fixed across the lower end of the win-

dow opening, while the eyelets 12, at the upper ends of the slats, are mounted on supporting rods of helical form; the rods for the right and left-hand blind sections being designated, respectively by reference numerals 15 and 15'.

It is preferred that a sort of housing, or cabinet, be applied to the upper edge of the window opening to house and support the helical rods 15—15' and the upper end portions of the slats of the two sections of the blind. This cabinet, as here illustrated, comprises a top wall 16, opposite end walls 17 and 17', a front wall 18 and a back wall 18'. The two helically formed rods 15 and 15' extend horizontally and in the same axial line, with their outer end portions extended revolubly through openings 20 provided therefor in the opposite end walls of the cabinet and with their inner end portions revolubly fitted together and supported within the seat of a hook 21 that is fixed in the top wall of the cabinet. The rods 15 and 15' are thus supported for rotation independently of each other.

A feature of the invention resides in the detailed formation of the two helical rods; it being noted that each has a relatively short length or section adjacent its outer end, as that comprised within the bracket *a* in Fig. 3, in which the convolutions or turns are of relatively flat pitch and close together, then for the remaining part of the rod, that is, through that portion spanned by the bracket *b*, there is an equal number of convolutions of relatively steep pitch and relatively wide apart. It is also to be observed that the suspending eyelets 12 at the upper ends of the slats have the helical rods passed therethrough and that the eyelets suspending successive slats seat in successive turns of the helix. Thus, when the rods 15 or 15' are rotated, the eyelets 12 will follow along the rods in accordance with the direction of their rotation, for effecting the extension of the blind across the window opening, or for causing them to be collapsed together at the side of the window opening.

When the slats of either section are extended, as are the slats in the section at the left-hand side in Fig. 1, rotation of the helical rod 15 or 15' from which they are suspended in proper direction will cause all slats to be moved toward the side of the opening, and as their suspending eyelets 12 enter the closely formed convolutions of the rod, the slats will be closed together accordingly and finally all will be brought to the collapsed position in which they are shown at the right-hand side in Fig. 1.

The means which I have provided for rotating the suspending rod 15 or 15' for effecting the lateral adjustment of the slats comprises a small pulley wheel 25 that is fixed to the outer end of the rod, and over or about which a cord 26 is wound. The cords, as here used, are in continuous belt form and depend from the pulleys to a suitable distance for easy reach, and afford two lenths of cord, as identified at 26*a* and 26*b* in Fig. 4, which may be pulled on, respectively, for effecting the rotation of the rod for extending and retracting the section.

Since each of the slats is suspended by a swivel eyelet, it is also free for angular adjustment about a vertical axis between the fully open positions, in which they are indicated in dotted lines at the left in Fig. 2, or to the overlapping, closed positions, as shown in full lines. This angular adjustment of the slats of the two sections may be effected independently of each other, and it may be effected for any part of a section that is extended.

The adjacent slats of each section are joined together across their top corners, both at inner and outer sides of the blind, by flexible cords or chains 30—30', as noted in Fig. 3. These cords extend from the slat disposed at the outer edge of their corresponding section toward the inner edge of the section, and are fixed to each slat with a length of cord between slats that corresponds to their spacing when disposed in the position of extension. These cords are passed over pulley wheels 35, or other suitable guides located in the cabinet at the center, and then are extended directly to the end walls of the cabinet and passed through openings 38 therein with their outer end portions depending to positions for easy reach, and there equipped with tassels or hand holds of suitable kind.

When a blind section is extended, and the slats disposed as shown in Fig. 3, by pulling on one of the cords, all slats will simultaneously be adjusted to the same angular position and may be completely closed together, with edges overlapped, and by pulling on the other cord, they may all be adjusted again toward open position. This adjustment may be effected regardless of whether the section is fully or only partly extended.

Blinds of this character may be made to accommodate openings of various size and proportions, and may be applied as single sections or as pairs.

It is to be understood that the details of construction of parts may be varied to accommodate different conditions with respect to openings and windows, and without departing from the spirit of the invention. Therefore, it is not desired that the claims be confined to the details herein shown, but that they be given an interpretation commensurate with the scope of the invention disclosed.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent is—

1. A blind of the character described comprising a supporting rod of helical formation and mounted for axial rotation, and a plurality of slats suspended from the said rod to form a blind; each slat having a suspending member slidable on the rod in one of the helical turns thereof, and adapted to travel therealong in accordance with rotation of the rod.

2. A blind of the character described comprising a supporting rod of helical formation, horizontally mounted for axial rotation, and a plurality of blind forming slats suspended from the rod; each slat having a suspending swivel at its upper end slidably applied to the rod in one of the helical turns thereof for travel therealong in accordance with rotation of the rod and about which swivels the slats may be angularly adjusted.

3. A blind of the character described comprising a supporting rod of helical formation, horizontally mounted for axial rotation, and a plurality of blind forming slats suspended from the rod; each slat having a suspending swivel at its upper end slidably applied to the rod in one of the helical turns thereof for travel therealong in accordance with rotation of the rod and about which swivels the slats may be angularly adjusted, and means for effecting and maintaining an angular adjustment of the slats.

4. A blind of the character described com-

prising a horizontal rod of helical formation mounted for axial rotation, and a plurality of blind forming slats suspended therefrom, each slat having a swivel eyelet at its upper end slidable on the rod for automatic travel therealong in accordance with rotation of the rod, means for rotating the rod, and means for simultaneously effecting and for maintaining an angular adjustment of the slats.

5. A blind of the character described comprising a horizontal rod mounted for axial rotation and formed along one end portion in a series of closely spaced helical turns, and continuing therefrom in a series of helical turns of wide spacing, and a plurality of blind forming slats with suspending means at their upper ends slidably mounted on the rod and adapted to be automatically moved along the rod incident to its rotation, whereby to adjust the slats from a position of wide spacing when suspended from that portion of the rod containing the helical turns of wide spacing, to close, collapsed relationship by travel onto that portion comprising the helical turns of close spacing.

6. A blind as recited in claim 5 where the suspending means for the slats is of a swivel nature and wherein means is provided for effecting and maintaining an angular adjustment of the slats.

7. A blind of the character described comprising a horizontal rod mounted for axial rotation and formed along one end portion in a series of closely spaced helical turns, and continuing therefrom in a series of helical turns of wide spacing, and a plurality of blind forming slats with suspending means at their upper ends slidably mounted on the rod and adapted to be automatically moved along the rod incident to its rotation, whereby to adjust the slats from a position of wide spacing when suspended from that portion of the rod containing the helical turns of wide spacing, to close, collapsed relationship by travel onto that portion comprising the helical turns of close spacing, and means at one end of the rod for rotating it to effect the adjustment of the slats.

8. A device as in claim 5 wherein a guide rod is provided across the lower ends of the series of slats, and each slat has a swivel eyelet at its lower end movable along said rod.

9. A blind of the character described comprising a horizontal, revolubly mounted supporting rod, formed along one end portion thereof in a series of close, helical turns and continuing therefrom in a like number of helical turns of wide spacing, and a series of blind forming slats suspended from the rod at successive turns thereof, each slat having a swivel eyelet at its upper end slidable on the rod, means for rotating the rod to cause the slats to be adjusted along the rod in accordance with the rotation thereof, and whereby they may be moved into close, collapsed relationship by suspension from the plurality of close helical turns, or moved to extended relationship by suspension from the helical turns of wide spacing, and means common to all slats for a simultaneous angular adjustment of all slats suspended from within helical turns of wide spacing.

10. The combination with a window opening, of a blind therefor comprising a housing fixed across the opening at the top, a rod fixed across the opening at the lower end, a slat suspending rod rotatably mounted in the housing to extend across the opening and formed in a succession of helical turns including a series adjacent one side of the opening of relatively close spacing and a continuing series of wide spacing, a series of blind forming slats with swivel eyelets at their upper ends mounted on the rod in successive helical turns, swivel eyelets at the lower ends of the slats slidable on the cross rod, means for rotating the supporting rod to effect an adjustment of the slats therealong and a pair of cords attached to the slats and operable to effect an angular adjustment thereof.

RUSSELL P. ANDERSON.