Dec. 3, 1940. F. J. BURNS 2,223,403

CORD LOCKING MECHANISM FOR VENETIAN BLINDS

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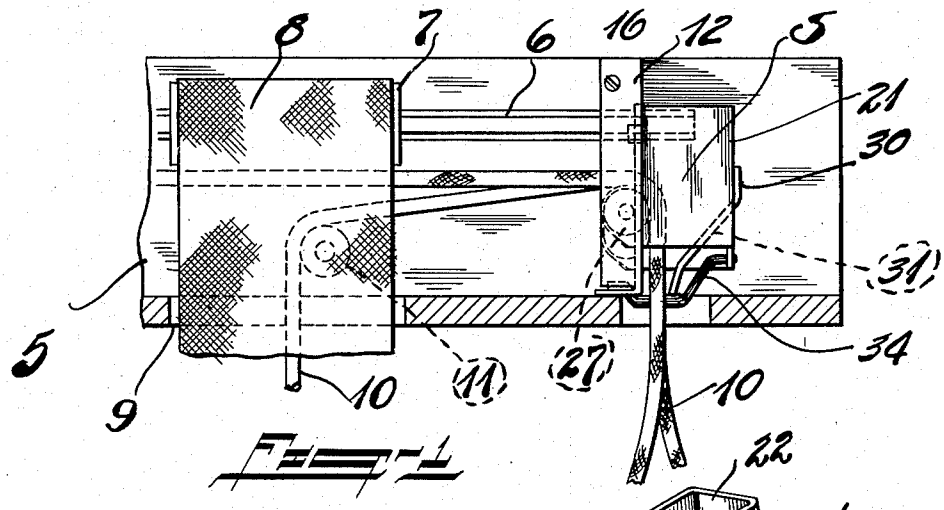


Fig-1

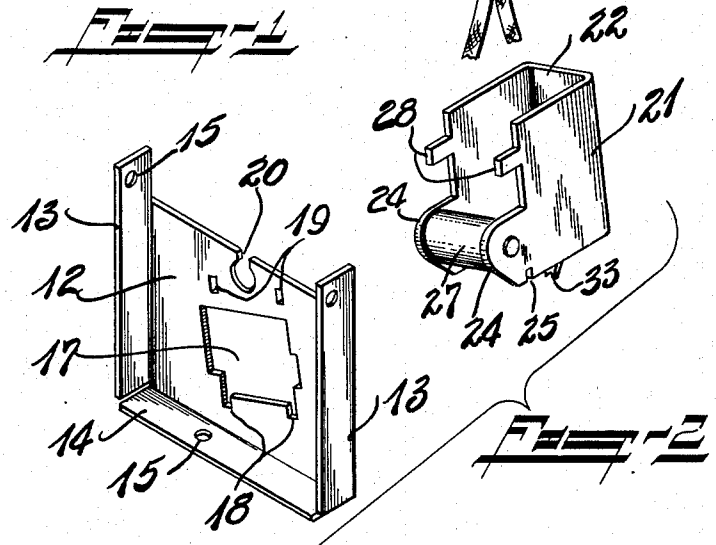


Fig-2

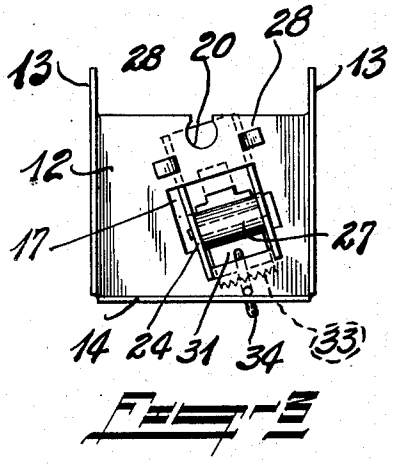


Fig-3

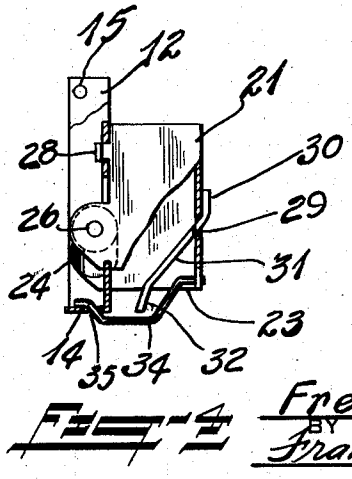


Fig-4

INVENTOR
Fred J Burns.
BY
Frank C. Fearman.
ATTORNEY

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CORD LOCKING MECHANISM FOR VENETIAN BLINDS

Fred J. Burns, Saginaw, Mich., assignor to The Columbia Mills, Inc., Saginaw, Mich., a corporation of New York

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6 Claims. (Cl. 156—17)

The present invention relates to Venetian blinds and more particularly to means for locking and unlocking the slat elevating and supporting cords of such structure.

One of the prime objects of the invention is to provide a simple, inexpensive, highly efficient, positive acting locking unit for the slat elevating and supporting cords of Venetian blinds.

Another object is to provide a cord locking unit formed of stampings which can be assembled by the workman on a bench as a unit, so that it can be easily and quickly mounted in the head box of the blind.

A further object is to provide a simple, practical, and economical means for loosely holding the latching element in position in the unit.

A still further object is to provide a combination cord locking unit and tilt shaft support.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawing, and more particularly pointed out in the appended claims, it being understood that changes may be made in the form, size, proportion, and minor details of construction, without departing from the spirit, or sacrificing any of the advantages of the invention.

In the drawing:

Fig. 1 is a fragmentary, part sectional, front elevational view of a Venetian blind head box showing my cord locking unit and tilt shaft support mounted in position therein.

Fig. 2 is a detail, perspective view showing the various parts and the attaching means.

Fig. 3 is an end elevational view of the assembled unit.

Fig. 4 is a front elevational view, the housing being broken away to show the latch.

Referring now to the drawing in which I have shown one embodiment of my invention, the numeral 5 indicates the head box of a conventional Venetian blind in which my cord locking unit S is mounted. A tilt shaft 6 is mounted in the box as usual and enlarged drums 7 are mounted on said shaft, ladder tape 8 being secured to said drums and project through openings 9 provided in the bottom of said box, this ladder tape supporting a plurality of blind slats (not shown) in the usual manner.

Lifting cords 10 are connected to the bottom rail (not shown) of the blind as usual, thence leading upwardly through suitable openings provided in the head box, and thence being trained over sheaves 11 which are mounted therein, thence the cord leads through the locking unit S in a manner to be presently described.

The locking unit S comprises a tilt shaft supporting a bracket plate 12 preferably in the form of a stamping, the sides and bottom edges being flanged as at 13 and 14, respectively, and openings 15 are provided therein to accommodate screws 16 for securing it in position. An angularly disposed opening 17 is provided in the vertical wall of the bracket plate 12, and spaced apart notches 18 are provided in the lower marginal edge of said opening. Slits 19 are also provided in the plate at a point directly above the opening 17 and the upper edge of said plate is shaped to form a key hole shaped open bearing 20 for releasably supporting one end of the tilt shaft 6; a rectangular-shaped housing 21 forms a part of the unit and has open upper and lower ends 22 and 23 respectively, projecting ears 24 being formed integral with the edges of the side walls of the housing and a vertical slot 25 is provided in each ear for engagement with the notches 18 provided in the lower marginal edge defining the opening 17.

A transversely disposed pin 26 is mounted in the ear-shaped section 24 and a roller 27 is journaled on said pin and is freely rotatable as the lift cord 10 travels thereover.

Pilot members 28 are formed integral with and on the upper edges of the side walls of the housing 21 and are received and accommodated in the slits 19 provided in the plate 12, and when in assembled relation, the ends of the pilot are bent over to rigidly secure the housing in position on the bracket.

A slotted opening 29 is provided in the end wall of the housing 21 and the shouldered end 30 of an angularly disposed latch member 31 is slidably mounted therein and normally projects beyond the end wall of said housing.

The latch member 31 is also formed of a stamping, the shouldered end 30 being upwardly bent with relation to the main body and the lower end section 32 is bent downwardly, the extreme lower end being serrated to form teeth 33 for engaging the lift cord when said cord is swung outwardly from the end of the blind and then released, the pull on the cords, due to the weight of the slats wedging the cord firmly between the latch and the wall of the bracket to hold it firmly in position.

To release the slats, the operator pulls downwardly on the cord 10 to release the latch. The cord is then swung slightly inwardly and over the face of the blind and the blind slats can then

be lowered to the extent desired; then by swinging the cord in a direction endwise from the end of the blind, the cord will engage the serrated edge of the latch and upon releasing the cord, it will be wedged as above described to hold the slats in set position.

One end of a cord separator 34 projects through an opening 35 provided in the flange 14 of the bracket plate, thence being bent as shown, with the opposite end being accommodated in an opening 36 provided in the housing 21, and this separator serves to prevent twisting and tangling of the lift cords, and which would otherwise prohibit successful operation of the locking mechanism.

I also wish to direct particular attention to the fact that the open bearing 20 permits easy assembly of the special shaped tilt shaft 6 and prevents accidental dislodging thereof during transit, and under normal operating conditions.

From the foregoing description, it will be obvious that I have perfected a simple, practical, and inexpensive article of manufacture, which can be readily and inexpensively stamped out of sheet metal, and can be quickly assembled on a bench and then mounted by inexpensive labor, and without sacrificing efficiency of the structure.

What I claim is:

1. A slat control unit for Venetian blinds comprising a bracket plate adapted to be secured in a head box, an angularly disposed opening therein, spaced slits above said opening, a housing mounted on said bracket plate and formed with projecting ears including slots adapted to engage the lower marginal edge of said opening, pilot sections on the edges of the housing and adapted to be accommodated in said slits, a roller journaled on said ears, and a latch member loosely mounted in said housing for engaging and wedging a lift cord to hold it in adjusted position.

2. An automatic stop unit for Venetian blinds comprising a bracket plate, an opening therein to accommodate the blind lifting cord, a housing mounted on said plate and formed with ears including jaws adapted to fit over the marginal edge of the opening, a transversely disposed pin mounted on said ears, a roller journaled thereon, a latch mounted in said housing with its inner end toothed for engagement with a lift cord, and its opposite end shouldered and projecting through an opening in the end wall of the housing.

3. A cord locking mechanism for Venetian blinds comprising a bracket plate provided with an angularly disposed opening therein, a housing mounted on the face of said plate and formed with projecting ears including jaws adapted to fit over the marginal edge of the opening, a transversely disposed roller mounted on said ears, a toothed latch mounted in said housing and adapted to engage the lifting cords, and a separator spanning the lower end of said housing for separating said lift cords.

4. An automatic stop unit for Venetian blinds comprising a flanged, transversely disposed bracket plate provided with an angularly disposed opening therein, spaced apart slits in said plate above said opening, a U-shaped housing mounted on said plate and having projectiong ears formed integral with the legs of said housing, vertical slits in said ears and fitted over the lower marginal edge of the angularly disposed opening, a pin mounted in said ears, a roller journaled thereon, pilots on the legs of the housing adjacent the upper end thereof and accommodated in said slits, and a stamped latch mounted in said housing, the lower end being serrated to form teeth, the opposite end being shouldered and projecting through a slit provided in the end wall of the housing.

5. An article of manufacture comprising a stamped, flanged, bracket plate provided with a cord accommodating opening therein, spaced slits above said opening, an open bearing in the upper edge of said plate, a U-shaped stamped housing mounted on said plate, the edges being formed with projecting ears provided with vertically disposed slits therein and adapted to fit over the lower marginal edges of the cord accommodating opening, a roller journaled on said ears, pilots formed integral with the edges of the housing and accommodated in said slits, and a latch member located in said housing and formed with a shouldered upper end extending through a slit in the end wall of said housing, with its lower end bent downwardly and toothed for engaging with the lift cords of a blind.

6. A cord locking unit for Venetian blinds comprising a bracket plate, an open bearing in the upper edge thereof and adapted to releasably accommodate a tilt shaft, an opening in the body of the bracket plate, slits in the lower marginal edge thereof, a housing mounted on said plate and formed with ears including jaws adapted to engage the slits in the lower marginal edge of said openings, a transversely disposed pin mounted on said ears, a roller journaled thereon, a latch swingingly mounted in said housing with its lower end toothed for engagement with the lift cord, and a separator mounted in said plate and releasably engaging said housing.

FRED J. BURNS.