Dec. 22, 1959 G. GIBBLE 2,918,121

VENETIAN BLIND ADJUSTING MEANS

Filed Feb. 20, 1958

Fig. 1

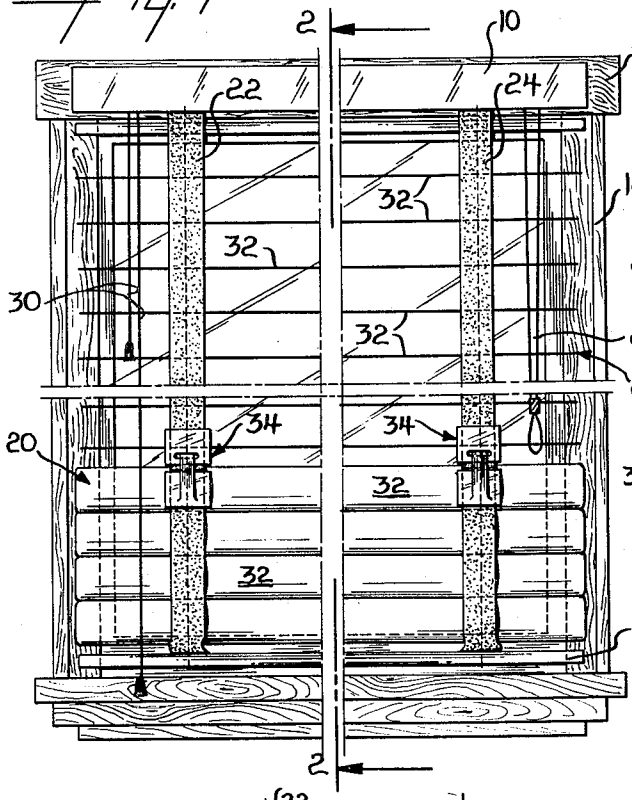


Fig. 2

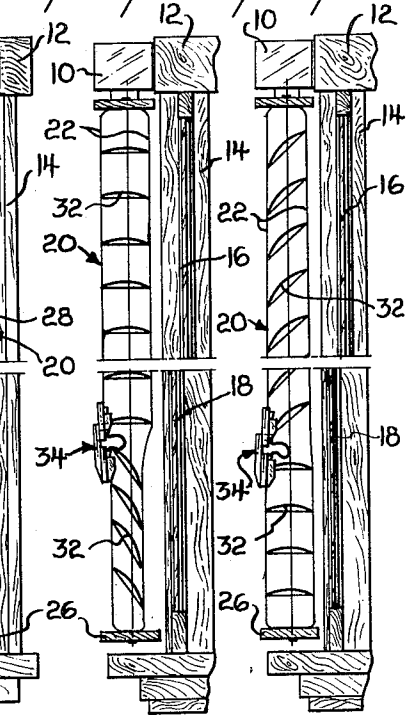


Fig. 3

Fig. 4

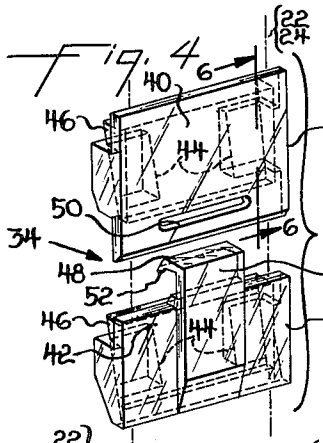


Fig. 5

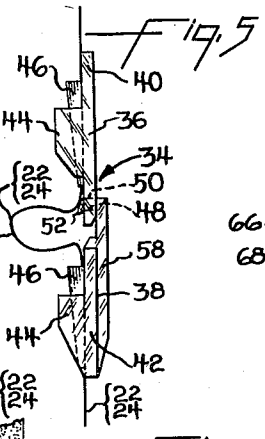


Fig. 6

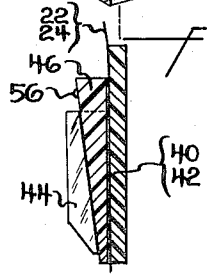


Fig. 7

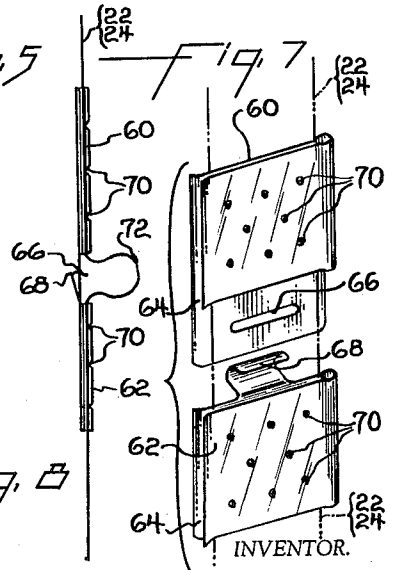


Fig. 8

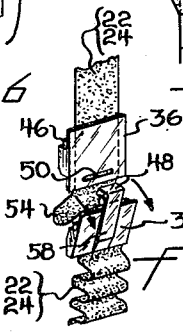


Fig. 9

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VENETIAN BLIND ADJUSTING MEANS

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6 Claims. (Cl. 160—115)

This invention relates to a Venetian blind adjusting means and, more particularly, to adjusting means applicable to one tape of each pair of supporting tapes of a Venetian blind, whereby the slats below said adjusting means, for example, will be disposed at substantially different angles to those slats above said adjusting means.

In using Venetian blinds, it frequently is desirable to dispose the slats opposite the lower sash of the window in closed position, while the slats opposite the other sash of a window either are in a more nearly open or fully open position so as to let light into a room through the upper slats, while privacy is afforded by the relatively closed lower slats. At present, there are Venetian blinds provided with control means of a relatively complicated nature, mounted in the header of the Venetian blind assembly, and operable to dispose the slats in certain sections of the Venetian blind at different angular position from the angular position of the slats on other portions of the Venetian blind. Such complicated construction is relatively expensive and also is subject to getting out of order.

It is the principal object of the present invention to provide adjusting means for Venetian blinds which are connectable directly with a single tape of each pair of tapes of a conventional Venetian blind, the attachment of said means being accomplished readily and the means also being operable to shorten the tapes to which they are connected in accordance with the prefererd embodiment of the present invention, thereby to dispose the slats below said means at a different angle to the slats above said means. Said means are attachable to the tapes without harming the same in any way and means preferably are provided to detachably secure the means to said tapes in predetermined, fixed relationship.

Another object of the invention is to provide adjusting means for Venetian blinds which embody the same basic principles but may be manufactured in accordance with several embodiments thereof, illustrated and described in the application, said means being capable of being formed from different types of relatively inexpensive material and the fabrication thereof likewise is simple and correspondingly inexpensive.

A further object of the invention is to provide adjusting means for Venetian blinds which readily may be sold separately therefrom as an accessory and with minimum effort may be attached to blinds already in use, the means being attachable to one tape of each pair of tapes of the blinds at any desired longitudinal position therealong, according to where it is desired to have the difference in angularity of the slats occur in the blind.

Details of the foregoing objects and of the invention, as well as other objects thereof, are set forth in the following specification and illustrated in the accompanying drawing comprising a part thereof.

In the drawing:

Fig. 1 is a vertical front elevation of an exemplary Venetian blind to which adjusting means embodying the principles of the present invention have been attached, this view illustrating the slats below said means as being in closed position, while the slats above said means are in open position. Further, in this view the central portion of the blind has been broken away to render the view more compact.

Fig. 2 is a vertical sectional view taken on the line 2—2 of Fig. 1 and showing the slats arranged above and below the adjusting means in the same relationship as illustrated in Fig. 1.

Fig. 3 is a vertical sectional view similar to Fig. 2 but showing the slats arranged in closed position above the adjusting means and in open position below the same.

Fig. 4 is a perspective view of one embodiment of adjusting means incorporating the principles of the present invention, this view showing a pair of members comprising one set of such adjusting means.

Fig. 5 is a side elevation of the embodiment of adjusting means illustrated in Fig. 4, the several members of said means being shown in connected position in this view.

Fig. 6 is a fragmentary vertical sectional view taken on the line 6—6 of Fig. 4.

Fig. 7 is a perspective view of another embodiment of adjusting means incorporating the principles of the invention and illustrated as comprising a pair of members which are detachably connectable.

Fig. 8 is an edge view of the embodiment of the invention shown in Fig. 7, the members being attached to a tape and detachably connected in this view.

Fig. 9 is a small perspective view showing a fragmentary portion of a Venetian blind tape with the embodiment of adjusting means shown in Figs. 4 through 6 attached thereto and illustrated in the process of the members being disconnected incident to restoring the tape to normal position.

Referring to Figs. 1 through 3 particularly, it will be seen that the invention is applicable to any of a wide variety of Venetian blinds inasmuch as substantially all such blinds include two or more pairs of vertically suspendable tapes. The exemplary installation shown in these figures comprises a Venetian blind header **10** which is supported by suitable brackets or other types of connecting means to the top frame member **12** of a window frame **14**. The particular manner by which the header **10** is supported relative to the upper portion of the window frame **14** is unimportant as far as the present invention is concerned. As will be seen from Figs. 2 and 3 particularly, the window frame supports an upper sash **16** and a lower sash **18** and the Venetian blind assembly **20** usually is supported adjacent the inner face of the window frame **14** in customary usage.

The Venetian blind assembly **20** includes a pair of tapes **22** and **24**, the upper ends of which are connected to the header **10**, and the lower ends of which are connected to a bottom board **26**. The tapes **22** and **24** may be formed of any suitable material which is flexible such as woven textile tapes, sheet resin, or the like. The customary average width of such tapes varies between 1¼" and 1½" but such dimensions are not to be regarded as restrictive.

The assembly **20** also includes a conventional cord unit **28** by which the blind is raised and lowered, while at the opposite side, the unit also includes a pair of cords **30** by which the angularity of the slats **32** are positioned as desired.

In Figs. 1 through 3, the adjusting means **34** are specifically illustrated as being the type shown in Figs. 4 through 6. However, it is to be understood that the embodiment shown in Figs. 7 and 8 may be connected to the tapes **22** and **24** with equal facility. Referring however to Figs. 4 through 6, the embodiment of ad-

justing means shown therein comprises a pair of members **36** and **38** which respectively are attachable to one tape of each pair of tapes **22** and **24** initially in longitudinally spaced relationship to each other. In accordance with customary use of the present invention, but without restriction thereto, it has been found that the lower edge of member **36** and the upper edge of member **38** should be spaced apart initially substantially equal to the distance between a pair of slats **32** for purposes to be described hereinafter. The members **36** and **38** respectively comprise plate-like means **40** and **42** and clamp receiving members in the form of inwardly directed ears **44** preferably are connected integrally to one face of the plate-like means **40** and **42**. The inner faces of the ears **44** are disposed at an acute angle to the means **40** and **42** as is best shown in Fig. 6, for purposes of frictionally receiving wedged members **46** which, in cross-section, are complementary in shape to the space between the ears **44** and the plate-like means **40** and **42**. The space between the ends of the ears **44** which are connected to the plate-like means **40** and **42** is sufficiently wide to accommodate readily the conventional range of width of Venetian blind tapes currently in use and one tape of each pair of tapes **22** and **24** readily may be disposed within said space prior to the insertion of the wedge members **46**, following which the wedge members **46** are placed firmly between the ear **44** and the tapes **22** and **24** to clamp said tapes firmly against the plate-like means **40** and **42** of the members **36** and **38** of the adjusting means **34**.

Usually, the adjusting means **34** are attached to the tape of each pair which is innermost in the room for example because the customary usage of the adjusting means will be for purposes of permitting the slats **32** above said means to be disposed in substantially horizontal open position, as shown in Fig. 2, while the slats **32** below said means will be disposed at an acute angle to the lower sash **18** of the window, which is the closed position of said slats. By such arrangement, privacy will be afforded to persons in the room from the exterior of a street floor room for example, relative to people outside of the room while light readily may enter the room through the upper slats **32**.

The difference in angular disposition of the slats **32** below the means **34** from those above the means **34** is accomplished by connecting the members **36** and **38** after the same have been affixed to one tape of each pair of the tapes, such connecting means comprising any suitable simple means such as a hook **48** and a hook-receiving slot **50**. Preferably, the hook **48** has a slightly depending outer end **52**, whereby retention of the hook within the slot **50** may be maintained readily. Such connection of the members **36** and **38** will cause a shortening of the tape to which the adjusting means is connected and thereby produce a partial loop **54** in the tape which will project inwardly between the slats **32**. Further, the plate-like means **40** and **42** of the respective members **36** and **38** are disposed within a common plane, as will be seen from Fig. 5, when said members are connected to shorten the tape and thereby dispose the slats below said means at a different angle from the slats above said means. The length of loop **54** will of course depend upon the relative positions of the members **36** and **38** upon the tape and such positions are adjustable selectively, simply by clamping the members **36** and **38** to the tape at the positions desired in accordance with the amount of angular difference desired between the lower slats and the upper slats for example.

The embodiment shown in Figs. 4 through 6 is especially suited for being fabricated by molding from synthetic resin of either thermosetting or thermoplastic nature. The wedges **46** may be manufactured by molding from similar resin material and, preferably, the wedges **46** have a finger engaging detent **56** formed thereon to facilitate manipulation of the wedges. Further, in order that the plate-like means **40** and **42** of the members may be disposed within a common plane in operative position, as shown in Fig. 5 for example, the member **38** preferably has a laterally offset rib **58** extending longitudinally along the outer surface thereof and the hook **48** is integral with the upper end thereof.

The hooks **48** and hook-receiving slots **50** are interconnected manually, when it is desired to change the angularity of the slats **32** below the adjusting means **34** relative to the slats thereabove. After such connection of the two members of each adjusting means has been made, the cords **30** may be manipulated suitably to dispose the slats **32** as desired, one exemplary position being shown in Fig. 2, while another is shown in Fig. 3. However, when it is desired to disconnect the members **36** and **38** from each other, such disconnection may be effected readily simply by pulling the cord unit **28** to raise the blind and, when the assembly of compressed slats **32** formed by the elevation of bottom board **26** reaches the lower member **38** on each tape, further raising of the blind will cause the hook **48** to disengage from the slot **50** in member **36** as illustrated in Fig. 9. Following such disconnection, when the blind is lowered, it will be found that the slats **32** will all be disposed at a similar angle throughout the full length of the Venetian blind, whereby they will be restored to so-called normal position.

A second exemplary embodiment of the invention is illustrated in Figs. 7 and 8 wherein a pair of members **60** and **62** are shown which readily may be stamped from suitable resilient metal such as sheet spring stock, the tempering possibly taking place after the formation of the members. In cross-section, the members **60** and **62** are U-shaped whereby each member has a mouth **64** at one side for purposes of receiving one of the tapes **22** or **24**. The member **60** for example, is provided with a transverse slot **66** which receives a hook **68** formed on member **62**. Hook **68** preferably is relatively short, whereby the same may be detached readily from slot **66** according to the process illustrated in Fig. 9 in regard to the embodiment shown in Figs. 4 through 6.

The opposite flat and parallel wall members **60** and **62** are disposed, initially, preferably in substantial abutment with each other so as to afford firm frictional contact with the tapes **22** and **24** when disposed therebetween. The mouths **64** also are flared preferably to facilitate reception of the tapes between the wall members **60** and **62**. In addition, to enhance the frictional engagement of the members **60** and **62** with the tapes, one wall of each member may be provided with a plurality of preferably staggered rows of short prong means **70** which inexpensively may be formed by pressing the wall member from the outer surface inward with a sharp object, whereby a plurality of short sharp prongs are provided which extend from the inner face of one wall member toward the inner face of the other one. To facilitate the passage of a tape between the walls of said members when the prong means **70** are provided, said walls initially may be spread a predetermined amount away from each other to permit readily the reception of the tape, and when released, the walls will spring back into parallel engagement with the tape, causing the prong means **70** to be impressed into the tape and securely hold the members **60** and **62** in desired longitudinal position upon the tape.

In function and general operation, the embodiment of adjusting means shown in Figs. 7 and 8 is substantially the same as the embodiment shown in Figs. 4 through 6. It will be noted from Fig. 8 for example that when the hook **68** is in engagement with slot **66**, the tape to which the members are connected will cause a partial loop **72** to be formed in the tape, similarly to the result of using the embodiment shown in Figs. 4 through 6, especially as shown in Fig. 5. This connnection of the hook **68**

from the slot 66 readily may be accomplished simply by raising the blind and the unhooking operation will take place as in regard to the description of the embodiment shown in Figs. 4 through 6.

While the embodiments of the invention respectively shown in Figs. 4 through 6, and 7 and 8, function similarly, they are not to be regarded as the equivalent of each other due to the substantially different construction of the several embodiments which respectively offer different manufacturing possibilities, finishes, and production costs.

It will be seen from the foregoing that the present invention provides adjusting means attachable to one tape of each pair of tapes of a Venetian blind assembly, whereby the angularity of the slats below the adjusting means may be different from that above said means. The adjusting means readily may be connected to one tape of each pair in desired, longitudinally spaced positions so as to shorten said one tape of each pair a desired amount to produce the desired difference in angularity between the slats above and below the means. Further, while the present illustration shows the adjusting means to be attached to the inner tapes of each pair, that is, the tapes nearest the inside of the room, it also is conceivable that said adjusting means may be attached to the tapes nearest the window sashes, even though a little more difficulty may be experienced in connecting the members of each pair of adjusting means. Under the latter circumstances, with reference to Fig. 3, it is conceivable that the slats 32 above the adjusting means will be disposed at an opposite angle to the slats shown in Fig. 3, thereby affording even a more effective closing of the upper slats than the arrangement shown at present in Fig. 3. Other possibilities, not specifically described above, likewise may be achieved, depending for example upon the spacing of the members 38 and 40 initially upon the tapes, as well as the selection of the tapes to which the adjusting means are connected.

While the invention has been described and illustrated in its several preferred embodiments, and has included certain details, it should be understood that the invention is not to be limited to the precise details herein illustrated and described since the same may be carried out in other ways falling within the scope of the invention as claimed.

I claim:

1. A Venetian blind comprising spaced slats and pairs of suspending tapes to support said slats, in combination with means for adjusting the position of the slats thereof differently in different sections thereof, said adjusting means comprising pairs of members respectively connected to one tape of each pair of said tapes at longitudinally spaced locations thereon intermediately of the ends thereof, and a relatively short hook on one member of each pair of members extending toward the other member and inwardly toward the tape to which it is connected, the other member of each pair having a hook-receiving opening therein adjacent the end nearest said one member of each pair to receive said hook and thereby connect said members and thus shorten said tapes to which said members are connected, whereby the slats below said members when connected will all be disposed at a different angle from the slats thereabove and when said blind is raised until the slats adjacent said members are compressed together, said members will be caused to extend outwardly at the connected ends and effect unhooking thereof.

2. The Venetian blind and adjusting means therefor set forth in claim 1 further characterized by said adjusting means including gripping and clamping means comprising wedges detachably engaging said members and opposite surfaces of said tapes from those engaged by said members and in opposition thereto, thereby to render said members detachably and adjustably connected to said tapes to effect adjustment in the length thereof.

3. The adjusting means set forth in claim 2 further characterized by said members each comprising a plate engaging one surface of a tape and having seat means formed by ears extending from opposite sides of said plate toward each other and spaced from said plate a distance adequate to receive a wedge between said ears and plate, the ears also being spaced from each other at the inner ends thereof sufficient to permit one of said tapes to be passed therethrough to mount said member upon said tape, said wedge engaging the opposite surface of said tape and thereby clamping said tape to said plate.

4. The adjusting means set forth in claim 1 further characterized by said members being resilient and U-shaped in transverse cross-section and having parallel leaves positioned close to each other and respectively clampingly engaging opposite surfaces of said tapes.

5. The adjusting means set forth in claim 4 further characterized by one of said leaves of each member having prong means thereon extending toward the other leaf and operable to engage one surface of a tape when said members are mounted thereon.

6. The adjusting means set forth in claim 3 further characterized by said wedge member having a detent on the outer surface thereof to facilitate manipulation thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

287,819	Freeman	Nov. 6, 1883
422,741	Dearborn	Mar. 4, 1890
1,615,085	James	Jan. 18, 1927
1,628,962	Fletcher	May 17, 1927
1,639,609	Hofland	Aug. 16, 1927
2,115,663	Balthasar	Apr. 26, 1938
2,818,113	Reichel	Dec. 31, 1957