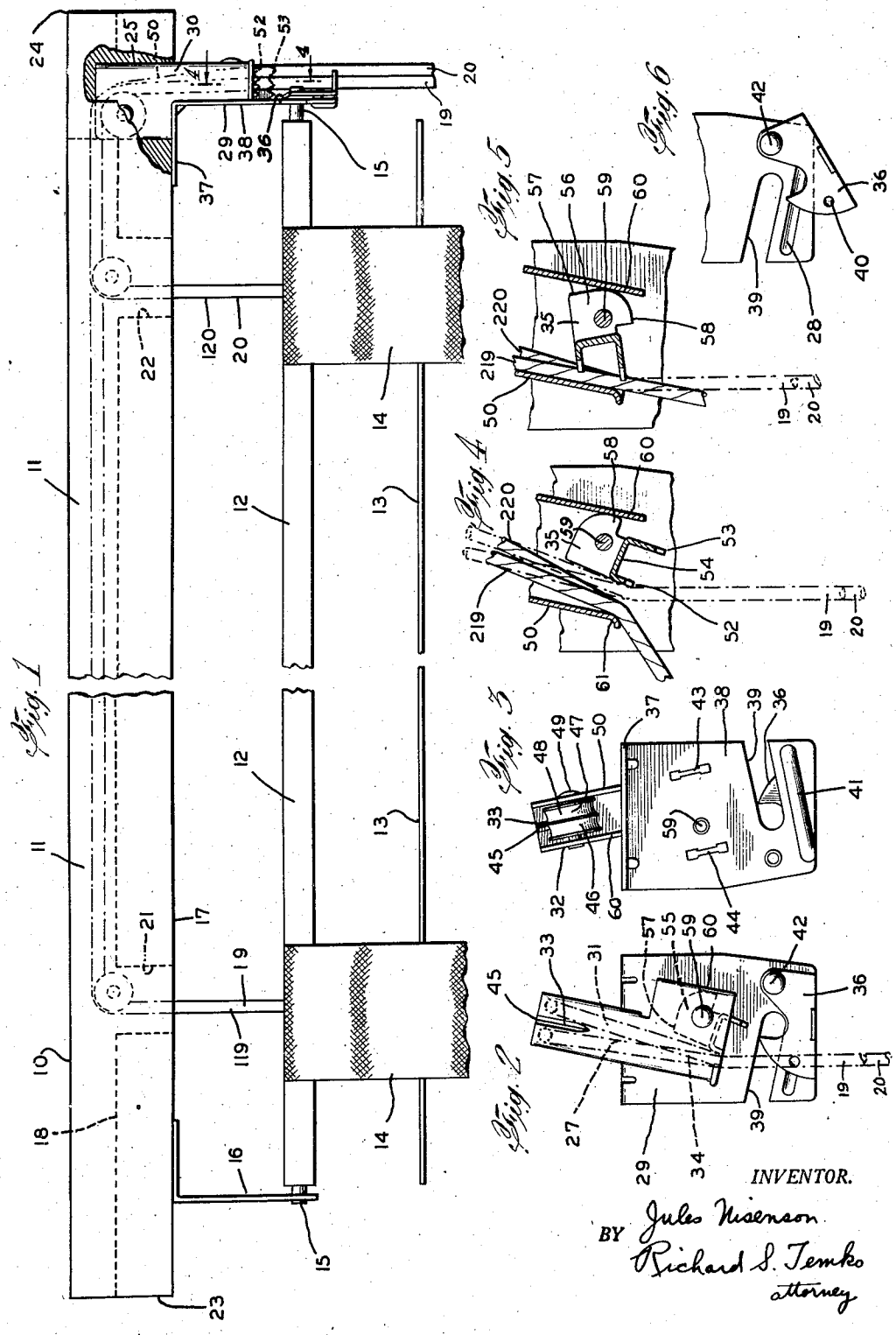
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VENETIAN BLIND CORD-LOCKING CONSTRUCTION

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VENETIAN BLIND CORD-LOCKING CONSTRUCTION

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This invention relates generally to the Venetian blind art and more particularly to a novel and useful construction thereof with especial reference to the cord-lock therefor.

Among the principal objects of the present invention lies the provision of a Venetian blind construction in which the cord-lock is combined with the head-bar so that the slats of the blind may be elevated by pulling down upon the cord and may be lowered by first releasing the dog with a short downward tug and then positioning the cord in a forward direction toward the user.

Another object herein lies in the provision of structure of the class described wherein upon release of the downward tension on the elevating cords, for example by letting them free from the user's hand, said cords will fall into a vertical position by the action of gravity, causing a consequent engagement of the cord gripping dog and a cessation of upward movement of the cord and downward movement of the slats. Another object herein lies in the provision of a novel and useful Venetian blind cord-lock device, which is of simple and durable fabrication so that the same is substantially foolproof in operation.

The simplified construction of the present device permits the same to be manufactured in large quantity at low cost so that it may have a consequent widespread use and distribution.

Another object herein lies in the provision of a cord-lock device which may be integrated with standard type head rails which are notched in a stereotyped manner for the reception of prior art cord-locks.

These objects and other incidental ends and advantages will more fully appear in the progress of this disclosure and be pointed out in the appended claims.

In the drawing, in which similar reference characters designate corresponding parts throughout the several views:

Figure 1 is a fragmentary front elevational view of a Venetian blind showing an embodiment of the invention.

Figure 2 is a right side elevational view of the cord-lock seen in Figure 1.

Figure 3 is a left side elevational view of the cord-lock shown in Figure 1 or as seen from the rear of Figure 2.

Figure 4 is a fragmentary vertical sectional view showing the free position of the cord engaging dog and with the cord shown in a position it may occupy during revision of the slats.

Figure 5 is a view corresponding to Figure 4,

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but showing the dog in an engaged position thereof.

Figure 6 is a fragmentary revisional view corresponding to Figure 2 and showing the tilt bar pin locking device in an open position thereof.

In accordance with the invention the Venetian blind structure is generally indicated by reference character 10 and includes broadly, a head bear 11, a tilt bar 12, a plurality of slats (only one 13 of which is shown), and slat supporting tapes 14.

The tilt bar 12 may be of the usual construction having end pins 15 which are pivotally supported in the bracket 16 and the bracket 29, which depend from the undersurface 17 of the head bar 11. The head bar 11 may be provided with the usual channel 18 through which the elevating cords 19 and 20 may have horizontal travel and with orifices 21 and 22 through which the said cords may have vertical travel. The ends 23 and 24 of the head bar 11 may be supported in the window frame by any suitable brackets not shown. The head bar 11 adjacent the end 24 may be provided with a cord-like receiving opening 25. This structure is of a standard and usual nature and therefore, does not require description in further detail. It may be noted at this point that the cord-lock device 30 has such external configuration that it may be inserted into the orifice 25, and that the orifice 25 may be of the usual size, shape and position for the accommodation of known cord-lock devices operating in a different manner. The device 30 includes a housing 31 having a pulley supporting portion 32, a cord separating portion 33 and a lower dog carrying portion 34; the bracket 29; a pivotally mounted dog 35, and a latch 36.

The bracket 29 is preferably generally L shaped including a horizontal flange 37 and a vertical body portion 38. The horizontal flange 37 may be provided with the usual screw holes not shown, by means of which it may be attached to the undersurface 17 in the usual manner. The lower part of the vertical body portion 38 is provided with an open ended slot 39 the inner end of which is adapted to receive one of the pins 15. The latch 36 is of hook shape and has an inwardly extending projection 40 which is adapted to co-act with the concavity 28 of the rib 41. Thus, the rib 41 not only acts to strengthen the lowermost part of the vertical body portion 38, but also as a receiving means for the detachable engagement of the latch 36. The latch 36 is pivotally mounted in any suitable manner, as for

example by the use of the rivet 42 to the body portion 38.

The housing 31 is of irregular configuration best seen in the drawing and is secured to the body portion 38 in an angular position by swaging over two projections 43 and 44, from the front and rear walls 50 and 60 respectively. The cord separating portion 33 includes an inwardly directed rib 45 formed from the outer housing wall 27, which is adapted to be disposed between the cords 19 and 20 as they pass about the grooves 46 and 47 in the pulley 48. The pulley 48 is rotatably mounted upon the pin 49 which extends between the front and rear walls 50 and 60.

The dog 35 is preferably formed from a single blank of sheet material so that the clawing portion is of substantially U shape and has an upper short gripping member 52 and a lower long gripping member 53. As best seen in Figure 1, the said gripping members 52 and 53 are preferably serrated. Extending from the portion 54 of the dog 35 are a pair of hangers 55, 56, which are substantially identical so that a description of one will suffice for the both. As seen in Figures 4 and 5, the hangers 55 and 56 have an upward movement limiting detent 57 and a downward movement limiting detent 58. These detents 57 and 58 are located a sufficient distance from the axle 59 upon which the dog 35 is rotatably mounted so that they have the limiting effect described. Thus, in Figure 5 the detent 57 is approaching a position of contact with the rear wall 60, being prevented from so doing by the intervention of the cords 19 and 20. In Figure 4 the detent 58 is in engagement with the rear wall 60 holding the gripping members 52 and 53 in readiness for re-engagement with the cords, as will be more fully described hereinbelow. The axle 59 is journalled between the outer wall 27 and the vertical portion 38.

The lower edge of the front wall 50 is outwardly flared to form a lip 61, about which the cords 19 and 20 may change their direction of travel during the time that the Venetian blind level is being adjusted.

Assuming that the flange 37 is in a horizontal position, the walls 50, 51 and 60 will be angularly disposed but the axle 59 will be spaced from and substantially parallel to the axis of rotation (through the pins 15) of the tilt bar 12, and hence the slats.

Mode of operation

Assuming the blind to have been previously elevated to a desired level and that the cord-lock is now in an active or locking position, the parts will appear as shown in Figure 5, in which case upward motion of the cords 19 and 20 thereat will cause a greater wedging action which flows from a clockwise rotation of the latch 36 about the axle 59.

A short downward tug on the cords 19 and 20 as viewed in Figure 5 will cause the dog to become disengaged and to rotate in a counter clockwise direction to take the position shown in Figure 4. This rotation of the dog 35 results from the fact that the axle 59 is to the right as viewed in said figures, of the center of gravity. In this position of the dog, the cords 19 and 20 may have free upward or downward movement, especially when they are pulled forward in the position shown in Figure 4 by the user who normally does this when standing in front of the Venetian blind to lower or raise it. After the blind has been raised or lowered to the desired

level, the user has merely to release the cords 19 and 20 which he has been holding, whereupon they will fall by the action of gravity to the position shown by the dot dash lines on Figure 4. The blind will then start to fall pulling the portions 119 and 120 of the cords downwardly and correspondingly, the portions 219 and 220 will go upward. Frictionally engaging the gripping member 52 first, the dog will be swung around in a clockwise diretion until it wedges the cord portions 219 and 220 up against the front wall. The parts will now appear as shown in Figure 5.

It may thus be seen that I have provided a novel Venetian blind construction which with a limited number of parts, provides a simple and foolproof operation for Venetian blind elevation control. One of the principal advantages, apart from the simplicity and low cost of the construction, lies in the fact that the user need have no particular training or previous experience with the operation of the blind since a normal pulling operation will disengage the locking dog and just letting the cords go will result in the automatic locking of the blind substantially at the position it was when the cords were released by the user.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

I claim:

1. In a Venetian blind cord-lock, means for rotatably and detachably supporting a pintle ended tilt-bar comprising: a vertical body portion having an open ended slot extending from one vertical edge thereof; a flexible latch pivotally mounted on said body portion and adapted in the closed position thereof to obstruct passage to and from said slot and in the open position thereof to clear said slot; a rib in the lower part of said body portion below said slot, said rib having a concavity; a projection on said latch adapted to detachably engage with said concavity, said latch being distortable in the direction of its axis of rotation so that the projection may ride over the vertical body portion as it approaches or recedes from said concavity as the latch is orbitally moved.

2. In a Venetian blind construction having a slat tiltable about its own longitudinal axis, and elevating means for said slat including a cord; a cord-lock for maintaining said cord in adjusted positions thereof comprising: a body; a cord gripping dog movably mounted on said body, and adapted for effective movement forwardly and rearwardly with respect to said body, said dog having a gripping surface extending generally forwardly with respect to said body and said blind and when in idle position adapted to be normally and freely engaged at the front side thereof by said cord; whereby manual movement of said cord forwardly of the blind will disengage the cord from said dog.

3. In a Venetian blind construction having a slat tiltable about its own longitudinal axis, and elevating means for said slat including a cord; a cord-lock for maintaining said cord in adjusted positions thereof comprising: a body; cord suspending means associated with said body; a cord gripping dog movably mounted on said body for forward and rearward movement with respect to said body and said blind, said dog having a forward gripping surface and when in idle position adapted to be normally and freely en-

gaged at the front side thereof by said cord, whereby manual movement of said cord forwarly of the blind will disengage the cord from said dog; said dog lying in the normal path of travel of the cord as it hangs from the cord suspending means under the action of gravity; whereby upward movement of the cord engages the dog to

lock the cord between the dog and the body of the cord-lock.

4. A device as claimed in claim 3 in which the dog is pivotally mounted on the cord-lock body for movement about an axis spaced and parallel to the axis of movement of the slat.

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