

May 11, 1937.

F. SCHIERGHOFER

2,080,233

VENETIAN BLIND

Filed March 31, 1936

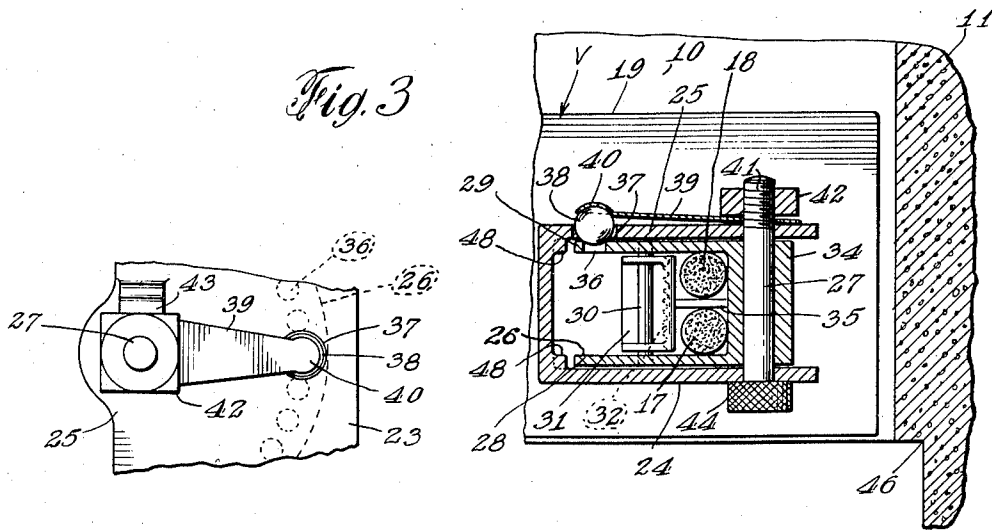
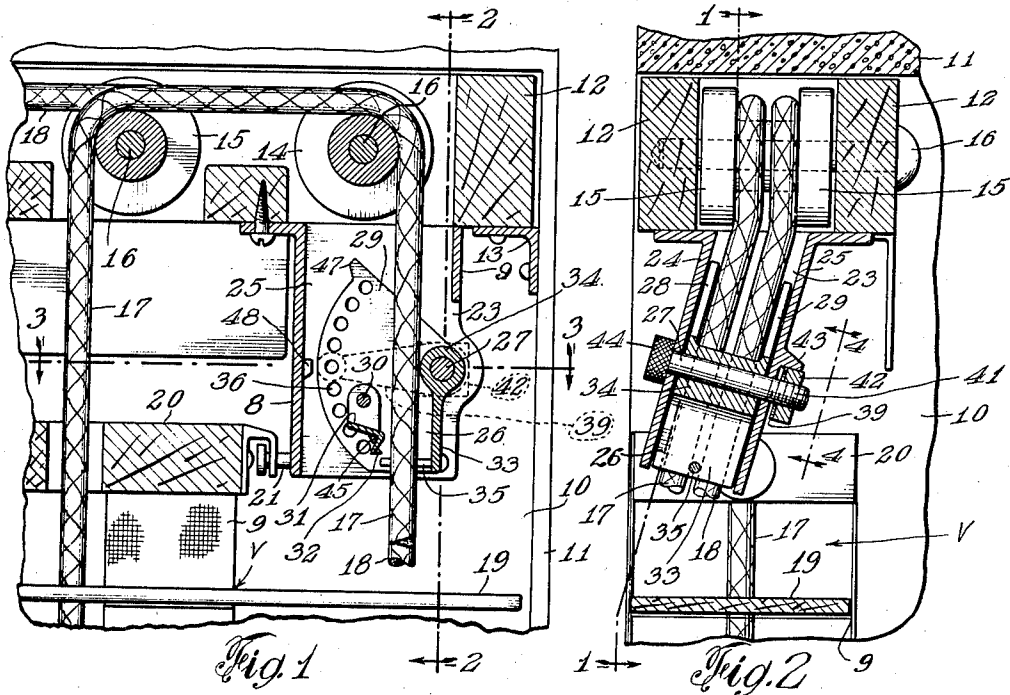


Fig. 4

INVENTOR.
Fred Schierghofer
BY *Charles J. Surdy*
ATTORNEY.

UNITED STATES PATENT OFFICE

2,080,233

VENETIAN BLIND

Fred Schierghofer, Tuckahoe, N. Y.

Application March 31, 1936, Serial No. 71,885

5 Claims. (Cl. 156—17)

My invention relates to Venetian blinds and is particularly concerned with the means for raising or lowering the blinds and locking them firmly in their adjusted position.

5 In the type of Venetian blind to which this invention has reference, the raising or lowering of the blind is accomplished by a series of cords which pass over suitable rollers for attachment to the lowermost slat of the Venetian blind, upward movement of the lowermost slat causing similar movement of each successive slat. In order to retain the slats of the Venetian blind in any predetermined position, a catch device is employed which is arranged to engage the operating

10 cords in such a manner that the overhanging weight of the Venetian blind causes the catch device to hold it firmly in its adjusted position. Heretofore, the construction of the catch device was such that manipulation of the operating

15 cords to raise or lower the blind from an angle other than perpendicular to the horizontal was rendered difficult for the reason that it was necessary to return the cords through a considerable arc in order to engage the catch device for retaining the blind in the desired position. On

20 the other hand, manipulation of the operating cords from a perpendicular position is not always convenient because of draperies, curtains or other furnishings which are oftentimes in the way of

25 the operator.

30 It is therefore the main object of this invention to construct a catch device which is especially adaptable for use in connection with Venetian blinds and which is arranged to engage the operating cords at various angles.

35 A specific object of this invention resides in mounting the catch device in a carriage which may be adjusted by the operator at any desired angular position.

40 Further objects of this invention reside in the specific construction of parts and in their relation one with another.

The advantages of these and other objects will become apparent as the following description is read in connection with the accompanying sheet

45 of drawings, in which,

Fig. 1 is a sectional view of the invention as viewed approximately on the line 1—1 of Fig. 2;

Fig. 2 is a sectional view taken on the line 2—2

50 of Fig. 1;

Fig. 3 is a view in section of the catch device taken on the line 3—3 of Fig. 1; and

Fig. 4 is a fragmentary side elevation of the catch device as viewed along the line 4—4 of Fig. 2 in the direction of the arrows.

55

On this drawing, 10 represents a window recess in a wall 11. The Venetian blind is indicated generally by V and comprises a frame 12 which is carried by brackets such as 13 at the upper portion of the window recess 10. Within the frame 12 are rollers such as 14, 15, each being pivotally mounted on pins 16 and adapted to support and guide the operating cords 17, 18. The operating cord 17 passes over the roller 15 and thence extends downwardly for attachment to the lowermost slat of the Venetian blind, while the cord 18 extends to the other side of the Venetian blind and is similarly related with the other end of the said lowermost slat.

A plurality of slats 19 are included in each blind and they are suspended from the support beam 20 by fabric strips 9 which extend between the beam 20 and the lowermost slat to which the operating cords 17, 18 are attached. The beam 20 is pivotally suspended as at 21 from the frame 12, and is so arranged that it may be set at various angular positions about the axis of the pivotal support 21 whereby the slats 19 become similarly positioned so as to exclude more or less light rays in accordance with the desires of the operator. Since the construction and operation of Venetian blinds is well known, further description thereof will not be necessary. The present invention is primarily concerned with the means and method of raising, lowering and locking the blinds in any desired vertical position, as will hereinafter appear.

Secured to the under side of the frame 12 and at one end thereof is a casing or support member 23 which may also carry the pivotal support 21 for the beam 20. The casing 23 is somewhat box-shaped and includes parallel side walls 24, 25, a wall 9 adjacent the right hand corner of window recess 10, and a wall 8 from which the pivotal support 21 extends inwardly. The parallel side walls 24, 25 decline from their upper ends at an angle toward the interior of the room whereby the manipulation of the cords 17, 18 by the operator is rendered more convenient, as will become apparent. Within the casing 23 is a latch carriage 26 which is pivotally mounted upon a bolt 27 carried by the side walls 24, 25. The carriage 26 comprises a pair of sector-shaped side walls 28, 29 which fit closely adjacent the casing side walls 24, 25, respectively.

The operating cords 17, 18 pass downwardly through the casing 23 between the side walls 28, 29 of the carriage 26 to a point within convenient reach of the operator. Pivotaly mounted on a pin 30 which is carried between the side

55

walls 28, 29 of the carriage 26 is a latch 31 having teeth 32 which are arranged to engage the cords 17, 18. Upon engagement of the teeth 32 by the cords 17, 18, the latch 31 may be moved upwardly about the pin 30 by an angular movement of the cords 17, 18 to the right side of the window aperture. The operator may then release the cords 17, 18 whereby the overhanging weight of the Venetian blind slats 19 will pull the cords 17, 18 and the engaged latch 31 a slight distance upwardly to cause the latch 31 to firmly engage the cords 17, 18 and press the latter against the wall 33 depending from the hub 34 of the carriage 26.

It often occurs that the cords 17, 18 become twisted adjacent the latch 31 so that it is impossible to cause both cords to engage the teeth 32 of the latch 31. When only one of the cords 17, 18 engages the latch 31, the free cord, when the operator releases his hold on the cords, permits one side of the blind to fall unchecked which eventually breaks the contact between the latch 31 and the engaged cord, permitting the Venetian blind slats 19 to fall downwardly. This is a source of considerable trouble to the operator and is remedied only by untwisting the cords 17, 18 so that they are in a parallel relation.

In order to obviate this difficulty, I provide a pin 35, carried by the wall 33 of the carriage 26 and which pin extends between the cords 17, 18 at a point adjacent the latch 31. This assures the maintenance of the cords 17, 18 in a parallel relationship and the consequent simultaneous engagement of both cords by the latch 31.

In order that the operating cords 17, 18 may be manipulated from any angle, and engagement of the latch 31 be effected by only a slight angular movement of the cords to the left, the carriage 26 is arranged to be set at the will of the operator at the desired angle. To accomplish these ends, the sector-shaped wall 29 of the latch carriage 26 is provided with a series of apertures 36 which are equally spaced on an arc described from the axis of the pivot bolt 27. In the side wall 25 of the casing an aperture 37 is provided somewhat larger than the apertures 36 and within which a ball 38 is inserted for engaging any one of said apertures 36. Outward movement of the ball 38 is restrained by a spring leaf 39 having a cap 40 fitting over said ball 38. The end of said spring leaf 39 remote from the cap 40 passes over threaded portion 41 of the bolt 27 and is maintained in such position by a nut 42. The latter is prevented from rotating by reason of the lug 43 on the casing side wall 25 engaging one side of the nut 42 whereby the nut 42 is caused to move along the threaded portion 41 of the bolt 27 upon rotation of the latter through the knurled head 44 thereof. The position of the nut 42 on the bolt 27 will determine the tension of the spring 39. Preferably, the tension should be so adjusted that, while permitting free setting of the carriage 26 in any angular position by the operator, the spring 39 will have sufficient tension to insure that the overhanging weight of the Venetian blind will not cause any movement of said carriage 26 about its pivot 27 when the latch 31 firmly presses the cords 17, 18 against the depending wall 33 of the carriage 26.

In operation, the latch carriage 26 may be swung at any angle from that illustrated in Fig. 1 by merely moving the cords 17, 18 angularly to the right or left. Angular movement of the carriage 26 to the right is effected by a corre-

sponding movement of the cords 17, 18 which will contact the depending wall 33. Further movement of the cords will cause downward swinging movement of the upper end of carriage walls 28, 29 and successive engagement of apertures 36 by the ball 38. When the desired angular position of the carriage 26 is attained, the operator pulls the cords 17, 18 downwardly until the slats 19 are at the desired height. Since the latch 31 moves with the carriage 26, it is obvious that only a slight angular movement of the cords is necessary to engage the teeth 32 of the latch 31. Stating this in other words, the pivotal mounting of the latch carriage 26 permits the teeth 32 to be engaged at all times by angular movement of the cords 17, 18 through an arc no greater than that required when the cords are in a position such as shown in Fig. 1.

The latch carriage 26 may be set in the opposite direction by drawing the cords 17, 18 to the left whereby the latch 31 will be contacted, and since the stop 45 prevents leftward movement thereof about its pivot 30, such movement of the cords will move the carriage 26 and the latch 31 through any desired angle, the ball 38 acting to lock the carriage in its adjusted position. This last described position of the carriage 26 and the latch 31 will be of especial advantage when the window recess 10 is located so that the side thereof at which the cords 17, 18 are disposed is closely adjacent a corner 46 of the room. The carriage 26 has a limited range of movement about the bolt 27 by the provision of a stop element 47 at each upper side of the carriage side walls 28, 29 which are arranged to rest upon ledges such as 48. The wall 9 limits the travel of said carriage in the opposite direction.

From the foregoing it will be apparent to those skilled in the art that the improvements herein set forth will greatly facilitate the operation of Venetian blinds, such operation being possible from any angle to suit conditions, and the latching operations being accomplished by only a slight angular movement of the operating cords.

I claim:

1. A Venetian blind latch device comprising a support member, a latch carriage pivotally mounted with said support member and a latch supported by said carriage being pivotally related therewith, means for adjusting said latch carriage angularly with respect to said support member, and means for maintaining said carriage in its adjusted position.

2. A Venetian blind latch device comprising a support member, a latch carriage pivotally mounted with said support member, a latch supported by said carriage and being pivotally related therewith, means for adjusting said latch carriage in any predetermined angular position with respect to said support member and means for maintaining said carriage in its adjusted position.

3. A Venetian blind latch device comprising a support member, a latch carriage pivotally mounted with said support member, a latch supported by said carriage and being pivotally related therewith, and means for adjusting said latch carriage in any predetermined angular position with respect to said support member, said means arranged to retain said latch carriage in its adjusted angular position and including an arrangement for inter-engaging said support member and said carriage.

4. A Venetian blind latch device comprising a support member, a latch carriage pivotally

mounted with said support member, a latch supported by said carriage and being pivotally related therewith, and means for adjusting said latch carriage in any predetermined angular position with respect to said support member, said means arranged to retain said latch carriage in its adjusted angular position and including a spring actuated arrangement for inter-engaging said support member and said carriage.

ported by said carriage and being pivotally related therewith, and means for adjusting said latch carriage in any predetermined angular position with respect to said support member, said means arranged to retain said latch carriage in its adjusted angular position and including a spring actuated arrangement for inter-engaging said support member and said carriage, and means for adjusting the tension of said spring actuated arrangement.

5

5

10

10

5. A Venetian blind latch device comprising a support member, a latch carriage pivotally mounted with said support member, a latch sup-

FRED SCHIERGHOFER.