Feb. 1, 1955 A. W. LOUCONY 2,701,012

VENETIAN BLIND TILTER

Filed Oct. 1, 1952

Fig. 1

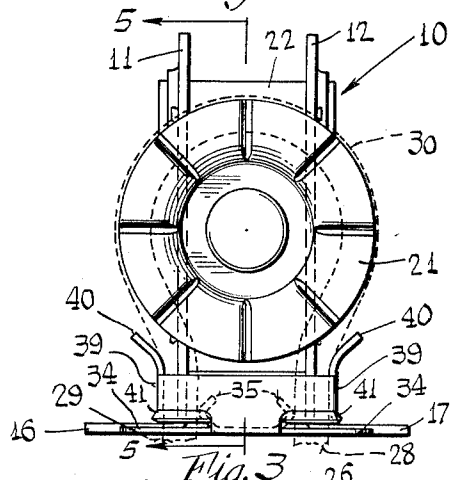


Fig. 2

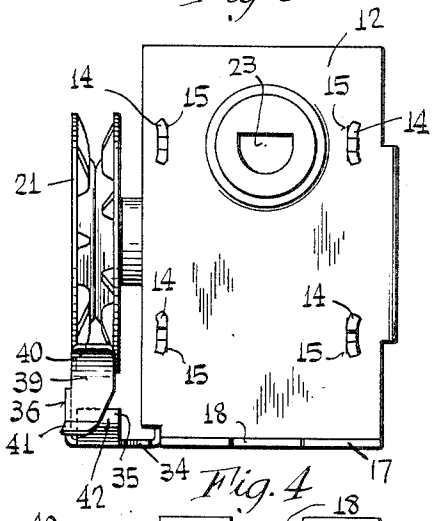


Fig. 3

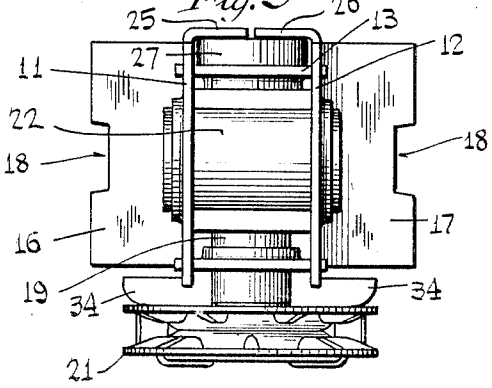


Fig. 4

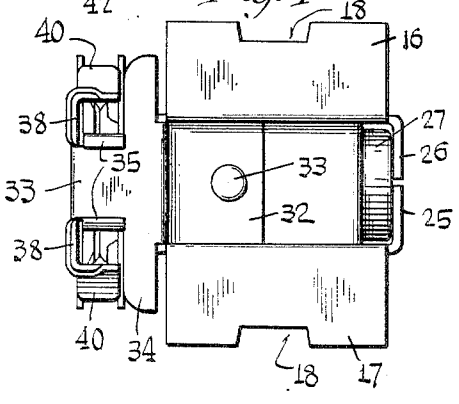


Fig. 5

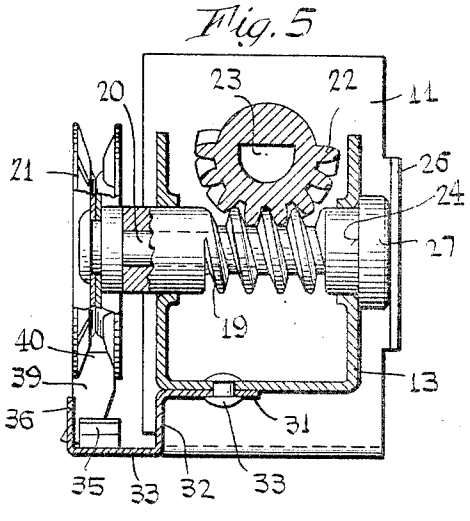
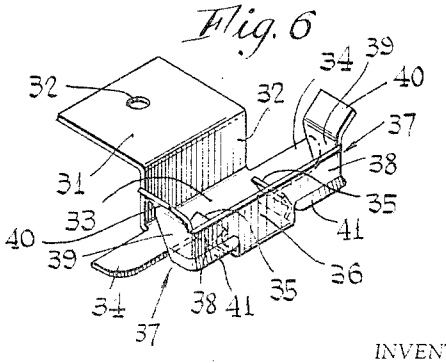


Fig. 6



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VENETIAN BLIND TILTER

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6 Claims. (Cl. 160—176)

This invention relates to Venetian blind tilters.

An object of the invention is to provide an improved tilter for Venetian blinds, which is extremely simple and economical to manufacture while at the same time being effective and reliable in its operation over an extended period of use.

Another object of the invention is to provide an improved Venetian blind tilter as above set forth, which is small and compact so that it may be readily installed in the limited space available inside encased head rails.

A further object of the invention is to provide an improved and simplified cord guide in a Venetian blind tilter, which may be economically fabricated from sheet metal by simple blanking and stamping operations and which effectively guides and confines the pendant strings of a cord reeved over the tilter pulley.

A still further object of the invention is to provide an improved cord guide as above characterized, which enables the cord to be easily and quickly installed and reeved over the pulley and which presents smooth non-abrading surfaces for engagement by the cord, to prevent undue wear or attrition of the cord during use.

A feature of the invention resides in the specific construction and arrangement of the cord guide and tilter bracket whereby these parts may be easily and quickly secured together to provide for sturdy support of the cord guide.

Other features and advantages will hereinafter appear.

In the accompanying drawings:

Figure 1 is a front elevational view of an improved Venetian blind tilter made in accordance with the invention.

Fig. 2 is a side elevational view of the tilter.

Fig. 3 is a top or plan view of the tilter.

Fig. 4 is a bottom view of the tilter.

Fig. 5 is a vertical sectional view taken on line 5—5 of Fig. 1.

Fig. 6 is a perspective view of the cord guide member of the tilter.

As shown in the drawing, the improved tilter of this invention comprises a base generally designated by the numeral **10**, said base being in the form of a housing having side plates **11** and **12** joined by a U-shaped yoke **13** formed of a sheet metal stamping, the side plates being secured against opposite edges of the yoke as shown. Any suitable means of securement may be employed, as for example projections **14** on the yoke **13** extending through slits **15** in the side plates, said projections being staked over to maintain the plates in their proper positions.

The side plates **11** and **12** have laterally extended feet **16** and **17** provided with notches **18** by means of which the base or housing **10** may be secured to the head rail of a Venetian blind.

Referring to Fig. 5 the U-shaped yoke **13** has extruded or drifted bearing apertures disposed opposite each other, for rotatably carrying shank portions of a worm **19** which latter may be advantageously formed of a molded plastic composition such as nylon (synthetic fiber-forming polymeric amide of protein-like chemical structure). The worm **19** may have an axial bore to receive a stud **20** mounting a pulley **21** in a position exterior of the housing **10**.

Referring to Figs. 3 and 5 the side plates **11** and **12** have extruded or drifted apertures rotatably mounting a worm gear **22** adapted to mesh with the worm **19**, said

gear having a D-shaped bore **23** to receive the tilter shaft of the Venetian blind. Preferably the worm gear **22** is also molded of nylon or other suitable plastic.

In accordance with this invention novel and simplified means are provided for positioning the worm **19** and holding the same against axial movement. This means comprises a shoulder **24** on one shank of the worm, adapted to engage the outer surface of the yoke **13**, and comprises inturned tabs **25** and **26** on the side plates **11** and **12** for engagement with the end of the shank of the worm **19**. As shown in Figs. 4 and 5 the said end of the shank has the form of a head **27** which is held captive between the yoke **13** and the tabs **25** and **26** while permitting free rotation of the worm **19**. Thus I provide an extremely simple and effective means for limiting axial movement of the worm **19** and the pulley **21**.

Also, in accordance with the invention, I provide a novel, improved and simplified cord guide for confining the pendant strings **28** and **29** of a cord **30**, Fig. 1, which is reeved over the pulley **21**. This cord guide, see Fig. 6, may be advantageously formed from a piece of sheet metal by blanking and stamping or forming operations, thus providing for a desirable economy in its manufacture. At the same time, the structure is sturdy and durable, and presents smooth surfaces for engagement with the pendant strings **28** and **29**, thereby to effectuate a smooth action of the tilter and reduce to a minimum attrition and wear of the cord **30**.

As shown, the cord guide comprises a base portion or plate **31** having an aperture **32** to receive a rivet **33** by which it may be secured to the underside of the U-shaped yoke **13**. From the plate **31** there extends a depending wall **32** terminating in a generally flat bottom **33** which is located directly under the pulley **21**. The bottom **33** has laterally extended wings **34** and also has upwardly extended fingers **35** located adjacent the bases and in front of the wings **34**. Preferably the fingers **35** are formed in the shape of hooks, Fig. 1, to present smooth or rounded outer surfaces for engagement with the pendant strings **28** and **29**. The cord guide member has an upwardly extending wall **36** joined to the bottom **33** at a point between and in front of the fingers **35**, and said upwardly extending wall has oppositely laterally extended angle-shaped extensions **37** having portions substantially opposite to and spaced from the wings **34** and the fingers **35**. Each extension **37** has a front wall portion **38** and a side wall portion **39**, the latter having upwardly and outwardly extended tabs **40**. Preferably, as shown in Fig. 6, the lower edges of the portions **38** and **39** have an outward flare **41** to prevent the said edges from cutting or abrading the pendant strings **28** and **29** of the cord **30**.

It will be observed that the fingers **35** together with the front wall portions **38** and side wall portions **39** of the angle-shaped extensions **37** are so arranged as to extend across the front and two sides of the pendant strings, and that the wings **34** extend across the back of the pendant strings. During the normal operation of the tilter, the pendant strings are held forwardly of the pulley **21** so that the strings will engage only the fingers **35** and/or the angle-shaped extensions **37**, and will not engage the wings **34**. Inasmuch as the angle-shaped extensions and the fingers present smooth, rounded surfaces to the cord **30**, devoid of sharp edges, there is no appreciable wear of the cord during the use of the tilter. It will be observed that the upper edges of the front wall portions **38** do not come into engagement with the pendant strings **28** and **29** because these strings are held away from the upper edges by virtue of their passing over the pulley **21**.

Referring to Fig. 2 the side wall portions **39** of the cord guide have their lower rear corners cut away, leaving a space indicated by the numeral **42**, and this facilitates the assemblage of the cord **30** to the tilter.

I have provided by the above construction an extremely simple and reliable tilter mechanism for a Venetian blind, and one which may be manufactured economically in large quantities. The cord guide of the tilter is in the form of a simple metal stamping, and is sturdy and rigid for the purpose set forth. The guide closely confines the

pendant strings **28** and **29** and prevents their running off the pulley **21**, and also provides for a minimum of wear of the tilter cord.

Variations and modifications may be made within the scope of the claims and portions of the improvements may be used without others.

I claim:

1. In a Venetian blind tilter, a cord guide comprising a sheet metal member having a substantially flat bottom provided with flat oppositely extended wings lying in the same plane as the bottom and provided with upstanding oppositely disposed fingers adjacent the bases and in front of said wings, said member having a vertical upwardly extending wall joined to said bottom at a point between and in front of said fingers, said vertical wall having oppositely laterally extended angle-shaped extensions having portions substantially opposite to and spaced from said wings and fingers, said angle-shaped extensions and fingers being engageable with the pendant strings of a cord reeved over a wheel disposed above said bottom, thereby to guide said strings.

2. A Venetian blind tilter comprising a bracket;; a tilter pulley rotatably carried by the bracket; and a cord guide secured to the bracket and disposed below said pulley, said cord guide comprising a member having a substantially flat bottom located under the pulley, provided with flat, oppositely extended wings lying in the same plane as the bottom and provided with upstanding oppositely disposed fingers adjacent the bases and in front of said wings, said member having a vertical upwardly extending wall joined to said bottom at a point between and in front of said fingers, said vertical wall having oppositely laterally extended angle-shaped extensions having portions substantially opposite to and spaced from said wings and fingers, said angle-shaped extensions and fingers being engageable with the pendant strings of a cord reeved over a wheel disposed above said bottom, thereby to guide said strings.

3. In a Venetian blind tilter, a cord guide comprising a sheet metal member having a substantially flat bottom provided with oppositely laterally extended wings and provided with upstanding oppositely disposed fingers adjacent the bases and in front of said wings, said member having an upwardly extending wall joined to said bottom at a point between and in front of said fingers, said wall having oppositely laterally extended angle-shaped extensions having portions substantially opposite to and spaced from said wings and fingers, said angle-shaped extensions and fingers being engageable with the pendant strings of a cord reeved over a wheel disposed above said bottom, thereby to guide said strings.

4. The invention as defined in claim 3 in which the upstanding fingers are hook-shaped and present rounded surfaces to the pendant cords.

5. The invention as defined in claim 3 in which the lower edge portions of the angle-shaped extensions are flared to present rounded surfaces to the pendant cords.

6. The invention as defined in claim 2 in which the angle-shaped extensions have upwardly extended portions bent to be directed angularly outwardly, said portions being spaced from the periphery of the pulley and extending along a part of said periphery.

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