

United States Patent [19]

Debs

[11] 3,799,236

[45] Mar. 26, 1974

[54] VENETIAN BLIND HAVING A CORD LOCK
WHICH IS ACTUATED UPON FULL
RAISING OF THE BLIND

[75] Inventor: Victor Debs, Staten Island, N.Y.

[73] Assignee: Levolor Lorentzen, Inc., Hoboken,
N.J.

[22] Filed: Nov. 10, 1972

[21] Appl. No.: 305,410

[52] U.S. Cl. 160/178 C, 160/168

[51] Int. Cl. E06b 9/324

[58] Field of Search 160/166-178,
160/178 C

[56]

References Cited

UNITED STATES PATENTS

2,115,796	5/1938	Bradfield, Jr.	160/178 C
3,559,024	1/1971	Marder	160/168
3,603,372	9/1971	Dietzsch	160/168

Primary Examiner—Peter M. Caun

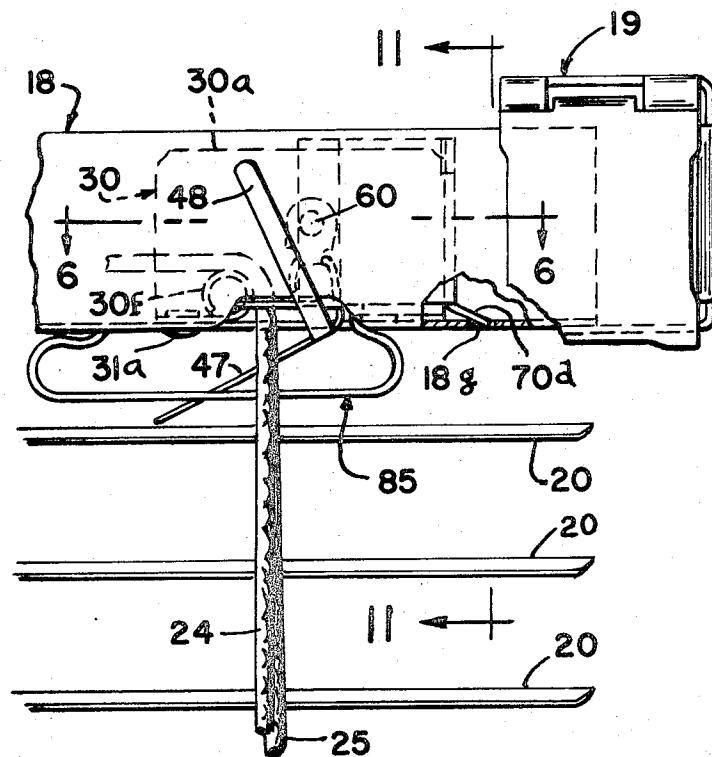
Attorney, Agent, or Firm—Charles F. Chisholm

[57]

ABSTRACT

As the blind is raised into uppermost position, the top slat of the blind moves an actuator that swings the locking dog of the cord lock into locking position. This locks the blind in its fully raised position.

12 Claims, 15 Drawing Figures



SHEET 1 OF 2

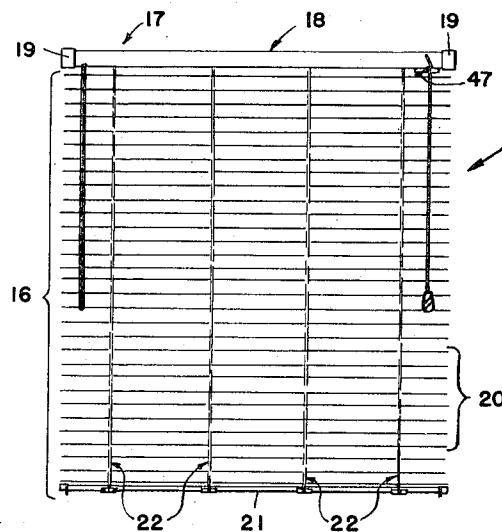


FIG. 1

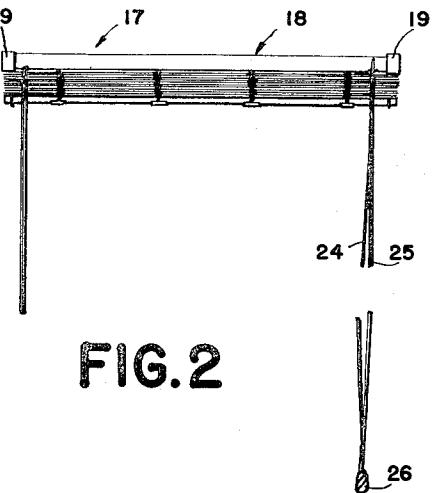


FIG. 2

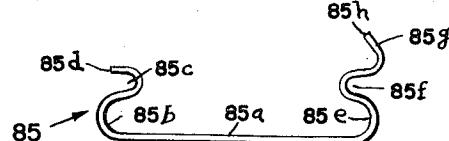


FIG. 7

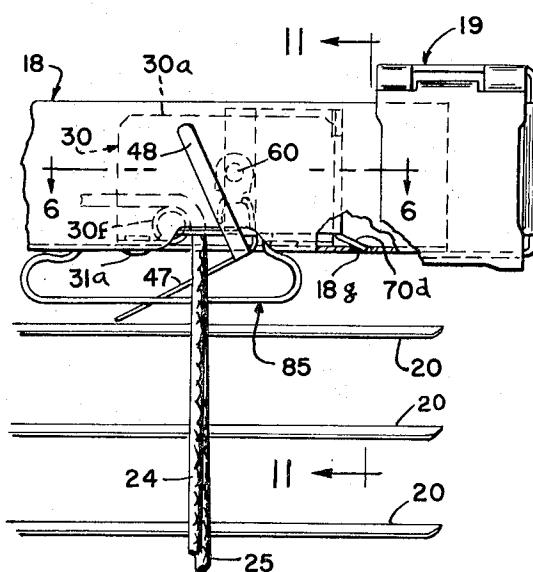


FIG. 3

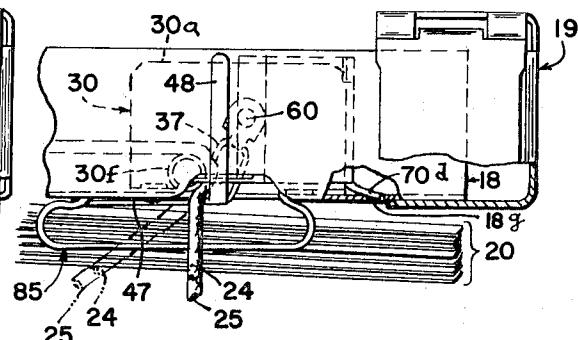


FIG. 4

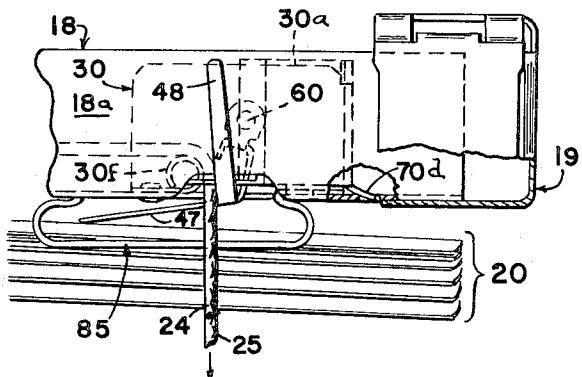


FIG. 5

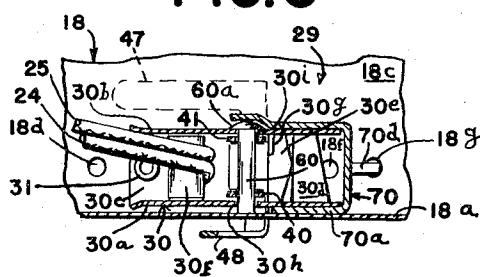


FIG. 6

PATENTED MAR 26 1974

3,799,236

SHEET 2 OF 2

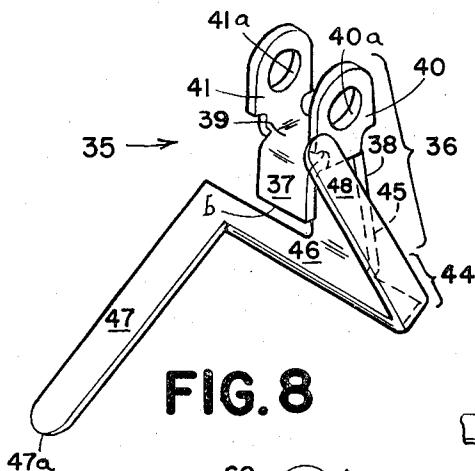


FIG. 8

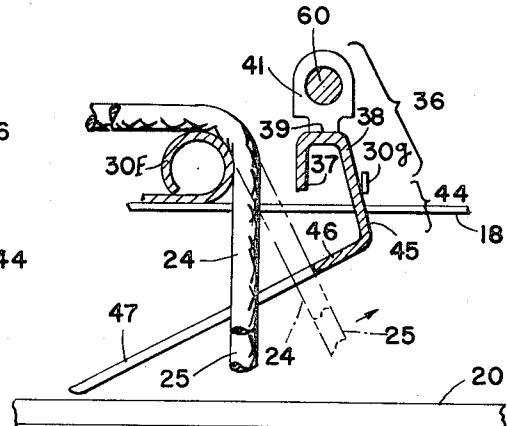


FIG. 9

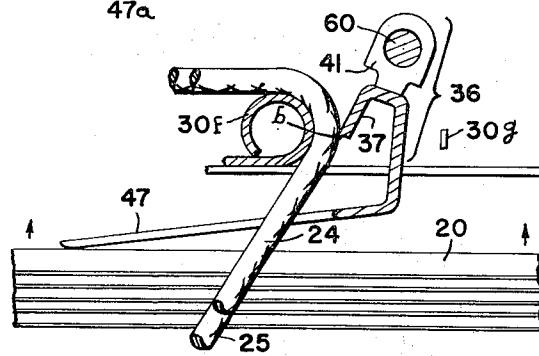


FIG. 10

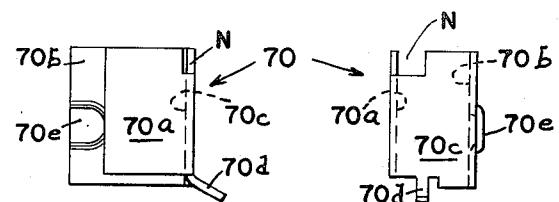


FIG. 13

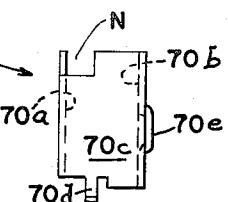


FIG. 14

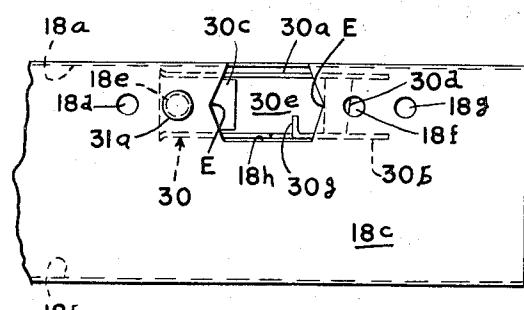


FIG. 12

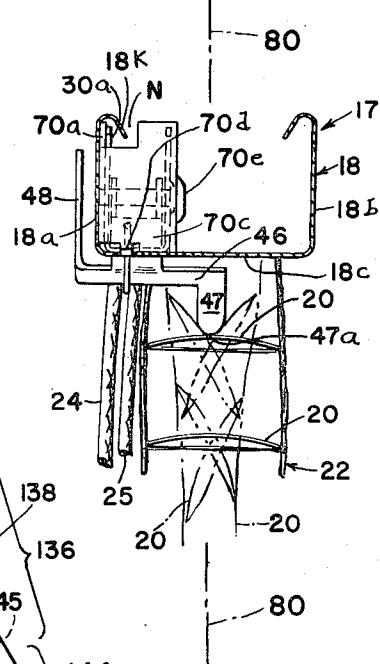


FIG. 11

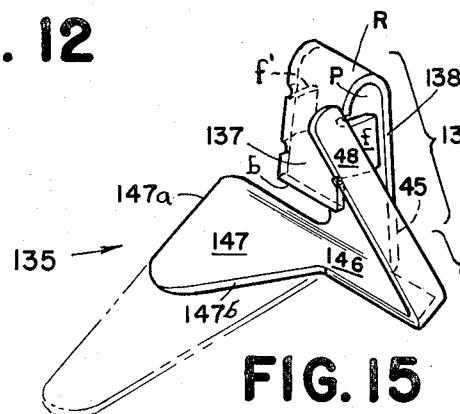


FIG. 15

**VENETIAN BLIND HAVING A CORD LOCK
WHICH IS ACTUATED UPON FULL RAISING OF
THE BLIND**

BACKGROUND OF THE INVENTION

Venetian blinds commonly have a ladder-and-slat assembly which is suspended beneath a head, the head having as a part thereof internal operating components some of which will be mentioned. The upper ends of the ladders are connected to rockers or the like within the head and by which the side pieces of the ladders are shifted up and down to tilt the slats of the blind. Lift cords commonly extend from a bottom bar, which constitutes or corresponds to the bottom slat; these cords extend upwardly through route holes in the slats and thence into the head. The route holes are in the nature of slots that are disposed transversely of the slats to permit tilting of the slats. In the head, the lift cords are guided to a cord lock which is within the head adjacent to one end thereof. Passing through the cord lock, the lift cords hang down for manual manipulation to raise and lower the slats, this operation being commonly referred to as raising and lowering the blind. The lift cords hang down in front of the ladder-and-slat assembly and, in common parlance, are said to hang down in front of the blind.

Two lift cords of a blind may be provided by a single length of cord, the ends of the single length being connected to the bottom bar and the two functional lift cords uniting at a bight that is at the bottom of the lift cords in their extent that hangs down from the cord lock. The cord lock is commonly provided with a pivoted locking dog which is biased by gravity into non-locking position. When the down-hanging lift-cords are swung into engagement with the locking dog and allowed to back track slightly, the cords pick up the dog and swing it into locking position.

The expanse of the fully extended ladder-and-slat assembly constitutes the general plane of the blind. The expanse of a window opening constitutes the general plane of the window opening. At a window, the head of the blind is commonly mounted adjacent to the top of the window opening, and the general plane of the blind coincides with or is parallel to the general plane of the window opening. When the bottom bar is being pulled up whereby the slats are being accumulated on top of the bottom bar, it is said that the blind is being raised. When the bottom bar is being let down, it is said that the blind is being lowered.

Having raised the familiar Venetian blind to the desired height, the operator swings the down-hanging lift-cords into engagement with the locking dog of the cord lock and then allows the cords to back track slightly to lock the blind at the desired height. A building with a large number of blinds standing at miscellaneous heights has an unattractive appearance from the outside. For this reason, and perhaps for other reasons, some buildings want the blinds to be either fully raised or fully lowered.

SUMMARY OF THE INVENTION

In the Venetian blind of the present invention the lift cords are locked as the blind becomes fully raised, the locking dog of the cord lock being swung into locking position by an actuator which extends into the path of upward movement of the top slat of the blind.

The present invention affords the following features, among others: (a) prevention of effective engagement between the lift cords and the locking dog when the lift cords are swung toward the locking dog in a plane parallel to the general plane of the blind, whereby the lift cords are unable to pick up the locking dog and lock the blind in partially raised positions; (b) positive withdrawal of the locking dog from locking position, through the instrumentality of a member that is shiftable by the lift cords when they are manipulated preparatory to lowering the blind; (c) the actuator for the locking dog being connected to the second of two legs of the locking dog, the first of the two legs making the locking engagement with the lift cords; (d) the positive withdrawal of the locking dog from locking position being achieved through means that is connected to the second leg of the locking dog; (e) the actuator for the locking dog having as a part thereof a finger which inclines downwardly toward the top slat of the blind when the locking dog is in non-locking position; (f) the engagement between the top slat of the blind and the actuator for the locking dog being at the axis of tilt of the top slat; (g) the cord lock being located forwardly and the actuator for the locking dog extending backwardly; (h) protection being provided against the lift cords becoming wedged in front of the locking dog, this protection being provided by a member which is connected to the locking dog and which extends forwardly therefrom; and (i) fouling of the lift cords with such member being inhibited by an arm which extends upwardly from the forward end of such member.

The presently preferred embodiments of the invention include all of the foregoing features and affords additional features and aspects which will be apparent from the drawing and the description in connection therewith. As regards all of the same, it is left to the user to decide upon the omission of any features or aspects that are not needed for his particular purpose.

**40 BRIEF DESCRIPTION OF THE DRAWING, OF
WHICH THERE ARE TWO SHEETS**

FIG. 1 is a largely diagrammatic front elevation of a Venetian blind embodying the invention, the blind being lowered or fully extended.

FIG. 2 is a largely diagrammatic front elevation of the same blind fully raised, and locked in fully raised position.

FIG. 3 is a front elevation on a larger scale and in considerable detail of the upper right hand portion of FIG. 1, parts being broken away and a part being in section.

FIG. 4 is a front elevation on a larger scale and in considerable detail of the upper right hand portion of FIG. 2, parts being broken away and in section.

FIG. 5 is the same as FIG. 4 but with the locking dog withdrawn from locking position preparatory to lowering the blind.

FIG. 6 shows the cord lock primarily. The view is a fragmentary horizontal section taken generally on the line 6-6 of FIG. 3, the cord separator being omitted and the pivot of the locking dog being shown in plan.

FIG. 7 is a front elevation of the cord separator by itself.

FIG. 8 is a perspective view of the locking dog and parts that are integral therewith.

FIG. 9 is a diagrammatic front view, in sectional elevation, illustrating how the lift cords are prevented from being swung into engagement with the locking dog when the dog is in non-locking position and the cords are swung toward it in a plane parallel to the general plane of the blind.

FIG. 10 is a diagrammatic front view, in sectional elevation, illustrating the locking of the lift cords as the blind is brought into fully raised position.

FIG. 11 is a fragmentary front-to-rear section taken generally on the line 11—11 of FIG. 3. Tilting of the slats in both directions is indicated in dot-dash lines. Certain internal features of the head are omitted.

FIG. 12 is a fragmentary bottom-plan view, corresponding generally to FIG. 6 turned over on a horizontal axis in the plane of the paper but showing only the head channel and the cord lock shell mounted therein.

FIG. 13 is a front elevation of the retainer for the pivot pin of the locking dog.

FIG. 14 is a right-end elevation of the retainer for the pivot pin of the locking dog.

FIG. 15 is a perspective view, corresponding to FIG. 8, showing a modification of the stamping which provides the locking dog and parts integral therewith.

DESCRIPTION OF THE PRESENTLY-PREFERRED EMBODIMENTS OF THE INVENTION

The drawing shows the presently preferred embodiments of the invention, i.e., the best modes thus far contemplated of carrying out the invention. Except as may be otherwise indicated, the description hereinafter (prior to the claims) refers only to the particular forms shown in the drawing. Nevertheless, the disclosure is by way of illustration and example; the claims embrace other specific forms in which the invention may be embodied.

The Venetian blind is designated as a whole by 15 in FIGS. 1 and 2. The blind includes a ladder-and-slat assembly, designated as a whole by 16, which is suspended beneath a head that is designated as a whole by 17. The head 17 is composed of an upwardly opening sheet-steel head-channel 18 and the functional units that are within the head channel. The head 17 is conventionally mounted on installation brackets 19, 19.

The ladder-and-slat assembly 16 has a series of individual slats 20 and a bottom bar 21, the bottom bar corresponding to the lowermost slat. The slats and bottom bar are suspended from the head 17 by means of ladders 22 (four shown), the slats and bottom bar being articulated together in known manner by the ladders. Associated with the two ladders 22 that are the farthest apart, and masked thereby, are lift cords to which the bottom bar 21 is attached. These two lift cords pass upwardly through rout holes (not shown) in the slats 20, into the head 17, thence to and through a cord lock adjacent to the right-hand end of the head, and hang down in front of the ladder-and-slat assembly 16; in common parlance the lift cords hang down in front of the blind. The two lift cords, which are designated by 24 and 25 in FIG. 2 and other figures, terminate jointly in a conventional tassel 26.

Known components and known constructions and arrangements, except for the cord lock, are suitable for the blind 15 as thus far described. The blind 15 as thus far described, except for the cord lock, is considered to have the construction that is disclosed in U.S. Pat. No.

3 425 479, the cradle-and-lift-cord organization being also disclosed in U.S. Pat. No. 3 447 585 and the bottom bar and attachments thereto being as disclosed in U.S. Pat. No. 3 485 286.

The cord-lock shell and its mounting in the head channel 18 will now be described.

The cord-lock shell is a one-piece sheet-steel stamping that is designated as a whole by 30. This shell is generally U-shaped, having spaced vertical-walls 30a and 30b (FIGS. 6 and 12) which extend upwardly from integral webs 30c and 30d that are horizontal and connect the two walls together. From the left-hand end of the shell 30 as seen in FIGS. 6 and 12, the horizontal web 30c spreads for approximately one third of the distance to the right-hand end of the shell. Then there is an open space 30e which has an even greater dimension lengthwise of the shell. Next there is the horizontal web 30d which, in plan, is shaped and located as seen in FIG. 6. The metal that is taken from what is now the open space 30e is formed into a cylindrical cord-guide 30f (see also FIGS. 9 and 10).

The bottom wall 18c of the head channel 18 is provided with holes 18d, 18e, 18f and 18g, all as shown in FIG. 12. The bottom wall 18c of the head channel 18 is also provided with a large hole 18h which underlies the open space 30e in the bottom of the cord-lock shell 30. The hole 18h is generally rectangular, though each end extends triangularly to provide end-notches E, E (FIG. 12).

In the blind disclosed the cord lock is adjacent to the right hand end of the head and the hole 18f is non-functional; the punch which makes the hole 18f is included in the punching die so that the same die can be used for a blind in which the cord lock is mounted adjacent to the left hand end of the head. The functions of the holes 18d and 18g will be explained later. The hole 18e receives a rivet or eyelet 31 (FIG. 6) to fasten the cord-lock shell 30 against the bottom wall 18c of the head channel 18, the rivet 31 having a head 31a (FIG. 12). Preparatory to inserting the rivet 31 to the cord-lock shell 30 is slid into the head channel 18 from the right hand end of the channel. This is done with the vertical wall 30a of the cordlock shell projecting upwardly behind the longitudinally extending down-turned flange 18k of the head channel, as is seen in FIG. 11. Adjacent to the bottom of the vertical wall 30b of the cord-lock shell a finger 30g (FIG. 12) is struck out from the metal of the wall. This finger is a stop that is to be engaged by the locking dog 36 (FIG. 8) when the dog has moved into non-locking position.

The pivoted locking dog 36 is part of a one-piece sheet-steel stamping that is designated as a whole by 35 in FIG. 8. This stamping, which includes means for controlling the operation of the cord lock, is assembled with the cord-lock shell 30 after the shell has been mounted in the head channel 18. The assembly of the stamping 35 into the shell 30 will be explained later.

The locking dog 36 consists of (a) first and second legs 37 and 38 of the form shown and which extend downwardly in spaced relation as shown, (b) a generally horizontal web 39 which connects the upper ends of the two legs, and (c) parallel vertical ears 40 and 41 which are spaced apart as shown and which extend upwardly from the opposite edges of the web 39. These ears are suitably pierced at 40a and 41a to loosely receive a pivot pin 60 (FIGS. 10, 6 and others) for pivot-

ally mounting the locking dog 36, and the entire stamping 35, in the shell 30 of the cord lock.

The cord-lock control-means is designated as a whole by 44 in FIG. 8. This control means consists of (a) a leg 45 which is a continuation of the locking-dog leg 38, (b) a crossbar 46 which is disposed perpendicularly to the leg 45 and which extends in opposite directions from the end of leg 45, the crossbar 46 having rear and front ends and the rear end being the end that is toward the left in FIG. 8, (c) a finger 47 which extends perpendicularly from the rear end of the crossbar 46 and which inclines downwardly, and (d) an arm 48 which extends perpendicularly from the front end of the crossbar 46, this arm extending upwardly in a vertical plane.

The shell 30 of the cord lock having been mounted in the head channel 18, the locking dog 36 is passed upwardly through the large hole 18h (FIG. 12) in the bottom of the head channel and through the open space 30e in the bottom of the cord-lock shell. The ears 40 and 41 of the locking dog are brought to the position shown in FIG. 6, in which the holes 40a (FIG. 8) and 41a through the ears are in alignment with companion holes at 30h and 30i (FIG. 6) in the walls of the cord-lock shell 30. The pivot pin 60, having a head 60a (FIG. 6), is inserted and loosely pivots the locking dog within the cord-lock shell.

A retainer, designated as a whole by 70 in FIGS. 13 and 14, is used to prevent fortuitous back tracking of the pivot pin 60 from its fully inserted position. The retainer 70 is a one-piece stamping of heavy-gage sheet-steel; it is U-shaped, having spaced front and rear cheeks 70a and 70b the planar surfaces of which are in parallel vertical planes. The cheeks 70a and 70b are connected at their right-hand vertical-edges (FIG. 13) by a planar end-wall 70c. The cheek 70a doesn't extend as far down as the cheek 70b, and the cheek 70a extends to a lesser horizontal distance from the end wall 70c (see FIG. 13). The end wall 70c has a notch N that is best seen in FIG. 14. An integral finger 70d of small size inclines downwardly from the lower edge of the end wall 70c. Adjacent to its free vertical edge the cheek 70b is provided with an indentation 70e (FIG. 13) which appears as a protuberance in FIG. 14.

The retainer 70 is inserted from the right hand end of the head channel 18 and telescoped over the cord-lock shell 30 to the position that is shown in FIG. 6. The retainer cheek 70a is between front wall 30a of the cord-lock shell 30 and the front wall 18a of the head channel 18. Both the upper edge of the retainer cheek 70a and the upper edge of the cord-lock wall 30a are nested between the down-turned longitudinally-extending flange 18k of the head channel and the front wall of the head channel. The notch N in the end wall 70c of the retainer 70 affords necessary clearance between the end wall 70c and the flange 18k. The bottom edge of the cheek 70a is far enough up to avoid binding between the cheek 70a and the fillet at the lower front corner of the head channel 18. The leftward extent of the cheek 70a as seen in FIGS. 13 and 6 is short enough to insure that the cheek 70a will fail to engage the pivot pin 60.

The thickness of the retainer cheek 70a insures that the front wall 30a of the cord-lock shell will be spaced sufficiently from the front wall 18a of the head channel 18 to afford adequate projection of the pivot pin 60 beyond the front wall 30a of the cord-lock shell as is

shown in FIG. 6. The cheeks 70a and 70b of the retainer closely confront the vertical walls 30a and 30b of the cord-lock shell and provide protection against spreading apart of the upper portions of the walls 30a and 30b. The indentation 70e in the cheek 70b engages behind the head 60a of the pivot pin 60 and thereby retains the pivot pin in the fully inserted position shown in FIG. 6. As the retainer 70 is brought to the fully applied position shown in FIG. 6 the free end of the finger 70d snaps into the hole 18g in the bottom 18c of the head channel 18 and thereby holds the retainer in its fully applied position (see also FIG. 3).

When the blind 15 is hanging in the fully extended position shown in FIG. 1 the various parts of the cord-lock control means 44 (FIG. 8) are in the positions shown in FIGS. 3 and 11. The cord lock, which is designated as a whole by 29 in FIG. 6, is in a forward position in the head of the blind as will be apparent from FIGS. 6, 11 and 12. The axis of tilt of the top slat 20 lies in the vertical plane 80—80 (FIG. 11) which is approximately midway between the front and back walls 18a and 18b of the head channel 18. The crossbar 46 of the cord-lock control-means extends to a position that is further back than the cord lock, and from the back end of the crossbar the finger 47 inclines downwardly toward the top slat 20 at its axis of tilt (see FIG. 11, also FIG. 3). Moving upwardly, the top slat 20 will raise the finger 47 in similar manner whether the slats be untilted or be tilted in either direction as indicated in dot-dash lines in FIG. 11. The crossbar 46 also extends forwardly to a position that is in front of the blind. From the front end of the crossbar 46 the arm 48 extends upwardly in a vertical plane that is in front of the head 17 and adjacent thereto (FIGS. 11, 6, 3 and others).

The locking dog 36 is biased by gravity into non-locking position. When hanging freely on the pivot 60 (FIG. 10) the entire stamping 35 (FIG. 8) tends to swing counterclockwise from the position shown in FIGS. 8, 9 and 3. If the counterclockwise movement isn't limited by the finger 47 contacting the top slat 20 (see FIG. 3), it is limited by the leg 38 of the locking dog (FIG. 8) striking the stop finger 30g (FIGS. 9 and 12).

Starting with the blind in the fully lowered position shown in FIG. 1 (see also FIG. 3), the blind is raised by pulling downwardly on the down-hanging lift cords 24 and 25. As the bottom bar 21 rises it accumulates the slats on top of it in the usual manner. As the blind approaches the fully raised position shown in FIG. 2, the top slat 20 starts to move upwardly. Preparatory to locking the blind in fully raised position, the down-hanging lift cords 24 and 25 are swung to the left to bring them to the position shown in FIG. 10. As the pull on the lift cords is continued, the top slat 20 raises the finger 47 and causes the locking dog 26 to be swung toward locking position as is indicated in FIG. 10. Continued upward movement of the top slat 20 causes continued upward movement of the finger 47; this causes the locking dog to be swung into locking position (see FIG. 4). In locking position the free end of the first leg 37 of the locking dog firmly engages the lift cords 24 and 25 and clamps them against the cylindrical cord guide 30f thereby locking the cords and, in common parlance, locking the blind.

For better locking of the lift cords, the free end of the locking-dog-leg 37 is provided with a fairly sharp cor-

ner *b* (FIG. 10) which engages the cords. To provide such a corner the metal is so sheared as to place the shearing burr at *b*. Once the blind has been locked in fully raised position, the operator releases his grasp on the lift cords 24 and 25 whereupon they hang down as shown in full lines in FIG. 4.

Where the cord lock has a locking dog with an edge such as *b*, a Venetian blind is commonly locked in any partially raised position by swinging the down-hanging lift-cords against the locking dog and then allowing them to back track slightly. The cords pick up the locking dog and swing it into locking position. The construction herein disclosed prevents such picking up of the locking dog by the lift cords. FIG. 9 shows the locking dog 36 in non-locking position. If the lift cords 24 and 25 be swung toward the locking dog, the cords will strike the edge of the crossbar 46 (see also FIG. 8) and be arrested in the position shown in dot-dash lines in FIG. 9 without engaging the locking dog. The cord-engaged edge of the crossbar 46 is smoothed and rounded as required to obviate this edge being picked up by the lift cords with consequent swinging of the locking dog into locking position.

FIG. 4 shows the blind locked in fully raised position. To lower the blind it is first unlocked by pulling down on the lift cords 24 and 25. The downward pull forcibly eliminates the offset in the cords where they hang against the crossbar 46; this forces the crossbar to the right and withdraws the locking dog from locking position, the withdrawal being a forced withdrawal and the locking dog moving into the non-locking position that is shown in FIG. 5. The cords 24 and 25 now run freely through the cord lock and the blind can be returned in normal manner to fully lowered position. Flexibility of the finger 47 and/or the upper slats 20 suffice to permit the locking dog to be forcibly swung from the FIG. 4 position (locked) to the FIG. 5 position (non-locked) before the top slat 20 begins to descend.

The forwardly extending portion of the crossbar 46 plus the arm 48 (see FIG. 8) constitute a member which is connected to the locking dog 36 and which extends toward the front of the blind and thence generally upward adjacent to the front of the head of the blind and to a level that is close to the level of the top of the head. This member bars entry of the cords 24 and 25 into wedging relationship between the locking dog 36 and the front wall 30a of the cord-lock shell and/or the front wall 18a of the head channel 18. Also, by reason of the upwardly extending portion (arm 48) the cords 24 and 25 are substantially prevented from being flipped on top of the forwardly extending portion of the crossbar 46 and thereby fouling the locking dog.

To influence the cords 24 and 25 to move in parallel relation through the cord lock, a separator for the cords is preferably provided a short distance below the cord lock. The separator 85 is a single piece of spring wire of circular cross section; when unstressed it has the configuration shown in FIG. 7. Proceeding toward the left in FIG. 7 from the horizontal length of wire 85a, the wire curves semicircularly at 85b, recurses to form a hook 85c, and terminates at 85d. Proceeding toward the right from the horizontal length 85a, the wire curves semicircularly at 85e, recurses to form a hook 85f, recurses again to form a cam portion 85g, and terminates at 85h.

The separator 85 can be installed with the lift cords 24 and 25 hanging from the cord lock. The left hand end of the separator is passed between the cords 24 and 25 and the hook 85c engaged with the hole 18d (FIG. 6) in the bottom of the head channel 18. The portion 95e, 85f, 85g is then flexed toward the left and, facilitated by the cam portion 85g, the end 85h is forced upwardly through the right hand end of the big hole 18h (FIG. 12) in the bottom of the head channel until the hook 85f snaps into the right hand notch E in FIG. 12. When the hook 85f snaps into the right hand notch E in the bottom of the head channel the hook also overlies this web 30d at the bottom of the cord-lock shell 30. The thus-installed separator 85 is now in the position shown in FIGS. 3, 4 and 5, the separator being free to pivot somewhat on the horizontal axis established by the two hooks 85c and 85f.

Referring to FIG. 8 it will be seen that the stamping 35 comprises an actuator for swinging the locking dog 36 into locking position; this actuator consists of the finger 47, the leg 45 and the portion of the crossbar 46 which connects the finger 47 with the leg 45. The stamping 35 also comprises means to positively withdraw the locking dog from locking position, the crossbar 46 having a portion that is included in such means and which is engageable and shiftable by swinging the down-hanging lift-cords in a plane parallel to the general plane of the blind. From edge to edge the finger 47 is rounded at its free end 47a, as is seen in FIGS. 8 and 11. This affords advantageous engagement of the finger with the top slat 20 at the axis of tilt of the slat (see FIG. 11). Additionally, the slat-engaging lower corner of the free end of the finger is rounded off for smooth sliding on the top slat 20 as the top slat moves upwardly.

The one-piece stamping 35 (FIG. 8 and others), which provides the locking dog and its actuator, may be replaced by the one-piece sheet-steel stamping 135 that is shown in FIG. 15. Parts which are identical in FIGS. 8 and 15 are designated by the same reference characters. Parts in FIG. 15 which correspond to those in FIG. 8 without being identical are designated by the same reference characters but with the digit "1" prefixed thereto. The stamping 135 of FIG. 15 has cord lock legs 137 and 138 which are extended upwardly and are connected at the top by a U-shaped bend R. Parallel fingers f and f' project as shown from the edges of the leg 137, these fingers having their top edges in the shown spaced relation to the bend R. This construction replaces the ears 40 and 41 of FIG. 8, providing the stamping 135 with a passageway at P to receive the pivot pin 60 (FIG. 9, 10 and others).

The finger 147, which is engaged by the top slat of the blind, is short as compared to the finger 47 of FIG. 8. This reduces the amount of yielding which the upper slats of the blind must undergo when the locking dog is forcibly withdrawn from locking position to lower the blind; see FIGS. 4 and 5 and the relevant explanation in connection therewith. However, a short finger such as 147 swings farther toward the vertical when the blind is fully lowered and, with some blinds, this may cause the finger to jamb against the top slat of the fully lowered blind and thereby prevent the blind from being fully raised for locking in raised position. Thus the optimum length of the finger 147 is not necessarily the same for all blinds. The finger 147 can be lengthened

to any desirable extent, e.g., to the extent indicated in dot-dash lines in FIG. 15.

The front edge of the crossbar 46 is preferably rounded for smooth engagement by the lift cords, as has been explained in connection with FIG. 9. At its 5 free end the finger 147 is rounded and smoothed in the manner and for the purposes mentioned in connection with finger 47. The edge 147a of the finger 147 is perpendicular to the crossbar 146. The edge 147b is inclined as shown to the crossbar 146, giving the finger 10 a wider and more rugged attachment to the crossbar.

What is claimed is:

1. A Venetian blind having a ladder-and-slat assembly suspended beneath a head, the head being provided 15 with a cord lock having a pivoted locking dog that is biased into non-locking position and is swingable into locking position, the blind being raised and lowered by lift cords which pass through the cord lock and hang down for manual manipulation to raise and lower the 20 blind, and the top slat of the blind moving upwardly as the blind is raised into uppermost position wherein the improvement comprises:

an actuator for swinging the locking dog of the cord lock into locking position,
25 the actuator extending into the path of upward movement of the top slat of the blind,
and the top slat, by its upward movement, shifting the actuator and thereby swinging the locking dog into locking position.

2. A Venetian blind as in claim 1 wherein the improvement further comprises: means to prevent the lift cords from swinging into effective engagement with the locking dog when the locking dog is in non-locking position and the down-hanging lift-cords are swung in a 35 plane parallel to the general plane of the blind.

3. A Venetian blind as in claim 1 wherein the improvement further comprises:

means to positively withdraw the locking dog from locking position,
40 said means including a member that is shiftable by manipulating the down-hanging lift-cords preparatory to lowering the blind.

4. A Venetian blind as in claim 3 wherein the improvement further comprises:

said shiftable member serves, when the locking dog is in non-locking position, to prevent the lift cords from being swung into effective engagement with the locking dog by movement of the down-hanging lift-cords in a plane parallel to the general plane of 45 the blind.

5. A Venetian blind as in claim 1 wherein the improvement further comprises:

the locking dog has first and second legs which hang down when the dog is in non-locking position, the first leg having a free end which makes locking engagement with the lift cords when the dog is in locking position, and the second leg being connected to the actuator which swings the dog into locking position.

6. A Venetian blind as in claim 1 wherein the improvement further comprises:

the locking dog has first and second legs which hang down when
the locking dog is in non-locking position,
the first leg having a free end which makes locking engagement with the lift cords when the dog is in locking position,
and means to positively withdraw the dog from locking position, said means being connected to the second leg of the dog and being shiftable by pulling down on the down-hanging lift-cords.

7. A Venetian blind as in claim 1 wherein the improvement further comprises:

the actuator has a portion which is vertically above the axis of tilt of the top slat,
and it is through engagement of the top slat at its axis of tilt with such portion of the actuator that the top slat, by its upward movement, shifts the actuator and swings the locking dog into locking position.

8. A Venetian blind as in claim 1 wherein the improvement further comprises:

the actuator includes a finger which inclines downwardly toward the top slat when the locking dog is in non-locking position.

9. A Venetian blind as in claim 8 wherein the improvement further comprises:

the finger has an end which is vertically above the top slat at its axis of tilt.

10. A Venetian blind as in claim 1 wherein the improvement further comprises:

40 the cord lock is in a forward position in the head of the blind and the actuator extends to a location which is farther back than the cord lock.

11. A Venetian blind as in claim 1 wherein the improvement further comprises:

a member, which moves with the locking dog, extends toward the front of the blind and thence generally upward adjacent to the front of the head of the blind.

12. A Venetian blind as in claim 11 wherein the improvement further comprises:

50 said member extends generally upward to a level close to that of the top of the head of the blind.

* * * * *