

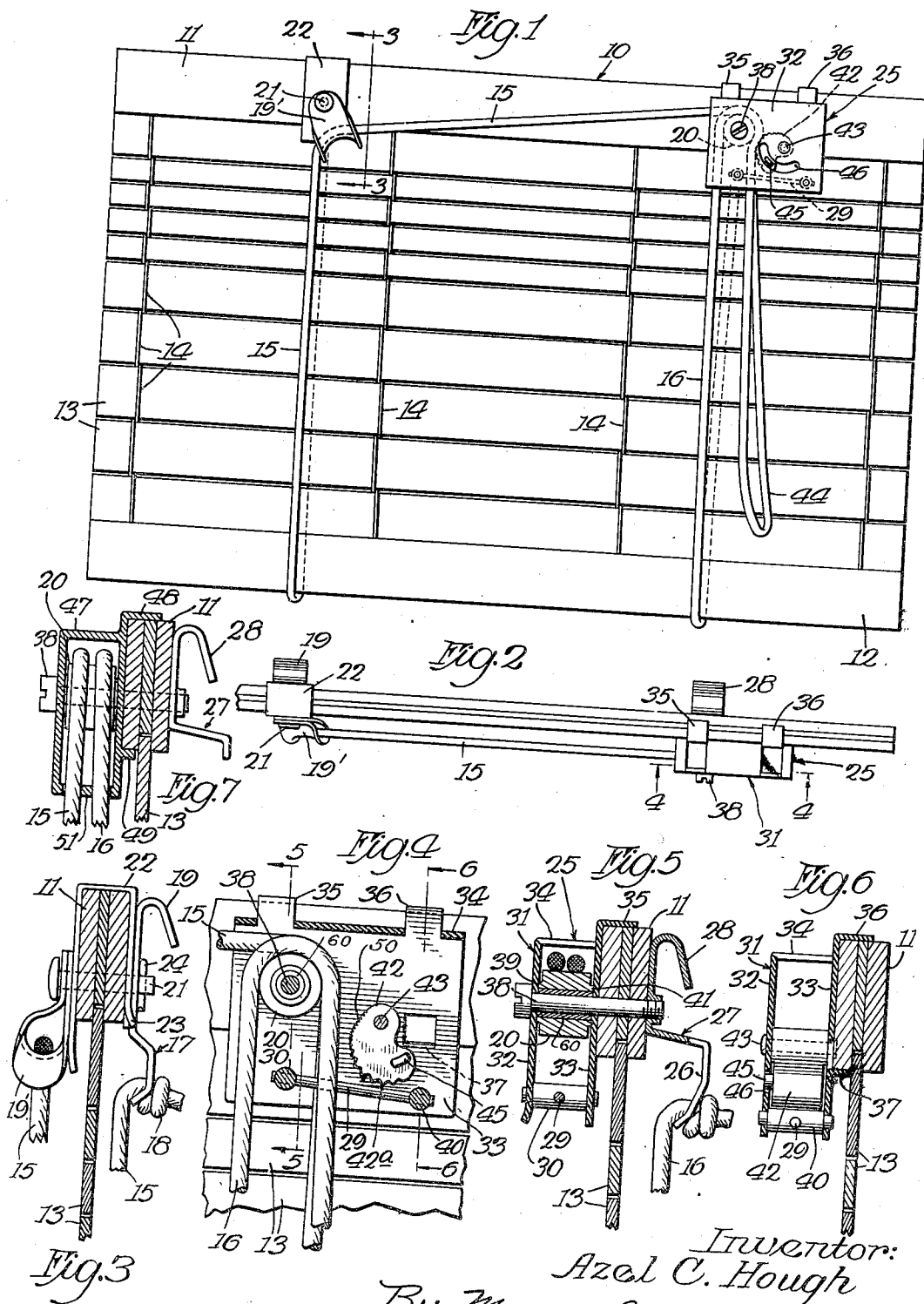
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PORCH SHADE AND OPERATING MECHANISM

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## PORCH SHADE AND OPERATING MECHANISM

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9 Claims. (Cl. 156—16)

This invention relates to cord locks for porch shades and the like.

One of the objects of the invention is the provision of a new and improved cord lock having anti-friction means over which the cord extends and with which the eccentric lock member cooperates for holding the cord and with it the shade or blind in adjusted position, the pivot pin on which the roller is mounted constituting the means for attaching the lock to the head piece of the shade.

Another object of the invention is the provision of a new and improved cord lock having novel means for securing the lock to the shade and for securing the operating mechanism to its casing or support.

A further object of the invention is the provision of a new and improved cord lock for porch shades and the like having novel casing and means for securing the same to the shade.

A still further object of the invention is the provision of a new and improved cord lock that is inexpensive to manufacture, simple in construction, efficient in use and that may be applied with a minimum of time, energy and expense.

Other and further objects and advantages of the invention will appear from the following description, taken in connection with the accompanying drawing, in which—

Fig. 1 is a front elevation of a porch shade;

Fig. 2 is a top plan view thereof;

Fig. 3 is a section on the line 3—3 of Fig. 1;

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

Fig. 5 is a section on the line 5—5 of Fig. 4;

Fig. 6 is a section on the line 6—6 of Fig. 4; and

Fig. 7 is a transverse view through the shade and cord lock showing a modified form of casing for the cord lock.

In the construction of porch shades and like structures, it is desirable that the raising and lowering mechanism, the cord locking devices and the means for attaching the same to the shade be of extremely simple construction due to the exposure to which the parts are subjected and the necessity or requirements for inexpensive constructions.

The present invention seeks to provide a simplified construction that may be fabricated at a low cost and that may be readily and easily applied to shades, screens and like structures.

Referring now to the drawing, the reference character 10 designates a shade which comprises a valance board or head strip 11, a bot-

tom bar or end strip 12 and intermediate slats 13 which are woven together by cords 14 crossed above and below each slat as is usual in such constructions. The height of the shade is adjusted by means of cords 15 and 16 which form loops for engaging the bar 12 in the usual manner. The cords 15 and 16 extend about the slats adjacent to their outer ends and the cord 15 has its upper end secured to the lower end of an attaching member 17, as shown at 18 in Fig. 3.

The attaching member 17 has its upper end return bent as at 19 for forming a hook which is adapted to engage a staple or the like for suspending the shade in position. The cord extends downwardly from the attaching member 17 beneath the bar 12 and upwardly on the opposite, or what may be termed the inner, side, then through a glide 19' which is pivotally connected to a bolt 21 to which the attaching member 17 is connected. A metal loop or clip 22 extends over the head strip and has its ends provided with aligned openings through which the bolt or pivot 21 extends. The loop member 22 rests on the upper edge of the head strip 11 which prevents the loop from turning. The loop 22 has its inner end at each corner thereof bent outwardly as at 23 for engaging the supports 17 at each side edge thereof for holding the same from turning on the pin 21. The bolt or pivot 21 may be secured in position by a cotter pin or the like 24.

The cord 15 extends through the cord lock as will presently be described. The cord 16, which in reality is integral with the cord 15 but will be described as though it were a separate cord, has its upper end attached to the offset end 26 of the attaching or supporting member 27. The upper end of the member 27 is bent to form a hook portion 28 corresponding to the hook member 19 and constitutes means for engaging a staple or supporting member for the shade. The cord extends downwardly on the outer side of the shades beneath the same and upwardly on the inner side of the shade and over the roller 20 of the cord lock 25. The two cords 15 and 16 extend downwardly from the lock 25 and in order that they should be properly positioned in the lock, a parting or dividing bar 29 is provided. One of the cords passes on one side of the bar and the other on the other side thereby preventing twisting of the cords about each other when the shade is lowered. The parting or dividing bar has its ends attached to spacers 30 and 40, each of which is

provided with reduced ends engaging in corresponding openings in the side walls 32 and 33 of the casing 31, Figs. 5 and 6. The cords 15 and 16 have been described as two cords but in practice a single cord is employed for this purpose, one end being attached to the supporting member 26 and the other to the supporting member 17 as shown on the drawing.

The lock member 25 for holding the cords 15 and 16 when the shade has been adjusted to the desired height will now be described. It comprises a casing 31 which may be, and preferably is, formed by a single strip of sheet metal bent to the shape of an inverted U for forming an inner plate 32, an outer plate 33 and an upper connecting portion 34. Tongues 35 and 36 are struck out of the upper portion 34 of the casing 31 and bent upwardly and then outwardly, as shown in Figs. 5 and 6, for engaging the upper surface of the head strip 11. Another tongue 37 is struck out of the lower portion of the outer plate 33 and engages beneath the head strip 11, Fig. 6, for positioning the casing on the head strip. The casing is held in position against the head strip by a bolt 38 which extends through the roller 20, head strip 11 and is threaded in the support 27, as shown in Fig. 5. In order to reduce the frictional resistance to the rotation of the roller 20, the roller is provided at each end with outwardly extending hub portions 39 and 41. The roller is loosely mounted on a bushing 60 which is loosely mounted on the bolt 38.

Suitable means are provided for holding the cords 15 and 16 in adjusted position. In the form of the construction selected to illustrate one embodiment of the invention, an eccentric gripping member or dog 42 is employed for this purpose. The dog is pivoted as at 43 at one end thereof and the pivot is so located that when the dog moves to the position shown in Fig. 1, it will grip the cord between the teeth 42a on the dog and the roller 20. The teeth 42a are more or less blunt so that they will grip the cord without injuring the fibers thereof. The teeth 50 at the central and pivoted end of the dog are finer and sharper in order that they may easily engage the cord where it is desired to turn the dog to cord gripping position.

In the operation of the device, when it is desired to raise the shade, the operator pulls vertically downward on the free ends of the cords 15 and 16, that is, on the looped portion 44, Fig. 1, until the shade is adjusted to the desired height after which the operator moves the cords outwardly into engagement with the teeth 50 of the dog and then gradually releases the cord thus causing the dog to rotate clockwise until it reaches the clamping position shown in Fig. 1 in which the teeth 42a, Fig. 4, clamp the cord against the roller 20, after which the cord may be released.

In order to limit the backward rotation of the dog, the same is provided with a lug 45 that engages an arcuate slot 46 in the inner side 32 of the casing which limits the swinging movement of the dog.

In Fig. 7 is shown a modified form of cord lock. This form of construction differs from that described above in that the casing 47 is cast preferably, though not necessarily, die cast, and has one or more integral laterally extending lugs or fingers 48 at the upper edge of the casing and one or more lugs 49 at the lower edge of the casing for receiving between these upper and lower lugs

the head strip 11. The parting strip or bar 51 may, if desired, be cast integral with the casing. Since the construction of the cord lock mechanism within the casing 47 is substantially the same as that within the casing 31, enough of the parts are designated by the same reference characters as to identify the structure. Since the parts are alike, it is not thought necessary to repeat the description at this point further than to state that the casing is applied to the head strip by a pin or bolt 38 which is threaded into a supporting plate 27 having the supporting hook 28 thereon, as in the previously described construction. The two casings are interchangeable.

It will thus be seen that simple, inexpensive mechanism for raising and lowering porch shades and the like and holding them in adjusted position has been provided and that such mechanism operates freely and efficiently and with a minimum of effort on the part of the operator.

It is thought from the foregoing, taken in connection with the accompanying drawing, that the operation and construction of my device will be apparent to those skilled in the art and that changes in size, shape, proportion or detail may be made without departing from the spirit and scope of the appended claims.

I claim as my invention:

1. A cord lock for cords for porch shades comprising a casing, a roller journaled in said casing over which said cords extend, said roller having a plain peripheral surface and having a hub projection at each side therefor for reducing frictional resistance to the rotation of the roller, and an eccentric gripping member pivoted in said casing and adapted to cooperate with said roller for gripping said cords, and an inverted U-shaped casing for housing said roller and member, said casing having hook members extending laterally for engaging over the upper edge of a head strip to which it is adapted to be attached and a bolt extending axially through said roller for constituting a journal therefor and adapted to extend through said head strip for securing said casing to said strip.

2. A cord lock comprising a casing formed from sheet metal into an inverted U-shaped member, tongues struck up from said casing and bent up and outward for engaging the upper edge of a shade head strip, said casing having a tongue struck out of its lower portion and extending outward therefrom for engaging beneath said head strip, a roller within said casing, and a pivot for said roller extending through said casing and head strip.

3. In a porch shade having a head strip, a cord lock comprising a casing having positioning tongues extending outward therefrom for engaging above and below said strip, a roller within said casing, shade operating cords extending over said roller and downward through said casing, an attaching hook on the opposite side of said head strip from said roller, and a pivot pin for said roller extending through said casing and threaded into said hook for attaching said casing and hook to said head strip.

4. In a porch shade, a head strip, an inverted U-shaped clip engaging said head strip, a glide member through which an operating cord is adapted to extend, an attaching member having a hook at its upper end and provided on its lower end with means to which a cord is adapted to be secured and a bolt extending through said glide member, clip and supporting member and constituting a pivot for said glide member, and the

sole means for attaching said clip, glide and supporting members to said head strip.

5 5. In a slatted shade, a head strip, a shade secured thereto, a supporting hook having means thereon for attaching a cord for elevating said  
10 shade, a cord lock comprising a casing, a roller within said casing over which said cord extends, a bolt extending through said casing roller and threaded in said supporting hook, and gripping  
15 means for clamping said cord against said roller for holding the cord and shade in adjusted position.

6. In a rollable slatted shade having a head piece, a slatted shade attached thereto and cords  
15 for rolling up said shade, a cord lock comprising a casing formed of an inverted U-shaped strip of sheet metal having tongues struck out of its upper portion and bent laterally for engaging the top  
20 edge of said head-piece, a tongue bent outwardly for engaging the lower edge of said head-piece for positioning said casing, a roller within said casing, an attaching member on the rear side of said head-piece, a bolt extending through said casing roller and secured to said attaching mem-  
25 ber, and an eccentrically mounted dog for gripping said cord for holding the same, said dog having fine teeth for engaging said cord for turning said dog and having coarse teeth for gripping said cord without injuring the same.

30 7. A cord lock for slat shades comprising a cast casing having laterally extending lugs at the upper and lower edges, a head piece received between said upper and lower lugs, a side plate

having a supporting hook on one end, a bolt extending through said casing and head piece and secured in said side plate for securing said casing and head piece together.

8. A cord lock for shades comprising a casing, 5 upper and lower laterally extending lugs for receiving a shade head piece between them, a roller within said casing over which the shade operating cords are adapted to pass, and an eccentrically pivoted dog below and laterally of 10 said roller, said dog having coarse teeth at its free end and having sharp teeth adjacent to its pivoted end for engaging said cords for rotating said dog for gripping the cords between said coarse teeth and roller, the toothed end of said 15 dog being heavier than the opposite end whereby the dog will automatically move to inoperative position when released.

9. A cord lock for slat shades comprising a casing formed from a single plate of sheet metal 20 in the form of an inverted U having tongues struck out from the plate for extending across the upper and lower edges of a head strip to which the casing is adapted to be attached, a bolt extending through an intermediate portion of said casing for attaching said casing to said head 25 strip, a roller mounted on said bolt, an attaching member mounted on said bolt and having means to which an end of a shade lifting cord may be attached, and an eccentric lock mounted within 30 said casing for gripping said cord for holding said shade in elevated position.

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