

April 23, 1940.

J. H. BOOTH

2,197,965

VENETIAN BLIND CLAMP

Filed June 22, 1939

2 Sheets-Sheet 1

Fig. 1.

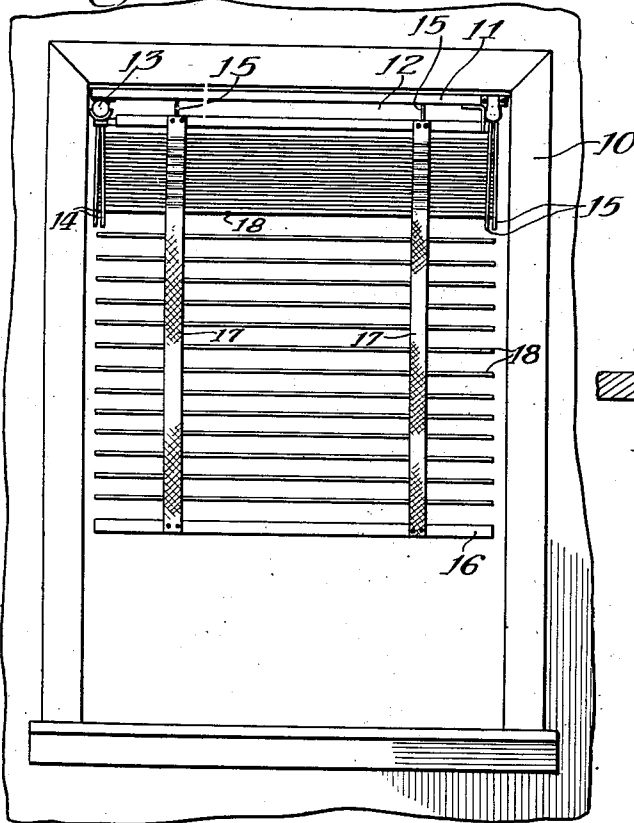


Fig. 3.

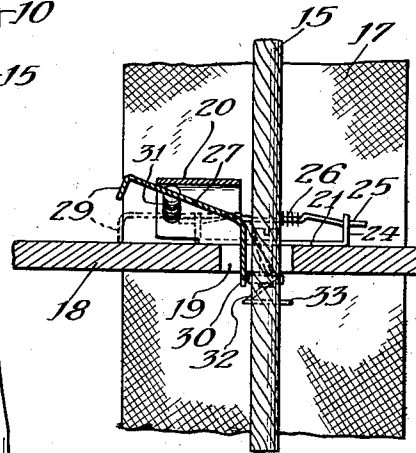


Fig. 2.

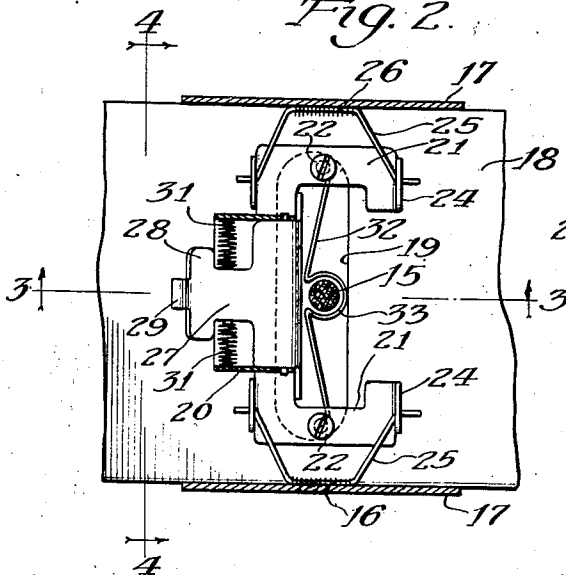
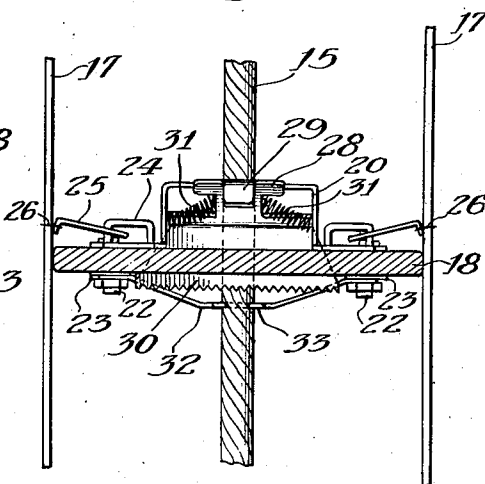


Fig. 4.



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Fig. 5.

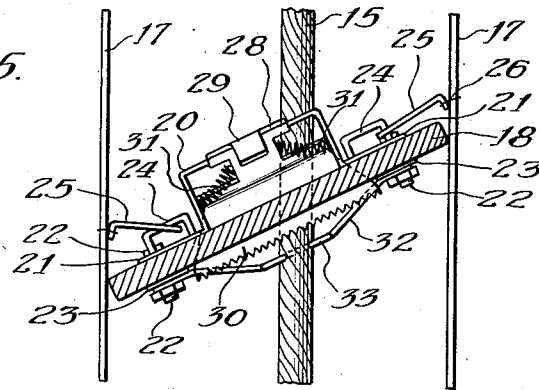


Fig. 6.

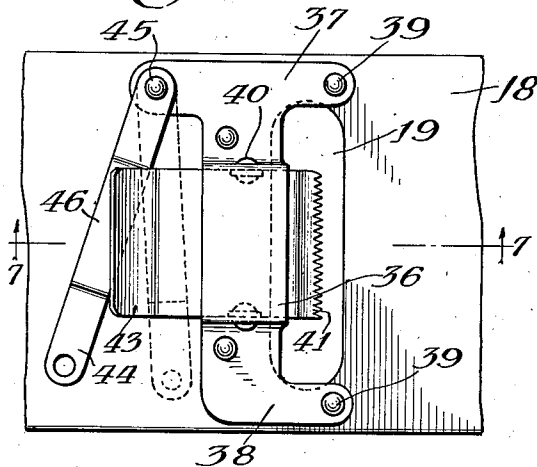


Fig. 7.

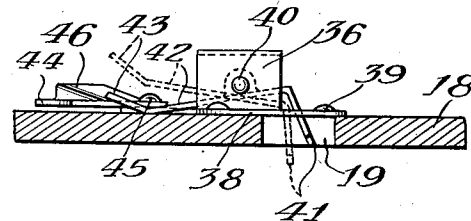
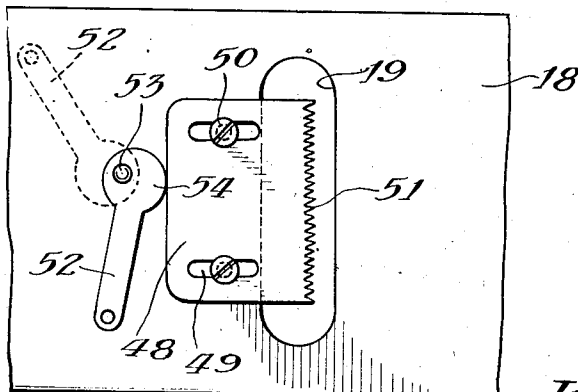


Fig. 8.



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## UNITED STATES PATENT OFFICE

2,197,965

## VENETIAN BLIND CLAMP

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Application June 22, 1939, Serial No. 280,505

7 Claims. (Cl. 156—17)

This invention relates to improvements in Venetian blinds and particularly to means for selective operation thereof.

In Venetian blinds of conventional structure, the slats adjacent to the top are the first to be extended and the last to be collapsed, and conversely the slats adjacent to the bottom of the blind are the last to be extended and the first to be collapsed. Thus if the blind is only partially lowered the slats thereof adjacent the lower portion of the blind remain collapsed against each other, or if it is desired to partially raise the blind from its completely lowered position the slats adjacent the bottom thereof collapse first in an upward progression. Thus in either event it is not possible by means of the conventional construction to eliminate the resultant partial obstruction of view, light and air, resulting from the collapsed slats at the lower portion of the blind when it is desired to maintain it in only a partially extended position.

It is therefore the prime object of this invention to provide means cooperable with Venetian blinds of otherwise conventional construction whereby the blind may be partially closed from its fully extended position and yet permit the component slats thereof from a predetermined medial point and downward thereof to remain fully extended to the bottom of the blind, while permitting the slats above said point to be progressively collapsed, and thus eliminate the obstruction which conventionally takes place at the lower portion of the blind when it is partially extended.

Another object relates to means cooperable with the means for permitting an upper portion of a Venetian blind to be collapsed while permitting a lowermost portion to remain extended, whereby the predetermined angular tilt of the slats of the lower portion which remains fully extended, will be retained.

Another object relates to means for engaging the slats to the tapes of the Venetian blind whereby the slats will be positively operated by means of tapes and yet will eliminate bulging of the tape when the blind slats are tilted with the blind in its maximum extended position.

Other objects relates to economy and simplicity of construction and operation, the arrangement of parts and modifications thereof, which will be apparent from a consideration of the following specification and drawings, wherein:

Fig. 1 is a front elevation of a Venetian blind embodying my invention.

Fig. 2 is a fragmentary horizontal section of a

Venetian blind showing a plan view of my preferred form of control device.

Fig. 3 is a vertical section on the line 3—3 of Fig. 2.

Fig. 4 is a vertical section on the line 4—4 of Fig. 2.

Fig. 5 is a view similar to Fig. 4, but with the slat tilted angularly.

Fig. 6 is a plan view of a modified form of control device mounted on a slat.

Fig. 7 is a vertical section on the line 7—7 of Fig. 6.

Fig. 8 is a plan view of another modified form of control device mounted on a slat.

Referring to the drawings, the reference numeral 10 indicates a window casing within which a Venetian blind is mounted by means of the head bar 11. The blind is provided additionally with conventional parts, such as the tilt bar 12, tilt gear 13, tilt cord 14, and operating or collapsing cords 15. Extending from the tilt bar 12 to the cross bar 16, and secured to each of them, are the two spaced apart pairs of tapes 17 which retain the slats 18 in spaced apart relationship to each other. In normal operation, by manipulating the tilt cord 14 all of the slats 18 may be turned about their horizontal axes and fixed in a desired angular position. For the purpose of conventionally extending the slats 18, manipulation of the operating cords 15, which pass freely through slots 19 and are endwise secured to the cross bar 16, permits the slats to become progressively spaced apart commencing with the uppermost ones, until all of the slats are extended, after which their angular position may be adjusted.

In collapsing of the blind, in conventional operation thereof, either wholly or partially, the individual slats are drawn by means of the pull cords against each other progressively from the bottom upward. Thus if the blind is only partially collapsed, there is an accumulation of slats adjacent the lower portion of the blind which shuts out the view, light and air, and is unsightly. As shown in Fig. 1, by means of my accessory, it is possible to partially collapse the blind and yet permit the lowermost slats to remain extended, and even angularly tilted, and only those slats above a predetermined or fixed slat will collapse.

In general my accessory comprises a means carried by a slat adjacent to the slot thereof for clamping the operating cord to prevent relative movement of the cord with respect to the slats beneath it, and a tilt retention means which by

aid of the clamp holds the longitudinal axis of the cord to one side of that of the slot.

The form of accessory shown in Figs. 2 to 5, two of which are secured to the slat one adjacent each slot thereof, comprises a bracket 20 which may partially overlie and is generally parallel to the slot 19. The bracket is provided with legs 21 which extend over the ends of the slot, and so that it will not be necessary to drill or drive screws into the slats, the bracket is secured to the slat by means of the bolts 22 suitably anchored by plates 23 on the under side of the slat. Each bracket is provided with a pair of slotted upstanding ears 24 and which retain the ends of bails 25. In place of the conventional fabric cradle which seats the slat, at least one of the slats 18 on which the accessory is mounted is secured by means of its bails 25 to the tape 17 by suitable means such as being stitched thereto as at 26, or otherwise suitably secured as by means of pins, metal clasps and the like. Thus the slat which carries the accessory will be assured of being positively positioned or tilted by means of the tapes 17, and by reason of the bail ends freedom to pivot and slide in their retaining slots, bulging of the tapes will be eliminated when the slats are tilted with the blind in its maximum extended position.

Pivoted to the bracket 20 on an axis parallel to the longitudinal axis of slot 19 is a bell crank clamp lever, one end 27 of which extends over the upper surface of the slat and terminates in wing-like portions 28 and a downwardly extending spacer leg 29, so that the lever may be manually engaged or disengaged by the finger of the operator. The opposed end of the lever terminates in a suitable clamping edge, such as the serrated edge 30, which extends into the slot 19 and over substantially the free length thereof. A pair of over-center springs 31 extend from the lever end 27 to the sides of bracket 20 so as to maintain the lever in either a clamped or disengaged position. Secured to the under side of the slat, and suitably by means of one or both of the bolts 22, is a spring 32 provided with a loop 33 held at a point where it coincides with the center of the open portion of the slot 19, the loop being partially open so that cord 15 may be pressed laterally into it, and being of sufficient diameter so that cord 15 will slide freely in the loop. Although not shown, it will be understood that loop 33 may be maintained by means of a single spring leg 32 extending from one bolt 22, and that spring 32 may not only be the wire spring shown, but I may use suitable equivalents, such as rubber, fibre, or light flat metal.

In conventional operation of the blind, that is when it is not desired to utilize the accessory, the bell crank lever may be tilted to the full position shown in Fig. 3, and the cord will then freely pass through the slot 19. However, when it is desired to partially close the blind but retain the lower slats open, the lever is tilted to the dotted position shown in Fig. 3, whereupon the clamping edge 30 bites into the cord 15 and presses it against the side of slot 19. Thereafter operation of the outer ends of cord 15 will cause all of the slats above the one to which the accessory is attached to collapse leaving those below it extended. Also since by this operation the upper portion of the tapes 17 become collapsed the lowermost slats will mainly depend from the cord 15 and aid in the clamping action of the lever against the cord and thus aid in maintaining the fixed position.

If it is desired to maintain the slats in angularly tilted position, they are first fixed at the desired angle, the clamp then engaged, and the upper portion of the slats then collapsed. In normal operation, regardless of the angular position of the slats 18, the cord 15 becomes centered between the tapes 17, so that the longitudinal axis of the cord intersects the longitudinal axis of the slat, and due to the collapsing of the upper portion of the tape which extends from the tilt bar, any predetermined tilt would be nullified. However, by providing the loop 33, when the slats are tilted, the cord 15 is drawn out of the aforementioned axial alignment with the slat, and to one side of the slot thereof, and thus the section of the slat extending downwardly and to one side of the rope 15 will be held and fixed in a position where it is of greater weight than the remaining upwardly extending position, and in this manner substantially retain its position of angular tilt without dependence on the tapes 17.

Figs. 6 and 7 show a modified form of Venetian blind accessory for accomplishing the purposes hereinbefore set out, and in substantially the same manner. The bracket 36 positioned parallel to and partially overlying slot 19 is provided with suitable legs 37 and 38 and is affixed to the slat 18 by suitable brads, bolts or the like as at 39. Pivoted at 40 within the bracket is a bell crank lever, one end 41 of which is formed with a clamping edge and extends downwardly into slot 19. The opposed lever end 42 projects over the upper surface of the slat and terminates in an upwardly bent angular portion 43. A lever 44 is pivoted at 45 to leg 37, and is pivotally movable over the face of the slat so that aided by its wedge-like mid portion 46 it may be caused to wedge under lever portion 43 to cause the bell crank lever to turn on its pivot 40 and into the dotted position shown in Fig. 7, in which position lever arm 41 permits freedom of operating cord movement in slot 19 and renders inoperative the clamping action of the accessory. When it is desired to utilize the accessory and to cause clamping action of the operating cord, the lever 44 is manually withdrawn from lever portions 42 and 43, whereupon due to the fact that the end 42 of the bell crank lever is longer and of greater weight than the end 41, the lever will pivot and fall to the full position shown in Fig. 7, bringing the end 41 upwardly into slot 19 and cause a narrowing of the free path therein and against the operating cord. No spring action is necessary to bring about firm clamping action of the clamping edge 41 against the cord for the reason that as the external ends of the pull cord are manipulated to partially collapse the blind the attempted upward passage of the cord in slot 19 against the edge 41 will cause an increase in the bite thereof and a secure clamping action.

The further modified form of accessory shown in Fig. 8 comprises a slidable member 48 formed with slots 49 and retained for longitudinal sliding movement on the surface of slat 18 by means of bolts or screws 50. The member 48 is provided with a clamping edge 51, and is mounted adjacent to the slot 19 so that by actuation of the lever 52 eccentrically pivoted at 53 the cam head 54 thereof will cause the member 48 to slide and bring the edge 51 into position over slot 19 where it will engage and restrict passage of the operating cord through the slot, and bring about the action described hereinbefore.

It will also be understood that although not

shown, the modified forms shown in Figs. 6 to 8 may include bails 25 shown in my preferred form for securing the slat which carries the accessory to the tapes 17. These modified forms may likewise also include a spring 32 or its equivalent, and cord engaging central loop 33 for retaining angular tilt of the slats after an upper section of the blind has been collapsed, in the manner more fully described in setting forth my preferred form of device.

It will also be understood that with all forms of my accessory, at least one pair of them are utilized, one adjacent each of the two conventional cord slots. It will also be apparent that more than one slat of the blind may be provided with a set of clamping accessories so as to provide variation in the number of lowermost slats desired to be left extended while collapsing all those above that slat on which the clamping devices are brought into engagement with the operating cord. It will be seen from the foregoing that the accessory is relatively simple in construction and can easily be operated without mechanical skill and by a simple finger manipulation. Further, the device is small and is concealed by the tapes of the blind so that it is not unsightly either in use or disuse.

I claim as my invention:

1. The combination with a Venetian blind of conventional construction of means positioned on an intermediate component slat adapted to permit an uppermost section of the blind to be collapsed while causing the remaining lowermost section thereof to remain expanded, said means comprising a clamping edge extending longitudinally of the operating cord slot of said slat and lever means for moving said edge transversely of said slot to restrict the effective width thereof and to clamp the blind operating cord against upward movement through the slot, and in variable fixed angular relationship thereto.

2. A Venetian blind accessory of the class described comprising a clamping edge adapted to be positioned on a blind slat longitudinally of the slot thereof and lever means for actuating said edge to move it transversely of said slot to reduce the effective width thereof and to clamp the operating cord of the blind against upward movement through the slot while maintaining its relative position and angular relationship.

3. The combination with a Venetian blind of conventional construction of a unit positioned on an intermediate component slat thereof adapted to permit an uppermost section of the blind to be collapsed while causing the remaining lowermost section thereof to remain expanded and in substantially prearranged angularly tilted relationship, said unit comprising an operating cord guide positioned on the under side of said slat and adapted to hold the cord with its longitudinal axis away from that of the slat when the slat is angularly tilted, a clamping edge extending longitudinally of the operating cord slot of said slat and lever means on the upper surface of said slat for moving said edge transversely of said slot to restrict the effective width thereof and to clamp the blind operating cord against upward movement through the slot and in the position therein fixed by said cord guide.

4. A Venetian blind accessory of the class described comprising a clamping edge adapted to be positioned on a blind slat longitudinally of the slot thereof, lever means adapted to extend

on the upper slat surface for actuating said edge to move it transversely of said slot to reduce the effective width thereof and to clamp the operating cord of the blind against upward movement through the slot, and a cord guide adapted to extend on the under surface of said slat and provided with a loop for maintaining said cord normally intermediate of said slot and for causing it to be held adjacent to one end of the slot when the slat is in angularly tilted position.

5. The combination with a Venetian blind of conventional construction of a unit positioned on an intermediate component slat and between the opposed pairs of tapes thereof adapted to permit an uppermost section of the blind to be collapsed while causing the remaining lowermost section thereof to remain expanded and in substantially prearranged angularly tilted relationship, said unit comprising an operating cord guide positioned on the under side of said slat and adapted to hold the cord with its longitudinal axis away from that of the slat when the slat is angularly tilted, a clamping edge extending longitudinally of the operating cord slot of said slat, lever means on the upper surface of said slat for moving said edge transversely of said slot to restrict the effective width thereof and to clamp the blind operating cord against upward movement through the slot and in the position therein fixed by said cord guide, and a pair of opposed bails partially secured to said tapes and supporting said slat, the ends of said bails being pivotally and slidably retained in slotted guide-ways extending from said unit and adapted to eliminate bulging of the tape when the blind slats are tilted with the blind in its maximum extended position.

6. The combination with a Venetian blind of conventional construction of means positioned on a component intermediate slat adapted to permit an uppermost section of the blind to be collapsed while causing the remaining lowermost section thereof to remain expanded, said means comprising a unit secured to the upper surface of the slat adjacent the cord slot thereof and having a bell crank lever pivotally mounted therein, one end of said lever being formed with a clamping edge extending longitudinally of and into said slot and the opposed end of said lever extending externally over said slat surface, the said clamping edge lever end being adapted to be moved transversely of said slot by means of said external lever end to restrict the effective width of the slot and to clamp and engage the blind operating cord against upward movement through said slot.

7. The combination with a Venetian blind of conventional construction of means positioned on a component intermediate slat adapted to permit an uppermost section of the blind to be collapsed while causing the remaining lowermost section thereof to remain expanded, said means comprising a clamping jaw plate slidably secured to the upper surface of the slat adjacent the cord slot thereof and longitudinally slidable thereover and formed with an engaging edge extending longitudinally of the said slot, and a lever eccentrically pivoted to said slat adapted to slidably move said plate to extend its engaging edge over said slot to restrict the effective width thereof and to clamp the blind operating cord against upward movement through the slot.

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